ATMOS
MedizinTechnik

Instructions for Use

ATMOS S 61 Servant ENT workstation

English



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1 Introduction

1.1 Notes on Instructions for Use



These Instructions for Use contain important information on how to operate your product safely, correctly, and effectively.

These Instructions for Use are designed for training and instructing new operating personnel in the use of the system and also for use as a reference manual. This document may be reprinted, either in part or in whole, only with written permission of ATMOS.

These Instructions for Use must always be kept available near the product.



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

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



The product ATMOS S 61 Servant ENT workstation bears the CE marking CE 0124 in accordance with EU Council Directive 93/42/EEC concerning medical devices and meets the basic requirements of Annex I to this directive.

The ATMOS S 61 Servant ENT workstation complies with all applicable requirements of Directive 2011/65/EU restricting the use of certain hazardous substances in electrical and electronic equipment (“RoHS”).

The Declarations of Conformity and our General Standard Terms and Conditions can be obtained on our website at www.atmosmed.com.

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

Prior to initial start-up, please read chapter “2 Notes for your safety” on page 12 to avoid any potentially dangerous situations.

These Instructions for Use are valid for the following products:

ATMOS S 61 Servant ENT workstation (230 V~)	REF 530.0000.0
ATMOS S 61 Servant ENT workstation (115 V~)	REF 530.0002.0
ATMOS S 61 Servant ENT workstation (127 V~)	REF 530.0003.0

1.2 Explanation of pictograms and symbols

In the Instructions for Use

⚠ DANGER	Warning of a hazard that will result in death or serious injury. Observe the necessary measures.
⚠ WARNING	Warning of a hazard that could result in death or serious injury. Observe the necessary measures.
⚠ CAUTION	Warning of a hazard that may result in minor or moderate injury. Observe the necessary measures.
NOTICE	Indicates a hazard that may result in damage to the product or other property if not avoided. Observe the necessary measures.
⚠	WARNING
ⓘ	Notice of potential material damage.
☞	Useful information on handling the device.
1.	Call for action. Proceed step by step.
»	Result of an action.
→	Move/plug in this direction.
click	Engage and check for secure fit.

On device, type plate, and packaging

	Follow operating instructions
	Consult operating instructions
	Warning; pay special attention
	General warning sign
CE 0124	This device complies with the relevant requirements of EU regulations.
EAC	This device complies with the relevant requirements of the Eurasian Economic Union.
	Manufacturer

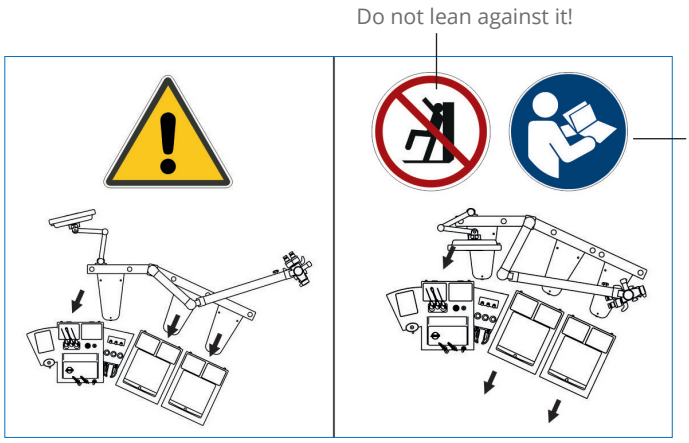
	Date of manufacture
	Date of manufacture Country of manufacture: Germany
REF	Reference number
UDI	Unique Device Identifier of a medical device
MD	Medical device
SN	Serial number
EAN	European Article Number
LOT	Batch code
IPX0	Specification of the degree of protection against the ingress of solids and moisture
	Type B applied part
	Type BF applied part
	Professional disposal
	Do not reuse
	On (connected to the power supply)
	Off (disconnected from the power supply)
	ATMOS LED Light Cube on/off
	Compressed-air system
	Suction system
	Quick mirror heater
	Timer (Variotherm plus)
	Foot switch

	Vacuum regulator
	Pressure adjuster
	Dimming control
	Potential equalization
	Protection class I device
	Ground wire connection
	Fuse
	Alternating current
	This side up
	Fragile, handle with care
	Keep dry
	Keep away from sunlight
	Temperature limit
	Humidity limitation
	Atmospheric pressure limitation
	Warning of hot surface
	ATMOS LED technology

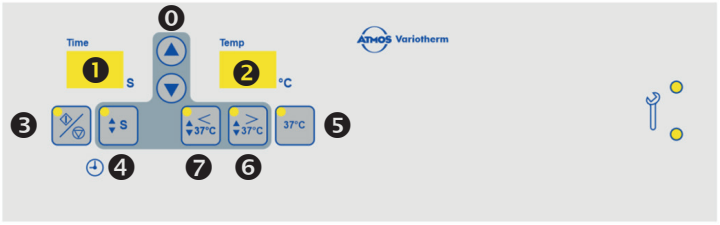
UDI application identifier

(01)	UDI-DI: Identification of the manufacturer and the device
(11)	Date of manufacture
(21)	Serial number

1.2.1 System frame label

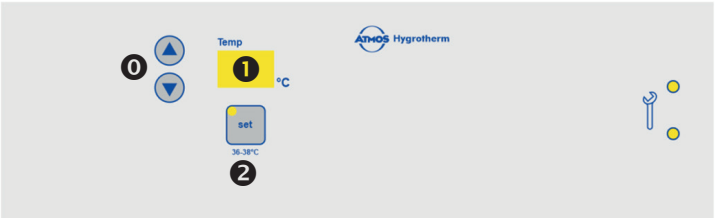


1.2.2 Front foil of the Variotherm module



0 Adjustment button up or down (for temperature or seconds setting)
1 Display of stimulation time (2-digit, increment of 1 s)
2 Temperature display (2-digit, increment of 1 °C), actual value indication
3 Button for starting/stopping the stimulation (150 ml/min)
4 Button for adjusting the stimulation time
5 Button for selecting the irrigation level (37 °C)
6 Button for selecting the warm stimulation level (e.g., 44 °C)
7 Button for selecting the cold stimulation level (e.g., 30 °C)

1.2.3 Front foil of the Hygrotherm module



0 Up and down adjustment buttons (for temperature settings)
1 Temperature display (2-digit, increment of 1 °C), actual value indication
2 Button for selecting the stimulation level (36–38 °C)

1.3 Intended purpose

1.3.1 ATMOS S 61 Servant ENT workstation

Product name:	ATMOS S 61 Servant ENT workstation
Main functions:	• Medical suction • Ear irrigation (using compressed air or Variotherm plus) • Thermal nystagmus stimulation (Variotherm plus) • Medication spraying or spraying • Electric power supply for visualization, illumination and illumination accessories • Instrument storage and deposit • Storage shelves • Instrument heating
Intended use:	Standard ENT examination and/or therapy
Intended users / user profile:	Doctors and medical specialists
User training:	The product may only be used by persons who have received medical training.
Intended patient target groups:	All patients without any restrictions
Medical conditions to be diagnosed, treated or monitored:	Diagnostic examination of anatomy of all kinds
Application organ:	Ear, Nose, Throat
Application time:	< 60 min.
Application site:	Outpatient medical facilities, e.g. ENT practices, hospital outpatient departments, medical care centres
Patient selection criteria:	None
Indications:	Standard ENT examinations and/or therapy
Medical contra-indications:	Ear irrigation: Should not be applied to an infected auditory canal or a perforated eardrum
Other contra-indications:	None
Undesirable side-effects:	None
Warnings:	See chapter 2.0 “Notices for your safety” in the valid instructions for use of the product.
The product is:	active
Sterility / specific microbial state:	Non-sterile

Single use product / reprocessing:	Not a single use product. It is a multiple patient – multiple use product. Reprocessing according to instructions for use.

1.3.2 Hygrotherm

Product name:	Hygrotherm
Main functions:	Irrigation of the external auditory canal
Intended purpose:	Irrigation of the external auditory canal
Intended users / User profile:	Doctors and medical specialists
Intended patient target group:	Patients of all age groups without restrictions
Medical conditions to be diagnosed, treated or monitored:	Hearing loss due to cerumen in the ear canal
Application organ:	External auditory canal to eardrum
Application period:	Transient (< 60 min)
Application environment:	Outpatient medical facilities, e.g., ENT practices, hospital outpatient departments, medical care centers
Patient selection criteria:	Patients with intact, physiological eardrum and external auditory canal
Indications:	Hearing loss through impacted cerumen
Medical contra-indications:	Pathological eardrum
Medical contra-indications:	Pathological eardrum
Other contra-indications:	Pathological external auditory canal
Warnings:	N/A
The product is:	active
Sterility/specific microbial status:	Not sterile
Single use product / reprocessing:	Not a single use product. Reprocessing according to instructions for use.

1.3.3 Variotherm plus

Product name:	Variotherm plus
Main functions:	Stimulation of the vestibular organ Irrigation of the external auditory canal
Intended purpose:	Stimulation of the vestibular organ Irrigation of the external auditory canal
Intended Users / User profile:	Doctors and medical specialists
Intended patient target group:	Patients of all age groups without restrictions
Medical conditions to be diagnosed, treated or monitored:	Vertigo due to a disorder of the vestibular organ Hearing loss due to cerumen in the ear canal
Organ(s) applied to:	External auditory canal to eardrum
Application period:	Transient (< 60 min)

Application environment:	Outpatient medical facilities, e.g. ENT practices, hospital outpatient departments, medical care centers
Patient selection criteria:	Patients with intact, physiological eardrum and external auditory canal
Indications:	Differential diagnostics for vertigo Hearing loss through impacted cerumen
Medical contra-indications:	Pathological eardrum
Other contra-indications:	Pathological external auditory canal
Warnings:	N/A
The product is:	active
Sterility/specific microbial status:	Non-sterile
Single use product / reprocessing:	Not a single-use product. Reprocessing according to instructions for use.

1.4 Function

The device is a diagnostic and therapy workplace for ENT specialists. The user can assemble the workplace with options and accessories according to his personal requirements. The device is used in clinics or ENT offices.

The treatment unit ATMOS S 61 Servant ENT workstation enables the modular installation of the following functional modules:

- Suction system module
- Compressed-air module
- Ear irrigation module (Hygrotherm)
- Stimulation of the vestibular organ
- LED light source ATMOS LS 21 LED
- LED headlight ATMOS HL 21 LED

1.5 Scope of delivery

The ATMOS S 61 Servant ENT workstation was subjected to an extensive functional test and was carefully packed prior to dispatch.

Nevertheless, please check the contents of the shipment immediately upon receipt to ensure it is complete (see delivery note).

1.6 Delivery

Please check for any damage to the packaging when accepting the delivery of the goods. Report any damage directly to AMTOS or your partner.

1.7 Transport and storage

Transport the product only in a shipping box that is padded and offers sufficient protection.

If you notice transport damage:

1. Document and report the transport damage.
2. Send the device to ATMOS.

Environmental conditions for transport and storage: see“11 Technical data” on page 56

2 Notes for your safety

Please read and pay attention to the safety instructions carefully prior to using the product.

2.1 General safety instructions

Use only accessories and options that are specifically suited for combination with the product and meet the performance and safety requirements.

If you wish to connect more than one device or applied part, you must always observe their safety instructions.

Report any serious incidents that occur in connection with this product to the manufacturer and your national competent authority.

Make sure the rollers are always locked when using the treatment unit.

The device must not be used within the range of an MRI (magnetic resonance imaging) scanner.

2.2 Important safety instructions

- Protection against electric shock: protection class I
- The device may be connected only to a properly installed grounded socket.
- Correct configuration in assembly of country-specific connections:
  - green/yellow: protective conductor (PE)
  - blue: neutral conductor (N)
  - black or brown: phase (L)
- Caution! Quick mirror heaters may generate temperatures above 40 °C!
- The ATMOS S 61 Servant ENT workstation may only be used **under supervision** by skilled staff who have been authorized by ATMOS and trained in its operation (IEC 601-1 / EN 60601-1).
- The mains voltage indicated on the type plate must correspond to the values of the supply network.
- Make sure prior to every application of the equipment that it is technically safe and in proper condition. **Damaged leads and hoses** must be replaced immediately!
- Display instruments and valves must be checked for correct function at regular intervals!
- Every morning, a visual inspection of the hoses, secretion canisters, and cables must be performed. Exchange damaged parts! Only proper and undamaged plugs and extension cables may be used.
- Switch off the unit before you open it and disconnect it from the line voltage.
- Maximum load for clipboard: 2 kg!
- Never leave the patient unattended at the treatment unit.
- The control panel must be clearly visible and accessible to the user.
- This product is not re-sterilizable. It is forbidden to reuse components marked with ⊗. In case of repeated reuse, these components lose their function and there is a high risk of infection.
- If no adapter is attached to the fiber optic light cable, you should avoid putting your fingers or tools inside the light source, as this could damage the lenses and cause injury.
- The user must check the instruments' temperature, e.g., on the back of his/her hand.

