ATMOS
MedizinTechnik

Operating instructions

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

English




CE 0124

GA1GB.310105.0

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# 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 or 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 only be reprinted, either in part or in whole, with written permission from ATMOS.

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



Care, periodic tests, regular cleaning, and proper application are essential. 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.



Prior to first start-up, please peruse chapter “2.0 For your safety” on page 15. This will help you to avoid potentially dangerous situations.

The products ATMOS C 161 Aspirator, ATMOS C 261 Aspirator or ATMOS C 161 Battery bear CE marking CE 0124 according to the EU Council Directive 93/42/EEC concerning medical devices and meet the basic requirements of Annex I to the Directive.

The products ATMOS C 161 Aspirator, ATMOS C 261 Aspirator or ATMOS C 161 Battery comply with all 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**<br>Warning of a danger that will result in immediate fatal or serious injury. Observe the necessary measures. |
| **⚠ WARNING**<br>Warning of a danger that can cause death or serious injury. Observe the necessary measures. |
| **⚠ CAUTION**<br>Warning of a danger that can cause minor injury. Observe the necessary measures. |
| *NOTICE*<br>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. |
| • | Numeration. |
| » | Result of an action. |
|  | Move/plug in this direction. |
|  | Engage, check correct fit. |

## On device, type plate, and packaging

| | |
|---|---|
|  | Follow operating instructions (blue) |
|  | Consult 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. |
| EAC | This device complies with the relevant requirements of the Eurasian Economic Union. |
|  | Manufacturer |
|  | Date of manufacture |
|  | Date of manufacture<br>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:<br>• Solid foreign particles Ø ≥12.5 mm<br>• Dripping water from above |
|  | Applied part type BF |
|  | Professional disposal |

| | |
|---|---|
|  | Use-by date |
|  | Do not reuse |
|   | Non-sterile |
|   | Sterile device |
|   | Sterilized using ethylene oxide |
|   | Autoclavable |
|   | Connection suction hose / patient |
|  | Short-term operation |
|  | Protection class II device |
|  | Fuse |
|  | On/off button |
|  | Button battery status |
|  | Battery status control button |
|  | Fragile, handle with care |
|  | Keep dry |
|  | Keep away from 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 161Battery / 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 in the ear

**Intended users / User profiles:**

- Trained medical personnel
- Non-medical users, e.g., patients and/or relatives (after instruction by a doctor)

**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

| | |
|---|---|
| **Duration of application:** | Temporary use on the patient (<60 min) |
| **Area of application:** | • Home healthcare environment (homecare area)<br>• Outpatient and inpatient care |
| **Patient selection criteria:** | • Patients who will benefit from upper/lower respiratory tract suction<br>• 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:<br>- Suction during tracheotomy<br>- Suction during laryngectomy<br>- Suction if breathing is impeded<br>• Suction for muscular and/or neurological disorders:<br>- Suction if swallowing is impeded<br>• Suction of blood, secretions and food particles from the oral cavity, pharynx and bronchial system<br>• Suction during ENT treatments. |
| **Medical contraindications:** | Not suitable for:<br>• Continuous operation for drainage procedures in the low vacuum range (e.g. cardiothoracic or wound drainage)<br>• Permanent endoscopic use<br>• Vacuum extraction<br>• Smoke evacuation<br>• Liposuction<br>• Emergency and rescue use |
| **Other contraindications:** | Not suitable for:<br>• Suction outdoors/during transport<br>• Suction of flammable, corrosive or explosive substances<br>• Suction in potentially explosive areas |
| **Warnings:** | The following complications may occur during suction:<br>• Bleeding in the nasal pharyngeal area<br>• Injury to the vocal cords<br>• Tracheal injury<br>• Hypoxaemia<br>• Cardiovascular instability<br>• Bradycardia, arrhythmia and asystole (caused by vagus stimulation)<br>• Tachycardia (caused by stress)<br>• gagging, nausea, vomiting, and coughing<br>• hospital-acquired infection (HAI) of the airways<br>• Seizures in patients who tend to develop cramps |
| **The product is:** | active |

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

## 1.4 Function

### General description

The ATMOS C 161 Aspirator, ATMOS C 261 Aspirator or 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) will be temporarily collected in a collecting container and then disposed of.

### Principles of operation and how it works

The devices are electrical operated and takes their medical effect by generating vacuum and suction performance. The devices are operated by an electromotive maintenance-free swing piston pump. During operation, the pump generates vacuum in the hose system and the secretion canister by means of which suction material (e.g. secretion, blood, body fluids and food particles) are withdrawn by suction. The suction material is collected 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 power cable or the mains power unit (100–240 V) needs to be plugged into the power supply grid. If the battery is exhaustively discharged, device
can be operated 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, without any pedestrian hose system. Now the user must only connect the suction hose. The suction material is transported to the reusable secretion canister via the reusable suction hose. A hydrophobic DDS bacterial and viral filter located in the canister lid prevents bacteria, viruses and liquids from entering the device. In addition to this, a mechanical overflow protection (float ball) is integrated in the canister lid. This prevents an accidental absorption of secretion 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 external canister, disposable suction bag, 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 suction connection of the device. The suction material is transported to the disposable suction bag via the suction hose. The disposable suction bag is a single-use product. As soon as the disposable suction bag is full, it is removed from the external canister and disposed of. The disposable suction bag and the disposable suction hose may not be reused. A bacterial filter is integrated in the disposable suction bag. It prevents secretion, liquids, and bacteria from entering the device.

## 1.5 Intended users

The ATMOS C 161 Aspirator, ATMOS C 261 Aspirator or ATMOS C 161 Battery may be operated by the patient 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 age.

