STIEGELMEYER

Evocare®
www.evocare.com.au
Ph: 07 3355 8000 Fax: 07 3355 5043
Email: sales@evocare.com.au

Instruction Manual

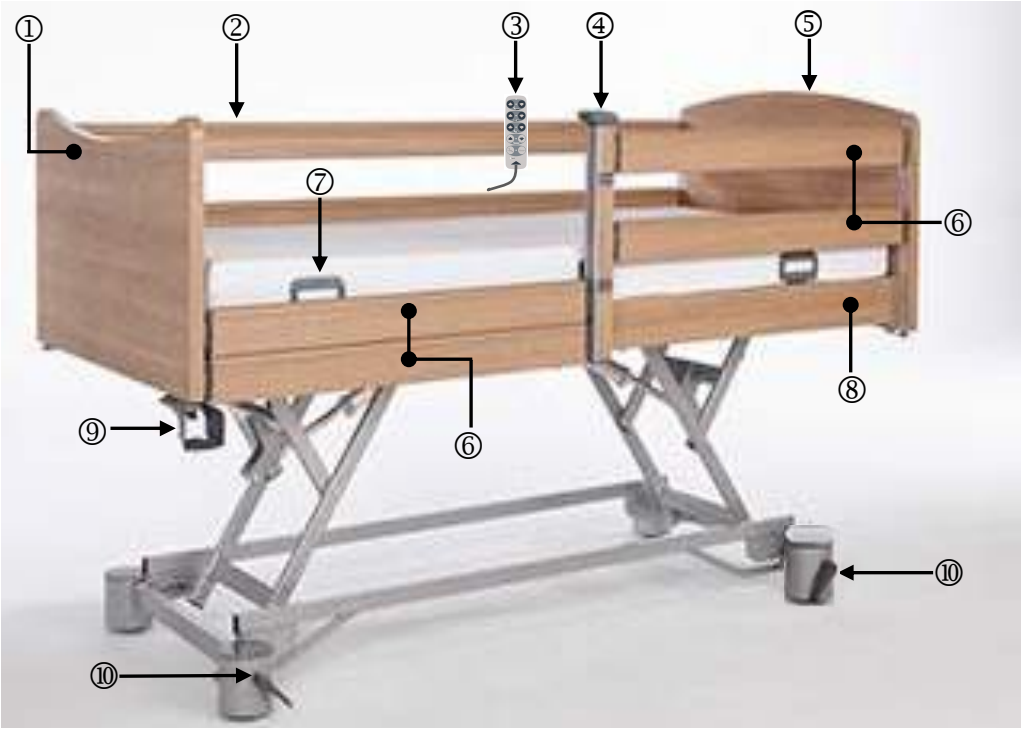
Care bed

Libra

Version: 2015-11-20

□□□□□□_V0

Care bed Libra



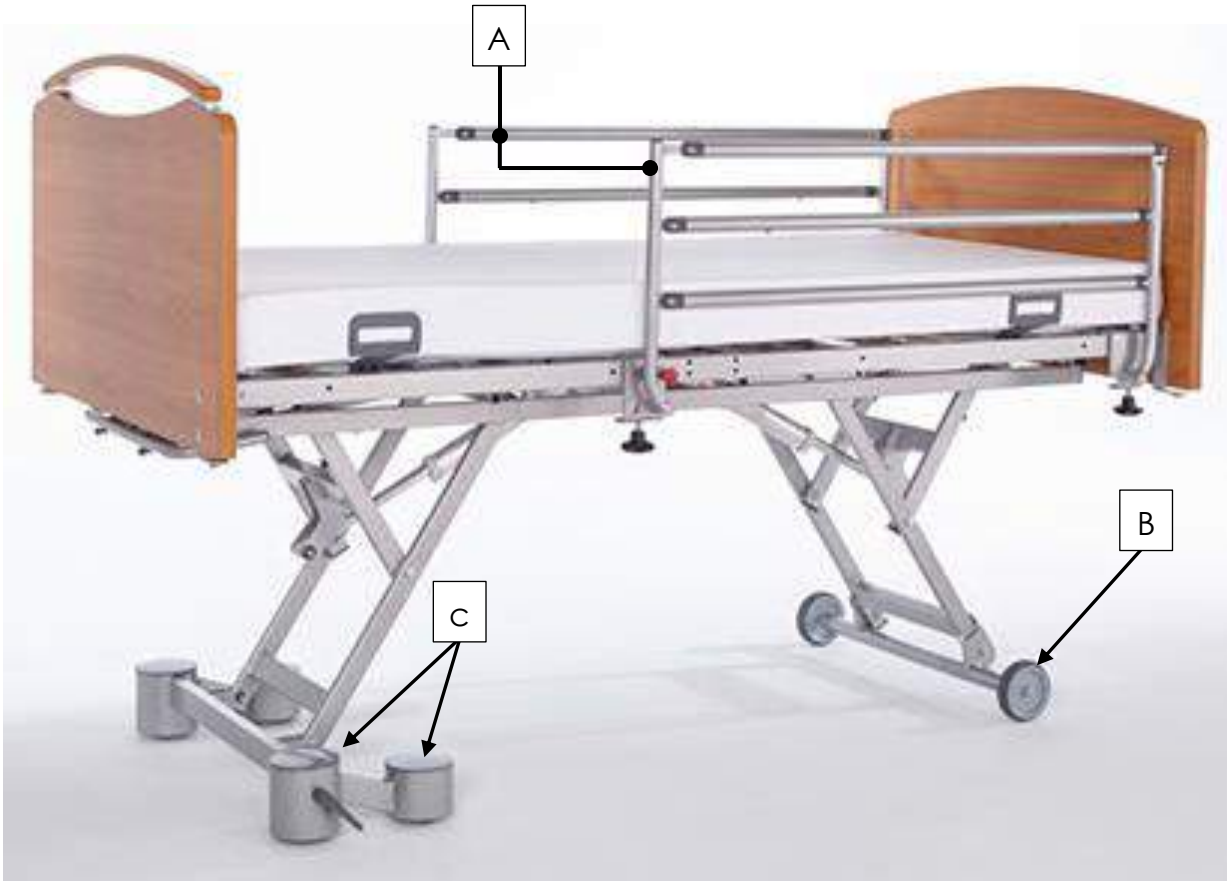
Advice

In this instruction manual, the numbers or letters which appear in **bold face** and round brackets **()** are referring to the care bed's operating device as shown in this illustration and the following illustrations.

Position	Designation
1	Main footboard
2	Bar full-length safety sides (standard)
3	Handset
4	Removable centre support (optional
5	Main head end
6	Bar combined safety sides (optional)
7	Mattress restraint rail
8	Side panel
9	Middle support holder (optional)
10	Individual axle braking (standard) Optional: Central braking - activation footboard.

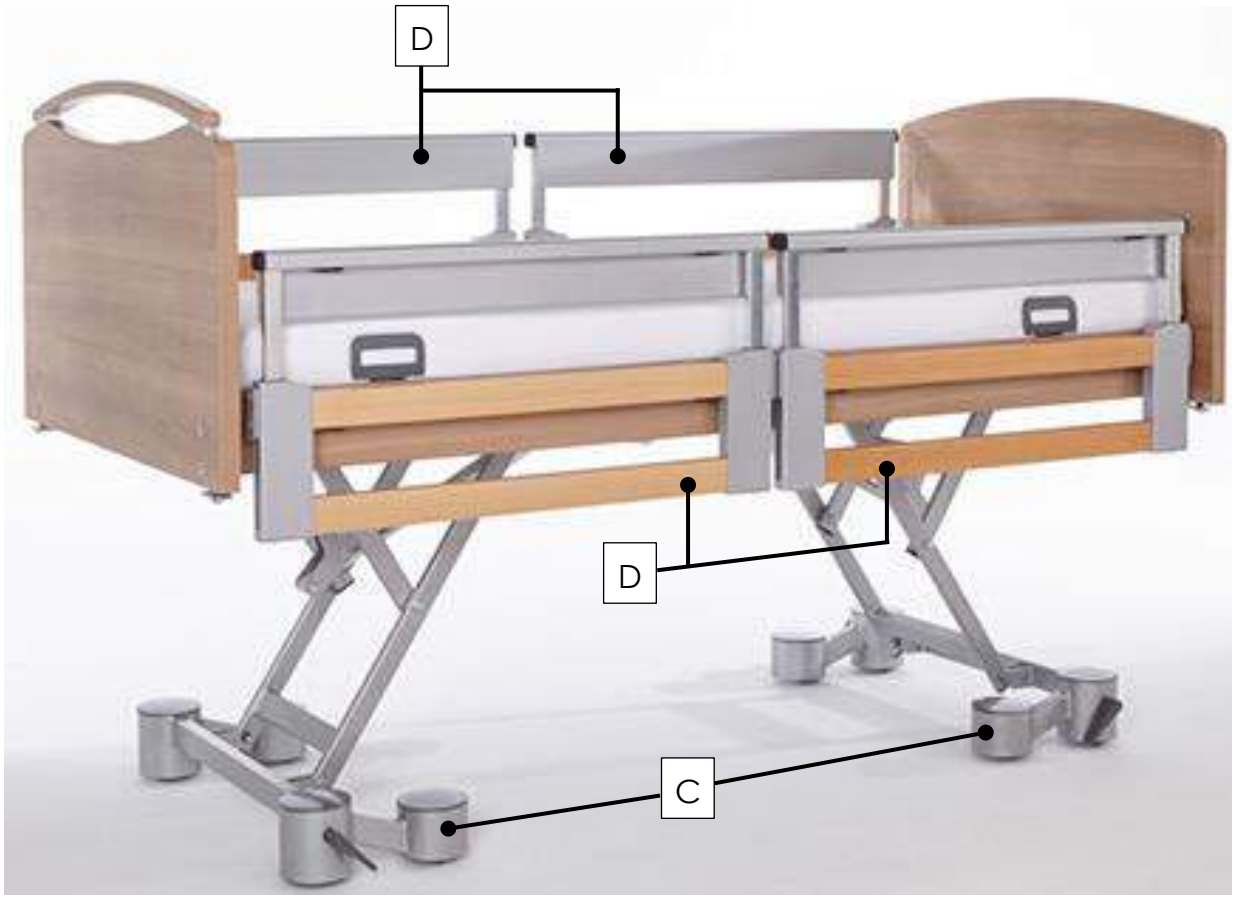
The Libra bed can be ordered in the following optional model versions:

Model version high ground-clearance: This version has no metal supporting bars along the long sides of the bed on the chassis.



Features:	Thanks to the high ground-clearance chassis, the lifter and cleaning equipment can pass smoothly under the bed.
A	Pivoting safety sides (both sides)
B	Stable casters/fixed castors (head end)
C	Double castors (foot end)

Model version 'BodenfreiPlus': This version has no metal supporting struts along the long sides of the bed on the chassis.



Features:	Thanks to the high ground-clearance chassis, the lifter and cleaning equipment can pass smoothly under the bed.
D	Split "MobiFlex" safety sides (both sides)
C	Double castors "easy-floor access" (head and foot ends)

Contents

1 Foreword

Dear Customer,

Stiegelmeyer has built this bed to give you the best possible help in meeting all the challenges posed by care-giving. We passionately pursue the goal of developing products that are of a high-quality and durable. Our beds should make staying in bed as pleasant and as safe as possible for patients and residents also ease the work of the care staff. For this reason, all functions and electrical safety are tested prior to delivery. Each bed leaves our factory in perfect condition.

Correct operation and care are necessary to ensure the bed is kept in this excellent condition over the long-term. Therefore, please read and observe these instructions carefully. It will help you to put the bed into service for the first time and to use it on a daily basis. The instruction manual contains all necessary information to ensure ease of operation and safe handling of this bed, both for you as the operator and for your users. It is a practical reference guide and should be kept close to hand at all times.

Even after purchasing a bed, Stiegelmeyer is still on hand to help at any time. Our Assist business division can provide you with customised solutions in all matters relating to inspection and maintenance, repair and process optimisation. You can reach our customer care centre in Germany by phone at +49 (0) 5221 185 - 777. Customers outside Germany can contact our sales distributors in the respective country if they have any questions. Contact details can be found on our website www.stiegelmeyer.com.

We wish you and your users every success and satisfaction with the care of your patients and residents.

Joh. Stiegelmeyer GmbH & Co. KG

Disclaimer

This product is not licensed for use on the North American market. This applies particularly to the United States of America. The distribution and use of the care bed in these markets, including via third parties, is forbidden by the manufacturer.

2 General Information

The Libra care bed is simply referred to as the 'bed' or 'care bed' in the following. This instruction manual describes the optional functions and special equipment for the bed in addition to the standard functions which might not apply to the model that you have selected.

- This care bed fulfils all the requirements of the 93/42/EEC directive for medical products. It is classified as a class 1 active medical device in accordance with the Medizinproduktegesetz (German abbreviation: MPG § 13, Medical Devices Act).
- Please also pay attention to your obligations as the operator in accordance with the MPBetreibV (Medical Devices Operator Ordinance), in order to ensure permanently safe operation of this medical product with no risk of danger to occupants, users and third parties.
- This instruction manual contains safety information which must be followed. All users working on and with the care bed must be familiar with the contents of this instruction manual and follow the safety advice provided.

Instructions for the Operator:

Any item of technical equipment, electrical or otherwise, can prove hazardous if operated improperly.

- Please instruct users in the proper use of this care bed in accordance with MPBetreibV Section 5 (Medical Devices Operator Ordinance).
- Ensure that users know where this instruction manual is kept, in accordance with the Medical Devices Operator Ordinance (MPBetreibV) Section 9.

Before putting the bed into service for the first time:

- Remove all transport securing devices and packaging film.
- Clean and disinfect the hospital bed prior to first-time use.

Bed features

The main features of the Libra bed are listed here below:

Model	Height adjustment range	Safe working load	Type of castor	Castor locking mechanism
Libra	approx. 26 - 80 cm	225 kg	50 mm double castor, hidden in column Optional: 125 mm fixed castors	Locked in axle pairs at the head/foot end Option: central locking at foot end

2.1 DEFINITION OF THE GROUPS OF PERSONS INVOLVED

In this instruction manual, the following groups of persons are defined as:

Operator

Operators (i.e., nursing homes) are all natural and legal persons with property rights to the Libra care bed. The operator is responsible for the safe operation of this medical product.

User

Users (care staff, attendants, ...) are persons who, on the basis of their training, experience or through instruction, are entitled to operate this bed independently, to carry out work on it or users have received instruction in the handling of this care bed. Furthermore, they are able to recognise and avoid possible hazards as well as assess the clinical condition of the occupant.

Occupant

In this instruction manual, an occupant is defined as a person who is infirm or in need of care and occupies this bed.

It is strongly recommended that the occupant is instructed in the functions important for him/her by the operator or user.

2.2 SAFETY INFORMATION

At the time of leaving the factory, this bed represents state-of-the-art technology.

- Use the bed only if you are absolutely certain that it is in perfect working order.

The most important objective of the safety information is to prevent personal injuries.

2.2.1 Explanation of the Safety Symbols Used

In this instruction manual, the following safety symbols are used.

Warning of personal injury

This symbol indicates hazards due to electrical voltages. There is danger to life.

This symbol indicates general hazards. There is danger to life and health.

Warning of damage to property

This symbol indicates possible damage to property. It is possible that damage to the drive unit, material or the environment may occur.

Other advice

This symbol indicates a generally useful tip. If you follow it, you will find it easier to operate the bed. Moreover, this tip is provided for your better understanding.

Please note:

The safety symbols used are not a substitute for the written safety information. Therefore read the safety information and follow the instructions precisely!

2.2.2 Safety Information for the Operator

- Using this instruction manual, which must be provided with the bed, ensure that every user is instructed in the safe operation of this bed before using it for the first time.
- Draw every user's attention to the possible hazards that can arise if the bed is improperly used. This applies in particular to the use of electrical drives and safety sides.
- In order to ensure permanently safe operation of this medical product with no risk to occupants, users and third parties, observe your obligations in accordance with MPBetreibV (Medical Devices Operator Ordinance).
- If the bed is in long-term use, test the functions and check for visual damages (see Chapter 6.2) after a reasonable period of time (recommendation: annually).
- Only permit persons who have been properly instructed to use this bed.
- Make sure that substitute staff is also sufficiently well instructed in the safe operation of the bed.
- When other additional equipment (e.g. compressors for positioning systems, etc.) is attached, ensure that all equipment is safely mounted and functioning. Pay special attention to:
  - Safe hook-up of all loose connector cables, tubing, etc.
  - No multiple socket outlets are located under the bed (fire hazard in the presence of penetrating fluids).
  - Chapter 2.3.1of this instruction manual

  In the case of ambiguity, consult the manufacturer of the additional equipment or the Stiegelmeyer company.
- Check that your staff is complying with the safety information.

2.2.3 Safety Information for the User

- Route the cable for the transformer unit in such a way that it cannot be pulled, driven over or damaged by moving parts when the bed is operated.
- At regular intervals, carry out a visual inspection of the transformer unit cable to check for mechanical damage (scuffing, exposed wires, kinks, pressure points, etc.). Such a check should be performed:
  - Whenever the transformer unit cable has been subjected to any mechanical load, e.g. has been driven over by the bed itself or by an equipment trolley, has been bent, stretched or violently pulled due to the bed rolling away while still plugged into the wall socket.
  - Whenever the bed has been moved or relocated before plugging it back into the transformer unit.
  - Regularly by the user when the bed is in constant operation.
- If any damage or malfunction is suspected
  - unplug the transformer unit immediately from the power supply.
  - indicate clearly that the bed is "Out of Order"
  - and take it out of service and
  - report it immediately to the operator responsible.
- Check the strain relief of the mains cable regularly to ensure that the screws are tight and secure.
- When using external electrical components such as patient lifts, reading lamps, or compressors for positioning systems, ensure that all equipment mains cables will not become entangled or damaged by the moving parts of the bed. This will prevent potential hazards due to electric shocks, fire, etc.
- Multiple sockets that are placed loosely on the ground should not be used for connecting external electrical components. Otherwise electrical risks might occur due to damaged mains cables or penetrating liquid.

Before moving the bed, it is important to always unplug it from the power supply. Store the transformer unit cable in the cable holder provided to ensure that it will not fall off or trail on the floor.
(See here Chapter 4.4.1).

- Ensure that the operator instructs you in the safe operation of this bed.

- Each time before using the bed, check that it is in perfect working order to prevent unnecessary hazards for the patient and delays to work procedures (see Chapter 3.1).
- Make sure that the mattress base has travelled to its lowest position before leaving the occupant unattended. In this way, you greatly reduce the risk of the occupant injuring himself/herself as a result of falling when getting in or out of bed.
- Place the handset out of reach (e.g. at the foot end) to protect the occupant against accidental motor-driven adjustments or lock the adjustment options of the handset if:
  - The occupant is unable to operate the bed safely or free himself/herself from potentially dangerous positions.
  - The occupant could be at risk due to inadvertent adjustment of the electric motors.
  - The safety sides are raised (risk of limbs being crushed or trapped when adjusting the backrest or thigh rest).
  - Children are left unsupervised in the room with the bed.
- The adjustments may then only be carried out by, or in the presence of, an instructed person.

- Ensure that no obstacles such as night tables, window sills, sloping ceilings, floor cable ducts or chairs could impede adjustments to the bed, to prevent damage to load-bearing parts of the bed and to the obstacles.
- When not in use, always stow the handset in such a way that it can not fall onto the floor (hang it on the hook). Make sure that the cable will not be damaged by moving parts of the bed.

2.3 PRODUCT DESCRIPTION

2.3.1 Designated Use

- This bed serves as a comfortable solution for positioning the patient and to facilitate the care of infirm persons in need of care in homes for the aged or nursing homes and comparable medical facilities. For detailed use instructions, see Chapter 9.5.
- Use in hospitals is only permitted in rooms designed for medical treatment of the application group 0 (in accordance with VDE 0100 part 710, (previously VDE 0107)). This care bed was not designed for any other usage!
- This bed may be intended for care under supervision of a physician and serve for diagnosis, treatment or observation of the occupant. Therefore it is equipped with the option to lock the handset.
- This bed has no special connectors for potential equalisation. Please pay attention to this before connecting additional electrical (medical) equipment. If necessary, further advice on additional protective measures can be found:
  - In the instruction manuals of these additional electrical devices (e.g. compressed air positioning systems, infusion pumps, enteral feeding devices ...)
  - In the DIN EN 60601-1-1:2002 standard (Safety of Medical Electrical Equipment)
  - In the VDE 0100 standard part 710 (High Voltage Installations in Hospitals)(previously VDE 0107).
- This bed may be operated without restrictions with a permanent maximum load of 225 kg (occupant and accessories). **Symbol:**

- The permissible occupant weight depends on the total weight of accessories attached to the bed at the same time (e.g. respirators, infusion equipment,…).

