

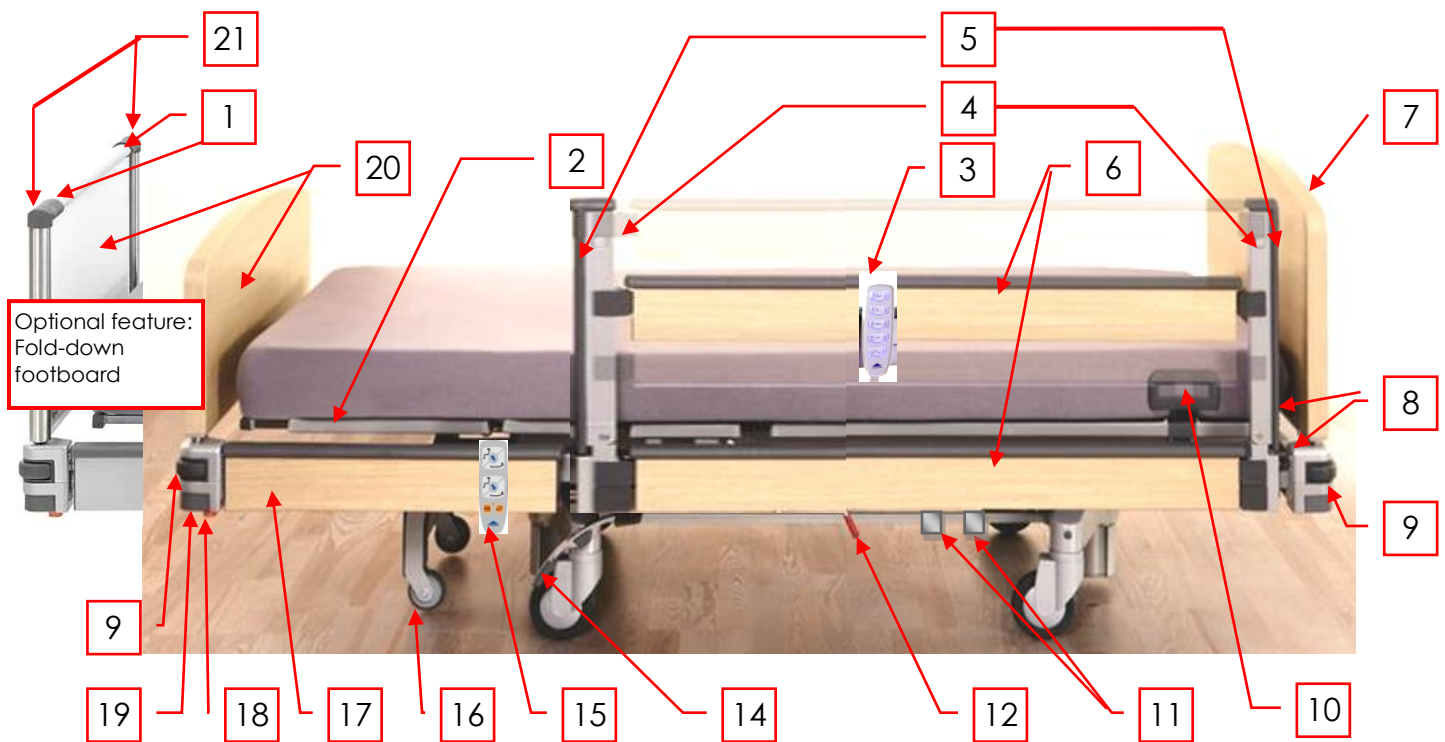
Instruction Manual

Care bed with stand-up function

Vertica-Homecare



Care bed Vertica-Homecare: Control elements



1	Release slider; pull inward to fold down footboard (optional)
2	Velcro strap for securing the special mattress to the footboard
3	Patient handset
4	Release button for safety sides (1x each side)
5	Release slider for folding down the safety sides
6	Safety sides (on both sides)
7	Headboard, removable
8	Insert for lifting pole / infusion stand (covered, 2 items)
9	Wall deflection rollers (4 in total, one per corner)
10	Grab handles / side mattress guides for backrest
11	2x universal holder, sliding, on both sides (optional)
12	Lever, red, for adjustment / emergency lowering of backrest (CPR), both sides
14	Foot lever (both sides) for operating castor brakes or for steering
15	NURSE handset "Stand-up function"
16	Support rollers (automatically retracting for setting upright position)
17	Side panel; tiltable as far as mobilisation supports
18	Release button orange: for extending bed (activate both sides)
19	Release level grey: Tilting/proper engagement of mobilisation supports [17]
20	Footboard, removable; optional: fold-down to a linen holder or as a table +removable
21	For fold-down footboard option: Pushbuttons (left and right) to release footboard for removal

Advice:

In this instruction manual, numbers which appear in bold type and square brackets [] refer to features described for the Vertica Homecare bed.

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1 Foreword

Dear Customer,

Burmeier has built this bed to give you the best possible help with the challenges posed by nursing and caregiving. We passionately pursue the goal of developing high-quality durable products. Our beds should make patients and residents feel as safe and comfortable as possible during their stay in bed and also lighten the workload of nursing and 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 keep the bed in excellent condition during long-term use. Please therefore read and observe these instructions carefully. They will help you to put the bed into service for the first time and to use it on a daily basis. This instruction manual contains all the information you will need to make it as easy and safe as possible to control and handle this bed, both for you as the operator and your users. It is a practical reference book and should be kept close to hand at all times.

Even after you have purchased a bed, Burmeier is still on hand to help at any time. We provide customised solutions in all matters relating to inspection and maintenance, repair and process optimisation. You can contact our service centre by phone at +49 (0) 5232 9841 - 0.

We wish you and your users every success and satisfaction in caring for your patients and residents.

Burmeier GmbH & Co. KG

Disclaimer

This product is not licenced 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 through third parties, is prohibited by the manufacturer.

2 General Information

This instruction manual describes several different models of the Vertica-Homecare bed.

It is possible that certain functions or features are described which are not incorporated in your particular bed.

In the following text, the Vertica-Homecare bed will be referred to simply as the bed.

2.1 DEFINITION OF THE GROUPS OF PERSONS INVOLVED

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

Operator

An operator (e.g.: clinic, hospital, hospital administration) is any natural and legal person with property rights to the Vertica-Homecare bed. The operator is responsible for the safe operation of this medical device.

Users

Users (e.g.: medical specialists, nursing staff, doctors, carers, care workers) are persons who, based on their training, experience or briefing, are qualified to operate the bed on their own authority or to carry out work on it, or have been instructed how to handle the bed. Furthermore, they can recognise and avoid potential dangers and assess the clinical condition of the patient.

