

# Instruction for Use

## simex secretion aspirators M- and S-Series

---



<b>simex S20</b>	<b>REF</b>	<b>100400-3</b>
<b>simex S30</b>	<b>REF</b>	<b>100401-3</b>
<b>simex M20</b>	<b>REF</b>	<b>100403-3</b>
<b>simex M30<sup>Plus</sup></b>	<b>REF</b>	<b>100731</b>

## Table of Contents

<b>1</b>	<b>Important information</b> .....	<b>3</b>
<b>2</b>	<b>Intended purpose</b> .....	<b>4</b>
<b>3</b>	<b>Safety instructions</b> .....	<b>9</b>
<b>4</b>	<b>Warranty and product liability information</b> .....	<b>11</b>
<b>5</b>	<b>Symbols and terms</b> .....	<b>12</b>
5.1	Symbols on device, packaging and accessories .....	12
5.2	Glossary.....	13
<b>6</b>	<b>Product description</b> .....	<b>14</b>
6.1	Overview of product variants and accessories .....	14
6.2	Scope of delivery .....	16
6.3	Permitted applied parts.....	17
6.4	Connection between device and accessories.....	17
6.5	Notes on the M-series battery .....	18
6.6	Notes on the reusable secretion canister system (MW).....	19
6.7	Notes on the disposable secretion canister system (EW) .....	20
<b>7</b>	<b>Start-up</b> .....	<b>20</b>
7.1	Start-up secretion aspirator .....	20
7.2	Connecting the reusable secretion canister system.....	21
7.3	Connecting the disposable secretion canister system .....	22
<b>8</b>	<b>Operation</b> .....	<b>24</b>
8.1	Control and display elements .....	24
8.2	Operation and function .....	26
8.3	Performing suction .....	26
<b>9</b>	<b>Follow-up</b> .....	<b>27</b>
9.1	After operating the reusable secretion canister system .....	27
9.2	After operating with the disposable secretion canister system .....	28
<b>10</b>	<b>Cleaning and disinfection</b> .....	<b>30</b>
10.1	WARNINGS .....	30
10.2	Device surface and holder external canister .....	30
10.3	Reusable secretion canister system .....	31
10.4	Disposable secretion canister system.....	33
<b>11</b>	<b>Maintenance</b> .....	<b>34</b>
<b>12</b>	<b>Troubleshooting and service</b> .....	<b>35</b>
12.1	S-series .....	35
12.2	M20 .....	36
12.3	M30 <sup>Plus</sup> .....	38
<b>13</b>	<b>Decommissioning, storage, disposal</b> .....	<b>39</b>
<b>14</b>	<b>Patient change in the homecare sector</b> .....	<b>40</b>
<b>15</b>	<b>Technical data</b> .....	<b>41</b>
15.1	S-series .....	41

15.2 M-series.....	42
15.3 Accessories .....	43
<b>16 Order information.....</b>	<b>44</b>
<b>17 Publishing information.....</b>	<b>45</b>

## 1 Important information

### DAMAGE DURING DELIVERY

Please check shipments immediately upon delivery for completeness and damage.

All defects must be reported within 3 days, otherwise they cannot be accepted.

### CUSTOMER FEEDBACK

The products described in these instructions are subject to continuous development and improvement. We therefore welcome any customer feedback, comments and suggestions regarding our products and accompanying documentation that will help us to improve our products, service or documentation.

Please feel free to share your opinion with us!

You can use one of the following options to do so:

- by e-mail to [service@simexmed.de](mailto:service@simexmed.de)
- by telephone on +49 (0) 7420-9204-0

### NOTES ON THESE INSTRUCTIONS

Please read these instructions for use thoroughly before using the aspirators for the first time. Observe the safety instructions in these instructions for use to avoid hazardous situations.

Information on electromagnetic compatibility is contained in a separate instruction manual (ID: EMV\_M+S series). You can download this from our website [www.simexmed.de/download](http://www.simexmed.de/download) or request it by email at [service@simexmed.de](mailto:service@simexmed.de).

If you require assistance with commissioning, operation or maintenance, please contact simex GmbH. Please report any unexpected operation or incidents to simex GmbH.

Keep these operating instructions in an easily accessible place.



Pass on these operating instructions when you transfer your device to a third party.

These operating instructions contain information on the use of different device models.

The following devices fall under the **M series** designation: **M20, M30<sup>Plus</sup>**.

The **S series** refers to the following devices: **S20, S20K, S30.**

### ILLUSTRATIONS AND SYMBOLS IN THESE OPERATING INSTRUCTIONS

Illustration	Meaning
	<b>Caution</b> – Information about risks and how to avoid them.
	<b>Note</b> with useful information and tips
•	List
1. 2.	Perform the action in the order described.

## 2 Intended purpose

### INTENDED PURPOSE

The **simex aspirators** are used for temporary removal of suction material in the head and neck region from natural or artificial body openings.

### INTENDED PLACE OF APPLICATION

- Upper respiratory tract (nose, nasal cavity, throat) and lower respiratory tract (larynx, trachea, bronchial system) for suction of body fluids (blood, secretions) or food components.
- External ear canal to remove cerumen.

### INDICATIONS

Damage to the respiratory and cough functions with disturbance of the tracheal, bronchial or oral secretion elimination (this also includes patients with artificial body orifices):

- Tracheotomy patients
- Laryngectomy patients
- Patients with impaired respiratory function

Muscular and/or neurological diseases:

- Patients with swallowing disorders
- Patients with disorders leading to accumulation of blood, secretions and food components from the oral cavity, the pharynx and the bronchial system

Adult patients with a cerumen impaction (cerumenal plug) in the external ear canal or if the cerumen interferes with an ENT examination.

## INTENDED PATIENT POPULATION

All people without restrictions, that fall under the patient selection criteria.

## PATIENT SELECTION CRITERIA

- Patients who would benefit from upper or lower airway suction.
- Adult patients who would benefit from removal of cerumen from the external ear canal.

## CONTRAINDICATIONS

The decision to use the device must be made from a medical perspective, taking into account the general condition of the patient.

*Absolute contraindications for nasopharyngeal/oropharyngeal suction:*

- Epiglottitis or pseudocroup

The risks of suctioning body fluids (blood, secretions, food components) from the upper respiratory tract (nose, nasal cavity, throat), lower respiratory tract (larynx, trachea, bronchial system) should be particularly considered in patients with the following symptoms:

*Relative contraindications for nasopharyngeal/oropharyngeal suctioning:*

- Unexplained hemoptysis or hemoptysis (coughing up blood from the lungs or bronchi) or known coagulopathy
- Laryngospasm
- Bronchospasm
- Basal skull fractures and other causes of spinal fluid leakage from the ear
- Pneumothorax
- Fresh anastomosis of the esophagus or trachea or other tracheobronchial trauma
- Obstructed nasal airway
- Nasal bleeding of unknown cause
- Severe hypoxemia/hypoxia
- Increased intracranial pressure
- Acute hypo- or hypertension
- Recent/ acute cardiac insult/ event
- High anastomotic surgery (tracheal or oesophageal/ gastric)
- Occluded nasal passages with a history of nosebleeds
- Upper respiratory tract infection (for fear of transfer of infection to lower respiratory tract by the procedure itself)

*Relative contraindications for oral and orotracheal suctioning:*

- Facial fractures, acute head, face, or neck injury (especially skull fractures or leakage of spinal fluid from the ear)
- Loose teeth or crowns
- (Serious) coagulopathy or hemoptysis
- Laryngeal or oral carcinoma
- Severe bronchospasm
- Laryngospasm / stridor
- Restless / anxious patient
- Fresh anastomosis of the oesophagus or trachea or tracheoesophageal fistula
- Gag reflex

*Relative contraindications for nasotracheal suctioning:*

- Occluded nasal passages
- Nasal bleeding
- Acute head, facial, or neck injury
- Coagulopathy or bleeding disorder
- Laryngospasm
- Irritable airway
- Upper respiratory tract infection
- Tracheal surgery
- Gastric surgery with high anastomosis
- Myocardial infarction
- Bronchospasm
- Recent surgery of the face or nose
- Recent anastomosis of the esophagus or trachea or tracheoesophageal fistula

There are no absolute contraindications for endotracheal suction.

*Removal of cerumen is contraindicated in patients with the following symptoms:*



- Hyperacusis or tinnitus
- Uncontrollable head movements
- Trauma to the ear canal or eardrum
- Anomalies that prevent a clear view of the application
- Diabetes mellitus
- anticoagulated or immunocompromised state
- prior radiation therapy to the head or neck affecting the ear canal
- If the patient feels pain or discomfort, the treatment must be stopped immediately.

## RISKS AND SIDE EFFECTS

For the indication

- Damage to the respiratory and cough functions with disturbance of the tracheal, bronchial, or oral secretion elimination
- Muscular and/or neurological diseases

the following device-specific risks were identified:



	<p>Slow vacuum build-up and insufficient flow can prolong suction time. This can lead to temporarily reduced oxygen saturation or hypoxia/hypoxemia.</p> <p><b>To maintain the performance of the device, maintenance procedures must be performed as described in Chapter 11.</b></p>
	<p>Contaminated suction devices can introduce pathogens into the respiratory tract. The device does not come into direct contact with the patient. <b>However, to reduce the general risk of contamination, the device must be cleaned and disinfected as described in chapter 10!</b></p>

Other non-device-related risks and side effects may occur during suctioning. It is recommended that the user be aware of the general risks associated with airway treatment and seek medical advice promptly in the event of unusual symptoms or complications.

