ATMOS
MedizinTechnik

Operating instructions

ATMOS C 161 Aspirator
ATMOS C 261 Aspirator
ATMOS C 161 Battery

English

CE 0124

GA1GB.310105.0

2022-07 Index 01

Table of contents

1.0 Introduction

1.1 Notes on operating instructions

These operating instructions contain important notes on how to operate the ATMOS C 161 Aspirator, ATMOS C 261 Aspirator and ATMOS C 161 Battery safely, correctly and effectively.

These operating instructions are designed for training and instructing new operating personnel in the use of the system, and also for use as a reference manual. This document may not be reprinted, either in part or in whole, without written permission from ATMOS.

These operating instructions must always be kept available near the device.

Care, periodic tests, regular cleaning and proper application are indispensable. They guarantee the operational safety and usability of the ATMOS C 161 Aspirator, ATMOS C 261 Aspirator and ATMOS C 161 Battery .

Maintenance, repairs and periodic tests may only be carried out by persons who have the appropriate technical knowledge and who are familiar with the product. The person must possess the test devices and original spare parts required to carry out these measures.

Read chapter “2.0 For your safety” on page 16 before using the device for the first time. This will help you to avoid potentially dangerous situations.

The ATMOS C 161 Aspirator, ATMOS C 261 Aspirator and ATMOS C 161 Battery products bear CE marking CE 0124 in accordance with the European Council Directive on medical devices, 93/42/EEC, and meet the basic requirements of Annex I of the Directive.

The ATMOS C 161 Aspirator, ATMOS C 261 Aspirator and ATMOS C 161 Battery products comply with all the applicable requirements of Directive 2011/65/EU restricting the use of certain hazardous substances in electrical and electronic equipment (“RoHS”).

The Declaration of Conformity and our general standard terms and conditions can be viewed on our website at www.atmosmed.com.

The quality management system at ATMOS has been certified according to international standard EN ISO 13485.

These operating instructions are valid for the following devices:

Name	REF
ATMOS C 161 Aspirator/DDS	313.0000.0
ATMOS C 161 Aspirator/Medi-Vac®	313.0002.0
ATMOS C 161 Aspirator/Serres®	313.0004.0
ATMOS C 161 Aspirator/Receptal®	313.0065.0
ATMOS C 261 Aspirator/DDS	313.0100.0
ATMOS C 261 Aspirator/Medi-Vac®	313.0102.0
ATMOS C 261 Aspirator/Serres®	313.0103.0
ATMOS C 261 Aspirator/Receptal®	313.0165.0
ATMOS C 161 Battery/DDS	313.0400.0
ATMOS C 161 Battery/Medi-Vac®	313.0402.0
ATMOS C 161 Battery/Serres®	313.0403.0
ATMOS C 161 Battery/Receptal®	313.0465.0

1.2 Explanation of pictures and symbols

In the operating instructions

⚠ DANGER Warning of a danger that will result in immediate fatal or serious injury. Observe the necessary measures.
⚠ WARNING Warning of a danger that can cause death or serious injury. Observe the necessary measures.
⚠ CAUTION Warning of a danger that can cause minor injury. Observe the necessary measures.
ATTENTION Notice of a danger that can damage the product or other objects. Observe the necessary measures.

⚠	Warning of a danger that can cause injury or death.
ℹ	Notice of potential material damage.
☞	Useful information on the handling of the device.
1.	Action. Proceed step by step.
•	List.
»	Result of an action.
	Move in this direction, plug in.
	Engage, check correct fit.

On device, type plate, and packaging

	Follow operating instructions (blue)
	Observe the operating instructions
	Warning; pay special attention
CE 0124	This device complies with the relevant requirements of EU regulations.
CE	This device complies with the relevant requirements of EU regulations.
	GOST Certificate (Russia)
EAC	This device complies with the relevant requirements of the Eurasian Economic Union.
	Manufacturer
	Date of manufacture
CC	Date of manufacture Country of manufacture
	Distributor
REF	Reference number
UDI	Unique Device Identifier of a medical device
MD	Medical device
SN	Serial number
LOT	Batch code
IP21	Protection against ingress of: • Solid foreign particles Ø ≥12.5 mm • Dripping water from above
	Application part type BF

	Professional disposal
	Use-by date
	Do not reuse
	Not sterile
	Sterile device
	Sterilised using ethylene oxide
	Autoclavable
	Connection of suction hose/patient
	Short-term operation
	Protection class II device
	Fuse
	On/off button
	Battery status control button
	Battery operation indicator
	Fragile, handle with care
	Keep dry
	Keep away from direct sunlight
	Temperature limit
	Humidity limitation
	Atmospheric pressure limitation

UDI application identifier

(01)	UDI-DI: identification of the manufacturer and the device
(10)	Batch code
(11)	Date of manufacture
(17)	Expiry date
(21)	Serial number

1.3 Intended use

Product name:

ATMOS C 161 Aspirator

- ATMOS C 161 Aspirator/DDS
- ATMOS C 161 Aspirator/Medi-Vac®
- ATMOS C 161 Aspirator/Serres®
- ATMOS C 161 Aspirator/Receptal® 1.5 l

ATMOS C 261 Aspirator

- ATMOS C 261 Aspirator/DDS
- ATMOS C 261 Aspirator/Medi-Vac®
- ATMOS C 261 Aspirator/Serres®
- ATMOS C 261 Aspirator/Receptal® 1.5 l

ATMOS C 161 Battery

- ATMOS C 161 Battery/DDS
- ATMOS C 161 Battery/Medi-Vac®
- ATMOS C 161 Battery/Serres®
- ATMOS C 161 Battery/Receptal® 1.5 l

Main functions:

Temporary and spontaneous suction of suction material (including secretions, blood, serum fluids, food particles) from the oral cavity, pharynx and bronchial system

Suction during ENT treatments

Intended purpose:

Suction of the upper respiratory tract and the ear

Intended users/user profiles:

- Trained medical personnel
- Non-medical users, e.g. patients and/or relatives (following medical briefing)

Intended patient population:

Patients of all ages with and without restrictions

Medical conditions to be diagnosed, treated or monitored:

Not applicable

Application organ:

- Upper respiratory tract (nose, nasal cavity, pharynx)
- Lower respiratory tract (larynx, trachea, bronchial system)
- Ear

Application time:	Temporary use on the patient (<60 min)
Application site:	• Home (homecare sector) • Outpatient and hospital care
Criteria for patient selection:	• Patients who will benefit from suction of the upper/lower respiratory tract • Patients who will benefit from suction during ENT treatments
Indications:	• In case of damage to respiratory and cough function with disturbance of tracheal, bronchial or oral secretion elimination: - Suction during tracheotomy - Suction during laryngectomy - Suction if breathing is impeded • Suction for muscular and/or neurological disorders: - Suction if swallowing is impeded • Suction of blood, secretions and food particles from the oral cavity, pharynx and bronchial system • Suction during ENT treatments
Medical contraindications:	Not suitable for: • Continuous operation for drainage procedures in the low vacuum range (e.g. thoracic or wound drainage) • Permanent endoscopic use • Vacuum extraction • Smoke evacuation • Liposuction • Emergency and rescue use
Other contraindications:	Not suitable for: • Suction outdoors/during transport • Suction of flammable, corrosive or explosive substances • Suction in potentially explosive areas
Warnings:	The following complications may occur during suction: • Bleeding in the nasal pharyngeal area • Injury to the vocal cords • Tracheal injury • Hypoxaemia • Cardiovascular instability • Bradycardia, arrhythmia and asystole (caused by vagus stimulation) • Tachycardia (caused by stress) • Choking, nausea, vomiting and coughing • Nosocomial infection of the respiratory tract • Seizures in patients who are susceptible to cramps
The product is:	Active

Sterility/specific microbial condition:	Product not sterile
Single-use product/ re-sterilisation:	The device is intended for repeat use. Some parts of the device and its accessories are reusable. For information on sterilisation, cleaning and disinfection, please see the operating instructions.

1.4 Function

General description

The ATMOS C 161 Aspirator, ATMOS C 261 Aspirator and ATMOS C 161 Battery are exceptionally handy bronchial suction devices.

The devices are mobile, portable medical suction devices designed for temporary, preferably spontaneous suction of the upper and lower respiratory tract. The suction material (including secretion, blood, serum fluids, and food particles) are temporarily collected in a collecting container and then disposed of.

Principles of operation and how it works

The devices are electrically, operated and take their medical effect by generating vacuum and suction capacity. The devices are operated by an electromotive, maintenance-free swing piston pump. During operation, the pump generates a vacuum within the hose system and the secretion canister. This vacuum can then be used to extract suction material (e.g. secretion, blood, serum fluids and food particles). The suction material collects in the secretion canister.

The final vacuum, and thus the suction capacity, can be adjusted using the infinitely variable vacuum adjustment (mechanical regulation valve) and the vacuum gauge. An overtemperature shut-off mechanism prevents overheating of the bronchial suction device.

The ATMOS C 161 Aspirator/ATMOS C 261 Aspirator is a mains-powered bronchial suction unit that must be connected to the power supply grid by the power cable (230 V) for operation.

The ATMOS C 161 Battery is a bronchial suction device powered by a rechargeable battery, which can be operated either using the permanently installed rechargeable battery or an external DC power supply (12 V) as desired. To charge the battery, the charger power cable (100–240 V) needs to be plugged into the power supply grid. If the battery is fully discharged, the device can be run on mains power.

Reusable secretion canister

The reusable secretion canister is mounted on the back of the device and connected directly to the device housing via direct docking, so no inconvenient hose systems are required. All the user needs to do is connect the suction hose. The suction material is transported to the reusable secretion canister via the reusable suction hose. A DDS bacterial and viral filter located in the canister lid prevents bacteria, viruses and liquids from getting into the device. In addition to this, a mechanical overflow stop (float ball) is integrated into the canister lid. This prevents secretion from being accidentally sucked into the pump head. The float ball rises to the top of the secretion until it blocks the outlet.