- Clean heating modules regularly and disinfect if necessary; only heat clean instruments.
- For existing water consumers, switch on the device only when the water supply is ensured!
- The ENT unit requires clean water (drinking-water quality) for operation. In case clean water cannot be provided by the water supply, a pre-filter must be installed. The relevant country-specific regulations for installation must be considered!
- Please note: A medical isolation transformer according to EN 60601-1 with an earth leakage monitor or a similar safety system must be used if several devices are to be connected over one common power supply. The transformer must correspond to the power consumption of all the devices to be connected.
- You can disconnect the device from the mains power supply only by pulling out the power plug.
- Position the device so that it can be easily disconnected from the power supply at any time.
- Assembly, new settings, modifications, extensions, and repairs may only be carried out by authorized persons.
- Do not modify the device without the manufacturer's permission.
- Do not place used or contaminated instruments on the ENT unit except on specially designated areas!
- The environmental conditions specified in the Technical Data must be strictly observed!
- Switch off the main switch after finishing work in the practice and close the water supply (if present).
- Care is to be paid in respect to light sources when working with endoscopes. Do not look directly into the light outlets! In case of possible light failure, carefully remove the endoscope from the working area!
- The ATMOS S 61 Servant ENT workstation may be operated only in rooms used for medical purposes, but not in areas subject to explosion hazards and in oxygen-rich environments.
- The ATMOS S 61 Servant ENT workstation meets the electromagnetic immunity requirements of standard IEC 601-1-2 / EN 60601-1-2 "Electromagnetic Compatibility – Medical Electrical Equipment".
- The ATMOS S 61 Servant ENT workstation must not be operated with devices that do not comply with the requirements of standard EN 60601-1 "Medical Electrical Equipment" and EN 60601-1-2 "Electromagnetic Compatibility (Medical Electrical Equipment)".
- ATMOS is not liable for personal injury and damage to property if
  - no original ATMOS parts are being used,
  - the advice for use in these Instructions for Use is not being observed,
  - assembly, new settings, alterations, extensions, and repairs have been carried out by personnel not authorized by ATMOS.
- Do not restrict the air supply at the rear of the unit!
- Prior to starting treatment, applied parts have to be checked regarding their temperature.
- It is not allowed to use flammable substances with the device.
- The system frame for 2 modules incl. microscope must be screwed into the floor.
- To prevent cross contamination, the cleaning instructions in chapter "5 Reprocessing" on page 39 must be observed.

2.3 Specific safety instructions for Hygrotherm and Variotherm plus

- Metal parts could be hot!
- Prior to spraying, the water temperature must be checked by the user (display)!
- The irrigation jet must not come into contact with contaminated material.
- The jet connection may only be used when a hose tip is installed!
- Be careful when inserting the hose tip as it could cause damage to the eardrum.
- For hygienic reasons, jet connections must be changed after each patient. This also prevents retrograde contamination of the warm water system.
- Variotherm plus: Use only for ear irrigation or vestibular stimulation!
- After the device is switched on, the flow rate must be checked at least once a day using a volume measuring funnel. The water jet must not exceed 500 ml/min. The jet stream must be straight.
- Prior to use, the user must check the outlet pressure; it must not exceed 2.2 bar.

2.4 Hygrotherm / Variotherm plus

Important instructions for maintaining the hygienic status

To loosen cerumen in the ear canal and stimulate the labyrinthine system, ATMOS offers the warm water units Hygrotherm plus (37 °C) and Variotherm plus (20–47 °C).

These units heat the drinking water that comes from the household connection to the preselected temperature. At these water temperatures, there may be increased germ counts in the rinsing water, which in turn can lead to adverse health effects in sensitive patients if the following Instruction for Use are not observed.

Requirements for starting up

❒ The water provided by the household connection must at least meet the international WHO guidelines and the country-specific directives for drinking water.

Connection

❒ Prior to connecting the ATMOS unit, fresh water must flow through the wall connection for a period of approx. 1 minute.*

❒ Ensure that the installation is hygienically carried out! Disinfect the threaded connections with 70% alcohol before screwing them into place.*

❒ Wear disposable gloves when carrying out maintenance work on parts that come into contact with the water.*

* This work is carried out by a service technician authorized by ATMOS.

Running operation

❒ Prior to beginning practice operations for the day, switch on the device and remove the irrigation handle from the support for 10 min so that fresh water is pumped into the pipes (after long standing periods, e.g., weekend, holidays: 30 min). During this period, the heating can be switched off.

❒ Contact parts, e.g., hose tips, must be replaced after every patient (prevention of retrograde contamination).

❒ Prior to each use, spray water and check the temperature.

Service

- ❒ Observe hygiene when changing the suspended particle filter (see setting up) (dispose of filter and carefully clean the filter glass). Ensure that no contact is made with contaminated parts.
- ❒ Depending on the quality of the available drinking water, a biofilm growth cannot be excluded. We therefore recommend testing the drinking water quality at regular intervals (acc. to ISO 6222) at the drinking water connection on the devices and on the applied part. In case of a significant increase in contamination between the drinking water connection and the applied part, a biofilm removal process with subsequent disinfection can be carried out by ATMOS Service.

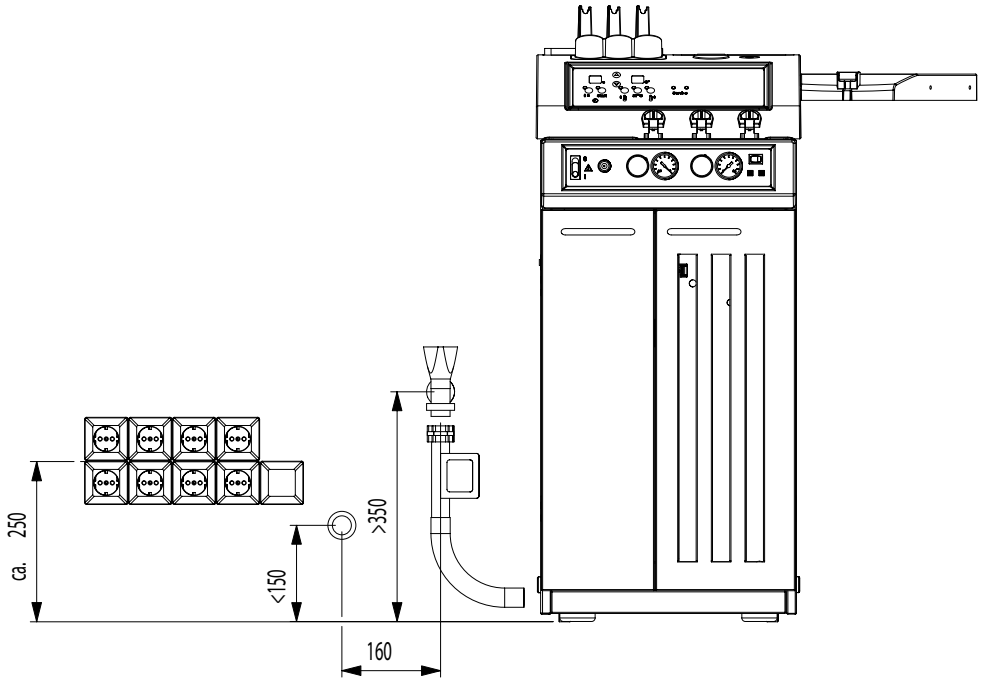
2.5 Avoiding damage to the device

Storage and operation in an unsuitable environment.

The product may become damaged.

☞ Please observe the ambient conditions regarding transport, storage, and operation.

3 Setting up and starting up



Connection to the central gas supply up to max. 8 bar.

The standard NIST connection for central vacuum and central compressed air on the rear side of the device is optional. Connecting hoses are **not** included in delivery.

3.1 Connections required for all units of the ATMOS S 61 Servant

Flexible multi-port distributors must not be used as a power supply for the ATMOS S 61 Servant ENT workstation, ATMOS S 61 Servant ENT vision, or for an optional HF or radiofrequency surgical device.

Unit / Device	Maximum required connections
ATMOS S 61 Servant ENT workstation	1 x earthing contact socket outlet
ATMOS S 61 Servant vision	1 x earthing contact socket outlet (basic version) or 1 x fixed connection for the integrated camera or stroboscope LED
ATMOS S 61 Servant instruments	3 x earthing contact socket outlet
Water separation system	1 x earthing contact socket outlet
Monitor	1 x earthing contact socket outlet
Patient chair	1 x earthing contact socket outlet
An adequate number of socket outlets with earthing contact should be mounted for possible connection of further electrically operated units that may be installed (installation of an electrically operated ATMOS patient chair, water separation system, camera, monitor, etc.).	

3.2 Electrical connection

Prerequisites:

- Installation acc. to IEC 60346-7-710: earth leakage circuit breaker (FI circuit breaker) with rated leakage current < 0.03 A
- Connection of the power cable of the ATMOS S 61 Servant ENT workstation to a safety socket outlet near the device, max. 3 meters, preferably left (Fig.).
- The supply circuit must be separated from other devices, e.g., PCs, etc.
- If isolation transformers are used, then isolation monitoring must be integrated in the isolation transformer.
- Maximum power consumption:
  - ATMOS S 61 Servant ENT workstation: 2,300 VA
  - ATMOS S 61 Servant vision: 300 VA
  - ATMOS S 61 Servant instruments: 250 VA
- Flexible multi-port distributors may not be used as a power supply.
- The ENT treatment unit ATMOS S 61 Servant ENT workstation has a potential equalization port on the rear, which can be connected to the potential equalization rail of the room if necessary. This port can be used for devices of protection class I to avoid differences in potential between the protective earth of the device and the protective earth of other devices or parts of a system that can be used on the patient or touched at the same time.

3.3 Water connection

Requirements for water supply:

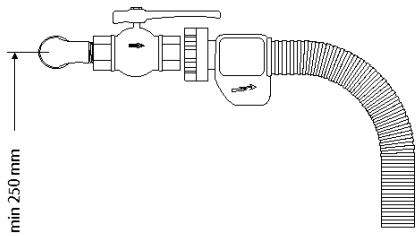
- Easy-to-access water tap or ball valve with G 3/4" external thread.
- The connection must be able to be closed without any additional effort.
- Connection including pipe aeration is recommended.
- Minimum height of the water tap from the floor: 35 cm.
- Distance of the water tap to the ATMOS S 61 Servant ENT workstation: < 3 m.
- Required pressure in domestic water system: > 2 bar, but < 5 bar.
- The water provided by the household connection must at least meet the WHO guidelines and the country-specific guidelines for drinking water.
- Country-specific regulations for the installation must be considered when the unit is connected to the public water supply.
- Before connecting: Rinse water supply line in order to remove any contamination from the system.
- When clean water is available, connect supply hose to the water tap mentioned above.
- For compliance with the regulations of DIN EN 1717, we recommend adding a water separation system.
- There is no special calcification safety device integrated in the water system. An upstream calcification safety device must be installed for drinking water of hardness grade 3 (14–21 °dH or 2.5–3.8 mmol/l = hard water) or hardness grade 4 (from 21 °dH or from 3.8 mmol/l = very hard water).

Please contact your local water supplier and/or plumber.
The water tap must be closed at the end of operation!

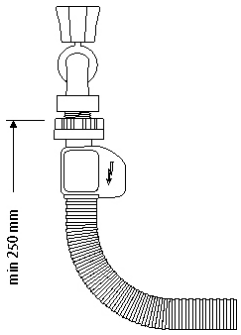
Water hardness	Millimole per liter	°dH	
1 (soft)	≤ 1.3	≤ 7.3	Calcification protection system not required
2 (medium)	1.3 to 2.5	7.3 to 14	
3 (hard)	2.5 to 3.8	14 to 21.3	Calcification protection system required
4 (very hard)	> 3.8	> 21.3	

☞ The use of demineralized water may affect the function of the waste water disposal!

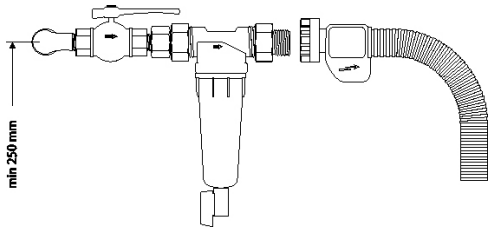
Water connection with ball valve



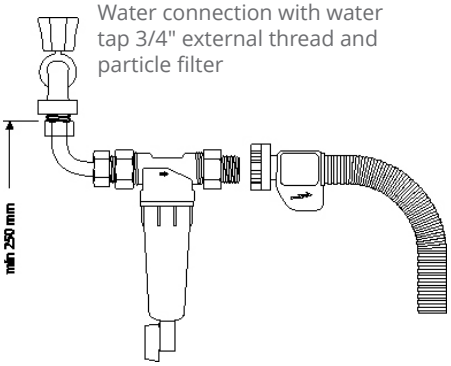
Water connection with water tap 3/4" external thread



Water connection with ball valve and particle filter



Water connection with water tap 3/4" external thread and particle filter



3.4 Water drainage

Prerequisites:

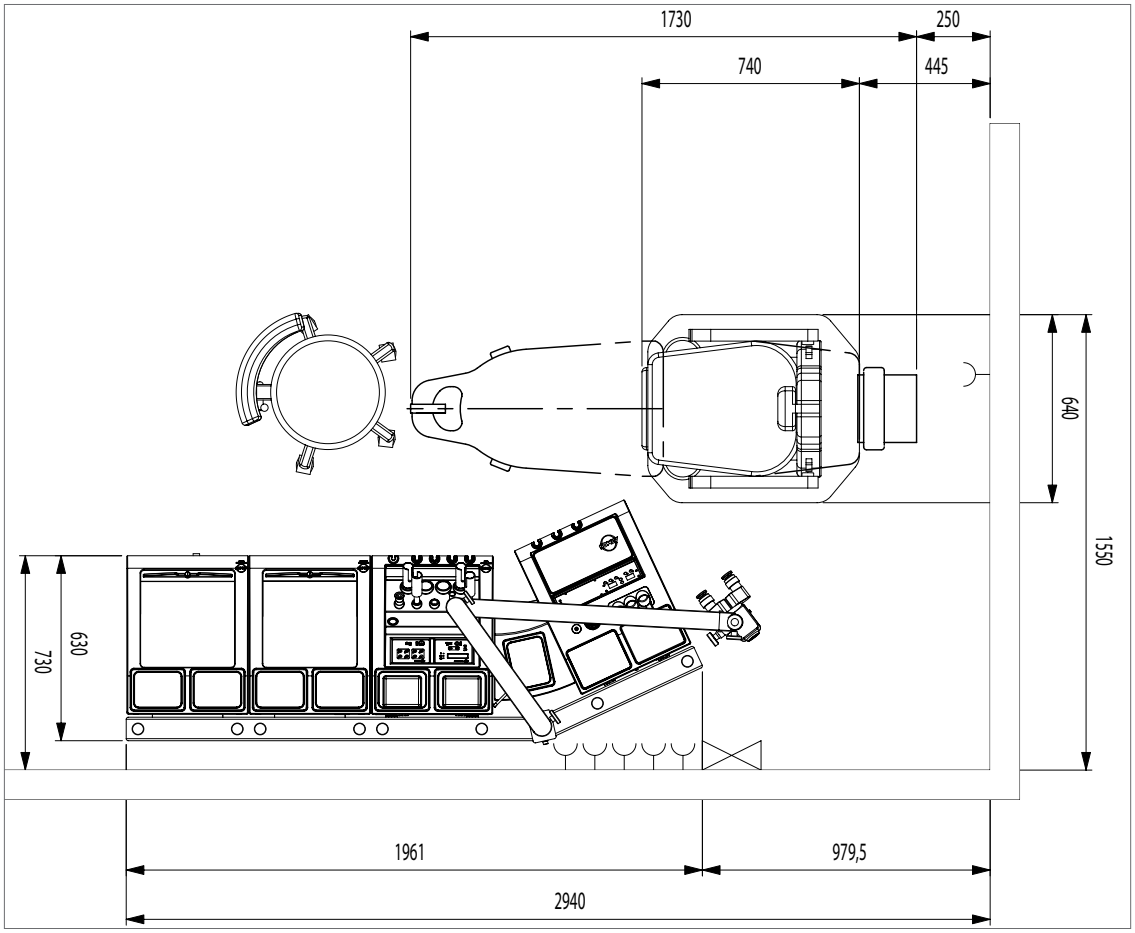
- Permanently installed connection fitting with G 3/4" external thread or
- Drain outlet, standard HT 40 or HT 50 (connection adapters can be ordered for connecting the waste water hose: REF 510.2130.0 for HT 40; REF 510.2129.0 for HT 50) or
- Conical hose connection for 1/2" hose inner diameter
- Connection height: approx. 15 cm
- Distance from the wall connection to the installation site: < 3 m

☞ **An anti-siphon trap is integrated in the unit!**

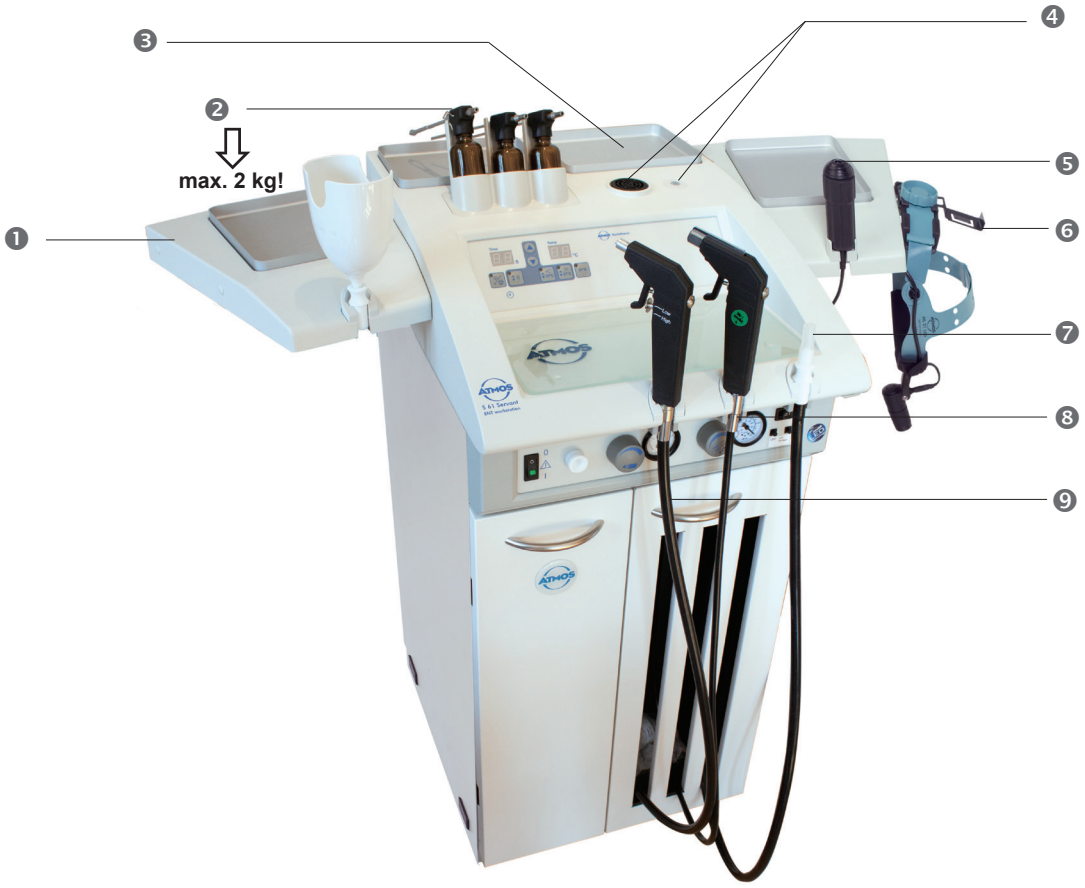
- Connect the waste water hose with the unit and the G 3/4" connection fitting. Thereby fit enclosed gaskets into the screwing.

		
3/4" wall connection	Standard HT	Conical hose connection

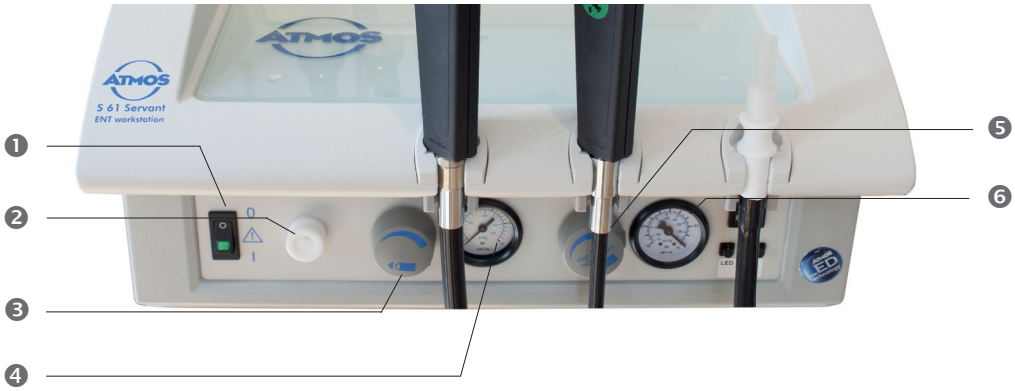
3.5 Set-up proposal



3.6 Controls and options with complete equipment



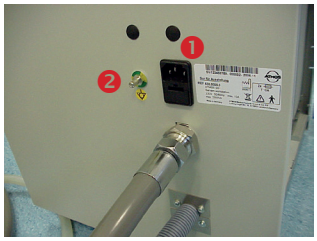
1	Clipboard
2	Medication sprayer (compressed air)
3	Heating module for instrument tray
4	Quick mirror heater
5	LED light source
6	LED headlight
7	Automatic suction equipment
8	Compressed air
9	Ear irrigation / thermal nystagmus stimulation



❶	**On/off switch**
❷	Valve for hose rinsing
❸	Pressure adjuster
❹	Pressure indicator
❺	Vacuum regulator
❻	Vacuum display

The plastic adapter of the hose rinsing system (❷) is a consumable (REF 506.2228.1). Exchange it weekly. Remove it by twisting it out with a slight rotation and replace it.

3.7 Rear view

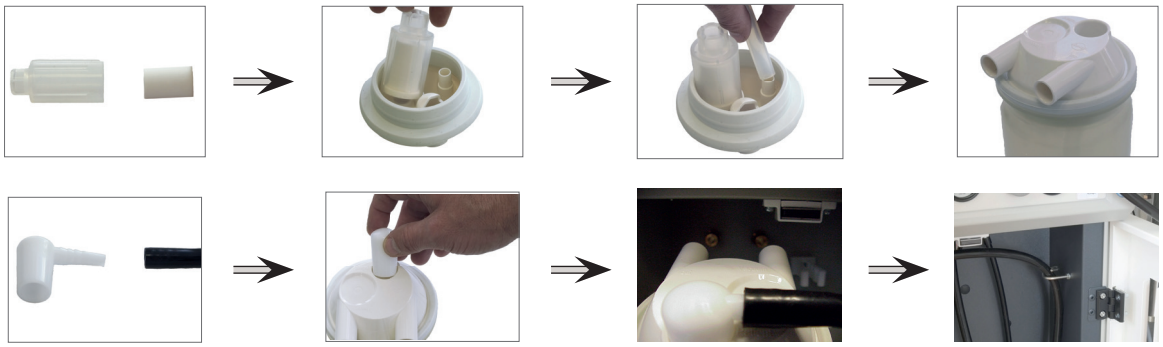


Connect the power cable to the low-heat device plug ❶ and the potential equalization cable to the potential equalization plug ❷.

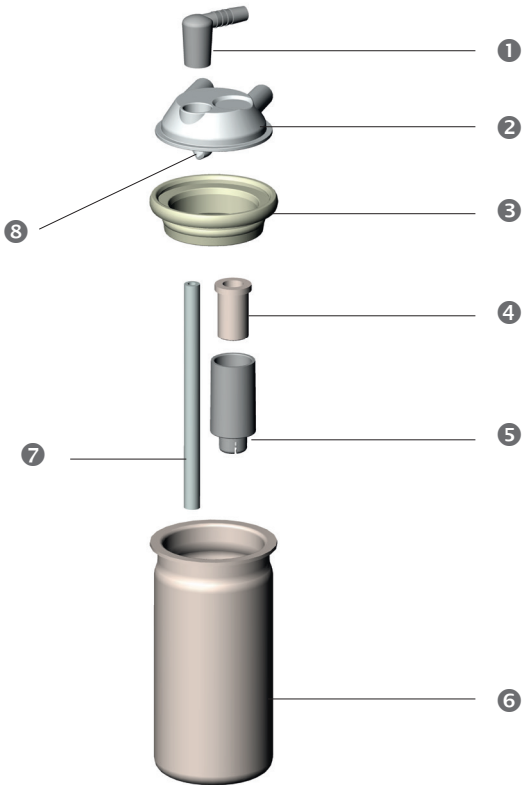
☞ Please observe the safety instructions in chapter “2 Notes for your safety” on page 12.

3.8 Assembling the secretion canister

Check the system for leaks before using it; otherwise, it may not be possible to build up a vacuum!

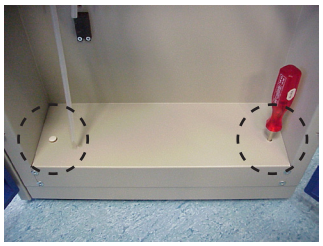


3.8.1 Assembly of the secretion canister



1	Hose connection (grommet)	REF 340.0057.0
2	Secretion canister lid	REF 530.1108.0
3	Sealing	REF 320.0013.0
4	Bacterial filter	REF 340.0054.0
5	Splash guard	REF 312.0827.0
6	Secretion canister	
7	Suction hose (only for automatic)	REF 006.0008.0, 220 mm
8	**Intake for foam prevention:** The hose connection with intake ensures a smoother liquid surface. Thereby a lower foam formation and prolonged filter durability are the result.	

3.9 Adjustment of the front feet



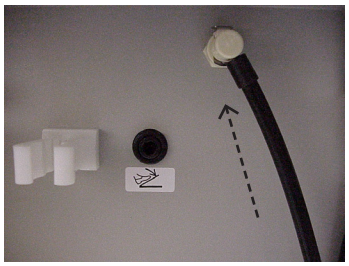
The front feet can be adjusted to put the workstation into a stable position.

Procedure:

Adjust the screws of the feet through the boreholes with a flat-bladed screwdriver scaled 4–5.

3.10 Connections in the service compartment

3.10.1 Hoses



Connect the compressed-air handle to the pressure system.

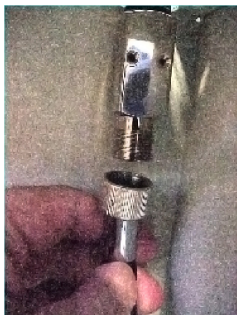


Insert applied parts into the hanging strip.



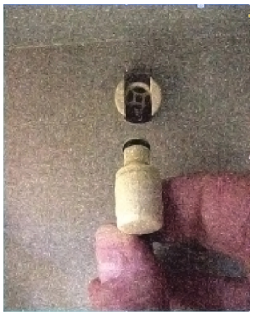
Insert the three-hole gasket in the inlet hose of the water connection for ear irrigation.