For the indication

- Adult patients with a cerumen impaction (cerumenal plug) in the external ear canal or if the cerumen interferes with an ENT examination.

the following device-specific risks were identified:

	<p>Too loud noise can cause tinnitus or hearing loss.</p> <p><b>Use the lowest vacuum setting possible to minimize suction noise.</b></p>
	<p>Contaminated suction devices can introduce pathogens into the respiratory tract. The device does not come into direct contact with the patient. <b>However, to reduce the general risk of contamination, the device must be cleaned and disinfected as described in Chapter 10!</b></p>

Other non-device-related risks and side effects may occur during suctioning. The user must be aware of the general risks associated with cerumen removal. Treatment is only recommended if symptoms are present.

## WHO IS PERMITTED TO USE THE DEVICE?

- medical staff, professional user,

- non-medical staff, e.g. patients or patient's relatives instructed and trained in handling, operation, processing, of the device and its accessories and the disposal of accessories in accordance with the instructions for use.  
The instruction and training is provided by the trained and instructed medical staff/professional user.  
Use on the external ear canal is excluded for this user group

### **IN WHAT ENVIRONMENT MAY THE DEVICE BE USED?**

The device can be operated in:

- in outpatient and inpatient care (professional healthcare facility environment)
- in homecare, especially for aspiration in tracheostomy patients.

The device must not be operated:

- in medical rooms where potential equalization is required (e.g. cardiac surgery).
- in areas at risk of explosion.
- in the MRI environment.
- when used outdoors
- during transport
- in areas with high humidity or damp rooms  
(e.g. near inhalers or kettles, when bathing or showering).
- in areas subject to excessive heat.  
(e.g. directly next to heat sources or areas exposed to direct sunlight).

### **OPERATION MODES**

<b>S series:</b>	Mains-powered
<b>M series:</b>	Mains-independent, mobile operation

## 3 Safety instructions



### **WARNING OF PERSONAL INJURY DUE TO IMPROPER USE**

- For your own protection and the safety of patients, never use the device for purposes other than its intended purpose!
- Do not use the device if there is visible damage to the housing.
- Do not open the device if you are not trained or authorised to do so. Only authorised service personnel should carry out service activities such as battery replacement.
- Modifications to the device are not permitted.



### **WARNING OF PERSONAL INJURY DURING TREATMENT**

- Select the suction setting in depending on the patient and the medical indication to avoid possible personal injury.
- Perform the applications carefully to avoid injuries in the suction area.
- Never use the device to suction solid objects or inhaled foreign bodies from the throat. This may cause the object to be pushed deeper into the airways, where it may cause total obstruction.
- To ensure patient care in the event of device failure, we recommend having a replacement device available. Call an ambulance if there is a risk of suffocation.



### **WARNING OF PERSONAL INJURY DUE TO STRANGULATION**

People can strangle themselves with tubes or power cords.

- Ensure that unauthorised persons or bystanders do not remain in the vicinity of the device.
- Remove cables and tubes from the patient's environment when they are no longer needed.



### **WARNING OF HEALTH HAZARDS WHEN HANDLING INFECTIOUS OR PATHOGENIC GERMS**

Infectious and pathogenic germs in the suctioned material cause health hazards.

- Never operate the device without a bacterial filter.
- Always aspirate using a sterile disposable catheter or a sterile cannula.
- Ensure that the suction tube does not come into direct contact with the suction site.
- Wear disposable gloves to avoid coming into contact with the suctioned material.
- Clean the device and its accessories as described in these instructions for use.



---

**WARNING REGARDING UNAUTHORISED ACCESSORIES AND SPARE PARTS**

- Only use the accessories and spare parts listed in these instructions for use. The safety and functionality of the device cannot be guaranteed for other accessories.
- Only use clean accessories that are free of damage.



---

**CAUTION REGARDING DAMAGE TO THE DEVICE CAUSED BY LIQUIDS**

- Protect the device from moisture and clean it only as described in this user manual.



---

**CAUTION: DAMAGE TO THE DEVICE DUE TO INCORRECT MAINS CONNECTION**

To avoid damage to the device, please observe the following instructions:  
For simex **M series**:

- Only use the power supply supplied (GTM91099-6015-3.0-T2).
- When using the power supply unit, make sure that the power supply unit plug is connected to the Suction device first and only then is the power supply unit connected to the mains.
- The power supply unit must be disconnected from the mains connection in exactly the opposite order.

For simex **S series**:

- Only use the power cord supplied.
- First connect the power cord to the Suction device and then to the mains connection.
- Disconnect the power cord in reverse order.



---

**CAUTION: RISK OF DAMAGE TO THE DEVICE DUE TO INCORRECT HANDLING**

- Never extract flammable, corrosive or explosive liquids or gases.
- Do not drop the device.
- Always place the device upright on a firm, level surface and ensure that it cannot be knocked over or fall down, so that people cannot be hit by the falling device.



---

**CAUTION: DAMAGE TO THE DEVICE DUE TO HEAT BUILD-UP**

- Do not cover the power supply unit.
  - Keep the suction device, power cord and power supply away from other heat sources.
-

---

### ADDITIONAL PRECAUTIONS FOR SAFE USE IN THE HOME



- Keep children and pets away from the device.
- Ensure that lint and dust are removed from the device and accessories.
- Keep the device away from direct sunlight or heat sources, as intense heat can impair its function.
- Keep the device away from inhalers or kettles (excessive humidity).

---

### BEWARE OF RADIO INTERFERENCE.



- Avoid using this device immediately next to other devices or stacked with other devices, as this could result in malfunction. If use in the manner described above is nevertheless necessary, this device and the other devices should be monitored to ensure that they are functioning properly.

The device complies with the requirements of standard EN 60601-1-2. The system is not affected by electromagnetic radiation from other devices that comply with the same standard. Furthermore, the system does not generate electromagnetic radiation that exceeds the limits specified in EN 60601-1-2.

Further information on electromagnetic immunity and electromagnetic radiation can be requested from simex GmbH by emailing [info@simexmed.de](mailto:info@simexmed.de) or downloaded from our website at [www.simexmed.de/download](http://www.simexmed.de/download).

---

## 4 Warranty and product liability information

### WARRANTY

The warranty period for **simex secretion aspirators** is 2 years. It is neither extended nor renewed by warranty work carried out.

The warranty period for the battery is 6 months.

Wear parts are excluded from the warranty.

All warranty claims shall lapse if:

- the device is opened by unauthorised persons,
- the security seal is removed/damaged,
- repairs are carried out by unauthorised persons,
- changes are made to the device, as in these cases the basic safety of the device can no longer be guaranteed and functional restrictions may occur.

Any warranty is excluded for damage caused by the use of non-recommended accessories and spare parts or improper use.

simex GmbH guarantees service for the device for at least the product life of 5 years.

### PRODUCT LIABILITY

Liability for the device function is transferred to the operator if:










- the device is used outside its intended purpose,
- the device is not used in accordance with the instructions for use,
- the device is opened by unauthorised persons,
- the safety seal is removed/damaged,
- assembly, adjustments, extensions, modifications or repairs are carried out by unauthorised persons,
- non-approved accessories and spare parts are used.

## 5 Symbols and terms






### 5.1 Symbols on device, packaging and accessories



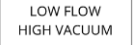






Please observe the symbols on the device, packaging and the accessories.

#### SYMBOLS IDENTIFYING THE MEDICAL DEVICE AND ACCESSORIES:





Symbol	Meaning	Symbol	Meaning
	Manufacturer		Date of manufacture with country of manufacture
	Distribution partner		Importer
	The product is a medical device.		Catalogue number
	Serial number		Batch number
	Unique device identification		

#### INSTRUCTIONS FOR HANDLING THE MEDICAL DEVICE AND ITS ACCESSORIES:

Symbol	Meaning	Symbol	Meaning
	Follow the instructions in this user manual.		Observe the instructions for use.
	The product is intended for reuse on a single Patient.		Protection class: <b>IP22</b> The device is protected against finger access and dripping water at an angle of up to 15°.
	The product is intended for single use only.		

Symbol	Meaning	Symbol	Meaning
	Do not use if the packaging is damaged!		
	Operating time		Performance range of the Suction device: Low volume flow (< 20 l/min), High vacuum ( $\geq 60$ kPa)
	Power supply		
	Fuse		
	This is a Class II electrical appliance. The device is not connected to the protective earth conductor.		Power range of the suction device: High volume flow ( $\geq 20$ l/min), High vacuum ( $\geq 60$ kPa)
	The applied part of the device is classified as <b>type BF</b> . (Body Floating)		This device must not be disposed of with household waste.