Patient

A patient is defined as a person who is in need of care, ill, infirm or disabled, and occupies this bed.

It is strongly recommended that the operator or user instructs each new patient in the bed functions that are important for him/her.

Instructions for the Operator:

- This bed fulfils all the requirements of the 93/42/EEC Medical Devices Directive. It is classified as a Class I active medical device in accordance with the Medical Devices Act (*Medizinproduktegesetz*, German abbreviation: MPG) § 13.
- Any item of technical equipment, electrical or otherwise, can prove hazardous if used improperly. Please observe your obligations as the operator in accordance with the Medical Devices Operator Ordinance (*Medizinprodukte-Betreiberverordnung*, German abbreviation: MPBetreibV), in order to ensure the permanently safe operation of this medical product with no risk of danger to patients, users or third parties.

Instructions for the User:

- Before using a care bed, the user must check that the bed is fully functional and in perfect working order, and must observe the instructions in the manual in accordance with the Operators of Medical Products Ordinance (MPBetreibV) § 2.

The same applies for accessories that are attached to the bed.

2.2 SAFETY INSTRUCTIONS

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

Only use the hospital bed 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. Property damage is also to be avoided.

2.2.1 Explanation of the Safety Symbols Used

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

Risk of injury to persons



Dangerous electrical voltage. There is danger to life.



General danger. There is danger to life and health.

Warning of damage to property



Possible damage to the drive unit, materials or the environment.

Other advice



Useful tip. Makes it easier to handle the bed or improves understanding.

The safety symbols used are not a substitute for the written safety information. It is important therefore to read the safety information and follow the instructions exactly!

All persons who work on or with this bed must be familiar with the contents of this instruction manual and follow all the relevant safety advice.

2.2.2 Safety Information for the Operator

- In order to ensure the permanently safe operation of this medical product, with no risk to patients, users or third parties, you must observe your obligations in accordance with the Medical Devices Operator Ordinance (MPBetreibV)!
- Using this instruction manual, which must be provided with the bed, ensure that every user is instructed in the safe operation of the Vertica-Homecare 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!
- Only allow this bed to be used by persons who have been instructed in its safe operation!
- Make sure that substitute staff are also sufficiently well instructed in the safe operation of the bed!
- Check to ensure that the safety instructions are adhered to!
- Ensure that users know where this instruction manual is kept, in accordance with the Medical Devices Operator Ordinance (MPBetreibV) § 9!
- If the hospital bed is in long-term use, test the functions and check for any visible damage (see Chapter 6.2) after a reasonable period of time!
- If any other equipment is attached to the bed, (e.g. compressors for positioning systems, etc.), ensure that this is securely fastened and is functioning properly.

Pay special attention to:

- The safe hook-up of all loose connector cables, tubing, etc.
- Ensure that no multiple socket outlets are located under the bed
- Chapter 2.3.1 Intended Use
- Chapter 4.2.1 Special Safety Information on the Electrical Actuator System

Consult the manufacturer of the equipment in question, or the Burmeier company, if there are any uncertainties.

2.2.3 Safety Information for the User

- Ensure that the operator instructs you in the safe operation of this bed.
- Read this instruction manual in order to prevent any injury or damage resulting from incorrect operation.
- Check each time before using the hospital bed to ensure that it is in perfect working order (see Chapter 3.1)!

- When adjusting the bed, ensure that no obstacles such as, for example, bedside lockers, windowsills, supply rails or chairs are in the way in order to avoid damaging the bed or the obstacles.
- If other equipment (e.g. compressors for positioning systems, etc.) is attached, ensure that all items of equipment are fixed securely and function properly. Pay particular attention to:
 - The safe hook-up of all loose connector cables, tubing, etc.
 - Consult the manufacturer of the equipment in question, or the Burmeier company, if there are any uncertainties.
- If any damage or malfunction is suspected, take the bed out of service:
 - Unplug the bed from the mains supply immediately.
 - Indicate clearly that the bed is “Out of order”.
 - Report this immediately to the operator responsible.



- Route the mains cable in such a way that it cannot be pulled, driven over or damaged by moving parts when the bed is operated. Hazards due to electric shock and malfunctions can be avoided in this way.
- Before moving the bed, always make sure that you have unplugged it from the mains supply. Hang the mains cable in the mains cable holder to ensure that it will not fall out or trail on the floor.
- At regular intervals, carry out a visual inspection of the mains cable to check for mechanical damage (scuffing, exposed wires, kinks, pressure points, etc.). Such a check should be performed:
 - Whenever the cable has been subjected to any mechanical load, e.g. has been driven over by the bed itself or by an equipment trolley;
 - Whenever the cable has been bent, stretched or violently pulled, e.g. due to the bed rolling away while it is still plugged into the wall socket;
 - Whenever the bed has been moved or relocated and **before** plugging it back into the mains supply;
 - Regularly, at least once a week, if the bed is in continuous operation.
- Check the strain relief of the mains cable regularly to ensure that the screws are tight and secure.
- Make sure that the mattress base has travelled to its lowest position before leaving the patient unattended. In this way, you greatly reduce the risk of the patient injuring himself/herself as a result of falling when getting in or out of bed.



- Always ensure that the castors are braked before leaving the patient unattended in the bed.
- When not in use, always stow the handset in such a way that it cannot fall onto the floor (hang it on the hook). Make sure that the cable cannot be damaged by moving parts of the bed.
- Do not place multiple socket outlets under the bed. This could cause electrical hazards due to damaged mains cables or penetrating fluids.
- Before carrying out any adjustments, make sure that there are no limbs or objects in the way, in order to avoid hazards due to trapping and/or damage to property. This applies particularly when mattress base sections are adjusted to a lower height
- To safeguard the patient, and children in particular, against unintentional electrical adjustments, place the handset out of their reach (e.g. at the foot end of the bed).

In these cases, adjustments must only be performed by, or in the presence of, a trained person!

- Lock the handset if:
 - The patient is unable to operate the bed safely or to free himself/herself from potentially dangerous situations;
 - The patient could be at risk from inadvertent adjustment of the electric drives;
 - The patient is exposed to an increased risk of entrapment during backrest and thigh rest adjustments when the safety sides are raised;
 - Children are left unsupervised in the room with the bed;
- Observe the safety information found in chapters:
 - 4.2.1 Special Safety Information on the Electrical Actuator System
 - 4.6.1 Safety Information for Safety Sides
 - 5 Cleaning and Disinfection
 - 6.5.1 Safety Information
 - 8 Special Safety Information for the Use of Accessory Safety Sides
- as well as the safety information found in the various chapters of this instruction manual!