☞ Use only three-hole gaskets or otherwise the unit will not function correctly!



Connect water hose in the service compartment.

☞ Open the tap on the treatment unit. Check whether all connections are leakproof.



Connect the compressed-air hose in the service compartment.

First start-up

Each ATMOS S 61 Servant ENT workstation is checked by the manufacturer for function and safety prior to shipment. In order to ensure the safe functioning of the device after transport and installation, the following points should be observed:

The user should only operate the device when

1. the device has been subjected to a functional test at the place of operation
2. the Instructions for Use have been read and acknowledged.

After transportation/storage of the device at low temperatures and prior to first start-up, it should be kept at room temperature for at least four hours. If the device is not acclimatized, the formation of condensation water is possible and a malfunction might result.

4 Operation

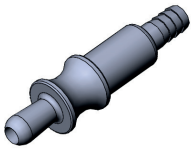
4.1 On/off switch



After switching on the main switch, all integrated and connected devices are ready for operation.

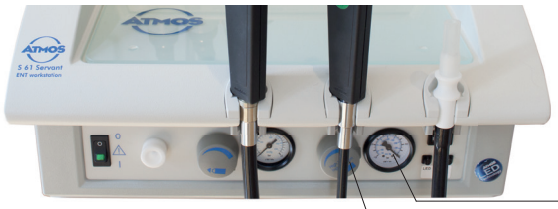
4.2 Suction system

⚠
- Never operate the suction system without a bacterial filter! It is integrated in the lid of the secretion canister. Always use the splash guard; this will prolong the service life of the bacterial filter. The guarantee will expire in the case of improper use!
- Exchange the bacterial filter regularly. See details in chapter “5 Reprocessing” on page 39.



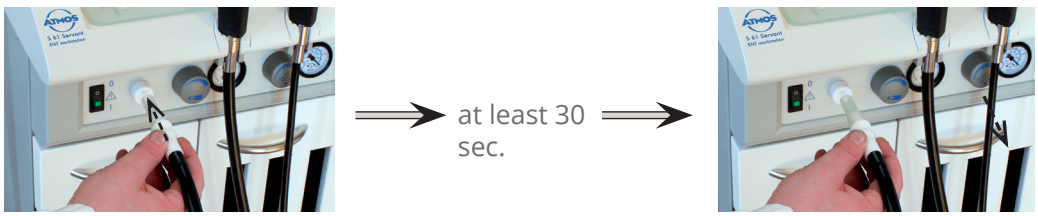
☞ The hose attachment must be exchanged after each patient.

4.2.1 Control and display of the suction capacity



Remove the handle from the support to activate the suction system. The suction system is automatically activated via the installed light barrier. Set the desired vacuum via the controller. The end of the suction hose must be closed. Only in this case can vacuum be built up.

4.2.2 Hose rinsing system



Rinse out the suction hose thoroughly after each application. Attach the suction hose (without cannula) to the suction nipple of the hose-rinsing aperture and soak up the rinsing fluid for at least 30 sec.

Refilling storage canister for hose rinsing



A) Fully automatic refilling (REF 530.1060.0)

If required, the water storage canister will be automatically refilled.

☞ Attention: Make sure that the water supply system is turned on and the water supply is guaranteed! Do not use any foaming cleaning agents or disinfectants.

B) Manual refilling (REF 530.1050.0)

Fill the canister with water and/or a non-foaming instrument disinfectant.

Emptying the reusable canister system



☞ The canister system must be cleaned and disinfected regularly. For more information, see chapter “5 Reprocessing” on page 39.

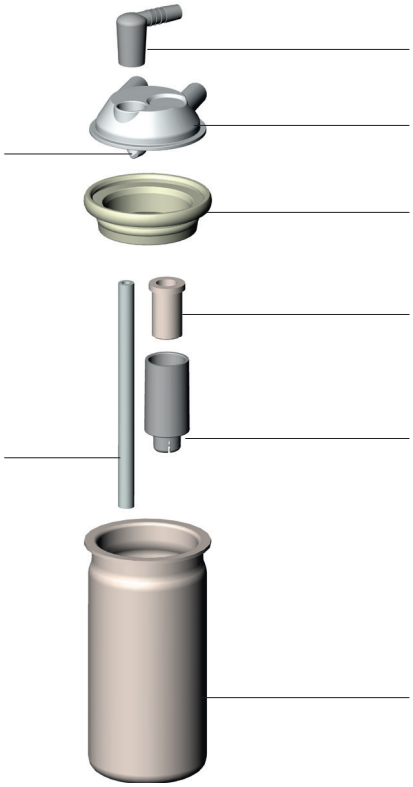
A) Manual

1. Empty the secretion canister when it is approximately half full.
2. Remove the secretion canister horizontally from the bracket in the service compartment and remove the suction hose.

B) Automatic (REF 530.1070.0)

The secretion canister is emptied automatically when the filling level is reached.

Assembly of secretion canister



Hose connection (grommet)
REF 340.0057.0

Secretion canister lid
REF 530.1108.0

Intake for foam prevention

Sealing
REF 320.0013.0

Bacterial filter
REF 340.0054.0

Splash guard
REF 312.0827.0

Suction hose (only for automatic)
REF 006.0008.0,
220 mm

Secretion canister

- The hose connection with intake ensures a smoother liquid surface. Thereby a lower foam formation and prolonged filter durability are the result.
- The hydrophobic bacterial filter protects against oversuction. As soon as the filter comes into contact with moisture, it blocks and ensures that the vacuum in the secretion canister cannot be built up any further.
- Suction is no longer possible if the filter is blocked!

4.2.3 Disposable canister system

Serres®



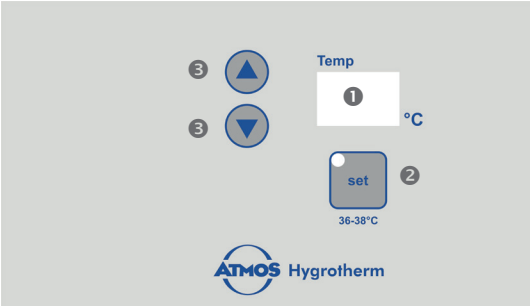
Medi-Vac®



4.3 Ear irrigation module Hygrotherm

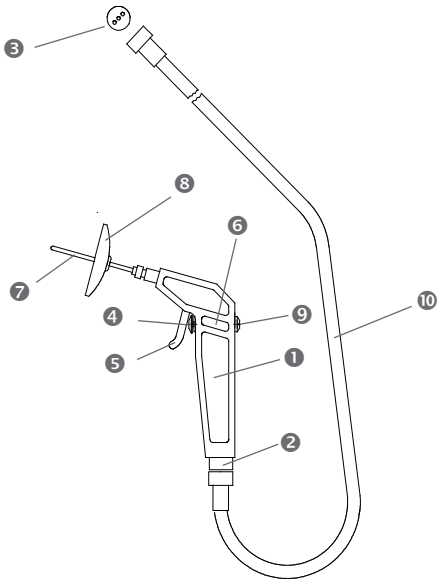
4.3.1 Overview

Front view



1. Temperature display (2-digit, increment of 1 °C), actual value indication
2. Setting mode for the temperature
3. Adjustment button up or down

Irrigation handle



1. Handle
2. Connection for double-lumen hose
3. Three-hole gasket
4. Knurled screw
5. Release lever
6. Valve plunger
7. Nozzle
8. Splash guard
9. Sealing cap
10. Double-lumen hose

4.3.2 Switching on

Attention: Make sure the water supply is ensured!

- A segment test is performed when the device is switched on. For a short period of time, all LEDs will be activated. Visually check the function of the LEDs during this time.
- Prior to making caloric measurements, check the water pressure on the manometer in the service compartment! A target pressure of 2 bar to max. 2.2 bar must be available. Danger in case of overpressure!

4.3.3 Activating the Hygrotherm

Ear irrigation bulb



Handle ear irrigation module

- Remove the handle from its holder.

☞ The Hygrotherm is automatically activated via the installed light barrier. The adjustment control of the Hygrotherm takes approx. 20 s until the desired temperature is reached.

☞ Check the temperature display!

- As long as the temperature of the actual value deviates from the target value, the LED button “set” flashes.
- When the target and actual value correspond, the LED lights up permanently.

☞ Now you may begin with the irrigation of the auditory canal.

4.3.4 Performing ear irrigation



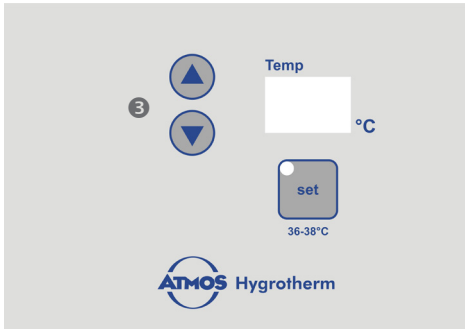
⚠ **Warning:**

Use only with the ear irrigation bulb.

The hose tip and nozzle must be replaced/reprocessed each time after changing the patient.

Remove the handle from the holder ⇨ Hold the nozzle in working position and operate the release lever ⇨ Irrigate the ear.

4.3.5 Setting the temperature



You can use the Hygrotherm at temperatures from 36 °C to 38 °C.

In order to change the set temperature, the button “set” must remain pressed. Now the set temperature is displayed on the temperature indicator. The adjustment button ❸ can be used to change the target temperature within a range of 36 °C to 38 °C. By releasing the “set” button, the new set temperature is adopted and the actual temperature is displayed again on the temperature indicator.

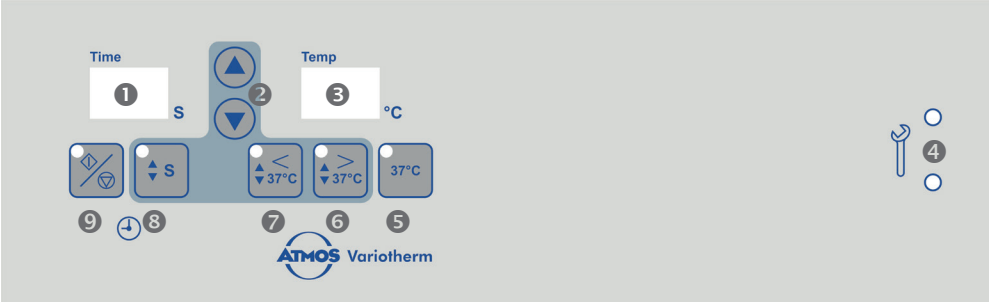
Heating off:

Press the “set” button to turn the heating on and off.

4.4 Thermal nystagmus stimulation, Variotherm plus

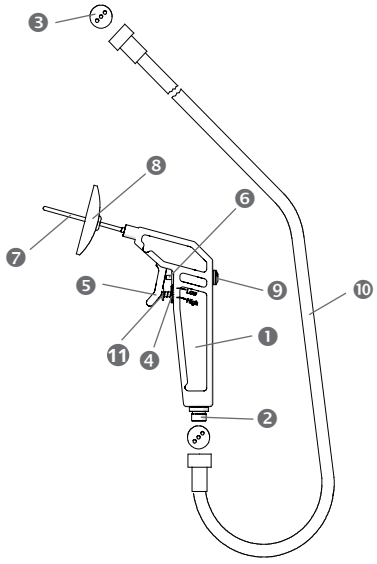
4.4.1 Overview

Front view



❶	Stimulation time display (2-digit, increment of 1 s)	❻	Button for selecting the warm stimulation level (e.g., 44 °C)
❷	Up and down adjustment buttons (for temperature or second settings)	❼	Button for selecting the cold stimulation level (e.g., 30 °C)
❸	Temperature display (2-digit, increment of 1 s), actual value display	❽	Button for adjusting the stimulation time
❹	Maintenance indicator	❾	Button for starting/stopping the stimulation (150 ml/min)
❺	Button for selecting the irrigation level (37 °C)		

Irrigation handle



❶ Handle
❷ Connection for double-lumen hose
❸ Three-hole gasket
❹ Set screw
❺ Release lever
❻ Valve plunger
❼ Nozzle
❽ Splash guard
❾ Sealing cap
❿ Double-lumen hose
⓫ Adjusting screw

4.4.2 Switching on

ℹ Attention: Make sure the water supply is ensured!

- A segment test is performed when the device is switched on. For a short period of time, all LEDs will be activated. Visually check the function of the LEDs during this time.

- Prior to making caloric measurements, check the water pressure on the manometer in the service compartment! A target pressure of 2 bar to max. 2.2 bar must be available. Danger in case of overpressure!

4.4.3 Activating the Variotherm plus



- Remove the handle from its holder.

☞ The Variotherm plus is automatically activated via the installed light barrier.

☞ The adjustment control of the Variotherm plus takes approx. 20 s until the desired temperature is reached.

⚠ Check the temperature display! As long as the temperature of the actual value deviates from the target value, the LED of the “Temperature” button flashes.

- When the target and actual value correspond, the LED lights up permanently. Now you may begin with the irrigation of the auditory canal.

The last active temperature level is selected.

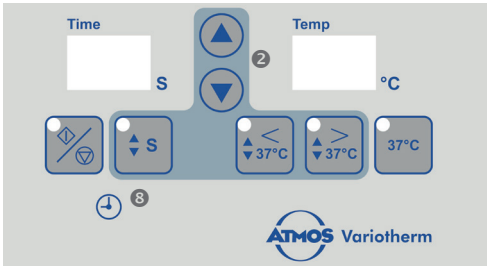
4.4.4 Performing thermal nystagmus stimulation

⚠ **Warning: Use only with the ear irrigation bulb.**

The hose tip and nozzle must be replaced/reprocessed each time after changing the patient.