Disposable secretion canister

The disposable secretion canister is comprised of an outer canister, a disposable suction liner, a vacuum hose and the disposable suction hose. The disposable secretion canister is mounted on the back of the device. The vacuum hose of the canister is connected to the device inlet. The suction material is transported to the disposable suction liner via the suction hose. The disposable suction liner is a single-use product. As soon as the disposable suction liner is full, it is removed from the outer canister and disposed of. The disposable suction liner and the disposable suction hose must not be reused. A bacterial filter is built into the disposable suction liner. This prevents secretion, liquid and bacteria from seeping into the device.

1.5 Intended users

The ATMOS C 161 Aspirator, ATMOS C 261 Aspirator and ATMOS C 161 Battery may be operated by patients themselves, a patient's relative, the mobile care service, a nurse, or trained medical personnel.

Suction is performed after the patient or the assistant/caregiver has been instructed by a doctor, taking into account the specific vacuum required depending on the patient's age.

The user must be familiar with the device prior to use. Please note the country-specific requirements and regulations.

ATMOS recommends: instruction on how to operate the device must be provided by an authorised person.

1.6 Scope of delivery

- ☞ Prior to dispatch, this ATMOS device was subjected to an extensive functional test and has been carefully packed.
- ☞ Nevertheless, please check the contents of the shipment immediately upon receipt to ensure it is complete (see delivery note).

313.0000.0 ATMOS C 161 Aspirator/DDS

1 x basic device	
1 x grad. secretion canister 1 l DDS, blue	313.0015.0
1 x secretion canister lid, DDS, blue	313.0003.0
1 x hydrophobic DDS bacterial and viral filter	340.0054.0
1 x ATMOS power cable, 3-core, safety plug, 2 m	008.0866.0
1 x suction hose, silicone, Ø 6 mm, L = 1.30 m	000.0013.0
1 x hose connector for hoses, Ø 6 mm	000.0836.0
1 x operating instructions	GA1DE.310105.0

313.0002.0 ATMOS C 161 Aspirator/Medi-Vac®

1 x basic device	
1 x support for Medi-Vac® outer canister	313.0010.0
1 x Medi-Vac® outer canister 1 l	312.0473.0
1 x Medi-Vac® suction liner 1 l	312.0474.0
1 x suction hose, silicone, Ø 6 mm, L = 0.2 m	006.0009.0

1 x suction hose, PVC, CH 30, L = 1.30 m, non-sterile	313.0116.0
1 x ATMOS power cable, 3-core, safety plug, 2 m	008.0866.0
1 x operating instructions	GA1DE.310105.0

313.0004.0 ATMOS C 161 Aspirator/Serres®

1 x basic device	
1 x support for Serres® outer canister 1 l	313.0413.0
1 x Serres® outer canister 1 l	312.0465.0
1 x Serres® suction liner 1 l without gelling agent	312.0466.0
1 x suction hose, silicone, Ø 6 mm, L = 0.2 m	006.0009.0
1 x suction hose, PVC, CH 30, L = 1.30 m, non-sterile	313.0116.0
1 x ATMOS power cable, 3-core, safety plug, 2 m	008.0866.0
1 x operating instructions	GA1DE.310105.0

313.0065.0 ATMOS C 161 Aspirator/Receptal® 1.5 l

1 x basic device	
1 x support for Receptal® outer canister	313.0009.0
1 x Receptal® outer canister 1.5 l	310.0221.0
1 x Receptal® suction liner 1.5 l with filter	310.0222.2
1 x suction hose, silicone, Ø 6 mm, L = 0.2 m	006.0009.0
1 x suction hose, PVC, CH 30, L = 1.30 m, non-sterile	313.0116.0
1 x ATMOS power cable, 3-core, safety plug, 2 m	008.0866.0
1 x operating instructions	GA1DE.310105.0

313.0100.0 ATMOS C 261 Aspirator/DDS

1 x basic device	
1 x grad. secretion canister 1 l DDS, blue	313.0015.0
1 x secretion canister lid, DDS, blue	313.0003.0
1 x hydrophobic DDS bacterial and viral filter	340.0054.0
1 x suction hose, silicone, Ø 6 mm, L = 1.30 m	000.0013.0
1 x hose connector for hoses, Ø 6 mm	000.0836.0
1 x ATMOS power cable, 3-core, safety plug, 2 m	008.0866.0
1 x operating instructions	GA1DE.310105.0

313.0102.0 ATMOS C 261 Aspirator/Medi-Vac®

1 x basic device	
1 x support for Medi-Vac® outer canister	313.0010.0
1 x Medi-Vac® outer canister 1 l	312.0473.0
1 x Medi-Vac® suction liner 1 l	312.0474.0

1 x suction hose, silicone, Ø 6 mm, L = 0.2 m	006.0009.0
1 x suction hose, PVC, CH 30, L = 1.30 m, non-sterile	313.0116.0
1 x ATMOS power cable, 3-core, safety plug, 2 m	008.0866.0
1 x operating instructions	GA1DE.310105.0

313.0103.0 ATMOS C 261 Aspirator/Serres®

1 x basic device	
1 x support for Serres® outer canister 1 l	313.0413.0
1 x Serres® outer canister 1 l	312.0465.0
1 x Serres® suction liner 1 l without gelling agent	312.0466.0
1 x suction hose, silicone, Ø 6 mm, L = 0.2 m	006.0009.0
1 x suction hose, PVC, CH 30, L = 1.30 m, non-sterile	313.0116.0
1 x ATMOS power cable, 3-core, safety plug, 2 m	008.0866.0
1 x operating instructions	GA1DE.310105.0

313.0165.0 ATMOS C 261 Aspirator/Receptal® 1.5 l

1 x basic device	
1 x support for Receptal® outer canister	313.0009.0
1 x Receptal® outer canister 1.5 l	310.0221.0
1 x Receptal® suction liner 1.5 l with filter	310.0222.2
1 x suction hose, silicone, Ø 6 mm, L = 0.2 m	006.0009.0
1 x suction hose, PVC, CH 30, L = 1.30 m, non-sterile	313.0116.0
1 x ATMOS power cable, 3-core, safety plug, 2 m	008.0866.0
1 x operating instructions	GA1DE.310105.0

313.0400.0 ATMOS C 161 Battery/DDS

1 x basic device	
1 x grad. secretion canister 1 l DDS, blue	313.0015.0
1 x secretion canister lid, DDS, blue	313.0003.0
1 x hydrophobic DDS bacterial and viral filter	340.0054.0
1 x suction hose, silicone, Ø 6 mm, L = 1.30 m	000.0013.0
1 x hose connector for hoses, Ø 6 mm	000.0836.0
1 x power cable, 2-pin, L = 1.5 m	008.0920.0
1 x recharging unit for ATMOS devices, with ATMOS marking	313.0089.0
1 x operating instructions	GA1DE.310105.0

313.0402.0 ATMOS C 161 Battery/Medi-Vac®

1 x basic device	
1 x support for Medi-Vac® outer canister	313.0010.0

1 x Medi-Vac® outer canister 1 l	312.0473.0
1 x Medi-Vac® suction liner 1 l	312.0474.0
1 x suction hose, silicone, Ø 6 mm, L = 0.2 m	006.0009.0
1 x suction hose, PVC, CH 30, L = 1.30 m, non-sterile	313.0116.0
1 x power cable, 2-pin, L = 1.5 m	008.0920.0
1 x recharging unit for ATMOS devices, with ATMOS marking	313.0089.0
1 x operating instructions	GA1DE.310105.0

313.0403.0 ATMOS C 161 Battery/Serres®

1 x basic device	
1 x support for canister system Serres®	313.0413.0
1 x Serres® outer canister 1 l	312.0465.0
1 x Serres® suction liner 1 l without gelling agent	312.0466.0
1 x vacuum hose Serres® (14,5 cm)	006.0009.0
1 x suction hose, PVC, CH 30, L = 1.30 m, non-sterile	313.0116.0
1 x power cable, 2-pin, L = 1.5 m	008.0920.0
1 x recharging unit for ATMOS devices, with ATMOS marking	313.0089.0
1 x operating instructions	GA1DE.310105.0

313.0465.0 ATMOS C 161 Battery/Receptal® 1.5 l

1 x basic device	
1 x support for Receptal® outer canister	313.0009.0
1 x Receptal® outer canister 1.5 l	310.0221.0
1 x Receptal® suction liner 1.5 l with filter	310.0222.2
1 x suction hose, silicone, Ø 6 mm, L = 0.2 m	006.0009.0
1 x suction hose, PVC, CH 30, L = 1.30 m, non-sterile	313.0116.0
1 x power cable, 2-pin, L = 1.5 m	008.0920.0
1 x recharging unit for ATMOS devices, with ATMOS marking	313.0089.0
1 x operating instructions	GA1DE.310105.0

1.7 Transport and storage

Only transport the device in a shipping container which is padded and offers sufficient protection.

If damage occurs during transport:

1. Document and report damages in transit.
2. Fill in form QD 434 “Customer complaint/return shipment”.
3. Send the device to ATMOS (chapter “6.2 Gerät einsenden” on page 42).

Ambient conditions for transport and storage:

- Temperature: -30 to +50 °C
- Relative humidity: 5 to 90%
- Air pressure 700 to 1060 hPa

2.0 For your safety

The safety of the ATMOS C 161 Aspirator, ATMOS C 261 Aspirator and ATMOS C 161 Battery complies with all generally accepted engineering practices and the provisions of the German Medical Devices Act.

2.1 General safety instructions

Report all serious incidents that have occurred in connection with this product to the manufacturer and your national competent authority.

Familiarise yourself with the device in good time so that you are capable of operating it at any time.

Only a fully functional product meets the safety requirements of users, patients and third parties. Therefore, please observe the following instructions on your product:

Never operate the device if it shows any obvious safety defects.

