



KayserBetten

Care beds for children

... the original!

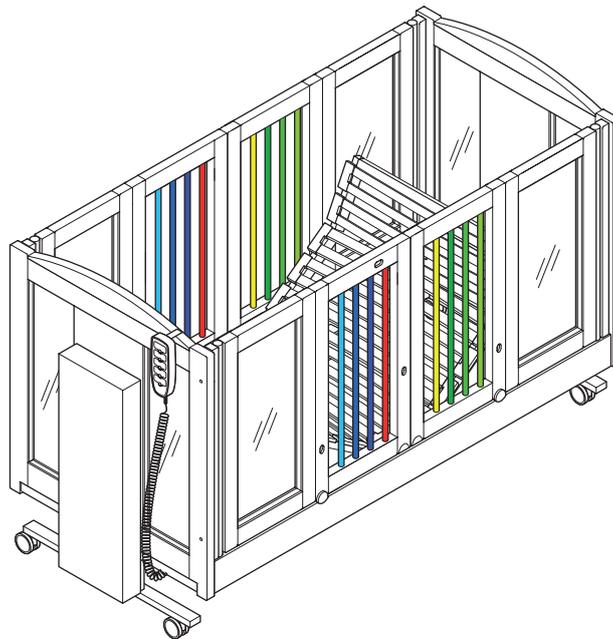
Instruction manual

Electrically adjustable care bed



Emma I 1.0

8 doors with insert frame KR3



SAVE FOR FUTURE USE.
READ CAREFULLY!

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1 Introduction

Preface

Dear customer,
thank you for the trust you have placed in the KayserBetten GmbH & Co. KG team by purchasing our care bed.
With your choice of a KayserBetten care bed you receive a care product of high functionality and the highest level of safety.
Our employees assembled and carefully inspected this care bed before it left our factory in Germany in perfect condition.
Upon receipt of the shipment the responsibility for a proper and intended use of the care bed is being transferred to you.
This instruction manual provides information on day-to-day handling of the care bed, its functioning and safe use.
We are convinced that our product will contribute to the patient's therapy and care in a positive way.

With kind regards
KayserBetten GmbH & Co. KG

Manufacturer

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Warranty

KayserBetten GmbH & Co. KG provides a warranty on new equipment and components purchased in the European Union if manufacturing defects and/or material faults are detected within 24 months after purchase.

This warranty does not apply to defects on the equipment resulting from improper use and/or disregarding the purpose and rules of conduct as described in this instruction manual. Failure to follow the instruction manual, improperly performed maintenance and technical modifications and additions (extension parts) without approval of Kayserbetten GmbH Co. KG will invalidate the warranty.

Conformity declaration

Kayserbetten care beds carry the CE mark, they are manufactured according to the technical documentation and they meet the requirements of the directive 93/42/EEC, annex VII (EU Medical Device Directive) and all applicable sections of the valid standard DIN EN 60601-1, DIN EN 60601-2, DIN 32632, DIN EN 716-1. You can download the most recent conformity declaration at www.kayserbetten.eu.

The safety requirements can only be met if the operator/the user/the technician is confident of the proper condition before using the care bed and the accessories.

Representation conventions

⚠ DANGER!

The "DANGER" sign indicates immediate risk to people that will result in severe injuries or death.

⚠ WARNING!

The "WARNING" sign indicates potential risk to people that may result in severe injuries or death.

⚠ CAUTION!

The "CAUTION" sign indicates potential risk to people that may result in moderate or minor injuries.

Please note

The "Please note" sign indicates potential damage to property.

Note

Helpful tips.

1. Instructions that need to be followed in a particular order are numbered accordingly (1., 2., 3., etc.).
- ◆ Instructions without any specific order are marked by a diamond symbol.
 - » Results of any performed actions are marked with double arrow.
 - Lists are marked with a dash.

Definition of terms

Operator

An operator is any natural or legal person who has the actual power of disposal of the care bed. The person who has the actual power of disposal can e. g. operate the bed by themselves or with the help of another employee, switch the bed on and off and monitor it.

User

A user is any person authorized to operate the care bed or to perform work on the bed based on their schooling, training or experience. The user has been trained to operate the care bed accordingly. The user can identify potential risks and avoid them and then assess the condition of the patient.

Patient

A person dependant on care (e. g. a disabled or infirm person) who is in need of correct positioning in a care bed.

Technician

Technicians are employees of the manufacturer or the retailer who have the necessary expertise and experience based on their job training to deliver, assemble, disassemble and transport the care bed. In addition, technicians are trained to perform maintenance appropriately.

2 Safety

Basic safety instructions

- ◆ Read through all instructions in this booklet before using the care bed.
- ◆ Always keep these instructions easily available at the location where the care bed is used.
- ◆ Ensure that the brief instruction (pos. 20) is always located around the care bed.
- ◆ Carefully carry out all the steps as described in this instruction manual.
- ◆ Ask your technician to check and fix damages to the care bed or its accessories immediately.
- ◆ If the care bed is equipped with castors lock the brakes on the castors to prevent the care bed from shifting.
- ◆ In case the care bed is used for patient transporting the sleeping platform must be lowered to the bottom level.
- ◆ No persons are allowed in the care bed during maintenance and cleaning work.
- ◆ No objects or body parts of other persons are allowed in the area of movement during operation of the adjustment mechanism
- ◆ No other persons are allowed in the bed during operation of the adjustment mechanism.
- ◆ When children/patients are unattended lower the sleeping platform to the bottom level, close and lock the doors (railing) and lock all electronic functions.
- ◆ Do not carry out any technical modifications or add extra parts without approval of KayserBetten GmbH Co. KG.

⚠ DANGER!

Strangulation through cables and hoses

- ◆ Ensure that the child/patient has no access to any cables (e. g. lead of hand switch) and hoses (e. g. for external ventilation).

⚠ WARNING!

- ◆ Pay attention to the position of the sleeping platform while adjusting it. If the sleeping platform moves uneven, or in a not horizontal position ($> 15\text{mm}/0,4^\circ$), stop adjusting it immediately. Lock the control keys (see chapter "Unlocking/locking control keys - safe termination") and contact the manufacturer (see chapter „Manufacturer“).

EMC warning notice

Note

For general information on electromagnetic compatibility see chapter 19 („General information on electromagnetic compatibility“).

Personnel qualifications

According to the German Medical Devices Operator Ordinance (MPBetreibV, §4) the care bed may only be assembled, operated, maintained and repaired by persons who have completed required training or have the necessary knowledge and experience.

Intended use

- ◆ The care bed cannot be operated during transportation.
- ◆ Only use the care bed indoors for home care, in hospitals or in care homes (application environment no. 3, 4, 5 according to MPBetreibV) in a dry and dust-free environment.
- ◆ Do not use extensions cords unless necessary (only for electrically adjustable care beds).
- ◆ Use the care bed to relieve or compensate the patient's impairments or disabilities and to facilitate the working conditions of care staff in care homes, hospitals and domestic care.

⚠ WARNING!

- ◆ The suitability of the care bed depends on the individual health situation, the physical and mental condition of the patient and the assessment of the qualified care staff or the attending physician or therapist. The patient's motor skills are to be considered especially.

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- ◆ The suitability of the care bed depends on the individual health situation, the physical and mental condition of the patient and the assessment of the qualified care staff or the attending physician or therapist. The patient's motor skills are to be considered especially.

⚠ WARNING!

- ◆ When using the care bed the patient's anthropometric data and individual needs have to be taken into account.
- ◆ Only use the care bed on a level surface (max. inclination 5°).
- ◆ Ensure that the maximum working load of 150 kg is not exceeded.
- ◆ The patient is **not** the intended user.
- ◆ Choose an appropriate location for the care bed so that it can be disconnected from the power supply easily by pulling the mains plug (see chapter "Disconnecting from power supply").

German Medical Devices Operator Ordinance (MPBetreibV)

The care bed is subject to the German Medical Devices Operator Ordinance (MPBetreibV). Please note especially the following aspects of the German Medical Devices Operator Ordinance:

- Operator's obligations (MPBetreibV, §3)
- General requirements (MPBetreibV, §4)
- Maintenance of medical products (MPBetreibV, §7)

Location of the care bed

⚠ DANGER!

