EN

User and Service Manual

Version 05 / 2020
SN 0001 - following

Treatment chair

500 ECO

UFSK-International OSYS GmbH
Kirchhoffstrasse 1
93055 Regensburg
Germany

PREPARE, OPERATE, RECOVER ON ONE CHAIR

Phone +49(0)941 78862 15
Fax +49(0)941 78862 35
Mail info@ufsk-osys.com
Web ufsk-osys.com

UFSK-International OSYS GmbH
Kirchhoffstraße 1
93055 Regensburg

Variant Types

500 ECO
Item No.: 1500 0008

500 ECO with colored upholstery
Item No.: 1500 0008
+ Item No.: 3037 0... *Tundra skai*

About Us/Legal Notice:

UFSK-International OSYS GmbH, D - 93055 Regensburg

Conceptual Design and Completion/Layout and Design:

UFSK-International OSYS GmbH, Kirchhoffstrasse 1, D- 93055 Regensburg

English translation of the original German version, produced and printed in Germany.

Table of Content

1. Introduction to the Product

1.1. Foreword

Dear Customer!

Thank you for choosing the treatment chair ***500 ECO*** by UFSK-International OSYS GmbH.

The treatment chair ***500 ECO*** provides an innovative working platform with superior functionality at the high level of safety of a medical product, in accordance with Regulation (EU) 2017/745.

The treatment chair has been developed in compliance with the relevant German and international standards and regulations and has been manufactured in accordance with the latest state of the art. It has been carefully and thoroughly tested prior to delivery and has been shipped from our factory in flawless technical condition.

Please keep this user manual handy for future reference. It contains important information on all performance characteristics necessary for the treatment chair safe and convenient operation by operators and/or users.

The treatment chair ***500 ECO*** - optionally available with colored upholstery and additional accessories - helps you set up your own individualized and ergonomic workplace at your surgery clinic. We wish you relaxed and successful working with ***500 ECO*** .

1.2. Manufacturer and Copyright

Manufacturer's Contact Details:

UFSK-International OSYS GmbH
Kirchhoffstrasse 1
D-93055 Regensburg

Phone: +49 941 78862-15
Fax: +49 941 78862-35
Mail: info@ufsk-osys.com
Web: www.ufsk-osys.com

1.3. Warranty Clause

UFSK-International OSYS GmbH agrees, to the extent provided by law, to assume warranty for your equipment including accessories which exhibits defects resulting from manufacturing and/or material faults within 12 months of purchase. This warranty shall not apply in cases where the equipment's defect is attributable to improper treatment and/or disregard of the equipment's intended use and/or failure to comply with the code of conduct specified in this instruction and service manual. Any failure to comply with the user manual, any improperly executed maintenance work or any technical modifications and additions made without the prior consent of UFSK-International OSYS GmbH will result in the lapse of any product warranty claims as well as general product liability. Only original spare parts and wearing parts may be used. It cannot be guaranteed that components supplied by third parties have been designed/manufactured to meet the pertinent stress and safety standards.

1.4. Declaration of Conformity

Medical devices made by UFSK-International OSYS GmbH bear the CE Mark of Conformity and satisfy the relevant requirements in terms of safety and functionality. To this end medical devices by UFSK are tested in accordance with the international standards relevant for medical devices.

The treatment chair ***500 ECO*** is a Class I medical device and corresponds to the DIN EN 60601-1 and DIN EN 60601-1-2 standards. The equipment features double protective insulation in accordance with Protection Class II and meets the requirements for a Type B application part.

Please consult Appendix at the end of this instruction and service manual for the complete text of the EC Declaration of Conformity.

1.5. Definitions of Terms and Signal Words

1.5.1 Definitions of Terms

This paragraph defines groups of persons coming into direct or indirect contact with this product.

Operator
An operator is any person operating the treatment chair, either personally or via authorized persons, in a medical environment.
User
A user is any person authorized by virtue of his or her professional training, experience or instruction to operate the treatment chair or to use it for conducting patient examinations and/or administering patient treatments. The user has been instructed in the handling of the treatment chair. The user is capable of identifying and avoiding potential hazards.
Patient
A person requiring treatment and in need of appropriate medical care. Appropriate medical care latter shall be deemed to include the surgeon's optimized work sphere featuring an adjustable work chair for proper positioning of the surgeon's body and hands as well as any necessary equipment control elements.
Qualified technicians
Qualified technicians are persons who, by virtue of their professional training and/or instruction, are in possession of the know-how and experience necessary for the delivery, assembly, disassembly, and transportation of the treatment chair. These persons have been additionally instructed in the cleaning and disinfection regulations pertinent to this medical device.

1.5.2 Explanations on the signal words used herein


Danger
The signal word "Danger" warns against direct danger to persons which will result in death or severe injuries.


Warning
The signal word „Warning" warns against potential danger to persons which may result in death or severe injuries.


Caution
The signal word "Caution" warns against potential danger to persons which may result in moderate or minor injuries.


Attention
The signal word "Attention" warns against potential property damage.

Important Information
The signal word "Important Information" refers to particularly useful information on the proper handling of the treatment chair. This information will help you make full use of all the treatment chair's functions. Non-observance of this Important Information may lead to damages to the equipment or its environment.

2. Safety

Attention
Non-compliance with the safety instructions may render any claims to compensation for damages null and void!

We reserve the right to perform structural modifications to the treatment chair for the purpose of adapting the product to the currently valid state of the art and for the purpose of improving the product.

2.1. Basic safety instructions

The equipment described in this user manual has been designed and tested in compliance with the relevant safety standards and the national and international rules and regulations. This regulation compliance guarantees a superior level of equipment safety.

Our goal is to provide you with comprehensive information on all safety aspects pertaining to the handling of this equipment. In the following you will find a compilation of the most important, generally valid safety instructions for handling the treatment chair:

- Please read the entire user manual before using the treatment chair.
- Please keep this instruction and service manual readily available at the treatment chair's location of use.
- Please exercise caution when performing the works described in this user manual.
- Please have any damages to the treatment chair or its accessories eliminated immediately by qualified technicians.
- Comply with the applicable national legal provisions on the integration of a medical product into your existing technical systems and buildings, as well as provisions on the operation, repair and maintenance of medical products. In Germany, the treatment chair is subject to the Medical Products Operator Ordinance (MPBetreibV).
- Furthermore, please observe the statutory Accident prevention regulations.

Danger
Prevention of fire and explosions

- The treatment chair must never be operated in potentially explosive area.
- Handling of the treatment chair in the presence of combustible anesthetics or volatile solvents like alcohol, gasoline or the like is prohibited.

Warning
Prevention of electric shocks, fire, and explosions

General safety instructions for handling the electrical components of the treatment chair and/or its electrical power supply (Power supply cable, integrated power supply unit with transformer):

- The treatment chair may only be operated with the supplied mains connection cable that matches the charging voltage.
- Any works to the equipment's electrical power supply may be performed only by licensed and qualified electricians.
- Disconnect the treatment chair from mains prior to performing any maintenance, cleaning, or repair works.

- Keep moisture away from live components. Moisture may cause short-circuits.
- Never use damaged cables or plugs or loose wall outlets.
- Do not put the chair into or out of operation by plugging or unplugging the mains connection cable.
- Never touch cables with moist hands and do not pull on them.
- Cables must never be bent or otherwise damaged.
- Electrical components like the manual keypad or foot keypad should be pre-cleaned with a dry cloth and subsequently disinfected with a moderately moist cloth saturated with an appropriate disinfectant.
- Neither the treatment chair nor its accessories are suitable for cleaning in automated systems (e.g. Jetstream).

Warning

Prevention of electromagnetic interferences in environments characterized by the controlling of radiated high-frequency disturbances.

During emergency situations requiring the use of a defibrillator it is important to refrain from operating the treatment chair's electrically powered adjusting functions. The chair's running motors may interfere with the defibrillator's normal operation. Electromagnetic interferences between the devices cannot be ruled out entirely.

- Switch off the treatment chair and disconnect it from the power supply so that all current flow to the electrical adjustment functions is safely interrupted.

The same applies to the use of high-frequency surgery equipment! Electromagnetic interferences between these devices and the treatment chair cannot be ruled out entirely.

- Activating the electrical adjusting functions for positioning the patient during this type of intervention/ treatment is therefore strictly prohibited!

Caution

- Unauthorized structural alterations by the operators or operating staff are prohibited!
- Strict adherence to the load limits specified in Section „9. Technical Specifications" is mandatory.
- When selecting a location for the treatment chair, please pay attention to adequate space for patient movement while entering or exiting the chair.

Attention

- When using the treatment chair in conjunction with other equipment, please make sure of its compatibility the treatment chair.
- The use of this chair in conjunction with devices that emit ionizing radiation (e.g., X-Ray diagnostics, therapeutic radiology) is prohibited.
- Never push the treatment chair across thresholds or stairs.
- Never use the treatment chair´s armrests as carrying handles.
- Please lift the treatment chair only by the metal frame of the running gear.

Additional specific safety instructions applicable to each of the application situations described have been incorporated in the relevant paragraphs of this user manual and are identified by the signal words outlined in Section „1.5.2 Explanations on the signal words used herein" . Please pay particular attention to the Important Information contained therein.

2.2. Personnel Qualification

The treatment chair may only be assembled, operated, maintained and repaired by persons who have received the required training or possess the appropriate knowledge and experience. Any works to the equipment's electrical components may be performed only by a skilled and qualified electrician.

2.3. Intended Use

The term "intended use" denotes the treatment chair's operation including any routine checks thereof in accordance with this instruction and service manual.

The treatment chair is intended for sole use either by the caregiver/surgeon as an electrically adjustable treatment chair designed for the proper positioning and support of the patient for diagnostic and therapeutic purposes of temporary (< 60 min) to short duration (usually less than 5-8 hours) or by instructed, qualified medical personnel.

The treatment chair and its functions have been designed to address the needs of out-patient medical diagnostic and treatment methods.

The quick adjustability of the chair, with 8-fold auto-run function and the easy access of the surgeon to the treatment field „head/face" allow an ergonomic working method, especially optimized for ambulant operation techniques with high patient turnover:

- IVOM treatments / ophthalmology
- aesthetic treatments
- dermatological applications
- dental examinations

The treatment chair has been designed to accommodate the accessories commonly used in this medical environment (e.g. paper roll, hand remote bracket).
The equipment with 2 integrated, lowerable fixed castors and an additional 3rd swivel castor make it possible to manoeuvre and push the treatment chair if a change of location is necessary.