Prior to application, the user must be familiar with the device. Please note country-specific requirements and regulations.

ATMOS recommends: Instruction on the operation of the device must be performed 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 compare the contents of the shipment on completeness immediately upon receipt (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-wire safety plug, 2 m | 008.0866.0 |
| 1x 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 | GA1GB.310105.0 |

**313.0002.0 ATMOS C 161 Aspirator / Medi-Vac®**

| | |
|---|---|
| 1 x basic device | |
| 1 x Support for Medi-Vac® canister system | 313.0010.0 |
| 1 x Medi-Vac® external canister 1 l | 312.0473.0 |
| 1 x Medi-Vac® Suction bags 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-wire safety plug, 2 m | 008.0866.0 |
| 1 x operating instructions | GA1GB.310105.0 |

**313.0004.0 ATMOS C 161 Aspirator / Serres®**

| | |
|---|---|
| 1 x basic device | |
| 1 x support for Serres® external canister 1 l | 313.0413.0 |
| 1 x Serres® external canister 1 l | 312.0465.0 |
| 1 x Serres® suction bag 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-wire safety plug, 2 m | 008.0866.0 |
| 1 x operating instructions | GA1GB.310105.0 |

**313.0065. 0 ATMOS C 161 Aspirator / Receptal® 1.5 l**

| | |
|---|---|
| 1 x basic device | |
| 1 x support for Receptal® external canister | 313.0009.0 |
| 1 x Receptal® external canister 1.5 l | 310.0221.0 |
| 1 x Receptal® suction bag 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-wire safety plug, 2 m | 008.0866.0 |
| 1 x operating instructions | GA1GB.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 |
| 1x 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-wire safety plug, 2 m | 008.0866.0 |
| 1 x operating instructions | GA1GB.310105.0 |

**313.0102.0 ATMOS C 261 Aspirator / Medi-Vac®**

| | |
|---|---|
| 1 x basic device | |
| 1 x Support for Medi-Vac® canister system | 313.0010.0 |
| 1 x Medi-Vac® external canister 1 l | 312.0473.0 |
| 1 x Medi-Vac® Suction bags 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-wire safety plug, 2 m | 008.0866.0 |
| 1 x operating instructions | GA1GB.310105.0 |

**313.0103.0 ATMOS C 261 Aspirator / Serres®**

| | |
|---|---|
| 1 x basic device | |
| 1 x support for Serres® external canister 1 l | 313.0413.0 |
| 1 x Serres® external canister 1 l | 312.0465.0 |
| 1 x Serres® suction bag 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-wire safety plug, 2 m | 008.0866.0 |
| 1 x operating instructions | GA1GB.310105.0 |

**313.0165.0 ATMOS C 261 Aspirator / Receptal® 1.5 l**

| | |
|---|---|
| 1 x basic device | |
| 1 x support for Receptal® external canister | 313.0009.0 |
| 1 x Receptal® external canister 1.5 l | 310.0221.0 |
| 1 x Receptal® suction bag 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-wire safety plug, 2 m | 008.0866.0 |
| 1 x operating instructions | GA1GB.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 |
| 1x 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 2-pin power cable, L = 1.5 m | 008.0920.0 |
| 1 x recharging unit for ATMOS devices with marking | 313.0089.0 |
| 1 x operating instructions | GA1GB.310105.0 |

**313.0402.0 ATMOS C 161 Battery / Medi-Vac®**

| | |
|---|---|
| 1 x basic device | |
| 1 x Support for Medi-Vac® canister system | 313.0010.0 |
| 1 x Medi-Vac® external canister 1 l | 312.0473.0 |
| 1 x Medi-Vac® Suction bags 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 2-pin power cable, L = 1.5 m | 008.0920.0 |
| 1 x recharging unit for ATMOS devices with marking | 313.0089.0 |
| 1 x operating instructions | GA1GB.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® external canister 1 l | 312.0465.0 |
| 1 x Serres® suction bag 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 2-pin power cable, L = 1.5 m | 008.0920.0 |
| 1 x recharging unit for ATMOS devices with marking | 313.0089.0 |
| 1 x operating instructions | GA1GB.310105.0 |

**313.0465. 0 ATMOS C 161 Battery / Receptal® 1.5 l**

| | |
|---|---|
| 1 x basic device | |
| 1 x support for Receptal® external canister | 313.0009.0 |
| 1 x Receptal® external canister 1.5 l | 310.0221.0 |
| 1 x Receptal® suction bag 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 2-pin power cable, L = 1.5 m | 008.0920.0 |
| 1 x recharging unit for ATMOS devices with marking | 313.0089.0 |
| 1 x operating instructions | GA1GB.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 the transport damage.
2. Fill in form QD 434 “Customer complaint/return shipment”.
3. Send the device to ATMOS (see chapter “6.2 Reprocessing” on page 39).

**Environmental conditions for transport and storage: see“9.0 Technical data” on page 45**

# 2.0 For your safety

The safety of the ATMOS C 161 Aspirator, ATMOS C 261 Aspirator and the ATMOS C 161 Battery complies with all the recognised rules of technology and the guidelines of the 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.
- Use only transparent suction hoses.

**⚠ WARNING**

**Avoid misuse!**

Your patient can be severely injured.

- 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 may be used only by medically trained persons who have been instructed in the handling of the medical suction system.
- Follow the corresponding operating instructions of all accessories used.
- Observe the notes on hygiene and cleaning.

**⚠ WARNING**

**Reduce the risk of infection for you and your patients!**

Deadly diseases can be transmitted.

- Always wear disposable gloves.
- Never use components marked with ⊘ more than once.
- Always use a suitable sterile catheter for suction. The suction hose hose must never come into direct contact with the application site.
- Use sterile-packed parts only if the 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 proper functioning.

