



MedizinTechnik

English

Operating Instructions

ATMOS[®] Chair E 1





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

ATMOS

MedizinTechnik GmbH & Co. KG

Ludwig-Kegel-Straße 16

79853 Lenzkirch

Deutschland / Germany

Phone +49 76 53 689-0

Fax: +49 76 53 689-190

+49 76 53 689-493 (Service Centre)

atmos@atmosmed.de

www.atmosmed.de

1.1 Notes on Operating Instructions



These operating instructions contain important notes on how to operate the ATMOS® Chair E 1 safely, correctly and effectively. Their reading helps to avoid risks, and also to reduce repair costs and downtimes. 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 E 1 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 E 1 will be preserved.



- The product ATMOS® Chair E 1 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 E 1 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 E 1

Main function: This patient chair enables the optimum positioning of the patient with regard to height and access.

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 52.0 cm up to 72.0 cm
- Upper part of the chair 360° rotatable and can be arrested at 90°
- Infinitely variable inclination of the backrest from +7° forward to the horizontal position
- Height adjustable and detachable headrest
- Armrests can be folded up (individually)
- Foot support, can be swivelled synchronously with the backrest

Application organ: Positioning of the patient

Application time: Temporarily (max. of 60 minutes)

Application site:

In clinics and practices for ENT doctors and phoniaticians. The application of the doctor's chair must be executed by medically trained persons only.

Contraindications: None

The product is: X active not active

Sterility: Not necessary

Single-use product / reprocessing: No single use product

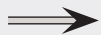










1.3 Function

The electrically height adjustable ATMOS® Chair E 1 patient chair has been designed for medical examinations. Height adjustment is achieved by an encapsulated infinitely variable electric actuator. The removable headrest is also height adjustable. The moving and fold away armrests will maintain a horizontal orientation even if the backrest is being reclined to horizontal. Upper part rotates around 360° via a ball bearing and is equipped with an arrestor each 90°. The height adjustment is controlled by a foot switch. The mechanically reclining backrest ranges from +7° (forward lean) to horizontal, the footrest features a fold away foot plate.

Options: Chair is moveable to any direction on 4 freely swivelling castors (see options)

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

Symbols of ATMOS® Chair E 1



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 E 1 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 14).

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
500...1060 hPa



For your safety

- The correct installation and handling of the device is essential for safe operation. Therefore prior to starting up you must become thoroughly familiar with the contents of these operating instructions.
- 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.
- The device may not be operated:
 - in explosion-hazardous areas
 - in humid areas
- In case of malfunction or abnormal noises, immediately disconnect the power plug. In such a case please contact our service department
- The device may only be used for the purpose described.
- Please note:
A medical insulating transformer with earth leakage monitor or any similar safety system acc. to EN 60601-1 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 ATMOS® Chair E 1 has been designed in accordance with IEC 601/ EN 60601. The equipment conforms to VDE Safety Class I and must only be connected to a properly installed earthed socket.
- The Chair may only be used under supervision (IEC 60601-2 / 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 9.0).
- The ATMOS® Chair E 1 is not designed for the use in medical areas with an explosion hazard. 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.



3.1 Assembly

- Always place the device on a level, safe surface.

3.2 Starting up

- Position the chair at the allocated space. 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.



3.3 Electrical connection

The ATMOS® Chair E 1 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.

The electrical connection values (voltage and nominal frequency) as well as the data for fuses can be found on the type plate above the connecting socket.

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


- ☞ There is no indication that the device is powered!
- ☞ Disconnect chair, if not in use, during service and repair work and or for cleaning.

The height adjustment is controlled via the two foot switch buttons marked with arrows. The left foot switch button is for the upwards movement, the right for the downwards movement.

The arm rests can be folded backwards; that makes it easier for handicapped persons to be transferred from the wheelchair to the examination chair.

The backrest inclination can be controlled by means of the control elements attached to the side of the backrest.

Arm rests, foot support and backrest are coupled for synchronous movements.

 The electric motor is protected by an integrated thermal protection switch. After 1.5 minutes of continued operation, the motor requires a cool down period of approx. 8.5 minutes. If the thermal protection switch is activated, the motor requires a cool down period of approx. 20 minutes.