2.2 Danger for users, patients, and third parties

⚠ WARNING

Ensure that the device is always functional and ready for use!

The patient could suffocate.

- Ensure that the device is always ready for use.
- Place the device where it is easily accessible.
- Make sure that the power cable/recharging unit incl. power cable is fully functional.
- Always carry out a function check before using the device.
- ATMOS recommends always having another suction device ready at hand.
- Observe the notes on electromagnetic compatibility (EMC).
- Only use the recommended original accessories and original spare parts.
- Always use transparent suction hoses.

⚠ WARNING

Avoid misuse!

Risk of severe injury to your patient.

- Employ the device only according to its intended use.
- Never use the device for low-vacuum suction.
- Too many suction operations may cause minor bleeding.
- Always observe the applicable guidelines.
- Using the device on children requires a lower vacuum setting. Observe the instructions issued by the attending physician.
- The device must only be operated by persons who have been briefed on its medical use.
- Observe the accompanying operating instructions for all accessories.
- Observe the notes on hygiene and cleaning.

⚠ WARNING

Reduce the risk of infection for you and your patients!

Risk of deadly diseases being transmitted.

- Always wear disposable gloves.
- Never use components marked with ⊘ more than once.
- Always use a suitable sterile catheter for suction. The suction hose must never come into direct contact with the application site.
- Only use sterile packaged parts if their packaging is undamaged.
- Never operate the device without a bacterial and viral filter. Before each use, check that the bacterial and viral filter is dry and clean to ensure that it operates correctly.

⚠ WARNING

Protect yourself against an electric shock!

Damage from incorrect power supply.

- Risk of burns, cardiac arrhythmias and even fatal injury.
- ATMOS C 161 Aspirator and ATMOS C 261 Aspirator
  - Prior to start-up, check whether the voltage and frequency data listed on the device correspond to the values of the mains power supply.
- ATMOS C 161 Battery
  - Before switching on the device, make sure that the power supply grid is designed for connecting a device that operates in the range from 100–240 VDC at a grid frequency of 50/60 Hz. Use only the included recharging unit for the device.
- Do not operate the device in damp rooms, bathrooms or shower cubicles. Keep the recharging unit, control panel and mains power connection point dry.
- Do not use the device in areas where there could be a torrent of water.
- Never immerse the device in water or other liquids.
- Do not operate the device if it has been dropped. In this case, please clean the device and send it in to ATMOS for repair.
- Disconnect the device from the mains power supply prior to cleaning or disinfection.
- Prior to each use, check for damage to the device and power cable/recharging unit incl. power cable. Do not operate the device if you notice any damage. In this case, please clean the device and send it in to ATMOS for repair.
- Ensure that no liquid penetrates the device. If liquid gets into the device, operation of the device must cease immediately. In this case, please clean the device and send it in to ATMOS for repair.
- The electrical suction devices are not sterilisable.
- Only use the power cable/recharging unit incl. power cable in dry environments.
- Always use the power cable/recharging unit incl. power cable in accordance with the operating instructions.
- Only use original accessories and original spare parts from ATMOS.
- Observe the specifications regarding periodic tests in chapter “6.0 Wartung und Service” on page 42.
- Assembly, new settings, alterations, extensions, and repairs may only be carried out by authorised persons.

- Do not modify the device without the manufacturer's permission.

⚠ WARNING

Explosion and fire hazard!

Burns and injuries are possible.

- Never suction any explosive, flammable, or corrosive gases or liquids. Refer to the explanations under intended use.
- Never operate the product in potentially explosive areas or areas that are oxygenated.
- Only use original accessories and original spare parts from ATMOS.

⚠ WARNING

Risk of suffocation or strangling for children and animals through accessory parts!

Small parts may cause children or animals to suffocate or be injured.

- Hoses, power cables and recharging units incl. power cables can strangle people or animals, especially if they are particularly long.
- Keep unauthorised persons away from the device during suction.
- Keep children away from small parts that might be swallowed.
- Keep the device and all its accessories out of reach of children until the next use.

⚠ WARNING

Contact may cause allergic reactions!

The materials used have been tested for their tolerability. In very rare cases, contact with accessible materials on the device and its accessories may cause allergic reactions. This applies in particular to contact injuries in conjunction with prolonged contact. If this occurs, seek medical attention immediately.

⚠ WARNING

Tripping hazard from cables!

Injuries and fractures are possible.

- Lay the power cable/recharging unit incl. power cable properly.

2.3 Avoiding damage to the device

⚠ ATTENTION

Damage to device due to heat build-up!

Risk of damage to the device.

- Do not cover the device during suction. When the device is placed on a soft surface (e.g. a pillow or mattress), there is a risk of the ventilation slots being covered, causing the product to overheat. Always keep the device upright and on a firm surface during operation.
- Keep the device and its power cable/recharging unit incl. power cable away from other sources of heat.
- Do not place the device directly next to other devices as this may cause excessive heating of the device.

⚠ ATTENTION

Storage and operation in an unsuitable environment!

The device may become damaged.

- Please observe the ambient conditions regarding transport, storage, operation and recharging of the battery.
- After transporting the device at low temperatures, keep it at room temperature for up to six hours before initial start-up. If the device has not acclimatised, it may suffer internal damage.

⚠ *ATTENTION*

Damage to the device due to improper use!

The device may become damaged.

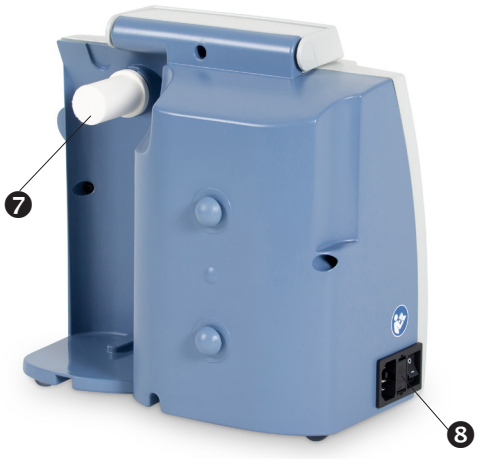
- Ensure that no liquid enters the device. Once liquid has entered the device, it may no longer be used. In this case, please clean the device and send it in to ATMOS for repair.
- Always place the device on firm, level surface. The device must always be in a vertical position when you use it.
- If you are using the trolley, the device is only permitted for use when the trolley brakes are engaged.
- Use a functional power cable/recharging unit incl. power cable.
- Never switch the device on while a vacuum (over 40%) is being applied. If the pump is switched on while a high vacuum (> 40%) is being applied, the device will switch off automatically (safe condition). It cannot be started up again until the vacuum has been ventilated.

3.0 Setting up and starting up

Always place the device on a firm and level surface.

3.1 Device overview – ATMOS C 161 Aspirator and ATMOS C 261 Aspirator

1. Vacuum display
2. Vacuum regulator
3. Sliding cover for covering the controls
4. Hose holder
5. Connection for suction hose
6. Carry handle



7. Hydrophobic DDS bacterial and viral filter
8. Mains connection with on/off switch

3.1.1 Connection

Prior to start-up, check whether the voltage and frequency data listed on the device correspond to the values of the mains power supply.

Check the power cable for any damage. Damaged power cables must be replaced immediately.

3.1.2 Start-up

- The ATMOS C 161 Aspirator and ATMOS C 261 Aspirator are delivered ready for operation.
- Remove the device from the packaging. Check whether the voltage on the type plate corresponds to the mains power supply.
- Always place the device on a firm and level surface.
- Always read the safety information in the “2.0 For your safety” on page 16 chapter before starting up the device for the first time.

- After transporting the device at low temperatures, keep the device at room temperature for up to six hours before initial start-up. If the device is not acclimatised, it must not be used, as doing so could damage the diaphragms of the pump.
- ATMOS C 161 Aspirator, ATMOS C 261 Aspirator DDS: Always have at least one hydrophobic DDS bacterial and viral filter to hand, as it is forbidden to operate the device without it!

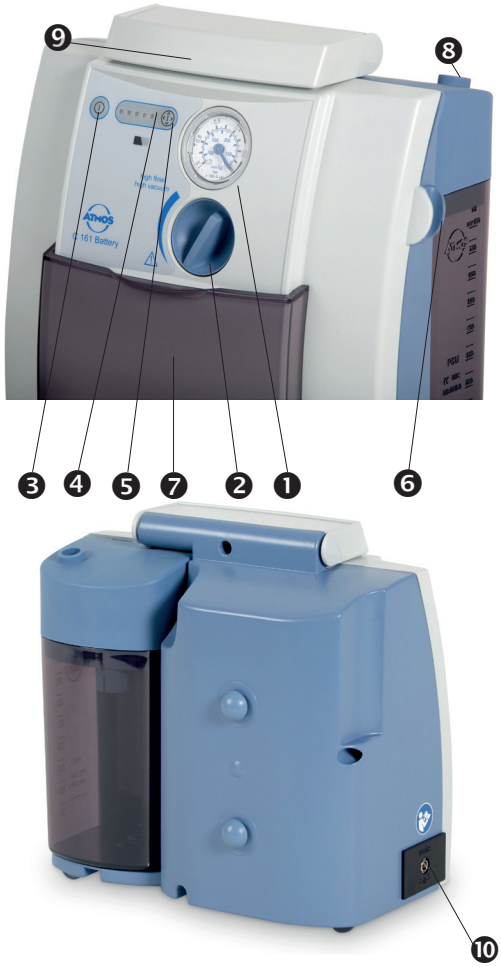
3.2 Device overview: ATMOS C 161 Battery

ATTENTION

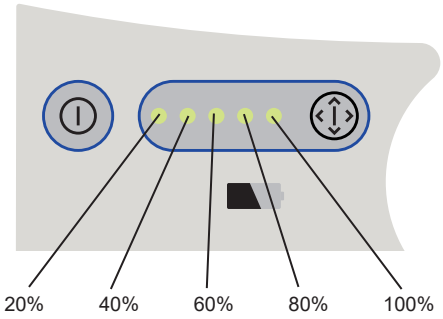
Danger of damage to the battery!

