

Operating Instructions

# ATMOS C 451

English



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Further information, accessories, consumables  
and spare parts are available from:

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# 1 Introduction

## 1.1 Notes on operating instructions



These operating instructions contain important information on how to operate your product safely, correctly, and effectively.

These operating instructions are designed for training and instructing operating personnel in the use of the system, and they are also intended 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 product.**



Care, periodic tests, regular cleaning, and proper use are essential. They ensure the operational safety and usability of the product.

Maintenance, repairs, and periodic tests may only be carried out by persons who have the appropriate technical knowledge and 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.



Read chapter 'Notices for your safety' on page 13 before using the product for the first time. This will help you to avoid potentially dangerous situations.

The product bears the CE marking CE 0124 in accordance with the EC Council Directive 93/42/EEC concerning medical devices and meets the basic requirements of Annex I of this directive.

The product complies with all applicable requirements of Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment ('RoHS').

The Declarations of Conformity and our General Terms and Conditions can be viewed on our website at [www.atmosmed.com](http://www.atmosmed.com).








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

These operating instructions are valid for the following devices:








- |   |            |
|---|------------|
| • ATMOS C 451   | 340.0300.0 |
| • ATMOS C 451 mobile with 2 x 1.5 l canisters – fully assembled   | 340.0376.0 |
| • ATMOS C 451 mobile with 2 x 1.5 l canisters – for self-assembly | 340.0335.0 |
| • ATMOS C 451 mobile with 2 x 3 l canisters – fully assembled     | 340.0377.0 |
| • ATMOS C 451 mobile with 2 x 3 l canisters – for self-assembly   | 340.0334.0 |
| • ATMOS C 451 mobile with 2 x 5 l canisters – fully assembled     | 340.0378.0 |
| • ATMOS C 451 mobile with 2 x 5 l canisters – for self-assembly   | 340.0333.0 |
| • ATMOS C 451 with practice package 1.5 l                         | 340.0339.0 |
| • ATMOS C 451 with practice package 3 l                           | 340.0338.0 |
| • ATMOS C 451 portable with standard rail                         | 340.0357.0 |
| • ATMOS C 451 mobile with standard rail – for self-assembly       | 340.0358.0 |
| • ATMOS C 451 mobile with standard rail – fully assembled         | 340.0375.0 |



















## 1.2 Explanation of pictures and symbols

### In the operating instructions

 <b>DANGER</b>
Warning of a danger that will result in immediate fatal or serious injury. Observe the necessary measures.
 <b>WARNING</b>
Warning of a danger that can cause fatal or serious injury. Observe the necessary measures.
 <b>CAUTION</b>
Warning of a danger that can cause minor injury. Observe the necessary measures.
<b>ATTENTION</b>
Notice of a danger that can damage the product or other objects. Observe the necessary measures.
 Warning of a danger that can cause fatal or serious injury.
 Notice of potential material damage.
 Useful information on the handling of the device.
1. Action. Proceed step by step.
» Result of an action.
 Move in this direction, plug in.

### On device and type plate

	Follow operating instructions (blue)
	Observe the operating instructions
	Warning; pay special attention
	This product complies with the relevant requirements of EU directives.
	This product complies with the relevant requirements of EU directives.
	Foot switch
	Manufacturer
	Manufacturing date
<b>SN</b>	Serial number
<b>REF</b>	Order number

	European Article Number
IPX1	Protection against the penetration of harmful moisture (dripping water)
	Application part type BF
	Professional disposal
	For single use only (symbol located on consumables)
	Not sterile
	Autoclavable
<b>PATIENT</b>	Connection for suction hose / patient
	No natural rubber latex
	Potential equalisation
	Protection class II
	Fuse
	Alternating current
	Device on
	Device off (standby for optional foot switch mode)
	Fragile, handle with care
	Store in a dry place
	Protect from sunlight
	GOST Certificate (Russia)
	Eurasian conformity

## 1.3 Intended use

<b>Name:</b>	ATMOS C 451
<b>Main function:</b>	Suction of secretions, blood, serous fluids, rinsing fluids, and for the temporary collection of these fluids.
<b>Medical indications / application:</b>	For all applications where suction is needed, such as in general surgical procedures (e.g., suction of wound cavities, abscesses), suction of the nasopharyngeal cavity, in endoscopy for suction of secretion or rinsing fluids, and in neurosurgery. For vacuum extraction.
<b>Specification of the main function:</b>	Drainage and temporary collection of body fluids. An electric suction pump is used to generate negative pressure. An additional secretion canister must be attached to allow temporary collection of the drained body fluids.
<b>User profile:</b>	Doctors, medical staff without restrictions.
<b>Patient group:</b>	Patients of all ages with and without restrictions.
<b>Application organ:</b>	Natural orifices and openings resulting from a surgical intervention (entire body; human and animals).
<b>Application time:</b>	For short-term use on patients (< 30 days)
<b>Area of application:</b>	The application site is the clinical, outpatient, private practice, and veterinary field. The device may only be used by persons who have received the relevant training and instruction.
<b>Contraindications:</b>	Not suitable for: <ul style="list-style-type: none"><li>• Drainage operations in the low-vacuum range (e.g., thoracic or wound drainage)</li><li>• Use outside the medical areas</li><li>• Suction of flammable, corrosive, or explosive substances</li><li>• Suction in potentially explosive atmospheres</li><li>• Suction of surgical smoke in conjunction with HF, electrical, or laser surgery</li></ul>
<b>The product is:</b>	active
<b>Sterility:</b>	Product not sterile
<b>Disposable product / Reprocessing:</b>	The device and part of the accessories are reusable. For information on reprocessing, cleaning, and disinfection, please see the operating instructions.



## 1.1 Function

- The ATMOS C 451 is a mains-operated surgical suction device, the core of which is a high-performance, maintenance-free diaphragm pump. It generates vacuum in the suction hose and secretion canister system, which assists in suctioning and collecting secretions. Via a vacuum regulator with vacuum gauge, the final vacuum and thus the desired suction capacity can be precisely adjusted.
- Secretion canisters of different sizes are available for secretion collection. The reusable secretion canisters can be attached to the ATMOS C 451 via the Direct Docking System. The user can connect the suction hose directly. A hydrophobic DDS bacterial and viral filter located in the canister lid prevents bacteria, viruses and liquids from entering the device. This filter protects the device against oversuction. The intake located in the hose connection prevents foaming in the secretion canister and therefore ensures a longer filter life.
- A system trolley with extensive accessories is available for mobile use.

