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Operational Manual

Children's Therapeutic Bed


"LEA"



Read carefully before operating!

This operational manual has to be provided to all users!

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1. INSTALLATION MANUAL

The installation has to be carried out by trained specialized staff only. We recommend installation by two people following these steps:

- 1.1 On the inner side of the bed there are stickers with numbered arrows from 1 to 4 (pict. 1). Assign the side panels, head- and foot-end according to these numbers.



picture 1

According to their numbers the side panels are connected with the head- and foot-end (pict. 2)

Push the side panels right down till they rest in the fittings. Check whether they fit well.



picture 2

- 1.2 Knobs of the bed posts can be removed. Remove screws and take off the knobs by pulling them upwards (pict. 3). Put them back and fix them after the four mobile side barriers were put in.



picture 3

- 1.3 Insert the side barriers into the groove of the bed posts starting from top (pict. 4). Bring them down to its lowest position by operating the lock mechanism on both sides of the barrier at the same time (pict. 5).



picture 4



picture 5

- 1.4 At the lifting scissors there is a sticker „head-end“.
 Bring the lifting scissors into position according to the sticker „head-end“ inside the bed frame.
 Place the scissors of lifting unit into the bed frame (pict. 6).
 Bring lifting scissors to its highest position (pict. 7).
 Place the 3-pieces-bed base of the lifting unit onto the scissors (pict. 8).
 Fix bed base using the screws (M6 x 30mm) enclosed (pict. 9).



picture 6



picture 7



picture 8



picture 9

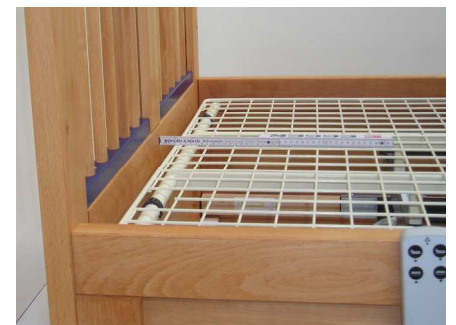
Bring the bed base down to top-level of bed frame and line it up (pict. 10).

If necessary, loosen the screws of the metallic adapter (connection between scissors + weight bearing rail at side panel), line up lifting scissors and tighten screws again.

Fix lifting scissors with wood screws (6 x 40mm) attached onto the weight-bearing rail (pict. 11).

Fix manual adjustment for foot-end of bed base to the lifting scissors (pict. 12).

Check whether relief of tension is tightly fixed (pict. 13)!



picture 10



picture 11



picture 12



picture 13

Connect cable of bed base's motor to the control unit
(only if there is an electric head-end or head- and foot-end adjustment).

The control unit is situated at the motor of lifting scissors.

Attention!

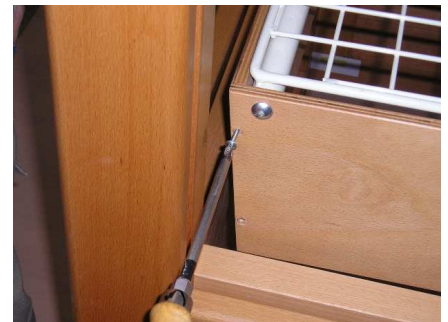
Wires must not be damaged or crushed or damaged!!!

Safety panel (pict. 14 + 15) has to be fixed with the countersunk screws attached.

The safety panel consists of 4 x 2 pairs,
that have to be fixed as follows :
pair 1 onto the long sides next to the head-end,
pair 2 onto the middle part of the bed base,
pair 3 onto the long sides next to the foot-end,
pair 4 onto the short ends of head- and foot-end.



picture 14



picture 15

Transport Wheels

Double break castor 75 x 30mm.
To lock press down foot lever,
to unlock pull it up (pict. 16).

Every time the bed had been moved into position
all castors have to be locked firmly!

OPTIONAL: **EXTRA**
Double break castor 100 x 30mm.



picture 16

1.6 **OPTIONAL:** EXTRA

Head-end electrically, foot-end manually adjustable

Port in control unit: Head-end 4

Head- and foot-end electrically adjustable.