The intended use of the treatment chair is carried out via an integrated power supply unit including isolating transformer with protective low voltage. The treatment chair technical safety equipment and ease of disinfection make it perfect for use in cleanroom class 0, 1 and 2 medical-use rooms. It is not permitted to activate the chair's adjusting functions during the course of medical treatments and/or surgery. Medical surgery may only be performed when the device is switched off.

Be sure to use the treatment chair only on perfectly horizontal ground (10-degree slope max.).
The loads applied to the treatment chair should not exceed 240 kilograms max.

The manufacturer will not be held liable for damages resulting from unintended use not in compliance with the definition set forth herein.

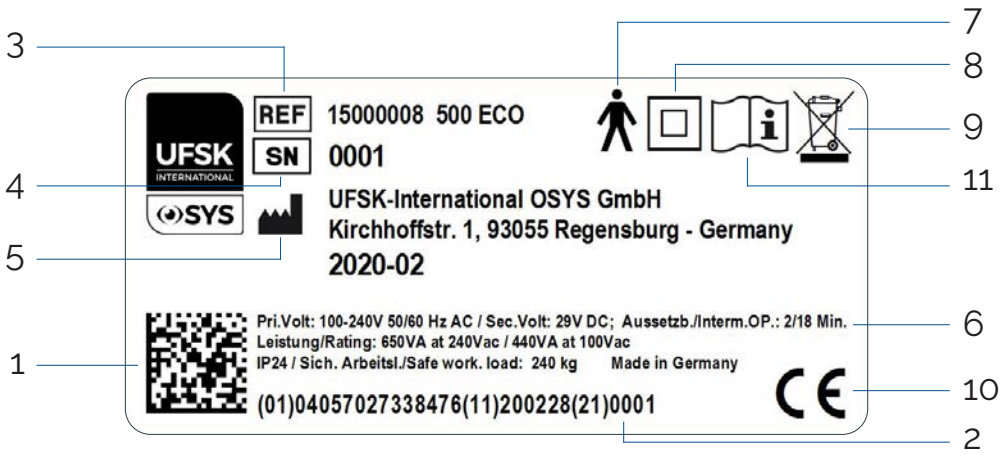
2.4. Improper Use

Do not use the treatment chair for purposes deviating from its intended use as defined in Section „2.3. Intended Use“ . Do not allow operation and/or servicing of the treatment chair by unauthorized persons.

Examples of improper use include the chair's use in conjunction with equipment emitting ionizing radiation (e.g. radiation therapy, nuclear medicine etc.). Use of the treatment chair despite knowledge of potentially existing and/or occurring explosive ambient conditions when handling flammable gases and solvents is prohibited.

2.5. Equipment Labeling and Nameplate

The treatment chair's nameplate is attached to the chair frame and contains the following information:



Item	Explanation of the symbols and/or technical details
1	Data Matrix with UDI (Unique Device Identification)
2	UDI comprising: (01) GTIN (Global Trade Item Number), (11) Date of Manufacture and (21) Serial Number
3	Symbol for "Product Reference Number"; it is composed of the item number and equipment type designation
4	Symbol for "Serial Number"
5	Symbol for „manufacturer" including manufacturer's address and date of manufacture
6	Indication of the technical data
7	Symbol for "Applied Part Type B"
8	Symbol for "Electrical Protection Class II"
9	Symbol for „Ban on the disposal of electronics scrap with normal household waste". Waste electric and electronic equipment contains valuable recyclable materials which should be recovered.
10	CE Mark of Conformity
11	Symbol for "Read User Manual"

All other labeling elements and instruction plates/adhesive labels in text and image form are explained in the content-relevant paragraphs of the instruction and service manual.

The following symbols and inscriptions can be found on the equipment. They refer to the immediate surroundings in which they are placed.

Symbol/inscription	Meaning/explanation
	Max. load capacity of the armrests: 30 kg / 66 lbs

Important Information
Never remove or alter instruction plates/adhesive labels on the treatment chair without the manufacturer's prior consent. Be sure to immediately replace damaged or lost instruction plates/adhesive labels with identical plates/labels.

3. Technical Equipment Description

The ***500 ECO*** is an innovative treatment chair with high adjustment speed, specially developed for the requirements of outpatient surgery with high patient turnover, e.g. for IVOM treatments in ophthalmology.

The chair features the following special ergonomic-technical performance characteristics:
- Adjustment „Patient entry - OP position" in 5-6 seconds
- Powerful operation via integrated power supply unit incl. isolating transformer with protective low voltage
- Powerful, electromechanical, low-noise lifting column (maximum load: 240kg)
- 4 powerful drives for adjustment of total height, backrest, legrest and seat element
- Electronic control elements: manual keypad; optional: foot keypad
- Multi-functional headrest element featuring two-dimensional and longitudinal adjustment
- Armrests, removable, fold-away, fully covered with PU foam
- Sturdy construction
- Optimised stability and tilt stability
- 3 lowerable fixed castors for relocation / manoeuvrability

The treatment chair offers the following adjusting functions:
- Servo-motor powered height, backrest, legrest and seat element adjustment via the manual keypad
- Frequently used treatment positions can be stored freely as memory positions and can be called up quickly and conveniently using the Auto-Run function. The manual keypad offers eight (8) memory locations; memory positions 1 and 2 can be called up via the (optionally available) foot switch.

Optional accessories (for details see Section „3.2. Optional accessories“)

- Foot switch
- Multifunctional headrest
- Inlay head pillow
- Accessory mounting support with accessory holder
- Accessory mounting support
- Hand remote bracket
- Monitor arm, swiveling, incl. I.V.Pole Ø 25 mm
- I.V. Pole stainless steel
- Hand control holder for attachment onto an I.V. Pole
- Side rails (right+left) swiveling
- Padded arm board with universal joint
- Norm rail, seat part
- Instrument table
- Paper roll holder
- ***stayClean roll*** (paper roll)
- Foot protection foil
- Trapeze cushion
- Half round bolster pillow, cushion knees
- Full round bolster pillow, cushion knees
- Bodystrap
- Custom made upholstery

3.1. Scope of Supply

Preassembled treatment chair
incl. mains connection cable

Important Information
For transport- and shipping purpose the ***500 ECO*** is delivered partially disassembled. In this case please follow the instructions for Section „5.1. Unpacking the chair“ and Section „5.2. Setting the chair up“.

3.2. Optional accessories

Foot switch
with 2 free configurable memory positions

Item No.: 3351 1029

Multifunctional headrest

Item No.: 3351 1034

Inlay head pillow

Item No.: 3325 0000

Accessory mounting support, powder coated,
with accessory holder
stainless steel

Item No.: 3351 1033

Accessory mounting support, stainless steel

Item No.: 3351 0037

Hand remote bracket

Item No.: 3351 1023

Monitor arm
stainless steel, swiveling,
incl. extentible I.V.Pole Ø 25 mm

Item No.: 3024 0014

I.V. Pole, stainless steel
ø 25 / 18 mm, one-hand height-adjustable
1070–1660 mm, 4 hooks, glass and holder

Item No.: 3068 0000

Hand control holder
for attachment onto an I.V. Pole Ø 25/18 mm,
PVC

Item No.: 3351 1022

Side rails (right+left)
swiveling, incl. locking,
upholstered

Item No.: 3351 1036

Padded arm board
with universal joint,
wrist secure straps

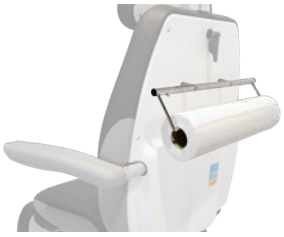
Item No.: 3078 0000

Norm rail
300 mm,
seat part

Item No.: 3321 0000

Instrument table,
50 x 30 x 1,5 cm,
hight adjustable, swiveling,
detachable, incl. adapter

Item No.: 3065 0000



Paper roll holder
Item No.: 3351 1031

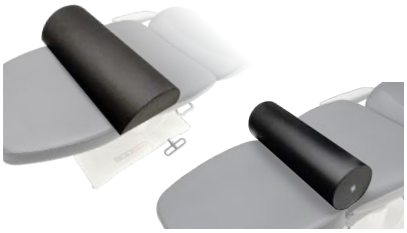
Paper rolls, ***stayClean roll***,
white embossed, 2-ply,
50 cm wide, 9 rolls á 50 m
Item No.: 3034 0021

Foot protection foil

Item No.: 3326 0000

Trapeze cushion,
wedge, for back/seat part,
black

Item No.: 3022 0005



Half round bolster pillow
60 x 28 x 14 cm, cushions knees,
PUD-coated
Item No.: 3019 0000

Full round bolster pillow
50 x 15 cm, cushions knees,
PUD-coated
Item No.: 3050 0000

Bodystrap with Velcro straps,
2-piece

Item No.: 3083 0000

3.3. Materials Used

Components of the treatment chair	Material characteristics
Synthetic coating of chassis and back part	Synthetic multilayer composite • support layer made of ABS (acrylonitrile-butadiene-styrene) • laminated with a high-gloss cover layer made of scratch-resistant, hard-wearing PMMA (polymethyl methacrylate) Color: white
Synthetic coating of chair column	Synthetic, Polystyrene Color: white
Chassis	Steel tube frame, powder-coated;
Fixed castors, lowerable	Two disc castors, rigid, with diameter 100 mm; wheel body in polyamide, tread in polyurethane; One double castor, diameter 35 mm; Wheel body made of polyamide
Footstep lever	Double-step lever, mechanical; made of polyamide, strengthened with glass fibre
Accessory support system	Steel tube frame, powder-coated
Manual keypad	Synthetic box, made of ABS (acrylonitrile-butadiene-styrene)
Foot keypad (optional)	Synthetic box, made of ABS (acrylonitrile-butadiene-styrene) Color: gray
Upholstery	Upholstery covering material: composite textile, made of PVC (polyvinyl chloride): - long service life, shape-retaining, light-resistant - highly tear-resistant and friction resistant - waterproof and dirt-repellent - Standard color: anthracite; special colors available on request - Electrically conductive upholstery available on request (skai Mano-S) - Low gloss PUR foam (polyurethane)

4. Shipping, Packaging and Storage

For delivery, the treatment chair will be secured tightly to a pallet and packaged in a secondary cardboard container. In addition to the actual chair, this cardboard container will also contain the chair's attachments (where applicable). If delivered by the UFSK-OSYS service technician, the chair will arrive in fully assembled condition. In that case please disregard the instructions on how to unpack (Section 5.1) and set up the chair (Section 5.2).