**⚠ WARNING**

**Protect yourself against an electric shock!**

Damage from incorrect power supply.

- Burns, cardiac arrhythmias and even death are possible.
- 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 of 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 showers. 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 power supply prior to cleaning or disinfection.
- Prior to each use, check for damage to the device and the 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 enters the device. If liquid has entered the device, stop operating the device 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.
- Use only original accessories and original spare parts from ATMOS.
- Follow the instructions on periodic tests in chapter “6.0 Maintenance and service” on page 39.
- 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 purpose”.
- 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 and strangulation 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 may strangle people or animals, especially if they are particularly long.
- Keep unauthorised persons away from the device during suction.
- Keep children away from swallowable small parts.
- 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 due to cables!**

Injuries and fractures are possible.

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

## 2.3 Avoiding damage to the device

⚠ *NOTICE*

**Damage to device due to heat build-up!**

The device may become damaged.

- 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.

⚠ *NOTICE*

**Storage and operation in an unsuitable environment!**

The device may become damaged.

- Please observe the ambient conditions regarding transport, storage, operation, and charging of the battery.
- After transporting the device at low temperatures and prior to first start-up, it should be kept at room temperature for at least six hours. If the device has not acclimatised, it may suffer internal damage.

⚠ *NOTICE*

**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 a 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 aa high vacuum (> 40%) is being applied, the device switches 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 hose connector for suction hose
6. Carry handle




7. Hydrophobic DDS bacterial and viral filter
8. Power 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, ATMOS C 261 Aspirator are delivered ready for operation.
- Remove the device from the packaging. Check whether the voltage on the type plate correspond to the mains power supply.
- Always place the device on a firm and level surface.
- Always read the safety information in part “2.0 For your safety” on page 15 prior to starting up the device for the first time.

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

## 3.2 Device overview ATMOS C 161 Battery

*NOTICE*

**Danger of damage to the battery!**

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

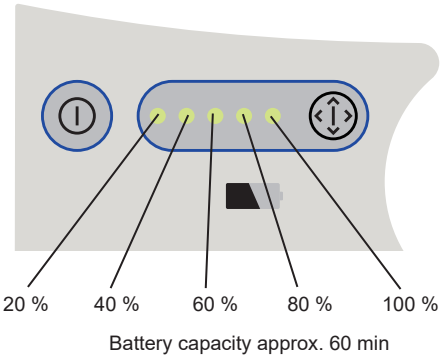
- Charge the battery fully before using the device for the first time.







❶ Vacuum display
❷ Vacuum regulator
❸ On/off button
❹ Display of the battery status
❺ Battery status check button
❻ Hose holder
❼ Sliding cover for covering the controls
❽ Connection hose connector for suction hose
❾ Carry handle
❿ ATMOS C 161 Battery connection for recharging unit




Display of the battery status



Recharging unit for ATMOS devices



2-pin power cable, L = 1.5 m

### 3.2.1 Connection of 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 of 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 correspond 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 element 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 part “2.0 For your safety” on page 15 prior to starting up the device for the first time.

- After transporting the device at low temperatures, keep the device at room temperature for at least six hours before initial start-up. If the device is not acclimatised, it may not be used, as damage to the diaphragms of the pump could occur.
- ATMOS C 161 Battery DDS: Always have at least one hydrophobic DDS bacterial and viral filter ready, 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 40.

Only 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, 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 manipulation, 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 due to lack of hygiene or damaged components!**

Deadly diseases can be transmitted.

- Always use new consumables for every patient (DDS bacterial and viral filter 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 from damaged equipment!**

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.

**Environmental conditions for operation: see chapter “9.0 Technical data” on page 45**

## 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 (of the ATMOS C 161 Battery).

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

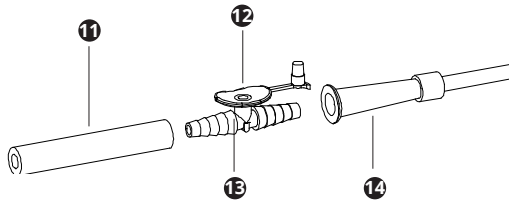
» The pump starts.

## 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 closing the suction hose opening and allowing the vacuum to build up.
3. Turn the vacuum regulator to the right until the vacuum gauge shows the desired vacuum.
4. To reduce the desired vacuum, turn the vacuum regulator to the left. You can further fine-tune the vacuum using the vacuum regulator on the fingertip.
5. Select a suction catheter in the right 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).<br>Secondary air opening closed 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.
- The device must not be used for continuous operation. The device is approved for intermittent operation see “9.0 Technical data” on page 45.

**⚠ WARNING**

**Risk of infection!**

Deadly diseases can be transmitted.

- Always wear disposable gloves when suctioning.

⚠ CAUTION

**Risk of injury due to inappropriate material or untrained users!**

Injuries to the patient's oral cavity and pharynx could occur.

- Suction particularly carefully in the tracheal area.
- The patient may suffer serious injury if too much vacuum is applied. Select the vacuum according to the patient and the application. Turn the vacuum regulator to set the desired vacuum. The vacuum gauge shows the current vacuum.
- Risk of suffocation due to full secretion canister system.
- Pay attention to the filling level of the secretion canister system.
- Empty the secretion canister system as soon as it is 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 on the patient is too low.
- Insert the suction catheter as shown to you by the trained and instructed medical professionals, and start the suction procedure.
- Control the suction process 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 a suitable design of the canister lid, the extracted secretion flows along the canister wall into the canister. This minimises the formation of foam 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.