## 1.4 Intended users

May only be used by trained professionals in supervised and medical operations.

## 1.5 Scope of delivery

### Name

**340.0300.0**

**ATMOS C 451**

Basic device

Power cable 5 m

008.0818.0

Operating Instructions

### Name

**340.0376.0/340.0335.0**

**ATMOS C 451 mobile with 2 x 1.5 l canisters**

1x ATMOS C 451

340.0300.0

2x DDS secretion canister, plastic, 1.5 l, autoclavable

340.0050.0

2x DDS canister lid with sealings, autoclavable

340.0053.0

2x DDS canister handle, blue, autoclavable

340.0326.0

2x DDS splash protection, silicone, autoclavable

340.0056.0

1x DDS hose adapter set (Ø 6 mm + Ø 10 mm), autoclavable

340.0057.0

1x hose holder, stainless steel

320.0611.0

1x standard rail adapter

340.0331.0

1x system trolley ATMOS C 451 with DDS changeover station

340.0171.0

10x hydrophobic DDS bacterial and viral filter

340.0054.0

1x suction hose (silicone), Ø 6 mm, L = 2 m

000.0361.0

### REF

<b>Name</b>	<b>REF</b>
<b>340.0377.0/340.0334.0</b>	
<b>ATMOS C 451 mobile with 2 x 3 l canisters</b>	
1x ATMOS C 451	340.0300.0
2x DDS secretion canister, plastic, 3 l, autoclavable	340.0051.0
2x DDS canister lid with sealings, autoclavable	340.0053.0
2x DDS canister handle, blue, autoclavable	340.0326.0
2x DDS splash protection, silicone, autoclavable	340.0056.0
1x DDS hose adapter set (Ø 6 mm + Ø 10 mm), autoclavable	340.0057.0
1x hose holder, stainless steel	320.0611.0
1x standard rail adapter	340.0331.0
1x system trolley ATMOS C 451 with DDS changeover station	340.0171.0
10x hydrophobic DDS bacterial and viral filter	340.0054.0
1x suction hose (silicone), Ø 6 mm, L = 2 m	000.0361.0

<b>Name</b>	<b>REF</b>
<b>340.0378.0/340.0333.0</b>	
<b>ATMOS C 451 mobile with 2 x 5 l canisters</b>	
1x ATMOS C 451	340.0300.0
2x DDS secretion canister, plastic, 5 l, autoclavable	340.0052.0
2x DDS canister lid with sealings, autoclavable	340.0053.0
2x DDS canister handle, blue, autoclavable	340.0326.0
2x DDS splash protection, silicone, autoclavable	340.0056.0
1x DDS hose adapter set (Ø 6 mm + Ø 10 mm), autoclavable	340.0057.0
1x hose holder, stainless steel	320.0611.0
1x standard rail adapter	340.0331.0
1x system trolley ATMOS C 451 with DDS changeover station	340.0171.0
10x hydrophobic DDS bacterial and viral filter	340.0054.0
1x suction hose (silicone), Ø 6 mm, L = 2 m	000.0361.0

<b>Name</b>	<b>REF</b>
<b>340.0339.0</b>	
<b>ATMOS C 451 with practice package 1.5 l</b>	
1x ATMOS C 451	340.0300.0
1x DDS secretion canister, plastic, 1.5 l, autoclavable	340.0050.0
1x DDS canister lid with sealings, autoclavable	340.0053.0
1x DDS canister handle, blue, autoclavable	340.0326.0
1x DDS splash protection, silicone, autoclavable	340.0056.0
1x DDS hose adapter set (Ø 6 mm + Ø 10 mm), autoclavable	340.0057.0
1x canister hose holder, autoclavable	340.0066.0
10x hydrophobic DDS bacterial and viral filter	340.0054.0
1x suction hose (silicone), Ø 6 mm, L = 2 m	000.0361.0

<b>Name</b>	<b>REF</b>
<b>340.0338.0</b>	
<b>ATMOS C 451 with practice package 3 I</b>	
1x ATMOS C 451	340.0300.0
1x DDS secretion canister, plastic, 3 l, autoclavable	340.0051.0
1x DDS canister lid with sealings, autoclavable	340.0053.0
1x DDS canister handle, blue, autoclavable	340.0326.0
1x DDS splash protection, silicone, autoclavable	340.0056.0
1x DDS hose adapter set (Ø 6 mm + Ø 10 mm), autoclavable	340.0057.0
1x canister hose holder, autoclavable	340.0066.0
10x hydrophobic DDS bacterial and viral filter	340.0054.0
1x suction hose (silicone), Ø 6 mm, L = 2 m	000.0361.0

<b>Name</b>	<b>REF</b>
<b>340.0357.0</b>	
<b>ATMOS C 451 portable with standard rail</b>	
1x ATMOS C 451	340.0300.0
1x standard rail adapter	340.0330.0
1x suction hose (silicone), Ø 6 mm, L = 2 m	000.0361.0

<b>Name</b>	<b>REF</b>
<b>340.0358.0/340.0375.0</b>	
<b>ATMOS C 451 mobile with standard rail</b>	
1x ATMOS C 451	340.0300.0
1x system trolley ATMOS C 451	340.0171.0
1x standard rail set for system trolley	340.0081.0
1x hose for the connection of the device and canister system	340.0083.0
1x hose holder, stainless steel	320.0611.0
1x standard rail adapter	340.0331.0
1x suction hose (silicone), Ø 6 mm, L = 2 m	000.0361.0

## 1.6 Transport and storage

Only transport the product in a shipping carton that is padded and offers sufficient protection.

If damage occurs during transport:

1. Document and report damages in transit.
2. Send the device to ATMOS; see chapter '7.3 Sending in the device' on page 30.

### Ambient conditions for transport and storage:

- Temperature: -30...+50 °C
- Relative humidity: 5...90% without condensation
- Air pressure: 700...1060 hPa

**Storage:**

- ⊞ After transporting the device at temperatures below 0 °C, keep it at room temperature for at least six hours before initial start-up. If the device has not been acclimatised, it may not be operated as the electronic components may become damaged.

## 2 Notices for your safety

### 2.1 General safety instructions

The product only meets the safety requirements of users, patients, and third parties when it is fully functional. Therefore, observe the following instructions on your product: Please read and pay attention to the safety instructions prior to using the product.

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

#### **WARNING**

##### **Choking hazard for children due to accessories!**

Children can strangle themselves or choke on small parts.

- Keep children away from hoses and connection cables.
- Keep children away from swallowable small parts. Examples of swallowable small parts are the fingertip and sealing ring.

