



MedizinTechnik

English

Operating Instructions

ATMOS[®] Chair M 2



CE



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1.1 Notes on Operating Instructions



These operating instructions contain important notes on how to operate the ATMOS® Chair M 2 safely, correctly and effectively. Their reading helps to avoid risks, and also to reduce repair costs and down-times. This increases, amongst other things, the reliability and service-life of the device.

These operating instructions serve not only for new operating personnel to be instructed in its use, but also for use as a reference manual. Reprints (also in extracts) only with permission in written form by ATMOS.

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



Care and period tests in conjunction with professional execution provide for operational safety and readiness for use of your ATMOS® Chair M 2 and are therefore a must besides regular cleaning.

Repair work and period tests may be carried out only by expert personnel authorised by ATMOS. By applying only original spare parts you will have the guarantee that operational safety, readiness for work and the value of your ATMOS® Chair M 2 will be preserved.



- The product ATMOS® Chair M 2 bears CE marking according to the EC Directive of the council for medical products 93/42/EEC and meets the basic requirements of Appendix I of the directive.
- The product ATMOS® Chair M 2 complies with all applicable requirements of the Directive 2011/65/EC restricting the use of certain hazardous substances in electrical and electronic equipment ("RoHS").
- The declaration of conformity and our general standard terms and conditions can be obtained on our website at www.atmosmed.com.
- The quality management system applied at ATMOS has been certified according to international standards EN ISO 13485.
- Prior to start-up please peruse chapter 2.0 „For your safety“, in order to be prepared for any possible dangerous situations.

1.2 Intended use

Name: ATMOS® Chair M 2

Main function: This patient's chair enables the optimum positioning of the patient with regard to height and access (sitting or horizontal).

Medical indications / application: Positioning of the patient during standard ENT examinations and / or therapy.

Specification of the main function:

- Electrical height adjustment via foot switch from 56.5 cm up to 76.5 cm
- Upper part of the chair 360° rotatable
- Infinitely variable height adjustment of the backrest from vertical up to the horizontal position
- Integrated height adjustable headrest
- Foot support

Application organ: Positioning of the patient

Application time: Temporarily (max. of 60 minutes)

Application site: In clinics and practices for ENT doctors and phoniatricians. The application of the patient's chair must be executed by medically trained persons only.

Contraindications: None

The product is: active

Sterility: Not sterile

Single-use product / reprocessing: No single use product

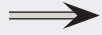










1.3 Function

The ATMOS® Chair M 2 is equipped with an electrically height adjustment. The height can be adjusted between 56,5 and 76,5 cm and is controlled by an integrated foot switch. The upper part of the chair rotates 360° and can be locked at any desired position by a hand lever operated locking mechanism.



The shoulder-high, reclining backrest moves from +7° forward to fully horizontal.

1.4 Explanation of pictures and symbols



Short cuts / symbols contained in these operating instructions

	Follow the arrows		General information		Move, plug... in this direction
	● Please press where dot indicates		● Numeration		Turn, shift ... in this direction
	Please read, important information		→ Subnumeration		Replace
			Check		Engage, check correct fit

Graphic symbols contained in these operating instructions

	Warning, special diligent notice		Important information
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Symbols of ATMOS® Chair M 2

	Degree of protection type B
REF	Order number
	This product complies with the relevant requirements of EU Directive

1.5 Scope of supply

- Prior to dispatch, the ATMOS® Chair M 2 was subjected to an extensive functional test and was carefully packed. Nevertheless, please compare the contents of the shipment on completeness immediately upon receipt (see delivery note).



Basic device



Power cable



Operating Instructions

1.6 Transport and storage

- After the transport of the device in temperatures below 0°C or prior to first start up it should be kept at room temperature for at least six hours. If the device is not acclimatized it may not be used as damages to the electronic components may be the result.
- Only transport the device in a shipping carton, which is padded and offers sufficient protection.
- If damage occurs during transport:
 - Document and report the transport damage.
 - Send the device to ATMOS (Chapter „6.2 Sending in the device“ on page 13).