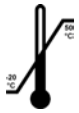
Be sure to check the shipment for completeness and potential damages in transit immediately upon receipt to ensure quick remedial, if necessary.

Please note down any externally visible damages on the shipping documents or the forwarder's packing slip and submit your complaint to our customer service department.

If necessary, please transport and store the treatment chair under the following conditions:
- With all attachments disassembled
- In the chair's original packaging
- Secured against impacts and tipping
- In dry and clean condition

Attention
Incorrect shipping may damage the chair! Improper transport may lead to property damage. You are there advised to please proceed carefully when unloading the package while observing the symbols imprinted on the packaging.

4.1. Symbols imprinted on the packaging

Symbols	Meaning
	Top Side! As a general rule, the package will be transported and stored with the arrows pointing up. Do not roll or tilt the package.
	Caution! Fragile! Handle the package care. Do not drop, throw, kick or tie the package.
	Protect from moisture!
	Marking attesting to the conformity of the packaged product with the statutory provisions concerning quality, safety and serviceability
	Heavy object – do not stack!
	The packaging materials are recyclable. Please do not dispose of the packaging materials with normal household waste but have them recycled instead.
	Observe the -20 ˚C….+50 ˚C temperature limit!

Symbols	Meaning
	Observe the 10%....95% moisture limit!
	Observe the 660hPa....1,080hPa atmospheric pressure limit!

5. Putting Into Service

5.1. Unpacking the chair

1. Cut the fastener straps and pull the cardboard container up and off.

2. Carefully remove the packaging foil;

Attention

- Never cut cardboard containers open to avoid damaging their contents!
- Please bear in mind that the chair first needs to acclimatize to room temperature prior to first use after delivery if it was exposed to extremely low external temperatures during shipping. In case of high temperature fluctuations (during storage and shipping), the chair should be given an acclimatization period of approx. 2 hours to observe the maximum admissible temperature change of 20 K/h.
- Please lift the treatment chair only by the metal frame of the running gear.

5.2. Setting the chair up

The treatment chair will be supplied in nearly assembled condition. To minimize packing dimensions, the back-, head- and armrests elements are not assembled. They simply have to be inserted into the corresponding openings.

Important Information

- Carefully remove all packaging materials (packaging film, foamed packaging material, straps, etc.)
- The packaging materials are recyclable and should be dispatched for recycling.

Below please find an illustrated description of the most important work steps required for the chair's final assembly:

3. Take hold of the loose backrest element with two hands, lift it off and put it aside; do not damage the upholstery.

4. Remove the seat element, pull up jerkily on side of buttocks & knees; put aside carefully

5. Lift chair from pallet;

6. Loosen the back section slide and remove the adhesive material from the back section;

7. Loosen bolts for connecting the back drive and connecting shaft of the armrest attachment;

8. Snap the slide bushes into the slots provided.

Important information Be sure to turn the slide bushes into the appropriate position first.

9. Keep holding on to the backrest element until the bold for the connecting shaft of the armrest attachment...

10. ...and the back section slide are connected to the backrest element and secured;

11. Connect chair to power;

12. Switch on the chair with the manual keypad (power button);

13. With the help of the manual keypad...

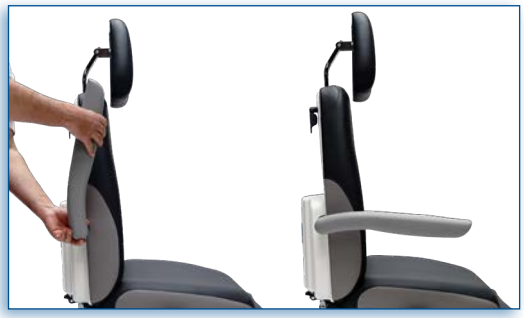
14. ... move the backrest element back to approx. 30 degrees.

15. Position the seat cushion correctly...

16. ...and snap into place by pressing firmly on the buttocks & knee side.

17. Move the chair into the sitting position by pushing the reset button.

Important information Please reset the treatment chair when first taking into operation after delivery!



18. Insert the armrests covers vertically into the slots provided and fold them down.

5.3. Power supply

The intended use of the treatment chair ***500 ECO*** takes place with direct mains connection. Via the chair integrated power supply unit mains voltage is transformed into protective low voltage. For connection to mains, the treatment chair is supplied with a mains connection cable in country-specific plug version. For operating the chair with other current and voltage supply than delivered the mains connection cable can be replaced by a qualified electrician (see Section „11.2.1 Replacing the mains connection cable").

5.4. Switch on

Connect the mains connection cable to an easily accessible wall or floor socket and switch on the chair by pressing the power button on the manual keypad.

Caution
Ensure that the mains connection of the chair is easily accessible so that the chair can be quickly disconnected from the mains in an emergency or for service work.

5.5. Decommissioning and storage

Please ensure that the treatment chair is switched off properly at the end of a working day. For a longer shutdown or storage of the device, the treatment chair must be disconnected from mains.

6. Instructions for Use

6.1. General – the most important points in a nutshell

The ***500 ECO*** is designed as a site-specific treatment chair with high adjustment speed for surgical techniques with high patient turnover - Just Walk-in OR - adjustment „patient entry - OR position" in 5-6 seconds.

For this purpose the ***500 ECO*** is adapted to the requirements of quick positioning and at the same time ergonomic and comfortable treatment of the patient. It has versatile adjustment functions for the headrest, backrest, legrest, seat element and the chair´s overall height for anaesthesia, treatment and surgery including shock and flat positioning.

All positions can be conveniently adjusted vie the manual keypad. For ergonomic patient repositioning memory positions (see Section „6.6. Memorizing a position with the MEMO button") and a reset function (Section „6.8. Reset function") can be called up quickly and conveniently via the manual keypad. Pushing the reset button will, via electronic control, automatically move the chair into its factory-defined home position, i.e. the patient mounting and dismounting position („upright sitting position").

The optionally available foot keypad can be used to activate the two free configurable memory positions 1+2 of the manual keypad. This allows any already aseptic user/surgeon to call up a position without need of starting the disinfecting process all over again. The Auto-Run functions are triggered by lightly tapping with the foot. The pedal´s ergonomic design equipped with an anti-slip surface ensures optimized operation. The cable-connected foot keypad can be positioned individually on the floor in the chair´s environment.

The headrest is adjustable in 2 dimensions for precise head positioning of the patient.

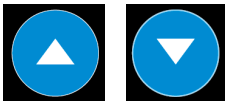
The armrests are removable, swivel-mounted, and designed for variable use with two different-height seat limit positions. This will allow you to adjust the chair to accommodate even very small patients such as children. For additional details please refer to Section „6.10. Adjusting the armrest elements".

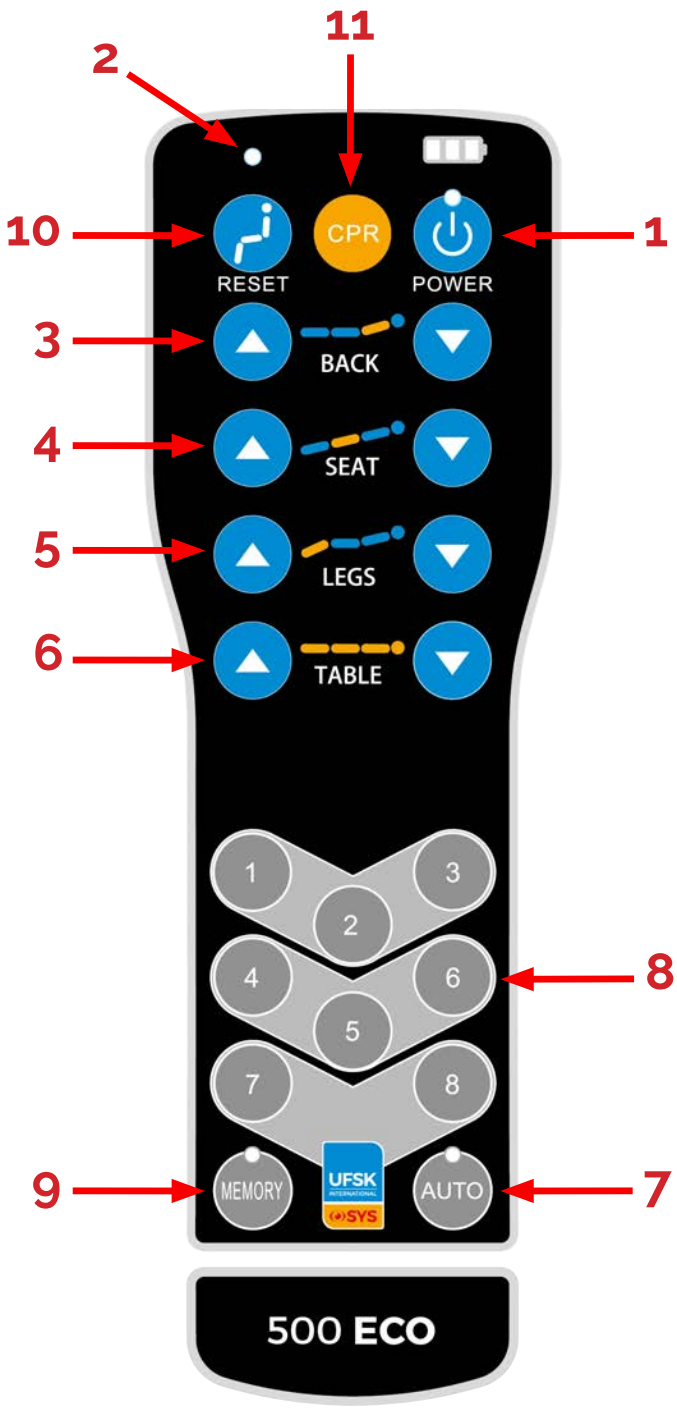
The chair is equipped with lowerable fixed castors in case a change of location is necessary. A swivel castor makes manoeuvring easier.