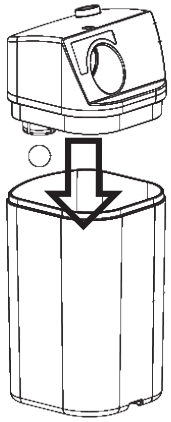
## 4.7 DDS secretion canister system

⚠ *NOTICE*

**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 DDS canister lid horizontally on the DDS secretion canister (the lid cannot be twisted!).
- Gently press the DDS canister lid with both hands onto the secretion canister as far as it will go.

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



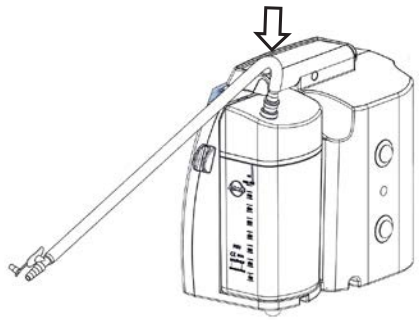
- The bacterial and viral filter must be fixed onto the housing. Once this is done, insert the secretion canister. To insert the DDS secretion canister, slide it in horizontally; to remove it pull it out horizontally.

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



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

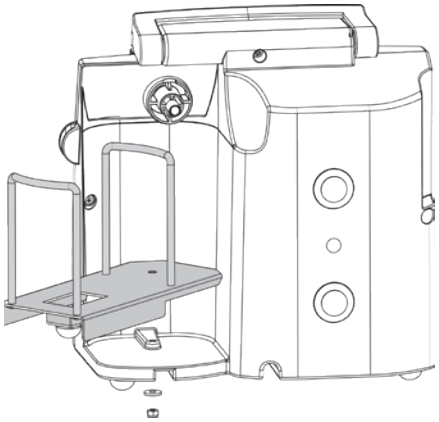
### 4.7.3 Connecting the suction hose



- 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 adapter.
- Twist slightly in the same manner when removing.

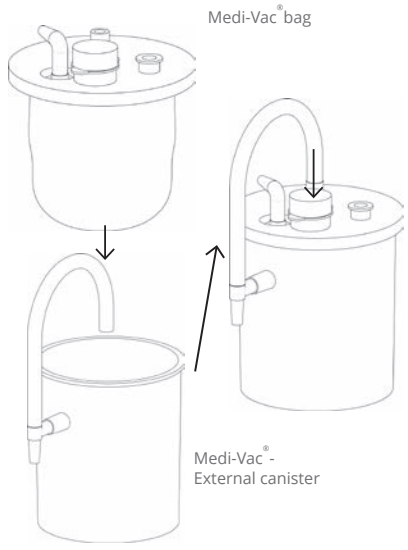
## 4.8 Operation Medi-Vac®

### 4.8.1 Support for Medi-Vac® external canister



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

### 4.8.2 Assembling the Medi-Vac® canister system



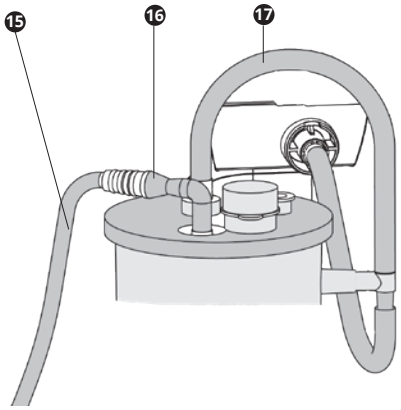

- Insert the Medi-Vac® suction bag into the Medi-Vac® external canister.

☞ Close the canister tightly on all sides. Check again for leaks; otherwise, no vacuum can be built up.

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

☞ Only bags with integrated bacterial filter may be used.

### 4.8.3 Connecting the hose




⓯ Suction hose

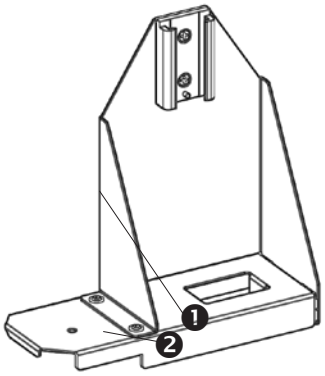
⓰ Connection for suction hose

⓱ Vacuum hose

The suction hose is used to suck up the secretion.

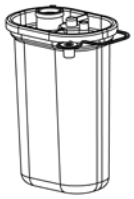
## 4.9 Operation Serres®

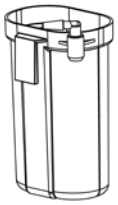
### 4.9.1 Support for t Serres® secretion canister




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

### 4.9.2 Assembling the Serres® secretion canister system





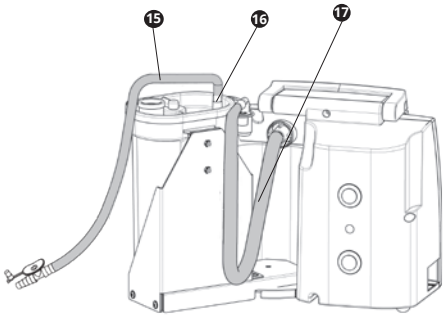
- Insert the Serres® suction bag into the Serres® external canister.

☞ Close the canister tightly on all sides. Check again for leaks; otherwise, no vacuum can be built up.

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

☞ Only bags with integrated bacterial filter may be used.

### 4.9.3 Connecting the hose




⓯ Suction hose

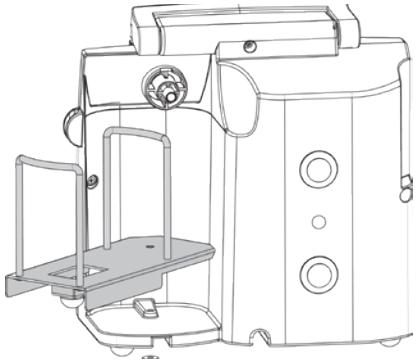
⓰ Connection for suction hose

⓱ Vacuum hose

The suction hose is used to suck up the secretion.