2.3 PRODUCT DESCRIPTION

2.3.1 Intended Use

- This bed is designed for positioning and transporting patients, as an aid to diagnosing, monitoring, treating, and alleviating illnesses or compensating for injuries or disabilities.
- This bed is also to bring patients from the supine position to a sitting position facing forward and then to an upright position in so far as such mobilisation is prescribed.
- This bed is suitable for accommodating adult patients only (= persons with a height of at least 146 cm).
- The bed itself is not life sustaining or life supporting.
- The bed has no medical indication.

2.3.2 Use for the Intended Purpose

- This bed is to be used exclusively in senior residences and care homes and comparable medical facilities with qualified personnel as well as for home care within a closed area.
- Qualified personnel must be skilled in handling the beds through being thoroughly conversant with the instruction manual.
- If the bed changes owners, the instruction manual must be handed over with the bed.
- The use of this bed in hospitals is only permitted in rooms designed for medical treatment of the application group 0 (in accordance with VDE 0100 part 710 to VDE 0107). This care bed was not designed for any other usage!
- This bed can be used for care under the supervision of a physician and be used for diagnosis, treatment or observation of the resident. Therefore it is equipped with the option to lock the handset.
- The bed with its stable, smooth-running castors is designed for being moved within the room as well as frequently in corridors and across thresholds with a height of up to 2cm.
- This bed has no special connectors for potential equalisation. Please pay attention to this before connecting additional (medical) electrical 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, enteric feeding devices ...)
 - In the DIN EN 60601-1-1:2002 standard (Safety of Medical Electrical Equipment)
 - In the standards VDE 0100 part 710 (formerly VDE 0107) (High voltage systems in hospitals).

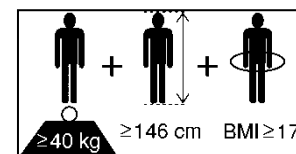
- This bed may be operated without restrictions and with a permanent maximum load of 225 kg (= safe operating load, consisting of occupant and accessories) Symbol: 
- The permitted weight of the patient depends on the total weight of the accessories attached at the same time (e.g. respirators, infusions,...) Symbol: 
- The information applicable for your bed is given on a sticker with the above symbol which is located on the chassis of the bed.
- Example:

Weight of accessories (incl. mattress)	Max. permitted weight of patient
15 kg	210 kg
40 kg	185 kg

- This bed is designed for re-use. When re-using the bed, observe the following requirements:
 - Cleaning and Disinfection (see Chapter 5)
 - Maintenance / Repeat Inspections (see Chapter 6).
- This bed may not be used in explosive environments caused, for example, by cleaning agents or anaesthetics.
- This bed may not be used in combination with high frequency surgical equipment.
- Before using the safety sides, assess and take into consideration the clinical condition and particular physical build of the patient:
 - For example, if the patient is extremely confused or very restless, avoid using safety sides as much as possible and make use of alternative safety measures such as posey belts, restraint sheets, etc.
 - In the case of particularly small, slightly built patients it may be necessary to use an additional form of protection to reduce the size of the safety side gaps. In these cases, use protective covers (accessory), posey belts, etc.

2.3.3 Contraindications

- This bed is only suitable for patients who do not fall below the following minimum body measurements/weight:
 - Height: 146 cm,
 - Weight: 40 kg
 - Body Mass Index¹ "BMI": 17.



Sticker on bed chassis

- Owing to the smaller limbs of occupants with a body size/weight that is less than this, there is an increased risk of entrapment between the open spaces of the safety sides when safety side systems are used.

¹ Calculation of BMI = $\frac{\text{Weight of patient [kg]}}{\text{Height of patient [m]}^2}$; example: a) $\frac{41 \text{ kg}}{1.5\text{m} \times 1.5\text{m}} = 18.2 \rightarrow \text{OK!}$; b) $\frac{35 \text{ kg}}{1.5\text{m} \times 1.5\text{m}} = 15.6 \rightarrow \text{Not ok}$

2.3.4 Side Effects

Take suitable measures to prevent decubitus in long-stay patients.

The Vertica-Homecare bed may only be used under the operating conditions described in this instruction manual.

Its use for any other type of application is deemed to be contrary to the intended purpose!

2.3.5 Special Features

- Integrated automatic upright stand-up function is easy on patient and staff
- Integrated, large linen holder
- Bed extension, at the foot end
- Reverse-Trendelenburg position up to about 16°
- Castors (Ø 12.5 cm; with central locking; steering lock for moving in a straight line)
- Mattress base in four sections, mattress base dimensions 200 x 90 cm; external dimensions approx. 104 x 214 cm
- Mattress base height adjustment range from approx. 40.5 to 81 cm via two lifting columns
- Adjustment of backrest from 0° to approx. 70° (up to approx. 85° for upright position)
- Adjustment of the thigh rest from 0° to approx. 30°
- Extended leg position from 0° to about 15°

2.3.6 Materials Used

The bed is made predominantly of steel sections. Their surface has a polyester powder coating or a metallic coating made of zinc or chrome.

The mattress base is made of high-quality, PVC-free plastics.

Side panels and side rail bars are made of aluminium profile with wood finish foil.

The chassis is made of steel sections / cast metal parts.

The headboards and footboards consist of wood or wood-based material with sealed surfaces.

All surfaces are recognised as being safe for contact with skin.

2.3.7 Structural Design

Mattress base

The mattress base is divided into a backrest, a seat section, a thigh rest and a lower leg rest. The mattress base height can be adjusted horizontally, and can be tilted into a Trendelenburg or reverse-Trendelenburg position.

When activated by the medical personnel, the mattress base can be returned to an upright or sitting position.

All adjusting functions are electrically powered. The components for the electric drive system are mounted in the mattress base.

Chassis

Under the mattress base is the chassis for the columns which can be adjusted electrically for height and incline. The bed has four castors that can be centrally locked. One of the castors is equipped with a steering lock which enables the bed to be moved in a straight line.

Safety sides

The bed is equipped with an integrated "Multiflex" safety side system to protect the occupant from accidentally falling out of bed.