Explosion hazard!

The care bed may not be used in an environment exposed to explosion hazard.

⚠ DANGER!

Fire hazard!

The care bed may not be set up near an open fire (e. g. a fireplace).

Please note

Property damage

The care bed may not be used in a damp environment.

- ◆ Choose an appropriate location for the care bed so that it can be disconnected from the power supply easily by pulling the mains plug (see chapter "Disconnecting from power supply").

Improper use

- „• Do not use the care bed for purposes other than the ones described in the section „Intended use“.“
- Do not let any unauthorized person operate the care bed.

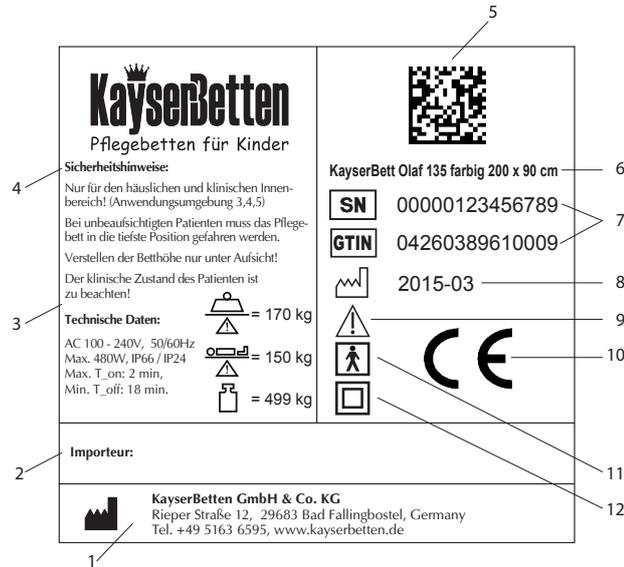
Labels on the care bed

- Never remove or change any labels on the care bed without approval of the manufacturer.
- Immediately replace damaged or lost labels with original labels.

Application parts

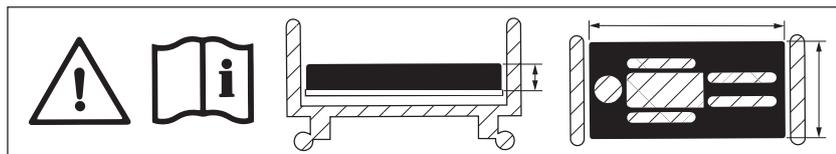
- insert frame (type BF)
- mattress

Labelling



Position	Meaning
1	Manufacturer
2	Supplier
3	Technical data
4	Safety instructions
5	UDI Data-Matrix Code
6	Bed type
7	Serial number + GTIN
8	Manufacturing date year/month
9	Warning of potential danger
10	CE mark
11	Application part type BF
12	Protection class II

Labelling accessories



Only use mattresses for the care bed with appropriate measurements (see chapter "Technical data")



Serial number label with UDI Data-Matrix Code for accessories (e. g. therapy mat)

Symbol - electric components



The RoHS directive 2011/65/EU restricts the use of certain hazardous substances in electrical and electronic equipment, e. g. lead, mercury



CE-marking: The manufacturer approves, that the products are produced according to the technical documentation and they meet the requirements of the directive 93/42/EEC, annex VII (EU Medical Device Directive).



WEEE mark - no domestic waste
(Waste of Electrical and Electronic Equipment)



Use only in dry areas.



Please follow instruction manual.

IP24

Protection against the ingress of foreign bodies and liquids (DIN EN 60529)
foreign bodies: $\varnothing \geq 12.5$ mm
liquid: protection against splashing water

IP66

Protection against the ingress of foreign bodies and liquids (DIN EN 60529)
foreign bodies: Dust-tight
liquid: protection against heavy spray water

IP44

Protection against the ingress of foreign bodies and liquids (DIN EN 60529)
foreign bodies: $\varnothing \geq 1.0$ mm
liquid: protection against splashing water

IPX6

Protection against the ingress of foreign bodies and liquids (DIN EN 60529)
foreign bodies: undefined
liquid: protection against heavy spray water



Protection class II / protective insulation, no ground conductor



Galvanic isolation e. g.: protection against electromagnetic disturbance, two separate circuits AC_DC side



Symbol for Limoss power connector



TÜV type approved, consumer protection, production monitoring



TÜV Rheinland: North America Group

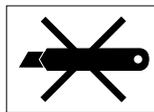


Protection class II / safety extra-low voltage



C-tick compliance mark (electromagnetic compatibility) for standards in Australia - identifier N136

Symbols - packaging



Cutter knives / knives forbidden



Do not stack



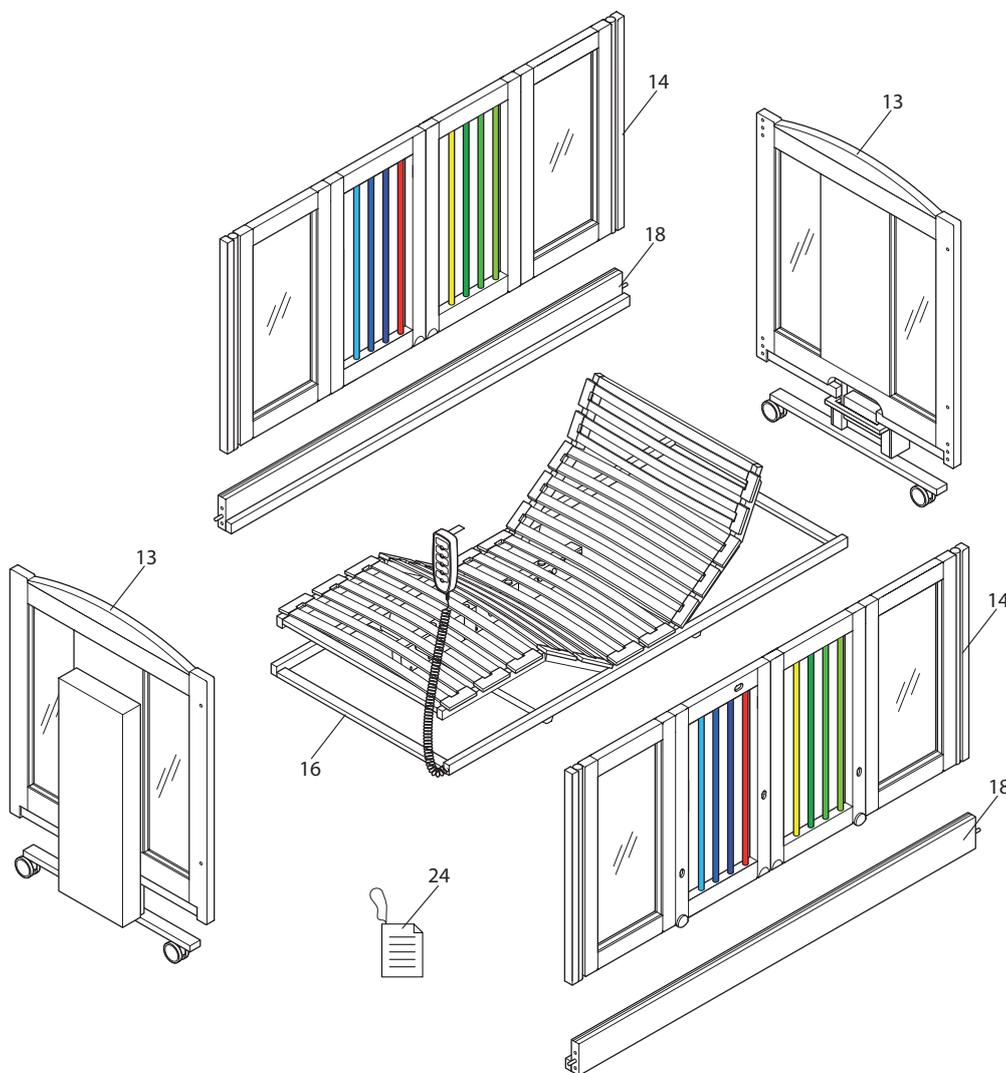
Glass, handle with care.