Symbol:

Example:

Weight of Accessories (incl. mattress)	**Safe working load 225 kg:** **Maximum permissible occupant weight**
10 kg	215 kg
40 kg	185 kg

- This bed is not suitable for occupants with a height of less than 146 cm and for children under 12 years of age. Please refer to the safety information provided in Chapter 4.5, especially in the case of patients in poor clinical condition. There is an increased danger of occupants becoming trapped when the safety sides are raised.
- This bed may be operated only by persons who have received instruction in its safe operation.
- This bed is suitable for repeated use. When reusing beds, pay attention to the necessary requirements:
  - Cleaning and Disinfection (see Chapter 5)
  - Maintenance / Repeat Inspections (see Chapter 6).

The Libra care bed may only be operated according to the conditions described in this instruction manual.
Any other use shall be regarded as non-compliant with the regulations.

2.3.2 Special bed features

- Full-length safety sides on both sides
- Mattress base 200 x 90 cm, divided into four sections; external dimensions approx. 210 x 100 cm (depending on variant)
- Electrical height adjustment range for mattress base from approx. 26 to 80 cm
- Electrical adjustment of the thigh rest from 0° to approx. 40°
- Electrical adjustment of the backrest from 0° to approx. 70°
- Electrical adjustment to reverse Trendelenburg position of approx. 16° (not possible without being connected to power source)
- Moves on four castors, locked in axle pairs
- Mechanical emergency release of backrest

2.3.3 Optional Electrical Equipment

- **Electrical setting of Trendelenburg position:** An external operating device (handset) allows medical staff to place the occupant in an emergency position if necessary.

- **LED reading lamp:** Energy-saving, no hazardous heating as with conventional lamps, resistant to jolts and vibrations; LED bulb has approx. 50,000 hours lifetime

- **Discreet LED night light** under the bed provides orientation for the occupant and prevents falls from occurring at night

2.3.4 Mechanical special equipment (optional)

- **Combined safety sides (Mobivit)**: Combines the advantages of the familiar full-length and split safety sides and provides maximum protection and the largest amount of flexibility during use.
- **Split MobiFlex safety sides on both sides (D):** Our 2-stage, telescopic safety sides can be adjusted across a range of settings to suit individual needs.
- **Pivoting safety sides, both sides (A),** covers 2/3 of the mattress base.
- **Removable hygiene mattress base** made of polypropylene is highly breathable, thanks to its deep venting slits. It can be simply placed on top of the mattress base and later removed. It is also easy to care for and can be cleaned with conventional cleaning agents.
- **Removable comfort mattress base** is made of 50 separate spring elements. These elements are designed to mould themselves closely to the shape of the body and help to ventilate the mattress. Their flexibility also ensures that the pressure is optimally distributed. The comfort mattress base also significantly contributes to preventing decubitus.
- **Comfortable mechanical quick height adjustment** for the backrest (CPR).
- **Bed extension** can be attached, lengthens the bed by approx. 20 cm, respectively approx. 27 cm. Longer safety side bars and bed rails are necessary for this. If required, please consult our sales department (see Chapter 6.4)
- **Pillow storage** integrated at the foot end; can be drawn out from under the mattress base
- **Wall deflection rollers** effective in both horizontal and vertical directions
- **Wall spacers,** head end + sides; prevent the walls and other things in the room from being damaged when adjusting the height of the bed.
- **Infusions sleeve foot end,** a sleeve for holding an infusion stand can be mounted on the crossbar. More about this in Chapter 4.4.6.

2.3.5 Materials Used

For the most part, the bed was manufactured from steel profiles whose surfaces were finished with a polyester powder coating or a metal coating of zinc or chromium.

The headboards and safety sides are made of wood or wood products whose surfaces have been finished. All surfaces are recognised as being safe for contact with skin.

2.3.6 Structural Design

Mattress base

The mattress base is divided into a backrest, a fixed seat section, a thigh rest and a lower leg rest. The rests are adjustable. The mattress base can be raised and lowered horizontally or set to the reverse Trendelenburg position with the foot end lowered (optional Trendelenburg position also available).

Chassis

The chassis is constructed from welded steel tubing with an optimised scissor lift design and is equipped with four castors which can be locked in by axle at the foot and head ends.

Safety sides

To protect the occupant from falling out, the bed has full-length safety sides **(2)**, or, optionally,

- a combination safety side (Mobivit) **(6)**,
- a swivelling safety side **(A)**,
- a split safety side MobiFlex **(D).**

The safety sides can be raised, one after the other, from the lowered position to protect the occupant and then lowered again.

Electric Drive System

The electrical drive system for this bed is single fault-safe and flame-retardant (V0) and consists of:

- an 'external' power supply. The transformer unit consists of: Power converter and low-voltage connecting cable. The power converter generates a safe, low voltage current which is not dangerous for occupant or operator. The transformer unit provides protective low-voltage power to the control for all drives (motors) through a connecting cable.
- the central control device. All drive motors and the handset, which work on this safe low voltage are plugged into the central control unit.
- the electric motors for the backrest and the thigh rest.
- two electric motors for the mattress base height adjustment.
- a handset with a flexible hook.

3 Putting into service

No electrical measurements are necessary prior to putting this bed into service for the first time, since the bed has been tested by the manufacturer for electrical safety and functionality and left our factory in perfect condition.

Before putting the bed into service for the first time:

- Remove all transport securing devices and packaging film.
- Clean and disinfect the bed.

Before putting the bed into service each time:

The user must check that:

- The bed has been cleaned and disinfected.
- The castors are braked.
- The power supply is compatible with the bed (100 - 240 volt AC, 50/60 Hertz).
- The transformer unit is connected and the power cable is routed in such a way that it cannot be damaged through bed adjustments /being driven over. Hang any cable which is not being used on the cable holder (see Chapter 4.4.1)
- The transformer unit, drive cables and handset cable cannot be damaged by moving parts of the bed.
- No obstacles such as bedside lockers, floor cable ducts or chairs will inhibit adjustments.
- All adjustment facilities work properly and have been checked (see Chapter 3.1).

The care bed may be put into operation only after carrying out these checks!

3.1 CHECKLIST: INSPECTION BY THE USER

Inspection WHAT ? HOW ?		ok	Not ok	Description of defect
Visual Inspection of the Electrical Components				
Handset	Damage?			
Handset cable	Damage, cables routed away from moving parts?			
Mains cable				
Visual Inspection of the Mechanical Components				
Patient lifting pole, location sleeves Grab handle with strap (special equipment)	Damage, cracks			
Chassis	Damage, deformations?			
Mattress base	Damage?			
Wooden frame	Damage, splinters?			
Safety sides	Damage, deformation, splinters?			
Performance Check of the Electrical Components				
Handset, locking functions	Functional test			
Rests	Functional test			
Height adjustment	Functional test			
Reverse Trendelenburg position	Functional test			
Performance Check of the Mechanical Components				
Castors	Braking, running			
Emergency lowering of backrest	Test according to manual			
Safety side	Locking in place, releasing?			
Accessories (e.g. patient lifting pole, grab handle)	Suitability, fastening, damage?			
Inspector's signature:	**Inspection results:**			**Date:**

If damage or a malfunction is suspected, the bed must be withdrawn from service immediately and disconnected from the mains supply until the defective parts have been repaired or replaced!

Report this immediately to the operator!

3.2 LOCATION REQUIREMENTS

- There must be sufficient room available to accommodate the bed's entire range of adjustments. Furniture, window sills, etc. must not impede adjustments.
- Before using the bed on parquet flooring, check whether the castors could leave marks on the parquet varnish. The bed can be used on tiles, carpet, linoleum or laminate flooring without causing any damage.
- A properly installed 230 Volt mains socket must be available close to the bed (preferable).

- For transformer unit:
  - Hang any cable which is not being used on the cable holder under the head end.
  - Only insert transformer into socket vertically with ① the cable end downwards.
  - **Be careful when moving the bed away:** Ensure that the cable is long enough; unplug transformer unit first.
  - **Take care when adjusting the height:** Maintain a sufficient distance at the side between the bed and the transformer unit to avoid damage from occurring. (If necessary, use a wall spacer)

- If any other equipment is attached to the bed, (e.g. compressors for positioning systems, etc.), ensure that this is securely fastened and that all additional devices are functioning properly. Pay special attention here to the safe routing of all loose connector cables, tubing, etc. If you have any queries or concerns, consult the manufacturer of the additional equipment or Stiegelmeyer care furniture.

Observe the following points when positioning the bed in order to minimise, as much as possible, the risk of fire due to external influences. Instruct users on these points!

- Preferably use only flame-retardant mattresses and bedding.
- Avoid smoking in bed since the mattress and bedding used may not be resistant to smoking materials or smoking accessories.
- Only use additional equipment which is in perfect working order (e.g. electric blankets) and other electrical devices (e.g. lamps, radios)!
- Ensure that this equipment is used only for the purpose intended and that instruments are not left unintentionally on or under the bedding (danger of overheating)!
- To prevent risk of fire, do not use any plug connectors from extension cables or multiple socket bars under the bed.

4 Operation

4.1 MOVING AND BRAKING THE BED

The bed is equipped with four lockable castors. The bed is delivered with the standard paired braking (at head and foot end) **(10)**. If desired, the customer can order a bed equipped with central braking at the foot end. The bed can also be moved in the room when occupied.

- The bed is not suitable for being moved often and over long distances outside the room in corridors, across thresholds or on very uneven floors.
- Bring the bed to the lowest mattress base position when moving the bed greater distances outside of the room.
- Each time before moving the bed, ensure that:
  - The mains cable cannot be stretched, driven over or damaged in any other way.
  - When moving the bed the mains cable is always stowed in the designated mains cable holder and does not trail on the floor (see Chapter 4.4.1)
  - Cables, tubes or conductors of mounted additional equipment that are possibly attached are sufficiently secured and cannot be damaged.

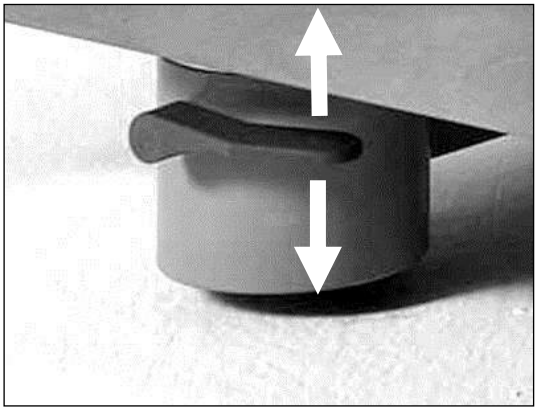
  Otherwise these could be damaged due to the mains cable being torn off, driven over or crushed. These damages may lead to electrical risks and malfunctions.
- Ensure that the bed is always sufficiently braked when an occupant is left unattended.
  Depending on the location (e.g. by a wall or in a niche), it may be sufficient to brake only two of the castors. If the bed is standing on a sloping floor (e.g. on a ramp), then all four castors must be braked.
  A safe and secure bed position must always be guaranteed!

4.1.1 Individual axle braking (Standard)

Operate the castors, one set after the other, on either side at the head or foot end of the bed. This allows the castor sets at each end of the bed to be operated with one lever.

Travel: Raise the foot lever (at the foot and head end) with your foot.

Braking: Press down on the foot lever (foot and head end) with your foot.



4.1.2 Central braking (optional)

The central braking can only be operated from the foot end. There is a foot lever for each foot end castors.

Travel: Raise the foot lever with your foot at the foot end.

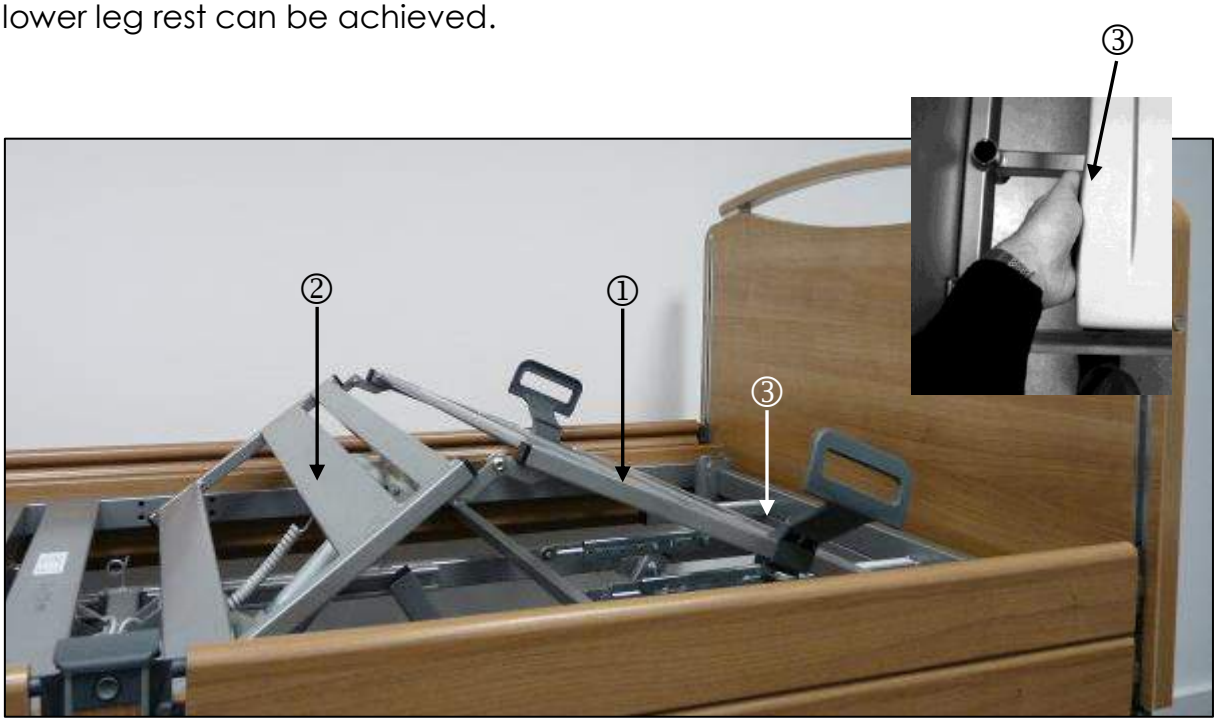
Braking: Press down on the foot lever with your foot at the foot end.

4.2 MECHANICAL ADJUSTMENT OPTIONS

4.2.1 Lower leg rest (LR)

The lower leg rest ① can be raised and lowered manually when the thigh rest ② is raised.

This way an orthopaedic position (stepped bed) or a sloping position of the lower leg rest can be achieved.



Manually raising lower leg rest (LR)

Raise the thigh rest using the handset.

Lift the lower leg rest on the frame of the lower leg rest ③ to the desired position and release it slowly.

- The lower leg rest engages automatically.

Correct the adjustment using the handset (keys for thigh rest) if desired.

Manually lower lower leg rest

Danger

Pay attention to the order of the operating instructions!

- Raise the lower leg rest until it reaches the upper limit stop on the frame.
- Lower the lower leg rest slowly.
- Risk of crushing! Hold the lower leg rest only at the place indicated ③.
  There is a risk of injury if the lower leg rest falls uncontrollably.

Lower lower thigh rest using handset

If the upper thigh rest is to be lowered using the handset, the lower thigh rest will automatically lower with it.

Raise lower thigh rest using handset

If the upper thigh rest is to be raised using the handset, the lower leg rest will automatically raise with it and audibly engage in several intermediate positions. When raising the upper thigh rest, the lower thigh rest remains in position.

4.2.2 Manual emergency release of backrest

In the event of power supply outages or electrical drive system failures, the raised backrest ① can be lowered by hand.
Optionally also by using the 9-Volt batteries (See Chapter 4.3.6).

Advice

Please note: Manual emergency release of the backrest requires **two people**!

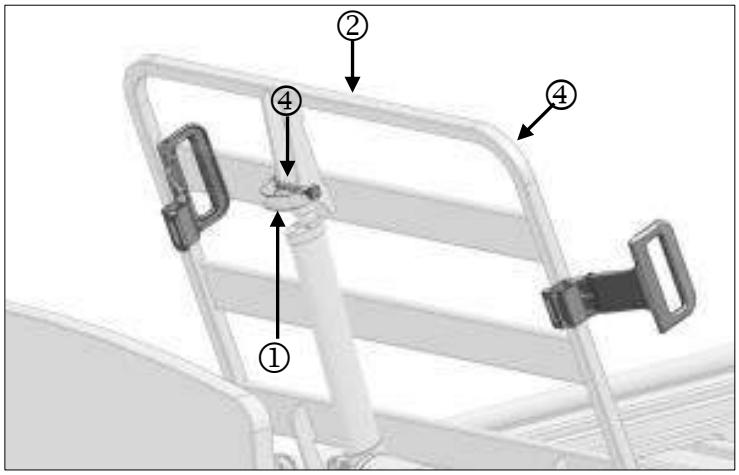
Danger

Disregard for this safety information and instructions for use may cause the backrest to fall uncontrollably, which could lead to serious injuries for both user and occupant!

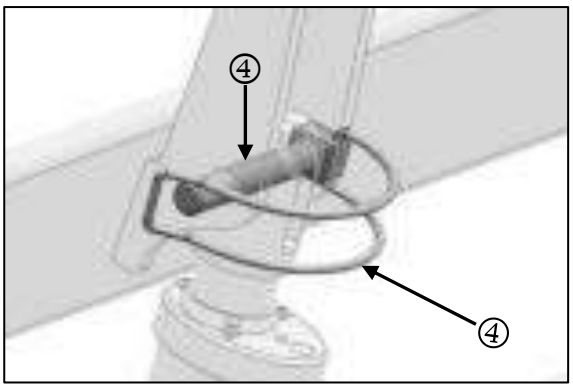
- Emergency lowering may only be carried out in the case of extreme emergencies and by users who have a complete command of the procedure described below.
- We strongly advise you to practice emergency lowering of the backrest under normal conditions. That way, in the case of emergency you will be able to react quickly and accurately.

Before lowering, the load on the backrest ① must be removed.

- To do this, the first person raises the backrest ① slightly by ② the frame and holds it in this position.
- The second person now removes the bolts ④. To do this, open the bent rail ③ and pull the bolts out along with the rail from the lifting bar of the backrest motor.



- The motor is now separated from the backrest.
- Place the motor on the bed frame by hand.
- After the second person has left the danger zone, the first person (with the help of the second person) lowers the backrest carefully.



Hold the backrest firmly when lowering, otherwise it could fall uncontrollably!

- Now the motor on the lifting bar is no longer connected to the motor connector mount.
- The lifting bar remains in the position it was in when emergency lowering was carried out.

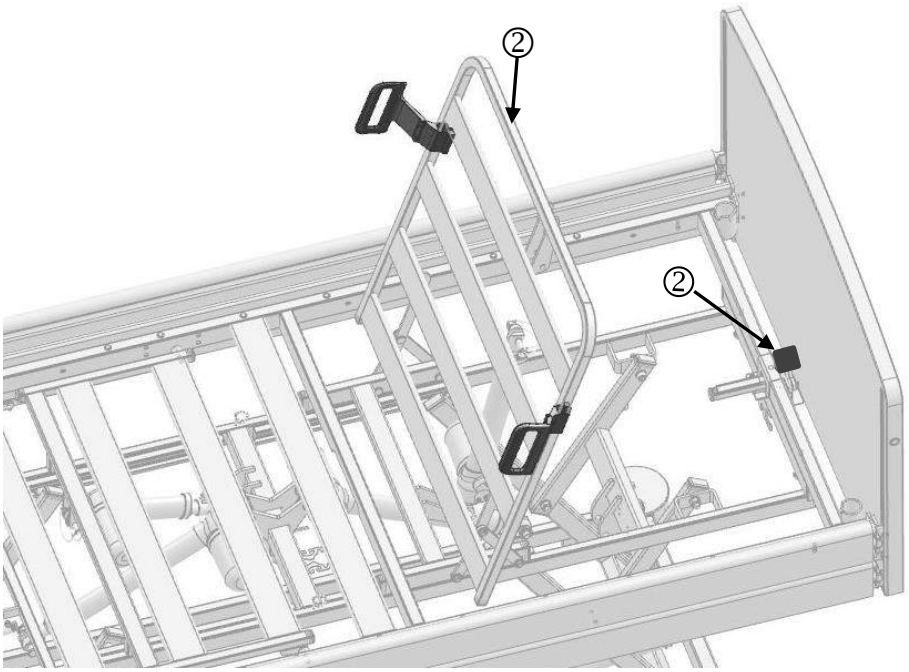
Restoring the bed to its original state following emergency lowering of the backrest

- Raise backrest by hand.
- Swivel the lifting bar up again, secure to the motor connector mount with the bolts and fold the bent rail back.