Remove the handle from the holder ⇨ Select the temperature and adjust it if necessary ⇨ Set the time if necessary ⇨ Press ❶ (flashes approx. 10 s) ⇨ When the Variotherm plus is ready for use, a beep sounds ⇨ Hold the nozzle in working position and operate the release lever ⇨ Perform nystagmus stimulation ⇨ A beep sounds again when the time elapses.

4.4.5 Setting the time (1–99 s)



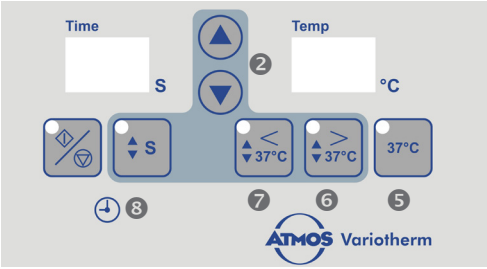
Remove the handle from the holder.

Press and hold ❽ and set the desired stimulation time with ❷.

When selecting the respective temperature, the setting used the previous time will be adopted automatically.

☞ Check the time setting of the timer now and again.

4.4.6 Setting the temperature



You can use the Variotherm plus at temperatures from 20 °C to 47 °C. The minimum temperature is defined by the temperature of the tap water.

Setting at 37 °C:

Press ❺ for the temperature.

Warm stimulation (38–47 °C):

Remove the handle.

Press and hold ❻. Use ❷ to set the desired temperature. Release ❻.

The temperature previously set will be adopted the next time the ❻ button is selected.

Cold stimulation (20–36 °C):

Remove the handle from the holder.

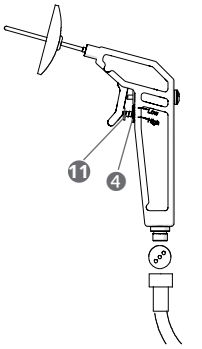
Press and hold ❼. Use ❷ to set the desired temperature. Release ❼ .

The temperature previously set will be adopted the next time the ❼ button is selected.

Heating off:

Press the active temperature level on the button “Temperature” to switch the heating on and off.

4.4.7 Setting the flow rate



Prior to stimulation, the set screw ❹ must be locked in the position “Low”.

There are two options here:

- High: flow quantity for ear irrigation
- Low: flow quantity for stimulation of the vestibular organ

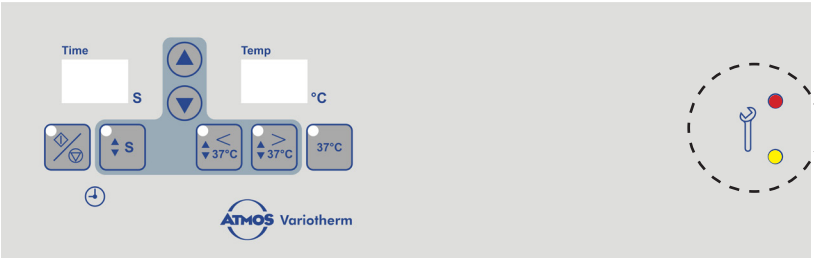
Prior to ear irrigation, turn the set screw to the position “High”, push it into the handle, and then adjust it by screwing it in further.

For fine adjustment of the flow rate, the adjusting screw ⓫ must be screwed in or out.

☞ Check the flow rate for the stimulation of the vestibular organ at regular intervals and readjust if necessary.

4.4.8 Information on the maintenance indicator of ATMOS S 61 Servant ENT workstation with software version V 1.2 and higher

The module ATMOS S 61 Servant ENT workstation has a service display on the front panel. The display consists of a red and a yellow LED.



After switching on the module, the electronics go through a test cycle. The following indications are possible:

	red LED	yellow LED	Beep	Remarks
Immediately after start-up, the LED test starts.				
Start-up	Lights up	Lights up	Yes	Both LEDs light up simultaneously during start-up (duration: 500 ms).
Subsequently, a functional and aggregate test follows. For this purpose, six flashing signals are issued (time-ratio of light-up/pause: 500 ms/500 ms).				
Operating time pressure pump		Lights up for the first time	No	OK
Suction pump operating time		Lights up for the second time	No	OK
Suction pump 2 operating time		Lights up for the third time	No	OK
Hose pump operating time		Lights up for the fourth time	No	OK
Drainage pump operating time		Lights up for the fifth time	No	OK
Annual maintenance		Lights up for the sixth time	No	OK
Battery voltage		Lights up for the seventh time	No	OK

Possible maintenance cases:

Operating time pressure pump	Lights up for the first time		Yes	Critical operating time
Operating time suction pump	Lights up for the second time		Yes	Critical operating time
Operating time suction pump 2	Lights up for the third time		Yes	Critical operating time
Operating time hose pump	Lights up for the fourth time		Yes	Critical operating time
Operating time drainage pump	Lights up for the fifth time		Yes	Critical operating time
Annual maintenance	Lights up for the sixth time		Yes	Annual maintenance due
Battery voltage	Lights up for the seventh time		Yes	Low battery voltage

If one of the above maintenance cases occurs, please contact your local ATMOS service partner.

4.5 Ear irrigation bowl with separate suction channel (REF 530.2070.0)

The ear irrigation bulb with optional, separate suction channel may be used only for suction during ear irrigation or stimulation. Only the ear irrigation bowl with integrated sieve (hole diameter 1 mm at a maximum) may be used. The suction channel is not suitable for any other suction procedure in the medical field! The liquid pump is not suitable for suctioning off bigger particles, for example, cerumen, etc. Therefore, suction may only be performed with a bowl and sieve.

Greasy and pasty substances can be suctioned off to a limited extent. It is recommended to clean the bowl after each suction procedure and to rinse it with water (disinfectant) in order to prevent the pump valves from jamming.

When you remove the suction nozzle with the ear irrigation bulb from the support, the suction system starts automatically. Press the bowl with the lateral cut-out below the ear that needs to be irrigated and start irrigation. When the suction nozzle is put back to the support, the suction system stops automatically.

4.6 Compressed-air module



1	Handle compressed air
2	Medication sprayer (compressed air)
3	Ear irrigation module (compressed air)

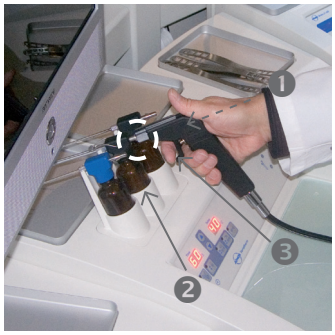
- Make sure the devices and hoses are firmly connected in order to build up sufficient pressure.
- If you use politzer olives, check the pressure in accordance with the application.

4.6.1 Activation

Remove the handle from the support to activate the compressed-air system. The compressed-air system is automatically activated via the installed light barrier.

4.6.2 Adapting/depositing the medication sprayer

Adapt:



1. Put the handle onto the sprayer bottle (❶).
2. Engage it and then lift the sprayer bottle with the handle out of the holder (❷).
3. Compressed air is applied into the sprayer by operating the release lever (❸).

Deposit:



1. Insert the medication bottle top down in the support.
2. Operate the release lever (❶) and pull away the handle to the rear (❷).

- Handle the sprayers carefully to avoid injuries.
- Before using the sprayer bottles, check the shelf life of the medications contained in them.
- Clean all parts of the sprayer regularly! For more information, see chapter “5 Reprocessing” on page 39.

4.7 Compressed-air module

NOTICE

☞ Prior to application, check the leak tightness of the compressed-air system.

☞ To do this, remove the handle from the holder and check if any air escapes. Contact the service technician in the event of a leak (see chapter “7 Maintenance and service” on page 48).

NOTICE

For safety reasons, you should avoid repeated activation of the compressed-air handle in a rapid sequence.

Make sure the devices and hoses are firmly connected in order to build up sufficient pressure.

Make sure you always insert the compressed-air handle into the right-hand holder marked with .

4.7.1 Ear irrigation module compressed air (REF 530.2080.0)



To start ear irrigation, close the vent valve (❷) and press the release lever (❶). To stop ear irrigation, let go of the release lever (❶) and vent valve (❷). Ear irrigation stops immediately!

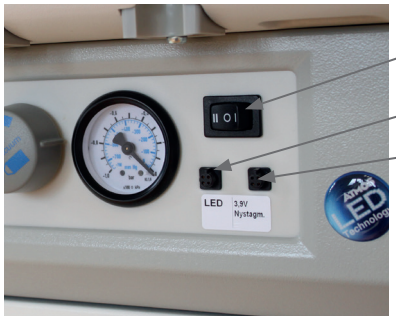
NOTICE

Check the glass bottles for intactness prior to every use (cracks, chippings on the winding, etc.). Damaged glass bottles must not be used for ear irrigation.

☞ Please observe that the glass bottles must not be filled in the area of the ATMOS S 61 Servant ENT workstation. Spilled liquid could enter the treatment unit.

❶	Release lever
❷	Vent valve

4.8 LED light module



On/off LED

LED port (for light source or headlamp)*

LED port (for light source or headlamp), optional connection for nystagmus binoculars*

☞ The aforementioned connections supply a constant current of 700 mA, which is required for the connected ATMOS LS 21 LED or ATMOS HL 21 LED.

☞ The on/off LED switch has three settings. This switch supplies two connections below it with power. Right position – right connection, left position – left connection. The ATMOS LS 21 LED or the ATMOS HL 21 LED can be connected there.

* For ATMOS LS 21 LED or ATMOS HL 21 LED: insert the plug firmly.

4.9 Instrument heating

4.9.1 Quick mirror heater



Press ❶.

☞ The mirror quick heater heats up for 10 seconds and then switches off automatically.

Danger of burns!

Prior to each use on your patient, check the mirror temperature (e.g., on the back of your hand).

⚠ CAUTION

The cover of the quick mirror heater can become hot if the quick mirror heater is used several times. There is a danger of burns!

Heat up only disinfected instruments!

4.9.2 Heating module for instrument tray

When the unit is switched on, the heating system for the instrument tray will also be activated and heated to 37 °C.

- Place the instruments to be heated on the metal tray.
- Trays are intended for non-sterile instruments.



☞ Clean and disinfect the instrument trays regularly! Please observe the notes in chapter “6 Hygiene plan” on page 46.

4.10 Endoscopy clipboard

Integration of 3-channel endoscope management for rigid and flexible endoscopes.

☞ There are three endoscope quivers and two light channels for endoscopes.

4.10.1 ATMOS LED Light Cube 2-channel option

The ATMOS LED Light Cube is also automatically activated when the unit is switched on.

With a simple rotary motion, the adapters are screwed in up to the stop position and fixed in the clipboard. The light conductors can be plugged into the connection. The light channel is automatically activated when the light conductor is removed from the support.

☞ Adapters from STORZ, OLYMPUS, and WOLF can be purchased from ATMOS.

☞ Please observe that only one light channel can be active at a time!

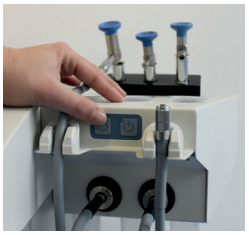
Manual on and off switching of the light channels by means of the control panel is also possible.



Screwing in the adapter



Clipboard with connected light conductors



Operating the control panel

4.10.2 ATMOS LED Light Cube 3-channel option



The ATMOS LED Light Cube combines three high-performance cold light sources for medical application. In combination with a fiber optic light cable and instruments connected to it, the light source enables the illumination of the viewing area for diagnostic purposes.

- Automatic activation: on upon removal from holder and off upon insertion into holder.
- Passive cooling: no disturbing fan noises; no stirring up of dust.
- Perfect color temperature close to that of sunlight.
- Compatibility due to screw-in adapters for all common fiber optic light cables.

☞ The light sources can be switched on and off manually with the three top buttons.

☞ The brightness can be adjusted in 10 stages with the two right buttons. The next time the light channel is switched on, the previously set brightness level is then used.

☞ The three bottom buttons are linked to a timer. The timer button must be held pressed and the time level then changed with the up and down buttons.

☞ The timers can be adjusted in 6-minute steps from stage 1 = 6 minutes to stage 10 = 60 minutes. As long as the timer is active, the respective LED on the timer button lights up in red. As soon as the set time has elapsed, a short signal tone sounds and the LED lights up in green again.

4.10.3 Endoscope management option (heated)

Endoscope heating is also activated when the unit is switched on and the quivers are heated up to 41 °C.

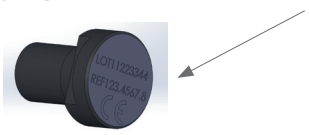
4.10.4 Hook for headlamp with automatic activation



Clipboard with connected headlight

The headlight can be easily removed and put back during the examination. Connect the headlight to the clipboard. Always use the right light channel. This light channel is then automatically activated when the headlight is removed from the hook.

In order to guarantee error-free operation, seal the light barrier of the right light channel with the provided blind plug.



5 Reprocessing

5.1 General information on cleaning and disinfection

Prior to cleaning

Set the main switch of the ATMOS S 61 Servant ENT workstation to OFF prior to cleaning and disinfection!

Prior to each use:

☞ The described actions relating to cleaning and disinfection or sterilization do not substitute the relevant instructions that must be adhered to prior to operation!