Electric drive system

The electric drive system for this bed consists of:

- A central control unit, installed underneath the mattress base, with a transformer that generates a 24 volt protective low voltage, which is harmless for patients and users. The drives, the handset, and the control panel are connected to the control unit. These components operate on the 24 volt protective low voltage generated and have dust and water protected plug connections.
- Rechargeable batteries for emergency operation, independent of the mains supply.
- One handset for patient to adjust the bed; integrated option for the care staff to individually lock electrical adjustment functions
- One handset for the stand-up function, separately activated and operated by the care staff
- One drive for the backrest.
- One drive for the thigh rest
- One drive for the lower leg rest
- Two drives for the lifting columns for mattress base height and pivoting.
- Brake alert
- Under bed light (optional)

3 Initial service

No electrical measurements are necessary prior to putting this bed into service for the first time, since the bed was 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 hospital bed (see Chapter 5).
- Use only authorised accessories (e.g. mattresses, external safety sides), to minimize endangering patients through becoming trapped or falling out of bed. For more details, see Chapter 4.6.1 and Chapter 8.
- Remove the locking key at the handset cable (release transport securing device) and put the locking key out of the range of patients or other parties (such as key ring users / carers; see also chapter. 4.2.2).



Each time before putting the bed into service, the user must check that:

- The bed has been cleaned and disinfected;
- The castor brakes are applied (see Chapter 4.1);
- No obstacles such as bedside lockers, supply rails or chairs will impede bed adjustments;
- All adjustment facilities work properly and have been checked (see Chapter 3.1).

Additionally for electrical beds only:

- the power supply is compatible with the bed (230 Volt AC, 50/60 Hz);
- the mains cable is connected and routed in such a way that it cannot be damaged;
- the mains cable, drive cables and handset cable cannot be damaged by moving parts of the bed;
- if the bed is equipped with rechargeable batteries, it is always connected to the mains supply. - Otherwise the batteries will not charge and be unavailable for use in an emergency.

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

3.1 CHECKLIST: INSPECTION BY THE USER

Inspection		Ok	Not Ok	Description of Defect
What to Check...	Check for...			
Visual Inspection of the Electrical Components (if installed)				
Handset	No cracks in housing or keypad			
Handset cable, mains cable	No external damage, cables laid without danger of being trapped			
Visual Inspection of the Mechanical Components				
Grab handle with strap	No damage			
Mattress base, covers	No damage, (cracks, deformation)			
Performance Check of the Electrical Components (if installed)				
Patient handset; Stand-up handset	Press all buttons, one after the other (for approx. 1 second). Function according to the printed details/instruction manual			
Performance Check of the Mechanical Components (if installed)				
Castors	Brakes are effective			
Side rails, safety sides	Engages securely when raised			
Accessories (e. g. patient lifting pole, grab handle with strap)	Secure fixings, suitable			
Inspector's signature:	Inspection results:			Date:

3.2 LOCATION REQUIREMENTS

- There must be sufficient room available to accommodate the bed's entire range of adjustments. Obstacles such as bedside lockers, supply rails, furniture, or window sills must not impede adjustments.
- Before using the bed on parquet flooring, check whether the castors can leave marks on the parquet varnish. We accept no liability for such wear. The stretcher can be used on tiles, carpet, linoleum or laminate flooring without causing any damage.
- A properly installed 230 volt, earthed mains socket must be available close to the bed, at the head end (if possible).
- If other equipment (e.g. compressors for positioning systems, etc.) is attached, ensure that all items of equipment are fixed securely and function 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 equipment or the Burmeier company.



Minimise, as far as possible, the risk of fire due to external influences. Instruct users on these points:

- Use only flame-retardant mattresses and bedding if possible.
- Avoid smoking in bed, since the mattress and bedding used may not be resistant to smokers' accessories.
- Only use additional equipment (e.g. electric blankets) and other electrical devices (e.g. lamps, radios) that are in perfect working order!
 - Ensure that this equipment is used only for the purpose intended.
 - Ensure that this equipment is not unintentionally placed on or under the bedding (danger of overheating)!
- Avoid using extension cables or multiple socket bars under the bed (risk of fire due to penetrating fluids).

Extension cables and/or multiple socket outlets should not be used at all.

4 Operation

4.1 MOVING AND BRAKING THE BED

The bed is equipped with four lockable castors and central locking at the foot end. A steering lock can be activated for one castor at the foot end of the bed, which makes it easier to move the bed in a straight line and to manoeuvre the bed.



Advice

The bed may be moved within the room even while the patient is in it when it is in the lowest position.



Warning

- As a general rule, always apply the brakes when the bed is not being moved or when a patient is left unattended in the bed.
- Each time before moving the bed, ensure that:
 - The mains cable cannot be stretched, driven over or damaged in any other way.
 - The mains cable has been hung in the mains cable holder (see Chapter 4.5.3).
 - The mains cable does not trail on the floor.
 - The cables, tubes or wires of any mounted equipment are adequately secured and cannot be damaged.

Otherwise, the mains cable could sustain damage as a result of being torn off, crushed or driven over. Such damage could lead to electrical hazards and malfunctions.

- When the stretcher is moved, ensure that objects hanging in the universal holder **[11]** do not cause any damage (e.g. to door frames).
- Risk of crushing! When transporting a patient, ensure that the patient's hands and feet do not protrude over the edge of the bed and that they cannot get in the way of the wall deflection rollers.



Advice



Brake Alarm Function: If the mains cable is plugged in and the castors are not braked, a warning signal sounds (for max. 5 minutes). This is to alert someone to brake the bed or unplug the mains cable.

Braking

Press down on a foot lever **[14]**.
Check to ensure that the bed is properly braked.

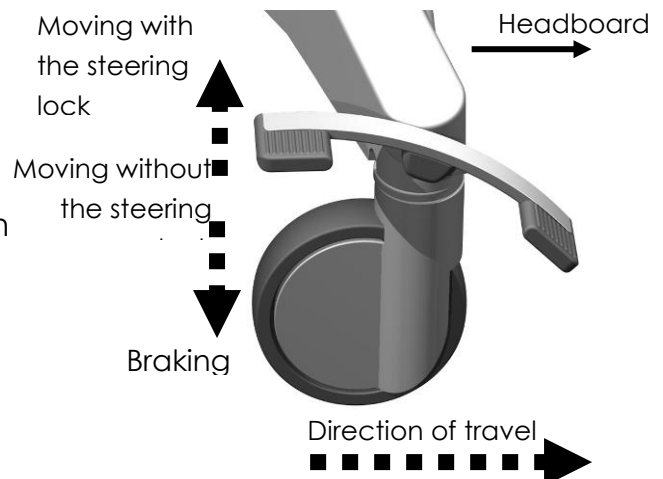
Moving without the steering lock

Foot lever **[14]** in horizontal middle position

Moving with the steering lock

Raise a foot lever **[14]** with the back of the foot.

If you push the bed from the foot end now, it will be easier to steer.