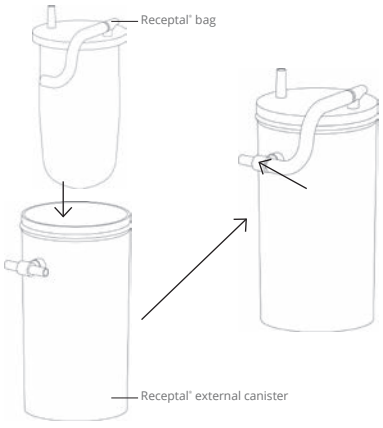
## 4.10 Operation Receptal®

### 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



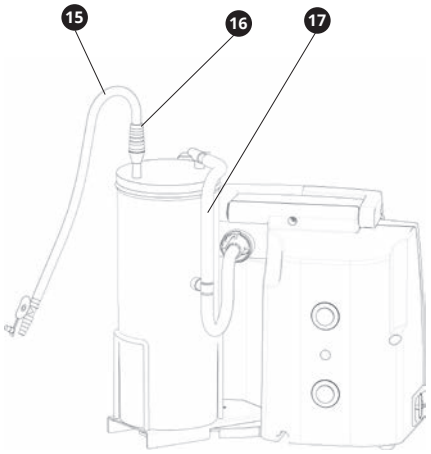

Insert the Receptal® bag into the Receptal® external canister.

☞ Close the canister tightly on all sides. Check again for leaks; otherwise, no vacuum can be built up.

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

☞ Only bags with integrated bacterial filter may be used.

### 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 bags with integrated bacteria filter!
- Use sterile-packed parts only if the packaging is undamaged.
- Prior to use, check the packaging of the sterile products for intactness. 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).

*NOTICE*

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 standard 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 that the device 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 device support intended for this purpose (REF 320.0070.2).

**⚠ WARNING**

**Risk of injury!**

If the rollers are not braked, the device could roll into a different 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 that the device is seated securely.

# 5.0 Cleaning / Disinfection

## 5.1 Safety instructions for reprocessing

### 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. Generally, validation and routine monitoring of the procedure will be necessary.

Reprocessing may only be carried out by persons who have the necessary expertise. To carry out these measures, the person must have the necessary devices.

### 5.1.2 Danger for users, patients, and third parties

**⚠ WARNING**

**Risk of infection due to unsuitable accessories!**

Deadly diseases can be transmitted.

- Always wear your own personal protective gear. The protective equipment consists of protective gloves, protective clothing, goggles, and mouth and nose protection for all steps in which the product components are still contaminated.
- Use only aids that can be easily reprocessed or ones that are disposable products.

**⚠ WARNING**

**Risk of infection due to unsuitable reprocessing!**

Deadly diseases can be transmitted.

- Make sure that all areas of the accessories can be easily reached.
- Only use suitable load carriers for mechanical reprocessing. This especially applies to accessories with 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 processing solutions.

### 5.1.3 Avoiding damage to the device

*NOTICE*

**Damage to the device due to improper cleaning!**

The device may become damaged.

- 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.
- Repeat cleaning if stains are still visible after reprocessing. Residual stains can impair the disinfecting effect.

*NOTICE*

**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 above 40 °C / 104 °F before and during cleaning.

*NOTICE*

**Unsuitable accessories!**

The product can become damaged.

- Use only lint-free, soft cloths.
- Always use demineralized water for the final rinse.
- Follow the corresponding operating instructions of all accessories and devices used.

*NOTICE*

**Unsuitable cleaning agents and disinfectants.**

The product can 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

*NOTICE*

**Incorrect mechanical cleaning and disinfection.**

Corrosion due to moisture.

When the programme is finished, remove the products immediately.

- 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 bacterial and viral filter, catheters, fingertips, etc. must be exchanged. See the individual cleaning instructions! (“5.3 Cleaning instructions” on page 37).
- If the suction device is used by one patient, the device and accessories should be cleaned and disinfected for reasons of hygiene. See the individual cleaning instructions! (“5.3 Cleaning instructions” on page 37)
- Cleaning in an automatic cleaner and disinfecter is also possible (hose connector, secretion canister, and canister lid). The validated thermal disinfection is carried out at 93 °C.

### 5.1.4 Disassembly prior to reprocessing

Disassemble the product into the following items for reprocessing:

- DDS bacterial and viral filter*
- Hoses and connector
- Fingertip*
- Secretion canister system (secretion canister and secretion canister lid)
- Device

* Replace disposable items when there is a change of patient

### 5.1.5 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.

### 5.1.6 Suction hose, hose connector, and vacuum hose

- Generally, the suction hose and the connector must be reprocessed when there is a patient change. Please note that the parts should be rinsed with clear water for at least 10 seconds in order to achieve a better cleaning effect. After drying, disinfect with a disinfectant, see “5.4 Recommended instrument disinfectants” on page 37. Observe the respective instructions for use of the disinfectants!
- If there is no patient change, we recommend a change every 4 weeks.
- In addition, we recommend to thoroughly rinse 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.

### 5.1.7 Fingertip

- The fingertip is not enclosed in the scope of delivery.
- Prior to using the device on another patient the fingertip must be exchanged.
- If there is no patient change, we recommend changing the fingertip daily, for hygienic reasons.