The intended use of the chair is carried out via an integrated power supply unit including isolating transformer with protective low voltage. Information on the power supply and electrical safety of the chair is described below in Section „6.12. Electrical safety".

6.2. Electronic control elements

6.2.1 Key functions of the manual keypad

Symbols	Meaning/explanation
	Reset button (initialization/restart): the electronic control causes the chair to return to its defined home position: “Chair position” = mounting/dismounting position for the patients
	Power button: Switching the equipment ON or OFF
	Up/Down
	Adjusting the backrest element
	Adjusting the legrest element
	Adjusting the seat element
	Adjusting the overall height



Item	Meaning/explanation
1	Power button: Switching the equipment ON or OFF
2	Operating indicator LED (On/Off), green
3	Backrest element Up/Down
4	Seat element Up/Down
5	Legrest element Up/Down
6	Overall chair height Up/Down
7	Automatic button (auto-run function): This function key activates the automatic mode; the control system waits for the input command "Select memo position 1 to 8" (Auto-Run LED lights green)
8	Select memory position 1 to 8 and start it; eight storage locations for freely selectable memory positions (factory setting, see Section „6.5. Freely programmable memory positions")
9	Function key for memorization: to modify/overwrite previously memorized positions (Memo LED lights green)
10	Reset button: automatic initialization (restart), i.e. return to the upright sitting position (home position)
11	CPR button: Auto-position for cardiopulmunary resuscitation (heart lung reanimation)

6.2.2 Key functions of the foot keypad (optional)

The optionally available foot keypad can be used to activate the two free configurable memory positions 1+2 of the manual keypad (see Section „6.5. Freely programmable memory positions“ and Section „6.6. Memorizing a position with the MEMO button“).
The Auto-Run functions are activated by lightly tapping with the foot. The cable-connected foot keypad can be positioned individually on the floor in the chair´s environment.

6.3. Switch on the chair

To switch the electrically adjustable treatment chair on or off, please push either the power key on the manual keypad. This will activate or deactivate the equipment´s electronic control of the unit. Activation of the power supply and the treatment chair´s readiness for operation will be displayed by a green LED on the manual keypad or the foot keypad.

Important Information
Automatic shutdown
If none of the treatment chair´s power-supplied adjusting functions are being activated after the chair was turned on, it will switch off automatically after approximately 10 minutes.

6.4. Operating the electrical adjustment functions of the chair

The chair's backrest, legrest, and seat element as well as the chair's overall height can be electronically adjusted at the push of a button to customize the chair's configuration for optimized patient positioning. The manual keypad – as described in Section „6.2.1 Key functions of the manual keypad" – permits adjustment of the backrest element, the foot support element, the seat element, and the chair's overall height.

Keep the specific function key for an up or down movement pushed until the drive corresponding to that key's function has arrived at the desired position.

The seat element's upward adjustment (i.e. the patient's buttocks are lowered while the seat edge moves up) creates a shock position and elevates the patient's legs (Trendelenburg position) whereas the seat element's downward adjustment (i.e. the patient's buttocks are raised while the seat edge moves down) supports the patient's Anti-Trendelenburg position (e.g. for laryngoscopic interventions) .

Caution

- It is not permitted to activate the chair's adjusting functions during the course of medical treatments and/or surgery.
- It is important, prior and during adjustment by the motors, to ensure that there are no body parts caught between the moving elements. If possible, the arms and hands should be placed on the armrests.
- Be sure to take into account any of the patient's orthopedic handicaps when selecting the chair's adjusting functions to prevent bodily harm to the patient resulting from incorrect positioning and bedding.
- Please make sure of adequate safety clearances between the chairs and supply conduits, window sills, etc. Personal damage and/or property damage to the treatment chair may result if the treatment chair gets caught by an obstacle protruding from the wall while moving the backrest up or comes to rest on such an obstacle while moving the backrest down.
- Feel free to guide and monitor the patient's entering and exiting the treatment chair. Please pay attention to patent safety when the patient leaves the treatment chair, especially after sedation.

Attention

- Whenever the manual keypad is not required, it should, where possible, either be suspended from one of the armrest shafts projecting from the backrest cover or inserted into the optionally available bracket to prevent persons from tripping over the cable and protect the manual keypad against damages.

6.5. Freely programmable memory positions

To allow the time-saving retrieval of frequently used patient positions such as anesthesia position, patient treatment or surgery position, or shock or flat position during the daily work flow, the chair offers eight (8) free memory locations for memorizing the total sequences for adjusting functions.

After selection of an automatic movement via the AUTO button(Section „6.7. Auto-run function: retrieving a pre-set memory position"), followed by the activation of a memory position button (i.e. number keys 1 to 8), the electronic control proceeds to move the chair into the memorized position using up to four drives simultaneously.

6.6. Memorizing a position with the MEMO button

To memorize an individual memory position, please proceed as follows:

- Using the manual keypad, move the treatment chair into the position you want memorized by activating the individual adjusting functions for the backrest, legrest and seat element as well as the chair´s overall height.
- To memorize this position, keep the MEMO button pushed until the green MEMO LED lights up. To avoid unintentional overwriting caused by erroneous operation, the time delay to activate the MEMO function is markedly longer. The memory mode will become active only after the MEMO button was kept pushed for 6 seconds – activation of this mode will be indicated by the green MEMO LED lighting up. If you now immediately push the number key of a memory location, the current chair configuration will be memorized under this number whereas the previously memorized configuration will be overwritten.

6.7. Auto-run function: retrieving a pre-set memory position

Pushing the automatic button on the manual keypad or foot keypad tells the control system to retrieve a previously memorized position for specific patient positioning. To retrieve a previously memorized position, please keep the AUTO key pushed until the green AUTO-run LED lights up. You now have 2 seconds to select a suitable memorized position and to push the required number key for the memory position. The green AUTO-run LED will light up permanently while the selected automatic movement is active.

Pushing the automatic button (auto-run function) therefore makes it possible to move the treatment chair into the desired pre-programmed position with the simple push of a selection key! This conveniently obviates the need for the burdensome and time-consuming activation of a series of individual adjusting functions.

Caution

- It is not permitted to activate the chair's adjusting functions during the course of medical treatments and/or surgery.
- When using the auto-run function, please be particularly careful and keep monitoring the chair's movement permanently and without interruption until it has achieved its final position in order to rule out any collision with other objects and equipment (e.g. microscope) and to safely prevent any body parts from getting caught or pinched.
- It is important, prior and during adjustment by the motors, to ensure that there are no body parts caught between the moving elements. If possible, the arms and hands should be placed on the armrests.
- Be sure to take into account any of the patient's orthopedic handicaps when selecting the chair's adjusting functions to prevent bodily harm to the patient resulting from incorrect positioning and bedding.
- Please make sure of adequate safety clearances between the chairs and supply conduits, window sills, etc. Personal damage and/or property damage to the treatment chair may result if the treatment chair gets caught by an obstacle protruding from the wall while moving the backrest up or comes to rest on such an obstacle while moving the backrest down.
- Automatic runs can be programmed and modified individually. Regularly check the saved positions for positioning the patient without them being present, particularly if several users operate the treatment chair. Changes to automatic motion sequences are generally the result of data being overwritten. We recommend maintaining the setting your own, documented default settings if the chair is to be operated by several users.

Important Information

- After starting an automatic movement, it is possible after 2 seconds to interrupt this movement by pushing any random key or button.

6.8. Reset function

The Reset key allows you to return the chair electronically into the factory-defined original patient entry and exit position (the „sitting position") .
During this automatic movement, all drives will move into their pre-programmed initialization positions.

The Reset function serves both for restarting the chair in case of a malfunction and for maintenance of the electronic system!

During all adjusting processes, the chair's control system continuously monitors the positions of the individual drives. To make this monitoring possible, the control system initially needs to know drives' current starting positions. In the event the control system loses a motor's position during operation (caused e.g. by a voltage interruption during a motor's movement or by the replacement of a motor), it will be necessary to re-initialize the control system.

Important Information
Resets conducted at regular intervals – we recommend 1-2 resets per week – will help to virtually rule out malfunctions of the electronic system.

The following situations will necessitate an initialization as per Section „6.8.2 Initialization in the event of a malfunction" in case of a malfunction:
- It is no longer possible to execute the individual adjusting functions at full speed, but only at half or moderate speed ("creep speed of the drives") or the green AUTO LED lights steadily after a memory position was reached.
- the automatic movements are blocked
- the memorization function is blocked

6.8.1 Routine reset for maintenance of the electronic system

6.8.1.1 Manual reset

It is possible to initialize the control system manually by keeping the Reset key permanently pushed until the green operator indicating LED of the manual keypad flashes twice in quick succession. The green operator indicating LED will light up steadily during the entire initialization movement.

6.8.1.2 Automatic reset

It is also possible to retrieve the chair's desired initialization in the form of an automatic movement. To start the initialization movement, push the Auto key (1 second), followed by pushing of the Reset key. During the initialization movement, the green AUTO LED will flash. Completion of the automatic reset is indicated by double flash of the green operator indicating LED.

6.8.2 Initialization in the event of a malfunction

Failure of the chair to respond to the customary entries (blocked key commands) or stopping of the chair failure to execute the adjusting functions at full power (creep speed of the drives) may indicate the occurrence of an electronic control system error (los of motor position during adjusting) which can be eliminated by an initialization movement. A malfunction caused in this manner will be indicated by the green flashing of the AUTO LED and can be easily eliminated by the keystroke sequence of an automatic reset as described in Section „6.8.1.2 Automatic reset". Completion of the initialization movement is indicated by double flash of the green operator indicating LED.

6.9. Adjusting the headrest element

The treatment chair features mechanical adjusting options for convenient and fine-tuned positioning of the patient's head, attuned to his or her individual body size.