4.2 ELECTRIC DRIVE SYSTEM

4.2.1 Special Safety Information on the Electrical Actuator System



- This hospital bed may not be used in combination with high-frequency surgical equipment or in explosive environments!
- When using accessories:
Make sure that the attachment of accessories does not produce any crush or shearing zones when the bed sections are adjusted. If this cannot be ensured, the user must lock the handset using the control panel or the locking box!
- When making any adjustments, always ensure that there are no limbs belonging to patients, users, other persons, and especially playing children, that could be trapped underneath the rests or the mattress base.
- Ensure that the mains cable and handset cable cannot be driven over or otherwise crushed when the bed is moved.
- Always keep the handset in a safe place, where the housing and buttons cannot be damaged mechanically, particularly as a result of collision with other objects. Hang the handset on the hook or holder provided, within the protected bed area. This helps to protect patients from hazards arising from functional defects and unintentional movements.



- Ensure that no obstacles, such as bedside lockers, supply rails, wall protection rails, window sills etc. or chairs could impede adjustments to the bed.
- Ensure that there are no objects on the chassis.
Otherwise, mechanical damages could occur to the bed and/or related objects which could impede safety.
- When routing the handset cable, ensure that it cannot be damaged by any moving parts of the bed.
- Ensure that the mains cable and handset cable cannot be driven over or otherwise crushed when the bed is moved.
- 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.
- If the electric drive is operated for a much longer period, e.g. due to the patient "playing" continually with the handset, the thermal protection device integrated in the transformer of the control unit will deactivate the drive permanently. In this extremely rare case, the control unit must be replaced.

**Advice**

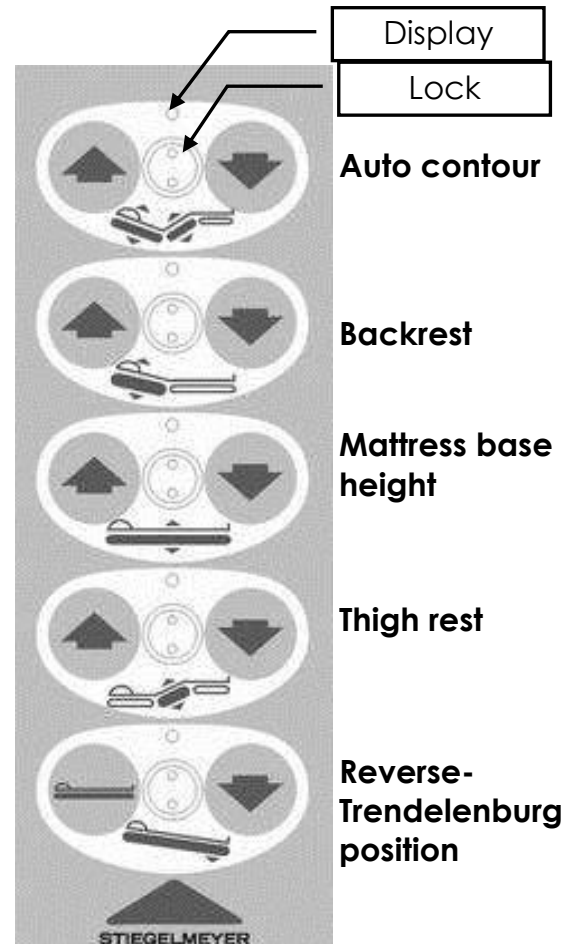
- Electrical adjustments are only possible when the bed is properly connected to the mains supply (exception: emergency operation using rechargeable batteries).
- If the load is too high, an electronic overload switch is activated and the control unit is automatically switched off. When the overload is removed, the actuator system resumes operation.
- As electro medical equipment, this bed is subject to special safety procedures with respect to electromagnetic compatibility (EMC). For this reason, observe the following instructions when installing and operating the bed:
 - Portable and mobile high-frequency communication devices (e.g. cordless telephones, mobile telephones, baby monitors, WLAN, WIFI, wireless equipment, etc.) can influence the operation of electro medical equipment. These influences have been minimised by means of the robust, interference-resistant design of the electrical adjustment features of this bed.
 - As with every electrical device, even if all the specified EMC limiting values are observed during operation, disruptions from and to other closely situated high-frequency communication devices cannot be completely ruled out (e.g. “crackling” in a radio). In such rare cases, increase the distance between the devices or align them differently, and make sure that they do not use the same electrical outlet, or switch the disruptive/disrupted device off temporarily.

4.2.2 Patient Handset

Motorised adjustments can be activated by the patient or user via the handset [3]. For safety reasons the handset is equipped with a locking function. Depending on the clinical condition of the patient, the user can lock handset adjustments when deemed necessary by the supervising doctor (see Chapter 4.2.2.2).

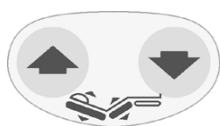
- The electric motors operate as long as the corresponding buttons are pressed.
- Only one button can be pressed at a time, otherwise all adjustments stop (safety function).
- All adjustments are possible in both directions.
- The handset can be hung at any position on the bed with an elastic hook.
- The coiled cable provides ample freedom of motion.

Sleep position



The following basic rule applies to the keys:  Raise  Lower

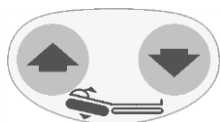
4.2.2.1 Adjustment Functions



Auto contour

The backrest and thigh rest can be raised at the same time.

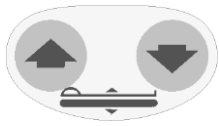
- When raising these, the thigh rest follows the backrest after a two second delay.
- If the backrest is locked on the control panel, then no adjustment can be made. If the thigh rest is locked, only the backrest is adjusted.
- This prevents the patient from sliding towards the foot end of the bed.



Backrest

The backrest can be raised to approx. 70°.

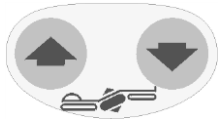
- Refer also to Chapter 4.4.2: Emergency release of backrest (CPR)!



Height adjustment

The mattress base height can be adjusted from approx. 40.5 cm to 81 cm.

- If the mattress base is tilted, it moves automatically into a horizontal position when it reaches the highest or lowest setting.



Thigh rest / Lower leg rest

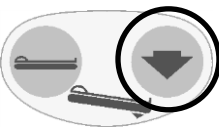
The rests can be sequentially adjusted progressively to three different intermediate positions up to an extended leg position of about 15°.

The bed stops automatically at each intermediate position.

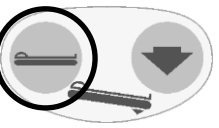
To continue adjusting the bed, let go of the button and then press it again.