4.2.3 Emergency release of backrest using Quick Release (optional)

If a power outage or outage in the electrical drive system has occurred, it is possible to manually lower a raised backrest by one person without removing the motor through a Quick Release device.

There is a red operating lever on the head end on the bed frame ①.



Danger

- Risk of crushing! When lowering the rests, ensure that the patient's limbs are not underneath the backrest. Otherwise, the weight of the rests could cause limbs to be trapped or crushed.
- The backrest can drop very quickly in the case of heavy occupant once the operating lever has been activated!
- Always grip the backrest by its frame with one hand ② so as to "control" the adjustment.

Proceed as follows:

1. Grasp the frame of the backrest ② with one hand.
2. With the other hand, push the red operating lever ① upwards and guide the backrest down to the desired position.
   - Hold the operating lever down until the backrest is completely lowered.

Advice

- The backrest can also be held in position by letting go of the red operating lever.
- If there is no load on the backrest, you should also press down lightly on the backrest with your hand for emergency release.
- As soon as the drive system has power again, the backrest can be adjusted with the handset.

Releasing the backrest using the 9-Volt batteries (see Chapter 4.3.6)

4.3 ELECTRICAL ADJUSTMENT OPTIONS

4.3.1 Special Safety Information on the Electrical Drive System

- This hospital bed may not be used in combination with high-frequency surgical equipment or in explosive environments!
- When making any adjustments, ensure that no limbs from the patient, user or other persons, especially playing children, are under the rests or the bed frame. Otherwise, this could lead to trapped or injured limbs.
- In electrical beds, always lock the electrical adjustment of backrest and thigh rest on the hand to protect the occupant against unintentional power-operated adjustment when the bed rails are raised (this prevents the risk of limbs being crushed or trapped when adjusting the back or thigh rests).
- Upon delivery of the bed, a locking key for the handset is supplied along with this instruction manual. The locking key is not intended for use by the occupant. The locking key should remain with the user for safekeeping.
- Adjust the mattress base height whenever necessary, but at least once a day, to the uppermost or lowest height. This automatically equalises the two independent adjustment motors and results in a level horizontal mattress base.
- When using accessories on electrically adjustable beds, the following applies: Make sure that the arrangement of accessories does not produce any crush or shearing zones for the patient when the backrest and thigh rest are adjusted. If that cannot be guaranteed, the user must safely prevent the backrest and thigh rest from being adjusted with the handset.
- Make sure that the mains cable and the cable of the handset cannot be trapped or otherwise damaged.

- Before moving the bed, always make sure that you have unplugged it from the transformer unit supply. The transformer unit may not fall to the ground or touch the floor (→ 4.4.1). Not observing these restrictions may cause the transformer unit to become permanently damaged.
- Each time before moving the bed, ensure that the mains cable will not be stretched, driven over or damaged in any other way. When moving the bed, the mains cable must be stowed in the designated mains cable holder (→ 4.4.1).
- In order to avoid damages, ensure that no obstacles such as

furniture or sloped ceilings could impede adjustments to the bed. This is to avoid damage.

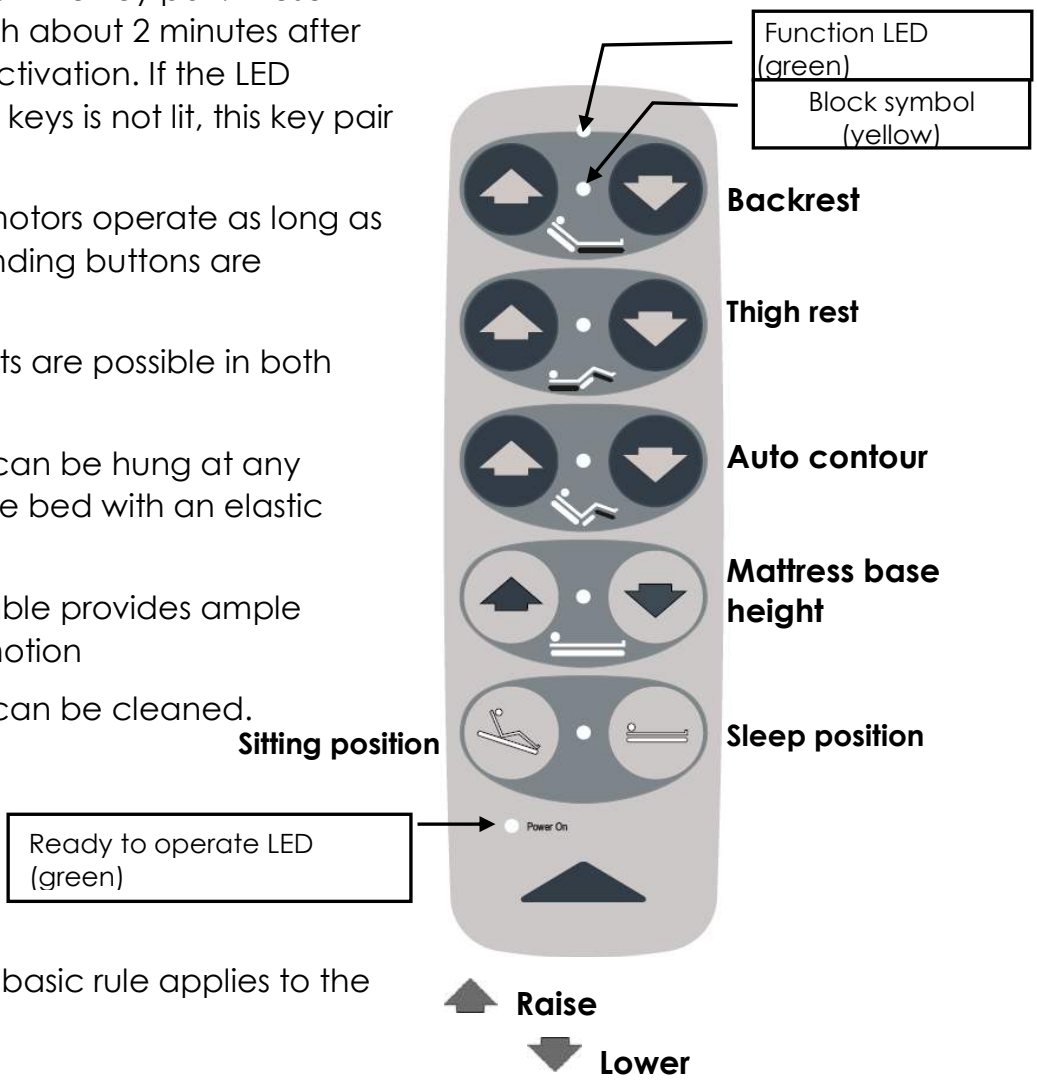
- Patient lifts or other devices may be put under the bed. Ensure when the mattress base is at the lowest height that the drive components of the bed are not damaged – if in doubt raise the mattress base height by about 10 cm before using the patient lift.
- Ensure that the 24 volt power supply cable and handset cable cannot be driven over or otherwise crushed when the bed is moved.

- In the case of malfunctions, an electronic overload switch deactivates the drives in order to protect the control unit and motor. Once the malfunction has been remedied, adjustments are once again possible via the handset.
- Electrical adjustments are only possible when the bed is properly connected to the mains supply
- If the load is too high, an electronic overload switch is activated and the control unit is automatically switched off. When the overload is removed, the drive unit system can be reactivated by pressing the appropriate button on the handset.
- Continuous operation must not exceed two minutes! After this time, a rest period of at least 18 minutes must be observed. (Alternatively: one minute continuous operation followed by a nine minute rest period, etc.)
- For safety reasons, when the maximum operation time is purposely disregarded, a thermal safety device will permanently cut off the power supply to prevent the drive unit system from overheating due to continuous "playing".
- The adjustment range for all functions is electrically / mechanically limited to the permitted ranges.
- As with every electrical device, even if all specified limit values are observed during operation, interference from and to other closely situated electrical equipment cannot be completely eliminated (e.g. "crackling" in a radio). In such cases, increase the distance from the device. Turn off devices that have disturbance.

4.3.2 Handset (Standard)

The bed functions can be activated by the occupant or the user with the handset. For safety reasons the handset is equipped with a locking function. Depending on the clinical condition of the occupant, the user can lock handset adjustments when deemed necessary by the supervising doctor (➔Chapter 4.3.5).

- The bed is ready to operate when the LED in the handset is lit up (ready to operate LED) and which stays lit as long as the bed is connected to the mains supply.
- Released key pairs are indicated by a lit LED between the key pair. These LEDs extinguish about 2 minutes after the last key activation. If the LED between two keys is not lit, this key pair is locked.
- The electric motors operate as long as the corresponding buttons are pressed.
- All adjustments are possible in both directions.
- The handset can be hung at any position on the bed with an elastic hook.
- The coiled cable provides ample freedom of motion
- The handset can be cleaned.



- The following basic rule applies to the keys:

Advice

Only one key may be activated at a time. For example, if a second key is pressed immediately after the first one, the second key has no effect.

4.3.2.1 Adjustment functions in the standard handset

Adjusting the backrest
The backrest can be raised to approx. 70°.

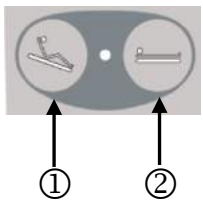
- Please also refer to Chapter 4.2.2, "Emergency release of backrest"!

Adjustment of the thigh rest
The thigh rest can be raised to approx. 40 °.

Adjustment of auto contour
The back and thigh rests can be raised at the same time.

Adjustment of the mattress base height
The mattress base height can be adjusted up to approx. 80 cm.

- The mattress base makes an intermediate stop at about 40 cm high when raising or lowering. By repressing the key, it continues to go up or down.
- If the mattress base is tilted, it moves automatically into a horizontal position when it reaches the highest or lowest setting.



Sitting position/Sleep position
Sitting position: The mattress base can be tilted up to approx. 16° when the key ① is held down.

Sequence of movements for maximum lying comfort ("anti-slip system"):

- "Lift auto contour" for approx. 20 seconds
- Stop "Lift auto contour" and start "Reverse Trendelenburg position"

Sleep position: If the button ② is kept pressed, the mattress base moves to the lowest position in the following order:

- Horizontal (until intermediate stop position)
- Back and upper thigh rests are completely lowered (first the backrest, then the upper thigh rest about 10 seconds later).
- By repressing the key, the mattress base continues to move to the lowest position.

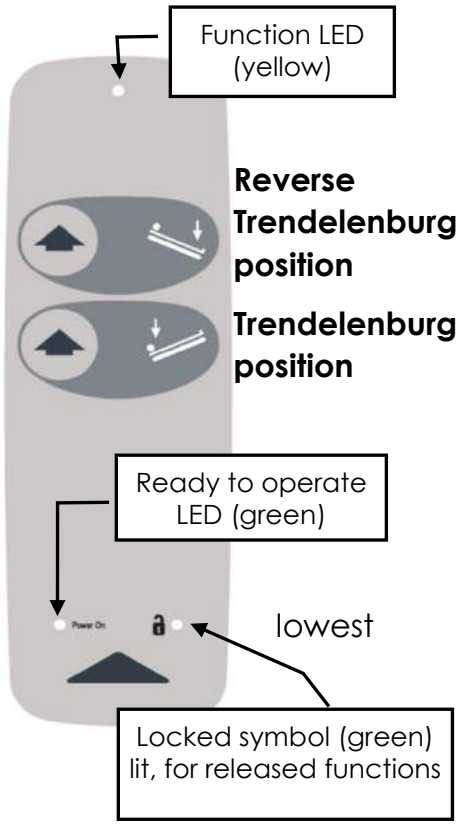
4.3.3 Trendelenburg handset (optional)

The Trendelenburg handset is optional and is used for medicinal purposes when the bed is being used for long-term care.

4.3.3.1 Adjustment Functions

Press this key when you want to set the reverse Trendelenburg position. If the bed is already in the reverse Trendelenburg position, the mattress base is automatically set horizontally when it is moved to the lowest or highest position.

Press this key when you want to set the Trendelenburg position. If the bed is already in the Trendelenburg position, the mattress base is automatically set horizontally when it is moved to the or highest position.



Danger

- The Trendelenburg position may only be set under supervision by a physician or medical professional if the clinical condition of the occupant requires it.
- Wrong use can cause risk for the occupant.
- Setting this position is only possible when the bed is connected to the mains power.

Advice

Only one button can be pressed at a time, otherwise all adjustments stop (emergency off safety function).

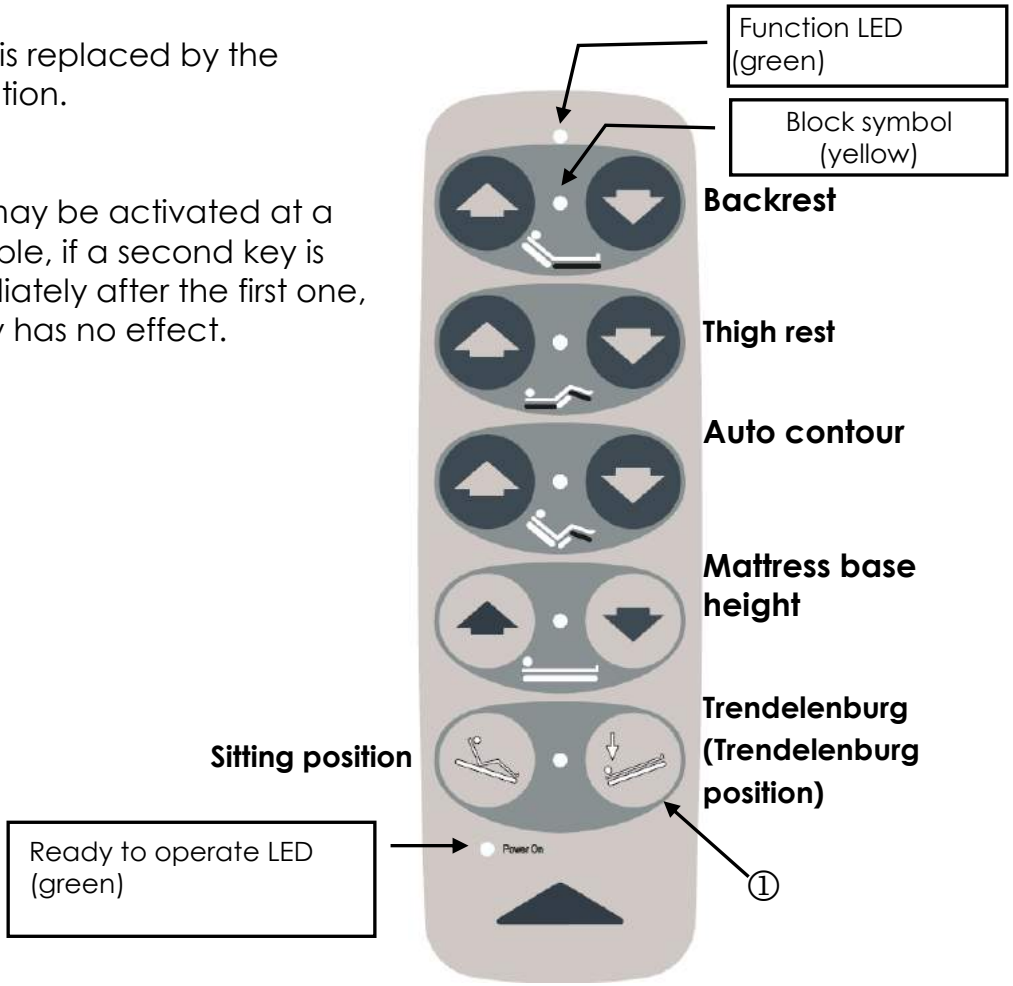
4.3.4 Handset including Trendelenburg (optional)

This handset provides the same functions as the standard handset with the following difference:

The sleep position button is replaced by the Trendelenburg key ① position.

Advice

Only one key may be activated at a time. For example, if a second key is pressed immediately after the first one, the second key has no effect.



Danger

The Trendelenburg position function should be principally locked. We explicitly instruct that the Trendelenburg function may only be activated under supervision by a **physician** or medical **professional**. This activation may only take place when the clinical condition of the occupant requires it.

- Activating or locking the Trendelenburg function may only be authorised by the medical professionals.
- Wrong use can cause risk for the occupant.
- To lock functions on the handset, see Chapter "Locking functions handset".
- Keep the locking key safely beyond the reach of the occupant.

4.3.5 Locking functions handset

Only users are authorised to use the locking function!

If the clinical state of the occupant is so critical that any adjustment via the handset places him/her at risk, then the user must lock this adjustment function immediately. The bed remains in the position it was in at the time it was switched off.

4.3.5.1 Locking functions of the handset

Using the locking key provided, 4 different levels can be selected on the back side of the handset:

Symbol	Function/meaning
	All functions are locked
	All functions are active
	Programming mode: • Turn the locking key to the programming mode on the back side of the handset. • Select the key on the front side that is to be locked. • Set the locking key to the occupant mode. The setting is saved.
	Occupant mode: Only those functions which have not been locked in the programming mode can be activated.

Do not forcibly turn the locking key beyond the stop of the lock! The lock or the handset can be damaged.

4.3.5.2 Locking function Trendelenburg handset

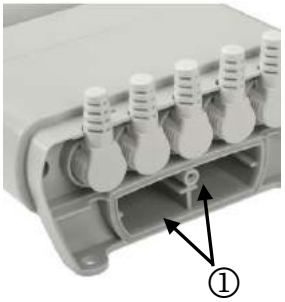
The Trendelenburg handset allows 2 different levels to be selected using the locking key as follows:

Symbol	Function/meaning
	All functions are locked
	All functions are active

4.3.6 Emergency release using the 9-Volt batteries

The backrest can be released using 2 x 9-Volt batteries if there is a power outage.

Proceed as follows:



- Unscrew the cover of the battery compartment on the control device.
- Insert 2 9-Volt batteries ①.
- Screw the cover back on.
- Lower the backrest completely down using the handset.

The upper thigh rest and height adjustment can also be lowered using the 9-Volt batteries.

- The batteries are not included in the delivery.
- To be able to use this function in an emergency, you should always have the 9-Volt batteries ready.
- Note the limited capacity of the batteries. It is possible that they will need replacing for additional adjustments such as lowering the upper thigh rest.

Risk of crushing!

When lowering the rests, ensure that the patient's limbs are not underneath the rests. Otherwise, the weight of the rests could cause limbs to be trapped or crushed.

4.4 ATTACHMENTS AND OPTIONAL EQUIPMENT

Advice

Optional bed equipment is indicated by an asterisk (*).

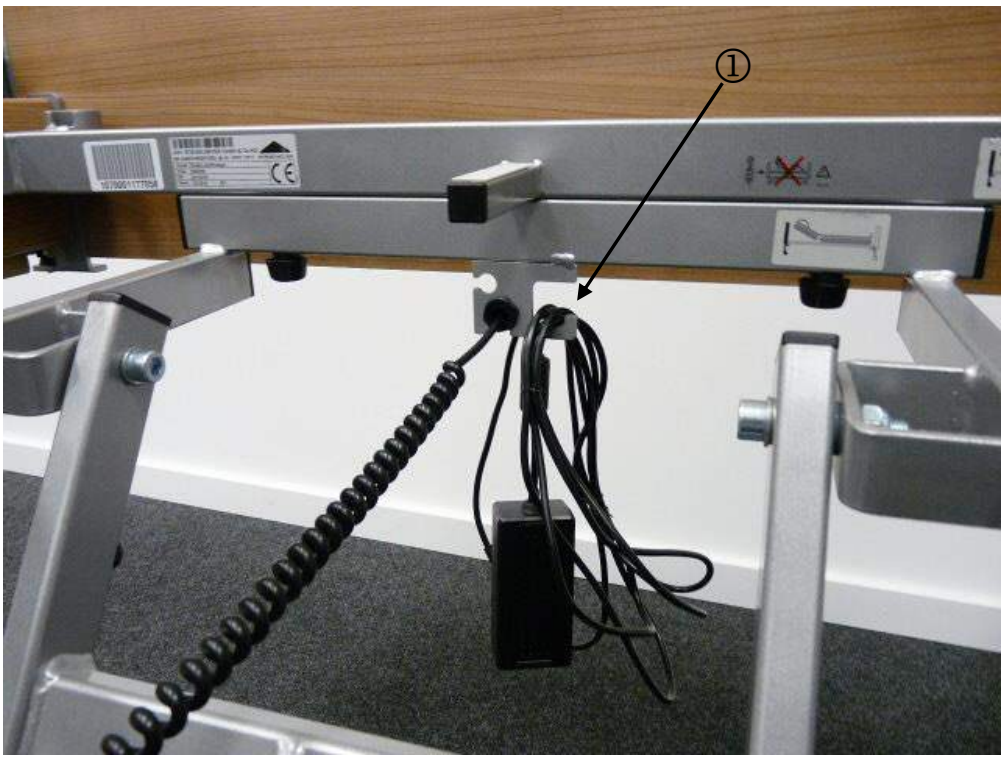
4.4.1 Cable holder

There is a steel cable holder soldered to the bed chassis under the headboard ①.