- For disinfection, you may use all surface and instrument disinfectants listed in the following subchapter “Recommended disinfectants”.
- Please ensure that no wet surfaces are left behind. Use a disposable cloth to absorb any liquid.
- If any disinfectant is spilled, make sure to wipe the surface dry immediately in order to prevent the liquid from penetrating gaps and edges.

☞ Always observe the concentration specifications and instructions by the respective manufacturer!

- **Do not use**
  - Disinfectants that contain organic or inorganic acids or bases, as they could cause corrosion damage.
  - Disinfectants containing chloramides or phenol derivatives, since these may cause stress cracks in the plastic material used.

☞ **Discoloring may occur if disinfectants containing aldehyde and amine are used on the same object.**

5.1.1 Cleaning the treatment unit surface

- The surfaces of the ATMOS S 61 Servant ENT workstation are resistant to all surface disinfectants listed in chapter “Recommended disinfectants”.
- Wipe the treatment unit surface with a cloth moistened with a cleaning or disinfecting solution.
- Disinfectant sprays or disinfectant tissues may also be used for cleaning and disinfection.
- Please observe that the alcohol contained in these agents could corrode or cloud the protective covers if employed on a long-term basis.
- Do not use any process chemicals that contain the following ingredients on surfaces made of CORIAN®:
  - Strong acids (e.g., concentrated sulfuric acid)
  - Ketones (e.g., acetones)
  - Solvents containing chlorine (e.g., chloroform)
  - Strong solvent combinations (e.g., paint remover)
- All applied parts that come into direct contact with the patient during treatment must be exchanged or cleaned and disinfected immediately for hygienic reasons.
- Only deposit clean instruments on the shelves!
- Clean and disinfect the instruments regularly!

5.1.2 Secretion canister, bacterial filter, and suction hose

At the end of every working day, **all of the following parts must be cleaned and disinfected**:

- Reusable secretion canister with lid system and bacterial filter:
  - Carefully detach all hose connections on the lid system and remove the secretion canister carefully to prevent spills and contamination of the area.
  - Dispose of secretion properly. Grip the lid system firmly, open the lid of the filter housing by turning counterclockwise, and remove the filter. Thoroughly rinse all parts under running water. A dishwashing liquid (detergent) or cleaning agent may also be used if required.
- Check the DDS bacterial filter / oversuction stop:
  - The DDS bacterial filter / oversuction stop are disposable products.
  - Prior to each use, check whether the DDS bacterial filter is dry and clean. Wet or dirty DDS bacterial filters must be replaced with new ones.
  - When the vacuum is adjusted to “max” and the suction hose shows more than –0.3 bar, then the DDS bacterial filter must be replaced.
  - Replace the DDS bacterial filter at least once a day. Only use original ATMOS bacterial filters.
  - The device may never be operated without the DDS bacterial filter / oversuction stop installed.
- Suction system and hose attachment:
  - After every use, rinse out the suction system by drawing in a small amount of rinsing fluid (e.g., special cleaner for suction systems REF 080.0060.0, dosage: 10 ml to 1 l water).

☞ This keeps the suction hoses from becoming sticky or clogged.

- The hose attachment is only connected and can be removed for cleaning and disinfection.

☞ **This is how to check vacuum build-up:**

- Set the vacuum regulator to maximum.
- Remove the suction hose from the holder and hold the hose closed.
- The vacuum must now build up to the maximum value.

☞ The suction capacity is limited due to the 1.25 l secretion canister. Therefore, do not use more than 500 ml rinsing liquid and then empty the canister.

5.1.3 Checking the DDS bacterial filter / oversuction stop

Prior to each use, check whether the DDS bacterial filter is dry and clean. Wet or dirty DDS bacterial filters must be replaced with new ones.

Replace the DDS bacterial filter at least once a day. Only use original ATMOS bacterial filters.

Never operate the device without the DDS bacterial filter / oversuction stop installed.

5.1.4 Medication sprayer

- The sprayer nozzle must be exchanged after each patient.
- Disassemble the medication sprayer by unscrewing the sprayer nozzle and pulling it from the sprayer head. Thoroughly rinse all parts under running water. A dishwashing liquid (detergent) or cleaning agent may also be used if required.
  - Thoroughly rinse to eliminate all residues of these substances.

☞ Make sure that the air opening is not closed!

☞ Disinfect all components using the disinfectants listed in chapter 5.2.

- When placing the twin tube nozzle back on again, make sure the mark (0, X, or milling area) on the nozzle shows upwards!
- Sprayer tubes are available as spare parts at ATMOS.



5.1.5 Instrument trays

Before disinfection, thoroughly rinse the trays under running water. A dishwashing liquid (detergent) or cleaning agent (surface disinfectant) may also be used if required.

- Thoroughly rinse to eliminate all residues of these substances.
- Then disinfect using one of the disinfectants specified in chapter "5.3 Recommended surface disinfectants" on page 43 .

Melamine and anodized aluminium trays **cannot** be sterilized.

5.1.6 Endoscope quivers

The metal quivers for the endoscope holder must only be used to hold **previously cleaned and disinfected endoscopes**. The quivers must be cleaned daily and subsequently disinfected. To do this, the stopper at the lower end must be removed.

5.1.7 Ear irrigation bulb

The ear irrigation bowl is **not** autoclavable! Cleaning and disinfection (also machine cleaning) up to 93 °C.

5.1.8 Hose tip and nozzle

The Hygrotherm and the Variotherm plus are operated properly with hose tips (disposable). These hose tips must be disposed of after each use on the patient.

When using the hose tips, the jet connection must be cleaned and disinfected daily.

5.2 Recommended instrument disinfectants

Manual disinfection of instruments

Disinfectant	Ingredients	in 100 g	Manufac-turer
Korsolex® med AF (Application concentrate)	N-dodecylpropane-1,3-diamine N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine surfactants, corrosion inhibitors pH-value regulators, foam inhibitors	15.6 g 5.1 g	Bode Chemie, Hamburg
Korsolex® basic (application concentrate)	glutaral (ethylenedioxy)dimethanol surfactants, salts, corrosion inhibitors	15.2 g 19.7 g	Bode Chemie, Hamburg
Korsolex® plus (application concentrate)	N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine didecyldimethylammonium chloride surfactants, corrosion inhibitors complexing agents, pH inhibitors	9.2 g 13.0 g	Bode Chemie, Hamburg

Korsolex® extra (application concentrate)	(ethylenedioxy)dimethanol glutaral benzyl-C12-18-alkyldimethyl-ammonium chloride didecyldimethylammonium chloride surfactants, foam inhibitors, corrosion inhibitors	15.3 g 7.5 g 1.0 g 1.0 g	Bode Chemie, Hamburg
neodisher® Septo MED (application concentrate)	N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine didecyldimethylammonium chloride non-ionic surfactants, perfumes	9.2 g 13.0 g	Dr. Weigert, Hamburg
neodisher® Septo 3000 (application concentrate)	glutaral (ethylenedioxy)dimethanol	15.2 g 19.7 g	Dr. Weigert, Hamburg
Sekusept® PLUS (application concentrate)	glucoprotamin	25 g	Ecolab, Düsseldorf
Sekusept® aktiv (application concentrate)	sodium percarbonate, non-ionic surfactants, phosphonates		Ecolab, Düsseldorf
Gigasept® instru AF (application concentrate)	cocospropylendiaminguanidindiacetate phenoxypropanols benzalkonium chloride non-ionic surfactants, pH-value regulators, corrosion inhibitors	14 g 35 g 2.5 g	Schülke & Mayr, Norderstedt
Gigasept® FF (new) (application concentrate)	succindialdehyde dimethoxytetrahydrofurane anionic and non-ionic surfactants, perfumes, methylisothiazolinones	11.9 g 3.2 g	Schülke & Mayr, Norderstedt
gigazyme® (application concentrate)	non-ionic surfactants enzymes, corrosion inhibitors	5–15 g	Schülke & Mayr, Norderstedt

Automatic disinfection of instruments

Disinfectant	Ingredients	in 100 g	Manufacturer
Dismoclean® 24 Vario (application concentrate)	surfactants, micro-encapsulated enzymes, corrosion inhibitors, complexing agents		Bode Chemie, Hamburg
Dismoclean® 28 alka med (application concentrate)	alkali dispenser, complexing agents, corrosion inhibitors, surface active materials,		Bode Chemie, Hamburg
Dismoclean® twin basic / twin zyme Dismoclean® twin basic Dismoclean® twin zyme	 alkali dispenser, complexing agents, corrosion inhibitors surface active materials, enzymes, stabilisers, corrosion inhibitors		Bode Chemie, Hamburg
neodisher® FA	phosphates	15–30 g	Dr. Weigert, Hamburg
neodisher® MediClean forte (application concentrate)	non-ionic and anionic surfactants enzymes	< 5 g	Dr. Weigert, Hamburg

thermosept® alka clean forte (application concentrate)	non-ionic surfactants anionic surfactants NTA (nitrilotriacetic acid) and its salts enzymes, polycarboxylates corrosion inhibitors	< 5 g < 5 g < 5 g < 5 g	Schülke & Mayr, Norderstedt
thermosept® RKN-zym	non-ionic surfactants enzymes, corrosion inhibitors, glycols	5–15 g	Schülke & Mayr, Norderstedt

When using disinfectants containing aldehyde and amine on the same object, discoloring may occur.

5.3 Recommended surface disinfectants

CORIAN®

Disinfectant	Ingredients	in 100 g	Manufacturer
Terralin® protect (application concentrate)	benzyl-C12-16-alkyldimethyl, chlorides 2-phenoxyethanol aminoalkylglycines non-ionic surfactants, perfumes	22 g 17 g 0.9 g	Schülke & Mayr, Norderstedt

Other suitable active ingredients:

- Ortho-phthalaldehyde
- Glutaraldehyde
- Glutaraldehyde and phenol
- Hydrogen peroxide
- Hydrogen peroxide and peracetic acid
- Peracetic acid
- Phenol
- Sodium hypochlorite
- Quaternary ammonium compounds

Coated surfaces

Disinfectant	Ingredients	in 100 g	Manufacturer
Green & Clean SK	di alkyl dimethyl ammonium chloride alkyl dimethyl ethyl benzyl ammonium chloride alkyl dimethyl benzyl ammonium chloride	< 1 g < 1 g < 1 g	Metasys, Rum (Austria)
Dismozon® pur (granulate) End of product 12/2014	magnesium monoperoxyphthalate hexahydrate	80.0 g	Bode Chemie, Hamburg
Dismozon® plus (granulate)	magnesium monoperoxyphthalate hexahydrate	95.8 g	Bode Chemie, Hamburg
Kohrsolin® FF (application concentrate)	glutaral benzyl-C12-C18-alkyldimethyl-ammonium chloride didecyldimethylammonium chloride	5 g 3 g 3 g	Bode Chemie, Hamburg

perform®	pentapotassium-bis(peroxymonosulphate)-bis(sulphate)	45 g	Schülke & Mayr, Norderstedt
Terralin® protect (application concentrate)	benzyl-C12-16-alkyldimethyl, chlorides 2-phenoxyethanol aminoalkylglycines non-ionic surfactants, perfumes	22 g 17 g 0.9 g	Schülke & Mayr, Norderstedt

Other surfaces

Disinfectant	Ingredients	in 100 g	Manufacturer
Dismozon® pur (granulate) End of product 12/2014	magnesium monoperoxyphthalate hexahydrate	80.0 g	Bode Chemie, Hamburg
Dismozon® plus (granulate)	magnesium monoperoxyphthalate hexahydrate	95.8 g	Bode Chemie, Hamburg
Kohrsolin® FF (application concentrate)	glutaral benzyl-C12-18-alkyldimethyl-ammonium chloride didecyldimethylammonium chloride	5 g 3 g 3 g	Bode Chemie, Hamburg
perform®	pentapotassium-bis(peroxymonosulphate)-bis(sulphate)	45 g	Schülke & Mayr, Norderstedt
Terralin® protect (application concentrate)	benzyl-C12-16-alkyldimethyl, chlorides 2-phenoxyethanol aminoalkylglycines non-ionic surfactants, perfumes	22 g 17 g 0.9 g	Schülke & Mayr, Norderstedt
Surface disinfection F 312	alkyl-benzyl-dimethyl-ammonium chloride non-ionic surfactants, complexing agents, hexyl cinnamal, butylphenyl methylpropional, linalool	13 g	Dürr Dental, Bietigheim-Bissingen

When using disinfectants containing aldehyde and amine on the same object, discoloring may occur.