#### **CAUTION**

##### **Explosion and fire hazard!**

Burns and injuries are possible.

- Never suction any explosive, flammable, or corrosive gases or liquids. Please observe the product's intended use in chapter 'Intended use' on page 8.
- Never operate the product in potentially explosive areas or areas that are oxygenated.
- Only use original accessories and original spare parts from ATMOS. This applies to the power cable in particular.

#### **WARNING**

##### **Avoid misuse.**

Your patient can be severely injured.

- The product may only be used by medically trained persons who have been instructed in the handling of the medical suction system.
- The product may only be used by qualified personnel in supervised operation.
- Select the vacuum according to the patient and the application.
- Observe the valid guidelines.
- Always set up the device in such a way that the operating elements are in clear view and within easy reach of the operator. The device must be placed on a stable, level surface.

**⚠ WARNING**

**Ensure that the device is always functional and ready for use.**


Your patient could suffocate.

- Before connecting the device, check whether the required mains voltage on the device matches the mains voltage of the mains power supply.
- Position the device in an easily accessible location and keep access free.
- Make sure that the power cable is working. Replace defective accessories immediately.
- Always carry out a function check before using the device.
- ATMOS recommends always having another suction device ready at hand. That way you can also perform suctioning if a device should fail.

**⚠ WARNING**

**Risk of infection due to pathogens on the product!**

Deadly diseases may be transmitted.

- Always wear disposable gloves if you might come into contact with secretion.
- Always wear disposable gloves when using the product.
- Never use components that are marked with  more than once. These components are intended for single use only.
- Sterile-packed parts may only be used if the packaging is undamaged.
- Never operate the device without a bacterial and viral filter.
- A suction catheter, hose-rinsing aperture, or medical suction set must always be connected to the hose. The suction hose must never come into direct contact with the suction area.
- Clean and disinfect the product after every use.
- Clean and disinfect the product according to the operating instructions.
- The product must not be used following oversuction.

**⚠ WARNING**

**Tripping hazard due to cables.**

Injuries and fractures are possible.

- Lay the power cable properly.

**⚠ WARNING**

**Electric shock due to unsuitable power connection, incorrect handling of the product, or damaged product components.**

Burns, cardiac arrhythmias, and even fatal injury are possible.

- Do not operate the device if it has been dropped. In this case, clean and disinfect the device and send it to ATMOS for repair.
- Always check the device and power cable for damage before every use. Do not operate the device if you notice any damage. In this case, clean and disinfect the device and send it to ATMOS for repair.
- Disconnect the device from the mains power supply prior to cleaning or disinfection.
- You can only disconnect the device by removing the power plug from the mains power supply.
- Position the device in such a way that you can easily disconnect it from the mains power supply at any time.
- Never connect the device to a mains power supply without a protective conductor.
- Never touch the power cable with wet hands.
- Use the power cable only in a dry environment. The surroundings must be non-conductive.
- Ensure that no liquid penetrates the device. If liquid has entered the device, operation of the device must cease immediately. In this case, clean and disinfect the device and send it to ATMOS for repair.
- Use the power cable only according to the operating instructions.
- Only use proper mains connections and extension cords.
- Never touch the device's interfaces and the patient at the same time!
- Only use original accessories and original spare parts from ATMOS. This applies to the power cable in particular.
- Observe the specifications regarding periodic tests in chapter '7.1 Periodic tests' on page 30.
- 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.

## 2.3 Avoiding damage to the device

**ATTENTION**

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

The product may become damaged.

- Please observe the ambient conditions regarding transport, storage, and operation.
- After transporting the device at low temperatures, keep it at room temperature for at least six hours before initial start-up. If the device is not acclimatised, it may not be used as the diaphragms of the pump may become damaged.

## 3 Setting up and starting up

☞ Always place the device on a firm and level surface.

### 3.1 Device overview

#### Front view



- ❶ DDS secretion canister lid
- ❷ DDS secretion canister
- ❸ Vacuum gauge
- ❹ On/off switch
- ❺ Vacuum regulator

#### Vacuum connection: Direct Docking System



☞ The vacuum connection between the pump and secretion canister is established immediately when the DDS secretion canister is attached.

#### Connector panel on the bottom of the device



##### Connecting the power cable:

- ☞ Only use power cables with angled IEC connectors!
- Check that the mains voltage and mains frequency specified on the device correspond to the values of the mains power supply.



##### Connecting the foot switch (option):

- Slide the knurled nut onto the hose of the foot switch.
- Insert the hose of the foot switch onto the connecting nipple.
- Tighten the knurled nut



##### Vacuum connection on the bottom for the system trolley

- To connect, press the coupler firmly into the jack until it locks into place (serves to establish a vacuum connection of the secretion canisters attached to the system trolley).
- To remove, press the metal release button on the side and pull the hose out of the jack.



## 4 Operation

### 4.1 Initial start-up

- ☞ Observe the safety instructions prior to initial start-up!
- ☞ After transporting the device at low temperatures, it should be kept at room temperature for at least six hours before initial start-up; otherwise, the device may not be operated.

### 4.2 Preparing the device

- Check that the voltage and frequency information specified on the device corresponds to the values of the mains power supply and then connect the device to the mains.
- » The device is now ready for use.

### 4.3 Assembly of the DDS secretion canister



- ❶ DDS secretion canister handle
- ❷ Hydrophobic DDS bacterial and viral filter
- ❸ DDS hose adapter
- ❹ DDS canister lid
- ❺ DDS splash protection
- ❻ DDS secretion canister

### 4.4 Using the DDS splash protection



1. **Insert** the splash protection to the connection on the DDS canister lid.
- ☞ The splash protection protects the DDS bacterial and viral filter against premature moistening by liquids and/or foam generation.

### 4.5 Attaching/removing the DDS secretion canister lid

1. **Place** the DDS secretion canister on a firm surface and **set** the DDS secretion canister lid horizontally on it (the lid cannot be turned incorrectly).
2. Gently **press** the DDS secretion canister lid with both hands onto the DDS secretion canister as far as it will go.
3. To **open** the DDS canister lid, hold it on the reinforcement bars of the mounting fixture and then pull the DDS canister lid up and off by reaching into the opening for the filter.

## 4.6 Inserting and removing the DDS bacterial and viral filter / oversuction stop



The DDS bacterial and viral filter / oversuction stop is intended for single use only.