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. 1.

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 E 1 features an "Auto – Down (homing)" function, driving the seat 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.

4.3 Rotating the upper part of the chair

Upper part rotates around 360° via a ball bearing and is equipped with an arrestor each 90°.

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

4.4 Adjusting the backrest

- Press lever element (, fig. 2) downwards.
- Adjust backrest to the desired position.
- Release lever element which will then return to its initial position,
- Backrest and foot support are arrested.

Arm rests, base part and back rest are coupled for synchronous movements.



Fig. 2.

❶ Lever element

4.5 Adjusting the arm rests

The arm rests (fig. 3) can be individually folded backwards.

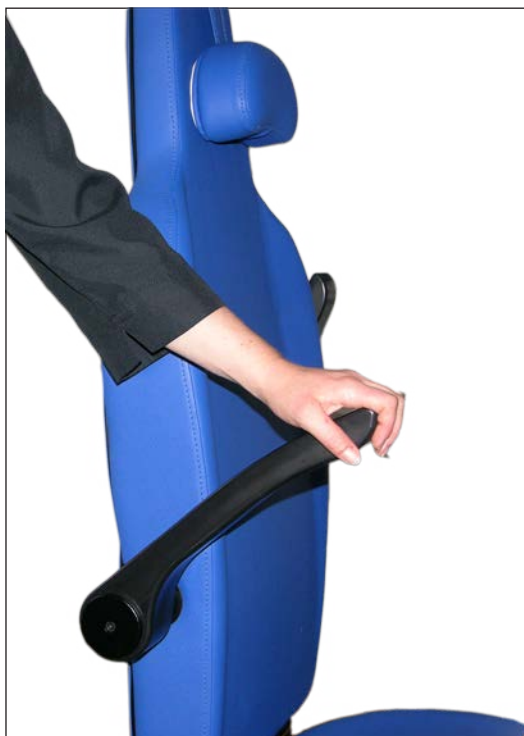


Fig. 3. Arm rests



Fig. 4 Headrest

4.6 Adjusting the head rest

The head rest (fig. 4) can be brought into a lower position by simply pulling the retaining strap into a lower position or by pushing it into a higher position. To remove the headrest, the retaining strap must be pulled out completely from the backrest.

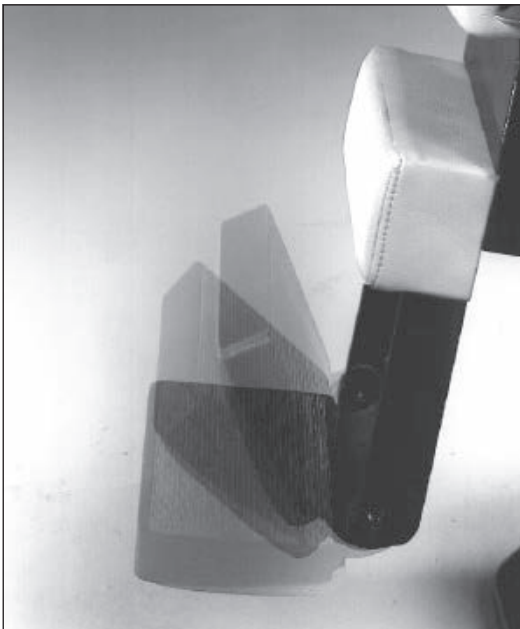


Fig. 5 Foot support

4.7 Foot rest

If required, the foot rest can be folded down (fig. 5).

4.8 Chassis (optional) 11

! Do not transport any weights or persons on the chair. The chair may be moved as soon as the red LED light illuminates.

Clearance height: ca. 15 mm.

Extend the chassis:

- Move the chair upwards until the green LED illuminates (❶, fig 6).
- Push the lever to the left (❷, fig. 8) to extend the chassis.
- Move the chair downwards until the red LED illuminates (❸, fig 6).

The chair can now be moved.

Retract the chassis:

- Move the chair upwards until the green LED illuminates (❶, fig 6).
- Push the lever forward (❹, fig. 7) to retract the chassis.
- Move the chair to the desired position / .