Reverse-Trendelenburg



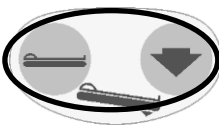
The mattress base can be tilted by up to approx. 16° (default setting) into a reverse-Trendelenburg position.



Sleep position

- The mattress base moves to its lowest horizontal position, and the backrest and thigh rest are lowered completely to their lowest height.

Special functions



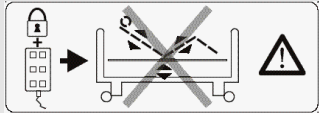
Switching the under bed light on/off (optional feature)

- Standard setting: The LED under bed light is active when connected to the mains
- **To switch on/off manually** hold both these buttons pressed at the same time for approx. 3 seconds.

4.2.2.2 Locking Function



Only users are authorised to operate the locking function! The medical personnel must decide which functions, if any, should be locked.

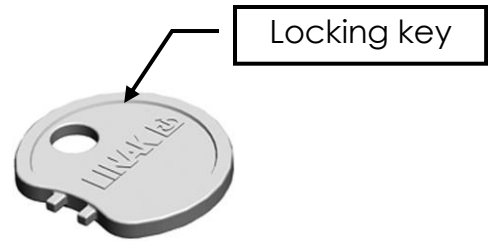
- If the clinical condition of the patient is so critical that adjustments using the handset might be dangerous for her/him, the user must immediately lock the respective function(s) using the control panel.
The bed remains in the position that it was in at the moment when the functions were switched off.
 - A sticker on the side panel on the long side of the bed indicates:
 
 - Locking is especially necessary if, for example,
 - If the patient is not able to operate the bed safely or to extricate himself from dangerous situations.
 - If the patient could be harmed by unintentional or unexpected adjustment of the drives.
 - Accessories or other devices are attached that could restrict the adjustment range of the bed, and put the patient at risk or cause damage to equipment.
 - The patient is exposed to an increased risk of entrapment during backrest and thigh rest adjustments when the safety sides are raised,
 - Children are left unattended in a room with the bed.
- In these cases, adjustments must only be performed by, or in the presence of a trained person!

- The user must check to ensure that the handset is locked/enabled by pressing the corresponding buttons after:
 - Re-enabling or re-locking.
 - Before using a bed again after it has been out of operation.
 - Before using a bed after machine washing or disinfection has taken place.

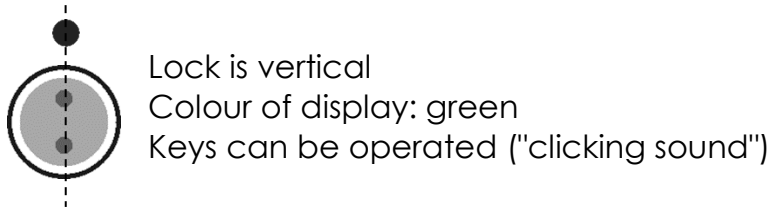


- The locking keys are on the handset cable when the bed is delivered (transport securing device). Before operating the bed, the locking keys are to be removed from the cable and put out of the range of patients or other parties (such as key ring users / carers). This avoids unauthorised actuating of the locking device and consequent, potential patient endangerment.
- Do not forcibly turn the locking key beyond the stop of the locking surface! The lock or the handset can be damaged.

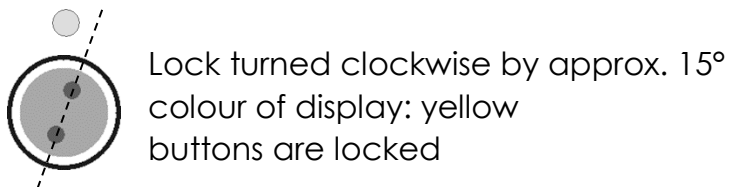
- Turn the respective lock on the handset clockwise to the locked position using the locking key.
The colour of the respective display changes from green to yellow.



Actuator released:



Actuator locked:



4.2.3 NURSE Handset (Stand-Up Function)

The NURSE handset is exclusively for setting various therapeutic special bed positions by the care staff or those carers who have been trained in how to use the “stand-up function”.

The general operation takes place the same as described earlier for the patient handset.

The NURSE handset is generally locked when in standard operation and must be first released when needed.

Further details on the stand-up function: See Chapter Fehler! Verweisquelle konnte nicht gefunden werden.



4.2.4 Battery Pack (Rechargeable Batteries)

In an emergency, rechargeable batteries are used to operate the electrical actuator system independently of the mains supply. This guarantees that all motorised adjustments can be carried out even during a power failure.

Emergency operation

- When the bed is occupied by a patient of normal weight (approx. 80 kg), adjustments can be made for approx. 6 to 10 minutes if the battery is new and fully charged.
- Under emergency conditions, if the remaining battery capacity is 30% depleted, a signal tone will sound as an alert during the adjustment.



If the battery charge is <math><10\%</math>, all adjustment functions are stopped in order to prevent the batteries from discharging their entire charge.

In this case, take the following action to optimise the battery life:

- Plug the bed into the mains power supply as soon as possible to recharge the battery
- Avoid attempting repeated motorised adjustments that would discharge the battery even more

Charging the Batteries (Charging Time)

- The batteries are fully charged automatically when the bed has been connected to the mains supply for at least 8-10 hours. See Chapters 4.2.5 and 4.2.6.
- It is impossible to overcharge the battery.
- During the charging process, the bed can be adjusted in the normal way.
- The batteries have a limited service life. In normal use, this service life is up to five years. Batteries need to be replaced when operation cycles become very short. For safety reasons, at least one more height adjustment (up + down) should always be possible, otherwise, the batteries must be replaced

- In this case, contact Burmeier's customer service. We will replace the rechargeable batteries and dispose of the old batteries properly (see page 60 for the address).

4.3 STAND-UP FUNCTION

4.3.1 General Description



The stand-up function is a special therapeutic function to gently activate and mobilise patients and, at the same time, to relieve the care staff during this process.

The stand-up function follows the natural progression of movement that occurs when going from a horizontal, resting position to a sitting and subsequently standing position.

The stand-up function can be stopped at any time and reversed and then restarted - depending on the individual capabilities and health of the patient.

Operating and controlling the stand-up function is done exclusively by the care staff, or those carers who have been trained, using a separate NURSE handset and may not be done by the patients themselves.



4.3.2 Safety Precautions for Stand-Up Function



This therapeutic special function is only to be operated by trained personnel and not by the patient!

- This function demands utmost attention since various adjustments are activated simultaneously.
- If this warning is disregarded:
 - Patients and other people may be exposed to danger (falling, entrapment).
 - Damage to property may occur!
- Position the bed and neighbouring furnishings or equipment such that the necessary clear space needed for this is available - especially at the foot end of the bed.