The easy-to-use clamping device **(1)** allows the personalized longitudinal adjustment and subsequent safe locking of the headrest element. This ensures an optimally comfortable positioning of the patient through individually adjusted distances in the area of the head/cervical-spine/support of the shoulders. This permits individual adjustment of the patient´s head in terms of inclination and tilting angle as well as cervical-spine flexion angle. **(2)**

Height adjustment

Angle adjustment

Caution

After fine-tuning the headrest element and positioning of the patient in his or her final position, please make sure prior to starting treatments or medical interventions that the clamping mechanism **(1)** is again locked in place.

6.10. Adjusting the armrest elements

It is possible to adjust the move-along armrests to every patient's individual height. For particularly short patients, especially children, please use the right armrest on the treatment chair's left side and vice versa.

Armrest adjustment: high

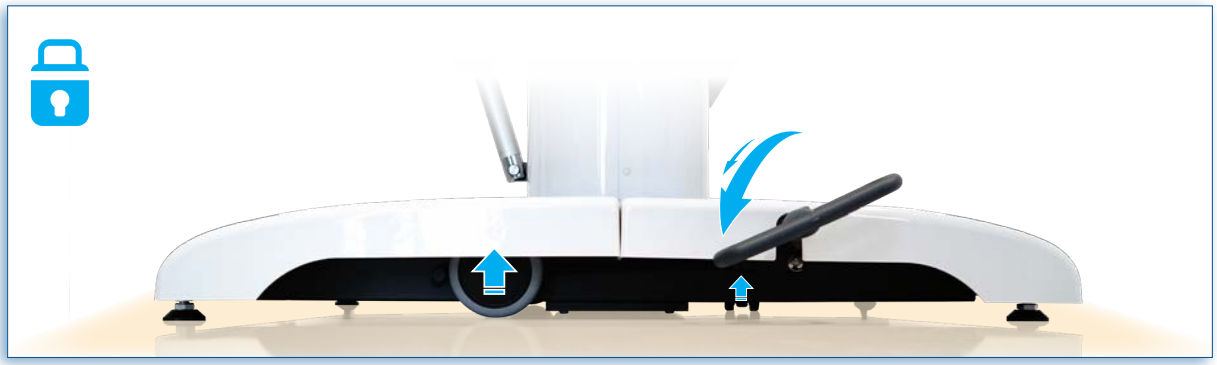
Armrest adjustment: low (e. g. for children)

Caution

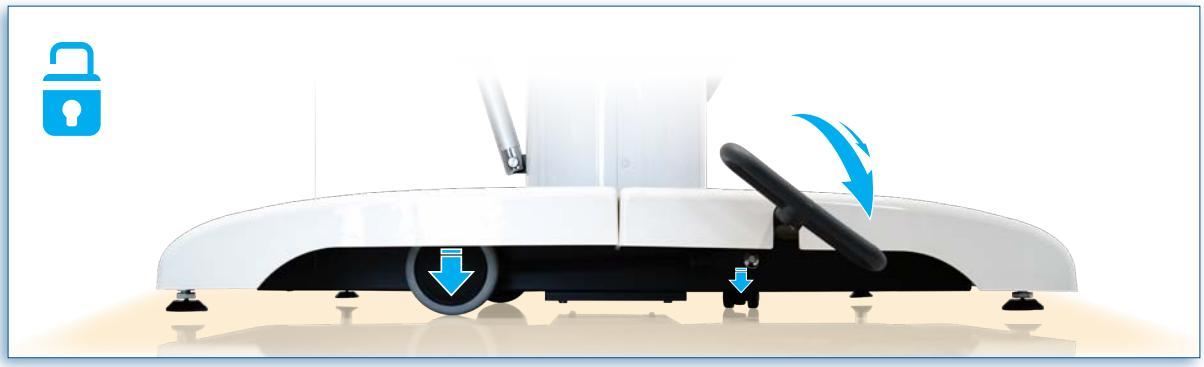
Patients may only mount or dismount the treatment chair via the chair's large side. The armrests need to be folded up during patient mounting/dismounting. Otherwise will be likely to support their entire weight on the armrests. However, the armrests were not designed to withstand these loads (they support a max. load of 30 kilograms). Disregard of this fact may result in patient injury and/or chair damage.

6.11. Operating the manoeuvring aid

The treatment chair is equipped with 3 lowerable fixed castors to manoeuvre it to its final location. If necessary, these can be turned off by stepping the foot pedal (see illustration) completely down. The treatment chair is then mobile and easily manoeuvrable thanks to the integrated swivel castor.



2 fixed castors (rigid) and 1 swivel castor raised/retracted
Treatment chair stands stable on 4 adjustable feet



2 fixed castors (rigid) and 1 swivel castor extended
Treatment chair mobile

Caution

- The manoeuvring aid may only be used for changing the location of the treatment chair (without the patient!) or for the purpose of cleaning the room. Disconnect the mains connection cable from the socket before moving the chair!
- The treatment chair must not be loaded when it is mobile (manoeuvring aid activated).
- Make sure that the patient can only enter the chair when it is safe locked (fixed castors retracted).

6.12. Electrical safety

The ***500 ECO*** treatment chair is double insulated according to electrical protection class II.

In the electrical design of the ***500 ECO*** dental chair, attention was paid to maximum safety against contact voltage. The electric drives and the control system are operated with protective low voltage.

All electrical components are protected against water penetration according to IPX4.

Warning
Avoidance of electric shocks, fire and explosions
- Do not use damaged cables or plugs or loose power sockets.
- Do not touch or pull the cord with wet hands.
- Do not bend or damage the cable.

6.12.1 Integrated switch mode power supply

The ***500 ECO*** treatment chair is intended for use with a direct mains connection. The mains voltage is transformed into protective extra-low voltage via the wide voltage power supply unit (100-240V) integrated in the chair.

6.12.2 Mains connection cable

For connection to the power supply system, the treatment chair is supplied with a mains connection cable in a country-specific plug design.

Please take this into account when ordering spare parts (see Section „10.2. Spare Parts List Including Reference Numbers“).

If the chair is to be operated with a different power and voltage supply than that supplied, the mains connection cable can be replaced by a qualified electrician (see Section „11.2.1 Replacing the mains connection cable“).

Attention
Please make sure that the mains connection cable of the dental chair does not touch the floor during transport. Hang the power supply cable from the armrest during transport. Always lay all cables so that they are trip-proof.

7. Important Information on Care and Disinfection

While cleaning the chair, make sure that is has been disconnected from the power supply. Clean and disinfect all chair surfaces with a moderately moist, soft cloth and material-compatible cleaners and disinfectants.

Please observe the following recommendations and the operating instructions of chemical agent applied.

Please do not cover the upholstered surfaces of the treatment chair immediately after disinfection but allow it to air-dry first. This will avoid undesirable impairments of the upholstery materials as well as discolorations and/or embrittlement as a result of mechanical scouring.

Following general recommendations for the compatibility cleaners and disinfectants of UFSK devices must be observed:

- Sensitive cleaners and disinfectants with low-alcohol concentration and/or suitable surfactants (compatible concentration!) or mixtures thereof are suitable
- Highly acidic or alkaline disinfectants or disinfectants containing aggressive chemicals (e.g. peroxides) may irreversibly damage upholstery and plastic coverings
- Excessively high alcohol content (higher than 45%) makes the upholstery brittle and porous when used repeatedly and thus provokes bacterial load
- Plastic surfaces (e.g. chassis) become matt upon repeated application of too aggressive agents and also rough (e.g. acetone, high concentration of quaternary ammonium compounds)

Attention

- Electrical components like the manual keypad or foot keypad should be pre-cleaned with a dry cloth and subsequently disinfected with a moderately moist cloth saturated with an appropriate disinfectant.
- Neither the treatment chair nor its accessories are suitable for cleaning in automated systems (e.g. Jetstream).
- The use of other unrecommended cleaners and disinfectants will be at the user's own risk.

Important Information

Be sure to perform a full function test of the equipment after each cleaning.

7.1. Cleaning and disinfection of upholstered surfaces

The table below shows a selection of products that are either suitable or non-suitable for the surface disinfection of the skai® chair's upholstery.

●	Disinfectants recommended for the cleaning and surface disinfection of skai® upholstery material.
●	Disinfectants conditionally recommended for the cleaning and surface disinfection of skai® upholstery material. Any disinfectants thus designated should first be tested in a concealed area prior to using it on the chair's large surfaces. If possible, use them in diluted form and do not allow exposure over prolonged periods of time.
●	Disinfectants not recommended for the cleaning and surface disinfection of skai® upholstery material.

Important Information

We accept no liability for any changes in disinfectant composition by the manufacturers.

Desinfektionsmittelempfehlung / *Disinfectant recommendation*

Desinfektionsmittel/ *Disinfectant* / **Material/*Material***	Hersteller/*Manufacturer*	**skai**® Mano-S	**skai**® Palena	**skai**® Tundra	**skai**® Parotega NF	**skai**® Pasatina	**skai**® Pavinto	**skai**® Plata	**skai**® Pandoria Plus	**skai**® Palma NF	**skai**® Palma
Cleanisept / *Wipes 5%ig*	**Dr. Schumacher GmbH**	●	●	●	●	●	●	●	●	●	●
Hexaquart lemon fresh 2%ig	**B. Braun Melsungen AG**	●	●	●	●	●	●	●	●	●	●
Franko-Cid N 0,25%ig	**Franken Chemie GmbH & Co. KG**	●	●	●	●	●	●	●	●	●	●
Dessan 2 0,25%ig	**Franken Chemie GmbH & Co. KG**	●	●	●	●	●	●	●	●	●	●
FD300 1%ig	**Dürr Dental AG**	●	●	●	●	●	●	●	●	●	●
Antifect plus 0,5%ig	**Schülke & Mayr GmbH**	●	●	●	●	●	●	●	●	●	●
ASCEA-des unverdünnt	**Aquagenius Schweiz GmbH**	●	●	●	●	●	●	●	●	●	●
Lysoformin spezial 0,75%ig	**Lysoform Dr. Hans Rosemann GmbH**	●	●	●	●	●	●	●	●	●	●
Desomed rapid AF unverdünnt	**Desomed – Dr. Trippen GmbH**	●	●	●	●	●	●	●	●	●	●
Apesin rapid 3%ig	**Tana Chemie GmbH**	●	●	●	●	●	●	●	●	●	●
Optisept 7%ig	**Dr. Schumacher GmbH**	●	●	●	●	●	●	●	●	●	●
Aldasan 2000 4%ig	**Lysoform Dr. Hans Rosemann GmbH**	●	●	●	●	●	●	●	●	●	●
Meliseptol foam pure unverdünnt	**B. Braun Melsungen AG**	●	●	●	●	●	●	●	●	●	●
Perform 3%ig	**Schülke & Mayr GmbH**	●	●	●	●	●	●	●	●	●	●
Biguanid Fläche N 3%ig	**Dr. Schumacher GmbH**	●	●	●	●	●	●	●	●	●	●
Kohrsolin extra 4%ig	**BODE Chemie GmbH**	●	●	●	●	●	●	●	●	●	●
FD366 unverdünnt	**Dürr Dental AG**	●	●	●	●	●	●	●	●	●	●
CosiMed 7,5%ig	**cosiMed GmbH**	●	●	●	●	●	●	●	●	●	●
Meliseptol rapid unverdünnt	**B. Braun Melsungen AG**	●	●	●	●	●	●	●	●	●	●
Microbac forte 3%ig	**BODE Chemie GmbH**	●	●	●	●	●	●	●	●	●	●
FD360 unverdünnt	**Dürr Dental GmbH**	●	●	●	●	●	●	●	●	●	●
Mikrozid sensitive liquid unverdünnt	**Schülke & Mayr GmbH**	●	●	●	●	●	●	●	●	●	●
Incidin liquid unverdünnt	**Ecolab GmbH**	●	●	●	●	●	●	●	●	●	●