Using an insufficiently charged battery during start-up can cause damage to the battery.

- The battery must be fully charged prior to first use.



1. Vacuum display
2. Vacuum regulator
3. On/off button
4. Display of the battery status
5. Battery status check button
6. Hose holder
7. Sliding cover for covering the controls
8. Connection for suction hose
9. Carry handle
10. ATMOS C 161 Battery connection for recharging unit



Battery capacity: approx. 60 min.

Display of the battery status

Recharging unit for ATMOS devices

2-pin power cable, L = 1.5 m

3.2.1 Connecting to the recharging unit

Before switching on the device, make sure that the power supply grid is designed for connecting a device that operates in the range from 100 - 240 VDC at a grid frequency of 50/60 Hz. Use only the included recharging unit for the device.

Check the power cable and recharging unit for any damage. In case of damage, replace immediately.

Start-up

- The ATMOS C 161 Battery is delivered ready for use.
- Remove the device from the packaging. Check whether the voltage on the type plate corresponds to the mains power supply.
- Always place the device on a firm and level surface.
- The battery must be fully charged prior to the first use.
- Check whether the battery is fully charged. To do this, press the battery status check button (❺). If the battery is fully charged, all the elements of the battery status display (❹) will light up. If this is not the case, please charge the battery (see chapter 3.2.2).
- Always read the safety information in the “2.0 For your safety” on page 16 chapter before starting up the device for the first time.

- After transporting the device at low temperatures, keep the device at room temperature for up to six hours before initial start-up. If the device is not acclimatised, it must not be used, as doing so could damage the diaphragms of the pump.
- ATMOS C 161 Battery DDS: Always have at least one hydrophobic DDS bacterial and viral filter to hand, as it is forbidden to operate the device without it!

3.2.2 Battery charging

The battery is charged using the device's 12 V low-voltage connection. Observe the notes on handling the battery in chapter "6.3 Handling batteries" on page 41.

Always use the enclosed recharging unit (REF 011.1334.0).

3.2.3 Charging using the recharging unit

Connect the recharging unit's power cable to the connection for the recharging unit. Plug the recharging unit's power plug into the socket.

3.2.4 Charging using a car connecting cable

Connect the connection for the power supply unit to your vehicle's cigarette lighter jack.

Both ways of charging (chapters 3.2.3 and 3.2.4) allow the device to be used at full suction capacity while charging. The device can still be operated using the 12 V mains supply if the battery is damaged or fully discharged. Full suction capacity will be available. In order to prevent the battery from becoming fully discharged by accident, the device switches off automatically after approx. 10 minutes.

4.0 Operation

Before following these instructions for use, please read the preceding chapter of your respective version of the ATMOS C 161 Aspirator, ATMOS C 261 Aspirator or ATMOS C 161 Battery!

⚠ WARNING

Ensure that the device is always functional and ready for use!

The patient could suffocate.

- Suction procedures in the respiratory tract must only be implemented following appropriate briefing from trained and instructed medical professionals.
- Make sure that the secretion canister is emptied in good time. As soon as the canister is half-full, it must be emptied (this applies to all areas of application)!
- If the liquid level is too high, the overflow protection is triggered and the suction stops. Empty the canister.
- Check the vacuum display regularly!
- If secretion has been sucked into the pump due to improper use or tampering, the device must be repaired by ATMOS or a service authorised by ATMOS.
- Use appropriate suction catheters, hose-rinsing apertures or suction instruments.
- Observe the liquid level in the secretion canister while suctioning.

⚠ WARNING

Risk of infection by lack of hygiene or damaged components!

Risk of deadly diseases being transmitted.

- Always use new consumables for every patient (DDS bacterial and viral filter cartridge and suction hose).
- Always check whether hoses or the secretion canister system are damaged before using the device. Replace any damaged parts.

⚠ WARNING

Electric shock due to damaged device!

Cardiac arrhythmias may be caused.

- Always check the device and mains power unit for damage before use.
- Replace any damaged parts immediately.
- Do not use the device if it is damaged.

Ambient conditions during operation

- Temperature: +10 to +35 °C
- Relative humidity: 20 to 80 %
- Air pressure 700 to 1060 hPa

4.1 Switching on the device

☞ The device should only be left on for as long as you need it. This will prolong the battery life (for ATMOS C 161 Battery).

1. Press the on/off button to switch on the device.

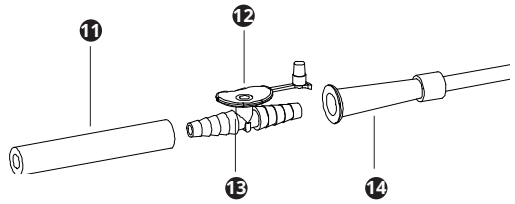
» The pump starts.

4.2 Switching off the device

1. Switch off the device by pressing the on/off button.

4.3 Suction hose

Connect the suction hose (⓫) to the suction catheter (⓮) using the fingertip (not included in the scope of delivery) (⓭).



⓫ Suction hose
⓬ Secondary air opening
⓭ Fingertip
⓮ Suction catheter

4.4 Adjusting the vacuum

⚠ WARNING

Excessive vacuum!

Patient can be seriously injured.

- Observe the valid guidelines.
- Please select the vacuum according to the patient and the application.
- Using the device on children requires a lower vacuum setting. Observe the instructions issued by the attending physician.

1. Switch on the device.
2. Set the desired vacuum by obstructing the suction hose opening and allowing the vacuum to build.
3. Turn the vacuum adjuster to the right until the vacuum gauge shows the desired vacuum.
4. To reduce the vacuum, turn the vacuum adjuster to the left. You can further fine-tune the vacuum using the vacuum regulator on the fingertip.
5. Choose a suction catheter of the correct size or a suction instrument. Always use sterile products when carrying out suction on the patient.

	SECONDARY AIR OPENING ⓬ OPEN = Suction is interrupted (e.g. when inserting the catheter). CLOSE SECONDARY AIR OPENING WITH A FINGER = suction.

4.5 Suction

⚠ WARNING

Device failure, if the period of continuous operation is too long!

The patient can suffocate.

- Make sure that the device does not remain switched on for longer than necessary.
- Check the status of the battery regularly while you operate the device.

⚠ WARNING

Risk of infection!

Risk of deadly diseases being transmitted.

- Always wear disposable gloves during suction.

⚠ CAUTION

Risk of injury due to inappropriate material or untrained users!

Risk of injuries in the oral cavity and pharynx of the patient.

- Suction particularly carefully in the tracheal area.
- The patient may suffer serious injury if too much vacuum is applied. Turn the vacuum adjuster to set the vacuum to the required level. The vacuum gauge shows the current vacuum level.
- Risk of suffocation when secretion canister system is full.
- Keep an eye on how full the secretion canister system is.
- Empty the secretion canister system as soon as it reaches half-full. When the secretion canister system is full, you can no longer use the device for suction.
- Make sure that the suction hose is not kinked during suction. Otherwise, the suction capacity applied to the patient will be insufficient.
- Insert the suction catheter as shown to you by the trained and instructed medical professionals, and start the suction procedure.
- Control the suction procedure using the secondary air opening (⓬) on the fingertip.
- The hydrophobic DDS bacterial and viral filter/oversuction stop safely prevents liquid from getting into the pump. Nevertheless the rinsing canister must be emptied when it is half full.
- Due to the design of the canister lid, the extracted secretion flows along the canister wall into the canister. This minimises foaming in the canister.
- Do not switch off the device until you have finished performing suction.

4.6 Hose rinsing

Dispose of the suction catheter and rinse the suction hose with clean water or disinfectant after every suction process. It is recommended to use an irrigation bottle in which clean water can be carried.

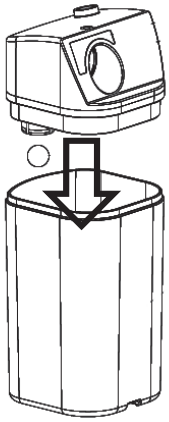
4.7 DDS secretion canister system

⚠ *ATTENTION*

Important notes on safety for the DDS secretion canister system

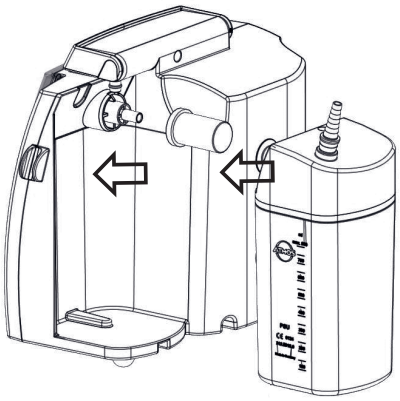
- Never operate the device without a DDS bacterial and viral filter. Always keep at least one spare DDS bacterial and viral filter on hand.
- Wear disposable gloves when changing the DDS bacterial and viral filter.
- Prior to each use check whether the DDS bacterial and viral filter is dry and clean. Replace the DDS bacterial and viral filter with a new DDS bacterial and viral filter if it is discoloured, contaminated or oversucked. The DDS bacterial and viral filter must not be dried and not reused.
- Replace the DDS bacterial and viral filter after a patient change. Replace the DDS bacterial and viral filter after 14 days, even if there is no patient change.

4.7.1 DDS secretion canister and DDS bacterial and viral filter



- Place the DDS secretion canister on a firm surface and position the canister lid horizontally on the DDS secretion canister (the lid cannot be twisted!).
- Press it tightly with both hands as far as it will go onto the canister.