Fit the already assembled motor for the foot-end onto the bed base (pict. 17).

Port in control unit: lifting motor 6

motor head-end 4

motor foot-end 1

manual switch 2

shortcut circuit plug 7



picture 17

Attention!

Wires must not be damaged or crushed or damaged!!!

1.7 **OPTIONAL:** EXTRA

Anti-Trendelenburg resting position

For this Position there are

one 2nd Manual Control + one 2nd Control gear (pict 18).



Attention when lowering the head-end!
Danger of getting crushed at the lower cross-bar.

After having fixed the bed panels, do fix the strips of wood (pict. 19) attached between side panel and bed post.



picture 18



picture 19

1.8 **OPTIONAL:** EXTRA

Removable Bed Post

TAKE OFF Unscrew the knob (pict. 20), take off the bed post.

PUT ON Place bed post onto the socket, tighten screw, **check whether it is firmly fixed!** (pict. 21)



picture 20



picture 21

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2. OPERATING DIRECTIONS

2.1 Purpose of use

The children's therapeutic bed „LEA“ is designed for private use at home as well as for domestic care. It's medical objective is to provide the alleviation, treatment and surveillance of illness and injuries by the various resting positions for the child. The multifunctional options increase the benefit. For safety reasons the bed is not for use for medical treatments using electricity, since this model is not conceived as a hospital bed. It is licensed for one (1) person only and the maximum patient weight (see specification label) must not be exceeded. The bed is for indoor use only and has to be protected from high humidity. All technical functions can be controlled by a **lockable IPX4-manual control unit with magnetic key**.

All components of the bed are only permitted for use according to its intended purpose.

Overload may cause damage and is not permitted.

2.2 Important notes for operational safety

- I. Set-up and initial operation have to be carried out by authorized distributors. A functional test has to be carried out prior to handing the bed over to the customer. Attention has to be paid to: the smooth running of all functions, the installation of power supply according to the regulations, the firm installation of the lifting unit within the bed frame as well as the fitting of the bed base to the lifting unit. This also applies to further operation of the children's therapeutic bed.

Improper installation of mains connection may cause serious damage (electric shock) to people.

- II. The maximum weight of the patient must not exceed 100 kg. People of any age with limited perceptive faculty may operate the system under supervision only.

- III. The lowest position of the bed base is the safest position and should be used in any case, unless therapy + nursing require a different position.

After treatment always return the lifting unit to its lowest position.

- IV. While moving the lifting unit make sure that no parts of the body get in or under the moving elements. **DANGER OF BEEING CRUSHED!**



- V. The therapeutic bed for children „LEA“ is designed for dry rooms and must be used and stored in such rooms only.

The system may only be operated by state-of-the-art 230 Volt plugs. Cables + plugs have to be dry. Make sure that cables are not crushed or do not rub against anything. Pay attention to the proper laying and fixing of all cables at the positions advised.

- VI. To avoid overload and defects of the electric engine the power-on time must not exceed a maximum time of 2 minutes.



The electric adjustment for the head-end or the head- and foot-end must only be used for lifting/ lowering the upper body or legs of the patient (patient must be in proper position!). Overload causes damage and is not permitted!!

Overloading the mechanical components causes damage and therefore is not permitted (see Operational Manual TOP 2.3 + 2.4 as well as specification label).

- VII. Liability for any kind of damages and injuries is explicitly excluded in case of misuse, improper use, wrong operation or inexpert installation/repair. Furthermore all kinds of guarantees are also excluded in such a case.

- VIII. The electric engines of the bed may not be used in locations where inflammable gases or fumes occur.
- IX. The therapeutic bed „LEA“ may only be operated and maintained by using original accessories and original spare parts.
- X. Operational malfunction must be reported immediately to the authorized distributor. Stop using the equipment and disconnect the mains, especially when electrical or mechanical parts are damaged.