Ambient conditions:

- Transport / storage:
 - -10...+50°C;
 - 30...95 % air humidity without condensation
 - at an air pressure of 500...1060 hPa
- Operation:
 - +10...+35°C;
 - 30...95 % air humidity without condensation
 - at an air pressure of 700...1060 hPa



For your safety

- The ATMOS® Chair M 2 has been designed in accordance with IEC 60601-1/EN 60601. The equipment conforms to VDE Safety Class I and must only be connected to a properly installed earthed socket.
- The Chair may be used only under supervision (IEC 60601-1 / EN 60601-1).
- Prior to starting the chair for the first time, check whether the supply voltage indicated on the line voltage selector corresponds to the value of your local mains supply.
- For mains supply, only use the power cable supplied (or an equivalent one).
- Check proper assignment when assembling country-specific connections:
 - green / yellow: protective conductor
 - blue: neutral conductor
 - black or brown: phase
- Prior to first starting up, all connecting leads must be checked on damage. Defect cables must be replaced.
- To disconnect the chair from the mains supply, first remove the plug from the safety connection socket. Then disconnect the connection line from the chair. Never touch plug or line with wet hands.
- Please observe the ambient conditions stated in the technical data (chapter 8.0).
- The ATMOS® Chair M 2 is not designed for use in explosion-hazardous areas. Explosion-hazardous areas may be caused by the use of flammable anaesthetics, skin cleansing products and skin disinfectants.
- Ensure that your patient sits in the middle of the seat. A constant unilateral strain on the seat can damage the surface.
- The user must be familiar with the operation of the chair.
- 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 operating instructions is not being observed.
- Please note:
A medical insulating transformer with earth leakage monitor or any similar safety system acc. to EN 60 601-1 is required, if several devices are connected over one common power supply. The transformer must correspond to the power consumption of all the devices to be connected.
- The electric motor is protected by an integrated thermo protection switch. After 1.5 minutes of continued operation, the motor needs a cool down period of approx. 8.5 minutes. If the thermo protection switch activates, the motor needs a cool down period of approx. 20 minutes.

3.1 Assembly

- Always place the device on level, solid surface.

3.2 Starting up

- Set up product at the desired spot. Any floor unevenness must be compensated for.
- Check that the upper part of the chair can rotate freely.
- Peruse safety information in part 2.0 prior to starting up the device for the first time.
- Finally, connect power cable.

3.2.1 Operating elements

- ❶ Headrest
- ❷ Operating lever for backrest
- ❸ Operating lever for arresting brake
- ❹ Foot support (optional)
- ❺ Foot switch for adjusting the seat height

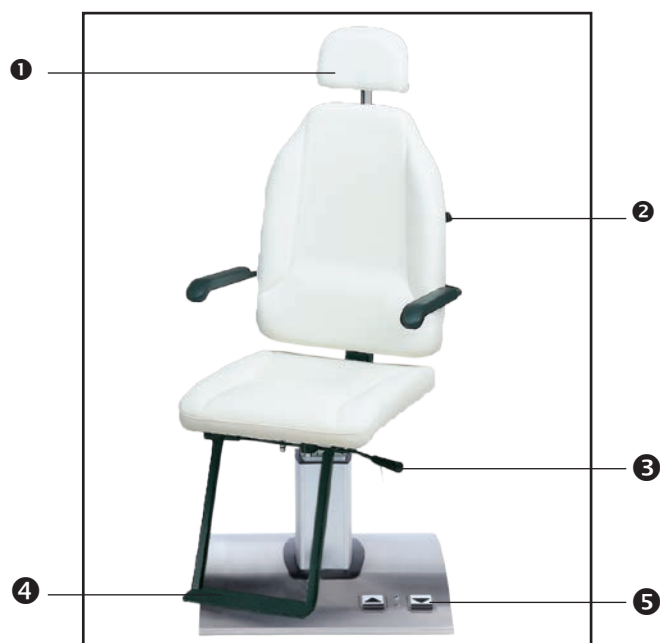


Fig. 1.