- Hang the transformer unit with the cable in the cable holder every time before moving the bed.

Advice

The transformer unit cable must not touch the floor. Otherwise, it could become damaged by being torn off, crushed or driven over.



Mortal Danger !

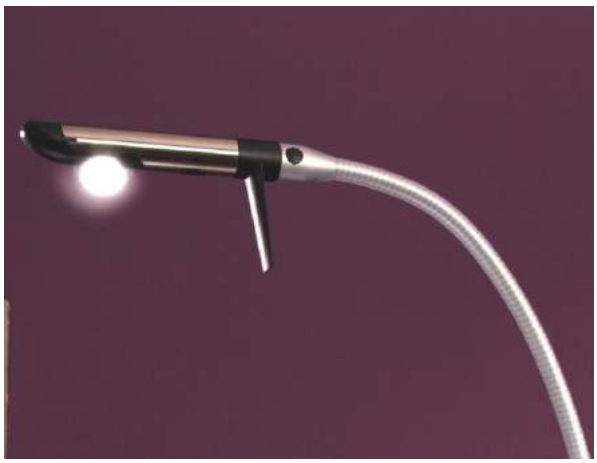
Danger of death due to electric shock!

- If a damaged cable continues to be used, this can lead to electric shock, fire and other hazards as well as malfunctions.
- A damaged cable should be replaced without delay.

4.4.2 LED reading lamp*

The Libra bed can be optionally equipped with a reading lamp. The reading lamp is available in two variants as follows:

Variant: Sola



Variant: Stella

The reading lamp is powered by a separate power pack plug and comes with the following features:

- Stand with flexible arm and swivelling lamp head.

For Stella:

- Lamp head of high-gloss polished stainless steel with switch and night orientation light

For Sola:

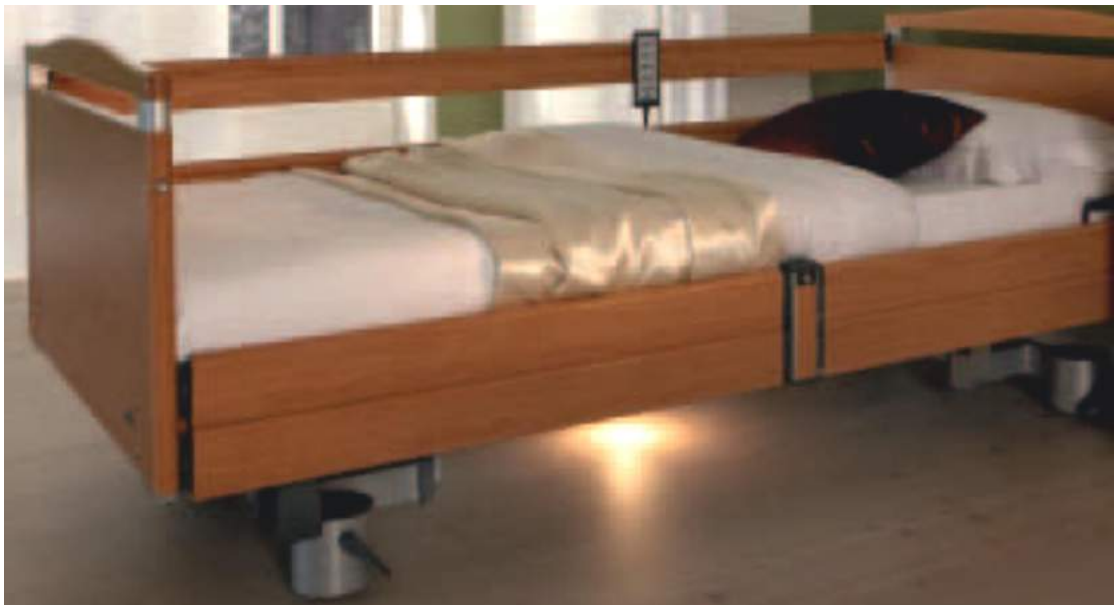
- Cord switch for conveniently switching the lamp on and off

Advice

Please read and observe the separate instruction manual enclosed. Please refer to Chapter for installation instructions. 6.5.2

4.4.3 Under bed lighting*

The energy-saving, long-lasting LED under bed light allows safe orientation during the night and can reduce the risk of falling. The light is sufficiently restrained, however, that it will not disturb the occupant of the adjacent bed.

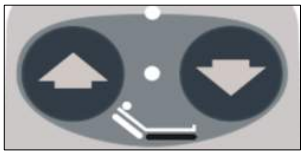


Under bed lighting on/off switch

The lighting can be switched on and off on the mains connection using the standard handset (key for the backrest adjustment):

Proceed as follows:

- Press both of the adjacent keys simultaneously
  - Lighting switches on
- Press again
  - Lighting switches off



Advice

Please note: If the backrest is locked, the under-bed lighting is locked at the same time.

4.4.4 Patient lifting pole *

There is a round sleeve (A) with a notch (C) on the upper side at the inner head end (E) of both corners of the mattress base frame. These are sleeves for patient lifting poles. The patient lifting pole should be attached to the side of the bed on which the occupant gets in and out. This will provide assistance for the occupant when getting in and out of bed.

Danger

The maximum loading capacity at the front end of the patient lifting pole is 75 kg.

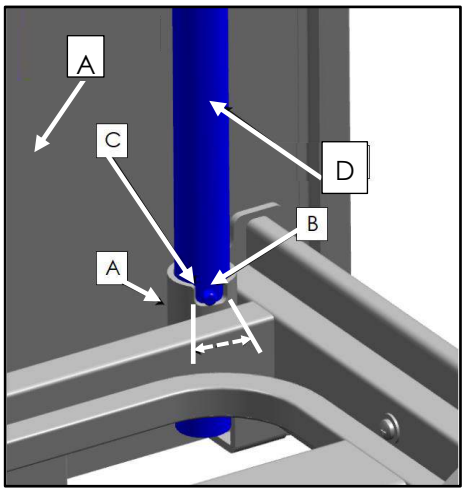
- The patient lifting pole may not be swivelled beyond the area of the mattress base and then pressure put on it. Otherwise the bed may tilt. It is essential that you pay attention to this when mobilising the occupant or bringing him/her to bed.
- The patient lifting pole is not suited for rehabilitation exercises

Warning

- Pay attention to door clearances when moving beds with inserted patient lifting poles.

Inserting

Insert the long, straight end of the patient lifting pole (D) into one of the two sleeves. The metal pin (B) on the patient lifting pole must be located in the notch of the sleeve. This provides a limit for the swivel range of the lifting pole (see graphic representation below).



The pole is now facing the centre of the bed and can swing to the side as far as the restriction allows.

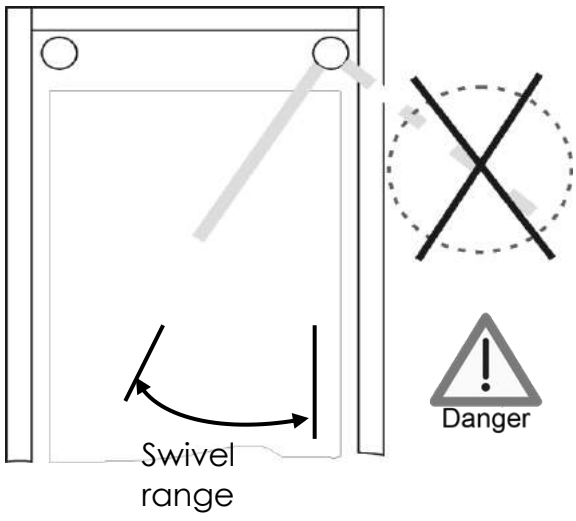
Removing

Pull the patient lifting pole up and out of the sleeve.

Swivel range of the patient lifting pole

If the pole swings outside the bed area and is loaded there, there is a danger that the bed will tip up when weight is applied to the pole.

Therefore, the metal pin must always sit in the sleeve recess!



4.4.5 Grab handle* (triangular handle)

The patient lifting pole can be equipped with a grab handle (accessories, see Chapter 8).

The occupant can use this grab handle to sit up and readjust his/her position.

Danger

Check the grab handle and belt regularly for damage (see Chapters 6.1 and 6.2).

Damaged grab handles or belt must be replaced immediately.

Advice

Service life:

We recommend that the triangular grab handle is replaced at least every 5 years.

Please also refer to the detailed instruction manual supplied with every grab handle.

Attachment

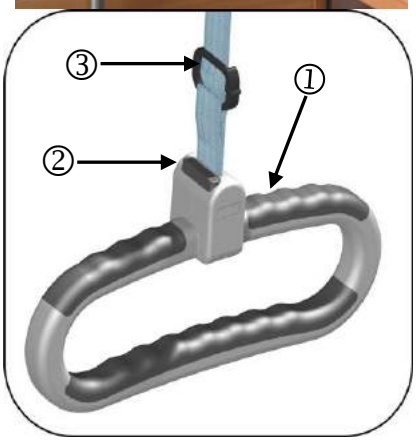
Attach the grab handle with the hand loop to the trapeze bars/patient lifting pole.

Ensure that the integrated anti-slip device is correctly fitted to the fixing points on the trapeze bar.

Height adjustment

Extend: Pull on the handle ① holding the button ② pressed down whilst guiding the belt slider ③ at the same time.

Shorten: Hold the handle ① with the button ② pressed whilst moving the belt slider up at the same time.



Parking position when not in use

The grab handle can be hung over the trapeze bars/patient lifting pole. Ensure that the grab handle cannot slip off accidentally.

4.4.6 Infusion holder at foot end *

The Libra bed can be equipped with an infusion holder ① (sleeve with holder). An infusions stand ② can be inserted into the sleeve.

The infusion holder is attached to the foot end of the bed.

Advice

Attach the infusion holder following the diagram ① in a corner of the mattress frame in order to avoid risk of crushing.

Proceed as follows:

- Fix the holder using the integrated screw on the foot end of the crossbar.
- Insert the infusion stand ② into the sleeve.

Advice

It is not possible to attach an infusion holder with integrated combined safety sides.

4.4.7 Bed extension *

The bed can be equipped with an extension on the foot end of approx. 20 cm or approx. 27 cm. The space that is created is filled with a padding section. The bars of the safety sides **(2)**/**(6)** as well as the side covers **(8)** must be exchanged for longer ones.

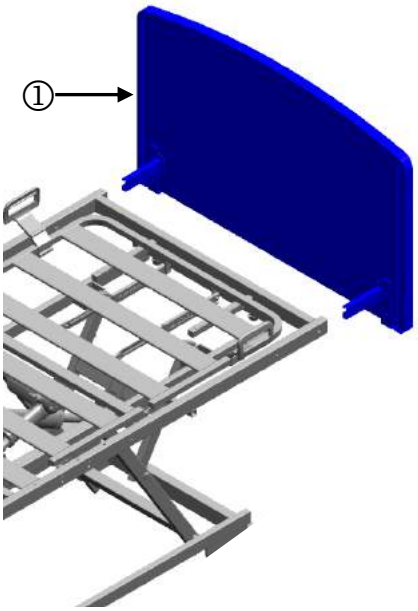
Extending the mattress base

Before extending the mattress base, note the following points:

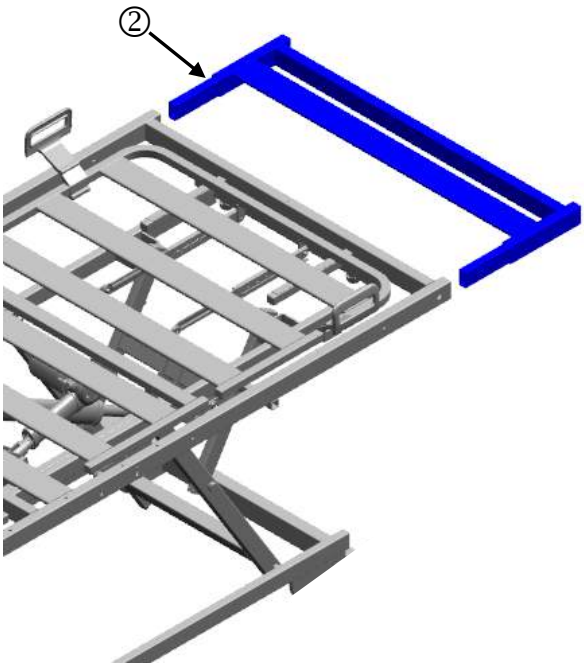
- The bed must not have an occupant!
- The bed must be immobilised.

Proceed as follows:

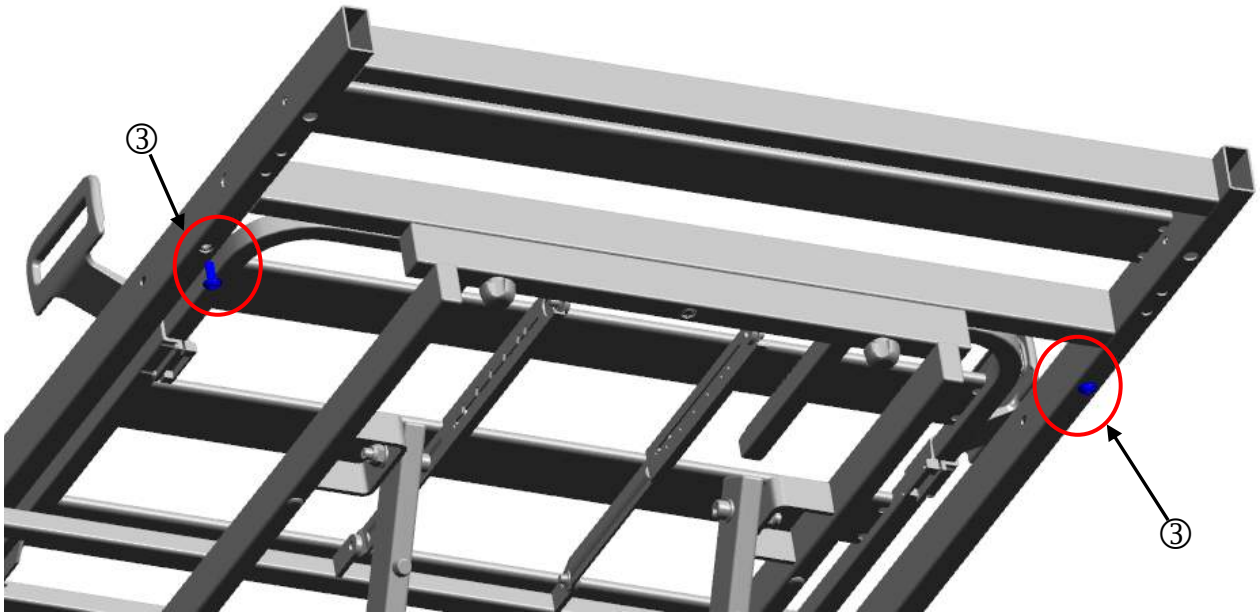
- Remove the safety sides **(2)**/**(6)**.
- Disassemble the side covers **(8)**.
- Remove the footboard ①:



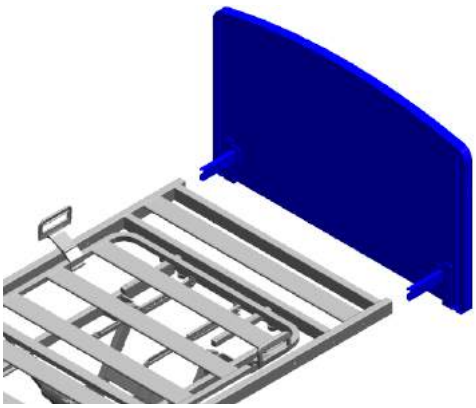
- Insert the bed extension ②.

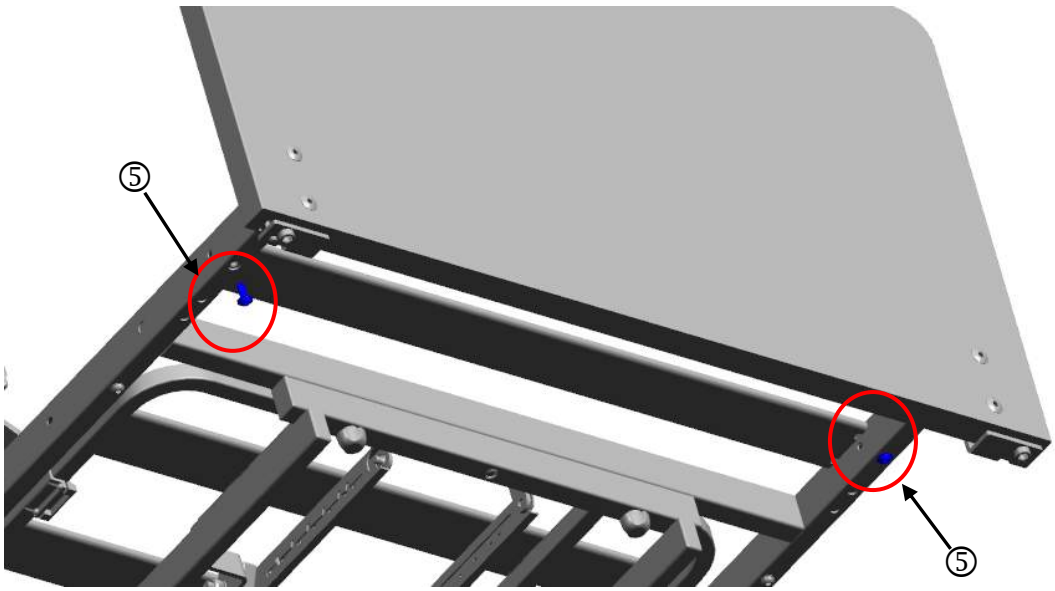


- Screw the bed extension tight ③.



- Place the footboard and screw it tight ⑤.
- Install the longer side covers **(8)**.
- Install the safety sides **(2)**/**(6)**.
- Insert the padding section into the free space.





4.4.8 Linen holder *

The bed can be optionally equipped with a linen holder that can be pulled out from under the foot end ① whenever necessary.

To prevent the bedding from falling, the linen holder has a gallery rail ② which can be folded up.

It is not possible to have a bed linen holder with the 27 cm bed extension.

Risk of injury due to trapped fingers.

- When sliding the linen holder back under the mattress base, watch your fingers!

The maximum load-bearing capacity of the linen holder is 15 kg.

- Do not lean on the linen holder!
- Do not sit on the linen holder!
- Pay attention to the limited clearance under the linen holder when the mattress base tilts into a full reverse Trendelenburg position and there is also a bed extension.

4.5 SAFETY SIDES

The bed has safety sides to protect the occupant from falling out of bed. The standard bed comes with full-length safety sides **(2)** on both sides of the bed. The bed can be fitted with the following variants of safety sides as an option.

- both bed sides with split safety sides **(6)**
- one bed side with full-length safety side **(2)** and the other side with split safety side **(6)**
- both bed sides with split safety sides MobiFlex **(D)**
- both bed sides with swivelling safety sides **(A)**

The safety sides can be raised from the lowered position next to the mattress base to protect the occupant.

Depending on the type of mattress base, there are two versions of safety sides:

Type of safety side	Type of mattress base	Height of safety side	Max. mattress height:
2 bars, full-length (2)	Metal / plastic	41 cm	19 cm
	Comfort	37 cm	15 cm
2 bars, in sections (6)	Metal / plastic	41 cm	19 cm
	Comfort	37 cm	15 cm
Swivelling safety sides (A)	Metal / plastic	40 cm	18 cm
	Comfort	36 cm	14 cm
Split MobiFlex safety sides (D)	Metal / plastic	41 cm	19 cm
	Comfort	37 cm	15 cm

4.5.1 Full-length safety sides (standard)

Raising

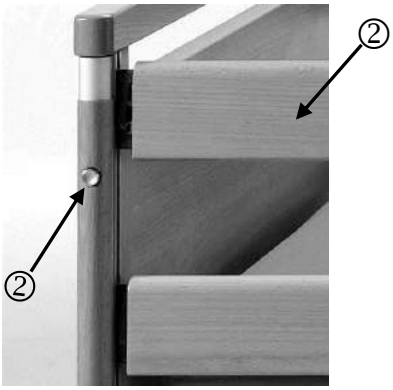
- At the head and foot ends, pull the upper beam of the safety side upwards as far as it will go, first at one end and then at the other. The lower bar follows.
- Ensure that the safety side have been securely clicked in by pressing on the upper bar.
- Repeat the procedure on the other safety side.