4.7.2 Insertion/removal of the DDS bacterial and viral filter and secretion canister

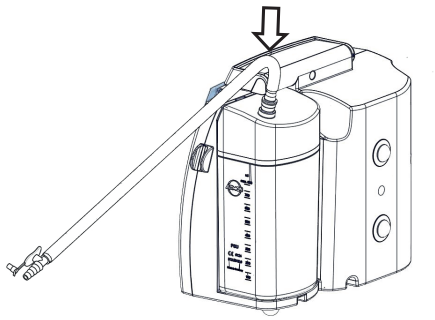


- The bacterial and viral filter must be fastened onto the housing. Once this is done, insert the secretion canister. To insert the DDS secretion canister, slide it in horizontally; to remove it, pull it out horizontally.

Failure to observe this sequence may result in loss of device performance!

☞ If necessary, the secretion canister can be detached from the device even more easily by using a lever instrument (e.g. a flat spatula).

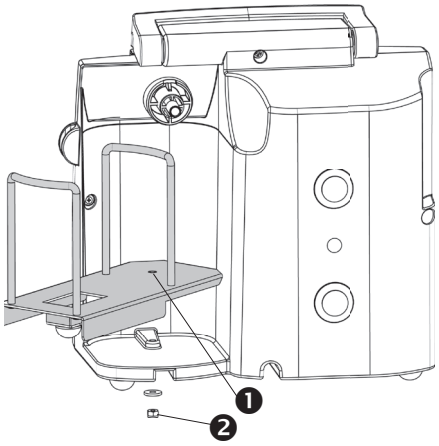
4.7.3 Connecting the suction hose



- Push the required DDS hose adapter with Ø 6 mm into the opening on the DDS canister lid, twisting slightly to ensure a tight fit.
- Connect the suction hose to the DDS hose adaptor.
- Twist slightly in the same manner when removing.

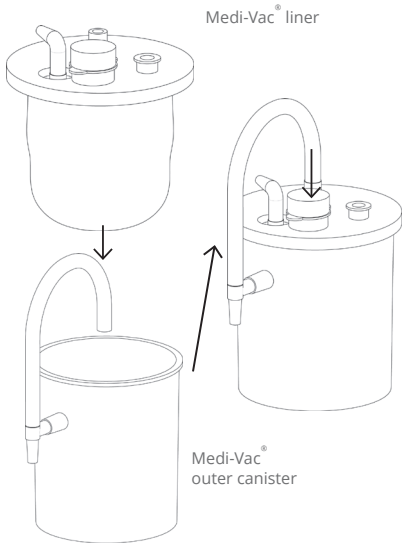
4.8 Operating the Medi-Vac®

4.8.1 Support for Medi-Vac® secretion canister



- Insert the thread ❶of the support into the borehole on the bottom of the device.
- Fasten the two parts together using the supplied nut ❷.

4.8.2 Assembling the Medi-Vac® secretion canister system



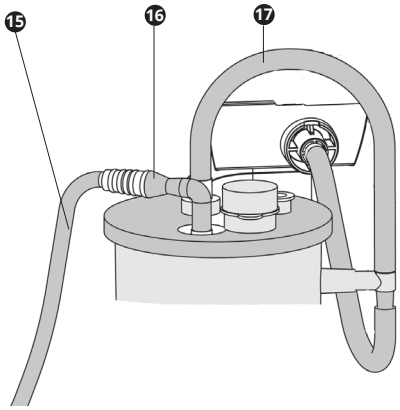
- Insert the Medi-Vac® liners into the Medi-Vac® outer canister.

☞ Close the canister tightly on all sides. Check again to ensure that the seal is airtight, otherwise the system will be unable to generate a vacuum.

- Insert the vacuum hose.
- Connect the Medi-Vac® liner and device to the vacuum hose.
- Connect the suction hose to the Medi-Vac® liner.

☞ Always use liners with built-in bacterial filters.

4.8.3 Connecting the hose



⓯ Suction hose

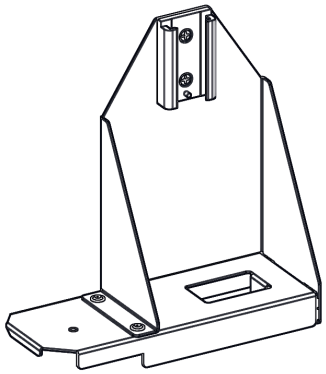
⓰ Connection for suction hose

⓱ Vacuum hose

The suction hose is used to suck up the secretion.

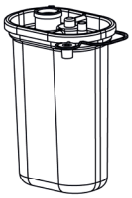
4.9 Operating the Serres®

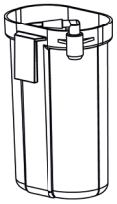
4.9.1 Support for the Serres® secretion canister



- Insert the thread of the support into the borehole on the bottom of the device.
- Screw it together with the supplied screw nut.

4.9.2 Assembling the Serres® secretion canister system





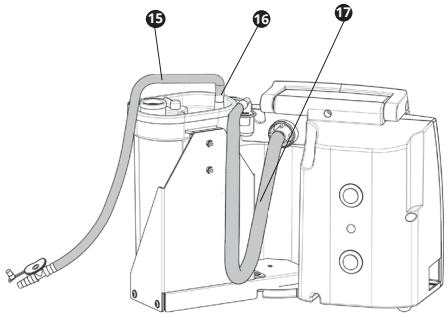
- Insert the Serres® liner into the Serres® outer canister.

☞ Close the canister tightly on all sides. Check again to ensure that the seal is airtight, otherwise the system will be unable to generate a vacuum.

- Insert the vacuum hose.
- Connect the Serres® liner and device to the vacuum hose.
- Connect the suction hose to the Serres® liner.

☞ Always use liners with built-in bacterial filters.

4.9.3 Connecting the hose



⓯ Suction hose

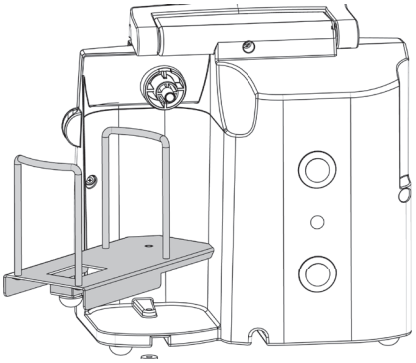
⓰ Connection for suction hose

⓱ Vacuum hose

The suction hose is used to suck up the secretion.

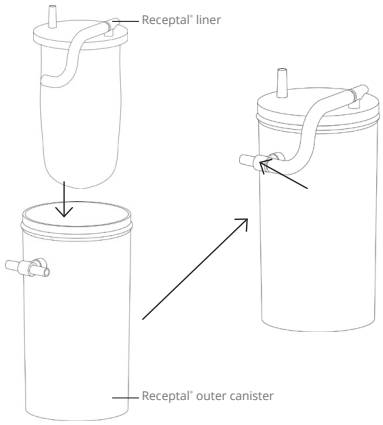
4.10 Operating the Receptal®

4.10.1 Support for the Receptal® secretion canister



- Insert the thread of the support from above into the borehole at the bottom side of the device.
- Screw it together with the supplied screw nut.

4.10.2 Assembling the Receptal® secretion canister system



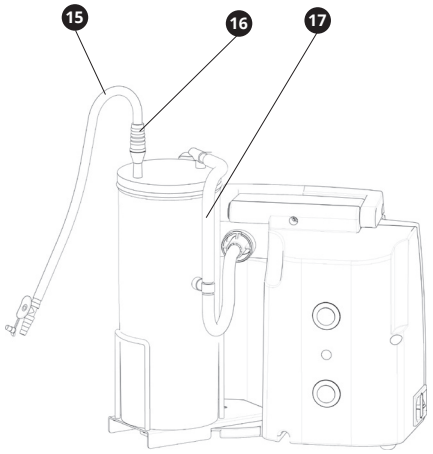
Insert the Receptal® liner into the Receptal® outer canister.

☞ Close the canister tightly on all sides. Check again to ensure that the seal is airtight, otherwise the system will be unable to generate a vacuum.

- Insert the vacuum hose.
- Connect the Receptal® liner and device to the vacuum hose.
- Connect the suction hose to the Receptal® liner.

☞ Always use liners with built-in bacterial filters.

4.10.3 Connecting the hose



⓯ Suction hose

⓰ Connection for suction hose

⓱ Vacuum hose

The suction hose is used to suck up the secretion.

⚠ WARNING

Never use sterile packed parts if their packaging has been damaged during transport or storage!

Danger of infection for the patient!

- Only use secretion liners with a built-in bacteria filter!
- Only use sterile packaged parts if their packaging is undamaged.
- Prior to use, check the packaging of the sterile products to ensure it is intact. Never use defective accessories or consumables.
- Repeat use of sterile products can lead to infection.
- A bacterial filter prevents the spread of bacteria.

4.11 Using the device support for standard rails (REF 313.0012.0)

A device support is available for mounting the device on a standard rail.

⚠ WARNING

Risk of injury!

The device may only be mounted on the device support intended for this purpose (REF 313.0012.0).

ATTENTION

The device support offers two mounting options. To change the mounting position, unscrew the screws on the mounting handle and move it. Once you have tightened the screws again, check the mounting handle to ensure it is seated securely.

4.11.1 Mounting the device support on the standard rail and mounting the device

1. Place the device support onto the standard rail from above at a diagonal angle, and use the mounting handle to fasten it in place on the rail.
2. Check that the device support is seated securely.
3. Use the device base and the recesses to position the device on the device support.
4. Fasten the device in place on the device support using the star grip.
5. Check the device to ensure it is seated securely.

4.12 Using the trolley (REF 320.0070.2)

A trolley is available to make transporting the device easier.

⚠ WARNING

Risk of injury!

The device may only be mounted on the trolley intended for this purpose (REF 320.0070.2).

⚠ WARNING

Risk of injury!

If the brakes on the trolley's rollers are not engaged, the device may roll out of position during suction.

The brakes provided on the trolley must be used.

4.12.1 Mounting the device on the trolley

1. Use the device base and the recesses to position the device on the trolley.
2. Fasten the device in place on the trolley using the star grip.
3. Check the device to ensure it is seated securely.