3.3 Electrical connection

The ATMOS® Chair M 2 is supplied with a power cable and IEC connection. Insert the power cord to the IEC socket at the back side of the chair base and the wall mounted power outlet.

Make sure, power outlet features a proper ground connection. Find all relevant electrical data (voltage and nominal frequency) as well as the data for fuses on the label located between the sockets.

To disconnect the device, pull the mains plug out of outlet socket.

- ☞ There is no indication that the product is hooked up to line power.
- ☞ Disconnect chair, if not in use, during service and repair work and or for cleaning.

4.1 Positioning the patient

Ensure that your patient sits in the middle of the seat.

A constant unilateral strain on the seat can damage the surface.



Fig. 2. Foot switch

4.2 Adjusting the seat height

The height adjustment of seat cushion level is controlled by 2 foot switches (fig.2):

- ▲ = Up
- ▼ = Down

Furthermore, the ATMOS® Chair M 2 features an “Auto – Down (homing)” function, to lower the upper part of the chair down to its lowest level after a short tap on the foot switch. Pressing the right foot switch ▼ for less than 0.5 seconds will move the chair to home position. To stop the movement, just briefly tap the switch again.



Fig. 3.

- ❶ Lever element for the backrest
- ❷ Operating lever for arresting brake

4.3 Rotating the upper part

The upper part of the chair with the patient can be completely rotated after having loosened the brake with the locking lever (❷, fig. 3).

The upper part with the patient can then be rotated in the desired direction.

If the brake is only slightly fixed the chair can be rotated without loosening the brake.

4.4 Adjusting the backrest

- Press lever element (❶, fig. 3) downwards.
- Adjust backrest to the desired position.
- Release lever element which will then return to its initial position,
- Backrest is arrested.



4.5 Adjusting the headrest

- Loosen the arresting button on the rear of the backrest by turning it anti-clockwise,
- Adjust the headrest to the desired height (it may not be extended by more than 10 cm),
- Arrest the headrest by turning the arresting button clockwise.

4.6 Removing the headrest

- After having loosened the arresting button, the headrest can be removed upwards from its support.

4.7 Removing the foot support

- Loosen the arresting screws (bottom of the seat).
- Remove the foot support forward.

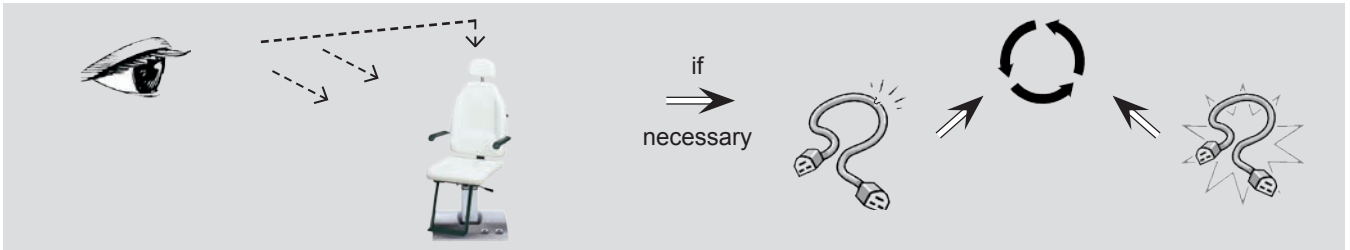
5.1 General information on cleaning and disinfection

Prior to cleaning

Medical chairs like the ATMOS® Chair M 2 must be fail safe at all times.

We therefore recommend:

prior to each use:



- ☞ The described action relating to cleaning and disinfection resp. sterilisation do not substitute the relevant instructions which must be adhered to prior to operation!
- For disinfection, you may use all surface and upholstery disinfectants listed in chapter 5.3 and 5.4 “Recommended disinfectants”.
- ☞ Always observe the concentration specifications and instructions by the respective manufacturer!
- Do not use
 - Disinfectants which contain organic or inorganic acids or bases as they could cause corrosion damage.
 - Disinfectants containing chloramides, phenol derivatives or anionic tensides, as these may cause stress cracks in the material used for the housing of the unit.