Lowering

- Before lowering the safety sides, ensure that the occupant's limbs are not near the plane of movement of the bars. This prevents crushing and injuries.

1. Lift the upper bar ① slightly with one hand and hold it in place.
2. Press the release button ② and lower the safety side ① **carefully**. Do not let it drop!

- Repeat this procedure for the other sides.



4.5.2 Special Safety Information for Safety Sides

Safety sides protect the occupant from unintentionally falling out of the care bed. They are not intended as a device to prevent the occupant from intentionally leaving the bed.

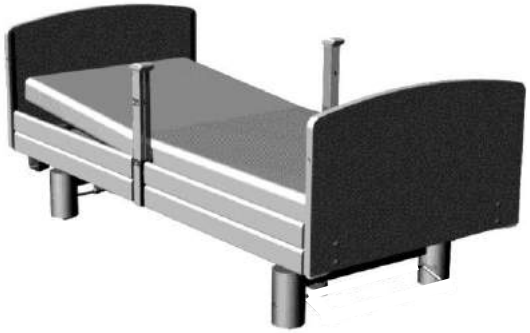
If not used properly, there is a considerable danger of, for example, strangulation for the occupant! Please, therefore, bear in mind the following instructions.

- Only use technically perfect, undamaged safety sides which engage securely!
- Before using the safety sides, assess and take into consideration the clinical condition and particular physical build of the occupant:
  - For example, if the occupant is extremely confused or very restless, avoid using safety sides as far as possible and make use of alternative safety measures such as posey belts, restraint sheets, etc.
  - For especially small, slim occupants, additional protective measures for reducing the space between the bars on the safety sides may be necessary. In these cases, use safety side foam leather covers (accessory), posey belts, etc. This is the only way to effectively guarantee occupant safety and reduce the risk of the occupant becoming trapped or slipping through.
- Only use suitable mattresses (not too soft) according to DIN 13014 with a volume weight of at least 40 kg/m³ and dimensions complying with the specifications in the instruction manual for the bed in Chapter 4.5 to prevent endangering patients through trapping or suffocation.
- When the safety sides are raised, the electrical adjustment of the backrest and thigh rest must always be locked:
  - Attach the handset out of reach of the patient (e.g. at the foot end of the bed).
  - Lock the handset adjustment options.

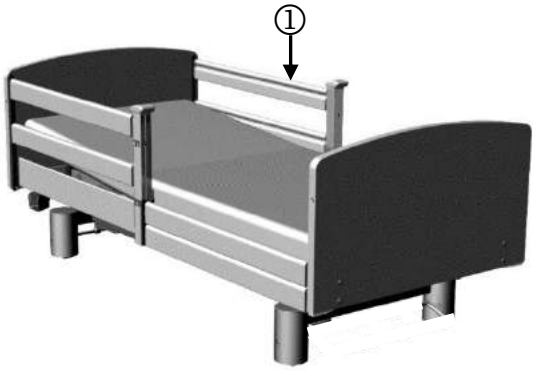
If the handset is accidentally activated, there is a risk that the occupant's limbs could be crushed between the safety sides. The effectiveness of the safety sides can also be reduced if the mattress base sections are raised to a high level.

4.5.3 Operation of split safety sides *

Position as delivered



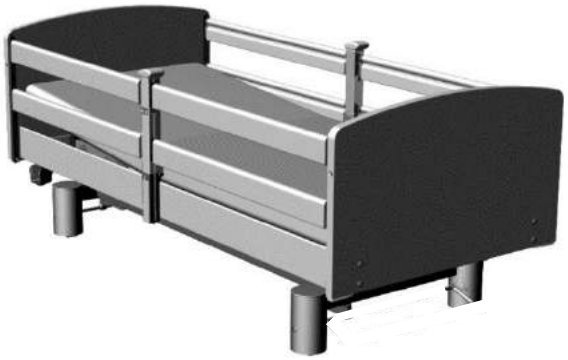
Raising the safety side



Raising the safety sides at the head end

- Grasp the middle of the top safety side bar ① and pull the safety side bar upwards as far as it will go. Both ends must audibly click into place.
- Repeat the procedure on all other safety side bars.

Raising all safety sides



Danger

The occupant is not sufficiently protected from falling out of bed if only the safety sides at the foot end of the bed are raised.

Therefore only ever raise the foot-end safety sides if the head-end safety sides are also raised.

Maximum protection for the occupant can only be achieved this way, as with full-length safety sides.

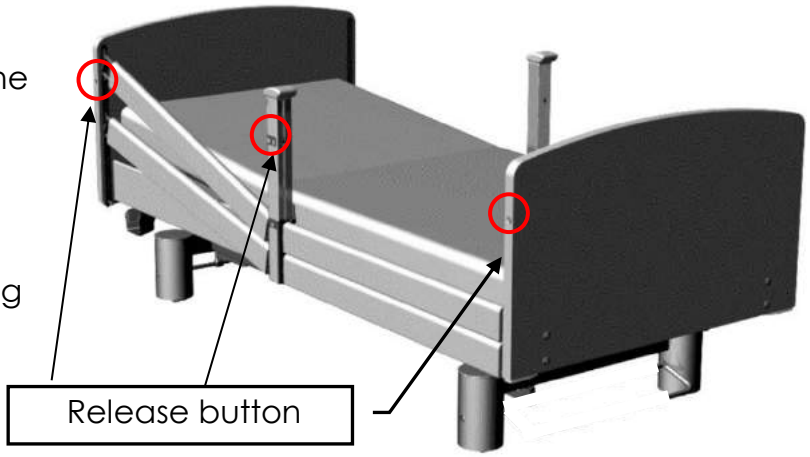
Lowering the safety side

Danger

Before lowering the safety sides, ensure that the occupant's limbs are not near the plane of movement of the bars. This prevents crushing and injuries.

- The following description applies to each of the four separate sections of the safety sides.

- With one hand, raise the top bar slightly at one end, and hold it firmly.
- With the other hand, press the corresponding release buttons and lower the safety side. **Caution!** Do not let it drop!

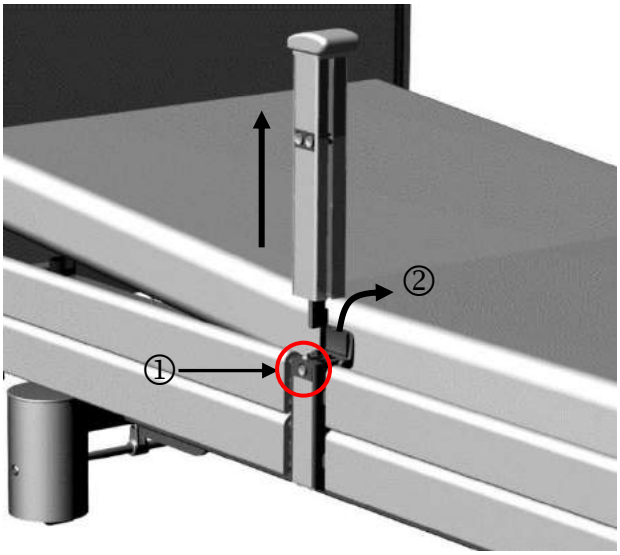


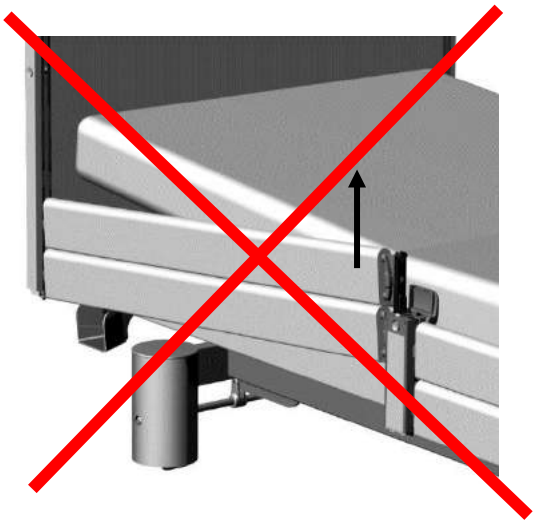
- Repeat the procedure for the other end of the bar.

Removing and storing the middle post

If the safety sides will not be required for some time, the middle posts can be quickly removed and conveniently stored:

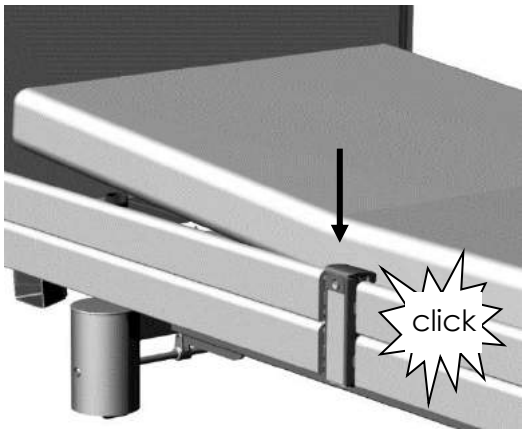
- With one hand, press the release button ① and pull the middle post vertically upwards with the other hand.
- The cover of the socket ② for the middle post will then spring back into place.



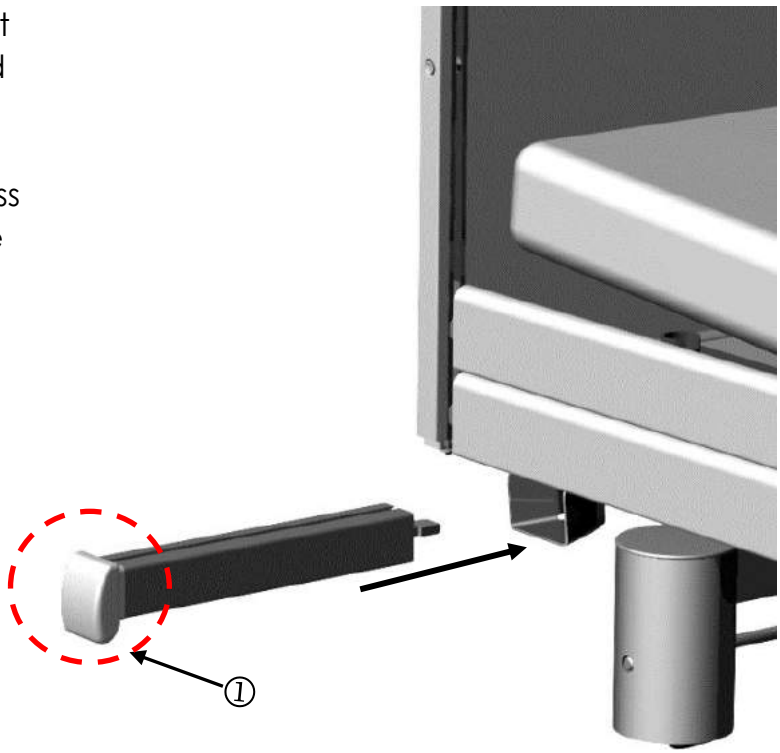


Avoid lifting the safety side if the middle post has been removed and the cover flap is not locked in place, as the safety side could otherwise be pulled free of its restraints.

- Press the cover down with one hand until you hear it click into place. The opening is then properly sealed.

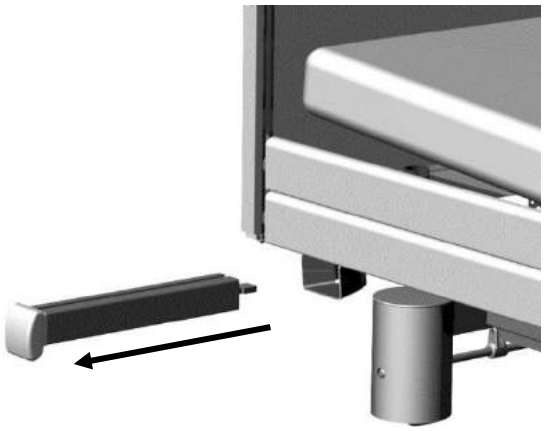


- Store the middle post at the foot end of the bed by sliding it into the special holder underneath the mattress base, as illustrated here ①.
- Slide the middle post gently in as far as it will go. (The middle post is automatically secured)
- Do not use excessive force. The post only fits properly in the direction shown here.

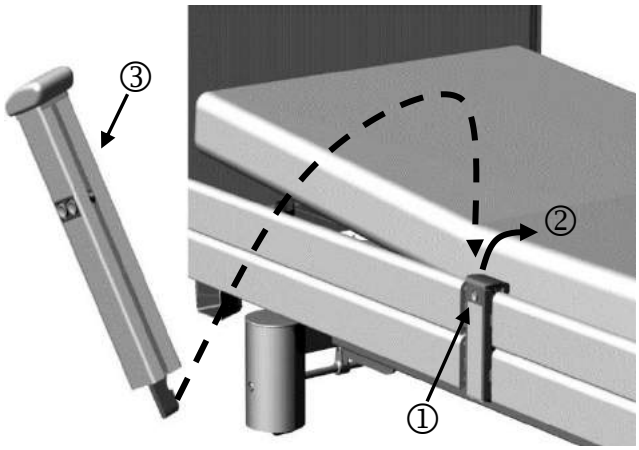


Fixing the middle post in place

- Pull the middle post towards you and slide it horizontally out of the holder at the foot end.

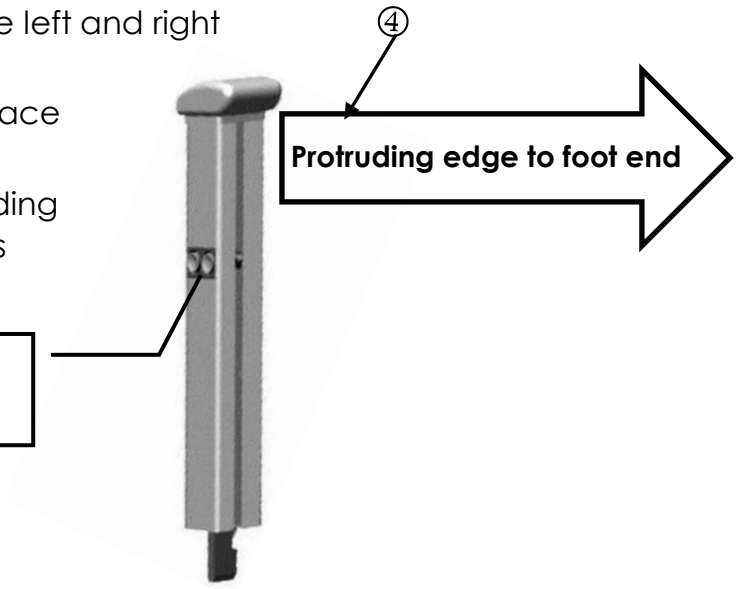


- Unfasten the cover flap by pressing the button ①.
- Open the cover ② by hand and hold it open.
- Slot the middle post ③ into the post socket as illustrated.



Caution! Take care not to switch the left and right middle posts!

- The release buttons must face away from the bed
- Make sure that the protruding edge ④ of the knob points towards the foot



Make sure that fingers, bed linen, tubes or other objects cannot become trapped between the middle post and the post socket!

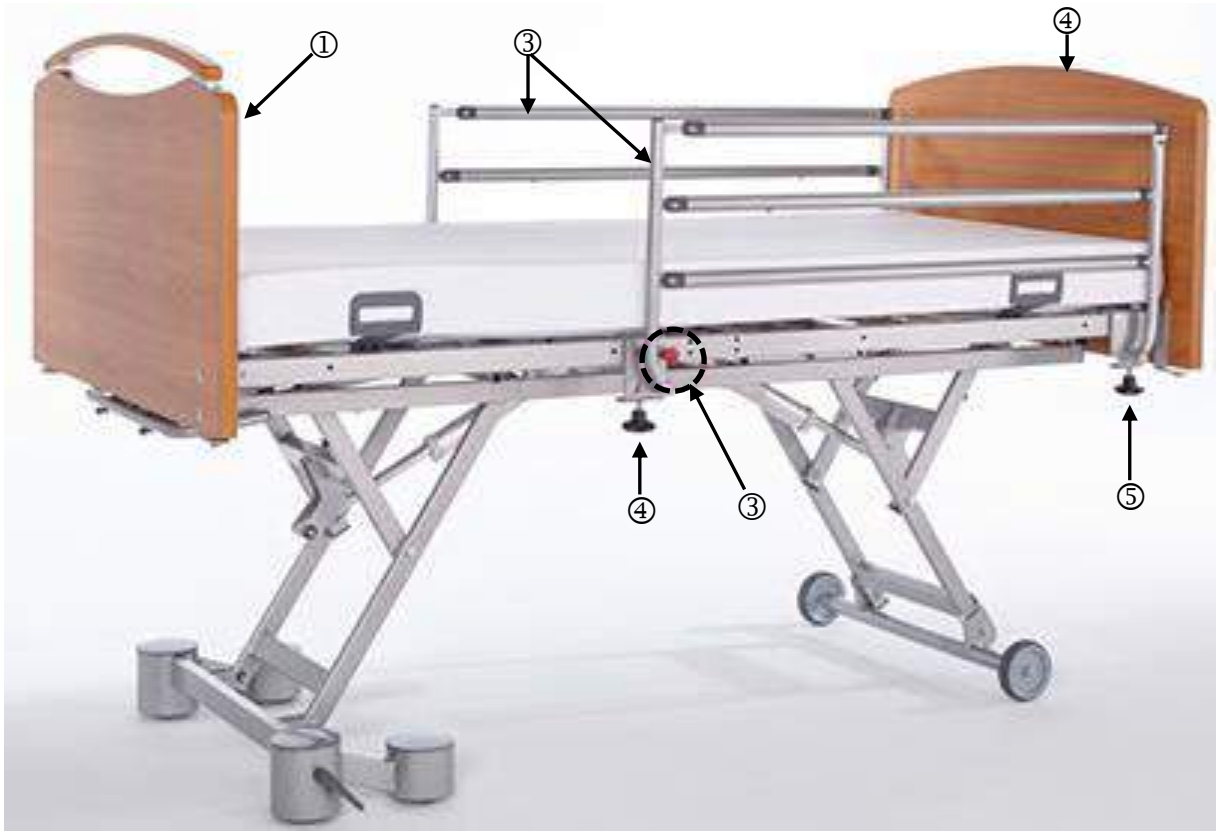
- Push the middle post straight down as far as it will go. You will hear it click into place.
- Then check to ensure that it is locked in place by trying to pull it upwards. It should not be possible to disengage the post.

Other uses for the middle post

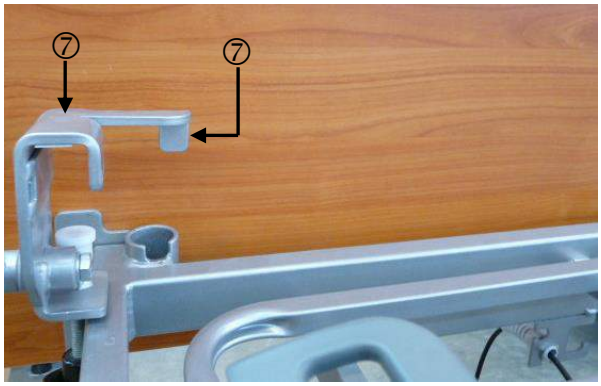
If the safety sides (at the foot end) are unnecessary, the middle post can be used as a mobility aid. The sturdy middle post helps the occupant get into and out of the bed.

4.5.4 Swivelling safety sides *

Libra can also be equipped with a swivelling safety side③.



① Head end
② Foot end
③ Swivelling safety sides
④ Star-head screws
⑤ Red release button
⑥ Clamping claw
⑦ Positioning guide

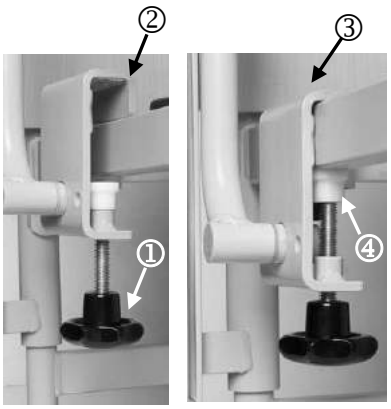


Assembly

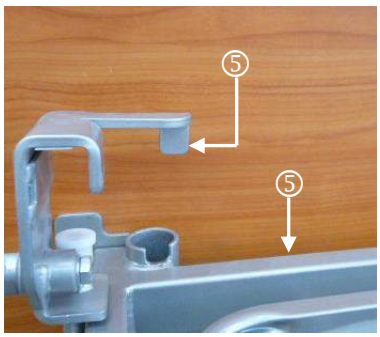
When assembling the swivelling safety side, please note the following points:

- The assembly is done at the head end (left and right).
- Note the left safety side and the right safety side.
- The side with the release button ⑤ is at the middle of the bed.
- The star head screw④ points downward.