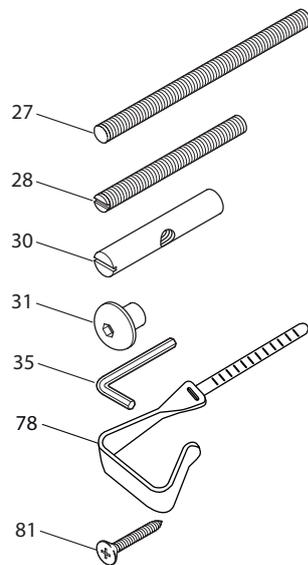
Keep dry.

3 Scope of delivery, setup and functions

Scope of delivery



Position	Quantity	Description
13	2	Sideframe
14	4	Folding-sliding doors (double or fold-away doors)
16	1	Insert frame, mains plug and hand switch
18	2	Connecting frame 120 mm
24	1	Brief instruction
79	1	Instruction manual



Position	Quantity	Description
27	8	Grub screws M 8 x 95 mm
28	8	Grub screws M 8 x 65 mm
30	8	Cross bolts
31	16	Brass caps
35	1	Allen key
78	1	Cable hanger hook
81	2	Screws 4,5 x 45 mm

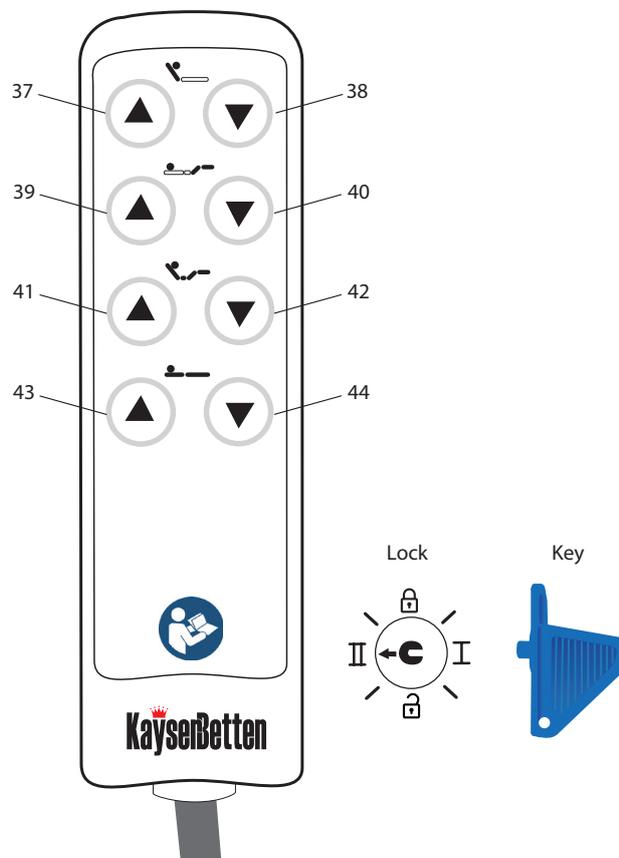
Note

Screws 4,5 x 45 mm (Pos. 81) are included with the insert frame.

Setup and functions

Operate the adjustment mechanism of the care bed with the hand switch. Possible adjustments:

- Height of the head section
- Height of the foot section
- The height of the head section
- The height of the full sleeping platform
- (see also chapter "Unlocking/locking control keys - safe termination)



- 37 Raise head section
- 38 Lower head section
- 39 Raise foot section
- 40 Lower foot section
- 41 Raise head and foot section
- 42 Lower head and foot section
- 43 Raise sleeping platform
- 44 Lower sleeping platform

4 Transport and storage

Transporting and storing the care bed

▲ CAUTION!

Heavy objects. Risk of injury.

- ◆ Always transport the care bed with two persons.

Please note

The service life of care beds for domestic use is approx. five (5) years. Frequent transporting, assembling/disassembling and moving reduces the service life of the care bed.

- ◆ Transport, (dis)assemble and move the care bed only if necessary.

Note

Store and move the unassembled care bed as follows:

- in the original packaging
- protected from impact
- secure against falling
- in a dry, clean area.

5 Assembly

Personnel qualifications

The bed shall only be assembled by an authorised technician according to the information provided in this instruction manual. The assembly must be carried out by two people.

Specific safety instructions

▲ CAUTION!

Cables and parts laying around can create tripping hazards. Risk of injury.

- ◆ Ensure that cables and parts are not laying around.
- ◆ Reckless use of necessary tools such as cutter knives, screw drivers, cordless drills etc. can cause cuts and hand injuries.

Please note

Jammed cables. Property damage.

- ◆ Ensure that no cables get trapped during the assembly (only for electrically adjustable care beds).

Unpacking care bed

1. Unpack the parts. Do not remove the cable ties and adhesive tape from the insert frame in this step.
2. Always ensure that all parts are put down carefully and turned the right way. Place cardboard or carpet underneath the parts.
3. Check if the delivery for completeness (see chapter "Scope of delivery"). In case any parts are missing immediately contact the manufacturer (see chapter "Manufacturer").

Assembling care bed

To assemble the care bed you will need a clear area of at least 2m x 3m.

The care bed must be installed close to a power supply (only for electrically adjustable care beds).

- ◆ Use an allen key to tighten the brass caps (pos. 31).

Mounting grub screws

▲ CAUTION!

Adjustable folding-sliding doors. Risk of crushing.

- ◆ Keep the folding-sliding doors closed while assembling the grub screws and ensure that no body parts get trapped.

▲ CAUTION!

Protruding parts. Risk of injury.

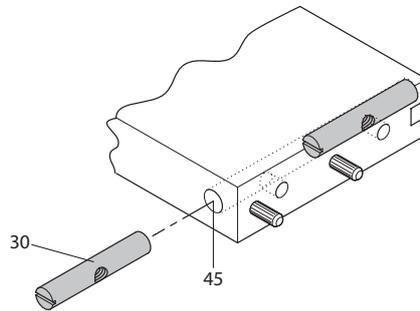
- ◆ While assembling pay attention to protruding parts like grub screws.

Note

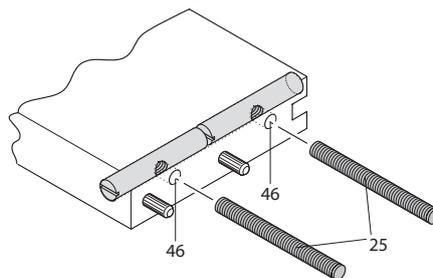
When tightening the bras caps it may be helpful to allow the grubs screws to protrude from the holes in the parts. Therefore do not screw the grub screws all the way into the cross bolts.

- ◆ Mount the grub screws (pos. 25) of the connecting frame (pos. 19) one by one as follows:

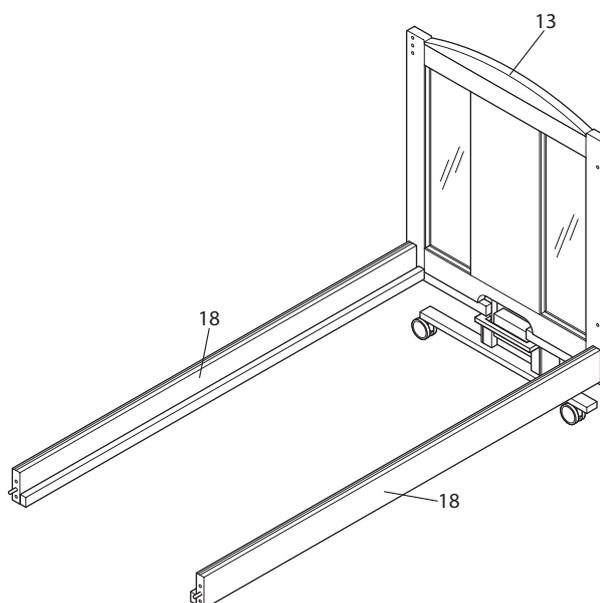
1. Lay down flat the connecting frame.
2. Insert the cross bolt (pos. 30) into the hole (pos. 45). The cross bolt hole is not designed for the length of the cross bolt. Do not push the cross bolt all the way into the cross bolt hole.