5.2 Cleaning the device surface and upholstery



If liquid has penetrated the device, it may not be operated again until it has been checked by the authorised customer service centre.



- The surfaces of the ATMOS® Chair M 2 are resistant against all the recommended surface disinfectants stated in chapter 5.3 and 5.4. Nevertheless after any length of time discolourations could possibly develop. Polar solvents (e.g. acetone or chlorinated hydrocarbons (CCs)) may not be used for cleaning and disinfecting.
- Disconnect the power plug from the power supply prior to cleaning and disinfecting the device surface.
- The device itself can be wiped off with a moist (not wet) cloth.

Do not use aggressive or abrasive cleansing agents. For the upholstery usual dry foam may be used.

Treatment with a commonly used care product for artificial leather is recommended once a week in order to keep the upholstery soft and smooth.



5.3 Recommended surface disinfectants

- The surfaces of the ATMOS® Chair M 2 can be cleaned / wiped with disinfectants containing the following active ingredients:
 - QAV (quarternary ammonium compounds)
- Substances such as blood need to be removed immediately to prevent stains.

5.4 Recommended disinfectants for the upholstery

Disinfectant	Ingredients	(in 100 g)	Manufacturer
ATMOS Green & Clean SK (Application solution)	Alkyl dimethyl benzyl ammonium chloride	< 1 g	Metasys, Rum (Austria)
	Dialkyl dimehtyl ammonium chloride	< 1 g	
	Alkyl dimethyl ethyl benzyl ammonium chloride	< 1 g	



The ATMOS® Chair M 2 is maintenance-free except for a possible fuse replacement (see section 6.1). In case of malfunctions, please contact your local authorized ATMOS service technician.

Maintenance, repairs and period tests may only be carried out 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.

At least every 24 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.

6.1 Replacing the fuse


- ☞ Before replacing the fuse, unplug the mains plug.
- To open the fuse socket rotate top counter clockwise,
- Exchange fuse,
- To close fuse socket, rotate top clockwise.

6.2 Sending in the device

- Remove and properly dispose of consumables.
- Clean and disinfect the product and accessories according to the operating instructions.
- Place used accessories with the product.
- Fill in the form QD 434 „Delivery complaint / return shipment“ and the respective **decontamination certificate**.
- ☞ This form is enclosed to each delivery and can be found at www.atmosmed.com.
- The device must be well padded and packed in suitable packaging.
- Place the 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.



Error indication	Possible cause	Remedy
Device does not start	<ul style="list-style-type: none"> • Power plug is fitted badly • No mains voltage • Defect fuse 	<ul style="list-style-type: none"> • Check connection at wall socket • Check main fuse • Check mains plug on perfect fit at the device • Exchange of fuse

 In case of malfunctions, please contact your local authorized ATMOS service technician.



REF

8.1 Accessories

Child seat	on request
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8.2 Spare parts

9.0 Technical data



Voltage	230 V~ ± 10 %; 50 Hz
Special voltage	120 V~ ± 10 %; 60 Hz
Current consumption	Max. 2.5 A
Power consumption	Max. 520 VA
Fuses	T 3.15 A / 250 V
Operating time	1.5 min operation, 8.5 min rest period
Dimensions H x W x D	127.5 x 63.0 x 84.0 cm
Weight	82 kg
Backrest height	80 cm
Backrest inclination	+7° up to -90 ° (horizontal position)
Dimensions seating surface L x W	54.0 x 48.0 mm
Seat height	56.5 cm to 76.5 cm
Vertical lift	20 cm
Vertical speed	13 mm/sec.
Rotation	360° without detent
Load	150 kg
Protective earth conductor resistance	Max. 0.1 Ω
Earth leakage current	Max. 0.5 mA
Enclosure leakage current	Max. 0.1 mA
Patient leakage current	Max. 0.1 mA
Ambient conditions transport / storage	
• Temperature	-10...+50 °C
• Humidity without condensation	30...95 %
• Air pressure	500...1060 hPa
Ambient conditions for operation	
• Temperature	+10...+35 °C
• Humidity without condensation	30...95 %
• Air pressure	700...1060 hPa
Period tests	Repeat test of the electrical safety every 24 months. Recommended: inspection according to the manufacturer's specifications.
Safety class (EN 60601-1)	I
Degree of protection	Application parts type B
Protection class	IP 20
Classification according to Appendix IX EC Directive 93/42/EEC	Class 1
CE marking	CE
GMDN code	16437
UMDNS code	16-437
ID No. (REF)	537.0000.0 537.0000.4