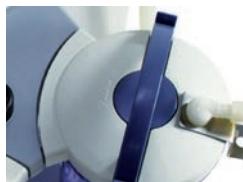
- ☞ Before each use, check that the DDS bacterial and viral filter / oversuction stop is dry and clean. Replace the DDS bacterial and viral filter with a new DDS bacterial and viral filter if it is discoloured or contaminated or if oversuction has occurred.
- Insert the DDS bacterial and viral filter onto the DDS secretion canister handle.

## 4.7 Attaching, closing, and opening the DDS secretion canister handle



1. To **attach** the DDS secretion canister handle, insert it into the grooves of the canister lid (with the locking latches open).
2. To **close** the DDS secretion canister handle, clip the locking latches under the canister rim. Then press the clips towards the secretion canister until they click into place.
3. To **open**, pull the clips outwards and remove the locking latches from under the canister rim.

## 4.8 Attaching/removing the DDS secretion canister



1. To attach the DDS secretion canister, allow it to slide vertically downwards into the mounting fixture.
2. To remove the DDS secretion canister, lift it vertically upwards.

## 4.9 DDS secretion canister hose holder



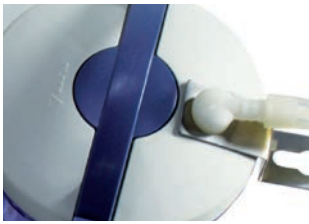
1. If using a DDS secretion canister hose holder, attach it between the canister lid and the hose adapter.

## 4.10 Inserting the DDS hose adapter



1. Insert the DDS hose adapter (Ø 6 or 10 mm) into the 'Patient' opening on the DDS canister lid.
  2. Turn it slightly and press it down.
- ☞ The adapter can be removed again by turning it slightly.

## 4.11 Connecting the suction hose



- ☞ Connect the suction hose to the already inserted hose adapter.

## 4.12 On/off switch



- Press the "I" symbol to switch on the device.
- Press the "O" symbol to switch off the device.
- In position 'O' the device is ready for optional foot switch operation (see options).

## 4.13 Adjusting the vacuum



- Close the suction hose and set the desired vacuum by turning the vacuum regulator according to the direction of the arrow.
- ☞ Please do not use brute force!
- Test the system for leaks if the desired vacuum is not achieved.

## 4.14 Suctioning

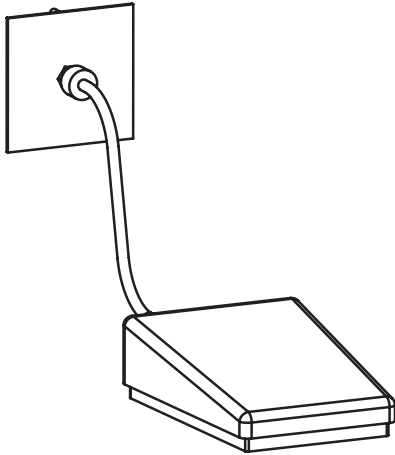
1. Please ensure that the following parts have been reprocessed before treating a new patient:
  - Suction hose including hose-rinsing aperture or suction instruments
  - Secretion canister including secretion canister lid and double hose connector
  - Vacuum hose
2. Prior to each use, check whether the DDS bacterial and viral filter was inserted during cleaning or disinfection.

3. Replace the DDS bacterial and viral filter with a new DDS bacterial and viral filter if it is discoloured or contaminated or if oversuction has occurred.
4. Switch on the device.
5. Close the suction hose and set the desired vacuum.
6. Connect the suction catheter, hose-rinsing aperture, or suction instruments.
  - ☞ Observe the liquid level in the secretion canister while suctioning. The DDS bacterial and viral filter prevents liquid from being sucked into the pump. Nevertheless, the canister should be emptied or replaced when it is 2/3 full (including foam crown).
  - ☞ If liquid has been sucked into the pump despite of the DDS bacterial and viral filter, the device may not be operated again until it has been checked by a authorized service partner

#### **4.15 Checking the DDS bacterial and viral filter / oversuction stop**

- The DDS bacterial and viral filter / oversuction stop is intended for single use only.
- ☞ Before each use, check that the DDS bacterial and viral filter / oversuction stop is dry and clean. Replace the DDS bacterial and viral filter with a new one if it is discoloured or contaminated, or if oversuction has occurred.
- ☞ Replace the DDS bacterial and viral filter every time you clean or disinfect the DDS canister system.
- ☞ Never operate the device without a DDS bacterial and viral filter / oversuction stop.

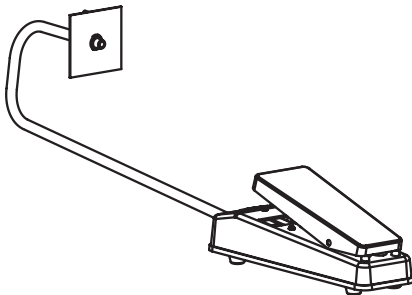
## 5 Options



### Foot switch, REF 443.0755.0

Pneumatically explosion-proof switch for switching the device on and off.

1. Connect the foot switch.
2. Set the main switch on the device to 'O' (off).
3. Pressing the foot switch turns the device on.
4. When you press the foot switch again, the device is switched off.



### Foot controller, REF 443.0770.0

Foot controller for regulating the vacuum.

5. Connect the foot controller to the bottom of the system trolley (remove the protection cap and tighten the nut on the foot controller hose).
6. To increase the vacuum, press the pedal down.
  - When you lift off your foot, the controller locks in that position.



### System trolley

- For mobile use, a system trolley is available which can be used with two ATMOS secretion canister systems on the DDS changeover docking station or with disposable systems.
- During operation always position the system trolley on a flat, stable surface.

## 5.1 Securing the device



- ☞ Safe operation of the mobile suction device is only guaranteed with the corresponding special system trolley or trolley with standard rail.
- The suction device is placed on the system trolley in such a way that its feet engage in the holes of the trolley. The device can be secured to the trolley from below by means of a knurled screw.
- ☞ For safe operation as well as safe mobility, it is absolutely necessary to secure the device to the trolley.



- If necessary, tighten the lockable castors.

## 5.2 Walking with the system trolley

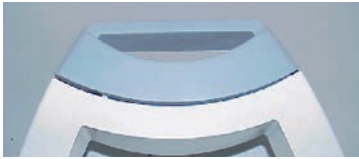


- Always push the device with the open fork of the trolley pointing in the direction you are moving.
- Push the device with one or both hands on the grip area.
- Make sure the cables and hoses are secure.
- ☞ Never leave the system trolley on an inclined surface!