2.3 Warnings

- I. Transport of the patient is only permitted in the lowest, horizontal position of the lifting unit.
- II. While the patient is unattended the lifting unit has to be on its lowest position. The side barriers have to be in highest position and firmly locked.
- III. Do not leave things behind in the bed that could be used for climbing up or can lead to suffocation or strangulation.
- IV. The lifting unit must only be operated by people briefed or by the nursing staff. The patient must not operate the bed themselves. While the patient is unattended all functions have to be locked.
- V. The patient's clinical condition may increase the danger of being squeezed in.
- VI. DANGER OF BEING SQUEEZED IN when opening/closing the side barriers. The mobile side barriers must only be opened + closed while the patient is under supervision.
- VII. The therapeutic bed „LEA“ must only be used upon even, horizontal and solid ground.
- VIII. Use bed in dry rooms only.
- IX. Do not place the bed near open fire or other strong heat sources (i.e. electric radiator, gas heater etc.).
- X. Maximum patient is 100 kg. Safe working load is 170 kg, incl. equipment.
Electric adjustment of head-end or head- and foot-end (Extra) must only be used for lifting/lowering the upper body or the legs (Make sure the patient is in appropriate position).



2.4 Lifting unit

The lifting unit serves the purpose of lifting the bed base up and down by an electric motor.
Maximum patient weight: 100 kg.
Safe working load: 170 kg, incl. equipment.
Overload causes damage and is not permitted.

2.5 Bed base

Standard equipment: manually adjustable head- and foot-end.

A. Optional: The head-end is adjustable by an electric motor (EXTRA).

The adjustment of the foot-end is always done manually by means of a grid.

B. Optional: The head- and foot-end are adjustable by an electric motor (EXTRA).

It is not recommended to move the head- and foot-end to the highest position at the same time. The patient may be cramped in and feel uncomfortable.



picture 22

In case the head-end got stuck in it's position due to power cut or fault of the motor moving the bed base (Extra) you have the opportunity to bring down the head-end manually. Follow according these steps:

Fold up the head-end and hold it with one hand. With the other hand remove the safety ring (pict. 22) out of the bolt at the bed base motor. After that pull the bolt out of the metal plate. The head-end can be lowered now. But it is not possible to adjust the head- end by the electric motor. In order to restore the function you have to fold up the head-end as far as you can, pierce the bolt through the man-made liner of the motor + the metal plate. After that put the safety ring back in place into the bolt.

2.6 Manual Control Unit

All electric functions can be operated by the manual control unit. Options of adjusting height and positions of the head-end are marked by respective symbols. By gently pressing the respective button the system moves to the required position.

During operation make sure that the cable of the manual control unit is not squeezed in. To avoid malfunction do place the manual control unit onto the bed frame, when not in use. The key pad should be facing away from the bed.



Keep the manual control unit away from magnetic objects and strong magnetic fields ($\geq 1,0$ metre). The integrated lock-system can be activated or deactivated.

By passing the magnetic key over the defined field of the manual control,

- the functions of the control can be activated (green LED flashes) = functions are available
- the functions of the control can be deactivated (green LED turns off) = functions are completely blocked.

The magnetic key is a safety element preventing unauthorized use of the manual control unit. Therefore it always has to be kept separate from the manual control.

On the following page you will find details on keys + diagram of functions of the manual control unit: **IPROXX SE / SE+**