Standard upholstery: see skai Tundra electrically conductive upholstery: see skai Mano-S

7.2. Cleaning und disinfection of the plastic cover

For cleaning and surface disinfection of the chair's plastic cover sensitive cleaners and disinfectants with low-alcohol concentration and/or suitable surfactants (compatible concentration!) or mixtures thereof are suitable.

Attention
Cleaning agents and disinfectants with an overly high alcohol content may lead to stress cracks in the chair's plastic cover and roughen its surface, especially after frequent repeated use. The same applies to incompatible chemicals such as Acetone or quaternary ammonia compounds.

8. Maintenance

If you have technical inquiries, require our customer service, or wish to order spare parts, please do not hesitate to contact us at the address below:

UFSK-International OSYS GmbH
Kirchhoffstraße 1
D - 93055 Regensburg

Phone: +49 941 78862-15
Fax: +49 941 78862-35
Mail: info@ufsk-osys.com
Web: www.ufsk-osys.com

Unauthorized alterations to the equipment and/or unauthorized opening of its electronic components without prior consultation with the supplier will result in the automatic lapse of the manufacturer's warranty and all product liability.

The treatment chair has service life of approx. ten (10) years subject to average operation frequency and proper maintenance and care by the user.

8.1. Maintenance routine

Caution
The following inspections and maintenance routines are not allowed to be performed on the device during its use on patients and during the course of medical treatments.

Attention
As a general rule, only original spare parts shall be used for any repairs requiring the installation of new parts. Identified defects need to be remedied immediately as the equipment will otherwise have to be p h a s e d out.

8.1.1 Checks to be performed prior to every use

General visual inspection:
- Damages of any nature to the visible chassis or frame elements, or the upholstery, or the manual keypad and foot keypad and their respective cables; check for presence of all elements of the treatment chair.
- Damages to external cables: breaks, ruptures, cuts, crimps or bends, discolorations of the cable jackets, abrasions, bulges, brittle areas, visible internal insulation or metallic wires.

Site inspection:
- Please ensure that the mandatory safety clearances are observed between the equipment and supply conduits, window sills, etc.

8.1.2 Daily maintenance routine

Function checks:
- Please check the stability of the treatment chair.
- Please check the different adjusting options.

8.1.3 Annual maintenance routine

Annual maintenance routines may be performed only by licensed and qualified electricians pursuant to DIN EN 62353.
Our after-sales service will be happy to provide quotations for our customers in the German-speaking countries. Customer from foreign countries and non-German speaking countries are requested to contact our authorized representative in their country for quotations. We will be happy to provide their addresses upon telephonic request.

8.1.4 Checks to be performed after changes of location or prolonged down times

General visual inspection:
- Damages of any nature to the visible chassis or frame elements, or the upholstery, or the manual keypad and foot keypad and their respective cables; check for presence of all elements of the treatment chair.
- Damages to external cables: breaks, ruptures, cuts, crimps or bends, discolorations of the cable jackets, abrasions, bulges, brittle areas, visible internal insulation or metallic wires.
- Damages to casings or coverings (manual or foot keypad, motor housing, plugs): Breaks, ruptures, cuts, deformations, abrasion or signs of wear and tear
- Damages to the frame elements: Deformations, bulges, cracks or fractures, abrasion or signs of wear and tear
- Damages to plug-in type contacts: Bent pins, bent bases, damages to the contacts' bushings or O ring collars
- Damages to the accessories attached to the product: Deformations, wear and tear, breaks or ruptures
- Check of the treatment chair for the presence of all its components

Function checks:
- Please check the function of the manoeuvring aid and lockability of the chair and check its stability. Please watch out for conspicuous noises.
- Please check the effectiveness of the strain relief
- Please check the installation of the cables
- Please check the proper fit of the plug-type connections
- Please check the proper fit of all connecting pins and their safety split pins; watch out for any changes in the shape of the pins.

Site inspection:
- Please ensure the chair's secure footing. It is not admissible to apply loads to the equipment on sloped surfaces with an inclination angle ≥ 10°.
- Please make sure of the appropriate safety clearances between the equipment and supply conduits, window sills, etc.

8.2. Presentation for annual maintenance pursuant to DIN EN 62353

Due to the high level of mechanical strain prevalent in the outpatient surgical business, we as the manufacturers recommend a technical safety inspection for ***500 ECO*** at yearly intervals.

Technical Safety Inspection Record / Inspection Report DIN EN 62353 (VDE 0751)

<table>
<tr><td colspan="2">Inspection body:

Inspector's name:</td><td colspan="2">Cause for inspection
☐ Inspection prior to initial operation (reference value)
☐ Repeated inspection
☐ Inspection following repair</td></tr>
<tr><td colspan="4">Competent organization (operator)/ Location:</td></tr>
<tr><td colspan="2">Equipment designation: Treatment chair</td><td colspan="2">Inventory no.:</td></tr>
<tr><td colspan="2">Type: 500 ECO</td><td colspan="2">Serial number:</td></tr>
<tr><td colspan="2">Manufacturer:
UFSK-International OSYS GmbH</td><td colspan="2">Accessories:</td></tr>
<tr><td colspan="4">Medical device class I, non-sterile, active (=electrically operated)
☐ with measuring equipment
☒ without measuring equipment (no metrological test required)</td></tr>
<tr><td>Explosion protection:
☐ AP
☐ APG
☒ n.a.</td><td>Type of applied parts:
☒ B
☐ BF
☐ CF</td><td>Protection class:
☐ I
☒ II</td><td>Connection to power supply:
☐ DPS [1)]</td></tr>
<tr><td colspan="2">Electrical measurements (DIN EN 62353):</td><td>Measured value</td><td>Limit value</td><td>OK</td></tr>
<tr><td colspan="2">Protective conductor resistance</td><td>.....n.a..... Ω</td><td>-</td><td></td></tr>
<tr><td colspan="2">Equipment leakage current NC</td><td>..... µA</td><td>< 100 µA</td><td>☐</td></tr>
<tr><td colspan="2">Equipment leakage current SFC</td><td>.....n.a..... µA</td><td>< 500 µA</td><td></td></tr>
<tr><td colspan="2">Patient leakage current NC</td><td>..... µA</td><td>< 100 µA</td><td>☐</td></tr>
<tr><td colspan="2">Patient leakage current SFC</td><td>.....n.a..... µA</td><td>< 500 µA</td><td></td></tr>
<tr><td colspan="2">Insulating resistance</td><td>..... MΩ</td><td>> 7 MΩ</td><td>☐</td></tr>
<tr><td colspan="5">Measuring equipment - optional: gossen metrawatt, Secutest, Type:
Measuring procedure: Direct measurement</td></tr>
</table>

[1)] DPS Detachable Power Supply cord;

Important Information
The ***500 ECO*** treatment chair is not equipped with a detachable power supply cord (DPS). The permanently mounted mains connection cable cannot be replaced without tools.

Visual inspection and function check				
Type of inspection	Component to be inspected	OK	NOK	Remarks
Visual inspection of equipment	Nameplate			
	User manual available			
	Moving gear			
	Tilt-free assembly			
	All connecting elements			
	Coverings			
	Upholstery			
Visual inspection of electrical components	Hand remote control			
	Foot-operated switch			
	Condition of all drives			
Function check of drives	Height adjustment			
	Back, seat and legrest			
	Armrests			
Function check of manoeuvering aid	Lowering of the castors			
	Locking			
Function check of the electronics	Control elements			
	Control system			

Overall assessment:

☐ No safety deficiencies or functional deficiencies were found.
☐ No direct risk, the identified defects can be remedied at short notice.
☐ The equipment needs to be taken out of service until remedial of the deficiency!
☐ The equipment does not comply with the relevant requirements / replacement of components / decommissioning is recommended.

Recommended test cycle for periodic inspections: 12 months

Evaluated by: _____ Inspector

Date/signature: _____

8.3. Overview of functional deficiencies and the remedial thereof

The following contains a list of potentially occurring faults and their causes as well as the related troubleshooting options. Consultation of this check list will in many cases save expensive site visits by technicians. Should the replacement of components be necessary, notably the replacement of current-carrying components, please be sure to use only original spare parts and have the related works performed by skilled and qualified professionals. The treatment chair needs to be disconnected from the power supply prior to any repair or maintenance works and checked for zero voltage in accordance with the generally recognized codes of practice.

Warning
If a fault has occurred which you are unable to remedy on the basis of the troubleshooting chart, please identify the equipment as "non-functional" and contact our service department.