## 5.3 DDS changeover docking station

- ☞ The maximum load of the station is 15 kg; higher loads may damage the device!

The DDS changeover docking station is used if two secretion canisters are required. The changeover lever serves to switch the vacuum to the secretion canister being used. When removing or attaching a secretion canister, switch the lever towards the second secretion canister.



- The adapter with standard rail is required to use the bottom vacuum connection. This adapter seals the upper vacuum connection and allows you to hang accessories on the standard rail section now available.
- Mount the adapter with standard rail to the mounting fixture of the suction device as described in the enclosed assembly instructions.
- As with the device itself, the secretion canisters are inserted vertically from the top into the DDS changeover docking station.



## 5.4 Tray for the system trolley base



- A tray (optionally available) can be placed on the base of the trolley and used for storage.

## 5.5 Potential equalisation



- Optionally, a potential equalisation connection can be mounted on the system trolley (in the mounting groove). Assembly is carried out according to the enclosed assembly instructions.

## 5.6 Use of disposable suction systems (Serres<sup>®</sup>, Medi-Vac<sup>®</sup>, Receptal<sup>®</sup>)

- ☞ Observe the operating instructions by the manufacturer of the corresponding canister system.
- ☞ Do not operate the device without a bacterial filter.



### Disposable systems for tabletop devices:

Optionally, the suction device can also be used as a tabletop unit with disposable suction systems that can be attached to a standard rail.



### Disposable systems for use with a system trolley:

If the suction device is installed on a system trolley, disposable systems can also be used. Again, these can also be hung on a standard rail.

To do this, you will need the standard rail set for mounting the device onto the system trolley and the adapter with the standard rail on the mounting fixture of the suction device.



## 6 Reprocessing

### 6.1 Safety instructions for reprocessing

#### 6.1.1 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. The person in question must have the necessary equipment to carry out these measures.

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

##### **Risk of infection due to unsuitable accessories.**

Deadly diseases may be transmitted.

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

##### **Risk of infection due to unsuitable reprocessing.**

Deadly diseases may 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 cavities 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.

#### 6.1.3 Avoiding damage to the device

##### **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.

##### **Unsuitable aids.**

The product may become damaged.

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

### 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

### Incorrect mechanical cleaning and disinfection.

Corrosion due to moisture.

- Remove the products immediately after the programme is finished.

## 6.2 Preparing surfaces

### 6.2.1 Overview

Surface	After each application	After each patient	Daily	Weekly	Every 14 days	Monthly	Pre-cleaning	Wipe cleaning	Wipe disinfection	Spray disinfection	Remarks
Housing	X						X		X		

### 6.2.2 Selecting process chemicals

Always observe the manufacturer's specifications for the process chemicals.

Agent	Active ingredients in 100 g	Type	Housing
<b>Disinfection</b>			
Green & Clean SK SK (Metasys)	<1 g dialkyl dimethyl ammonium chloride, <1 g alkyl dimethylethylbenzylammonium chloride, <1 g alkyl dimethylbenzylammonium chloride	Foam Ready-to-use	X
Dismozon® plus (Bode Chemie)	95.8 g of magnesium peroxyphthalate hexahydrate	Granulate	X
Kohrsolin® FF (Bode Chemie)	5 g of glutaral, 3 g of benzyl C 12 -C 18 -alkyl dimethylammonium chlorides, 3 g of didecyl dimethylammonium chloride Didecyl dimethylammonium chloride	Liquid Concentrate	X
Kohrsolin® extra (Bode Chemie)	14.1 g (ethylenedioxy) dimethanol, 5 g glutaral, 8 g didecyl dimethylammonium chloride	Liquid Concentrate	X
Perform® (Schülke & Mayr)	45 g of pentapotassium bis (peroxymonosulfate) bis (sulfate)	Powder	X

Agent	Active ingredients in 100 g	Type	Housing
Mikrobac® forte (Bode Chemie)	19.9 g benzyl C12-18-alkyldimethylammonium chloride, 5 g N- (3-aminopropyl) -N-dodecylpropane-1,3-diamine	Liquid Concentrate	x
Bacillool® 30 Foam (Bode Chemie)	14 g ethanol, 10 g propan-2-ol, 6 g of propan-1-ol, 0.5 g N-alkyl-amino-propyl-glycine	Foam Ready-to-use	x
Incidin® Active (Ecolab)	peracetic acid	Powder	x
Mikrozid® Sensitive Wipes (Schülke & Mayr)	0.26 g Alkyl(C12-16)dimethylnezylammonium chloride, 0.26 g didecyldimethylammonium chloride, 0.26 g Alkyl(C12-14)ethylbenzylammonium chloride	Wipes	x

### 6.2.3 Pre-cleaning

1. Disconnect the device from the mains power supply.
  2. Clean the surface evenly with a suitable cloth and clear water. Pay particular attention to hard-to-reach areas.
- » No more soiling is visible.

### 6.2.4 Wipe disinfection

1. Always observe the manufacturer's specifications for the process chemicals.

## 6.3 Reprocessing the accessories

### 6.3.1 Overview

Accessory / Instrument / Endoscope	Disposable product	Max. reprocessing cycles	After each application	After each patient	Daily	Weekly	Every 14 days	Monthly	Pre-treating	Pre-cleaning	Manual cleaning and disinfection	Mechanical cleaning and disinfection	Sterilising
• DDS secretion canister		60	x						x	x		x	x
• DDS canister lid <sup>2</sup>		x	x						x	x		x	x
☞ DDS secretion canister handle		60											
☞ DDS splash protection													
☞ DDS hose adapter													
• Hydrophobic DDS bacterial and viral filter <sup>1</sup>	x <sup>3</sup>												
<b>Hoses</b>													
• Suction hose		60	x						x	x		x	x

<sup>1</sup> Replace the DDS bacterial and viral filter if it is discoloured, soiled, or if oversuction has occurred; see chapter '4.15 Checking the DDS bacterial and viral filter / oversuction stop' on page 20.

<sup>2</sup> If an accessory shows any visible damage, please replace it.

<sup>3</sup> Replace the DDS bacterial and viral filter at every cleaning or when disinfecting the DDS canister system.

### 6.3.2 Selecting process chemicals

Always observe the manufacturer's specifications for the process chemicals.