- The ATMOS® Chair M 2 does not contain any hazardous substances.
- The housing is recyclable.
- Device and accessories must be decontaminated prior to disposal.
- Pay attention to a careful separation of the different materials.
- Please observe national disposal regulations (e.g. waste incineration).



Disposal within the EC

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

Disposal within the Federal Republic of Germany

In the Federal Republic of Germany the law for electrical devices (ElektroG) regulates the disposal of electrical devices. In order to guarantee a proper disposal of your old device, please either pass on your old device to your specialised dealer or send it directly to ATMOS MedizinTechnik for a professional disposal.

Before disposal respectively before transport all parts, which came into contact with the patient must be thoroughly cleaned, disinfected. The device surface must be disinfected.

11.0 Notes on EMC



- Medical electrical equipment is subject to special precautions with regard to EMC and must be installed acc. to following EMC notes.
- Portable and mobile HF communication facilities can influence medical electrical equipment.
- The use of other accessories, other converters and cables than stated may lead to an increased emission or a reduced interference immunity of the equipment or system.

11.1 Guidelines and Manufacturer's Declaration - Emissions

The ATMOS® Chair M 2 is designed for operation in the environment specified below. The customer or user of the ATMOS® Chair M 2 should ensure that it is used in such an environment.

Emissions Test	Compliance	Electromagnetic Environment - Guidance
Harmonic emissions according to IEC 61000-3-2	Class A	The ATMOS® Chair M 2 is suitable for use in all establishments, including domestic and those connected directly to a public power supply network that supplies buildings used for residential purposes.
Voltage fluctuations/flicker according to IEC 61000-3-3	Corresponds	



The device may not be used directly next to other devices or piled up with other devices. If operation next to or piled with other devices is necessary, please watch the device to check its intended operation in this arrangement.

11.2 Guidelines and Manufacturer's Declaration - Immunity

The ATMOS® Chair M 2 is designed for operation in the electromagnetic environment specified below. The customer or user of the ATMOS® Chair M 2 should ensure that it is used in such an environment.


Immunity Test	IEC 60601- Test Level	Compliance Level	Electromagnetic Environment - Guidance
Electrostatic discharge (ESD) according to IEC 61000-4-2	± 6 kV Contact	± 6 kV Contact	Floors should be made of wood or concrete or tiled with ceramic tiles. If floors are synthetic, the relative humidity should be at least 30 %.
	± 8 kV Air	± 8 kV Air	
Fast electrical transient/burst IEC 61000-4-4	± 2 kV Mains	± 2 kV Mains	Mains power quality should be that of a typical commercial or hospital environment.
	± 1 kV I/Os	± 1 kV I/Os	
Surges IEC 61000-4-5	± 1 kV common-mode	± 1 kV common-mode	Mains power quality should be that of a typical commercial or hospital environment.
	± 2 kV differential mode	± 2 kV differential mode	
Magnetic field at power frequency 50/60 Hz acc. to IEC 61000-4-8	3 A/m	Inapplicable	Power frequency magnetic fields should be that of a typical commercial or hospital environment.

11.0 Notes on EMC

Immunity Test	IEC 60601- Test Level	Compliance Level	Electromagnetic Environment - Guidance
Voltage Dips / Dropout IEC 61000-4-11	<p>< 5 % UT (> 95 % Dip of the UT for 0.5 Cycle)</p> <p>40 % UT (60% Dip of the UT for 5 cycles)</p> <p>70 % UT (30% Dip of the UT for 25 cycles)</p> <p>< 5 % UT (> 95 % Dip of the UT for 5 s)</p>	<p>< 5 % UT (> 95 % Dip of the UT for 0.5 Cycle)</p> <p>40 % UT (60% Dip of the UT for 5 cycles)</p> <p>70 % UT (30% Dip of the UT for 25 cycles)</p> <p>< 5 % UT (> 95 % Dip of the UT for 5 s)</p>	Mains power quality should be that of a typical commercial or hospital environment. If the user of the ATMOS® Chair M 2 requires continued operation upon the occurrence of disruptions in the energy supply, the ATMOS® Chair M 2 should make use of an uninterruptible power supply or a battery.
NOTE UT is the alternating mains voltage prior to application of the test levels.			