LEDs (fig. 6)

❶ Red: Extend the chassis, chair can be moved.

❷ Green: Lever can be adjusted.

Lever position (fig. 7 + 8):

i Only adjust the lever when the green LED is illuminated. Otherwise the chair can be damaged.

❸ Forward: Retract the chassis

❹ Left: Extend the chassis

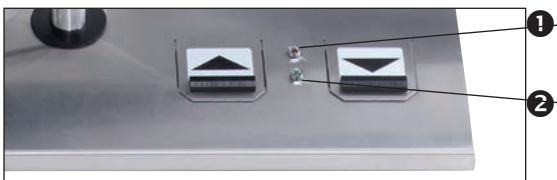


Fig. 6

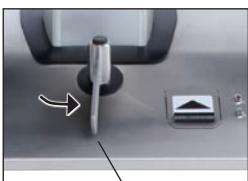


Fig. 7

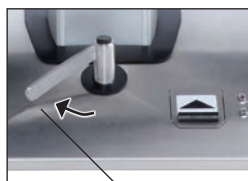


Fig. 8

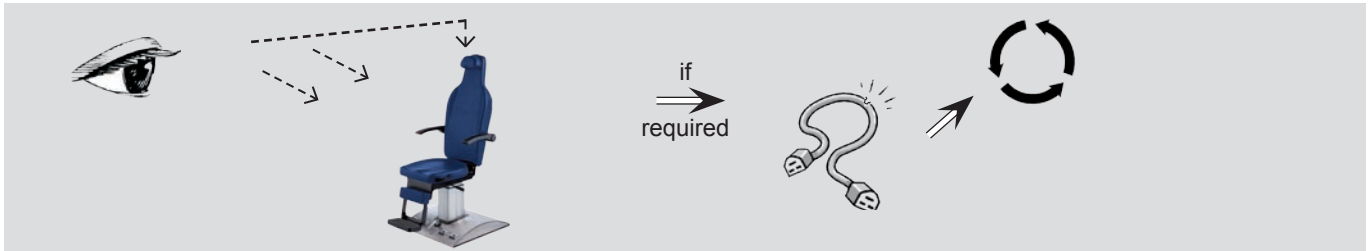
5.1 General information on cleaning and disinfection

Prior to cleaning

Medical chairs like the ATMOS® Chair E 1 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 unit, it may not be operated again until it has been checked by the authorised customer service centre.

- The surfaces of the ATMOS® Chair E 1 are resistant against all the recommended surface disinfectants stated in chapter 5.3 and 5.4. Nevertheless after a longer period of use discolouration could occur. 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.
- Substances such as blood need to be removed immediately to prevent stains.

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 E 1 can be cleaned / wiped with disinfectants containing the following active ingredients:
 - QAV (quarternary ammonium compounds)

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	

6.0 Maintenance and Service



The ATMOS® Chair E 1 is maintenance-free except for a possible fuse change (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 with 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.

7.0 Troubleshooting



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

Should a malfunction still occur, please inform the authorized ATMOS customer service immediately.

8.0 Accessories and spare parts



REF

8.1 Accessories

Child seat On request

8.2 Spare parts

Voltage	230 V~ ± 10 %; 50/60 Hz
Special voltage	120 V~ ± 10 %; 50/60 Hz
Current consumption	Max. 2.5 A
Power consumption	520 VA
Fuses	T 3.15 A / 250 V
Operating time	1.5 min operation / 8.5 min rest period
Seating surface L x W	500 x 470 mm
Seat height	520 - 720 mm
Vertical lift	200 mm
Vertical speed	13 mm/sec.
Load	150 kg
Rotation	360° with detent every 90°
Height of backrest	900 mm
Backrest inclination	+7° up to -90 ° (horizontal position)
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	500...1060 hPa
Dimensions H x W x D	1420 x 630 x 920 mm
Weight	92 kg
Weight with movable base plate	100 kg
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)	536.0000.0 536.0000.4 (Special voltage)