Keys and Functions

Example: Manual control unit IPROXX SE with 4 buttons for movement

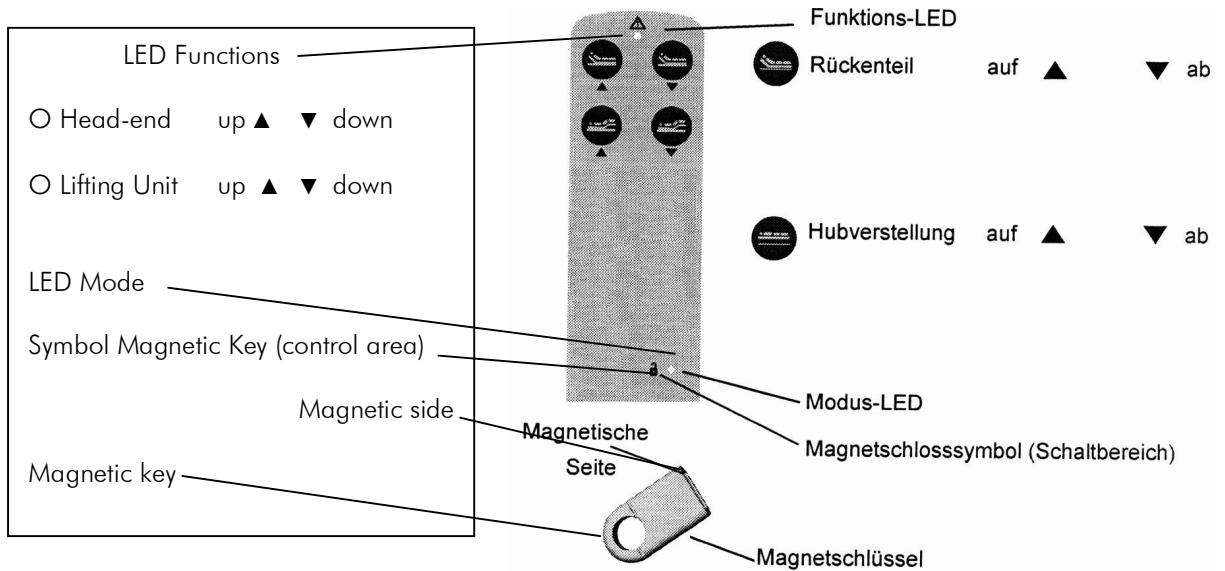
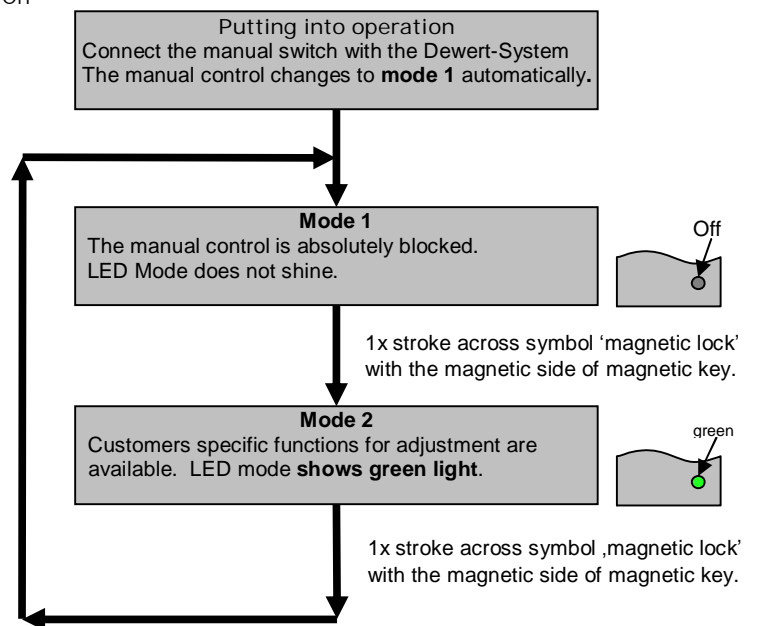


Diagram of Functions

Functions-LED LED shows green light when the button is pressed
 Display of First Fault Protection



First Fault Protection

There is a **fault /first fault** in the integrated lock-system, if

- the LED-mode does show green light when **locked**;
- the LED-mode does not show green light when **unlocked**;
- there is a difference in intensity of light (LED-mode) noticeable while one of the buttons for movement is pressed in **locked** state (LED-mode switched on).

After lockage: Press one button after the other to make sure all are locked safely.

2.7 Side Barriers

In order to lower or to lift the side barrier the two locks have to be handled at the same time. Place your forefinger in the finger hole and your middle- and ring finger into the grip shell underneath (pict. 23).



Push your forefinger towards the centre of the bed in order to open the lock. After that no further pressure on the lock is necessary. The side barrier will glide down easily to its next stop.



picture 23

2.8 Transport wheels

Double brake castor, 75 x 30mm.

To lock press down foot lever,
to unlock pull foot lever up (pict. 24).