**INFORMATION ON ENVIRONMENTAL, STORAGE AND TRANSPORT CONDITIONS:**

Symbol	Meaning	Symbol	Meaning
	Protect from moisture.		Observe the temperature limits during operation, storage or transport.
	Observe the air pressure limit during operation, storage or transport.		Observe the air humidity limit during operation, storage or transport.

## 5.2 Glossary

<b>A</b>	
Applied part, Type BF	Application parts are classified according to their area of application. Applied parts, Type BF, must be installed separately from the earth and are not suitable for direct application to the heart.
<b>C</b>	
Contamination	Contamination means that bacteria and viruses from the suctioned material have come into contact with the device.
<b>O</b>	

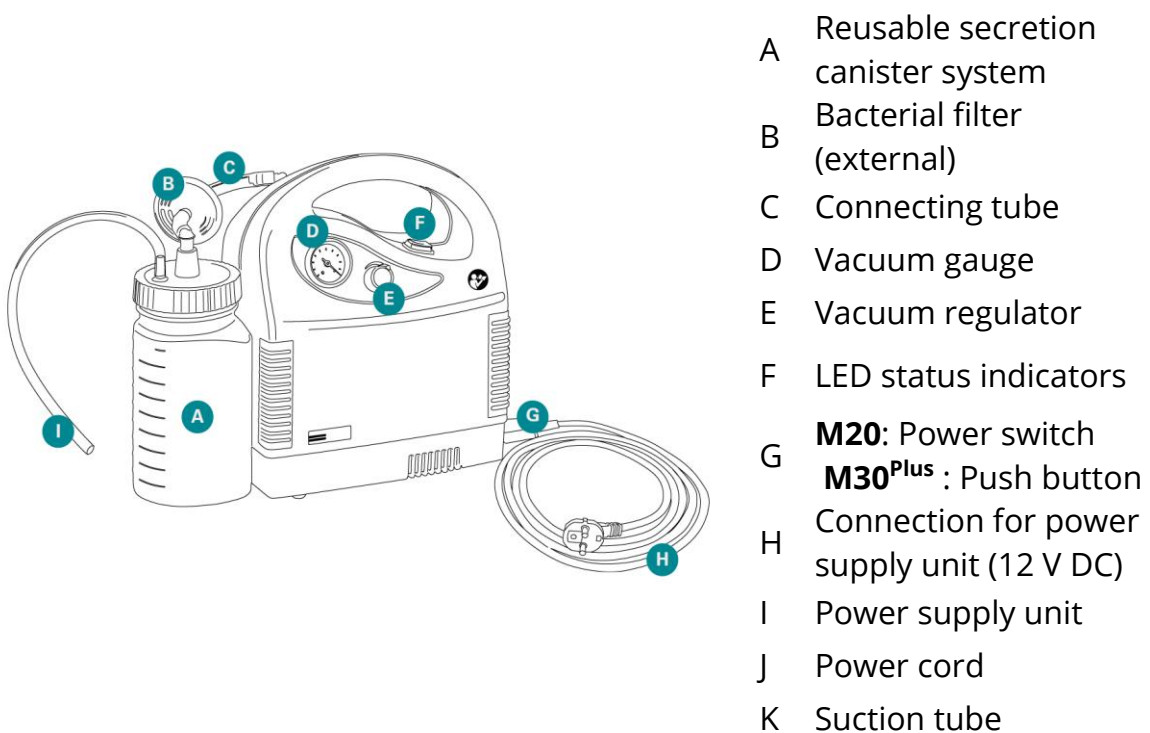
Over-suction	Over-suction means that the suctioned material is sucked into the interior of the device.
<b>S</b>	
Suction material	Suction material is a general term for bodily fluids (blood, secretions), food particles or cerumen. These can be easily suctioned off using the device described here.

## 6 Product description

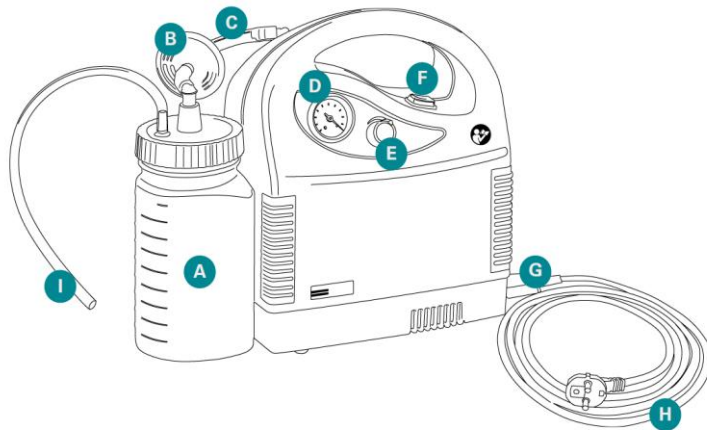
### 6.1 Overview of product variants and accessories

**simex secretion aspirators** can be operated with a Reusable canister system or a disposable canister system. The illustrations in this chapter provide an overview of the available systems.

#### M SERIES WITH REUSABLE SECRETION CANISTER SYSTEM

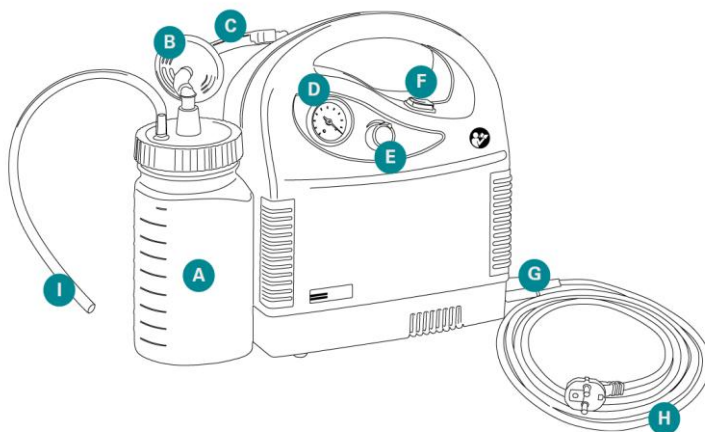


## M SERIES WITH DISPOSABLE SECRETION CANISTER SYSTEM



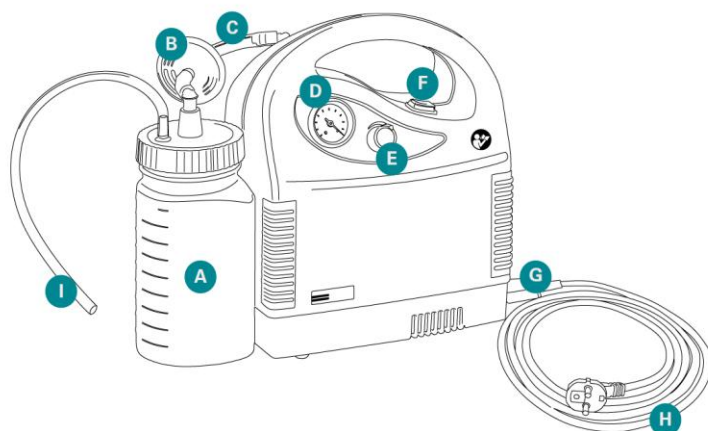
- A Disposable secretion canister system
- B Holder external canister
- C Connecting tube
- D Vacuum gauge
- E Vacuum regulator
- F **M20**: Power switch  
**M30<sup>Plus</sup>** : Push button
- G LED status indicators
- H Connection for power supply unit (12 V DC)
- I Power supply unit
- J Power cord
- K Suction tube

## S SERIES WITH REUSABLE SECRETION CANISTER SYSTEM



- A Reusable secretion canister system
- B Bacterial filter (external)
- C Connecting tube
- D Vacuum gauge
- E Vacuum regulator
- F Power switch
- G Mains connection (230 V AC)
- H Power cord
- I Suction tube

## S SERIES WITH DISPOSABLE SECRETION CANISTER SYSTEM



- A Disposable secretion canister system
- B Holder external canister
- C Connecting tube
- D Vacuum gauge
- E Vacuum regulator
- F Power switch
- G Mains connection (230 V AC)
- H Power cord
- I Suction tube

### 6.2 Scope of delivery

The standard scope of delivery includes:

- **secretion aspirator**, incl.
- these instructions for use
- the power supply unit, including power cable.....(GTM91099-6015-3.0-T2)
- one **secretion canister system**:



Reusable secretion canister system (MW):..... (Item no. 100202-2)	Disposable secretion collection system (EW):.....(Item no. 100385-2)
Reusable secretion canister (1 l) .....(Item no. 100279)	Disposable liner .....(Item no. 100001)
Lid for reusable secretion canister .....Item no. 100205)	External canister .....(Item no. 100000)
Suction tube with Fingertip .....(Item no. 100713-3)	Holder external canister .....(Item no. 100267-1)
Rinsing bottle (250 ml) .....(Item no. 100282)	Suction tube with Fingertip .....(Item no. 100713-3)
Tube holder.....(Item no. 100283)	Rinsing bottle (250 ml) .....(Item no. 100282)

- Possibly additional components (depending on order, see chapter 16)

### 6.3 Permitted applied parts

In order to operate the device for its intended purpose, a type BF applied part is also required. The following applied parts can be connected to the suction tube:

- Suction catheter with conical plug connection
- Suction cannula with Luer Lock
- Suction cannula with conical plug connection

	<p>Select the applied part depending on the patient, the medical indication and the viscosity of the suction material.</p> <p>When using this suction device at home, the attending physician should determine the appropriate size of the catheter. Please consult your physician to ensure that the catheter used is correctly matched to your individual needs.</p>
	<p>If the catheter or cannula diameter is too small, suction may not be performed adequately.</p> <p>Effective suctioning of newborns and paediatric patients with impaired respiratory and cough function with impaired tracheal, bronchial or oral secretion clearance and patients with muscular and/or neurological disorders is possible with a suction catheter size of CH6 or larger; in older patients, this is possible with CH8 or larger.</p> <p>For use in the external auditory canal to remove cerumen, use 17G cannulas or cannulas with a larger diameter.</p>

### 6.4 Connection between device and accessories

The diagram below shows how the simex **secretion aspirators** (left: simex **S series**, right: simex **M series**) are connected to the Patient and accessories.