Agent (manufacturer)	Active ingredients in 100 g	Type	Secretion canister	Hoses
<b>Cleaning agents - Mechanical reprocessing</b>				
neodisher® MediClean forte (Dr. Weigert)	<5% nonionic and anionic surfactants, enzymes	Liquid concentrate		x
neodisher® AN (Dr. Weigert)	<5% nonionic surfactants, >30% phosphates, enzymes	Powder	x	
<b>Neutraliser</b>				
neodisher® Z (Dr. Weigert)	Preservative (2-octyl-2H-isothiazol-3-on)	Liquid Concentrate	x	

### 6.3.3 Secretion canister system

#### Characteristics

The accessories have the following hard-to-reach areas:

- DDS hose adapter (lumens)
- Canister lid (hollow spaces)

Take particular care when reprocessing hard-to-reach areas.

<b>Pre-treating at the site of use</b> <ul style="list-style-type: none"> <li>• Flushing: 60 s</li> <li>• Rinsing: 60 s</li> </ul>	<ul style="list-style-type: none"> <li>• Empty the secretion canister.</li> <li>• Clean the accessories under cold, running water.</li> <li>• Thoroughly rinse the hollow spaces and lumens of the accessories with running water.</li> </ul> <p>No more residue is visible.</p>
<b>Collecting and transporting</b>	<p>Mark any damaged accessories.</p> <p>Place the accessories in a secretion canister.</p> <p>Transport the secretion canister to the reprocessing location.</p>
<b>Dismantling</b>	<ul style="list-style-type: none"> <li>• See chapter '6 Reprocessing' on page 25'</li> <li>• Dispose of disposable products</li> </ul>
<b>Pre-cleaning</b> <ul style="list-style-type: none"> <li>• Flushing: 1x / 30s</li> <li>• Rinsing: 60 s</li> </ul> <p>Brush: Round brush Size: 7 mm, Material: Nylon</p> <p>Brush: Round brush Size: 11 mm, Material: Nylon</p> <p>Brush: Round brush Size: 15 mm, Material: Nylon</p> <p>Brush: Square Size: 40 x 10 mm, Material: Nylon, features: With angled head</p>	<p>Make the following hollow spaces accessible:</p> <ul style="list-style-type: none"> <li>• Double socket nipple</li> <li>• Canister lid</li> </ul> <p>Make the following lumens accessible:</p> <ul style="list-style-type: none"> <li>• Double socket nipple</li> </ul> <p>Thoroughly clean the accessories evenly with a suitable brush under running water</p> <p>Thoroughly rinse the cavities and lumens of the accessories with running water.</p>

<p><b>Mechanical cleaning and disinfection</b> Pre-wash: 1 min Clean: 5 min, 50 °C / 122 °F Neutralise: 2 min Intermediate rinse: 1 min Disinfect: 5 min, 93 °C / 199 °F Dry: 12 min, 110 °C / 230 °F.</p>	<p>Secure the accessories on a suitable load carrier.</p> <ul style="list-style-type: none"> <li>• Clean and disinfect using a suitable programme: <ul style="list-style-type: none"> <li>– Pre-rinse with cold water</li> <li>– Cleaning with a cleaning agent</li> <li>– Neutralise with a neutralising agent</li> <li>– Intermediate rinse with softened, cold water</li> <li>– Disinfection with demineralised water</li> <li>– Drying</li> </ul> </li> <li>• Cleaning and disinfection device: according to EN ISO 15883-1</li> <li>• Programme: Miele Vario TD</li> </ul>
<p><b>Checking and maintaining</b></p>	<ul style="list-style-type: none"> <li>• Check the success of reprocessing with a suitable light magnifier.</li> <li>• If reprocessing was unsuccessful, reprocess the accessories again.</li> <li>• Dispose of damaged accessories or have them repaired.</li> </ul>
<p><b>Assembly</b></p>	<p>Not necessary.</p>
<p><b>Function check</b></p>	<p>Not necessary.</p>
<p><b>Packaging</b></p>	<ul style="list-style-type: none"> <li>• Label the accessories.</li> <li>• Pack the accessories with a packing system according to DIN EN ISO 11607.</li> </ul>
<p><b>Sterilisation</b> Pre-fractionated vacuum: 3x Temperature: 134 °C / 273 °F Time: 5 min Dry: 10 min</p>	<ul style="list-style-type: none"> <li>• Sterilise the accessories using a suitable procedure: Steam sterilisation / autoclaving Steriliser: according to EN 285.</li> </ul>
<p><b>Storage</b></p>	<p>Observe the ambient conditions; see chapter '12 Technical data' on page 37.</p>

## 7 Maintenance and service

Maintenance, repairs, and periodic tests may only be carried out by persons who have the appropriate technical knowledge and 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 authorized ATMOS service partner. This ensures that repairs and tests are carried out professionally, original spare parts are used, and warranty claims are maintained. Maintenance, repairs, and periodic tests must **not** be performed while the product is being used on a patient.

### 7.1 Periodic tests

- Perform a repeat test of the electrical safety according to IEC 62353 at least every 24 months.
- In this context, ATMOS recommends arranging for an inspection in accordance with the manufacturer's specifications.

### 7.2 Function check

- Prior to every use, perform a visual inspection of the device, hoses, secretion canisters, and connection cables.
- Replace any damaged parts immediately.

### 7.3 Sending in the device

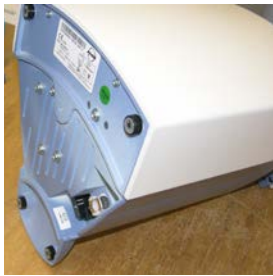
1. Remove all consumables and dispose of them properly.
2. Clean and disinfect the product and accessories in accordance with the operating instructions.
3. Enclose any used accessories with the product.
4. Fill in the QD 434 'Delivery complaint / return shipment' form and the corresponding **Decontamination certificate**.
- ☞ This form is enclosed with each delivery and can be found at [www.atmosmed.com](http://www.atmosmed.com).
5. The product must be well padded and packed in suitable packaging.
6. Place the QD 434 'Delivery complaint/return shipment' form and the corresponding **Decontamination certificate** in an envelope.
7. Affix the envelope to the outside of the package.
8. Send the product in to ATMOS or your dealer.

### 7.4 Reprocessing by the manufacturer

If you pass on the device to a new owner, the device must be reprocessed professionally. The device may only be passed on in a hygienically and technically safe condition. Observe country-specific regulations.

In Germany, only ATMOS or authorised professionals may reprocess the device for distribution.

## 7.5 Changing the fuse



1. Remove the power cable.
2. Press the two-sided spring clips of the fuse holder with a screwdriver and pull out the fuse holder.
3. Replace the fuse and insert the holder until both spring clips engage again.
4. Then reconnect the power cable.