3. Look through the grub screw hole (pos. 46) and position the cross bolt so that the opening in the cross bolt is aligned with the grub screw hole. Use a slotted screwdriver for positioning.
4. Insert the grub screw (pos. 25) into the grub screw hole (pos. 46).
5. Screw the grub screw (pos. 25) into the cross bolt by one turn. Do not screw the grub screw all the way into the cross bolt.

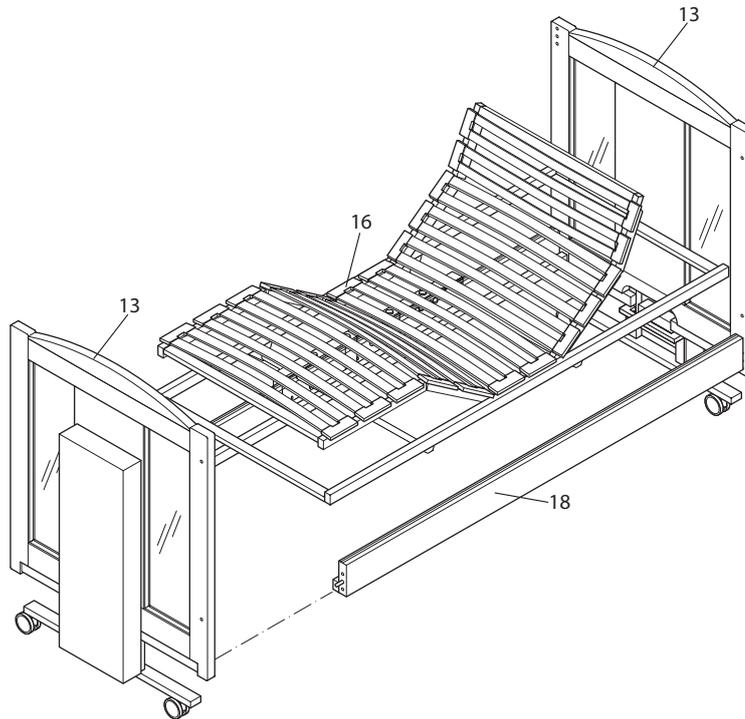


Mounting connecting frame



1. Set up one side frame (pos. 13). Secure the side frame by a second person.
2. Place insert frame (pos. 27) onto the supporting brackets on the side frame (pos. 18).
3. Screw the brass caps (pos. 31) onto the grub screws (pos. 27) and tighten the brass caps (pos. 31).
4. Set up one side frame.

Mounting second side frame

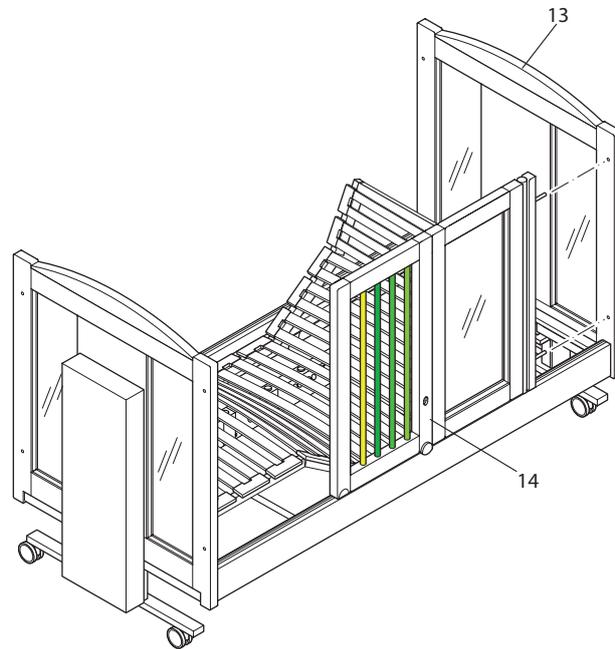


1. At the same time, guide the grub screws and pre-mounted wooden dowels on the connecting frame (pos. 18) into the holes on the side frame (pos. 13).
2. Screw the brass caps (pos. 31) onto the grub screws and tighten the brass caps.

Place and secure insert frame

1. Place insert frame (pos. 16) onto the support bars of the connecting frames (pos. 18) and the side frames (pos. 13).
2. Ensure the head and foot sections are positioned accordingly.
3. Remove the cable ties from the insert frame.
4. Screw the insert frame from inside to the connecting frames (pos. 18). Use the screws (pos. 81) and a battery powered screwdriver.

Mounting folding-sliding doors



▲ CAUTION!

Moving parts. The folding-sliding doors may close and crush limbs or body parts.

◆ Pay attention to your limbs.

1. Unfold a folding-sliding door (pos. 14) all the way.
2. Slide the open folding-sliding door with the guiding pin facing down into the aluminium runner of the connecting frame. The rebate profiles are located on the outside, the guiding pin is facing down. This ensures the right orientation of the door.
3. Slide the folding-sliding door into the aluminium runner towards the corresponding side frame (pos. 13). At the same time insert the grub screws into the holes in the side frames (pos. 13).
4. Screw the brass caps (pos. 31) onto the grub screws and tighten the brass caps.
5. Open the assembled folding-sliding door (see chapter "Opening/closing door folding-sliding doors").
6. Mount the other folding-sliding door. Proceed as described above for the first door.
7. Close the assembled folding-sliding doors (see chapter "Opening/closing door folding-sliding doors").

6 Initial set up

Personnel qualifications

The bed shall only be assembled by an authorised technician according to the information provided in this instruction manual. The assembly must be carried out by two people.

Disinfecting care bed

- ◆ Clean and disinfect the care bed before initial set up (see chapter "Cleaning care bed").

Connect the power supply

⚠ WARNING!

Damaged power supply cable or exposed electrical cores. Electric shock hazard

- ◆ Route the power supply cable freely so it does not get jammed.

⚠ WARNING!

Damaged power supply cable or mains plug. Electric shock hazard

- ◆ Have the power supply cable as well as the mains plug be replaced by the manufacturer or authorised technician.

⚠ WARNING!

Damp multiple sockets. Moisture may build up in multiple sockets underneath the care bed. This may cause fires or electric shocks.

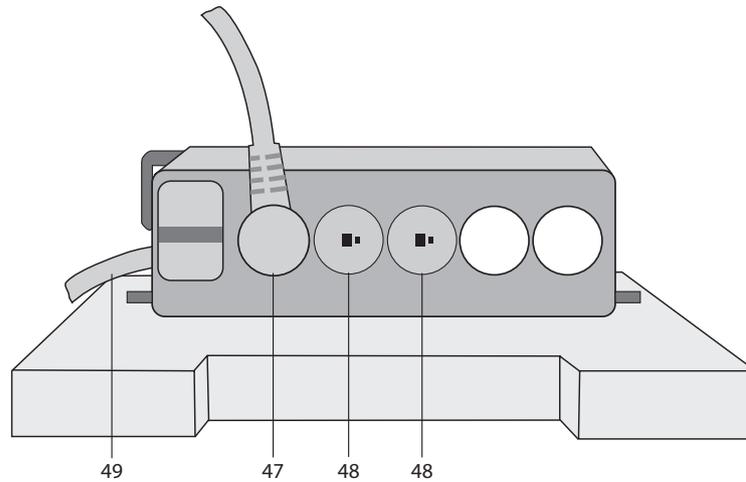
- ◆ Only use extension cords with one socket to connect the mains plug and protect the connection from moisture.

Please note

If the cable is routed incorrectly the power supply cable or mains plug can get damaged.

- ◆ Route the power supply cable freely so it cannot get jammed.
- ◆ Choose an appropriate location for the care bed so that it can be disconnected from the power supply easily by pulling the mains plug (see chapter "Disconnecting from power supply").

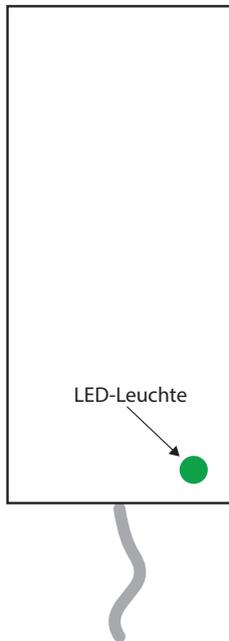
Connect electric components



Position Function

- 47 hand switch
- 48 height adjustment
- 49 power supply cable
- 50 emergency release of head section

Connect the cables to the adjustment mechanism as shown in the figure. The adjustment mechanism is located on the bottom of the insert frame.