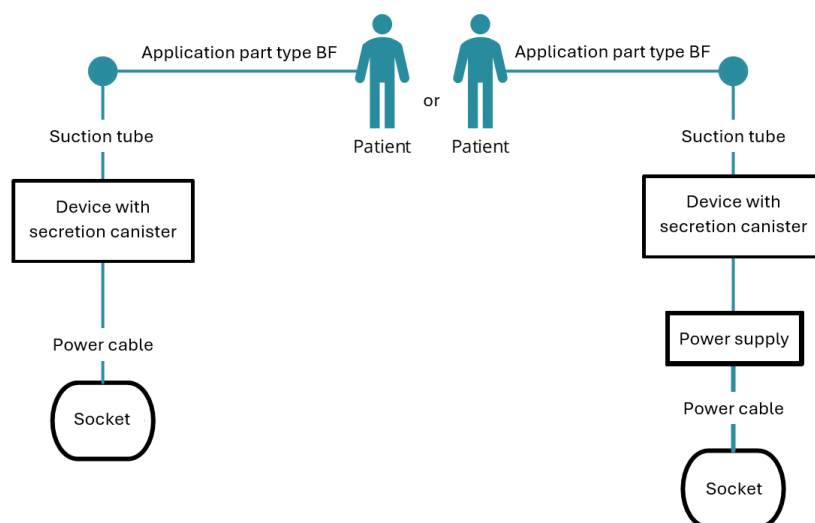
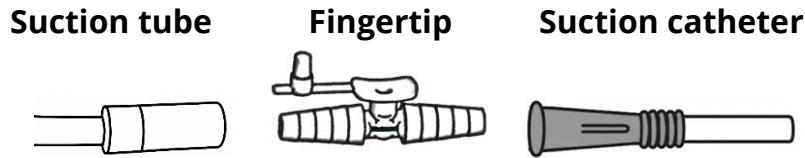


Fig. 1

Assembling the device with the secretion canister system and the suction tube is described in the chapter 7.

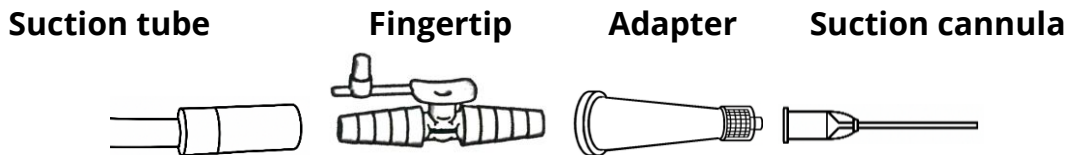
You can connect the suction tube to the various application parts as follows.

**Suction tube with Fingertip → Suction catheter with conical connection**



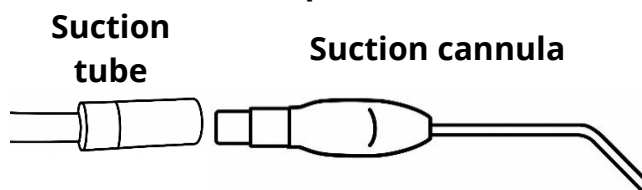
Connection	Type	Diameter / Standard
→ Suction tube Fingertip	Conical plug connection	6–10 mm / non-standard
Fingertip → Suction catheter	Conical plug connection	6–10 mm / ISO 5356-1

**Suction tube with Fingertip → adapter → suction cannula with Luer lock**



Connection	Type	Diameter / Standard
→ Suction tube Fingertip	Conical plug connection	6–10 mm / non-standard
→ Fingertip adapter	Conical plug connection	6–10 mm / non-standard
→ adapter Suction cannula with Luer-Lock	Luer lock connection	Ø 4 mm / ISO 80369-7

**Suction tube without Fingertip → Suction cannula with conical connection (e.g. Zollner or Frazier suction probe)**



Connection	Type	Diameter / standard
→ Suction tube Suction cannula with conical connection	Conical plug connection	6–10 mm / non-standard

## 6.5 Notes on the M-series battery





The internal battery is not automatically kept in an operational state. Charge the device when the battery LED status indicator lights up yellow or red.

**M-series** devices contain a battery. Before using the device for the first time, it is strongly recommended that you fully charge the battery and repeat this after the first few uses.

**M-series** devices are equipped with a lithium-ion battery. Avoid frequent short charging. The typical operating life of the battery is approx. 500 charging cycles, after which approx. 70% of the original capacity remains.

The battery is protected against deep discharge by protective measures, but the above charging instructions must still be observed. The battery is also protected against overheating during charging. If the battery temperature is exceeded during charging due to inappropriate ambient conditions, charging is temporarily interrupted to allow the battery to cool down. This measure serves to protect the battery and ensure its safety.

## 6.6 Notes on the reusable secretion canister system (MW)

	<p>The reusable secretion canister system contains parts that are intended for reuse on a single patient. These are the reusable secretion canister (1 l), the lid for the reusable secretion canister, the connecting tube and the rinsing bottle (250 ml).</p>
	<p>The suction tube with fingertip is intended for single use.</p>

### OVERFLOW PROTECTION

The lid of the reusable secretion canister system contains the overflow protection. This consists of a flexible plastic holder and a ball inserted into the plastic holder. When the canister is full, the ball floats upwards in the holder and closes the transition from the lid to the device in the upper part. This interrupts the suction process.

### BACTERIAL FILTER

In addition to the internal bacterial filter in the device, there is an external hydrophobic (liquid-repellent) bacterial filter in the connecting tube.

Together with the internal bacterial filter, the external bacterial filter forms the double filter system.

If liquid reaches this filter, suction is no longer possible and the suction process is interrupted.





Fig. 2



**Please observe the replacement intervals in the chapter 11.**

## 6.7 Notes on the disposable secretion canister system (EW)

	The disposable liner and suction tube are intended for single use.
	The disposable secretion canister system contains parts that are intended for reuse on a single Patient. These are the external canister and the connecting tube.

### OVERFLOW PROTECTION

A self-sealing bacterial filter in the disposable liner stops suction when the canister is full.

### BACTERIAL FILTER

In addition to the internal bacterial filter in the device, there is a bacterial filter in the disposable liner. Together, these two bacterial filters form the double filter system DFS.

In addition, the disposable liner has an integrated carbon filter and gelling agent. The self-sealing bacterial filter in the disposable liner acts against microorganisms. If liquid reaches this filter, suction is no longer possible and the suction process is interrupted. The disposable liner must be replaced. The activated carbon filter in the disposable liner reduces the spread of odours.

### GELLING AGENT


Disposable liner filled with suction material can be transported and disposed of leak-proof with the aid of the gelling agent. Regardless of the suction intervals, the suction material is thickened after an average gelling time of 2-5 minutes (depending on the nature of the secretion).



**Please observe the replacement intervals in the chapter 11.**

## 7 Start-up

### 7.1 Start-up secretion aspirator

	Check the power cord or power supply unit for damage and replace it immediately if damaged.
---	---

1. Remove the device and accessories from the packaging.
2. Always place the device on a firm, level surface without any incline. Optionally, the device can be attached to pipe and rail systems as well as bed mounts.

3. First connect the power cord or power supply to the Suction device and then plug the power plug into the Socket.
4. **M-series:** Fully charge the battery before using the device for the first time.
5. Connect the device to the accessories of the reusable secretion canister system (chapter 7.2) or to the accessories of the disposable secretion canister system (chapter 7.3).

## 7.2 Connecting the reusable secretion canister system



Always have an additional Bacterial filter available, as this is essential for safe operation.  
Before each use, check that the reusable secretion canister is completely clean to prevent foaming.

1. Screw the lid of the secretion canister onto the secretion canister.
2. Slide the secretion canister onto the side guide on the device.