FAULT	POTENTIAL CAUSE	REMEDY
The electrical height adjustment of the treatment chair does not work The electrical adjustment of backrest, seat element and legrest does not work	Defective manual keypad	Contact the service department
	The adjusting functions are defective	Contact the service department
	The control system is defective	Contact the service department[1)]
Adjusting functions only at half or moderate speed ("creep speed of the drives") or the green AUTO LED lights after a memory position was reached	The control system is in error condition.	Fault necessitates an initialization as per Section 6.8.2 or Section 6.8.1
The automatic movements are blocked.	The control system is in error condition.	Fault necessitates an initialization as per Section 6.8.2 or Section 6.8.1
The memorization function is blocked.	The control system is in error condition.	Fault necessitates an initialization as per Section 6.8.2 or Section 6.8.1

1) Information for service technicians:
To confirm your error analysis we recommend to deenergize the control system for 2 minutes.
Afterwards repeat the function test. If the error message occurs again you should replace the control system.

9. Technical Specifications

The nameplate is located on the column. When ordering spare parts, always specify the type designation and serial number indicated on the nameplate.

9.1. Weights and Measurements

Max. width	600 mm (reclining surface)/845 mm (with armrests)
Max. length	1950-2230 mm
Max. height	890 mm
Head rest	Angle -27°/+180°; Fmax = 80 kg; Length: 280 mm; Width: 420 mm
Backrest adjustment	Electrically powered drive system; Angle: -23°/+85°; Fmax = 90 kg; Length: 710 mm; Width: 600 mm
Seatrest adjustment	Electrically powered drive system; Angle -28°/+3°; Fmax = 240 kg; Length: 510 mm; Width: 600 mm;
Footrest adjustment	Electrically powered drive system; Angle 0°/+75°; Fmax = 50 kg; Length: 490 mm; Width: 530 mm;
Total height adjustment	Electrically powered drive system; Lift range: 275 mm
Entry height	550 mm
Legroom surgeon	485 - 760 mm
CPR	Flat position: Height: 600 mm Back part 0°, Seat part 0°, Leg part 0° factory-setted (cannot be overwritten)
Arm rests	Angle 0°/+180°; Fmax = 30 kg; Length: 455 mm; Width: 75 mm
Moving gear	Outer length: 910 mm Outer width incl. foot pedal: 600 mm Fixed castors (rigid) Ø 100 mm / Swivel castor Ø 35 mm
Weight	90 kg (without accessories)
Max. load	Fmax = 240 kg;

9.2. Electrotechnical Data

Power supply	Pri. Volt: 100-240V, 50/60 Hz Ac; Sec. Volt: 29V DC
Rating	650 VA at 240 Vac / 440 VA at 100 Vac
Duty cycle/pause cycle of the lifting column and drives	10% max.; 2 minutes max. of continuous duty followed by a 18 min brake
Protection class of the drives	IP54
Safety functions	Overload protection Overcurrent trip
Electrical design	DIN EN 60 601-1, protection class II, type B, degree of protection IP24

9.3. Classification

Medical device CE conformity	In the EU: Class I, without measuring function, non-sterile; Conformity assessment procedure in accordance with Annexes II and III, Regulation (EU) 2017/745, Art.52 (7) in the US/FDA: Class I, Conformity assessment procedure in accordance with 21 CFR Part 886, 510(k) Exempt
Degree of Protection according to DIN EN 60 601-1	Protection class II, Type B
Degree of Protection of Enclosure according to DIN EN 60529	Degree of Protection IP54
Technical Safety Inspection according to DIN EN 62353	Once per year

9.4. Ambient conditions

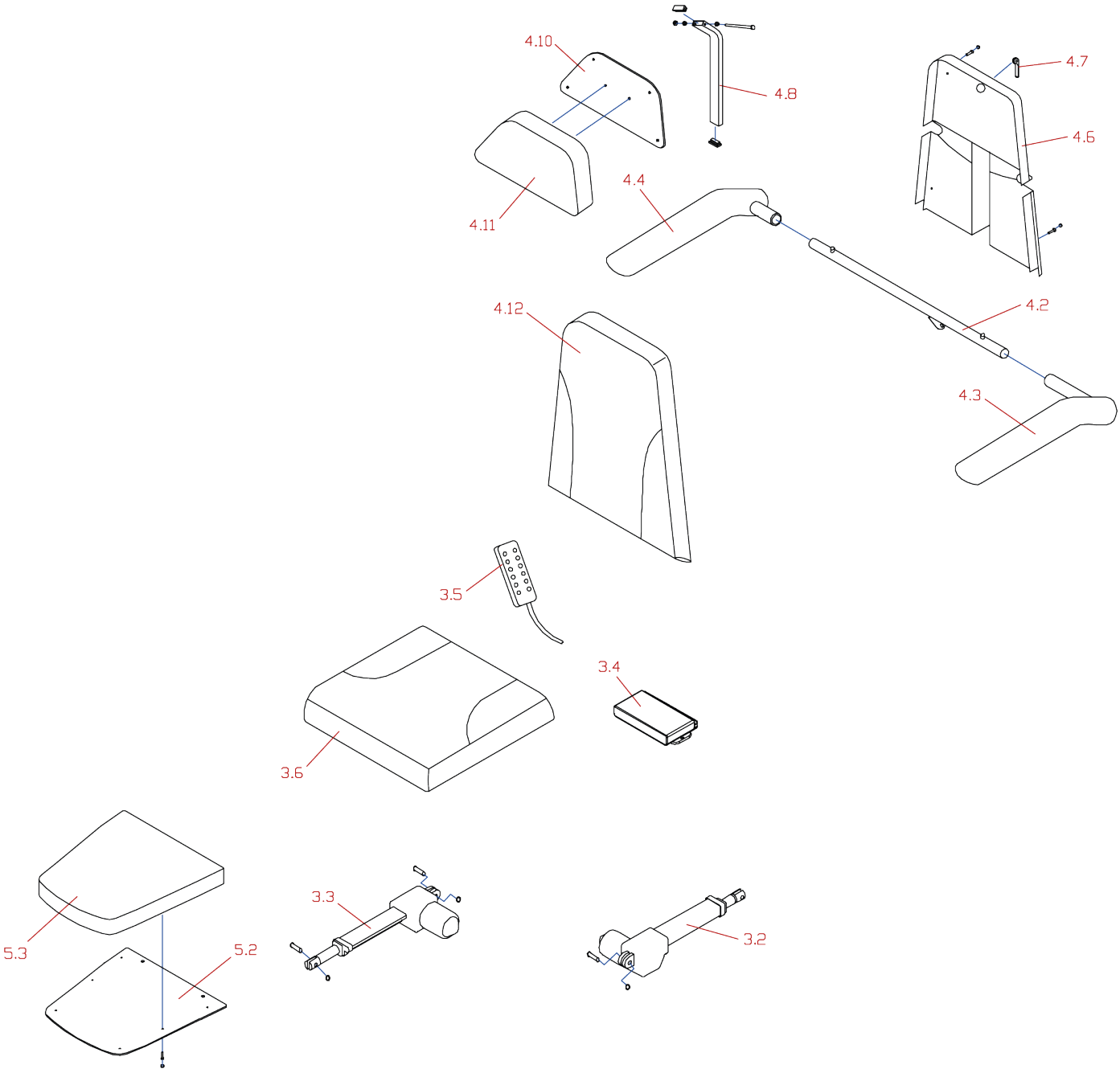
Ambient conditions for operation	Temperature: +10°C...+40°C Relative ambient humidity: 30%...75% Air pressure 700hPa...1,060hPa
Ambient conditions for shipping and storage in shipping packaging	Temperature: -20°C...+50°C Relative ambient humidity: 10%...95% Air pressure: 660hPa...1,080hPa

In the interest of technical developments we reserve the right to make modifications in design and scope of supply without prior notice.

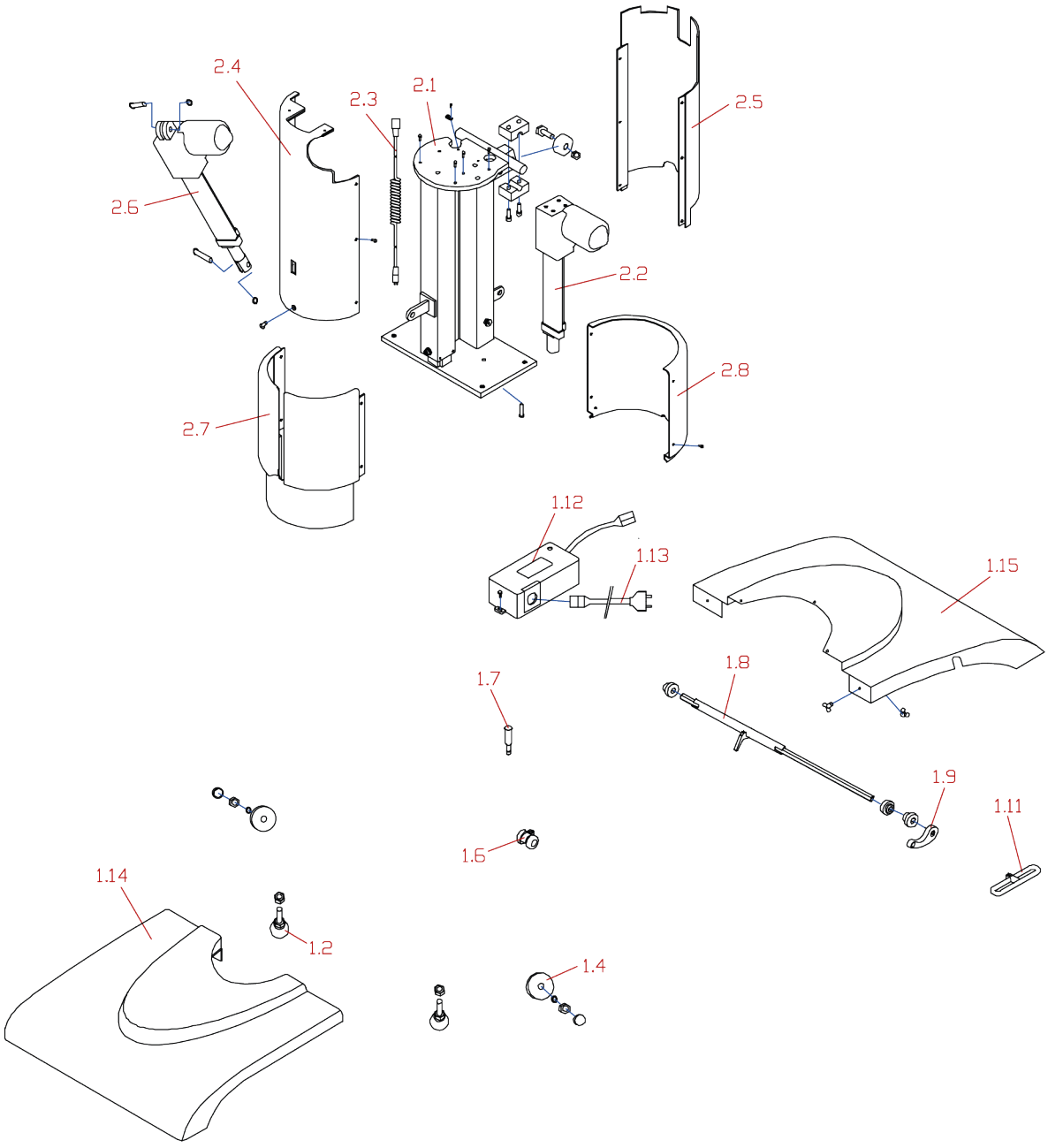
10. Technical Drawing and Spare Parts List