## 8 Troubleshooting

The product has been subjected to a thorough quality control in the factory. If a fault should occur despite this care, you may be able to resolve it yourself.

Error symptom	Possible cause	Remedy
Device does not start	<ul style="list-style-type: none"> <li>• Power plug fits poorly</li> <li>• No mains voltage</li> <li>• Defective fuse</li> </ul>	<ul style="list-style-type: none"> <li>• Check connection at wall socket</li> <li>• Check main fuse</li> <li>• Exchange the fuse</li> </ul>
Insufficient flow	<ul style="list-style-type: none"> <li>• Leakage in the suction hose lines or in the secretion canister lid</li> </ul>	<ul style="list-style-type: none"> <li>• Check the secretion canister lid and hose lines for secure fit.</li> </ul>
No suction capacity	<ul style="list-style-type: none"> <li>• Hydrophobic DDS bacterial and viral filter is blocked. (vacuum gauge indicates vacuum)</li> <li>• Secretion or blood was sucked in and the valve plates of the aggregate are stuck together.</li> </ul>	<ul style="list-style-type: none"> <li>• Change the hydrophobic DDS bacterial and viral filter and possibly check the fluid level in the DDS secretion canister; empty the secretion canister if necessary.</li> <li>☞ In this case, the device must be sent in for repair.</li> </ul>



## 9 Accessories

Accessories	REF
Foot switch	443.0755.0
Foot controller (0...-91 kPa)	443.0310.1
Potential equalisation for the system trolley	340.0082.0
Potential equalisation cable	008.0596.0
System trolley ATMOS C 451 – for self-assembly	340.0070.0
System trolley ATMOS C 451 – fully assembled	340.0170.0
System trolley ATMOS C 451 with DDS changeover station – fully assembled	340.0171.0
System trolley ATMOS C 451 with standard rail – fully assembled	340.0172.0
Trolley with standard rail	320.0070.1
Standard rail set for system trolley	340.0081.0
Tray for system trolley	340.0084.0
Standard rail bracket for the ATMOS C 451 and ATMOS C 361	340.0210.0
DDS standard rail adapter with vacuum connection	340.0059.0
Standard rail adapter for the ATMOS C 451 and ATMOS C 361	340.0058.0
Quick connector for ATMOS C 451	000.0769.0
Practice package 1.5 l	340.0002.0
Practice package 3 l	340.0003.0
DDS secretion canister, plastic, 1.5 l, autoclavable	340.0050.0
DDS secretion canister, plastic, 3 l, autoclavable	340.0051.0
DDS secretion canister, plastic, 5 l, autoclavable	340.0052.0
DDS canister set, 2 x 3 l, autoclavable	444.0901.0
DDS canister set, 2 x 5 l, autoclavable	444.0902.0
DDS canister lid, complete set	340.0040.0
DDS canister lid with sealings, autoclavable	340.0053.0
DDS canister handle, grey, autoclavable	340.0055.0
DDS canister handle, blue, autoclavable	340.0326.0
DDS splash protection, silicone, autoclavable	340.0056.0
DDS hose adapter set (Ø 6 mm + Ø 10 mm), autoclavable	340.0057.0
DDS canister hose holder, autoclavable	340.0066.0
DDS adapter for tissue collector	340.0062.0
DDS changeover docking station	340.0080.0
Secretion canister 1.5 l (PC)	444.0100.0
Secretion canister 3 l (PC)	444.0099.0
Graduated secretion glass 1.5 l	444.0032.0
Graduated secretion glass 3 l	444.0033.0
Graduated secretion glass 5 l	444.0034.0
Secretion canister lid	444.0650.0
Secretion canister lid incl. standard rail holder	444.0015.0
Nipple set	444.0640.0

Accessories	REF
Nipple set with overflow electrode	444.0012.0
Serres® outer canister, 1 l	312.0465.0
Serres® outer canister 2 l	310.0402.0
Serres® outer canister 3 l	310.0403.0
Standard rail holder Serres® complete	444.0484.0
Receptal® outer canister 1.5 l	310.0221.0
Receptal® outer canister 2 l	443.0256.0
Receptal® outer canister 3 l	444.0157.0
Receptal® holder complete for standard rail 1 x 2 l	444.0160.0
Receptal® holder complete for standard rail 1 x 3 l	444.0170.0
Receptal® holder complete for standard rail (single)	444.0150.0
Receptal® holder complete for standard rail (double)	444.0156.0
Holder for Receptal® canister, with equipment mount	HM57525661
Receptal® package 1 x 2 l for mounting on a standard rail	444.0030.0
Receptal® package 1 x 3 l for mounting on a standard rail	444.0031.0
Receptal® package 2 x 1.5 l for mounting on a standard rail	444.0027.0
Receptal® package 2 x 2 l for mounting on a standard rail	444.0028.0
Receptal® package 2 x 3 l for mounting on a standard rail	444.0029.0
Receptal® adapter for tissue collector	444.0148.0
Medi-Vac® outer canister 1 l	312.0473.0
Standard rail Medi-Vac®	444.0451.0
Vacuum shift	HM57522049
Rail clamp for equipment mount, plastic	HM57522540
Rail clamp for equipment mount, metal	HM57522048
Overflow canister 250 ml (without hydrophobic DDS bacterial and viral filter)	444.0646.0
Overflow canister 250 ml (with hydrophobic DDS bacterial and viral filter)	444.0646.1
Hose holder, for attachment to a standard rail	444.0450.0
Hose holder, stainless steel	320.0611.0
Holder for activated charcoal filter, not autoclavable	444.0660.0
Storage tray, stainless steel	443.0790.0
Tray, diameter 20 cm	HM57524538
Storage basket, dimensions 170 x 130 x 85 mm	HM57508012
Catheter holder for trolley, dimensions 150 x 100 x 480 mm	HM57508002
Catheter holder, dimensions 90 x 90 x 350 mm	HM57505157
Catheter quiver	HM57525150
Cover for catheter quiver	HM57525151