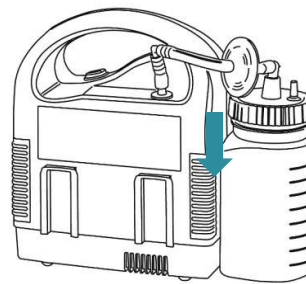


Fig. 3

3. Connect the connecting tube with the blue angle towards the device side to the tube connector on the device.  
Ensure that the side of the external bacterial filter labelled "Patient" faces the canister (towards the patient).

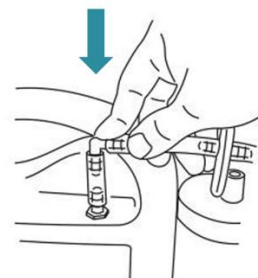


Fig. 4

4. Insert the grey angle adapter of the connecting tube into the connection in the centre of the lid.

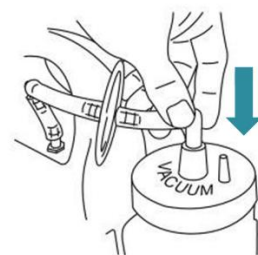


Fig. 5

5. Connect the suction tube to the tube connection (patient connection). Ensure that the tube is sufficiently secure.

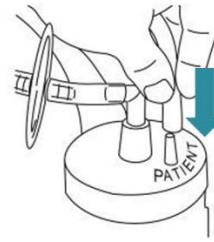


Fig. 6

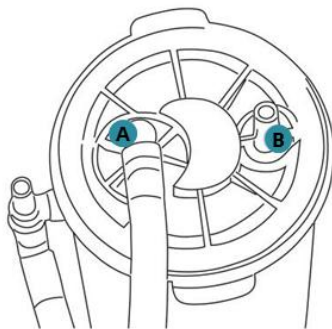
### 7.3 Connecting the disposable secretion canister system

**Malfunction due to collapsing disposable liner. A leak in the external canister or in the lid of the disposable liner can allow secondary air to flow into the external canister. This can cause the disposable liner to collapse.**



- Ensure that the lid of the disposable liner is firmly connected to the external canister.
- Ensure that all connections are secure and correctly connected.
- Ensure that the external canister is not damaged and that the T-piece is secure.

Always have an additional disposable liner ready, as this is essential for safe operation!



Designation of connections

- A Vacuum connection
- B Patient connection

Fig. 7

1. Attach the holder for the external canister to the device by sliding it into the guide provided from above.
2. Remove the disposable liner from its packaging and stretch it out completely.

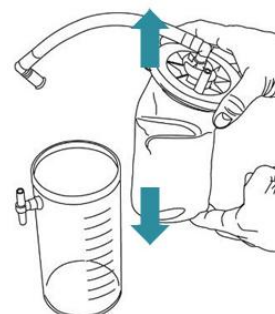


Fig. 8

3. Place the disposable liner in the external canister. Press the lid firmly down at the edges to ensure a good seal.

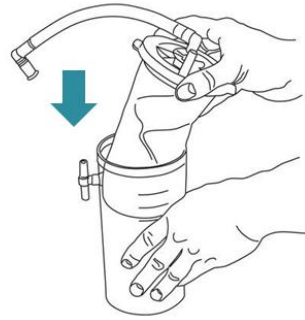


Fig. 9

4. Connect the pre-assembled connecting hose of the disposable liner to the lower end of the T-piece of the external canister.

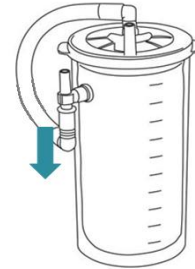


Fig. 10

5. Now place the external canister into the holder. Connect the vacuum connection of the device to the corresponding vacuum connection of the external canister (upper end of the T-piece). Use the connection tube supplied for this purpose.

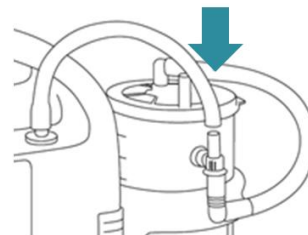


Fig. 11

6. Connect the patient connection of the disposable liner to the suction tube. Ensure that the tube is securely connected.

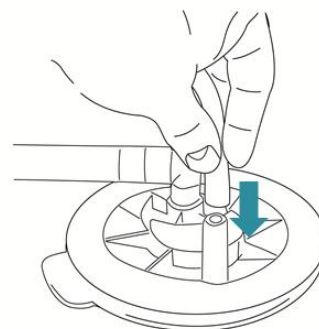
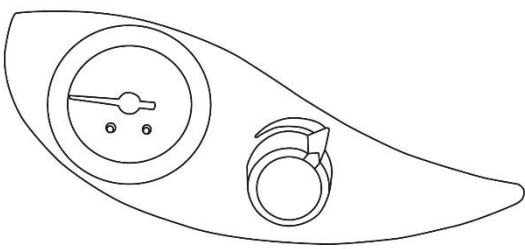
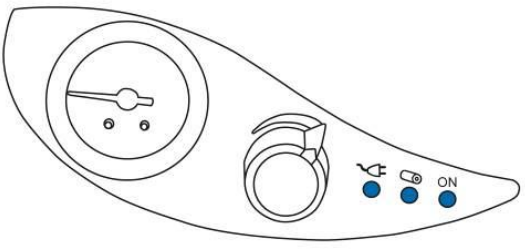












Fig. 12



## 8 Operation

### 8.1 Control and display elements



S-series		M-series	
			
<i>Fig. 13 Vacuum gauge and vacuum regulator</i>		<i>Fig. 14 Vacuum gauge, vacuum regulator and LED status indicators</i>	
Symbol	Meaning	Symbol	Meaning
	Adjustment direction for vacuum setting via vacuum regulator		LED status display for external power supply
	Power switch position "OFF"		LED status indicator for
	Power switch position "ON"		LED status indicator ON/OFF
		Symbol	Meaning
			Power switch position "OFF"
			Power switch position "ON"
			Symbol button ( M30 <sup>Plus</sup> only)

### LED STATUS INDICATORS M20

Symbol	LED indicator	Meaning
	Lights up GREEN	Power supply connected; voltage present
	Yellow	Power supply connected, voltage supply permitted, but does not correspond to the specified input voltage of 12 V DC. → Battery is charging!

Symbol	LED indicator	Meaning
	Lights up RED	Incorrect power supply. Self-shutdown to protect the device.
	Lights up GREEN	Battery capacity 100% to 40%
	Yellow light	Battery capacity < 40% to 10%
	Lights up RED	Battery capacity < 10% to 0%, connect external power supply immediately. Switch off the device after completing the extraction process to charge it!
	Lights up RED despite external power supply	Battery is defective, operation only possible with mains adapter plugged in.
	flashes GREEN	Battery is charging.
	Flashes RED	Overtemperature protection, interruption of the charging/discharging process until the battery temperature is within the permissible range.
	Lights up GREEN	Device is switched on.

### LED STATUS INDICATORS M30<sup>PLUS</sup>

Symbol	LED indicator	Meaning
	Lights up GREEN	Power supply connected; voltage present
	Flashing RED	Incorrect power supply! Battery cannot be charged!
	Lights up GREEN	Battery capacity 100% to 60%
	Lights up YELLOW	Battery capacity < 60% to 10%
	Lights up RED	Battery capacity < 10% to 0%, connect external power supply immediately. Switch off the device after completing the extraction process to charge it!
	flashing GREEN	Battery is charging.
	Flashes RED	Overtemperature protection, interruption of charging process until battery temperature is within permissible range.
Battery is defective, operation only possible with mains adapter plugged in.		

Symbol	LED indicator	Meaning
<div style="border: 1px solid black; padding: 5px; display: inline-block;">ON</div>	GREEN light	Device is switched on.
	FLASHING GREEN	Throttled operation (lower suction power)
	Lights up YELLOW	Pump will continue to run for 5 minutes before the device switches off.
	FLASHING YELLOW	Pump continues to run for 5 minutes in throttled mode (lower suction power) before the device switches off.
	Flashes RED and goes out	After the automatic 40-minute switch-off, the LED flashes for another 30 seconds.

## 8.2 Operation and function

In **the secretion aspirator**, the vacuum pump in the tube system and secretion canister creates a vacuum, which is used to aspirate secretions (via a sterile suction catheter or a sterile cannula). Body fluids (blood, secretions, cerumen) or food particles are collected in the secretion canister, away from the patient. An overflow protection device integrated into the canister lid stops suction when the canister is full.

The suction power is adjusted using the vacuum regulator.

After 40 minutes of operation, the **simex M30<sup>Plus</sup>** switches off automatically to prevent overheating. A switch-off period of at least 10 minutes must be observed to ensure that the device cools down sufficiently. In emergency situations, however, it is possible to switch the device back on immediately.

## 8.3 Performing suction

1. Switch on the device using the power switch or button.
2. Close the opening of the suction tube to check whether a vacuum is present.
3. Turn the vacuum regulator until the vacuum gauge shows the desired vacuum. Please note that higher vacuum values are set by turning the vacuum regulator clockwise and that the

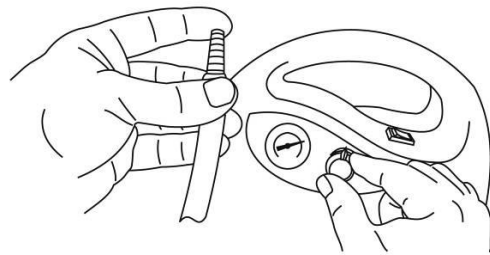


Fig. 15

pointer of the pressure gauge moves counterclockwise.