Install left safety side



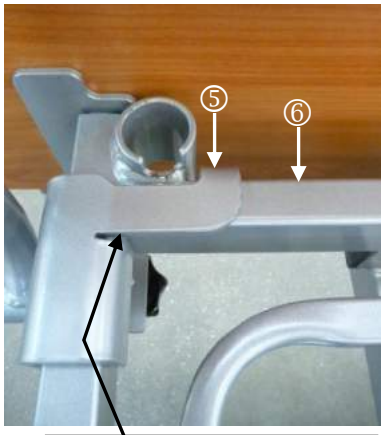
- Turn star head screws ① until they reach the stop.
  - Now the clamping claw is completely open and can grasp the mattress frame.
- Bring the clamping claw to the long brace on the mattress frame ②.
- Push clamping claw downward ③.
  - The head end of the clamping claw also has a positioning guide ⑤ for fixing the space between the headboard and the safety side to approx. 6 cm.
  - **Caution!** The positioning guide must be behind the cross brace ⑥ on the mattress frame during installation.



- Turn the star head screw on both clamping claws tight ④
- Lift the safety side until it clicks into place.
- **Check that the safety side sits firmly.**

Install right safety side

- Proceed analogously to installing the left safety side.



installed clamping claw - required position

Operating the safety side

Attention: Risk of crushing! Watch for your fingers when raising and lowering the safety side. They can get crushed between the bed frame and the safety side!

Raising

- Grab the safety side at the upper bar and swivel it up in the direction of the headboard.
  - The safety side is raised in a swivelling movement and clicks audibly into place.
- Check that the safety side is securely positioned by sliding it back and forth.

Lowering

- Hold the safety side firmly by the upper rail.
- Press the red release button ⑦ and swivel the safety side down and towards the foot end.

4.5.5 Split MobiFlex safety sides *

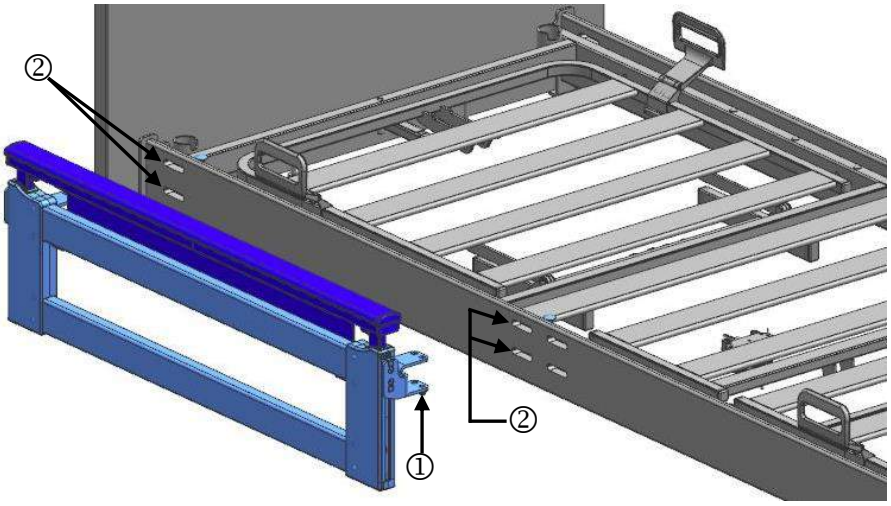
Libra can also be equipped with a MobiFlex safety side.

Assembly

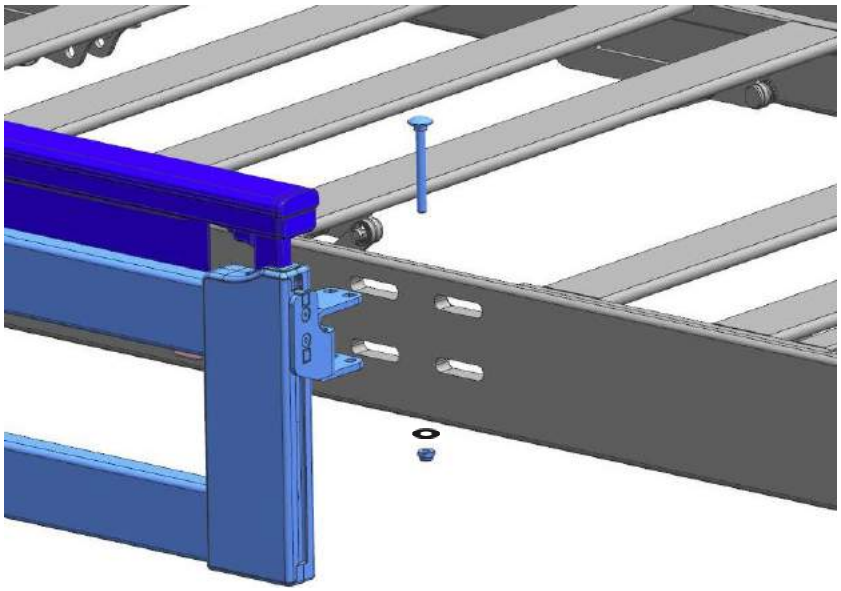
Please note: The MobiFlex safety side comprises four parts.

Begin with the first part, for example, the left head side:

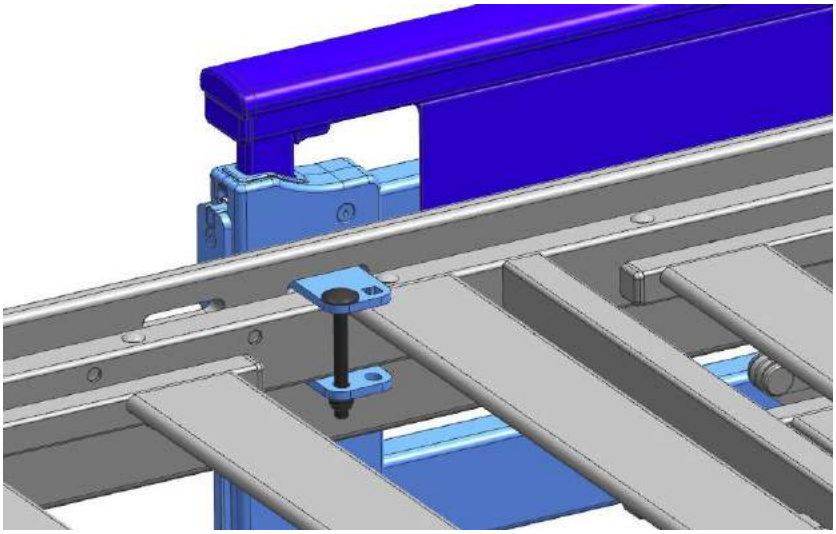
- Insert fastening clamps ① through the slits ② on both side panels.



- Insert the four screws provided into the fastening clamps from above (one screw per fastening clamp).
- Turn the washers and nuts onto the screws from below.



- Tighten the screws (open jaw wrench size 13 mm).
  - **Caution!** The fastening clamps must be centred in the slits at horizontal level in the middle.
  - **Caution!** The bearing surfaces of the fastening clamps must be flush and parallel to the side panel.
- Repeat this procedure with the remaining three parts of the MobiFlex safety sides.

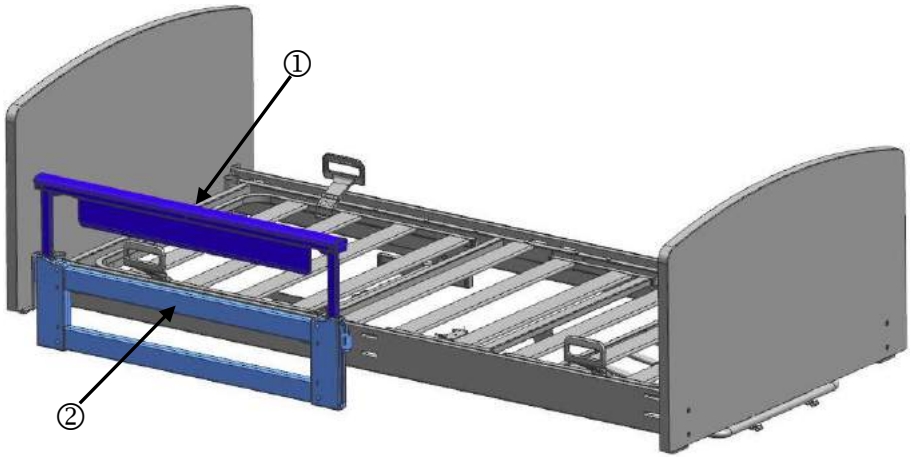


Operation

The MobiFlex safety sides can be easily raised and lowered and can be raised into different positions.

Raising

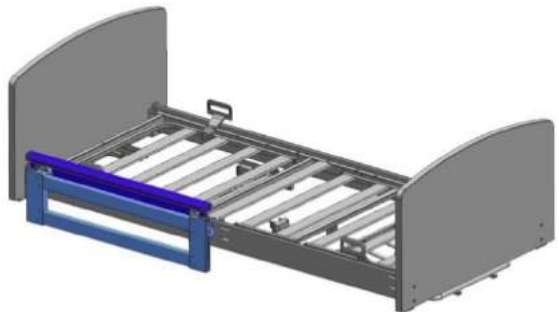
- Grab the upper bar ① with both hands and pull the safety side up as far as the stop.
- Repeat this procedure with the middle bar ②.



Possible raised positions

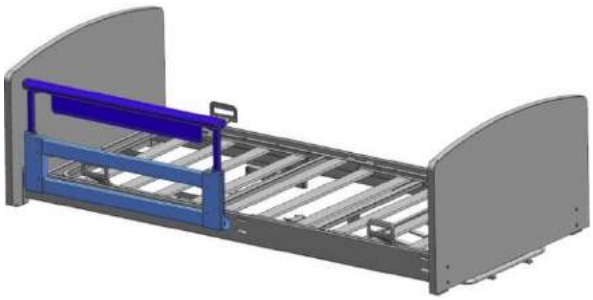
The following raised positions are possible with MobiFlex:

Completely lowered safety side



Raised upper bar

Completely raised safety side



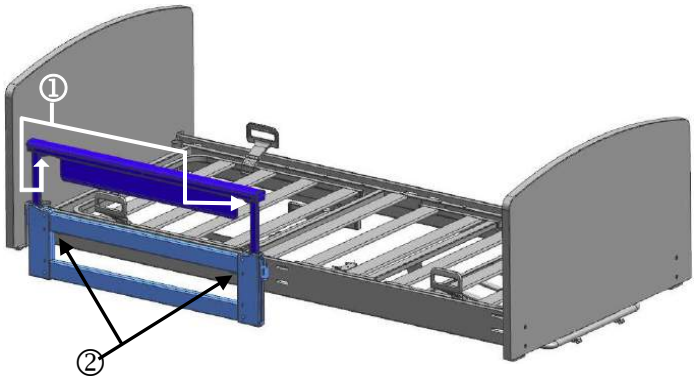
Slanted raised upper bar

Lowering

The MobiFlex safety side can be lowered in two phases (telescopically).

Attention: Risk of crushing! Watch for your fingers when raising and lowering the safety side. They can get crushed between the bed frame and the safety side!

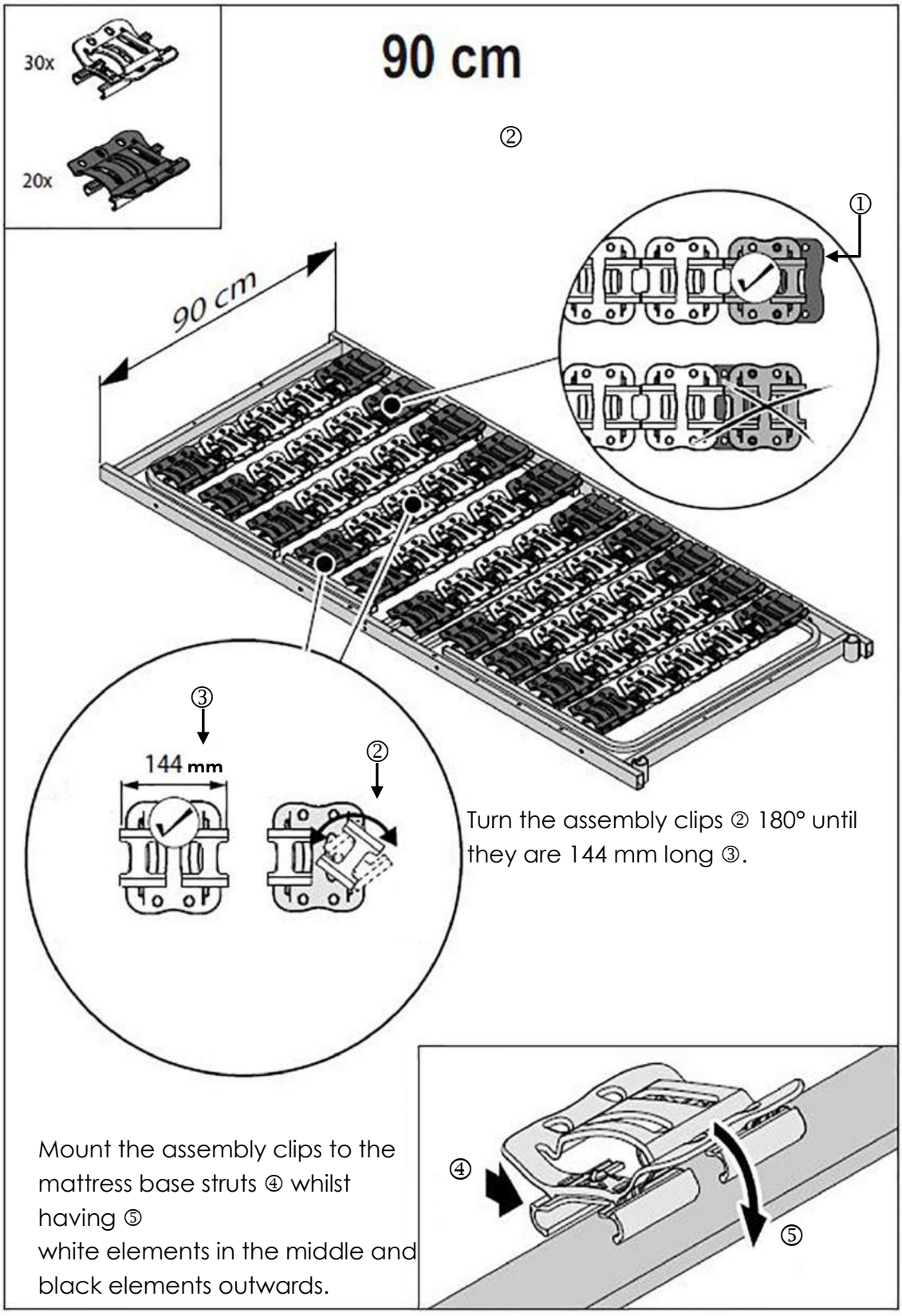
Proceed as follows:



- Take pressure off of the safety side first by gently pulling up.
- Then, press the two release buttons on the upper bars ① and lower the safety side.
- Repeat this procedure with the middle bar (release button) ②.

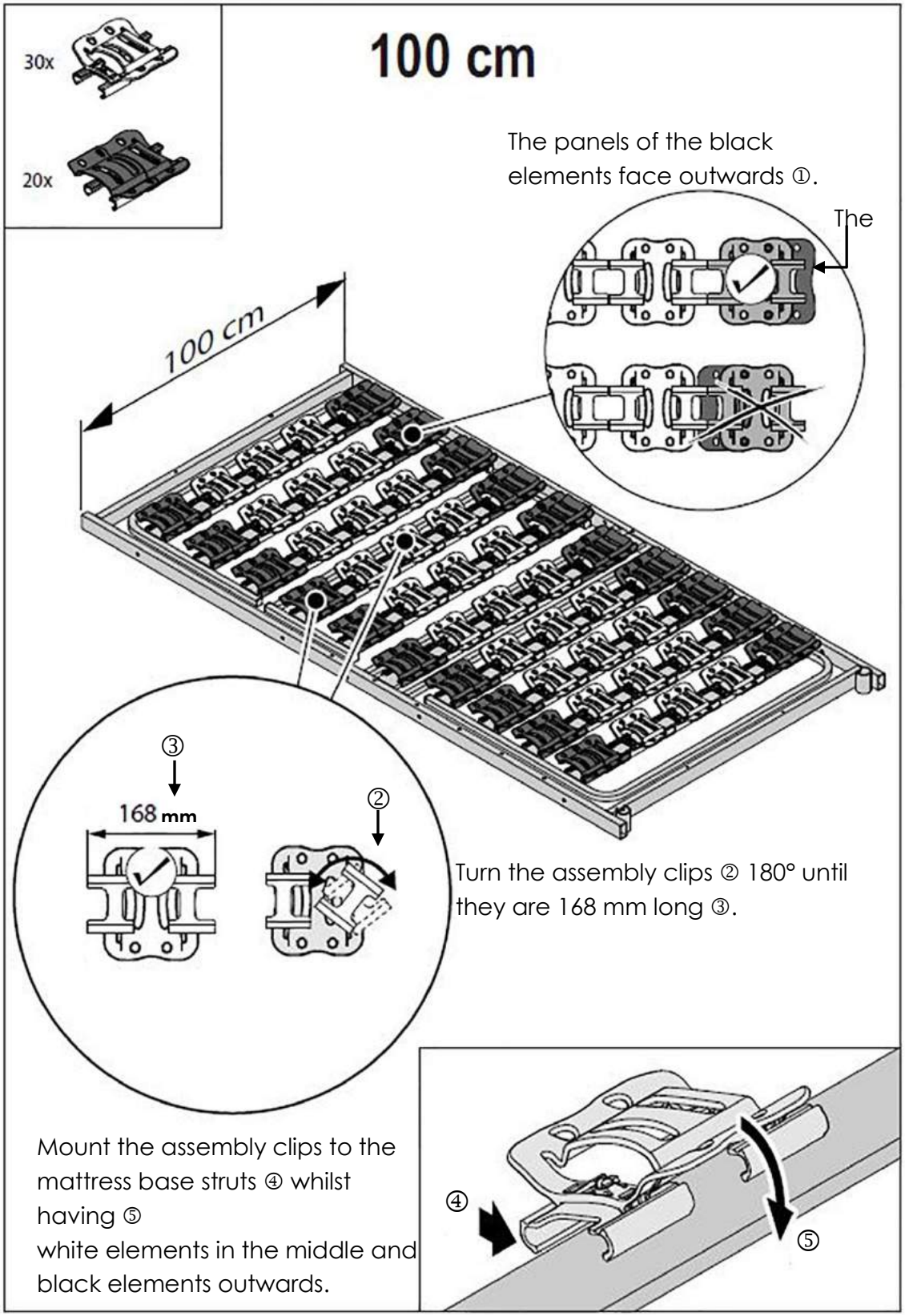
4.5.6 Comfort mattress base - width 90cm*

Libra can also be equipped with a comfort mattress base.
The following installation guidelines refer to the 90 cm wide mattress base:



4.5.7 Comfort mattress base - width 100 cm*

The following installation guidelines refer to the 100 cm wide mattress base:



5 Cleaning and Disinfection

This bed cannot be machine washed and not suitable for cleaning in a decontamination unit. It is suitable only for manual cleaning and disinfection. To maintain the lifespan and functionability as long as possible, you must observe the advice in this chapter.

5.1 General Information on Cleaning and Disinfection

Cleaning is the most important measure and requirement for a successful chemical disinfection.
When the bed is occupied by the same occupant, routine cleaning of the bed is generally sufficient. Disinfection of the chassis is only necessary when it has been visibly contaminated with infectious or potentially infectious materials (blood, stool, pus) or, if in the presence of an infectious disease, under doctor's orders.

Before an occupant change, the bed must first be cleaned and disinfected by wiping!