5.0 Cleaning/disinfection

5.1 Safety instructions for sterilisation

5.1.1 General safety instructions

We recommend that you always document all maintenance work and part replacements in writing.

It is the responsibility of the user to ensure that the required results of cleaning and disinfection are achieved. Validation and routine monitoring of the procedure will usually be necessary.

Sterilisation may only be carried out by persons who have the necessary expertise. The person in question must possess the equipment required to carry out these measures.

5.1.2 Danger for users, patients, and third parties

⚠ WARNING

Risk of infection due to unsuitable accessories!

Risk of deadly diseases being transmitted.

- Always wear your own personal protective gear. The protective gear for all steps during which the product components are still contaminated consists of protective gloves, protective clothing, goggles, and mouth and nose protection.
- Only use accessories that can be easily sterilized or use disposable products.

⚠ WARNING

Risk of infection due to unsuitable reprocessing!

Risk of deadly diseases being transmitted.

- Make sure that all areas of the accessories can be easily reached.
- Always use suitable load carriers for mechanical sterilisation. This applies especially to accessories that contain hollow spaces and lumens that are hard to reach.

Make sure that air bubbles do not form in the hollow spaces and lumens of accessories when placing them in sterilisation solutions.

5.1.3 Avoiding damage to the device

ATTENTION

Damage to the device due to improper cleaning!

Risk of damage to the product.

- Use a damp, never wet cloth to clean and disinfect the surface.
- Do not use spray disinfectant directly on the device. Spray the disinfectant onto a cloth before disinfecting the surface.
- Ensure that no disinfectant enters the device.
- Make sure that the product is switched off during cleaning.
- The product should never be autoclaved, rinsed under running water or immersed into any liquids.

ATTENTION

Damage to the device due to cleaning with fixatives!

Stains cannot be removed permanently.

- Do not use aldehydes before and during cleaning.
- Do not expose the product to temperatures > 40 °C/104 °F before or during cleaning.

ATTENTION

Unsuitable accessories!

Risk of damage to the product.

- Only use lint-free, soft cloths.
- Always use demineralised water for the final rinse.
- Follow the corresponding operating instructions of all aids and devices used.

ATTENTION

Unsuitable cleaning agents and disinfectants.

The product may become damaged.

- Do not use any process chemicals containing the following ingredients **on plastic parts**:
  - Chloramides or phenol derivatives
- Do not use any process chemicals containing the following ingredients **on stainless steel**:
  - Organic or inorganic bases
  - Alkaline solutions
- Do not use any process chemicals which contain the following ingredients **on padding**:
  - Polish or wax polish
  - Chemical cleaning agents
- Oils, greases or alcohol

ATTENTION

Incorrect mechanical cleaning and disinfection.

Corrosion due to moisture.

Remove the products immediately once the programme is finished.

- Prior to using the device on a new patient, all the parts that come into contact with the suction material (canister, lid, overflow protection and hose) must always be cleaned and then disinfected. Disposable items, such as the bacterial and viral filter, catheters, fingertips etc., must be exchanged. See the individual cleaning instructions! (“5.3 Cleaning instructions” on page 38).
- If the suction device is only used for one patient, the device and its accessories should be cleaned and disinfected for hygiene reasons. See the individual cleaning instructions! (“5.3 Cleaning instructions” on page 38)

- Cleaning in an automatic cleaner and disinfecter is also possible (hose connector, secretion canister and canister lid). Thermal disinfection is carried out at 93 °C.

5.1.4 DDS bacterial and viral filter

- Replace the DDS bacterial and viral filter after a patient change. Replace the DDS bacterial and viral filter after 14 days, even if there is no patient change.
- Replace the DDS bacterial and viral filter with a new DDS bacterial and viral filter if it is discoloured, contaminated or oversucked.
- Always ensure you have a sufficient number of spare filters on hand.

5.1.5 Suction hose, hose connector and vacuum hose

- Prior to using the device on a new patient, the suction hose and hose connector must always be disinfected using an instrument disinfectant recommended on Page 38. Please note that the parts should be rinsed with clear water for at least 10 seconds in order to achieve a better cleaning effect. Observe the respective instructions for use of the disinfectants!
- If the device is still being used by the same patient, we recommend changing these parts every 4 weeks.
- In addition to this, we recommend thoroughly rinsing the hose, hose connector and vacuum hose with clear water after each suction procedure, and disinfecting them at least once a day as described above.

5.1.6 Fingertip

- The fingertip is not included in the scope of delivery.
- Prior to using the device on another patient the fingertip must be exchanged.
- If the device is still being used by the same patient, we recommend changing the fingertip on a daily basis for hygiene reasons.

5.1.7 Secretion canister

Prior to using the device on a new patient, the secretion canister must always be disinfected using an instrument disinfectant as recommended on Page 38. Please note that the secretion canister should be emptied and rinsed with clear water beforehand to ensure better cleaning.

☞ Observe the respective instructions for use of the disinfectants!

- If the device is still being used by the same patient, we recommend disinfecting the secretion canister on a daily basis as described above.
- For hygiene reasons, we recommend emptying the secretion canister after every suction procedure and rinsing it with clear water.

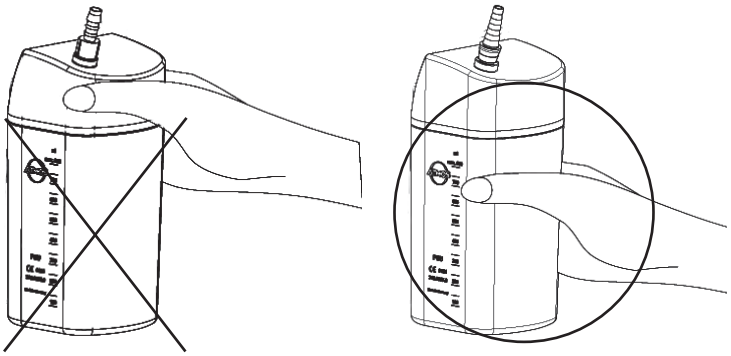
☞ For instructions on how to remove the canister, see chapter “4.7.2 Insertion/removal of the DDS bacterial and viral filter and secretion canister” on page 27.

⚠ WARNING

Risk of infection!

Risk of deadly diseases being transmitted.

Holding the secretion canister by the canister lid can lead to the secretion canister dropping to the floor. Never hold the secretion canister by the canister lid alone.



5.1.8 Canister lid

Prior to using the device on a new patient, the canister lid must always be disinfected using an instrument disinfectant as recommended on Page 38. Prior to disinfection, please ensure that the DDS bacterial and viral filter has been removed and the canister lid dismantled into its individual parts (lid, float ball and hose connector).

- ☞ In order to achieve a better cleaning effect, rinse the individual parts under clear water for at least 10 seconds. Once this is done, disinfect the individual parts.
- ☞ Please observe the operating instructions for the respective disinfectant.
- ☞ For instructions on how to remove the canister lid, see chapter 4.7.2 on page 27.
- ☞ If the device is still being used by the same patient, we recommend rinsing the canister lid and its individual parts under clear water after every suction procedure.

⚠ *ATTENTION*

Remove the DDS bacterial and viral filter before doing this!

5.1.9 Device surface

- Prior to using the device on a new patient, the entire surface of the device must always be cleaned with a damp (not wet) cloth and disinfected using one of the surface disinfectants listed in “5.5 Recommended surface disinfectants” on page 39.
- If the device is still being used by the same patient, the device surface should still be cleaned with a damp (not wet) cloth at least once a week and then disinfected using one of the surface disinfectants listed on “5.5 Recommended surface disinfectants” on page 39.

- ☞ Some disinfectants may cause discolouration of the material. This does not affect the functionality of the device.
- ☞ Always ensure that the device is disconnected from the mains power before commencing cleaning!
- ☞ The device should never be autoclaved, rinsed under running water or immersed into any liquids!

5.1.10 Accessories

- Hose reel (REF 313.0007.0)
- Trolley (REF 320. 0070.0)
- Device support (REF 313.0012.0)

- ☞ Prior to using the device on a new patient, the entire surface of the hose reel, the trolley and the device support must always be cleaned with a damp (not wet) cloth and then disinfected using one of the surface disinfectants listed in “5.5 Recommended surface disinfectants” on page 39.

☞ If the device is still being used by the same patient, the surface should still be cleaned at least once every week with a damp (not wet) cloth, and afterwards be disinfected using one of the surface disinfectants listed in “5.5 Recommended surface disinfectants” on page 39.

5.2 Oversuction

When is a suction device oversuctioned?

A suction device is oversuctioned if suction material has penetrated into the interior of the device.

How can I see whether my suction device is oversuctioned?

Reduced suction capacity is usually a sign of potential oversuction. The ATMOS C 161 Aspirator, ATMOS C 261 Aspirator or ATMOS C 161 Battery also has a condensate collector at the bottom of the device. Please remove the cover cap when performing a visual inspection. The device is oversuctioned and contaminated if humidity or contamination is visible in the condensate collector.

Measures

In case of oversuction or if there are any reservations regarding its hygienic condition, the suction device must be re-sterilised by the manufacturer or a certified ATMOS partner. A contaminated suction device constitutes a risk to both the patient and the caregiver. As such, we recommend checking the condensate collector regularly.