- The ATMOS® Chair E 1 does not contain any hazardous materials.
- 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 E 1 is intended for use in the electromagnetic environment specified below. The customer or user of the ATMOS® Chair E 1 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 E 1 is suitable for use in all establishments, including domestic, and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic 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 E 1 is intended for use in the electromagnetic environment specified below. The customer or user of the ATMOS® Chair E 1 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 ± 8 kV Air	± 6 kV Contact ± 8 kV Air	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 %.
Fast electrical transient/ burst IEC 61000-4-4	± 2 kV Mains ± 1 kV I/Os	± 2 kV Mains ± 1 kV I/Os	Mains power quality should be that of a typical commercial or hospital environment.
Surges IEC 61000-4-5	1 kV Common 2 kV Differential	1 kV Common 2 kV Differential	Mains power quality should be that of a typical commercial or hospital environment.
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	$< 5 \% U_T$ (> 95 % Dip of the U_T for 0.5 Cycle) $40 \% U_T$ (60% Dip of the U_T for 5 cycles) $70 \% U_T$ (30% Dip of the U_T for 25 cycles) $< 5 \% U_T$ (> 95 % Dip of the U_T for 5 s)	$< 5 \% U_T$ (> 95 % Dip of the U_T for 0.5 Cycle) $40 \% U_T$ (60% Dip of the U_T for 5 cycles) $70 \% U_T$ (30% Dip of the U_T for 25 cycles) $< 5 \% U_T$ (> 95 % Dip of the U_T for 5 s)	Mains power quality should be that of a typical commercial or hospital environment. If the user of the ATMOS® Chair E 1 demands continued function even in case of interruptions of the energy supply, it is recommended to supply the ATMOS® Chair E 1 from an uninterruptible current supply or a battery.

NOTE U_T is the mains alternating current prior to application of the test levels.

11.3 Guidelines and Manufacturer's Declaration - Immunity

The ATMOS® Chair E 1 is intended for use in the electromagnetic environment specified below. The customer or user of the ATMOS® Chair E 1 should ensure that it is used in such an environment.

Immunity Test	IEC 60601- Test Level	Compliance Level	Electromagnetic Environment - Guidance
Conducted disturbances acc. to IEC 61000-4-6	$3 V_{\text{eff}}$ 150 kHz to 80 MHz	3 V	Portable and mobile communications equipment should be separated from the ATMOS® Chair E 1 including the cables by no less than the distances calculated/listed below. Recommended distances: $d = 3.5/3 \sqrt{P}$ $d = 3.5/10 \sqrt{P}$ $d = 7/10 \sqrt{P}$ where „P“ is the max. power in watts (W) and d is the recommended separation distance in meters (m). Field strengths from fixed transmitters, as determined by an electromagnetic site (a) survey, should be less than the compliance level (b). Interference may occur in the vicinity of equipment containing following symbol: 
Radiated HF disturbances acc. to 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 measured field strength at the location where the ATMOS® Chair E 1 is used exceeds the above compliance level, the ATMOS® Chair E 1 is to be observed to verify the intended use. If abnormal performance characteristics are noted, additional measures might be necessary, e. g. a changed arrangement or another location for the ATMOS® Chair E 1.

b

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

11.4 Recommended safety distance between portable and mobile RF Communications equipment and the ATMOS® Chair E 1

The ATMOS® Chair E 1 is intended for use in electromagnetic environment in which radiated disturbances are controlled. The customer or user of the ATMOS® Chair E 1 can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF Communications equipment and the ATMOS® Chair E 1 as recommended below, according to the maximum output power of the communications equipment.

Nominal output of the transmitter W	Safety distance, depending on transmit-frequency m		
	150 kHz to 80 MHz $d = 3.5/3 \sqrt{P}$	80 MHz to 800 MHz $d = 3,5/10 \sqrt{P}$	800 MHz to 2.5 GHz $d = 7/10 \sqrt{P}$
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.



MedizinTechnik

ATMOS MedizinTechnik GmbH & Co. KG
Ludwig-Kegel-Straße 16
79853 Lenzkirch / Germany
Phone: +49 7653 689-370
atmos@atmosmed.de

www.atmosmed.com