Before cleaning or disinfecting:

- Unplug the transformer unit cable and store the mains plug so that it does not come into contact with water or other cleaning solutions.
- There must be no external damages visible on any of the electrical components. Not following this can lead to water or cleaning solutions leaking into the electronics and causing malfunctions or damages.
- Before restarting the transformer unit, ensure that the electrical contacts are free of any remaining moisture.
- The electrical components must not be cleaned with a water jet, a high pressure cleaner or other similar device! Clean only with a moist cloth!
- If you suspect that water or any other form of moisture has penetrated the electrical components, pull the transformer unit plug out immediately or do not plug it into the socket. If already disconnected from the mains supply, make sure it is not plugged in again. Report this immediately to the operator responsible.

Failure to follow this safety advice could result in considerable damage to the equipment and lead to subsequent malfunctions!

5.2 CLEANING AND DISINFECTION INSTRUCTIONS

- Remove bed linen and send it to the laundry service.
- Clean all surfaces, including the slatted bed frame and mattress base made of synthetic or metal slats, with a mild and environmentally friendly cleaning agent. This also applies for the handset.
- If the bed has been visibly contaminated with infectious or potentially infectious materials, the bed should be subsequently disinfected by wiping with one of the disinfection media approved by the DGHM (Deutsche Gesellschaft für Hygiene und Mikrobiologie, German Society for Hygiene and Microbiology) which is suitable for the corresponding surfaces. The same applies for all beds with occupants who have notifiable diseases according to § 6 of the Infektionsschutzgesetz (IfSG, Protection against Infection Act), bacterial infections, or infections with multiple-resistant pathogens (e.g. MRSA, VRE), as well as all beds in intensive care stations and infectious disease clinics. For all disinfections, the concentrations given in the DGHM list must be observed.
- Disinfection of the castors is only necessary when they have been visibly contaminated with infectious or potentially infectious materials.

Continuous disinfection is only necessary in hospitals when an occupant has a multiple-resistant pathogen (e.g. MRSA).

5.3 INSTRUCTIONS FOR THE USER AND EXPERT

In order to ensure that cleaning and disinfection are properly conducted, we recommend that users and trained staff are appropriately instructed.

When providing instruction, observe the following points:

- A clean bed must be transported in such a way that it will not become dirty or contaminated.
- Staff should be informed of the special measures required for cleaning and disinfection and should carry out the procedure in a reliable manner (the operator should specify the operational procedures or the individual procedural steps). Care must be taken that only disinfection agents approved by the DGHM (German Society for Hygiene and Microbiology) are used, and that these are used only in the DGHM approved concentrations.
  The disinfectant must be suitable for the relevant surface.
- For this activity, the expert should be provided with disposable aprons and gloves which are impermeable to fluids.
- For the cleaning treatment, only fresh, clean cloths may be used which are subsequently sent to the laundry service.
- When cleaning/disinfecting work has been completed, the staff must disinfect their hands before carrying out other tasks.
  An appropriate dispenser of hand sanitizers (with lifting dispensing device) should be included in the equipment of the staff.
- The immediate cleaning of the bed on site has the advantage that no "dirty" beds or bed components come into contract with clean beds. In this way, the transfer of potentially infectious germs which may be found on the used chassis is prevented.
  A transfer of germs in terms of a nosocomial infection can be safely avoided by consistently and thoroughly following these recommendations.
- When the bed is not immediately reused, it should be stored (covered) in such a way that it is protected from dust, inadvertent dirt and contamination.

5.4 CLEANING AND DISINFECTION AGENTS

Pay attention to the following recommendations to ensure that the bed functions and usability are preserved as long as possible:

- Do not use scouring agents, care products for stainless steel and abrasive cleaning agents or scouring pads.
  These substances can damage the surfaces.
- Cleaning and decontaminating agents must have a pH value of 5 to 8 at the specified concentrations.
- The chloride content of the solutions prepared for use must not exceed 100 mg/l.
- We recommend (damp) wipe cleaning. When selecting cleaning agents, ensure that the ones chosen are mild (gentle to skin and surfaces) and environmentally friendly. A standard household cleaner can generally be used.
- Ensure that after cleaning / disinfection no liquid residues remain on the metallic parts of the bed (avoid drops on the edges). Otherwise corrosion can not be excluded in these areas in the long term.
- Despite the excellent mechanical resistance, scratches, markings, etc., which permeate the entire coating should be resealed using a suitable repair medium to prevent the penetration of moisture. For further information, consult STIEGELMEYER or a specialist of your choice.

- As a rule, aldehyde-based disinfection media have the advantage that they have a wide range of impact, a relatively low protein effect and are environmentally friendly. The main disadvantage of these agents is their potential to cause allergies and irritation.
- Glucoprotamine-based formulations do not have this disadvantage and are equally effective, although most are somewhat more expensive.
- Disinfection media based on compounds which could potentially release chlorine may be corrosive for metals, synthetics, rubbers and other materials over longer contact periods or when concentrations are too high. Furthermore, these media have a higher so-called protein effect, are mucous membrane irritants and demonstrate poor environmental compatibility.
- For disinfection by wiping, most cleaning and disinfection agents usually used in hospitals or care facilities, such as cold and hot water, detergents, alkaline solutions and alcohols, can be used.
- These agents may not contain any substances that could change the surface structure or the adhesive properties of the plastic materials.

The following cleaning agents have been successfully tested and approved by Stiegelmeyer:

Manufacturer	**Description**	**Concentration according to manufacturer**
Antiseptica	Biguacid-S	0.5% solution
B.Braun	Meliseptol rapid Meliseptol	Working solution 50ml/ m^2
Bode Chemie	Bacillol AF	Working solution 50ml/ m^2
Ecolab	Incidin Plus	0.5% solution
Fresenius-Kabi	Ultrasol-F	0.5% solution
Lysoform	Amocid	1.5% solution
Schülke	Buraton 10 F	5% solution

Please consult the appropriate manufacturer before using any other agents than those included in the above list. Only alternative agents with an equivalent composition may be used, to prevent any damage to the bed as a result.

5.5 HANDLING CLEANING AND DISINFECTION AGENTS

- Pay attention to the exact dosage! We recommend the use of automated dosing instruments.
- Always prepare solutions with cold water in order to avoid the formation of vapours which are mucous membrane irritants.
- Wear gloves, in order to avoid direct skin contact.
- Do not keep prepared surface disinfection solutions in open containers with floating cleaning cloths. Be sure to cover all containers!
- Use sealable bottles with pump dispensers for moistening the cleaning cloths.
- Ventilate the room after the disinfection has been completed.
- Disinfect by wiping; do not disinfect by spraying! When spraying, a large portion of the disinfection medium is released as spray and could be inhaled.
- Furthermore, the wiping effect plays a significant role.
- Do not use alcohols for the disinfection of large surfaces.

6 Maintenance

Legal Principles

In accordance with

- German Medical Devices Operator Ordinance § 4 (Maintenance)
- DGUV A3 (Testing of Mobile Electrical Equipment in Commercial Use) of the German Social Accident Insurance

operators of hospital beds are obliged to preserve the safe operating condition of medical devices throughout their entire service life. This also includes regularly carrying out expert maintenance as well as safety checks.

In other countries outside Germany or the EU, the relevant national regulations must be complied with.

Information for the Operator

This bed has been designed and built to work safely over a long period of time if operated correctly and put to proper use.

As a result of repeated transport and assembly and dismantling, improper operation as well as long-term use, damage, defects and signs of wear may occur. These deficiencies can cause hazards if they are not recognised and corrected immediately.

For this reason there are legal principles for conducting regular inspections in order to guarantee the safe condition of this medical product.

According to § 4 of the Medical Devices Operator Ordinance (Medizinprodukte-Betreiberverordnung) it is the responsibility of the operator to maintain this product. For this reason, the regular inspections and functional checks described hereafter must be performed by both the operator as well as the users.

- This bed must not be modified without authorisation by the manufacturer.
- Instruct users about the following inspections that are required to be performed! (see Chapter 6.1).

6.1 BY THE USER

If damage or a malfunction is suspected, the bed must be withdrawn from service immediately and disconnected from the mains supply until the defective parts have been repaired or replaced!

Contact the operator who is responsible for you if the defective parts need to be replaced or repaired.

Besides the regular comprehensive inspections by qualified technical staff, the user (care personnel, care-giving relatives etc.) must also carry out a minimum of visual inspections and functional checks at short, regular intervals and before use by a new patient.

Recommendation: Inspect all electrical and mechanical components once a month. In addition, the transformer unit with cable and the handset cable must be inspected each time that they have been subjected to mechanical strain and after each move to a new location.

Checklist: Inspection by the User

Inspection What to check?	Check for?	ok	Not ok	Description of defect
Visual inspection of the electrical components				
Handset, handset cable	Damage, routing of cable			
Transformer unit	Damage, routing of cable			
Handset	Damage, foil			
Visual Inspection of the Mechanical Components				
Patient lifting pole, location sleeves	Damage, deformation			
Chassis	Damage, deformations			
Wooden framing	Damage, splinters			
Mattress base frame	Damage, deformations?			
Safety side bars	Damage, splinters			
Performance Check of the Electrical Components				
Handset	Function test, locking functions			
Performance Check of the Mechanical Components				
Castors	Braking, running			
Emergency lowering of backrest	Test according to manual			
Screws and bolts	Fixed position			
Safety side	Safe locking, unlocking			
Lower leg rest	Engage			
Motor bolts	Fixed position			
Accessories (e.g. lifting pole, handle)	Fastening, damage			
Inspector's signature:	**Inspection results:**			**Date:**

6.2 BY THE OPERATOR

The operator of this care bed is obliged according to MPBetreibV (Medical Devices Operator Ordinance) Section 4 to conduct regular inspections in each new building, after each maintenance and during operation to ensure the safe condition of the care bed.

These inspection are to be repeated within the regular maintenance activities depending on the conditions of use according to MPBetreibV Section 4 and the inspections prescribed by the Employers' Liability Insurance Associations for mobile electrical equipment in commercial use according to DGUV A3 (Testing of Mobile Electrical Equipment in Commercial Use).

Inspection Interval

We recommend, as a guideline, that an annual DGUV A3 inspection be carried out by our qualified service engineers, with verification of adherence to the 2% error rate (see also the DGUV A3 accident prevention regulations: § 5, Table 1B).
Observe the sequence order for the inspection according to EN 62353 (VDE 0751):

I. Visual inspection
II. Electrical measurement
III. Performance inspection

Visual and functional check

- The visual inspection and function testing as well as the assessment and documentation of the test results must be conducted exclusively by competent persons, according to MPBetreibV Section 4 and DIN EN 62353 (VDE 0751), who have the required qualifications and tools for proper inspections and testing.

Electrical measurement

- The electrical measurement according to VDE 0751 may also be conducted by electrically instructed persons (in the sense of DGUV A3) with additional medical and device-specific if appropriate measuring instruments are present.

- The assessment and documentation of the test results may only be made by a qualified electrician with medical and device specific additional knowledge.

Transformer unit

- Preparation:
  - Unplug the transformer unit plug of the plug-in power pack from the wall mains socket.
  - Insert the transformer unit plug of the plug-in power pack into the test socket on the testing device.
- Test procedure:
  - Make the following selections on the instrument: Leakage current test, direct or differential current, in accordance with DIN EN 62353:2008.
  - Conduct a leakage current test according to the information of the instrument manufacturer.
- Threshold:
  - Leakage current I_{Abl} smaller than 0.1 mA.

Test cycles

Visual and functional check:	yearly
Electrical measurement	yearly

We recommend the inspection cycles indicated. In the case of verifiable compliance with 2 % error rate (also see DGUV A3: §5, Table 1B), the inspection cycle can be extended to a maximum of 2 years on the operator's responsibility.

- If damage or a malfunction is suspected, the bed must be withdrawn from service immediately and disconnected from the mains supply until the defective parts have been repaired or replaced!

Inspection Report following an inspection of electromedical equipment according to DIN EN 62353 (VDE 0751-1): 2015-10 - Page 1 of 3

Customer / med. facility / practice:					
Address:					
Carried out: ☐ Repeat inspection		☐ Inspection prior to initial operation (reference value)			
☐ _____		☐ Inspection following repairs/servicing			
Type of device: ☐ Hospital bed ☒ Care bed		**Protection class:** ☐ I ☒ II			
Bed type: *Libra*		**Inventory number:**			
Location:					
Transformer unit number:		**Serial number:**			
Manufacturer: *STIEGELMEYER GmbH & Co. KG*		**User-specific parts:** *None*			
Testing equipment used (type/inventory no.):		1.			
Medical Devices Act classification: *Class I,*		2.			
I. Visual inspection **What to check...**	**Check for?**		**ok**	**Not ok**	**Description of defect**
Visual Inspection of the Electrical Components					
Stickers and type plates	Present, legible				
Control unit housing	Correct position, damage				
Motor housing and lifting tubes	Correct position, damage				
Handset	Damage, foil				
Motor cable, handset cable, mains cable, connecting cable	Damage, routing of cable				
Plug and plug cover on control unit	Available, correct position				
Visual Inspection of the Mechanical Components					
Stickers and type plates	Present, legible				
Patient lifting pole, sleeve; grab handles	Damage, deformations				
Chassis	Damage, deformations				
Bowden cable, emergency lowering backrest	Routing, spots with kinks				
Castors	Damage				
Mattress base	Damage, deformations				
Wooden framing	Damage, splinters				
Welded seams	Split welded seams				
Safety sides: Bars	Damage, splinter, dimensions acc. to Sheet 3				
Connecting elements (screws, bolts, nuts, safety caps)	Fixed position, completeness				
Wearing parts, such as joints	Damage				
II. Electrical measurement					
Leakage current of device, direct/difference 1. Plug the mains cable / plug-in power pack in the test socket of the measuring instrument. 2. Connect sensor to plain screw in the mattress base frame. 3. For the duration of the measurements, activate the motors using the handset 4. Start measurement procedure on the measuring instrument					
	Threshold	Measured value			
Result: Bed prot. class II (type B)	0.1 mA	mA			

Observe this order for the inspection according to DIN EN 62353 (VDE 0751-1): 2015-10 - Page 2 of 3

III.Performance inspection What to check?	Check for?	ok	Not ok	Description of defect
Performance Check of the Electrical Components				
End of travel cut-out for motors	Automatic cut-out			
Handset, operating elements, external transformer	Test according to instruction manual: Locking functions; key functions; no "rattling" when shaken			
Motors	No abnormal noise development (rattling, uneven running, etc.)			
Installation of cable harness and proper seat of plugs and strain relief	Secure attachment, firm seat acc. to operating instructions			
Performance check of the mechanical components				
Joints and pivots;	Smooth operation			
Castors	Brakes, securely engaged brake			
Safety sides	Safe engagement, unlocking acc. to operating instructions			
Lower leg rest	Engage			
Accessories (e.g. patient lifting pole, grab handle)	Secure attachment, without damage, suitability for bed			

Inspection results:

Inspection passed; test approval sticker applied:

☐ Safety or functional defects were not detected

☐ No direct risk, the detected defects can be resolved in the short term

Inspection was not passed; <u>no</u> test approval sticker applied:

☐ Device must be removed from circulation until defect has been resolved!

☐ Device does not meet requirements – modification / replace components / decommissioning is recommended!

Next inspection date:

Documents that form part of this inspection report:

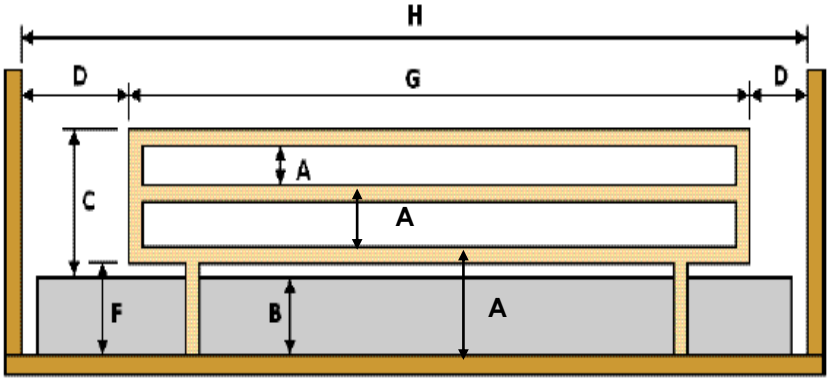
☐ Appendix sheet 3/3: Dimensional check of safety sides in compliance with statutory regulations:

☐

Inspected on:	Inspected by:	Signature:
Evaluated on:	Operator/Expert:	Signature:

Observe this order for the inspection according to DIN EN 62353 (VDE 0751-1): 2015-10 - Page 3 of 3

Dimensional check of safety sides in compliance with statutory regulations:



Dimensions of a one-piece safety side

When measuring the distances, the dimensions resulting from likely mechanical loads are decisive!

Item	Description of dimensions	Nominal	Actual	ok	not ok
A	The greatest dimension in at least one direction between components of the safety side/grab handle in all normally used positions.	A ≤ 120 mm			
B	Thickness of the normally used uncompressed mattress as indicated by the manufacturer	B ≤ 120 mm**			
C	Height of the upper edge of the safety sides above the uncompressed mattress and the bed base in a level position	C ≥ 220 mm			
D	Distance between the headboard/footboard /accessories and safety sides/grab handle with the bed base in a level position. Also applies in the case of an extended foot section.	D ≤ 60 mm or D ≥ 318 mm *			
F	The greatest dimension in at least one direction of each opening under the safety sides	F ≤ 120 mm			
G	Length of the safety side(s)	G ≥ 50% H	G = H ** G > 50%H***	x	

*Data from Stiegelmeyer modified in view of expected new bed directive IEC 60601-2-52.
D ≥ 318 mm is only admissible at foot end of bed!

** Data from Stiegelmeyer supplemented for the existing continuous safety side configuration.

*** Data from Stiegelmeyer supplemented for the existing split safety side configuration with at least the safety sides at the head end raised (if completely raised at head and foot ends, this corresponds to a one-piece safety side; see **)

Source: Bavarian State Ministry for Health, Nutrition and Consumer Protection, Dept. 5, Schellingstr. 80797 Munich; www.stmgev.bayern.de; email: presse@stmgev.bayern.de

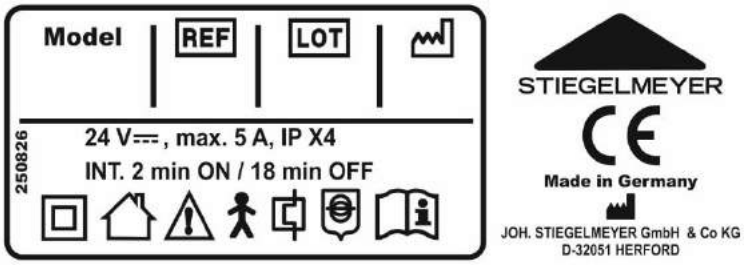
6.3 REPLACEMENT PARTS

In order to maintain operational safety and the right to claim under warranty, only original Stiegelmeyer replacement parts may be used!

For quick and easy ordering of replacement parts we need you to give us the

- customer number

as well as the following other details that are indicated on the type tag at the head end of the bed frame (inner side).



Required information:

Model	Name of product	REF	Item number
LOT	Order number		Date of manufacture (week/year)

6.4 SERVICE ADDRESS

To order replacement parts in Germany and for any customer service requirements or other questions, please contact our service department:

Stiegelmeyer Assist GmbH & Co. KG

Ackerstrasse 42, 32051 Herford, Germany
Phone: +49 (0) 5221 185-777
Fax: +49 (0) 5221 / 185-219

Email: servicezentrum@stiegelmeyer.de
Internet: www.Stiegelmeyer.com

Customers outside Germany can contact our sales distributors in the respective country if they have any questions. Contact details can be found on our website.

6.5 REPLACEMENT OF ELECTRICAL COMPONENTS

Danger of death due to electric shock!

- Before commencing any work, unplug the transformer unit cable from the electrical socket!
- Any work and/or repairs to the electrical drive system may only be carried out by the Stiegelmeyer service engineers, the drive manufacturer or qualified and authorised electricians in compliance with all the relevant VDE and safety regulations!

- Only dismantle the control unit and electrical motors when the bed is in the home position (mattress base is in the horizontal position). Otherwise there is the risk of being crushed due to falling parts of the mattress base.
- On no account should the user attempt to rectify malfunctions in the electrical system!

- All the drive components are maintenance-free and must not be opened. In the event of a malfunction, the corresponding components should always be replaced in full!
- When replacing individual components, always make sure that all plugs are equipped with undamaged O-rings. The plugs have to be aligned in accord with the sockets of the control unit and have to be plugged in all the way. Finally the plug cover has to be properly fastened again. Only this ensures tightness and efficient function. Only this ensures tightness and proper function.

6.5.1 Plug assignment of the control unit

All plugs are connected to the control unit. To prevent the plugs from being inadvertently disconnected, they are secured with a cover. When necessary, this device can be carefully lifted off using a screwdriver.