5.3 Cleaning instructions

		For continued use on the same patient					
Surface	For use on another patient	If contaminated	After each suction procedure	1x per day	1x per week	Every 2 weeks	Every 4 weeks
Exchange the DDS bacterial and viral filter	X	X				X	
Rinse the suction hose	X		X				
Disinfect the suction hose	X			X			
Exchange the suction hose							X
Exchange the fingertip	X			X			
Empty the secretion canister	X		X				
Rinse the secretion canister	X		X				
Disinfect the secretion canister	X			X			
Rinse the canister lid components	X		X				
Disinfect the canister lid components	X			X			
Clean the device surface	X	X			X		
Wipe down the device surface with disinfectant	X	X			X		
Rinse the vacuum hose	X			X			
Disinfect the vacuum hose	X			X			
Disinfect the hose connector	X						X

5.4 Recommended instrument disinfectants

Disinfectant	Ingredients	(in 100 g)	Manufacturer
GIGASEPT FF (Application concentrate)	Succindialdehyde Dimethoxytetrahydrofurane Corrosion inhibitors non-ionic surfactants and perfumes	11.0 g 3.0 g	Schülke & Mayr, Norderstedt
Sekusept PLUS[1]	Glucoprotamine Non-ionic tensides Solvents, complexing agents	25.0 g	Ecolab, Düsseldorf

5.5 Recommended surface disinfectants

Disinfectant	Ingredients	(in 100 g)	Manufacturer
ATMOS Green & Clean SK (Application concentrate)	Alkyldimethylbenzylammonium chloride Dialkyldimehtylammoniumchloride Alkyldimethylethylbenzylammoniumchloride	< 1 g < 1 g < 1 g	Metasys, Rum (Austria)
Dismozon plus (granule)	Magnesium peroxyphthalate Hexahydrate	95.8 g	Bode Chemie, Hamburg
Kohrsolin FF (Application solution)	Glutaral Benzyl-C12-C18-alkyldimethylammonium chloride Didecyldimethylammonium chloride	5 g 3 g 3 g	Bode Chemie, Hamburg *Not suitable for the rinsing canister*
Mikrozid sensitive wipes	Quaternary ammonium compounds	0.26 g	Schülke & Mayr, Norderstedt
Perform (Application solution)	Pentapotassium bis(peroxymonosulphate)-bis(sulphate)	45.0 g	Schülke & Mayr, Norderstedt
Bacillol 30 Foam	Ethanol Propane-2-ol Propane-1-ol Alkylaminopropylglycine	14 g 10 g 6 g < 1 g	Bode Chemie, Hamburg *Not suitable for the rinsing canister*
Mikrobac forte	Benzyl-C12-C18-alkyldimethyl-ammonium chloride N-(3-aminopropyl)-N-dodecylpropane 1.3-diamine	19.9 g	Bode Chemie, Hamburg

☞ When using disinfectants containing aldehyde and amine at the same object colour changes may occur.

6.0 Maintenance and service

6.1 Basic instructions

- Before putting the device into operation, visually check the device, secretion canister and power cable, accessories, connection cables and hoses for signs of damage. Damaged cables and hoses must be replaced immediately!
- Maintenance, repairs and periodic tests may only be carried out by persons who have the appropriate technical knowledge and who are familiar with the product. The person in question must possess the necessary test devices and original spare parts required to carry out these measures.

☞ ATMOS recommends: work should be carried out by an authorised ATMOS service partner. This ensures that repairs and tests are carried out professionally, original spare parts are used and warranty claims remain unaffected.

- Comply with the country-specific guidelines regarding regular testing, especially with regard to electrical safety. ATMOS recommends an inspection every 24 months.
- For repair works, the device can be sent either directly to ATMOS, or via the retailer you purchased it from.

Before sending in the device, all the secretion canisters and hose parts must be cleaned and subsequently disinfected. The surfaces of the device itself must also be disinfected.

- ATMOS neither guarantees for fault-free operation nor for personal injuries and damage to property if
  - •no original ATMOS parts are being used,
  - the instructions for use contained in these operating instructions are disregarded,
  - assembly, new settings, alterations, extensions and repairs have not been executed by ATMOS authorised personnel.
- No warranty claims whatsoever shall be recognised on defects or malfunctions that arise from the use of third party accessories or consumables.
- Before passing on the ATMOS C 161 Aspirator, ATMOS C 261 Aspirator or ATMOS C 161 Battery, the device must be brought into a technically and hygienically perfect condition for the protection of the user.
- If there is a change of patient or ownership, the device must be sterilised in accordance with the latest regulations. An oversuctioned (contaminated) device must be repaired by the manufacturer, by a certified ATMOS partner or an ATMOS authorised, specialised dealer.
- The instructions and regulations for the respective field of application should be observed.

6.2 Sterilisation

Handling of the suction device determines to a large extent its reliability and safety. The hygiene measures described in the previous chapters are necessary measures for the protection of patients and users, and to maintain functional reliability.

If you can be certain that there has been no oversuction of the device, perform sterilisation in accordance with the latest regulations. Sterilisation consists of cleaning, surface disinfection and the exchange of consumables.

Carry out this process using the ATMOS sterilisation kit. If you cannot rule out the possibility that the device has been oversuctioned then the device must

be repaired by the manufacturer, by a certified ATMOS partner or an ATMOS authorised, specialised dealer. Subsequently the device may be operated again.

When is a suction device oversuctioned?

A suction device is oversuctioned if suction material has penetrated into the interior of the device.

How can I see whether my suction device is oversuctioned?

Reduced suction capacity is usually a sign of potential oversuction. The ATMOS C 161 Aspirator, ATMOS C 261 Aspirator or ATMOS C 161 Battery also has a condensate collector at the bottom of the device. Please remove the cover cap when performing a visual inspection. The device is oversuctioned and contaminated if humidity or contamination is visible in the condensate collector.

Measures

In case of oversuction or if there are any reservations regarding its hygienic condition, the suction device must be re-sterilised by the manufacturer or a certified ATMOS partner. A contaminated suction device constitutes a risk to both the patient and the caregiver. As such, we recommend checking the condensate collector regularly.

Quick visual inspection of condensate collector to check for potential contamination.

6.3 Handling batteries

- The battery must be fully charged before starting up the device for the first time.
- Allowing the batteries to discharge completely will damage them irreparably. As such, make sure that you charge the batteries fully every three months, even when the ATMOS C 161 Battery is not in use.
- Always ensure that your battery-powered devices are charged before putting them into storage.
- If the device has not been used for a prolonged period of time, the full capacity of the battery will not be available until it has been through approximately 4 full charging and discharging cycles.
- Always contact Customer Service as soon as possible to replace used batteries. Operating the device using mains power when its battery has been used up can irreparably damage the electronic charging system or lead to sudden shut-off of the device due to high current consumption.
- Heat will irreparably damage the battery. As such, batteries must be kept out of direct sunlight and away from heat sources. The ideal storage temperature is between 8 and 15 °C.
- Once the available capacity (running time) of the battery drops to less than 80% of that of a new battery, it needs to be exchanged by our Service team.
- The capacity of the batteries will be exhausted after min. 500 charging cycles.

- Handling the batteries correctly will significantly prolong their service life.
- Rechargeable batteries are wearing parts, and are therefore excluded from the general 2-year warranty!

6.4 Sending in the device

1. Remove all consumables and dispose of them properly.
2. Clean and disinfect the product and accessories according to the operating instructions.
3. Enclose any used accessories with the product.
4. Fill in form QD 434 “Delivery complaint/return shipment” and the associated decontamination certificate.

☞ This form is enclosed with each delivery and can be found at www.atmosmed.de.

5. The product must be well padded and packed in suitable packaging.
6. Place the QD 434 “Delivery complaint/return shipment” form and the decontamination certificate in an envelope.
7. Affix the envelope to the outside of the package.
8. Send the product to ATMOS or your dealer.

7.0 Troubleshooting

The ATMOS C 161 Aspirator, ATMOS C 261 Aspirator or ATMOS C 161 Battery has been subjected to thorough quality inspection at the factory. If there is, nevertheless, some malfunction, you possibly might solve this problem yourself if you observe the following instructions.

Error symptom	Possible cause	Remedy
Device does not start	• Battery discharged • Recharging unit power plug not seated securely • Power cable not seated securely	• Connect the recharging unit power supply. In order to ensure that the device can be operated while not connected to the mains, the battery should be charged for 1 to 2 hours. • Check all plug connections. Pay attention to the indicator lamp; this should light up when the device is connected correctly.
Insufficient capacity	• Battery discharged • Bacterial and viral filter blocked	• Charge battery • Exchange hydrophobic DDS bacterial and viral filter
Low or no vacuum is displayed	• Hydrophobic DDS bacterial and viral filter missing • Leak in hose or canister lid • Secretion or blood has been sucked in and the unit's valve plates are stuck together	• Insert the hydrophobic DDS bacterial and viral filter • Check suction lid and hose are fitted tightly • Remove the hydrophobic DDS bacterial and viral filter and place it back on the connecting pieces, ensuring it is seated securely. • Check suction lid is fitted tightly • In case of oversuction, the device must be sent in for repair.
High vacuum is indicated	• Hydrophobic DDS bacterial and viral filter blocked • The overflow protection float is blocking the suction lid inlet	• Exchange hydrophobic DDS bacterial and viral filter • Check suction lid inlet; if necessary, empty the rinsing canister, clean the oversuction protection and check the float ball to ensure that it can move freely
Device switches off automatically when switched on	• Applied vacuum (over 40%)	• Ventilate the vacuum; start-up should then be possible again

8.0 Accessories and consumables

8.1 Accessories for the ATMOS C 161 Aspirator, ATMOS C 261 Aspirator and ATMOS C 161 Battery

Name	REF
Grad. secretion canister 1 l DDS, blue	313.0015.0
Canister lid, DDS, blue, with bacterial and viral filter	313.0006.0
Hose connector for hoses Ø 6 mm	000.0836.0
Carry bag, black	313.0011.0
Car connecting cable, 12 V~	313.0436.0
Device support for standard rails	313.0012.0
Trolley for ATMOS C-class	320.0070.2
ATMOS outer canister, 1 l	401.0100.0
AS secretion suction/portable/1 l/ATMOS	HM57525803
Holder for ATMOS outer canister, 1 l, Dräger	401.0094.0
Serres® outer canister 1 l	312.0465.0
Serres® angle connector, grey, 2 pcs.	310.0415.0
Medi-Vac® outer canister 1 l	312.0473.0
Receptal® outer canister 1.5 l	310.0221.0
Support for Medi-Vac® outer canister 1 l	313.0010.0
Support for Serres® outer canister 1 l	313.0413.0
Support for Receptal® outer canister	313.0009.0
Medi-Vac® retrofit kit, 1 l	313.0570.0
Serres® retrofit kit, 1 l	313.0580.0
Basket for catheter, L = 34 cm	444.0140.0
Catheter holder for trolley	HM57508002
Catheter quiver	HM57525150
10x hydrophobic DDS bacterial and viral filter, 10 pcs.	340.0054.0
Hydrophobic bacterial and viral filter, Ø 8 mm	444.0628.0
Set of consumables for ATMOS A and C class DDS	313.0160.0
ATMOS suction liner 1 l with gelling agent, 100 pcs.	401.0101.0
ATMOS suction liner 1 l, 100 pcs.	401.0102.0
Medi-Vac® suction liner 1 l, 50 pcs.	312.0474.0
Serres® suction liner 1 l without gelling agent, 36 pcs.	312.0466.0