## 10 Consumables

<b>Consumables</b>	<b>REF</b>
Hydrophobic DDS bacterial and viral filter for ATMOS DDS secretion canister, pack of 10 pcs.	340.0054.0
Hydrophobic bacterial and viral filter, Ø 11 mm	443.0738.0
Hydrophobic bacterial and viral filter, Ø 8 mm	444.0628.0
Smoke evacuation filter	HM57524928
Suction hose, PVC, disposable product, Ø 6 mm, L = 1.30 m, 10 pcs.	006.0057.0
Suction hose, PVC, disposable product, Ø 8 mm, L = 2.10 m, 50 pcs.	006.0059.0
Suction hose, silicone, Ø 6 mm, L = 1.30 m, 1 pc.	000.0013.0
Suction hose, silicone, Ø 6 mm, L = 2 m, 1 pc.	000.0361.0
Suction hose, silicone, Ø 6 mm, 1 m (minimum order 5 m)	006.0009.0
Suction hose, silicone, Ø 10 mm, L = 1.30 m, 1 pc.	318.1012.0
Suction hose, silicone, Ø 10 mm, L = 2 m, 1 pcs.	000.0243.0
Suction hose, silicone, Ø 10 mm, 1 m (minimum order 5 m)	006.0026.0
Tissue collector 50 ml, disposable	401.0555.0
Tissue collector 300 ml, disposable	340.0061.0
Activated charcoal filter	008.0758.0
Hose connector for reducing from Ø 10 mm to Ø 6 mm	000.0239.0
Serres® disposable suction liner 1 l, without gelling agent, 36 pcs.	312.0466.0
Serres® disposable suction liner 1 l with gelling agent, 32 pcs.	312.0467.0
Serres® disposable suction liner 2 l without gelling agent, 24 pcs.	310.0410.0
Serres® disposable suction liner 2 l with gelling agent, 22 pcs.	310.0400.0
Serres® disposable suction liner 3 l without gelling agent, 24 pcs.	310.0411.0
Serres® disposable suction liner 3 l with gelling agent, 20 pcs.	310.0401.0
Hose 287 mm with blue joint	HM57522085
Vacuum regular hose, silicone, 175 mm	HM57522084
Receptal® disposable suction liner 1.5 l, without overflow valve filter, 50 pcs.	310.0222.1
Receptal® disposable suction liner 1.5 l, with overflow valve filter, 50 pcs.	310.0222.2
Receptal® disposable suction liner 2 l, without overflow valve filter, 50 pcs.	443.0257.0
Receptal® disposable suction liner 2 l, with overflow valve filter, 50 pcs.	443.0257.2
Receptal® disposable suction liner 3 l, without overflow valve filter, 50 pcs.	444.0153.0
Receptal® disposable suction liner 3 l, with overflow valve filter, 50 pcs.	444.0154.0
Medi-Vac® disposable suction liner 1 l, 50 pcs.	312.0474.0
<b>Spare parts</b>	
Fuse 230 V, T 0.63, A/H	008.0634.0
Power cable	008.0818.0
Fixing screw for system trolley	000.0726.0
Clamp ring for fixing screw	000.0727.0

# 11 Disposal

## Packaging

1. Please recycle the product packaging.

## Secretion and blood

2. Please dispose of secretion, blood, and contaminated parts in line with country-specific regulations.

In the Federal Republic of Germany, the requirements of the 'Implementation Aid for Disposal of Waste from Healthcare Institutions' apply, a statement issued by the Federal / State Working Group on Waste.

## Secretion canister system

Disposable products may not be reprocessed and may not be reused! Please dispose of disposable products properly.

The following notes only apply to reusable products.

3. Clean and disinfect the reusable products of the secretion canister system.
4. Recycle the disinfected reusable products.

## ATMOS C 451

Do not dispose of the product together with household waste.

The product does not contain any hazardous materials.


5. Clean and disinfect the device.
6. In Germany: Send the product back to ATMOS or your specialist dealer. They will dispose of the product properly.
7. In other countries: Dispose of the product properly and in accordance with country-specific laws and regulations.

In Germany, the product is excluded from the Electrical and Electronic Equipment Act (ElektroG) in accordance with the National Register for waste electric equipment because it may be contaminated. Do not dispose of the product in electronic waste.

The housing is fully recyclable. Observe country-specific laws and regulations.



## 12 Technical data

Pump suction capacity	45 l/min +3/-5 l/min
Max. vacuum at sea level	-91 kPa (-910 mbar or 682.5 mmHg)*@ sea level
Vacuum display	-1...0 bar ± 16 mbar (class 1.6), ø 63 mm
Auxiliary air control	Mechanical regulator valve
Secretion canister	<ul style="list-style-type: none"> <li>• 1.5 l, 3 l, or 5 l DDS secretion canisters</li> <li>• 1.5 l, 2 l, or 3 l disposable suction systems</li> <li>• Two secretion canisters can be used on the system trolley at the same time</li> </ul>
Hose connections	ø 6 mm or ø 10 mm
Nominal voltage	230 V~ ± 10%, 50/60 Hz
Nominal current	Max. 0.75 A at 230 V~
Operating time	>12 h continuous operation without interruption, within 24 h
Fuse	T 800 mA/H for 230 VV~
Heat output	Max. 173 J/s
Noise level	≤48 dB (A) @ 1 m (ISO 7779) at max. vacuum
Ambient conditions	<p>Transport/storage</p> <p>-30...+50 °C</p> <p>5...90% air humidity without condensation at an air pressure of 700...1060 hPa</p> <p>Operation</p> <p>+5...+35 °C</p> <p>20...80% air humidity without condensation at an air pressure of 700...1060 hPa</p>
Dimensions H x W x D	
Weight	Approx. 6.7 kg (incl. secretion canister)
Periodic tests	Repeat test of electrical safety every 24 months. Recommended: Inspection according to the manufacturer's specifications.
Protection class (EN 60601-1)	II
Applied part	Type BF 
Type of protection	IPX 1
Classification according to Annex IX, EC Directive 93/42/EEC	Ila (according to EC Directive 93/42/EEC)
CE marking	CE 0124
UMDNS code	10 - 217

GMDN code	36777
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### Hydrophobic DDS bacterial and viral filter

Bacterial filtration efficiency (BFE)	99.999778%*
Viral filtration efficiency (VFE)	99.73 %*
Overall filtration efficiency	>99.95%*
Filter class	H13 (High-Efficiency Particulate Air/Ar- restance)*

\*External test report (test laboratory)

## 13 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 ATMOS C 451 is suitable for use in the following environments:

- 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 of the ATMOS C 451 must ensure that it is used in such a prescribed environment.

### Guidance and manufacturer's declaration – key features

- ☞ Please note 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 ATMOS C 451 has the following electrical components:

Type	REF	Max. cable length
Power cable	008.0818.0	5 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 HF communications equipment (e.g., radios, antenna cables) should not be used within 30 cm\* of any parts as specified by the manufacturer or of the ATMOS C 451 cables. 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

Placement on top of or next to another device should be avoided. 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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