## 5.1.8 Secretion canister

The secretion canister must always be reprocessed in case the device is used on another patient. Please observe that the secretion canister should be emptied and rinsed with clear water beforehand to ensure better cleaning. After drying, disinfect with a disinfectant, see “5.4 Recommended instrument disinfectants” on page 37.

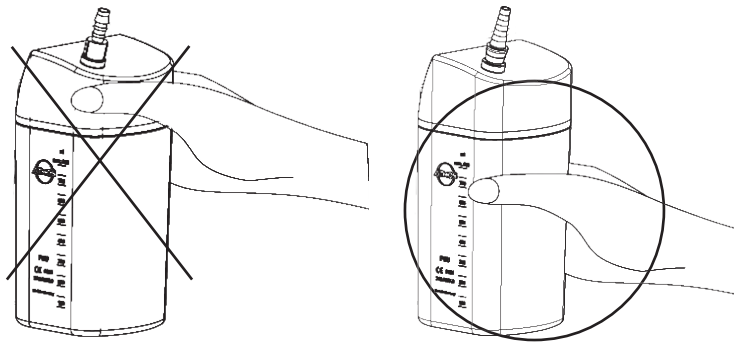
- ☞ Observe the respective instructions for use of the disinfectants!
- If there is no patient change we recommend disinfecting the secretion canister daily as described above.
- For hygienic reasons, we recommend emptying the secretion canister after every suction procedure and rinsing it with clear water.
- ☞ For instructions on how to remove the canister, see “4.7.2 Insertion/removal of the DDS bacterial and viral filter and secretion canister” on page 26.

**⚠ WARNING**

**Risk of infection!**

Deadly diseases can be 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.



## 5.1.9 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 37. Prior to disinfection please ensure that the DDS bacterial and viral filter has been removed beforehand and the canister lid is disassembled 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. Afterwards disinfect the individual parts.
- ☞ Please follow the operating instructions for the respective disinfectants.
- ☞ For instructions on how to remove the canister lid, see 4.7.2 on page 26.
- ☞ If there is no patient change, we recommend rinsing the canister lid and individual parts under clear water after every suction procedure.

*⚠ NOTICE*

Remove the DDS bacterial and viral filter before doing this!

### 5.1.10 Device surface

- Prior to using the device on a new patient, the complete device surface must always be cleaned with a damp (not wet) cloth and after drying, disinfected with one of the following surface disinfectants, see “5.5 Recommended surface disinfectants” on page 38.
- If there is no patient change the device surface should still be cleaned with a damp (not wet) cloth, at least once a week and then disinfected with a surface disinfectant stated on page “5.5 Recommended surface disinfectants” on page 38.

☞ Some disinfectants may cause discolouration of the material, which does not affect the functionality of the device.

☞ Prior to cleaning please make sure to disconnect the device from the mains!

☞ The device should never be autoclaved, rinsed under running water or immersed into any liquids!

### 5.1.11 Accessories

- Trolley (REF 320. 0070.0)
- Device support ( REF 313.0012.0)

☞ Prior to a patient change, the complete surface of the trolley and the device support must always be cleaned with a damp (not wet) cloth and disinfected with a surface disinfectant stated on page“5.5 Recommended surface disinfectants” on page 38.

☞ In case the device is still being used by the same patient, the device surface should be cleaned at least once every week with a damp (not wet) cloth and after drying, disinfected with one of the following recommended surface disinfectants, see “5.5 Recommended surface disinfectants” on page 38.

## 5.2 Oversuction

### When is a suction device oversuctioned?

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

### How can one realise that the suction device is contaminated?

Generally a reduced suction capacity is a sign of possible oversuction The ATMOS C 161 Aspirator, ATMOS C 261 Aspirator, ATMOS C 161 Aspirator also has a condensate collector at the bottom of the device. For visual inspection please remove the cap. The device is oversucked if humidity or contamination is visible in the condensate collector.

### Measures

The device must be reprocessed by the manufacturer or a certified ATMOS partner if the device is oversucked or if any reservations exist regarding the hygiene condition. A contaminated suction device bears a risk for the patient as well as for the caregiver. Therefore, we recommend regular checking of the condensate collector

## 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** |
| Exchanging the DDS bacterial and viral filter | X | X | | | | X | |
| Rinsing the suction hose | X | | X | | | | |
| Disinfecting the suction hose | X | | | X | | | |
| Exchanging the suction hose | | | | | | | X |
| Exchanging the fingertip | X | | | X | | | |
| Emptying the secretion canister | X | | X | | | | |
| Rinsing the secretion canister | X | | X | | | | |
| Disinfecting of the secretion canister | X | | | X | | | |
| Rinsing the canister lid components | X | | X | | | | |
| Disinfecting the canister lid components | X | | | X | | | |
| Cleaning the device surface | X | X | | | X | | |
| Wipe disinfection of the device surface | X | X | | | X | | |
| Rinsing the vacuum hose | X | | | X | | | |
| Disinfecting the vacuum hose | X | | | X | | | |
| Disinfecting the hose connector | X | | | | | | X |