1. Plug the power supply cable into a socket.
2. Unlock all control keys on the hand switch using the blue key (see chapter "Unlocking/locking control keys").
3. The care bed is now ready for operating.
 - » Check all functions of the hand switch (see chapter "Setup and functions"):
 - ◆ If a problem occurs stop using the care bed. Please contact the manufacturer (see chapter "Manufacturer").

4. main plug

LED light lights up green:
mains plug ready

LED light not lit:

Error - please contact the manufacturer (see chapter "Manufacturer")

7 Bed delivery

Upon delivery of the care bed the operator or the person delegated by the operator has to be instructed based on this instruction manual by the manufacturer or an authorised person (technician).

- ◆ The following things have to be explained, demonstrated and documented during the training (see chapter "Attachment" for instruction record):
 - how to shift and lock the care bed (basic functions)
 - all operating controls and all connections that can be disconnected without tools
 - all adjustment functions including the keypad lock of the hand switch
 - how to operate and handle the lifter (optional)

8 Operation

Personnel qualifications

The care bed may only be operated by the operator or the user.

Specific safety instructions

▲ CAUTION!

Incorrect handling of the care bed can cause severe injury or death.

- ◆ For unattended patients the care bed must be lowered to bottom level to reduce the risk of injuries by falling.
- ◆ There may be no persons or animals underneath the care bed at any time.
- ◆ The hand switch may only be operated by the operator or the user (only for electrically adjustable care beds).
- ◆ The care bed may only be moved by the operator or the user.
- ◆ Do not let children play near the care bed when unattended.
- ◆ Children may not climb onto or crawl underneath the bed frame at any time.

▲ WARNING!

Moving parts. Risk of crushing.

- ◆ Close supervision of persons, animals and objects nearby is necessary when operating the care bed.
- ◆ Ensure that feet or hands of any person are not placed on the metal stands of the side frames.

▲ WARNING!

- ◆ Pay attention to the position of the sleeping platform while adjusting it. If the sleeping platform moves uneven, or in a not horizontal position ($> 15\text{mm}/0,4^\circ$), stop adjusting it immediately. Lock the control keys (see chapter "Unlocking/locking control keys - safe termination") and contact the manufacturer (see chapter „Manufacturer“).

▲ CAUTION!

Unlocked care bed. Risk of injury.

- ◆ Always lock the brakes in day-to-day use.

Please note

- ◆ Wrong handling of care bed. Property damage.
- ◆ There may be no objects underneath the care bed at any time.
- ◆ The hand switch may only be operated by the operator or the user (only for electrically adjustable care beds).
- ◆ The care bed may only be moved by the operator or the user.
- ◆ Do not let children play near the care bed when unattended.

Do not place the care bed on an uneven surface.

Please note

- ◆ Power failure (only for electrically adjustable care beds)
- ◆ In the event of power failure no electric adjustment functions except for the emergency release of head section (see p. 23) can be performed. Do not leave patient unattended when the sleeping platform is at top level.

Overload. Property damage. (only for electrically adjustable care beds)

- ◆ Ensure that the maximum working cycle and safe working load are not exceeded (see chapter "Technical data"). After two minutes of continuous operation, the adjustment mechanism must remain off for at least 18 minutes (2 min operating/18 min off).

Normal use

If the patient has to lie in the care bed unattended:

1. Close the folding-sliding doors (see chapter "Opening/closing folding-sliding doors") and close the door locking mechanism (see chapter "Opening/closing door locking mechanism").
2. Lower the sleeping platform to the bottom level (see chapter "Adjusting height of sleeping platform").
3. Lock the control keys on the hand switch (see chapter "Unlocking/locking control keys").

Shifting care bed

Only if the care bed is equipped with castors.

1. Pull the mains plug from the socket and fix the power supply cable and the mains plug to the bed so that the cable and the plug are not dragging on the ground (only for electrically adjustable care beds).
2. Unlock the brakes on the castors.
3. Ensure that any thresholds the bed has to cross over are no higher than 20 mm. The care bed may have to be lifted to cross an obstacle.

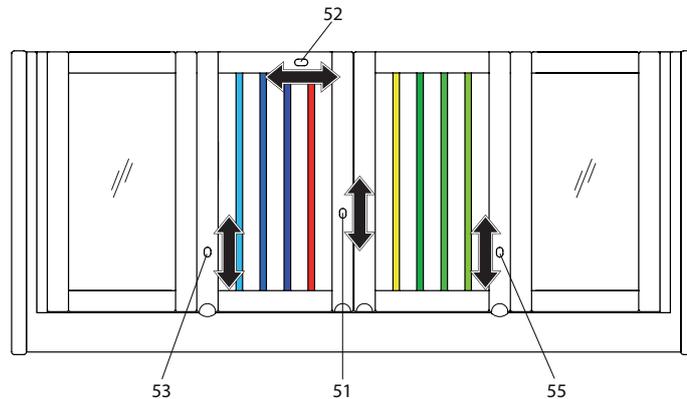
▲ CAUTION!

4. Moving parts. People or animals can get crushed between the care bed and other surfaces. Ensure no people, animals or objects are present in the danger zone while shifting the care bed.
5. Shift the care bed as desired.
6. Lock the brakes on the castors.
7. Check if the care bed is standing firmly.
8. Plug the mains plug into the socket (only for electrically adjustable care beds).

Close door locking mechanism

1. To open the door locking mechanism pull out the red knobs on the brackets.
2. Slide up the door locking. Ensure that no one gets injured when moving the door locking.
 - » You can now open the folding-sliding doors (see chapter "Opening/closing folding-sliding door").
3. To close the door locking mechanism once again insert the door locking into the brackets. The mounting plates will cover the door bolts.
4. Press the red knobs into the brackets.

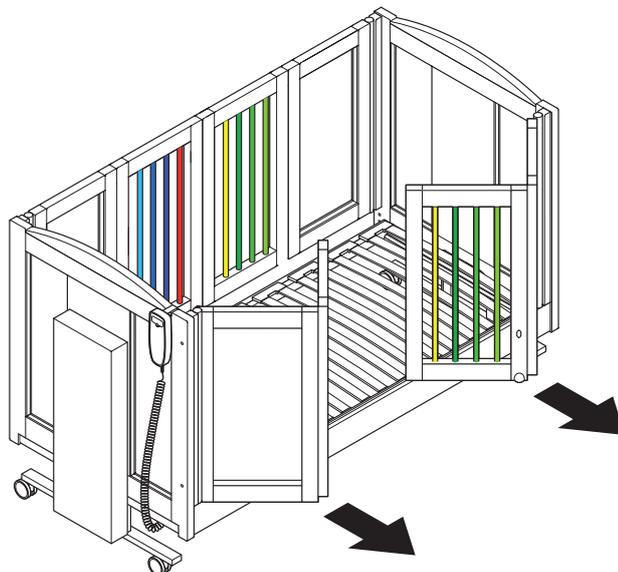
Open/closing folding-sliding doors



1. To open the folding-sliding doors, pull down the locking bracket in the middle (pos.51) and hold it back.
2. Pull the upper locking bracket (pos. 52) to the left and let go of the locking bracket in the middle (pos. 51).

⚠ CAUTION!

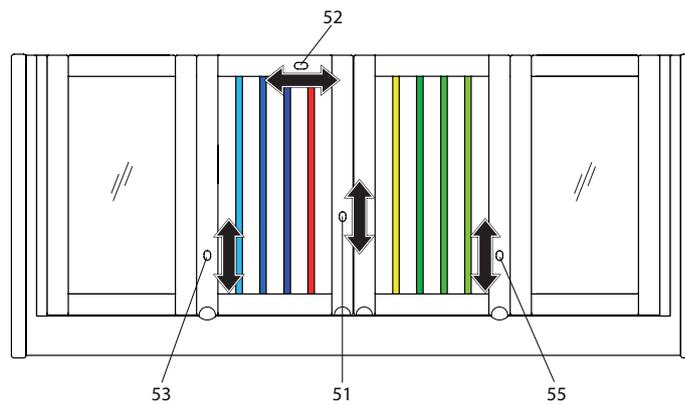
3. Adjustable folding-sliding doors. Limbs can get crushed in the folding-sliding doors. Ensure that your limbs do not get crushed.
 - » To open up the folding-sliding door all the way, pull up the locking bracket on the side (pos. 55), hold it back and open the folding-sliding door.
4. To open up the second folding-sliding door, proceed as described for the first door.
5. To close the folding-sliding door pull up the locking bracket on the side (pos. 55) and hold it back.