5.4 Recommended disinfectants for endoscopes

Manual disinfection of endoscopes

Disinfectant	Ingredients	in 100 g	Manufacturer
Helipur® H plus N	Glutaral 2-propanol ethyl hexanol surfactants, complexing agents, corrosion inhibitors, colorants, perfumes	12 g, 7.5 g 0.5 g	BBraun, Melsungen
Helix® ultra	peracetic acid		BBraun, Melsungen
Korsolex® basic	Glutaral (ethylenedioxy)dimethanol surfactants, corrosion inhibitors, salts, perfumes	15.2 g 19.7 g	Bode Chemie, Hamburg

neodisher® MediClean forte (application concentrate)	non-ionic and anionic surfactants enzymes	< 5 g	Dr. Weigert, Hamburg
Sekusept® aktiv (application concentrate)	sodium percarbonate, non-ionic surfactants, phosphonates		Ecolab, Düsseldorf

Automatic disinfection of endoscopes

Disinfectant	Ingredients	in 100 g	Manufacturer
Korsolex® basic	Glutaral (ethylenedioxy)dimethanol surfactants, corrosion inhibitors, salts, perfumes	15.2 g 19.7 g	Bode Chemie, Hamburg
neodisher® MediClean forte (application concentrate)	non-ionic and anionic surfactants enzymes	< 5 g	Dr. Weigert, Hamburg
Gigasept® FF (new) (granulate)	succindialdehyde dimethoxytetrahydrofurane anionic and non-ionic surfactants, perfumes methylisothiazolinone	11.9 g 3.2 g	Schülke & Mayr, Norderstedt
Endozime® AW Plus	2-propanol		Ruhof, Mineola (USA)
Adaptaclean™	potassium hydroxide, surfactants		ASP, Norderstedt

6 Hygiene plan



Cleaning and disinfection plan
ATMOS S 61 Servant

	What	How			Notes	When				Who
	Parts to be reprocessed	C Cleaning	D Disinfection	S Sterilization		After each application	Daily	Weekly	Monthly	Qualified and trained staff who are familiar with reprocessing (please fill in the responsible person -> use a water-based overhead marker)
	Secretion canister									
	Hose connection (grommet)	X	X[2,4,5]		Cleaning and disinfection (mechanical or manual)		X			
	Secretion canister lid	X	X[2,4,5]		Cleaning and disinfection (mechanical or manual)		X			
	Sealing	X	X[2,4,5]		Cleaning and disinfection (mechanical or manual)		X			
	Bacterial filter				Exchange daily or when blocked		X			
	Splash guard	X	X[2,4,5]		Cleaning and disinfection (mechanical or manual)		X			
	Float ball	X	X		Cleaning and disinfection (mechanical or manual)		X			
	Suction hose in the canister	X	X[2,4,5]		Cleaning and disinfection (mechanical or manual)		X			
	Secretion canister	X	X		Empty when the canister is full; at least daily; Cleaning and disinfection (mechanical or manual)		X			
	Disposable canister system				Exchange and dispose of the canister when it is full		X			
	Hose rinsing system									
	Hose-rinsing aperture	X	X[3]		Wipe cleaning and wipe disinfection	X				
	Silicone attachment piece	X	X[2,4,5,6]		Cleaning and disinfection (mechanical or manual)		X			
					Exchange the silicone attachment piece				X	
	Hose connector	X			Manual cleaning after each application	X				
			X[2,4,5,6]		Cleaning and disinfection (mechanical or manual)		X			
	Secretion suction hose	X			Rinse the secretion suction hose with the hose rinsing system after each application	X				
			X[2,4,5,6]		Exchange or disinfection of the hose			X		
	Rinsing canister for hose rinsing	X	X[2,4,5,6]		Cleaning with a brush; cleaning and disinfection (mechanical or manual)		X			
	Ear irrigation / thermal nystagmus stimulation									
	Ear irrigation bowl	X	X[2,4,5]		Cleaning and disinfection (mechanical or manual)	X				
	Handle	X	X[3]		Wipe cleaning and wipe disinfection	X				
	Nozzle	X	X[2,4,5,6]		Cleaning and disinfection (mechanical or manual)	X				
	Splash protection	X	X[2,4,5]		Cleaning and disinfection (mechanical or manual)	X				
	Hose tip (disposable)				Exchange after each application	X				
	Rinsing attachment	X	X[2,4,5]		Cleaning and disinfection (mechanical or manual)	X				
	Hygiene filter				See operating instructions for hygiene filter				X	
	Irrigation bottle cap with rinsing hose	X	X[2,4,5]		Cleaning and disinfection (mechanical or manual)		X			
	Irrigation bottle	X	X[2,4,5,6]		Cleaning and disinfection (mechanical or manual); cleaning in the dishwasher with the glass care program		X			
	Medication sprayer / Politzer olive									
	Compressed-air handle	X	X[3]		Manual cleaning and disinfection	X				
	Sprayer nozzle	X			Cleaning after each application See operating instructions for medication sprayer	X				
			X[2,4,5,6]		Cleaning and disinfection (mechanical or manual)		X			
	Sprayer head		X[2,4,5]		Unscrew the sprayer nozzle and pull it off the sprayer head. Rinse out the sprayer head several times with water.			X		
	Hose on sprayer head	X	X		Exchange the hose weekly or when changing the medication			X		
	Sprayer bottle	X	X[2,4,5,6]		Cleaning in a washer-disinfector; weekly or when changing the medication			X		
	Politzer olive	X	X[2,4,5,6]		Exchange after each application; then cleaning and disinfection	X				
	Politzer olive adapter	X	X[2,4,5,6]		Exchange after each application; then cleaning and disinfection	X				
	Endoscope management									
	Plastic quiver	X	X[2,4,5]		Cleaning with a brush; then disinfection		X			
	Metal quiver	X	X[2,4,5,6]		Cleaning with a brush; then disinfection (mechanical or manual)		X			
	Fixation adapter plastic quiver	X	X[2,4,5]		Cleaning and disinfection (mechanical or manual)		X			

	What	How			Notes	When				Who
	Parts to be reprocessed	C Cleaning	D Disinfection	S Sterilization		After each application	Daily	Weekly	Monthly	Qualified and trained staff who are familiar with reprocessing (please fill in the responsible person -> use a water-based overhead marker)
	**Endoscope management**									
	Protective sleeve (teflon element for metal quiver)	X	X[2,4,5]		Cleaning and disinfection (mechanical or manual)		X			
	**Instrument management**									
	Instrument disposal tray	X	X[4]		Cleaning and disinfection (manual)		X			
	Instrument disposal tray with lid	X	X[4]		Cleaning with a brush; then disinfection (manual)		X			
	**Visualization**									
	ATMOS iQam	X	X[3]		Wipe cleaning and wipe disinfection		X			
	ATMOS Strobo 21 LED	X	X[3]		Wipe cleaning and wipe disinfection		X			
	ATMOS LS 31 LED	X	X[3]		Wipe cleaning and wipe disinfection		X			
	Flexible endoscope	X	X[1,7,8]	X[1]	Immediate precleaning after application	X				
	Rigid endoscope	X	X[1,7,8]	X[1]	Immediate precleaning after application	X				
	Laryngoscope	X	X[1,7,8]	X[1]	Immediate precleaning after application	X				
	Fiber optic light cable	X	X[3]		Wipe cleaning and wipe disinfection		X			
	Light handle	X	X[3]		Wipe cleaning and wipe disinfection		X			
	Microscope	X	X[3]		Wipe cleaning and wipe disinfection		X			
	Headlamp	X	X[3]		Wipe cleaning and wipe disinfection		X			
	**Surfaces**									
	CORIAN® housing	X	X[9]		Wipe cleaning and wipe disinfection		X			
	Coated housing	X	X[3]		Wipe cleaning and wipe disinfection		X			
	Roller cover	X	X[3]		Wipe cleaning and wipe disinfection		X			
	System frame	X	X[3]		Wipe cleaning and wipe disinfection		X			
	Drawers	X	X[3]		Wipe cleaning and wipe disinfection		X			
	Pull-out desk	X	X[3]		Wipe cleaning and wipe disinfection	X				
	Instrument deposit	X	X[3]		Wipe cleaning and wipe disinfection	X				
	Mirror preheater	X	X[3]		Wipe cleaning and wipe disinfection		X			
	Swab dispenser	X	X[3]		Wipe cleaning and wipe disinfection; Daily or when refilling		X			
	Waste disposal container	X	X[3]		Wipe cleaning and wipe disinfection; Daily or when refilling		X			
	Instrument tray	X	X[3]		Wipe cleaning and wipe disinfection; Daily or when refilling		X			

Recommended disinfectants

[3] Surface disinfection for coated surfaces:
- Green&Clean SK (ATMOS)
- Dismozon® plus (Bode Chemie)
- Kohrsolin® FF (Bode Chemie)
- perform® (Schülke & Mayr)
- terralin® protect (Schülke & Mayr)

Other surfaces:
- Dismozon® plus (Bode Chemie)
- Kohrsolin® FF (Bode Chemie)
- Mikrobac® forte (Bode Chemie)
- perform® (Schülke & Mayr)
- terralin® protect (Schülke & Mayr)
- Surface disinfectant FD 312 (Dürr Dental)

[4] Manual disinfection of instruments:
- Korsolex® med AF (Bode Chemie)
- Korsolex® basic (Bode Chemie)
- Korsolex® plus (Bode Chemie)
- Korsolex® extra (Bode Chemie)
- neodisher® Septo MED (Dr. Weigert)
- neodisher® Septo 3000 (Dr. Weigert)
- Sekusept® PLUS (Ecolab)
- Sekusept® aktiv (Ecolab)
- gigasept® instru AF (Schülke & Mayr)
- gigazyme® (Schülke & Mayr)
- gigasept® FF (new) (Schülke & Mayr)

[5] Mechanical disinfection of instruments:
- Dismoclean® 24 Vario (Bode Chemie)
- Dismoclean® 28 alka med (Bode Chemie)
- Dismoclean® twin basic / twin zyme (Bode Chemie)
- neodisher® FA (Dr. Weigert)
- neodisher® MediClean forte (Dr. Weigert)
- thermosept® alka clean forte (Schülke & Mayr)
- thermosept® RKN-zym (Schülke & Mayr)

[7] Endoscopes – manual disinfection:
- Helipur® H plus N (BBraun)
- Helix® ultra (BBraun)
- Korsolex® basic (Bode Chemie)
- neodisher® MediClean forte (Dr. Weigert)
- Sekusept® aktiv (Ecolab)

[8] Endoscopes – mechanical disinfection:
- Korsolex® basic (Bode Chemie)
- neodisher® MediClean forte (Dr. Weigert)
- gigasept® FF (new) (Schülke & Mayr)
- Endozime® AW Plus (Ruhof)
- ADAPTACLEAN™ (ASP)

[9] Surface disinfection for CORIAN®:
- terralin® protect (Schülke & Mayr)

For concentrations, contact times, temperature and material compatibility, please see the relevant information from the manufacturer.

This hygiene plan was compiled based on the MDR, the German Medical Devices Operator Ordinance (MPBetreibV), § 18 of the German Infection Protection Act (IfSG), the recommendations of the Robert Koch Institute (RKI), and the currently valid standards and recommendations of the professional associations.
The required reprocessing steps were defined on the basis of DIN EN ISO 17664:2018-04 and the recommendation "Hygiene Requirements for the Reprocessing of Medical Devices" from the Robert Koch Institute. The medical devices were categorized into the risk groups non-critical, semi-critical, and critical.
The disinfectants recommended in this hygiene plan are listed disinfectants (VAH/RKI list) and have been tested for their material compatibility for this device.
ATMOS MedizinTechnik cannot be held liable for any damage to the materials caused by using other non-recommended disinfectants or wrong concentrations of disinfectants.
For further information, please read the operating instructions, which provide additional information about this device and its accessories.

Important information

Wipe cleaning and wipe disinfection:
All surfaces must be wiped with a clean (disposable) wipe that is dampened with disinfectant solution. The entire surface must be wiped thoroughly and may not be dried afterwards.

[1] Please observe the manufacturer's operating instructions.
[2] Preferred: mechanical cleaning and disinfection in a washer-disinfector
[6] Material is dimensionally stable at 134 °C

Wrong disinfectant concentrations may damage the materials!

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7 Maintenance and service

The ATMOS S 61 Servant ENT workstation is equipped with maintenance-free pumps for suction and compressed air. Nevertheless, to ensure correct functioning of the unit over a long period of time, simple maintenance work that can be done either by the user himself or, if desired, by our service technicians is necessary from time to time:

- To ensure correct functioning of the automatic irrigation and suction mechanism, switch off the ENT unit prior to changing the secretion canister!
- There is a service compartment (lower part of the function column) that contains the parts needed for the maintenance procedures. The possible maintenance procedures are described in the following chapters.

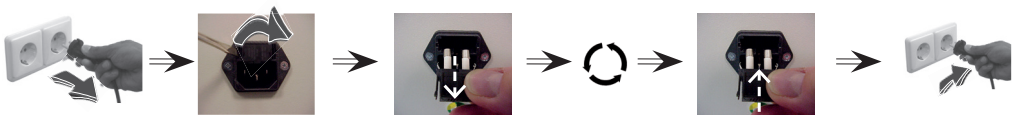
Maintenance, repairs, and periodic tests may only be carried out by persons who have the appropriate technical knowledge and who are familiar with the product. To carry out these measures, the person must have the necessary test devices and original spare parts. ATMOS recommends: Work should be carried out by an authorized ATMOS service partner. This ensures that repairs and testing are carried out professionally, original spare parts are used, and warranty claims remain unaffected.

- At least every 12 months, a repeat test of the electrical safety should be performed according to IEC 62353. ATMOS recommends an inspection according to the manufacturer's specifications.
- Please observe the corresponding service instructions. If they are not supplied, they can be requested from ATMOS.
- With integrated Variotherm plus: Carry out an inspection according to the manufacturer's specifications every 12 months.

☞ Circuit and wiring diagrams, etc. can be requested from and provided by ATMOS.

7.1 Changing the fuses

The fuses are located on the back of the unit.



7.2 Exchanging the bacterial filter

- Set the vacuum regulator to maximum (far right).
- As soon as the vacuum gauge shows a vacuum value > -0.3 bar while the suction hose is **open**, the filter has to be replaced.

NOTICE

Use only original ATMOS bacterial filters. The device may never be operated without the DDS bacterial filter / oversuction stop installed.

To ensure proper functioning of the automatic secretion canister evacuation system, the filling level electrodes must always be clean and free from sediments!

If no vacuum can be felt on the handle after assembling the secretion canister, check whether the bacterial filter is in the right position.