11.3 Guidelines and Manufacturer's Declaration - Immunity

The ATMOS® Chair M 2 is designed for operation in the electromagnetic environment specified below. The customer or user of the ATMOS® Chair M 2 should ensure that it is used in such an environment.

Immunity Test	IEC 60601- Test Level	Compliance Level	Electromagnetic Environment - Guidance
Conducted RF IEC 61000-4-6	3 Veff 150 kHz to 80 MHz	3 V	<p>Portable and mobile radio equipment should be used no closer to the ATMOS® Chair M 2, including cables, than the recommended distance calculated according to that which applies to the transmission frequency.</p> <p>Recommended distances: $d = 3.5/3 \sqrt{P}$ $d = 3.5/10 \sqrt{P}$ $d = 7/10 \sqrt{P}$</p> <p>where „P“ is the max. power in watts (W) and d is the recommended separation distance in meters (m).</p> <p>Field strengths from fixed transmitters, as determined by an electromagnetic site (a) survey, should be less than the compliance level (b).</p> <p>Interference may occur in the vicinity of equipment containing following symbol:</p> 
Radiated RF IEC 61000-4-3	3 V/m 80 MHz to 2.5 GHz	10 V/m	

11.0 Notes on EMC

NOTE 1

With 80 MHz and 800 MHz the higher frequency range applies.

NOTE 2

These guidelines may not be applicable in all cases. The emanation of electromagnetic waves is affected by absorption and reflection of buildings, objects and people.

a

The field strength of stationary transmitters, such as base stations of cellular phones and mobile terrain radio equipment, amateur radio transmitters, cbm broadcast and TV stations cannot be predestined exactly. To determine the electromagnetic environment in regard to stationary transmitters, a study of the location is to be considered. If the field strength measured at the site where the ATMOS® Chair M 2 is used exceeds the compliance level above, the ATMOS® Chair M 2 must be observed to demonstrate proper function. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the ATMOS® Chair M 2.

b

Within the frequency range of 150 kHz to 80 MHz the field strength should be below 3 V/m.

11.4 Recommended separations between portable and mobile RF Communications equipment and the ATMOS® Chair M 2

The ATMOS® Chair M 2 is intended for use in an electromagnetic environment in which HF disturbances are controlled. The customer or user of the ATMOS® Chair M 2 can thereby help to prevent electromagnetic interference by maintaining a minimum distance between portable and mobile HF communication equipment (transmitters) and the ATMOS® Chair M 2 - depending on the output of the communication device as indicated below.

Nominal capacity of the transmitter W	Safety distance, depending on transmit-frequency m		
	150 kHz to 80 MHz	80 MHz to 800 MHz	800 MHz to 2.5 GHz
	$d = 3.5/3 \sqrt{P}$	$d = 3.5/10 \sqrt{P}$	$d = 7/10 \sqrt{P}$
0.01	0.12	0.035	0.07
0.1	0.37	0.11	0.22
1	1.17	0.35	0.7
10	3.7	1.1	2.2
100	11.7	3.5	7

For transmitters for which the maximum nominal output is not indicated in the above table, the recommended safety distance d in meters (m) can be determined using the equation belonging to the respective column whereas P is the maximum nominal output of the transmitter in watts (W) acc. to manufacturer's specification.

NOTE 1

With 80 MHz and 800 MHz the higher frequency range applies.

NOTE 2

These guidelines may not be applicable in all cases. The emanation of electromagnetic waves is affected by absorption and reflection of buildings, objects and people.



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