⚠ CAUTION!

6. Adjustable folding-sliding doors. Limbs can get crushed in the folding-sliding doors. Ensure that your limbs do not get crushed.
 - » Close the folding-sliding door and let the locking bracket (pos. 55) snap into place.
7. Close the two folding-sliding doors. Proceed as described above for the first door.
8. Pull down the locking bracket in the middle (pos.51) and hold it back.
9. Pull the upper locking bracket (pos. 52) to the right and let go of the locking bracket in the middle (pos. 51).

Opening/closing UK-doors



1. To open the UK-doors, pull down the locking bracket in the middle (pos.51) and hold it back.
2. Pull the upper locking bracket (pos. 52) to the left and let go of the locking bracket in the middle (pos. 51).

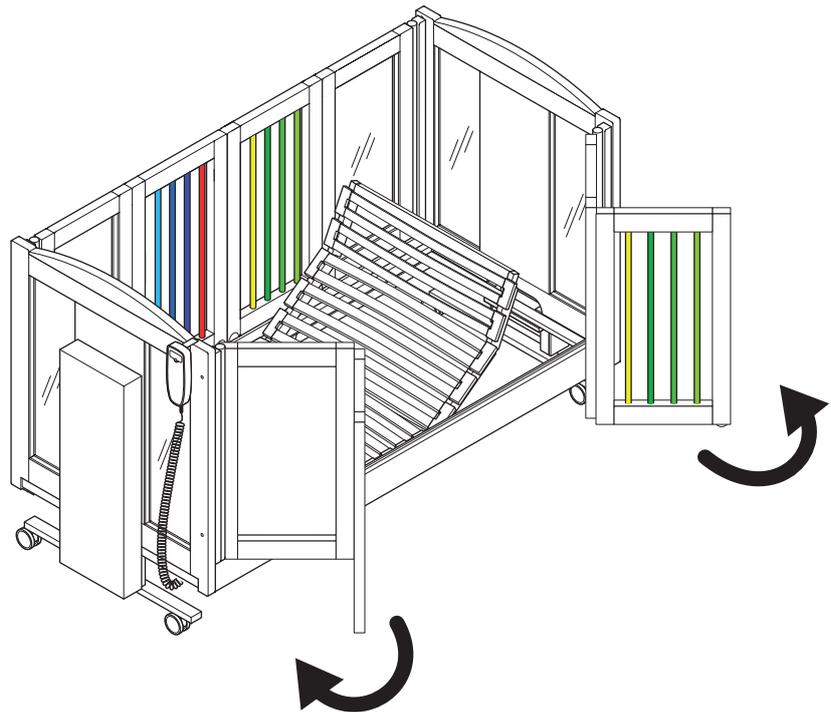
⚠ CAUTION!

3. Adjustable UK-doors. Limbs can get crushed in the UK-doors. Ensure that your limbs do not get crushed.
4. To open up the UK-doors all the way, pull up the locking bracket in the middle (pos. 55), hold it back and open the middle door.
5. Then pull up the locking bracket (pos. 53), hold it back and open the outer door.

6. To open up the second UK-door, proceed as described for the first door.
7. To close the UK-doors, pull up the locking bracket on the side (pos. 53) and hold it back.

▲ CAUTION!

8. Adjustable UK-doors. Limbs can get crushed in the UK-doors. Ensure that your limbs do not get crushed.
 - » Close the outer UK-door and let the locking bracket (pos. 53) snap into place.
 - » Then close the middle UK-door, proceed as described for the first UK-door.
 - » Pull down the locking bracket in the middle (pos.51) and hold it back.
 - » Pull the upper locking bracket (pos. 52) to the right and let go of the locking bracket in the middle (pos. 51).



Unlocking/locking control keys - safe termination

1. To unlock the control keys insert the blue key into the knob on the backside of the hand switch and switch to the open lock symbol.
 - » The control keys are unlocked.
2. To lock the control keys insert the blue key into the knob on the backside of the hand switch and switch to the closed lock symbol.
 - » The control keys are locked (see chapter "Setup and functions").

Flatness tolerance

- ◆ For manufacturing and constructional reasons it is possible that the drive mechanisms for height adjustment do not move at the same speed. Therefore the sleeping platform does not move in an exact horizontal position. For insert frames in sizes 200x100cm the difference between head and foot section may be +/-15 mm (+/- 0.4°).
- ◆ Moving the platform up and down (without reaching the final position) as well as varying loads may increase the inclined position of the sleeping platform.
- ◆ By operating the height adjustment regularly into the upper or lower final position (until the drives stop) you can counteract this effect. This way the sleeping platform is brought back into its original horizontal position.

Adjusting head section

▲ WARNING!

Risk of injury from open folding-sliding doors/ lowering rails

- ◆ Close the folding-sliding doors before adjusting the head section.

▲ CAUTION!

Risk of injury from crushing or improper positioning.

- ◆ Moving parts. Risk of crushing. Ensure that no limbs get crushed between the head section and the rest of the care bed.
 - ◆ Keep an eye on the patient while adjusting the patient's position. If the patient demonstrates suspicious behaviour, stop adjusting the setting immediately. Check if the patient has crushed any of their limbs or feels uncomfortable.
1. Unlock the control keys (see chapter "Unlocking/locking control keys").
 2. To lift up or lower the head section (pos. 32, pos. 33) press and hold the control key on the hand switch until the head section has reached the desired position.
 3. Release the control key.
 4. Lock the control keys (see chapter "Unlocking/locking control keys - safe termination").

Adjusting foot section

▲ WARNING!

Risk of injury from open folding-sliding doors/ lowering rails

- ◆ Close the folding-sliding doors before adjusting the foot section.

▲ CAUTION!

Risk of injury from crushing or improper positioning.

- ◆ Moving parts. Risk of crushing. Ensure that no limbs get crushed between the foot section and the rest of the care bed.
- ◆ Keep an eye on the patient while adjusting the patient's position. If the patient demonstrates suspicious behaviour, stop adjusting the setting immediately. Check if the patient has crushed any of their limbs or feels uncomfortable.

1. Unlock the control keys (see chapter "Unlocking/locking control keys").
2. To lift up or lower the foot section (pos. 34, pos. 35) press and hold the control key on the hand switch until the foot section has reached the desired position.
3. Release the control key.
4. Lock the control keys (see chapter "Unlocking/locking control keys - safe termination").

Adjusting head and foot section

▲ WARNING!

Risk of injury from open folding-sliding doors/ lowering rails

- ◆ Close the folding-sliding doors before adjusting the head and foot section.

▲ CAUTION!

Risk of injury from crushing or improper positioning.

- ◆ Moving parts. Risk of crushing. Ensure that no limbs get crushed between the head and foot section and the rest of the care bed.
 - ◆ Keep an eye on the patient while adjusting the patient's position. If the patient demonstrates suspicious behaviour, stop adjusting the setting immediately. Check if the patient has crushed any of their limbs or feels uncomfortable.
1. Unlock the control keys (see chapter "Unlocking/locking control keys").
 2. To lift up or lower the head and foot section (pos. 32, pos. 33) press and hold the control key on the hand switch until the head and foot section has reached the desired position.
 3. Release the control key.
 4. Lock the control keys (see chapter "Unlocking/locking control keys - safe termination").

Adjusting sleeping platform

▲ CAUTION!

Risk of death from crushing. Persons and animals situated underneath the care bed can get crushed when lowering the sleeping platform.

- ◆ Ensure that no persons or animals are underneath the bed.

1. Unlock the control keys (see chapter "Unlocking/locking control keys").
2. To lift up or lower the sleeping platform (pos. 38, pos. 39) press and hold the control key on the hand switch until the sleeping platform has reached the desired position.
3. Release the control key.
4. Lock the control keys (see chapter "Unlocking/locking control keys - safe termination").