☞ **This is how to check vacuum build-up:**
- Set the vacuum regulator to maximum.
- Remove the suction hose from the holder and hold the hose closed.
- The vacuum must now build up to the maximum value.

7.3 Exchanging the hose box of the hose pump

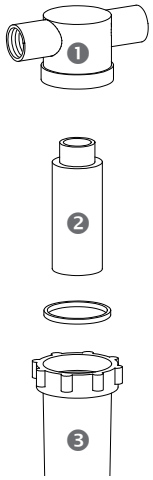
The hose box is located in the pump compartment of the treatment unit. It may only be replaced by authorized personnel!

7.4 Hygrotherm / Variotherm plus: Decalcification

If the tap water in the area where the unit is used is known for mineral precipitation, preventive decalcification should be carried out:

1. Close the water tap.
2. Unscrew the filter glass.
3. Fill glass with approx. 100 ml of decalcifier on acetic/citric or lactic acid basis (e.g., Citrosteril by Fresenius).
4. Screw on the screw-top jar again.
5. Reopen the water tap.
6. Switch on the device.
7. Remove the irrigation handle from the support for 10–15 s and then but it back again.
8. Allow the solution to take effect.
9. Remove the irrigation handle from the support and rinse 2–3 times.

7.5 Hygrotherm / Variotherm plus: Filter replacement



If the filter cartridge is contaminated or discolored, then the filter element must be replaced as follows:

- Close water supply tap.
- Briefly switch on the unit to reduce the pressure in the filter housing (❶).
- Switch off the unit when “F 1” appears on the display.
- Unscrew the plexiglass canister (❸) from the filter cartridge (❷).
- Remove the filter cartridge (❷) and replace it with a new one (REF 000.0998.0).

The filter element must not come into contact with contaminated objects in order to prevent the ingress of germs into the water system.

7.6 Sending in the device

- Remove and properly dispose of consumables.
- Clean and disinfect the product and accessories according to the Instructions for Use.
- Place used accessories with the product.
- Fill in form QD 434 “Delivery complaint / return shipment” and the respective **Decontamination certificate**.

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

- The device must be well padded and packed in suitable packaging.
- Place form QD 434 “Delivery complaint / return shipment” and the respective **Decontamination certificate** in an envelope.
- Affix the envelope to the outside of the package.
- Send the product to ATMOS or to your dealer.

8 Troubleshooting

Description	Cause	Measure
Electric power supply		
No function, main switch is active, control light does not light up	No voltage to power plug	Check house fuse; possibly it burnt through
	Cable/plug defective	Exchange cable/plug
Suction		
Low or no suction rate, but vacuum gauge indicates vacuum	Suction hose is clogged	Clean suction hose
	Active oversuction protection	Check the oversuction protection
	Filter moistened/blocked	Replace filter
Low or no suction rate, but vacuum gauge indicates little or no vacuum	System leaky	Check all joints; new assembly of the system
	Suction hose snapped off	Remove breaks; pass hose a different way
	Vacuum regulator is open	Set regulator to higher/ maximum vacuum
	Secretion penetrated the suction pump	Inform the service department
Suction pump does not switch on or off	Soiled/defective light barrier in suction hose holder	Clean both light barrier openings in the suction hose holder; if necessary, inform the service department
No suction, but force pump is operating	Positions of handles have been mixed up	Insert handles in the right holder
Compressed air		
Compressed air pump does not switch on or off	Soiled/defective light barrier in compressed air holder	Clean both light barrier openings in the compressed air holder; if necessary, inform the service department
No compressed air, but suction pump is operating	Positions of handles have been mixed up	Insert handles in the right holder
No adequate pressure build-up	Leaky connections	Check joints; if necessary, inform the service department
Sprayer does not work	Sprayer is clogged	Clean sprayer; clean ventilation borehole in sprayer head
Mirror quick heater		

Heater does not switch on	Switch or control unit defective	Inform the service department to exchange the switch or control unit
Insufficient or no heater power	Single or all three heater coils defective; no glow	Change heater coils

Automatic secretion canister evacuation

Canister is not drained when filled above the sensor limit	Sensor does not detect filling level	Clean canister thoroughly
Pump does not activate when suction hose is returned	Pump defective	Inform the service department
Effluent pump does not activate after switching off the draining pump	Pump defective	Inform the service department
Effluent pump does not switch off	Effluent pipe blocked	Remove blockage
	Electrodes in the effluent canister are soiled and thereby hot-wired	Clean the waste water canister or have the electrodes cleaned
Effluent pump does not start	Device is fed with demineralized water via water connection	Please use drinking water

Automatic filling of the hose rinsing container

Container overflows	Charging valve does not close	Inform the service department
	Sensor does not detect filling level	Sensor defective – inform the service department
Container does not get filled	Water supply is interrupted	Ensure water supply
	Safety switch in the container is not activated	Place hose rinsing container correctly in the holder
		Clean canister thoroughly

LED power supply

LED light source does not light	Switch to position 0	Depending on used jack, set switch in position I or II
	Plug/cable/LED light source defective	Inform the service department to exchange the defective part

Nystagmus binoculars connection

Nystagmus binoculars do not light	Switch to position 0	Set switch to position I
	Plug/cable/bulb defective	Inform the service department to exchange the defective part

Heating system

No heating	Temperature sensor, control, or heating element defective	Inform the service department

Hygrotherm / Variotherm plus

Error in temperature display

“E1”	No water (water pressure < 0.5 bar)	• Check whether the water supply delivers a pressure of at least 2 bar (is the water tap open?) • Filter clogged?
“E2”	-5 V is missing (supply voltage on the controller board)	Inform the service staff
“E3”	Break of the safety NTC	Inform the service staff
“E4”	Short-circuit of the safety NTC	Inform the service staff
“E5”	Break of the regulating NTC	Inform the service staff
“E7”	Temperature too high; display only in stimulation or irrigation mode	• Check whether temperature setting is too high. If necessary, adjust the set temperature to a lower value • Inform the service staff
“E8”	Short-circuit of the regulating NTC	The temperature probe from the regulating NTC must be checked by a service technician

9 Accessories and consumables

9.1 Consumables

Disposable secretion management	REF
Receptal® 1.0 l bag, not autoclavable	312.0463.0
Receptal® 1.0 l external container	312.0464.0
Disposable suction hose, not autoclavable (10 pcs.)	006.0058.0

Suction system	
DDS bacterial filter for secretion canister (10 pcs.)	340.0054.0
Special cleaner for suction systems, 2 bottles of 500 ml each	080.0060.0

9.2 Accessories

General	REF
Sprayer, straight (fluids)	506.5225.0
Sprayer, flexible nozzle (fluids & oils)	506.5120.0
Sprayer, straight (powder)	505.0253.0
Politzer olive (universal size)	000.0241.0
Politzer olive (children)	000.0241.1
Sparehose sprayer bottle (10 pcs.)	506.5229.0
Jet connection water irrigation handle 80 mm	508.0427.0
Jet connection water irrigation handle 110 mm	508.0429.0
Hose tips	502.0844.0
Splash protection to be slipped on jet connection	501.0331.0
Support arm Diagnostic Cube (S 61 Servant)	512.1300.0
Monitor arm ATMOS S 61 ENT professional	534.3020.0
Shelf (glass)	534.3050.0
Shelf (metal)	534.3060.0
Shelf (glass), high	534.3055.0
Shelf (metal), high	534.3065.0
Shelf Diagnostic Cube	534.3035.0
Shelf adapter	534.3090.0

9.3 Spare parts

Ear irrigation / thermal nystagmus stimulation	REF
Irrigation handle	530.1190.0
Rubber bushing for splash guard	501.0331.1
3-hole sealing device side	501.0320.0
3-hole sealing handle side	530.1186.0
Hose double barrel for irrigation handle	530.1181.0
Hygiene filter for water rinsing	000.0918.0

10 Disposal

- The materials of the housing can be recycled completely.
- Die ATMOS S 61 Servant ENT workstation does not contain any hazardous goods.
- The component parts of the ATMOS S 61 Servant ENT workstation must be disposed of correctly and the materials are to be separated carefully.



Before disposal and before transport, all parts that have come into contact with the patient must be thoroughly cleaned and disinfected. The device surface must be disinfected too.

Disposal within the EU

The device described above is a high-quality medical device with a long service life. After its life cycle, the device must be disposed of professionally. According to EU directives (WEEE and RoHS), the device must not be disposed of in domestic waste. Please observe the applicable laws and regulations for the disposal of old devices in the respective country.

Disposal within the Federal Republic of Germany

To ensure proper disposal of your old device, either pass it on to your specialized dealer or send it directly to ATMOS MedizinTechnik for professional disposal.

10.1 Expected service life

When the device (ATMOS S 61 Servant ENT workstation) is operated according to the Instructions for Use, the device has an expected service life of 10 years. A regular thorough cleaning and disinfection of the device as well as operation in line with the Instructions for Use are assumed.

11 Technical data

When fully equipped

Mains voltage	230 V~ ± 10 %; 50/60 Hz **Other voltages:** 115 V~ ± 10 %; 50/60 Hz 127 V~ ± 10 %; 50/60 Hz
Current consumption	max. 8.5 A (230 V~) max. 16.5 A (115 V~) max. 15.0 A (127 V~)
Power consumption	max. 2300 VA
Fuses	2 x T10 A / 250V (f. 230 V~) 1 x M 15 A / 250V (f. 115 V~, 127 V~)
Suction system standard	High vacuum / high flow
Power density (free flow)	40 l/min
Vacuum	–91 kPa (–910 mbar or 682.5 mmHg) @ NN, infinitely variable
Suction hose • Inner diameter • Max. length	 8.0 mm 1.6 m
Secretion canister • Usable volume	DDS 1.0 l 930 ml
Suction system professional	
Power density (free flow)	55 l/min
Vacuum	–95 kPa (–950 mbar or 712.0 mmHg) @ NN, infinitely variable
Suction hose • Inner diameter • Max. length	 8.0 mm 1.6 m
Secretion canister • Usable volume	DDS 1.0 l 930 ml
Compressed-air system	
Power density (free flow)	20 l/min
Pressure	min. 220 kPa, infinitely variable
Sprayer	For liquid, oily and powdery materials
Ear irrigation system basic Water temperature	 37.5 °C ± 2 °C
Ear irrigation professional (Hygrotherm)	
Water temperature	Adjustable 36–38 °C ± 0.5 °C
Flow	max. 450 ml/min (adjustable on the handle)
Thermal nystagmus stimulation (Variotherm plus)	
Water temperature	3 adjustable levels from 20–47 °C ± 0.5°C
Flow	max. 450 ml/min (adjustable on the handle)
Timer setting	1 – 99 s

Instrument heating Temperature range	 Approx. 37 °C
Light module economy LED power supply	 700 mA (regulated)
LED cold light module	
Number of channels	2
Light intensity	min. 200 klx
Colour temperature	5500 K ± 10 %
Mode of operation	Continuous operation / Duty cycle (on time / off time)
Protective earth conductor resistance	max. 0.1 Ω
Earth leakage current	max. 5 mA
Enclosure leakage current	max. 0.1 mA
Patient leakage current	max. 0.1 mA
Environmental conditions: Transport/Storage Temperature range Air humidity without condensation Air pressure	 −10...+50 °C 30...95 % 500...1060 hPa
Environmental conditions: Operation Temperature range Air humidity without condensation Air pressure Maximum operating altitude	 +10...+35 °C 30...95 % 700...1060 hPa ≤ 3000 m
Contamination level	2
Overvoltage category	II
Dimensions H x W x D	88.5 x 42 x 60 cm
Weight	Max. 73 kg
Periodical tests	Repeat test of the electrical safety every 12 months. Inspection according to the manufacturer's specifications. **With integrated Variotherm plus:** Inspection according to the manufacturer's specifications every 12 months.
Protection class against electric shock (acc. to EN 60601-1)	I
Classification of applied parts for Variotherm plus, Hygrotherm and Suction system	Type B applied parts 
Classification of applied parts for Compressed-air system	Type BF applied parts 
Degree of protection against electric shock	IPX0
CE mark	CE 0124
Ident-Nr. (REF)	530.0000.0 (230 V~) 530.0002.0 (115 V~) 530.0003.0 (127 V~)

12 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 S 61 Servant ENT workstation 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.

The following environments are not suitable:

In the vicinity of HF surgical devices and in settings outside of an HF-shielded room of a magnetic resonance imaging system.

The customer or user of the ATMOS S 61 Servant ENT workstation must ensure that the device is used in a prescribed environment.

Guidance and manufacturer's declaration – key features

☞ Please note the technical data in these instructions. The essential features are fully usable even in the presence of electromagnetic disturbances.

Guidance and manufacturer's declaration – removable components that can be replaced by the operator

The ATMOS S 61 Servant ENT workstation has the following removable components that can be replaced by the operator:

Type	REF	Max. cable length
Power cable	507.0859.0	3 m
ATMOS LS 21 LED	507.4600.0	2 m
Headlight ATMOS HL 21 LED	530.4020.0	2 m
Nystagmus binoculars	530.4016.0	2 m

Guidance and manufacturer's declaration – warnings

⚠ WARNING

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

⚠ WARNING

Portable RF communications equipment (e.g., radios, antenna cables) should be used no closer than 30 cm* to any part of the ATMOS S 61 Servant ENT workstation , including cables, specified by the manufacturer. Otherwise, degradation of the performance of this equipment could result.

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

⚠ WARNING

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

13 Notes

MedizinTechnik

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