4. Perform the suction procedure as instructed by the specialist personnel. You can also fine-tune the set suction power using the auxiliary air control on the fingertip.

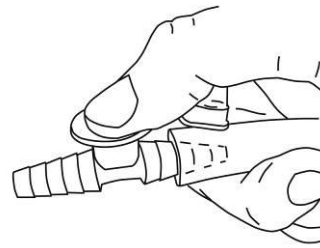


Fig. 16

5. After use, switch off the device using the mains switch or button (press the button for 1-2 seconds).

#### NOTES ON S-SERIES DEVICES



Please note that **S-series** devices are designed for short-term operation (20 minutes)! Please also refer to the technical data.

#### NOTES ON M-SERIES DEVICES



Please note that the pump cannot be started up from an existing vacuum of -0.5 bar when switched on repeatedly.



Pay attention to the battery charge level.

## 9 Follow-up



Observe the information on health hazards when handling infectious or pathogenic germs in chapter 0.

### 9.1 After operating the reusable secretion canister system

1. Switch off the device.
2. Disconnect the power supply.
3. Remove the suction tube from the applied part.

4. Remove the suction tube from the secretion canister.

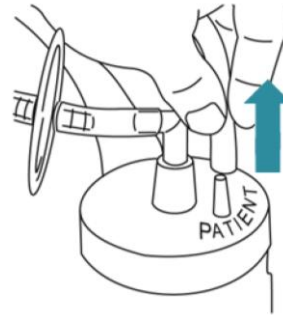


Fig. 17

5. Remove the grey angle adapter of the connecting tube from the connection on the cover.

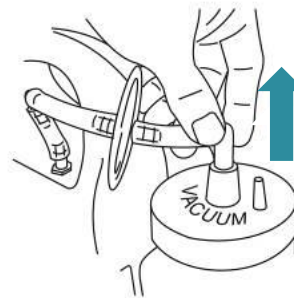


Fig. 18

6. If necessary:  
Remove the connecting tube with the blue elbow from the device.

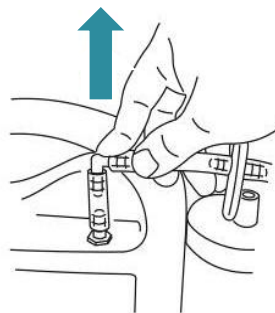


Fig. 19

7. Remove the reusable secretion canister from the device.
8. Empty and clean the reusable secretion canister, lid and tubes, or dispose of the secretion canister system when changing patients.

---

## 9.2 After operating with the disposable secretion canister system

---

1. Switch off the device.
2. Disconnect the power supply.
3. Remove the suction tube from the applied part.

4. Remove the suction tube from the patient connection.

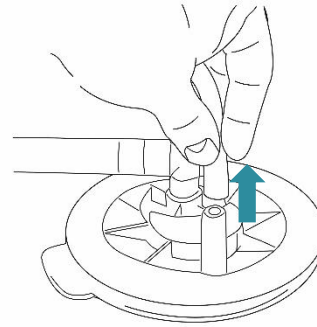


Fig. 20

5. Detach the pre-assembled connecting tube of the disposable liner at the lower end of the T-piece of the external canister.

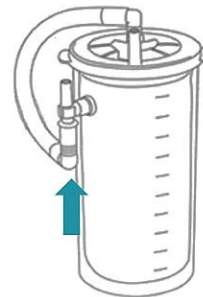


Fig. 21

6. If necessary:  
Remove the connecting tube from the vacuum connection of the external canister and remove the external canister from the holder.

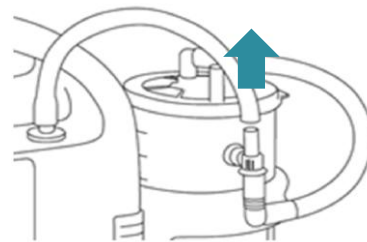


Fig. 22

7. Remove the disposable liner from the reusable external canister.
8. Dispose of the disposable liner.

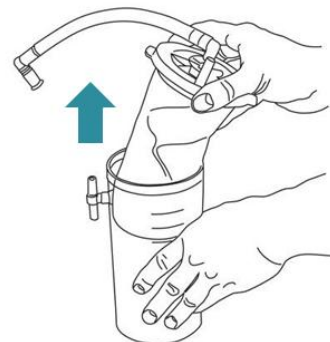






Fig. 23

9. Insert a new disposable liner.  
See chapter 7.3.

## 10 Cleaning and disinfection

### 10.1 WARNINGS

	<p><b>WARNING OF HEALTH HAZARDS WHEN HANDLING INFECTIOUS OR PATHOGENIC GERMS</b></p> <p>Infectious and pathogenic germs in the suctioned material can cause damage to health.</p> <ul style="list-style-type: none"> <li>• Wear at least suitable disposable gloves to avoid coming into contact with the suction material. Depending on the patient's illness, additional protective measures may be necessary. Observe the operator's specifications.</li> <li>• Carefully follow all the steps listed below to achieve the required reduction in germs.</li> </ul>
	<p><b>WARNING OF POSSIBLE PHYSICAL INJURY DUE TO ELECTRIC SHOCK</b></p> <ul style="list-style-type: none"> <li>• Switch off the device before cleaning.</li> <li>• Disconnect the power supply unit from the mains and then disconnect the power supply unit from the device.</li> </ul>
	<p><b>CAUTION: HEALTH HAZARDS WHEN HANDLING DISINFECTANTS</b></p> <ul style="list-style-type: none"> <li>• Follow the manufacturer's instructions for the disinfectant.</li> </ul>
	<p><b>BEWARE OF DAMAGE TO THE DEVICE DUE TO INCORRECT CLEANING AGENTS</b></p> <p>Cleaning agents and disinfectants can damage the surface of the device.</p> <ul style="list-style-type: none"> <li>• Do not use aldehydes or acetone for cleaning and disinfection.</li> <li>• Frequent cleaning and disinfection may cause slight discolouration of the plastic parts of the housing. However, this does not affect the functionality of the device.</li> </ul>

### 10.2 Device surface and holder external canister

Clean and disinfect the surfaces of the device and the holder external canister regularly, at least once a week and when changing patients.



<p><b>LIMITATIONS ON REPROCESSING</b></p>	<p>Do not use the device if it is visibly damaged or if suctioned material has entered the device. Replace the holder external canister "Bag" if it is visibly damaged or if its function is impaired. There are no further limitations.</p>
---	--


<b>PREPARATION BEFORE CLEANING</b>	<p>Follow the instructions in the chapter 9.</p> <p>You should now have the device disconnected from the mains in front of you and, if your device has one, the holder external canister.</p>		
<b>CLEANING</b>	<p>Remove visible dirt with a damp, but not wet, lint-free cloth. Moisten the cloth with clean water (&lt; 40°C).</p> <p>Wipe the entire surface of the device and the holder external canister with light pressure.</p> <p>The holder external canister is dishwasher-safe and can also be boiled after washing.</p>		
<b>DISINFECTION</b>	<p>Now disinfect the previously cleaned surfaces. Follow the manufacturer's instructions for the disinfectant.</p> <ul style="list-style-type: none"> <li>• Spray the entire surface of the instrument.</li> <li>• Wipe the entire surface.</li> </ul> <p>The device and the holder external canister can be disinfected with the "alcohol" disinfectant group. GmbH recommends the following disinfectants:</p>		
	<b>Surface disinfectants</b>	<b>Active ingredient group</b>	<b>Type</b>
	Incidin® Liquid (Ecolab)	Alcohol	Ready-to-use solution
	BacilloI®AF (Bode Chemie)	Alcohol	Ready-to-use solution
<b>DRYING</b>	<p>Allow the disinfected surface to dry completely.</p>		
<b>MAINTENANCE, INSPECTION AND TESTING</b>	<p>The device and the holder external canister should now be free of visible dirt.</p> <p>You can now prepare the device for the next use again in accordance with chapter 7.</p> <p>Attach the holder external canister to the device by sliding it into the guide provided from above.</p>		
<b>STORAGE</b>	<p>If you are not going to use the device and the holder external canister for a longer period of time, store it according to the instructions in chapter 13.</p>		

### 10.3 Reusable secretion canister system

Clean and disinfect the reusable components of the reusable secretion canister system regularly.