▲ WARNING!

Risk of injury from open folding-sliding doors/ lowering rails

- ◆ Close the folding-sliding doors before adjusting the head and foot section.

▲ WARNING!

Pay attention to the position of the sleeping platform while adjusting it. If the sleeping platform moves uneven, or in a not horizontal position ($> 15\text{mm}/0,4^\circ$), stop adjusting it immediately. Lock the control keys (see chapter "Unlocking/locking control keys - safe termination") and contact the manufacturer (see chapter „Manufacturer“).

▲ CAUTION!

Risk of injury from crushing or improper positioning.

- ◆ Keep an eye on the patient while adjusting the patient's position. If the patient demonstrates suspicious behaviour, stop adjusting the setting immediately. Check if the patient has crushed any of their limbs or feels uncomfortable.

Transferring into/out of bed

▲ CAUTION!

Risk of falling when the care bed starts moving unattended.

- ◆ When transferring from a seat into the care bed or vice versa the brakes on the castors must be locked.

Disconnecting from power supply

- ◆ To disconnect the care bed from the power supply unplug the mains plug from the socket. (only for electrically adjustable care beds)

9 Cleaning

To prevent germs and infectious diseases from spreading the care bed must be cleaned and disinfected.

Specific safety instructions

▲ WARNING!

- ◆ Moisture in electronic components. Electric shock hazard (only for electrically adjustable care beds).
- ◆ Turn off power supply before cleaning and disinfecting the bed (see chapter "Disconnecting from power supply").
- ◆ Do not clean any electronic components with a high-powered cleaner or water.
- ◆ Leave plug of the hand switch and the adjustment mechanism plugged in to prevent moisture from entering the adjustment mechanism.

Frequency of cleaning

- ◆ Clean and disinfect the care bed on a regular basis, especially in case of soiling in between the use on different patients and at re-use (chapter 15).

Knowledge of infectious diseases

- ◆ In the presence of an infectious disease, the National Medical Service has to take appropriate precautions to prevent an infection and to prevent the spread of germs. Therefore, RKI standards (Robert Koch Institute) and MPG specifications (Max Planck Institute) must be respected.

Cleaning agents

Appropriate cleaning and disinfecting agents are:

- ◆ All cleaning agents suitable for wood and plastic furniture
- ◆ Dermatologically tested household cleaning agents that do not contain ammonium chloride and abrasives
- ◆ Disinfecting agents according to the DGHM (German Society for Hygiene and Microbiology) list dated 04 February 2002. You can find a list of approved disinfecting agents in the download section at www.kayserbetten.eu.

Cleaning care bed

Please note

Inappropriate cleaning agents. Property damage.

- ◆ Do not use any solvents or scouring agents.
- 1. Pull the mains plug.
- 2. Wipe the care bed with a damp cloth. Ensure that no moisture enters any electric components.
- 3. Allow the care bed to dry.
- 4. Reconnect the power supply.

Disinfecting care bed

1. Pull the mains plug of the adjustment mechanism.
2. Disinfect the care bed.
3. Allow the care bed to dry.
4. Reconnect the power supply.

(* only for electrically adjustable care beds)

10 Maintenance

According to the German Medical Devices Operator Ordinance MP-BetriebV §7 (maintenance) care bed operators are obliged to ensure the safe condition of the medical product over the entire duration of use.

The test according to DIN EN 62353 includes the following minimum requirements:

- Visual inspection
- Measurement of insulation resistance*
- Measurement of leakage current
- Functional test
- Overall assessment

To ensure the safe operation carry out a visual inspection and functional test along with an electrical test a least once a year. *

- ◆ Check the care bed once a year according to DIN EN 62353 (see chapter "Attachment" for inspection record).
- ◆ Photocopy the record (see chapter "Attachment" for instruction record) and document the test on the copy.

- ◆ Only have a technician perform the maintenance procedure. Therefore please contact the manufacturer for assistance (see chapter "Manufacturer").
- ◆ No persons are allowed in the care bed during maintenance and cleaning work on the care bed or on parts of the care bed.

(* only for electrically adjustable care beds)

11 Trouble shooting guide

Trouble shooting guide	Cause	Corrective action
Bed cannot be adjusted with hand switch (head level, height of sleeping platform, etc.).*	The power supply cable is not plugged in.	Plug in the power supply cable (see chapter "Connecting power supply").
Pressing on control keys on hand switch results in motion other than intended (e. g. height of sleeping platform adjusts, although pressing control key for foot section).*	The individual plugs are not plugged into the adjustment mechanism.	Connect the plugs (see chapter "Connecting power supply").
	The adjustment mechanism or the hand switch is damaged.	Shut down the care bed and contact the manufacturer (see chapter "Manufacturer").
Folding-sliding doors cannot be opened.	The plugs are connected incorrectly.	Connect the plugs correctly (see chapter "Connecting power supply").
	The door locking mechanism is still activated.	Open the door locking mechanism (see chapter "Opening/closing door locking mechanism").
Bed cannot be moved.	The brakes are still locked.	Unlock the brakes.
	The castors may be blocked by some object.	Remove the objects.

(*Only for electrically adjustable care beds)

12 Repair

- ◆ Only have a technician perform the repair. Please contact the manufacturer (see chapter "Manufacturer").

Please note

- ◆ Only use original parts and components that were approved by the manufacturer.
- ◆ A repair or exchange of electric components may only be carried out by an authorised technician. Please contact the manufacturer (see chapter "Manufacturer")

13 Disassembly

..▲ CAUTION!

Reckless use of necessary tools such as screw drivers, cordless drills etc. can cause hand injuries.

Please note

The service life of care beds for domestic use is approx. five (5) years. Frequent transporting, assembling/disassembling and moving reduces the service life of the care bed.

- ◆ Transport, (dis)assemble and move the care bed only if necessary.
- ◆ Only have a technician assemble and disassemble the care bed. Therefore please contact the manufacturer for assistance (see chapter "Manufacturer").

Disassembling care bed

▲ WARNING!

Risk of injury! Only disassemble the care bed when there is no patient inside the bed.

▲ CAUTION!

Moving parts. The folding-sliding doors may close and crush limbs or body parts. Pay attention to your limbs.

- ◆ Remove the mattress.
- ◆ Remove sleeping platform:
- ◆ Loosen 4x25 mm screws.
 1. Disconnect the power supply cable from the socket.
 2. Disconnect the plugs of the height adjustment mechanism (pos. 48)
 3. Remove sleeping platform.
 4. Start by removing all brass caps on one side frame.
 5. Remove side frame from the connecting frame and the rear railing.
 6. Remove the brass caps from the connecting frame on the other side frame. Then remove the connecting frame.
 7. Secure the side frame with the help of another person and remove the brass caps from the rear railing.
 8. Remove the rear railing.

14 Disposal

- ◆ Disassemble the care bed and dispose of it in an environmentally friendly manner. Please contact the manufacturer for assistance (see chapter "Manufacturer").

15 Reuse

The care bed is suitable for reuse. Before reusing it the care bed must be cleaned thoroughly (see chapter "Cleaning"). In addition a maintenance check or a safety inspection (see chapter "Maintenance") and, if necessary, a repair must be performed. Please note the instructions in chapter 7 for handing over the care bed and provide this instruction manual.

16 Accessories

▲ WARNING!

Risk of injury - Do not use accessories other than those authorized by KayserBetten. Using a thicker mattress can for example result in inadequate protection of side rails (see chapter 18 "Technical data").

Please note

Only the following accessories may be used. All accessories come with maintenance and care instructions.