- 1 = Handset
- 2 = Lift motor foot section (white)
- 3 = Lift motor head section (blue)
- 4 = Thigh rest (yellow)
- 5 = Backrest motor (black)
- 6 = Battery compartment (2 x 9 Volt batteries)

6.5.2 Connection of a reading lamp (optional equipment)

The reading lamp is installed as follows and then connected with the plug-power pack to an external 230 Volt outlet.
Please read the separately enclosed instruction manual on how to operate it.

Step 1

Insert the plastic adaptor securely into the sleeve for the patient lifting pole at head end (left or right).

Step 2

Insert the upright pole of the lamp with the connecting cable from above into the plastic adaptor and press it down until it is firmly in place.

6.5.3 Control unit replacement

- Unplug the transformer unit plug from the socket.
- Carefully unscrew the plug cover on the control unit off using a Philips screw driver.
- Mark the plug positions to avoid switching them when re-assembling (see Chapter 6.5.1).
- Unplug all plugs / connecting cables from the control unit.
- Remove the old control unit from its holder.
  - Remove the two clamps on the holder.
- Place the new control unit in and fasten it with the help of the clamps.
- Insert all plugs again into the corresponding outlets (see Chapter 6.5.1).
  - Pay attention that the plug O-rings are all present and undamaged. It seals the plug within the control unit.
- When routing the handset cable, ensure that it cannot be damaged by any moving parts of the bed.
- Put the plug cover back in place. This prevents all the plugs from being pulled out of the control unit.
- Lower the bed completely down or raise it up. That allows the bed's control system to detect the intermediate stops.
- After this, check the power adjustment functions according to Chapter 6.2!

6.5.4 Motor replacement

- Unplug the transformer unit plug from the socket.
- Remove the faulty motor.
  - For lift motors: Remove the safety disk and extension bolts.
  - For upper thigh and back motors: Remove clevis pins.
- Loosen the plug-in cable connection on the control unit.
- Reinstall the new motor in exactly the same way.
- To prevent the motor bolts from working loose and causing potentially hazardous sudden changes in the position of the bed, always ensure that you fit new safety caps ("Starlock"; available from Stiegelmeyer service department) and do not refit the old safety caps that you removed.
- After this, check the power adjustment functions (see Chapters 6.2).

6.5.5 Decommissioning

If the bed is not used for an extended period, please follow the instructions below for taking the bed out of service safely and ensuring ideal conditions for its re-use.

- Clean and disinfect the bed (see Chapter 5) and cover it as a protection against new contamination.
- Adjust the mattress base to a flat home position at its lowest level.
- Lock the electric adjustment functions to prevent them from being activated accidentally or by unauthorised persons.
- The bed must be braked.
- Pay attention to the ambient conditions required for storage (see Chapter 9.3).

7 Troubleshooting

The following table is a guide for rectifying common malfunctions. Should a malfunction occur that is not included in the table, inform your operator.

Problem	Possible causes	Solution
Handset/ Drive system not functioning (bed is connected to mains power supply)	• Transformer unit is not or not properly plugged in • No power supply to socket • Functions are locked on handset • Handset, transformer unit cable or control unit is defective	• Insert transformer unit cable; green LED must light up on the transformer unit. • Check socket and fuse box • Release functions (see Chapter 4.3.5) • Inform your operator about any necessary repairs
Green LED on transformer unit does not light up and drive system is not functioning	• Transformer unit is not properly plugged in • No power supply to socket • Transformer unit damaged • Transformer unit is not properly plugged in	• Plug in transformer unit • Check socket • Replace transformer. Inform your operator about necessary repairs
Yellow LED does not light up when key is pressed on handset and the drive does not respond	• Functions locked on handset • Handset faulty	• Release functions (see Chapter 4.3.5) • Replace handset
Handset not functioning, adjustments are not locked	• Handset faulty • Control unit has detected a fault and for safety reasons has locked the adjusting functions	• Replace handset • Unplug transformer unit from the outlet, wait at least 10 sec. and then plug the transformer unit back in.
Operation is not possible despite proper power supply	• Control unit has shut down due to overheating • Control unit has detected a fault and for safety reasons has locked the adjusting functions • Control unit defective	• Observe max. duty cycle: intermittent duty 2 min ON/18 min OFF; replace the control unit. • Unplug transformer unit from the outlet, wait at least 10 sec. and then plug the transformer unit back in. • Exchange control unit Inform your operator about any necessary repairs

Problem	Possible causes	Solution
Continuous or longer signal sound without handset activation	• Controller is defective	• Inform your operator about any necessary repairs
Individual drives only go in one direction	• Defective handset, drive unit or control unit	• Inform your operator about any necessary repairs
Manual emergency lowering of backrest is not possible	• Bowden cable is too loose or not secured • Bowden cable is kinked	• Readjust at the release lever or secure • Install new Bowden cable. Inform your operator about any necessary repairs
Drive runs for a brief time only, then stops	• Drive overloaded • Structural obstructions in the way of bed adjustment	• Remove the overload in the bed, retest • Remove obstructions; move bed away from obstructions (e.g. window sills, sloping roofs)
Control unit partly not functioning	• One or more motors are not connected/ electrical plug connections are disconnected • A serious error has occurred in the control unit and blocked all functions for safety reasons.	• Check electrical connection and all motors/plug-in connections; • Have actuator system checked. Inform the operator in order to arrange for repairs

8 Accessories

A wide range of accessories is available for this bed. Fault-free and safe operation can only be guaranteed if original STIEGELMEYER accessories are used.

Accessory lists can be obtained from us by quoting the bed type.

Several important accessories:

- Grab handle for patient lifting pole
- Infusion stand/holder
- LED reading lamps, various [1]
- Protective covers for safety sides[1]
- Wall spacer bracket[1]

[1] Also pay attention to the enclosed additional instruction manual!

Pay attention if infusion stands etc. are used for electrically adjustable beds!

Make sure that the arrangement of accessories does not produce any crush or shearing zones for the occupant when the backrest and leg rest are adjusted. If this cannot be guaranteed, the user must safely prevent the occupant from adjusting the backrest and leg rest.

- Place the handset out of the occupant's reach (e.g. at the foot end of the bed) or lock the handset adjustment options.

9 Technical Data

9.1 Dimensions and Weights

Mattress base (LxW) approx.	200 x 90 cm (Standard) 200 x 100 cm (Optional) (Optional feature: 220 x 90 cm) bed extension
Total weight	135 kg
Safe working load	225 kg
External dimensions (LxW) approx.	209.4 x 100.3 cm (for mattress base widths of 90 cm)
	209.4 x 110.3 cm (for mattress base widths of 100 cm)

9.2 Electrical Data

Control unit

Type	ECS
Operating voltage	29 V DC
Output current	max. DC 8.5 A
Duty cycle	Intermittent duty, 2 min ON / 18 min OFF
Protection category	IPX 54, splash-proof
Classification	Protection Class III, Type B, MPG classification Class I, not for use in environments where there is a risk of explosion

Transformer unit

Type	SMPS 15
Input voltage	100-240 V
max. current input	AC 1.5 A
Output voltage	29 V DC
Output current	5.5 A (max. 8.5 A)
Duty cycle	Intermittent duty, 2 min ON / 18 min OFF
Protection category	IPX 54, splash-proof
Classification	Protection Class II, Type B, MPG classification Class I, not for use in environments where there is a risk of explosion

Handset

Type	DEWERT IPROXX II
Protection category	IP X6

Electric motor for mattress base height

Type	DEWERT Megamat 2
Power/stroke	6.000 N / 250 mm
Input voltage	24 V DC
Protection category	Intermittent duty: 2 min ON / 18 min OFF
Duty cycle	IP x4

Electrical motor for backrest

Type	DEWERT Megamat 2
Power/stroke	4.000 N / 200 mm
Input voltage	24 V DC
Protection category	Intermittent duty: 2 min ON / 18 min OFF
Duty cycle	IP x4

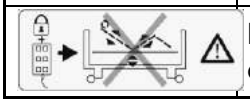
Electrical motor for thigh rest

Type	DEWERT Megamat 2
Power/stroke	4.000 N / 70 mm
Input voltage	24 V DC
Protection category	Intermittent duty: 2 min ON / 18 min OFF
Duty cycle	IP x4

Noise level

Noise level during adjustment	max. 48 dB(A)

Explanation of the graphical symbols used

Symbol	Meaning
	Device with type B application component in accordance with EN 60601-1 (special protection against electric shock)
	Protection Class II device, shock-proof
	Transformer with thermal fuse
	Safety transformer to VDE 0551
	Attention! Pay attention to the instruction manual
	Only for use in enclosed spaces - do not use outdoors
IP x4	Protection of electrical equipment from splash water from all sides
IP x6	Protection of electrical equipment from strong water jets
	Mark of conformity in accordance with the Medical Device Directive 93/42, EEC Appendix VII
	Safe working load (= max. permissible weight of patient, mattress and all accessories attached)
	Max. weight of patient (= max. permissible weight of patient; this is dependent on the total weight of all the accessories attached to the bed and is always less than the safe working load)
	Only use mattresses that are approved by the manufacturer.
	Lock the handset if the patient could be at risk should electrically operated adjustments be made unintentionally

9.3 AMBIENT CONDITIONS

The following ambient conditions must be maintained:

In storage

	Minimum	Maximum
Storage temperature:	+ 5 °C	50 °C
Relative humidity :	50 %	70 %

In operation

	Minimum	Maximum
Ambient temperature:	10 °C	40 °C
Relative humidity :	20 %	90 % (not condensed)
Air pressure:	700 hPa	1060 hPa

9.4 TECHNICAL INFORMATION ON ELECTROMAGNETIC COMPATIBILITY (EMC)

To ensure EMC, only use cables and accessories approved by the manufacturer (see Chapter 9.2).

- The use of accessories, sensors or cables other than those approved, with the exception of sensors and cables sold by the equipment manufacturer as replacement parts for internal components, can result in an increase in the transmission level or a reduction in the immunity level of the equipment.
- The equipment may not be used directly next to or on top of other equipment.
- If it is necessary to use the equipment in this way, you must check to ensure that it functions properly in the required configuration.

Guidelines and Manufacturer's Declaration – Electromagnetic Emissions –		
The bed is intended for use in the electromagnetic environment described below. The operator or user of the bed should ensure that it is used in such an environment.		
Interference emission measurements	Compliance	Electromagnetic environment - guidelines
HF emissions to CISPR 11	Group 1	The bed uses HF energy for its internal functions only.
HF emissions to CISPR 11	Class B	The bed is intended for use in all types of establishment including residential and the like that are directly connected to a public supply network that also serves buildings that are used for residential purposes.
Harmonics according to IEC 61000-3-2	Class D	
Voltage fluctuations/ flicker acc. to IEC 61000-3-3	Complies	
HF emissions according to CISPR 14-1	Complies	The bed is not intended for connection to other technical equipment

Guidelines and Manufacturer's Declaration – Resistance to Electromagnetic Interference –			
The BED is intended for use in the electromagnetic environment described below. The operator or user of the BED should ensure that it is used in such an environment.			
Interference resistance testing	**IEC 60601 - test limit**	**Compliance level**	Electromagnetic environment - guidelines
Electrostatic discharge (ESD) according to IEC 61000-4-2	+/- 6 kV contact discharge +/- 8 kV air discharge	+/- 20 kV contact discharge +/-20 kV air discharge	Floors should be made of wood and concrete or be tiled with ceramic tiles. If the floor is covered with synthetic flooring material, the relative air humidity must be at least 30%. Can be used when higher ESD levels are present.
Short, transient electrical disturbances / bursts according to IEC 61000-4-4	+/- 2 kV for network cables +/ 1 kV for input and output cables	+/- 2 kV for network cables Not applicable	The quality of the supply voltage should be equivalent to that of a typical business or hospital environment.
Surges according to IEC 61000-4-5	+/- 1 kV transversal voltage +/- 2 kV longitudinal voltage	+/- 1 kV transversal voltage +/- 2 kV longitudinal voltage	The quality of the supply voltage should be equivalent to that of a typical business or hospital environment.
Voltage dips, short interruptions and fluctuations in the supply voltage according to IEC 61000-4-11	<5% U_T (>95% dip in U_T) for half a period 40% U_T (60% dip in U_T) for 5 periods 70% U_T (30% dip in U_T) for 25 periods <5% U_T (>95% dip in U_T) for 5 s	<5% U_T (>95% dip in U_T) for half a period 40% U_T (60% dip in U_T) for 5 periods 70% U_T (30% dip in U_T) for 25 periods <5% U_T (>95% dip in U_T) for 5 s	The quality of the supply voltage should be equivalent to that of a typical business or hospital environment. If the person using the BED requires that the bed functions must continue despite any interruptions in the energy supply, it is recommended that the BED be connected to an electricity supply free from interruptions or a battery.
Supply frequency magnetic fields (50/60Hz) according to IEC 61000-4-8	3 A/m	3 A/m	Network frequency magnetic fields should be equivalent to those to be found in a typical business or hospital environment.
Note:	UT is the AC network voltage before the test level is applied		

Guidelines and Manufacturer's Declaration – Resistance to Electromagnetic Interference –				
The bed is intended for use in the electromagnetic environment described below. The operator or user of the BED should ensure that it is used in such an environment.				
Interference resistance testing	**IEC 60601 - test limit**	**Compliance level**	Electromagnetic environment - guidelines	
			Portable and mobile radio devices should not be used in closer proximity to the BED, including the cables, than the recommended protection distance calculated using the equation for the appropriate transmission frequency. Recommended protection distance:	
Conducted HF interference according to IEC 61000-4-6	3 V_{eff} 150 kHz to 80 MHz	3 V_{eff} 150 kHz to 80 MHz	$d = 1.17 (P)^{1/2}$	
Radiated HF interference according to IEC 61000-4-3	3 V/m 80 MHz to 2500 MHz	3 V/m for 80 MHz to 2500 MHz	$d = 1.17 (P)^{1/2}$	for 80 MHz to 800 MHz
			$d = 2.33 (P)^{1/2}$	for 800 MHz to 2.5 GHz
			with **P** as the maximum rated power of the transmitter in watts (W) according to the manufacturer of the transmitter and **d** as the recommended protection distance in metres (m).[b]	
			According to an in-situ test c, the field strength of stationary radio transmitters should be lower, for all frequencies, than the compliance level d.	
			Interference is possible when in the vicinity of equipment bearing the following sign. 	

Note 1: The higher frequency range applies for 80 MHz and 800 MHz.

Note 2: These guidelines may not be applicable in all circumstances. The propagation of electromagnetic interference is affected by buildings, objects and people due to absorption and reflection.

c: The field strength of stationary transmitters, such as base stations for cordless telephones and for public mobile radio devices, amateur radio stations, and AM and FM radio and television transmitters cannot be predicted exactly by theoretical means. In order to determine the electromagnetic environment with regard to the transmitter, a study of the location should be considered. If the field strength measured at the location where the BED is to be used exceeds the upper compliance limit, the BED should be observed to check that it functions properly. Should any unusual performance characteristics be observed, additional measures could be necessary, such as turning the BED or moving it to a different location.

d: Across the frequency range of 150 kHz to 80 MHz, the field strength should be less than 3 V/m.

Guidelines and Manufacturer's Declaration – Resistance to Electromagnetic Interference – Recommended protection distances between portable or mobile HF communication devices and the BED

The bed is intended for use in an electromagnetic environment in which radiated HF interference is controlled. The operator or user of the bed can help to avoid electromagnetic interference by keeping a minimum distance between the bed and any portable or mobile communications devices (transmitters) – depending on the output rating of the communications device, as described below.

Power rating of the transmitter [W]	Protection distance (d) dependent on the transmission frequency [m]		
	150 kHz to 80 MHz	**80 MHz bis 800 MHz**	**800 MHz bis 2.5 GHz**
	$d = 1.2\ (P)^{1/2}$	**$d = 1.2\ (P)^{1/2}$**	**$d = 2.3\ (P)^{1/2}$**
0.01	0.2	0.2	0.3
0.1	0.4	0.4	0.8
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23

For transmitters whose maximum power rating is not listed in the above table, the distance can be determined using the equation given in the relevant column, where **P** is the maximum power rating of the transmitter in watts (W) as stated by the manufacturer of the transmitter.

Note 1: The higher frequency range applies for 80 MHz and 800 MHz.

Note 2: These guidelines may not be applicable in all circumstances. The propagation of electromagnetic interference is affected by buildings, objects and people due to absorption and reflection.

9.5 CLASSIFICATION

- This bed fulfils all the requirements of the 93/42/EEC Medical Device Directive.

- This bed is classified as a Class I medical device (in accordance with the medical devices act § 13).

- For use in the following application groups according to IEC 60601-2-52:

3:	Long-term care in a medical facility in which medical supervision is required and monitoring is provided if required. A medical electrical device used in medical procedures can be provided to help maintain or improve the condition of the PATIENT. (e.g. nursing and care homes, rehabilitation and geriatric institutions.
4:	Care in the home. A medical electrical device is used to alleviate or compensate for injuries, disabilities or illnesses.

- Active medical device; equipment with type B application component.

- UMDNS code:

Bed (electrically adjustable)	10-347

10 Disposal Instructions

The operator must ensure that all components of the bed that are to be disposed of are not infectious or contaminated.

- If the bed is to be scrapped, the wood, synthetic and metallic parts must be separated and disposed of properly.
- If you have any queries you can contact your local municipal waste company or our service department; See Chap. 6.4 for our address.

Disposal of electrical parts

- This bed – since it is electrically adjustable – is classified as a type (b2b) industrial electrical equipment in accordance with the WEEE Directive 2012/19/EC (in Germany, law governing electrical equipment).

- The electrical components used are free from prohibited hazardous substances in compliance with the RoHS II directive 2011/65/EU.

- Replaced electrical components (drives, control units, handsets, etc.) must be treated as electric scrap (in accordance with the WEEE Directive) and disposed of accordingly.

- The operator of this bed is legally obliged to send the electrical components directly to the manufacturer and not to dispose of them at municipal waste collection points. STIEGELMEYER and its service and sales partners will take these components back.

- The return of these components is covered by our General Terms and Conditions.

Disposal of rechargeable batteries


PB

- Batteries which are no longer usable and have been removed must be disposed of properly in accordance with as set out in directive 2006/66/EC (in Germany, the law governing battery regulations) and do not belong in household waste.

- If you have any queries you can contact your local municipal waste company or our service department; you will find our address in Chapter 6.4.

In other countries outside Germany or the EU, the relevant national regulations must be complied with.

11 EC – declaration of conformity

EC – declaration of conformity

We,

Joh. Stiegelmeyer GmbH & CO. KG
Ackerstraße 42
D - 32051 Herford,

hereby declare under sole responsibility as the manufacturer that the product model named below:

Care bed Soleo; Care bed Libra

in the version submitted complies with the regulations of the EC Directive 93/42/EEC for Medical Devices, last amended by Directive 2007/47/EC dated 5 September 2007.

It is categorised as a Class 1 active medical device.

The relevant technical documentation is kept by the manufacturer's safety representative.

To evaluate the conformity to the Directives, all applicable parts of the following standards were referred to:

Harmonised standards:

EN 14971: 2013-04	Risk Analysis for Medical Products
EN 60601-1: 2006	Safety for Medical Electrical Equipment
EN 60601-1-2: 2007	Electromagnetic Compatibility
DIN EN 60601-1-6: 2010	Medical electrical equipment: Suitability for Intended Use
DIN EN 60601-2-52: 2010	Particular requirements for the safety including essential performance of medical beds

International standards:

IEC 60601-2-52: 2009	Medical electrical equipment: Particular requirements for the basic safety and essential performance of medical beds

Herford, 2015-12-11

Hans Peter Löw
(Management)

Ralf Wiedemann
(Management)

STIEGELMEYER

EVOCARE AUSTRALIA PTY LIMITED

A.B.N. 98 078 566 604

Trading as **EVOCARE** and **L&M EQUIPMENT**

P.O. Box 1144, Stafford Qld. 4053

Ph: 07 3355 8000 Fax: 07 3355 5043

Website: http://www.evocare.com.au

Email: sales@evocare.com.au

workshop@evocare.com.au

warehouse@evocare.com.au

accounts@evocare.com.au

Published by:

Joh. Stiegelmeyer GmbH & Co. KG

Ackerstrasse 42, 32051 Herford

Phone: +49 (0) 5221 185-777

Fax: +49 (0) 5221 / 185-219

Email: servicezentrum@stiegelmeyer.de

Internet: www.Stiegelmeyer.com

CE

Version: 2015-11-20 □□□□□□_V0