- Reusable secretion canister: as needed, at least weekly
- Lid for reusable secretion canister: as needed, at least weekly
- Connecting tube as needed, at least weekly

	<p>Reusable secretion canister and lid for reusable secretion canister must be replaced when changing patients!</p>
	<p>The suction tube with fingertip is intended for single use only.</p>



<p><b>LIMITATIONS ON REPROCESSING</b></p>	<p>Replace the reusable secretion canister system if there is visible damage or functional impairment, or when changing patients.</p> <p>When used on one patient, replace the reusable secretion canister, the lid for secretion canister and the connecting tube monthly.</p> <p>If the accessories are heavily soiled with stuck-on or encrusted secretions, they must be replaced immediately.</p>				
<p><b>PREPARATION BEFORE CLEANING</b></p>	<p>Remove the reusable secretion canister system and separate the components of the system as described in the chapter 9.</p>				
<p><b>CLEANING</b></p>	<ol style="list-style-type: none"> <li>1. Empty the reusable secretion canister and rinse it thoroughly with clean water (&lt; 40°C). Use a lint-free cloth and apply light pressure to remove all visible contamination.</li> <li>2. Remove the overflow protection including the ball from the secretion canister lid.</li> </ol> <div data-bbox="587 1294 767 1480" data-label="Image">  </div> <table border="1" data-bbox="887 1294 1423 1480"> <tr> <td data-bbox="887 1294 1423 1339">A - Reusable secretion canister lid</td> </tr> <tr> <td data-bbox="887 1339 1423 1384">B - Overflow protection</td> </tr> <tr> <td data-bbox="887 1384 1423 1429">C - Ball (for overflow protection)</td> </tr> <tr> <td data-bbox="887 1429 1423 1480"></td> </tr> </table> <ol style="list-style-type: none"> <li>3. Rinse all parts thoroughly with clean water (&lt; 40°C) as described for the Reusable secretion canister.</li> <li>4. Clean the surface of the connecting tube with bacterial filter using a damp, lint-free cloth.</li> </ol> <p>The reusable secretion canister and the lid for reusable secretion canisters are dishwasher-safe and can also be boiled after rinsing.</p>	A - Reusable secretion canister lid	B - Overflow protection	C - Ball (for overflow protection)	
A - Reusable secretion canister lid					
B - Overflow protection					
C - Ball (for overflow protection)					
<p><b>DISINFECTION</b></p>	<p>You can disinfect the previously cleaned surfaces of the accessories.</p> <p>Follow the manufacturer's instructions for the disinfectant.</p> <p>The accessories can be disinfected with the disinfectant group "alcohol".</p>				

	simex Medizintechnik GmbH recommends the following disinfectants:		
	<b>Surface disinfectants</b>	<b>Active ingredient group</b>	<b>Type</b>
	Incidin® Liquid (Ecolab)	Alcohol	Ready-to-use solution
	Bacillol® AF (Bode Chemie)	Alcohol	Ready-to-use solution
<b>DRYING</b>	Allow the cleaned and disinfected surfaces to dry completely.		
<b>MAINTENANCE, INSPECTION AND TESTING</b>	The accessories should now be free of visible dirt. You can prepare the device for the next use again in accordance with chapter 7.		
<b>STORAGE</b>	Store the parts in a clean and dry place until the next use.		

#### 10.4 Disposable secretion canister system

Clean and disinfect the reusable components of the disposable secretion collection system regularly.


- Holder external canister: as needed, at least weekly
- External canister: as needed, at least weekly
- Connecting tube: as needed, after each use

	The external canister and the connecting tube must be replaced when changing patients! The holder external canister can remain on the device when changing patients. The cleaning and disinfection instructions are included in chapter 10.2.
	The disposable liner and the suction tube are intended for single use only.

<b>LIMITATIONS ON REPROCESSING</b>	<p>Replace the the external canister and the connecting tube if there is visible damage or functional impairment, or when changing patients.</p> <p>When used on a Patient, replace the external canister after three months at the latest.</p> <p>If the accessories are heavily soiled with stuck-on or encrusted secretions, they must be replaced immediately.</p>
<b>PREPARATION BEFORE CLEANING</b>	<p>Remove the disposable secretion canister system and separate the components of the system as described in the chapter 9.</p> <p>Dispose of the disposable liner.</p>

<b>CLEANING</b>	<p>Clean visible soiling on the external canister with a damp, lint-free cloth or under running clear water (&lt; 40°C) using a lint-free cloth, depending on the degree of soiling.</p> <p>Clean the surface of the connecting tube with a damp, lint-free cloth.</p> <p>The external canister is dishwasher-safe and can also be boiled after rinsing.</p>		
<b>DISINFECTION</b>	<p>You can disinfect the previously cleaned surfaces of the accessories.</p> <p>Follow the manufacturer's instructions for the disinfectant.</p> <p>The accessories can be disinfected with the disinfectant group "alcohol".</p> <p>GmbH recommends the following disinfectants:</p>		
	<b>Surface disinfectants</b>	<b>Active ingredient group</b>	<b>Type</b>
	Incidin® Liquid (Ecolab)	Alcohol	Ready-to-use solution
	Bacillo®AF (Bode Chemie)	Alcohol	Ready-to-use solution
<b>DRYING</b>	<p>Allow cleaned or disinfected surfaces to dry completely.</p>		
<b>MAINTENANCE, INSPECTION AND TESTING</b>	<p>The accessories should now be free of visible dirt.</p> <p>You can prepare the device for the next use again in accordance with the chapter 7.</p>		
<b>STORAGE</b>	<p>Store the parts in a clean and dry place until the next use.</p>		

## 11 Maintenance

	<p>Do not open the device if you are not trained or authorised to do so. Only authorised service personnel should carry out service activities such as battery replacement.</p>
---	---

Keep the **secretion aspirator** in a generally clean condition. The devices are maintenance-free. If problems arise that cannot be solved with the measures described in the chapter 12, contact simex GmbH or your service partner.

Replace reusable accessories at the latest

- if they are visibly damaged,
- if cleaning is no longer possible due to excessive soiling,
- when changing patients in the home care sector.

Replace the bacterial filter of the reusable secretion canister system if it has come into contact with suctioned material.

## 12 Troubleshooting and service



### CONTACT OF THE DEVICE INTERIOR WITH LIQUIDS AND SOLIDS

If the inside of the device comes into direct contact with liquids or solids, the device must be inspected by simex GmbH or a service partner authorised by simex GmbH.







Please contact simex GmbH or your service partner if an error cannot be rectified using the measures described here.











### 12.1 S-series

Error	Possible cause	Remedy
Device does not start.	Power plug not connected	Check electrical connection
	No mains voltage, Faulty fuse	Contact customer service.
	Only for <b>S20K</b> : Device is too warm, motor temperature protection fuse has tripped	Allow the device to cool down; the temperature protection fuse will reset automatically after cooling down
Insufficient suction power	External bacterial filter is dirty or damp	Replace external bacterial filter
	Internal bacterial filter dirty or damp	Contact customer service.
	Leak in the suction line	Check the secretion canister lid and tube connections for tightness and leaks
	Vacuum regulator (by-pass valve) not closed	Close the vacuum regulator (bypass valve) ( <b>Fehler! Verweisquelle konnte nicht gefunden werden.</b> )











Error	Possible cause	Remedy
No suction power	Manual overflow protection on reusable secretion canister system closed	Check the fluid level in the canister, empty the canister
	Filter of the disposable secretion canister system blocked	Replace the disposable liner
	External bacterial filter blocked	Replace external bacterial filter
	Internal bacterial filter blocked	Contact the service department.
	Suction tube blocked	Clean or replace suction tube
	Tube clamp closed	Open tube clamp



## 12.2 M20

Error	LED display	Possible causes	Remedy
Device does not start.	 ON LEDs do not light up	Battery discharged	Connect the power supply unit to charge or operate the device.
	 Lights up RED	Invalid input voltage	Connect the correct power supply unit, check the power supply
Device switches off.	 Flashes RED, A beeper sounds after 10 seconds,  LED goes out	Battery temperature too high	Switch off the device and allow it to cool down. Connect the power supply unit and switch the device back on.

Error	LED display	Possible causes	Remedy
Device is not charging.	 flashes RED,  lights up GREEN	Battery temperature too high for charging	Allow device to cool down. Charging will resume automatically once the battery has cooled down.
	 Lights up RED,  lights up GREEN	Battery defective	Contact customer service.
	 Lights up RED	Invalid input voltage	Connect the correct power supply unit, check the power supply.
Insufficient suction power	 Not illuminated	Battery low	Connect the power supply unit for charging or operation.
	 Lights up GREEN or YELLOW,	External bacterial filter blocked	Replace external bacterial filter
	 Lights up GREEN	Internal bacterial filter blocked	Contact the service department.
No suction power		Leak in the suction line or canister system	Check the secretion canister lid and tube connections for tightness and leaks.
		Overflow protection closes the suction cover inlet	Check the fluid level in the canister, empty the canister
	 Lights up GREEN or YELLOW,	External filter of the disposable secretion canister system blocked	Replace the disposable liner
	 GREEN light	External bacterial filter blocked	Replace external bacterial filter
		Internal bacterial filter blocked	Please contact the service department!
		Suction tube blocked	Clean/replace suction tube

### 12.3 M30<sup>Plus</sup>

Error	LED display	Possible causes	Remedy
Device does not start.	 ON LEDs do not light up	Battery discharged	Connect the power supply unit for charging or operation.
	 Flashes RED	Battery discharged and impermissible input voltage	Connect the correct power supply unit, check the power supply
Device not charging.	 flashing RED,  lights up GREEN	Battery temperature too high for charging	Allow device to cool down. Charging will resume automatically once the battery has cooled down.
	 Flashes RED	Battery defective	Contact customer service.
	 Flashes RED	Invalid input voltage	Connect the correct power supply unit, check the power supply.
Reduced suction power	ON Lights up GREEN or YELLOW	The device is overheated and is only running in throttled mode.	Switch off the device and allow it to cool down.
Insufficient suction power	 lights up RED,  Not lit	Battery low	Connect the power supply unit for charging or operation.
	 Lights up GREEN or YELLOW,	External bacterial filter blocked	Replace external bacterial filter
	 lights up GREEN	Internal bacterial filter blocked	Contact the service department.
		Leak in the suction line or canister system	Check the secretion canister lid and tube connections for tightness and leaks.