**Every time the bed had been moved into positions
a l l castors have to be locked firmly!**

OPTIONAL: EXTRA
Double brake castor, 100 x 30mm.



picture 24

2.9.1 Patient-Lifting Unit

For the children's therapeutic bed „LEA“ the patient-lifting units „ARNOLD“ + „JAMES“ of the manufacturer REBOTEC, D-49610 Quakenbrück have to be used exclusively.

Free space required underneath the bed: max. 110 mm resp. 90 mm.

2.10 Cleaning, Maintenance and Re-use

The polished surface ensures easy cleaning and disinfection. Neither the electric equipment nor the bed frame should be cleaned by high pressure cleaning equipment. For cleaning use a damp cloth and a little neutral soap, dry afterwards using a dry cloth.

Disinfection of the bed with a commercially available disinfecting agent is possible.
Re-use is possible after proper cleaning, disinfection and maintenance.

Maintenance must be carried out by the authorized distributor. A check up on all functions should be done prior to re-use of the bed or at the patient's house when the bed had been on long-term use. A 1-years period for check ups on all components is obligatory.

Spare part lists available from the manufacturer!

2.11 EXTRAS

Nursing mattress type „Grisu“, flame-retardent

Retouching pen for metal frame

Set for surface treatment of the wooden parts

2.12 Symbols



Protection class II



Use in dry rooms only



Danger of being squeezed or crushed



Important notice in Operating Directions



Application part Type B

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3. TECHNICAL DETAILS

3.1 Bed Frame

Exterior dimensions:	1.180 x 2.180 mm 980 x 1.780 mm
Interior dimensions:	1.000 x 2.000 mm 800 x 1.600 mm
Height of bed:	1.490 mm
OK mattress	750 – 1.010 mm
Height of side barriers:	605 mm
Weight of Bed frame + Lifting unit	approx. 180 kg
Weight of:	
Head- and foot-end panel	45 kg
Side panels	35 kg
Mobile side barriers, long	25 kg
Mobile side barriers, short	<u>15 kg</u>
Total weight of bed frame:	approx. 120 kg
Mattress standard:	RG35, 12 cm, approx. 5 kg

3.2 Lifting Unit (H. Kirchner Handels GmbH)

Dimensions (length x width x height)	130 x 71 x 22 cm
Weight	approx. 25 kg
Lifting width	260 mm
Lifting capacity	230 kg

3.3 Bed base: (H. Kirchner Handels GmbH)

Dimensions	95 x 195 cm
Number of pieces	3
Weight	approx. 20 Kg
Maximum patient weight	100 kg
Safe working load	170 kg

3.4 Engines: Lifting unit „Megamat“

Mains voltage / frequency	230 Volt / 50 hz
Engine voltage	24 Volt
Protective class	II
Sound output	< 65 dB (A)
Term of operating	max. 2 min. / 18 min. OFF

Technical Details may be subject to alterations!!!

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4. ANNEX

4.1 Maintenance Instructions / CHECK LIST

With this maintenance instructions we will enable you to carry out the requested safety and technical check-ups as requested by REGULATIONS for USERS of MEDICAL PRODUCTS, Germany (MPBetreibV). Further regulations and laws of the legislator or professional organisations are not covered.

The **instructions** are structured as following:

- 4.1.1. General Notes
- 4.1.2. CHECK LIST / Electric Motors
- 4.1.3. CHECK LIST / Lifting Unit
- 4.1.4. CHECK LIST / Bed base
- 4.1.5. CHECK LIST / Bed frame

4.1.1 General Notes

- Maintenance and repair works may be carried out by qualified and authorized personnel only. *(To entitle the personnel for repair works, the manufacturer of the electric motor requests an individual authorisation made out by himself !)*
- Maintenance
 - electrical equipment every 12 months
Regular inspection of the electric resistor and the leakage current according to VDE 751-1, using a gauge manufactured i.e. by Bentron, Mertens or equal.
 - Mechanical components every 12 months
- Maintenance inspections may be carried out at site of installation. Further repair works have to be carried out at suitable work stations.
- Only original spare parts are permitted. Self-made components will make expire any liability or guarantee by the original manufacturer.
List of spare parts is available from the manufacturer.
- Alterations in the system, modifications and /or extensions require the prior written approval by the manufacturer.
- There has to be run a complete functional test after each and every maintenance and/or repair. Pay attention to all moving parts running without collision in order to avoid any kind of hazards to patient and others as well as damages to the material and the components.
- In order to enable you to document your work we enclosed provide some **CHECK-LISTS** to tick off.
 Further check-ups necessary, i.e. according to accident prevention rules released by the professional association or any accident prevention association etc. remain in force without limitation.