Name	REF
Serres® suction liner 1 l with gelling agent, 32 pcs.	312.0467.0
Receptal® suction liner 1.5 l, with filter, 50 pcs.	310.0222.2
Suction hose, silicone, Ø 6 mm, 1 m (minimum order 5 m)	006.0009.0
Suction hose, silicone, Ø 6 mm, L = 1.30 m, 1 pc.	000.0013.0
Suction hose, PVC, CH 30, L = 1.30 m, 10 pcs.	006.0057.0
Fingertip, sterile (min. 10 pcs.)	000.0347.0
Suction catheter Unomedical®, CH 12, 100 pcs.	000.0294.0
Suction catheter Unomedical®, CH 14, 100 pcs.	000.0295.0
Suction catheter Unomedical®, CH 16, 100 pcs.	000.0296.0
Power cable 3-wire safety plug, 2 m	008.0866.0
2-pin power cable, L = 1.5 m	008.0920.0
Recharging unit for ATMOS devices with marking	313.0089.0
Recharging unit for ATMOS devices	011.1334.0

9.0 Technical data

9.1 ATMOS C 161 Aspirator, ATMOS C 261 Aspirator

Voltage	230 V~ ± 10%; 50/60 Hz
Current consumption	ATMOS C 161 Aspirator: max. 0.85 A ATMOS C 261 Aspirator: max. 0.46 A
Power consumption	ATMOS C 161 Aspirator: max. 170 VA ATMOS C 261 Aspirator: max. 105 VA
Heat output	Approx. 100 J/s
Fuses	T 1.25 A/H
Suction capacity	ATMOS C 161 Aspirator: 16 ± 2 l/min ATMOS C 261 Aspirator: 26 ± 2 l/min
Max. vacuum at MSL	-80 kPa (-800 mbar; -600 mmHg)*, or 80% of daily air pressure
Vacuum adjustment	Infinitely variable vacuum regulator (mechanical regulation valve)
Vacuum display	Vacuum gauge (precision class: 2.5) -1... 0 bar (± 2.5% of the final value) (mmHg, bar, kPA)
Pump	Swing piston pump
Available collection canister	Reusable secretion canister: 1 l DDS secretion canister Interfaces for the use of disposable systems: 1 l
Sound pressure level	50 dB (A)
Operating mode	Interval operation (max. 45 minutes “ON”; min. 60 minutes “OFF”)
Protective earth conductor resistance Earth leakage current Touch current Patient leakage current	- - N.C. < 0.1 mA -
Ambient conditions: Transport/storage • Temperature • Air humidity without condensation • Air pressure	 -30 to +50 °C 5 to 90% 700 to 1060 hPa
Ambient conditions: operation • Temperature • Air humidity without condensation • Air pressure	 +10 to +35 °C 20 to 80 % 700 to 1060 hPa

Contamination level	2
Overvoltage category	II
Dimensions (H x W x D)	250 x 255 x 180 mm
Weight	3 kg
Periodic tests	Recommended: testing every 24 months
Electric shock protection class (in acc. with EN 60601-1)	II
Classification of application parts	Type BF applied parts 
Type of protection	IP21
CE mark	CE 0124
Reference number (REF)	313.0000.0 313.0002.0 313.0004.0 313.0065.0 313.0100.0 313.0102.0 313.0103.0 313.0165.0

* Data may differ depending on elevation above sea level, prevalent air pressure and air temperature.

9.2 ATMOS C 161 Battery

Voltage	100–240 VAC (+/-10%) 50/60 Hz
Current consumption	max. 1.5 A
Power consumption	max. 45 VA
Power supply unit	Manufacturer: GlobTek Inc. Model: GTM91099-6015-3.0-T2
Other power sources (recharging unit or 12 V car power supply)	12 V DC ± 10%
Battery life	Min. 60 min
Battery	8.4 V; 6 Ah; Li-Ion
Life cycle	At least 500 charging cycles, more if not discharged fully
Charging time	Approx. 2 h 30 min
Recharging interval during long-term storage	Every 3 months
Backup mode	If battery is fully discharged, device can be operated on mains power
Heat output	Approx. 40 J/s
Fuses	T 1.25 A/H
Suction capacity	22 ± 2 l/min

Max. vacuum at MSL	-76 kPa (-760 mbar; -570 mmHg)*, or 80% of daily air pressure
Vacuum adjustment	Infinitely variable vacuum regulator (mechanical regulation valve)
Vacuum display	Vacuum gauge (precision class: 2.5) -1... 0 bar (± 2.5% of the final value) (mmHg, bar, kPA)
Pump	Swing piston pump
Available collection canister	Reusable secretion canister: 1 l DDS secretion canister Interfaces for the use of disposable systems: 1 l
Sound pressure level	56 dB (A)
Operating mode	Interval operation (max. 10 minutes “ON”; min. 30 minutes “OFF”)
Protective earth conductor resistance Earth leakage current Touch current Patient leakage current	- - - -
Ambient conditions: Transport/storage • Temperature • Air humidity without condensation • Air pressure	 -30 to +50 °C 5 to 90% 700 to 1060 hPa
Ambient conditions: operation • Temperature • Air humidity without condensation • Air pressure	 +10 to +35 °C 20 to 80 % 700 to 1060 hPa
Contamination level	2
Overvoltage category	II
Dimensions (H x W x D)	250 x 255 x 180 mm
Weight	4 kg
Periodic tests	Recommended: testing every 24 months
Electric shock protection class (in acc. with EN 60601-1)	II
Classification of application parts	Type BF applied parts 
Type of protection	IP21
CE mark	CE 0124

Reference number (REF)	313.0400.0 313.0402.0 313.0403.0 313.0465.0

* Data may differ depending on elevation above sea level, prevalent air pressure and air temperature.

Hydrophobic DDS bacterial and viral filter

Degree of separation against bacteria	99.999778%*
Degree of separation against viruses	99.73%*
Total degree of separation	>99.95%*
Filter class	H13 (High-Efficiency Particulate Air/ Arrestance)*

*External test report (test laboratory)

10.0 Disposal/recycling

Packaging

1. Recycle any device packaging you no longer need.

Secretion canister system

Disposable products must never be sterilised and reused! Please dispose of disposable products professionally.

The following notes only apply to reusable products.

1. Clean and disinfect the reusable products of the canister system.
2. Recycle the disinfected reusable products.

ATMOS C 161 Aspirator, ATMOS C 261 Aspirator and ATMOS C 161 Battery

Do not dispose of devices or batteries in domestic waste.

1. Clean and disinfect the device.
2. In Germany: Send the device to ATMOS or your specialist dealer. They will dispose of the device professionally.
3. In other countries: dispose of the device properly and in accordance with country-specific laws and regulations.

10.1 Expected service life

When the operated according to the operating instructions, the device (ATMOS C 161 Aspirator, ATMOS 261 Aspirator or ATMOS C 161 Battery) has an expected service life of 5 years. This expectancy is based on the assumption that the device is cleaned thoroughly and regularly and operated in line with the operating instructions.

11.0 Notes on EMC

☞ Medical electrical equipment is subject to special precautions with regard to EMC and must be installed according to the following EMC notes.

Guidance and manufacturer's declaration – ambient conditions

The product is suitable for use in the following environments:

- In fields of home healthcare in any buildings, outdoor areas, and means of transport.
- In professional healthcare facilities such as medical practices, hospitals/clinics, first-aid facilities and operating theatres/rooms.
  It is not suitable for use in the vicinity of HF surgical devices and in settings outside of an HF-shielded room of a magnetic resonance imaging system.
- Special environments such as factory or military facilities and medical areas near HF surgical devices, short-wave therapy equipment or within an HF-shielded room of a magnetic resonance imaging system.

The customer or user must ensure that the device is used in a prescribed environment.

Guidance and manufacturer’s declaration – key features

☞ Please observe the Technical Data in this manual. The essential features are fully usable even in the presence of electromagnetic disturbances.

Guidance and manufacturer’s declaration – electrical components

The product has the following electrical components:

Type	REF	Max. cable length
Power cable, 3-core, safety plug	008.0866.0	2 m
2-pin power cable	008.0920.0	1.5 m
Recharging unit for ATMOS devices with marking	313.0089.0	1.8 m
Recharging unit for ATMOS devices	011.1334.0	1.8 m

Guidance and manufacturer’s declaration – warnings

⚠ WARNING

The use of electrical components and accessories other than those specified or provided by the manufacturer may cause increased electromagnetic interference or reduced immunity to electromagnetic interference and result in faulty operation of the device.

⚠ WARNING

Portable RF communications equipment (e.g. radios, antenna cables) should not be used within 30 cm* of any parts or cables of the product as specified by the manufacturer. Failure to do so may lead to a reduction in the device’s performance.

☞ *The distance may be reduced at higher immunity test levels.

⚠ Warning

Avoid placing the device on top of or next to another device. This could result in faulty operation. If such placement cannot be avoided, the proper functioning of the device must be monitored regularly. If possible, please switch off any nearby devices that are not in use.

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