Error	LED display	Possible causes	Remedy
No suction power	 Lights up GREEN or YELLOW,  GREEN light	Overflow protection closes the suction cover inlet	Check the fluid level in the canister, empty the canister
		External filter of the disposable secretion canister system blocked	Replace the disposable liner
		External bacterial filter blocked	Replace external bacterial filter
		Internal bacterial filter blocked	Contact the service department
		Suction tube blocked	Clean/replace suction tube

## 13 Decommissioning, storage, disposal

### DECOMMISSIONING

1. Switch off the **secretions aspirator** after suction.
2. Disconnect the mains plug from the socket and then disconnect the power cord or power supply unit from the device.
3. Remove the accessories as described in Chapter 9.
4. Clean accessories that can be reused as described in chapter 10.
5. Clean the surface of the device as described in chapter 10.
6. Store the devices in the shipping box until the next use.

### STORAGE

Store the simex **secretion aspirator** within the permissible storage conditions:

Ambient temperature:	-20 °C to +60 °C
Relative humidity:	5% to 80%, non-condensing
Air pressure:	800 hPa to 1060 hPa

Charge the battery in **M-series** devices before storing the device. This ensures that it will be ready for use at any time.

If the device is not used for a longer period of time (approx. 10 months), the battery must be recharged!

### DISPOSAL

## Packaging

Recycle the device packaging if it is no longer needed.

## Accessories

Disposable products must not be reprocessed and reused! Dispose of disposable products properly.

The following instructions apply only to reusable products.

7. Clean and disinfect reusable products.
8. Recycle the disinfected reusable products.

## Device

- Clean and disinfect the device.
- Never dispose of the device and battery in household waste.
- Take the device and battery to a recycling centre for disposal or send them to simex GmbH or an authorised service partner.



## 14 Patient change in the homecare sector

When changing patients in the home care sector, professional hygienic reprocessing by simex GmbH or a service partner authorised by simex GmbH is required!

For this purpose, hand over the simex **secretion aspirator** to simex GmbH or to specialist personnel authorised by simex GmbH.

### TRANSPORT/RETURN

simex GmbH offers its partners and customers fast and professional reprocessing as well as the performance of necessary tests.



- Clean the device before shipping in accordance with the instructions in the chapter 10.
- Enclose the power supply unit and power cord with the device.
- Dispose of disposable products.
- Dispose of accessories that are intended for use on a single patient only.
- Register the return shipment.  
The goods return form can be found on our website in the Service section under "Goods returns": [www..de](http://www..de).

## 15 Technical data

### 15.1 S-series

<b>Product identification and specification</b>			
Model	<b>S20</b>	<b>S20K</b>	<b>S30</b>
REF	100400-3	100011-3	100401-3
Aggregate suction capacity* (measuring point hose connection)	18 l/min ± 2 l/min (low flow)	18 l/min ± 3 l/min (low flow)	28 l/min ± 2 l/min (high flow)
* The figures may vary depending on the altitude above sea level, the prevailing air pressure and the air temperature.			
Vacuum	-0.1 kPa to max. -90 kPa (~ -900 mbar; -675 mmHg) (high vacuum) Conversion factor: 1 kPa ~ 7.5 mmHg; 1 kPa ~ 10 mbar		
Operating time	20 minutes ON, 40 minutes OFF		
Protection class according to IEC 60601-1	II		
IP protection class	IP22		
Noise emission	max. 55 dB(A)	max. 66 dB(A)	max. 57 dB(A)
Device dimensions (H x W x D)	290 mm x 259 mm x 130 mm		
Weight	3.4 kg	3.5 kg	4.1 kg
Ambient conditions	<u>Transport/storage</u> Ambient temperature: -20 °C to +60 °C Relative humidity: 5% to 80%, non-condensing Air pressure: 800 hPa to 1060 hPa <u>Operation</u> Ambient temperature: 0 °C to +35 °C Relative humidity: 5% to 80%, non-condensing Air pressure: 800 hPa to 1060 hPa		
<b>Electrical specifications</b>			
Mains voltage	230 V AC		
Mains frequency	50 Hz		
	<b>S20</b>	<b>S20K</b>	<b>S30</b>
Power consumption	80 W	156 W	80 W
Current consumption at 230 V	0.35 A	0.72 A	0.35 A

## 15.2 M-series

<b>Product identification and specification</b>		
Model designation	<b>M20</b>	<b>M30<sup>Plus</sup></b>
REF	100403-3	100731
Aggregate suction capacity* (measuring point hose connection)	18 l/min ± 2 l/min (low flow)	30 l/min ± 3 l/min (high flow)
* The figures may vary depending on the altitude above sea level, the prevailing air pressure and the air temperature.		
Vacuum	0.1 kPa to max. -90 kPa (~ -900 mbar; -675 mmHg) (high vacuum) Conversion factor: 1 kPa ~ 7.5 mmHg; 1 kPa ~ 10 mbar	
Operating time	20 minutes ON, 45 minutes OFF	40 minutes ON, 10 minutes OFF
Protection class according to IEC 60601-1	II	
IP protection class	IP22	
Noise emission	max. 62 dB(A)	max. 66 dB(A)
Device dimensions (H x W x D)	290 mm x 259 mm x 130 mm	
Weight	3.1 kg	3.6 kg
Ambient conditions	<u>Transport/storage</u> Ambient temperature: -20 °C to +60 °C Relative humidity: 5% to 80%, non-condensing Air pressure: 800 hPa to 1060 hPa	
	<u>Operation</u> Ambient temperature: 0 °C to +35 °C Relative humidity: 5% to 80%, non-condensing Air pressure: 800 hPa to 1060 hPa	
<b>Electrical specifications</b>		
Mains voltage Power supply	Input: AC 100–240 V~ /50–60 Hz/1.5 A Out: DC 12 V / 5 A	
Power cord for the power supply unit	H03VVH2-Fx0.75 2.5 A 250 V~ ; length: 1.8 m	
Permissible input voltage	12 V	
Max. load current	5.0 A	
	<b>M20</b>	<b>M30<sup>Plus</sup></b>
Power consumption at 12 V	47 W	60

Current consumption at 12 V	3.5 A	5.0 A
<b>Battery specifications</b>		
Battery, rechargeable	min. 10.8 V; lithium-ion battery	
Charging time when battery is empty	min. 2 hours	
Energy of the battery pack	<80 Wh	
Runtime in battery mode	min. 40 minutes	

### 15.3 Accessories

<b>Accessory specifications</b>	
Canister	
Identification:	Reusable secretion canister (1 l) Item no. 100279, with lid for reusable secretion canister Item no. 100205
External canister	Item no. 100000, with Disposable liner
Disposable liner	Item no. 100001
Canister volume:	1 l
Suction tube	Suction tube CH 25, 150 cm, including fingertip Material: PVC (DEHP-free/latex-free)
Applied parts	Sterile suction catheter or sterile cannula, Applied part, Type BF

## 16 Order information



Not all components listed in this section are covered by EU MDR 2017/745. Medical devices or accessories for medical devices are marked with the symbol **MD**.

Item number	Item description	PU
100000	External canister (1 l)	1
100002	Disposable liner (1 l)	60
100267-1	Holder external canister	1
100280	Connecting tube disposable secretion canister system	1
100288	Universal bed holder	1
100346	Variable holder	1
100385-2	Disposable secretion canister system (1 l) with suction tube	1
100295-1	Bag for aspirators	1
100279	Reusable secretion canister (1 l)	1
100205	Lid S6 for reusable secretion canister	1
100282	Rinsing bottle (250 ml)	1
100283	Tube mount (holder ring with hose clamp)	1
100753	Car connection cable	1
100212-3	Tubing set S6 with suction tube and connection tube	1
100713-3	Suction tube CH 25, 150 cm (non-sterile)	10
100202	Reusable secretion canister system S6 incl. tube set	1
100732-1	5-foot rolling stand	1
100736	Device holder for rolling stand	1
400512	external bacterial filter	5

## 17 Publishing information

Created and published by:



simex Medizintechnik GmbH  
Brückstrasse 30/1  
78652 Deisslingen  
GERMANY

Contact:

Telephone: +49-7420-9204-0  
Fax +49-7420-9204-17  
Email: [info@simexmed.de](mailto:info@simexmed.de)  
Website: [www.simexmed.de](http://www.simexmed.de)