## 5.4 Recommended instrument disinfectants

| **Disinfectant** | **Ingredients** | **(in 100 g)** | **Manufacturer** |
|---|---|---|---|
| GIGASEPT FF<br>(Application concentrate) | Succindialdehyde<br>Dimethoxytetrahydrofurane<br>Corrosion inhibitors<br>non-ionic surfactants and perfumes | 11.0 g<br>3.0 g | Schülke & Mayr, Norderstedt |
| Sekusept PLUS[1] | Glucoprotamin<br>Non-ionic tensides<br>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<br>Dialkyldimehtylammoniumchloride<br>Alkyldimethylethylbenzylammoniumchloride | < 1 g<br>< 1 g<br>< 1 g | Metasys, Rum (Austria) |
| Dismozon plus (granule) | Magnesium peroxyphthalate Hexahydrate | 95.8 g | Bode Chemie, Hamburg |
| Kohrsolin FF (Application solution) | Glutaral<br>Benzyl-C12-C18- alkyldimethylammonium chloride<br>Didecyldimethylammonium chloride | 5 g<br>3 g<br>3 g | Bode Chemie, Hamburg<br>*Not suitable for the rinsing canister* |
| mikrozid sensitive wipes | Alkyl (C12–16)dimethylbenzylammonium chloride<br>Didecyldimethylammonium chloride<br>Alkyl(C12-14)ethylbenzylammonium chloride | 0.25 g<br>0.25 g<br>0.25 g | Schülke & Mayr, Norderstedt |
| perform | Pentapotassiumbis(peroxymonosulphate)bis(sulphate) | 45.0 g | Schülke & Mayr, Norderstedt |
| Bacillol 30 Sensitive Foam | Ethanol<br>Propane-2-ol<br>Propane-1-ol<br>N-C10-16-alkyltrimethylened-, Reaction products with chlorine acetic acid | 14 g<br>10 g<br>6 g<br>2 g | Bode Chemie, Hamburg<br>*Not suitable for the rinsing canister* |
| Mikrobac forte | Benzyl-C12-C18-alkyldimethyl-ammonium chloride<br>N-(3-aminopropyl)-N-dodecylpropane1.,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 must possess the 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 device surface must 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 reprocessed in accordance with the latest regulations. An oversucked (contaminated) device must be repaired by the manufacturer, by a certified ATMOS partner or an ATMOS authorized, specialized dealer.
- The instructions and regulations for the respective field of application should be observed.

## 6.2 Reprocessing

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 reprocessing in accordance with the latest regulations. The reprocessing consists of cleaning, surface disinfection as well as the exchange of consumables.

An ATMOS set of consumables is available for this purpose. If you cannot exclude that the device was oversucked then the device must be repaired by the manufacturer, by a certified ATMOS partner or an ATMOS authorized, specialized dealer. Subsequently the device may be operated again.

### When is a suction device oversuctioned?

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

### How can one realise that the suction device is contaminated?

Generally a reduced suction capacity is a sign of possible oversuction The ATMOS C 161 Aspirator, ATMOS C 261 Aspirator, ATMOS C 161 Aspirator also has a condensate collector at the bottom of the device. For visual inspection please remove the cap. The device is oversucked if humidity or contamination is visible in the condensate collector.

### Measures

The device must be reprocessed by the manufacturer or a certified ATMOS partner if the device is oversucked or if any reservations exist regarding the hygiene condition. A contaminated suction device bears a risk for the patient as well as for the caregiver. Therefore, we recommend regular checking of the condensate collector



Condensate collector for quick visual inspection of potential contamination.

## 6.3 Handling batteries

- The battery must be fully charged prior to first start-up!
- Deep discharge damages the battery. As such, make sure that you charge the batteries fully every 3 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 for the battery 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.
- Correct handling of the rechargeable batteries significantly prolongs the maximum 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 the form QD 434 „Delivery complaint / return shipment“ and the respective 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 form QD 434 “Delivery complaint / return shipment” and the respective 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 in 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<br>• Recharging unit power plug not seated securely<br>• 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.<br>• Check all plug connections. Pay attention to the indicator lamp; this should light up when the device is connected correctly. |
| Insufficient flow | • Battery discharged<br>• Bacterial and viral filter is blocked | • Charge battery<br>• Exchange the hydrophobic DDS bacterial and viral filter |
| Low or no vacuum is displayed | • Hydrophobic DDS bacterial and viral filter is missing<br>• Leakage in the hoses or in the canister lid<br>• Secretion or blood was sucked in and the valve plates of the aggregate are stuck together | • Insert the hydrophobic DDS bacterial and viral filter<br>• Check the canister lid and hose for tight fit.<br>• Remove the hydrophobic DDS bacterial and viral filter and place it back on the connecting pieces, ensuring it is seated securely.<br>• Check the suction lid for tight fit.<br>• In case of oversuction, the device must be sent in for repair. |
| High vacuum is indicated | • Hydrophobic DDS bacterial and viral filter is blocked<br>• The float of the overflow protection is sealing the double hose connector | • Exchange the hydrophobic DDS bacterial and viral filter<br>• Check suction lid inlet; if necessary empty the rinsing canister, clean the oversuction<br><br>protection and check the float ball for flexibility. |
| The device switches off automatically when it is 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 or ATMOS C 161 Battery

| Name | REF |
|---|---|
| Grad. Secretion canister 1 l DDS, blue | 313.0015.0 |
| secretion canister lid, DDS, blue, with 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 rail | 313.0012.0 |
| Trolley for ATMOS C class | 320.0070.2 |
| ATMOS external canister, 1 l | 401.0100.0 |
| AS secretion suction / portable / 1 l / ATMOS | HM57525803 |
| Support for ATMOS-External 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® external canister 1 l | 313.0010.0 |
| Support for Serres® external canister 1 l | 313.0413.0 |
| Support for Receptal® external canister | 313.0009.0 |
| Medi-Vac® retrofit kit, 1 l | 313.0570.0 |
| Serres® refitting set 1l | 313.0580.0 |
| Basket for catheter, L = 34 cm | 444.0140.0 |
| Catheter holder for trolley | HM57508002 |
| Catheter quiver | HM57525150 |
| 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 bag 1 l with gelling agent, 100 pcs. | 401.0101.0 |
| ATMOS suction bag 1 l, 100 pcs. | 401.0102.0 |
| Medi-Vac® suction bag 1 l, 50 pcs. | 312.0474.0 |
| Serres® suction bag 1 l without gelling agent, 36 pcs. | 312.0466.0 |