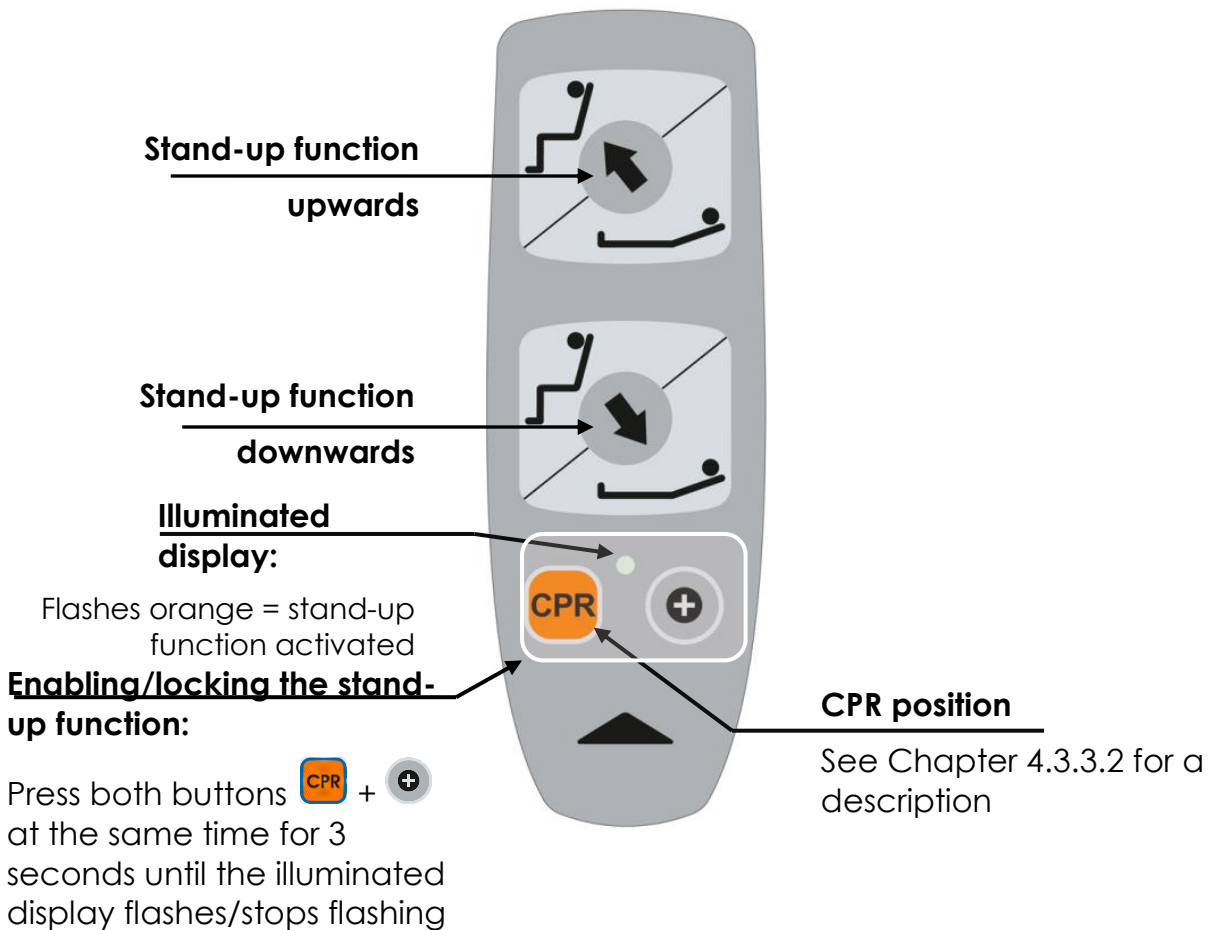
- Brake the bed castors by pressing down on the brake pedal [14].
 (The stand-up function can only be activated when the castors have been braked)

4.3.3 NURSE Handset (Stand-Up Function)

The NURSE handset is exclusively for setting various therapeutic special bed positions of the "stand-up function" by the care staff.

The general operation takes place the same as described earlier for the patient handset.

The NURSE handset is generally locked when in standard operation and must be first released when needed.





4.3.3.1 CPR



Danger

The shock position is only intended for medical emergencies and not for daily use!

- This function demands the user's utmost attention since various adjustments are activated simultaneously.
- If this warning is disregarded:
 - Patients and other people may be exposed to danger.
 - Damage to property may occur!



Advice

This emergency function can only be activated when the stand-up function is active.

It is also possible to adjust to the CPR position when the normal adjustment function is locked on the patient handset, or the height adjustment has been electronically limited.

The CPR position allows all parts of the mattress base to be lowered quickly, particularly for resuscitation purposes. It is also suitable for moving the bed to a specific low position for the patient to sleep at night (fall prevention).

The adjustment position is preset in the factory:

- o Backrest and thigh rest horizontal, simultaneously
- o Mattress base horizontal and in the lowest position

4.3.4 Preparing the Stand-Up Function

Depending on the level of mobilisation planned for the patient, it might be necessary to completely remove the footboard [20] and to swing the side panel [17] towards the mobilisation supports.

This preparation is always necessary if the patient is going to stand up; however, if only a sitting position is to be set at most, this preparation is not necessary.


4.3.5 Removing the Headboard / Footboard

Both headboard and footboard [7; 20] are easy to remove without the use of tools for improved patient access.

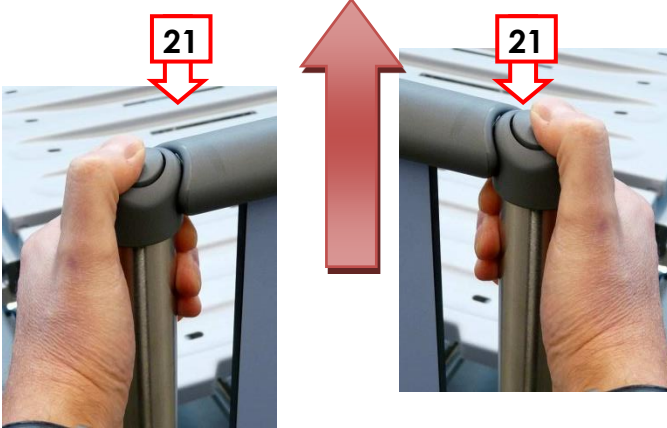
The fold-down footboard (optional) can also be secured by locking it to prevent unintentional removal (important for the stand-up function if it is used as an overbed table).