Accessories recommended

- Mattress KM3
- Castors 10 cm

Optional accessories

Latex mattress KM1

Antidecubitus mattress KM2

Leatherette mattress, firmly sewn KM4

Soft foam mattress KM5

Incontinence cover

Therapy mat

Plastic castors 16,5 cm

Plastic castors 13,5 cm

Plastic Castors 7,5 cm

Climbing ramp

Padding

Plexiglas on railing

Mattress fastening

Rod for hanging toys

Canopy

Lifter

17 Spare parts list

Plastic castors 10 cm
locking brackets
drive mechanism for sleeping platform
drive mechanism for height adjustment
hand switch
mains plug
Allen key
brass caps
threaded rod
cross bolts

18 Technical data

Technical data

Total height including castors (10cm)	min. 100 cm /max. 160 cm
Total length (170x90cm/200x90cm)	193 cm / 223 cm
Total width	101 cm
Inner dimensions	170 x 90 cm / 200 x 90 cm
Net weight (170 x 90 cm/200 x 90 cm)	170 kg / 179 kg
Max. total weight (170x90cm/200x90cm)	340 kg / 349 kg
Max. patient weight	150 kg
Max. patient height (170x90 cm/200x90 cm)	150 cm / 180 cm
Safe working load	170 kg
Bed height at upper edge of mattress	min. 35 cm, max. 105 cm
Door height/railing height (Emmal/Emmall)	60 cm/35 cm
Max. angle head section (170x90cm/200x90cm)	55° / 66°
Max. angle foot section (170x90cm/200x90cm)	20° / 24°
Max. mattress height	18 cm
Min. mattress size	170 x 90 cm / 200 x 90 cm

Max. mattress weight	20 kg
Max. weight carrying capacity	150 kg
Base of sleeping platform	wooden slats
Safe lifter load (optional)	80 kg
Electrical height adjustment of sleeping platform	continuous from 35 to 105 cm
Weight side frame	43 kg per side
Weight door unit	12 kg per door
Weight rear railing	18 kg
Weight connecting frame	6 kg
Weight sleeping platform	18 kg
Weight of external door locking mechanism	3 kg
Weight of brackets/mains plug	5 kg

19 Electrical data

Operation time/downtime	Max.T_on: 2 min., Max.T_off: 18 min.
Drive power for sleeping platform (head-/foot section)	Limoss MD 201, 2 x 4000N, IPX4 35 V - 5 A max., 175 W
Drive power for sleeping platform (Sleeping platform)	Limoss MD 121, 2250N/2250N, IPX4 35 V - 5 A max., 175 W
Power supply	Limoss MC 115L-90-EU, Input: 100-240V ~ 50/60Hz, 2.1-0.9A, max. 480W Output: 35V, 2A, max. 70 W
Protection class	IP 24

Environmental conditions

Temperature range while operating	+ 5° C to + 40° C
Temperature range Storage/transportation	-25° C to + 70° C
Humidity	15 % to 93 % rel.
Air pressure	700 hPa to 1060 hPa

Classification

Medical device	class 1
Protection degree acc. DIN EN 60 601-1	Type BF (protection against electric shock)
Protection class acc. DIN EN 61140	II (protective insulation)
Safety inspection	1 x yearly

Service life

The expected service life of the KayserBetten care bed, its parts and accessories is 5 years.

20 General information on electromagnetic compatibility

(only for electrically adjustable care beds)

All electrical drives comply with the principal safety requirements mentioned in the directive of the council for the harmonisation of the laws of the Member States relating to electromagnetic compatibility (EMC) (89/336/EEC). Wireless communication devices such as home network devices, cellular or wireless phones and their base stations or walkie-talkies can affect the proper functioning of this product and should therefore be kept at a distance of at least 3,3 m (11 ft.).

21 Attachments

Maintenance / Safety Inspection Record (STK) for Kayser-Betten

In order to document the safety instructions during initial set up, maintenance and repair make a photocopy of the maintenance record or download the file at www.kayserbetten.eu. Document the inspection and keep this form with your documentation.

Maintenance and repair

Information on maintenance and repair provided by KayserBetten.

Training record

In order to document the training photocopy the training record template or download the file at www.kayserbetten.eu. Document the training and save the form.

Retailer / facility

Name: _____
Street / no.: _____
Post code, city: _____

Reason for inspection

Prior to initial set up _____
After maintenance _____
Next maintenance (annual): _____

Location

Name: _____
Street / no.: _____
Postal code, city: _____

Inspector
Name: _____
Street / no.: _____
Postal code, city: _____

Type of KayserBetten care bed
Bed type: _____
Serial no.: _____
Inventory no.: _____

I hereby confirm that I have carried out the maintenance work / safety inspection.
Customer signature _____

Type of inspection	Inspected compound	ok	not ok	Note
Visual inspection	Label wooden bed frame / drives			
	Instruction manual available			
	Lifting frame			
	Sleeping platform			
	Head and foot section			
	Side parts			
	Castors			
	All fasteners			
	Trapeze bar / trapeze bar holder			
	Smooth running of castors			
Functional test castors	Locking on castors			
	Brake functioning			
Functional test side parts lowering rails doors	Condition			
	Locking			
	Smooth running of doors / rails			
Functional test drive mechanisms	Openings between 4.5 and 6.5 cm			
	Height adjustment mechanisms			
	Adjustable sleeping platform			
Functional test accessories	Lifter			
Overall assessment:				

Electrical inspection according to DIN EN 62353 standard Protection class II

Type of inspection	Inspected compound	ok	not ok	Note
Visual inspection	Power supply cable			
	Power supply plug			
	Strain relief			
	Condition of all drive components			
	Protection marking min. IPX4			
Functional test	Suspension device for power supply			
	Hand switch / lockout box			
	Limit switch on motors			
	Battery			
Measurement	Insulation resistance			Actual Target > 2 MΩ
	Device leakage current			< 0,1 mA
Overall electrical evaluation:				

Measuring device: _____

Remarks:

Inspection date: _____

Signature of inspector: _____

Maintenance and repair of KayserBetten care beds

The care bed has to undergo maintenance at least every 12 months. Only trained technicians of the operator, retailer or manufacturer are authorised to carry out maintenance work. In case of any deviations from the requirements listed below the bed must be withdrawn from service and be repaired. After each maintenance fill out the maintenance record (see "Attachment"):

1. Carry out a visual inspection of all parts on the bed base (slatted frame). If you discover damages, repair or replace the damaged parts immediately. Check smooth running of hinges. Lubricate the hinges with non-resinous grease or multi-purpose oil if "dry" and make noises.
2. Check all pins, screw connections, rivet connections and welding seams. There must be no cracks or deformations or missing parts e.g. nuts.
3. Carry out a visual inspection of the trapeze bar (accessories) and the trapeze bar holder. There may be no damages.
4. Carry out a visual inspection of all parts of the bed frame.
5. Check smooth running of the locking mechanisms on doors and side rails.
6. Check the side rail for dimensional stability under loading (approx. 50 kg). No gaps smaller than 125 mm must occur.
7. Check functionality of castors on the bed. Braking and moving functions must work properly.
8. If bed frame is electrically adjustable carry out a visual and functional inspection of the drive mechanisms. These parts wear out. In case of excessive temperature rise, high noise level, grinding or squeaking noises, metal or plastic shavings occurring on or underneath the motor, the adjustment mechanism does no longer cover the full range, the limit switches no longer respond or the drive mechanisms are slower than usual, the respective drive mechanism is damaged and must be replaced immediately.
9. If bed frame is electrically adjustable check the power supply cable and the entire wiring for damage, bends and abrasion points and a firmly defined route (undamaged cable fasteners).
Attention: If damage occurs in the power supply line or power supply plug replace them immediately to avoid hazards. The bed must be immediately withdrawn from service in case of detected damage.
The manufacturer provides customer service employees and authorised technicians with circuit diagrams to ensure proper repair.
10. If bed frames are electrically adjustable check the hand switch and lockout box for proper functioning and exterior damage.

Check the bed for proper functioning with each use.
If any connections are loose immediately tighten them with appropriate tools. A faulty product must be withdrawn from service and reported to the operator, manufacturer or responsible authorised retailer immediately.

Functional Inspection and Briefing Record

Date	Name and signature of the person responsible for the briefing	Name and signature of the trained person

The briefing includes a demonstration of

- all electrical adjustment functions, including the lockout box / hand switch locking
- all operating elements (side rails, bed frame etc.) and connections that can be loosened without a tool
- the trapeze bar and its functioning (if available)
- how to shift the care bed and locking it in place
- safety instructions regarding the use of the care bed
- the emergency release of the sleeping platform's head section (if available)

KaysenBetten

Care beds for children

... the original!

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