| Name | REF |
|---|---|
| Serres® suction bag 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, CH 12, 100 pcs. | 000.0294.0 |
| Suction catheter, CH 14, 100 pcs. | 000.0295.0 |
| Suction catheter, 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 and ATMOS C 261 Aspirator

| | |
|---|---|
| Voltage | 230 V~, 50 Hz |
| Current consumption | ATMOS C 161 Aspirator: max. 0.85 A<br>ATMOS C 261 Aspirator: max. 0.46 A |
| Power consumption | ATMOS C 161 Aspirator: max. 170 VA<br>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 ±2l/min<br>ATMOS C 261 Aspirator: 26 ±2l/min |
| Max. vacuum at MSL | -80 kPa (-800 mbar; -600 mmHg)*, or<br>80% of daily air pressure |
| Vacuum adjustment | Infinitely variable vacuum regulator<br>(mechanical regulating valve) |
| Vacuum display | vacuum gauge (accuracy class 2.5)<br>−1... 0 bar (±2.5 % of the final value)<br>(mmHg, bar, kPA) |
| Pump | Piston pump |
| Available canister systems | Reusable secretion canister:<br>1 l DDS secretion canister<br>Interfaces for the use of disposable systems:<br>1 l |
| Sound pressure level | 50 dB(A) |
| Mode of operation | Interval operation<br>(max. 5 minutes “ON”; min 20 minutes “OFF”) |
| Protective earth conductor resistance<br>earth leakage current<br>Touch current<br>Patient leakage current | -<br>-<br>N.C. < 0.1 mA<br>- |
| Ambient conditions:<br>Transport/storage<br>• Temperature<br>• Air humidity without condensation<br>• Air pressure | <br><br>−30...+50 °C<br>5...90 %<br>700...1060 hPa |
| Ambient conditions: operation<br>• Temperature<br>• Air humidity without condensation<br>• Air pressure | <br>+10...+35 °C<br>20...80 %<br>700...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 |
| Protection class against electric shock (acc. to EN 60601-1) | II |
| Classification of applied parts | Type BF applied parts  |
| Degree of protection | IP21 |
| CE mark | CE 0124 |
| Reference number (REF) | 313.0000.0<br>313.0002.0<br>313.0004.0<br>313.0065.0<br>313.0100.0<br>313.0102.0<br>313.0103.0<br>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 V~ 50-60 Hz |
| Current consumption | max. 1.5 A |
| Power consumption | max. 45 VA |
| Power supply unit | Manufacturer: GlobTek Inc.<br>Model: GTM91099-6015-3.0-T2 |
| Other power sources (recharging unit or 12 V car power supply) | 12 V DC |
| Battery operating time | min. 60 min |
| Battery | 8.4 V; 6 Ah;<br>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 exhaustively discharged, device can be operated on mains power |
| Heat output | approx. 40 J/s |
| Suction capacity | 22 ± 2 l/min |
| Max. vacuum at MSL | -76 kPa (-760 mbar; -570 mmHg)*, or<br>80% of daily air pressure |

| | |
|---|---|
| Vacuum adjustment | Infinitely variable vacuum regulator<br>(mechanical regulating valve) |
| Vacuum display | vacuum gauge (accuracy class 2.5)<br>−1... 0 bar (±2.5 % of the final value)<br>(mmHg, bar, kPA) |
| Pump | Piston pump |
| Available canister systems | Reusable secretion canister:<br>1 l DDS secretion canister<br>Interfaces for the use of disposable systems:<br>1 l |
| Sound pressure level | 56 dB(A) |
| Mode of operation | Interval operation<br>(max. 10 minutes “ON”; min 30 minutes “OFF”) |
| Protective earth conductor resistance<br>earth leakage current<br>Touch current<br>Patient leakage current | -<br>-<br>-<br>- |
| Ambient conditions:<br>Transport/storage<br>• Temperature<br>• Air humidity without condensation<br>• Air pressure | <br><br>−30...+50 °C<br>5...90 %<br>700...1060 hPa |
| Ambient conditions: operation<br>• Temperature<br>• Air humidity without condensation<br>• Air pressure | <br>+10...+35 °C<br>20...80 %<br>700...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 |
| Protection class against electric shock (acc. to EN 60601-1) | II |
| Classification of applied parts | Type BF applied parts  |
| Degree of protection | IP21 |
| CE mark | CE 0124 |
| Reference number (REF) | 313.0400.0<br>313.0402.0<br>313.0403.0<br>313.0465.0 |

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

## Hydrophobic DDS bacterial and viral filter

| | |
|---|---|
| Protection against bacteria (BFE) | Filtration efficiency: 99.89667 %* |
| Protection against viruses (VFE) | Filtration efficiency: 99.0 %* |
| 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 may not be reprocessed and may not be 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 or 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 back 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 device (ATMOS C 161 Aspirator, ATMOS C 261 Aspirator or ATMOS C 161 Battery) is operated according to the operating instructions, it has an expected service life of 5 years. Regular thorough cleaning and disinfection of the suction device and its applied parts as well as operation of the device according to the operating instructions are assumed.

# 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, which correspond to the requirements from DIN EN 60601-1-2:2022-01.

## Guidance and manufacturer's declaration – ambient conditions

The product is suitable for use in the following environments:

- In fields of home health care 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 note the Technical Data in these instructions. 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 accessories, transducers, and cables other than those specified or provided by the manufacturer may cause increased electromagnetic emissions or reduced immunity to electromagnetic interference and result in faulty operation.

**⚠ 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.

# Notes

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