4.1.2 CHECK LIST / Electric Motors

Serial Number

Last Inspection

Year of Manufacture

Next Inspection

- | | |
|---|--|
| <p>1. Are all cables functioning properly?
Check, if there is any damage.
(bruises, cracks, disruption, knots etc.)</p> <p>2. Strain relief working?
Check on motor and lifting unit.</p> <p>3. Are cables correctly laid?
Check on cable run.</p> <p>4. Any traces of liquids?
Check if liquids reached the motor.</p> <p>5. Crankcase undamaged?
Check whether there are any cracks.</p> <p>6. Manual switch undamaged?
Check if it shows any cracks.</p> <p>7. Electric control unit okay?
Check connections.</p> <p>8. Is the lifting motor running smoothly?
Check all positions.
(Does it stop accordingly at the final positions?)</p> <p>9. Is the motor moving the bed base running smoothly?
Check all positions.
(Does it stop accordingly at the final positions?)</p> | <p>yes no</p> <p>----- -----</p> <p>----- -----</p> <p>----- -----</p> <p>----- -----</p> <p>----- -----</p> <p>----- -----</p> <p>----- -----</p> <p>----- -----</p> <p>----- -----</p> |
|---|--|

Date

Inspected by

Stamp / Signature

4.1.3 CHECK-LIST / Lifting Scissors

Serial Number Year of Manufacture

Last Inspection

Next Inspection

1. Metal bolts + man-made liners okay?

yes no

Check the proper fitting of the resting liners and whether they have no damage.

2. Frame and lifting scissors okay?

Check if there are any signs of corrosion or distortion.

3. Gliding stones okay?

Check whether the gliding stones inside the U-profiled rails show any sign of wear.

4. Adapter at bed base okay?

Check the securing screws.

In a bed with regular use we recommend to replace all bolts and resting liners after 3 years operating.

Date

Inspected by

Stamp / Signature

4.1.4 CHECK-LIST / Bed Base

Serial Number Year of manufacture

Last Inspection

Next Inspection

- | | yes | no |
|---|-------|-------|
| 1. Height tolerance okay?
Check if the bed base is in horizontal state in every position possible. | ----- | ----- |
| 2. Connection between lifting scissors and bed base okay?
Check the two ball bearing sockets and their four screws. | ----- | ----- |
| 3. Adjustment of head-end working?
Check on the mechanical emergency function. | ----- | ----- |
| 4. Adjustment of foot-end working?
Check on the grid. | ----- | ----- |
| 5. Bed base okay?
Check the function of the bed base and if there is any damage. | ----- | ----- |
| 6. Safe distance between bed base and bed frame sufficient?
Check that the distance is the same everywhere. | ----- | ----- |
| 7. All screws tight?
Check quantity of screws and whether they are firmly fixed. | ----- | ----- |

Date

Inspected by

Stamp / Signature

4.1.5 CHECK-LIST / Bed Frame

Serial Number Year of manufacture

Last Inspection

Next Inspection

- | | yes | no |
|---|-------|-------|
| 1. Wooden parts okay?
Check wooden frame and décor. Do they show any cracks or distortion. | ----- | ----- |
| 2. Connections okay of side panels, rear panel + doors and head-/foot-end?
Check on all countersunk screws. | ----- | ----- |
| 3. Wooden bars and „SPECTAR®“ okay?
Check especially the SPECTAR® screens for any damage. | ----- | ----- |
| 4. All locks of doors okay?
Check whether all locks are easy to move. | ----- | ----- |
| 5. Transport wheels okay?
Check on function and whether they are fixed tightly. | ----- | ----- |

Date

Inspected by

Stamp / Signature