10.1. Technical Drawing

Design drawing of the ***500 ECO*** head-, back-, seat- & legrest



Design drawing of the ***500 ECO*** chassis & lifting column



10.2. Spare Parts List Including Reference Numbers

Important Information

- Be sure to use only accessories and spare parts approved by the manufacturer. The use of original accessories and original spare parts ensures safe and failure-free operation of the equipment.
- The following list contains a selection of the most frequently needed spare parts.
- Further information is available at info@ufsk-osys.com

Spare parts in the area of chassis and lifting column

Pos. No.	Description	Item No.
1.2	Adjustable foot M10 black	4000 2426
1.4	Castor D100	4000 0041
1.6	Double castor D35	4000 2429
1.7	Bolt for double castor	4000 2430
1.8	Hexagon shaft	4000 2431
1.9	Shifter	4000 2433
1.11	Double step lever	4000 2465
1.12	Switch mode power supply	4000 2434
1.13	EC mains connection cable	4000 2395
	UK mains connection cable	4000 2422
	US mains connection cable	4000 2396
	CH mains connection cable	4000 2397
	AUS mains connection cable	4000 2398
1.14	Chassis covering, frontside, white	4000 2435
1.15	Chassis covering, backside, white	4000 2436
2.1	Lifting column	4000 2437
2.2	Drive lifting column	4000 2438
2.3	Connecting cable spiralized 6 pin / 2 pin plug	4000 2439
2.4	Column covering, inside, frontside, white	4000 2440
2.5	Column covering, inside, backside, white	4000 2441
2.6	Drive seatrest	4000 2442
2.7	Column covering, outside, frontside, white	4000 2443
2.8	Column covering, outside, backside, white	4000 2444

Spare parts in the area of head-, back-, seat- & legrest

Pos. No.	Description	Item No.
3.2	Drive backrest	4000 2446
3.3	Drive legrest	4000 2447
3.4	Control box	4000 2448
3.5	Remote control	4000 2449
3.6	Seat cushion anthracite/chrom	4000 2450
4.2	Backrest axle	4000 2452
4.3	Armrest left	4000 1002
4.4	Armrest right	4000 1003
4.6	Backrest covering, white	4000 2454
4.7	Clamp handle, grey	4000 1460
4.8	Pipe bend for headrest	4000 2455
4.10	Headrest plate	4000 2457
4.11	Head cushion anthracite	4000 2458
4.12	Backrest cushion anthracite/chrom	4000 2459
5.2	Legrest plate	4000 2461
5.3	Legrest cushion anthracite	4000 2462

Important Information

The following items are exempt from the warranty:

- All upholstery elements
- Damages to the paintwork
- Any damages suggesting improper operation of the equipment.

11. Service Works

Be sure to commission only authorized maintenance specialists with any repairs of the treatment chair.

If you require technical information, please do not hesitate to contact our customer service department and technical support team. Our contact data (i.e. manufacturer's contact data) are listed in Section „1.2. Manufacturer and Copyright" of this instruction and service manual. Upon your request by phone, we shall be glad to provide you with addresses of authorized dealers, notably abroad.

Warning
Any alterations, resets and repairs of the chair may be carried out only directly by the manufacturer or by a work shop authorized by the manufacturer.

Important Information
When contacting our customer service department, please be sure to state the equipment's name, type and year of construction. This information can be found on the equipment's nameplate.

The meanings of the label elements are explained in Section „2.5. Equipment Labeling and Nameplate".
The nameplate is located on the chair frame under the seat (see image).

Nameplate

11.1. Mechanical equipment

For replacing servo drives, castors and pedal we shall be glad to provide you with replacement instructions and component lists upon request.

11.2. Electrical equipment and control system

11.2.1 Replacing the mains connection cable

For replacing the mains connection cable we shell be glad to provide you with instructions upon request.

Warning
The mains connection cable may be replaced only by an authorized, skilled and qualified electrician.

11.2.2 Replacing the control system

For replacing the control system we shell be glad to provide you with instructions upon request.

Warning
The control system may be replaced only by an authorized, skilled and qualified electrician.

11.2.3 Connecting the foot keypad

Caution
The foot keypad may be replaced only by persons who by virtue of their professional training or instruction are in possession of the necessary know-how and experience required for this purpose (i.e. qualifed technicans).

To connect the optionally available foot keypad, please observe the illustrations and instructions below:

1. Move the backrest element back to approx 30°, switch off the device and remove the seat element;

2. Pull the plug cover off the control system and remove the cover cap;

3. Lead the connection cable under the frame to the control system and connect it;
(black O-ring on plug / black marking on control system)

4. Reattach the plug cover;

5. Fix the cable holder of the foot keypad under the frame;

6. Position the seat element correctly;

12. Protection of the Environment and Waste Disposal

Information about the packaging materials:

The packaging materials used are recyclable. Please do not dispose of packaging materials with normal household waste, but recycle them properly - in accordance with the local legal regulations that apply to you. UFSK-International OSYS GmbH and UFSK-authorized EU distributors and third country representatives make their specified contributions to collection systems.

Information on the disposal of electronic waste:

Electrically operated UFSK products are subject at the end of their life cycle worldwide to relevant legal regulations for the disposal of electrical and electronic equipment. In the European Union, the UFSK product is governed by Directive 2012/19/EU on Waste Electrical and Electronic Equipment (WEEE) and must not be disposed of with household waste. Waste electric and electronic equipment contains valuable recyclable materials that should be recycled. Batteries must not be released into the environment. Waste electric and electronic equipment must therefore be disposed of in compliance with the locally applicable regulations via appropriate collection systems. UFSK-International OSYS GmbH and UFSK-authorized EU distributors and third country representatives offer a product take-back process for this purpose, which ensures that old devices are disposed of properly.

For further information about the process of taking back your old device, please contact your responsible UFSK service partner or our customer service:

UFSK-International OSYS GmbH, Kirchhoffstraße 1, D - 93055 Regensburg
Telefon: +49 941 78862-15, E-mail: info@ufsk-osys.com

Important Information
Please note that - due to the medical use of the product - a professional, documented decontamination has to be carried out before taking back the old device and a corresponding proof has to be presented.

EC Declaration of Conformity

We, the company

UFSK-International OSYS GmbH
Kirchhoffstraße 1
93055 Regensburg
Germany

declare and represent on our own responsibility, that
the following product

Treatment chair 500 ECO
(including accessories)

Category:	Treatment chair, active (electrical)
Basic-UDI-DI:	4057027TC001LG
Product name:	500 ECO
Product code Item No. (REF)	**15000008**
Classification Medical Device: (inc. accessories according annex)	Class I, non-sterile and without measuring function

to which this declaration refers is in due compliance with:

• Conformity assessment procedure in accordance with Annexes II and II - **Regulation (EU) 2017/745, Art. 52 (7)**

• Conformity assessment procedure: Appendix VII
Council Directive 93/42/EEC of 14 June 1993 (Medical Device Directive) – superseded on 26 May 2021

• **Council Directive 2011/65/EEC of 08 June 2011 Restriction of Hazardous Substances Directive (RoHS)**

• **Technical standards:**
- **EN 60601-1:2006/A1:2013**
- **EN 60601-1-2:2015**

UFSK-International OSYS GmbH
Regensburg, 09.06.2020

CE

Jürgen Scherrieble - General Manager
(signatory in block letters and responsible position of the signatory)

Attention
In case of unauthorized modifications or alterations to the product without proof of the manufacturer's prior express consent the present declaration will become null and void.

Annex to EC Declaration of Conformity_REF15000008_09.06.2020

Treatment chair 500 ECO (REF 15000008) - List of accessories

Accessory Name	Item No. (REF)
Half round bolster pillow, 60 x 28 x 14 cm, cushions knees, PUD-coated	3019 0000
Trapeze cushionn, wedge, for back/seat part, black	3022 0005
Monitor arm, stainless steel, swiveling, incl. I.V. Pole Ø 25 mm	3024 0014
Full round bolster pillow, 50 x 15 cm, cushions knees, PUD-coated	3050 0000
Instrument table 50 x 30 x 1,5 cm, height-adjustable, swiveling, detachable, incl. adapter	3065 0000
I.V. Pole, stainless steel, Ø 25/18mm, onehand height-adjustable 1070-1660mm, 4 hooks, max. 2kg 84.4lbs/hook, glass and holder	3068 0000
Padded arm board with universal joint, with wrist secure straps	3078 0000
Bodystrap with Velcro straps, 2-piece	3083 0000
Norm rail 300 mm, seat part	3321 0000
Inlay head pillow	3325 0000
Foot protection foil	3326 0000
Accessory mounting support, stainless steel	3351 0037
Hand control holder for attachment onto an I.V Pole Ø 25 mm, PVC	3351 1022
Hand remote bracket	3351 1023
Foot switch with 2 free configurable memory positions	3351 1029
Paper roll holder	3351 1031
Accessory mounting support, powder coated; with accessory holder, stainless steel	3351 1033
Multifunctional headrest	3351 1034
Side rails (right+left) swiveling, incl. locking, upholstered	3351 1036