To remove

- Stand in front of the headboard
- Grasp each upper corner of the headboard with both hands
- **Standard wood head/footboard [7+20]:**


	<p>Pull the headboard or footboard smoothly up and out. Avoid jamming it.</p>
--	---

- **Fold-down footboard (optional) [20]**

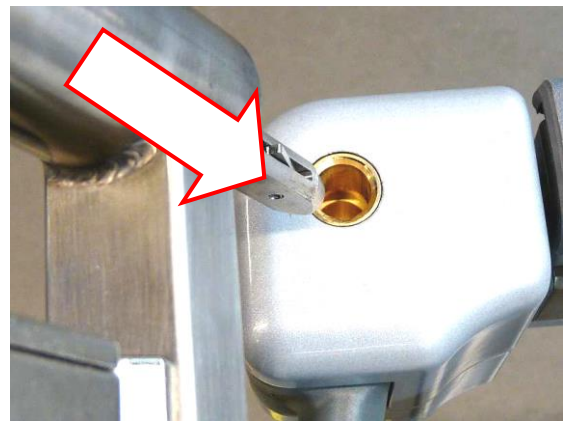
	<p>Grip both upper outside corners of the footboard [20] and press the grey buttons [21] with your thumbs. This releases the footboard. Continue to press the buttons while evenly pulling the footboard upwards.</p>
---	---

	<ul style="list-style-type: none"> • Because the footboard folds down, it is not suitable for attaching extensions since they cannot be held firmly enough.
---	--




To insert

- **Proceed in reverse order to the procedure for removing.**
- **Do not mix up the headboard and the fold-down footboard (optional):**
 - **The headboard** does not have press buttons in the upper plastic corners and cannot be folded down.
 - **The fold-down footboard** (optional) has pushbuttons in the upper plastic corners and can be folded down. Note that the sticker  on the outside of the bed indicates the foot end (important because of the fold-down footboard as a linen holder; table).
- Insert the proper footboard/headboard as straight as possible from above into the round holders at the head and foot ends of the bed.

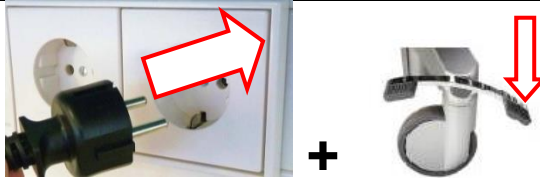
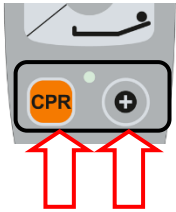

The two round metal poles of the ends must be completely enveloped by the holders - don't jam them!





4.3.5.1 Swing Mobilisation Supports Upwards

<p>1</p>		<p>Pull the release lever [19], grey, on the side panel at the foot end of the bed towards the outside and then swing the side panel slightly upwards as a mobilisation support - do not allow it to fall!</p>
<p>2</p>		<p>Let go of the release lever and continue to swing the side panel up as far as engagement position "1". Check that the mobilisation support is safely engaged by swinging it back and forth! Repeat the process on the other side panel</p>
<p>3</p>		<p>The grab handle on the mobilisation support easily swings out of the way depending on the function/ space needed.</p>

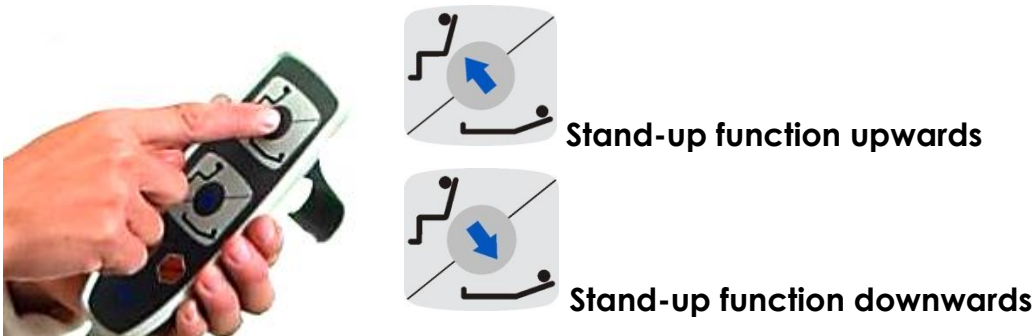
4.3.6 Activating Stand-Up Function

<p>1</p>		<p>Plug in mains cable + brake castors (Stand-up function only works with mains power operation and with braked castors for safety reasons).</p>
<p>2</p>		<p>Activate marked buttons on the NURSE handset [15] at the same time for at least 3 seconds):</p> <ul style="list-style-type: none"> • NURSE handset [15] is released • Patient handset [3] and control panel [13] are locked <p>Hold down the buttons again for at least 3 seconds to relock this function.</p>
<p>3</p>		<p>Stand-up function display active by:</p> <ul style="list-style-type: none"> • Orange blinking light on NURSE handset

 <p>Advice</p>	<p>When the stand-up function is active, the patient handset is completely locked for safety reasons.</p> <p>When the stand-up function is active on the NURSE handset [15], the CPR emergency function  can also be adjusted.</p> <p>The stand-up function remains active until the bed has returned to the horizontal starting position. See Chapter 4.3.9</p>
---	---

4.3.7 Using the Stand-Up Function

Only the NURSE handset can control the stand-up function



The stand-up function can be stopped at any time and reversed and then restarted - depending on the individual capabilities and health of the patient.




Here is how to go, for example, from a slightly raised backrest, cardiac position - sitting position all the way to a complete standing up position:


	
<p>1: Slight inclination of backrest (Stand-up function can be deactivated)</p>	<p>2: Cardiac position</p>
	
<p>3: Sitting position (An automatic intermediate stop in the adjustment occurs - to continue: Press the function again)</p>	<p>4: Standing Up: Patient additionally supports himself on the grab handles of the mobilisation bed supports</p>

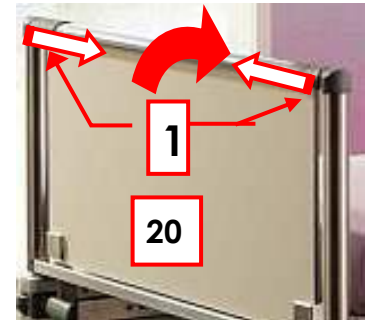
	
<p>5: Standing up: Patient is additionally supported by care staff</p>	<p>6: Patient is standing and can leave the bed</p>

Transferring the standing patient back into the bed can take place in reverse order. See also Chapter 4.3.9.

4.3.8 Using the Pivoting Footboard as a Table (Optional)

 <p>Danger</p>	<ul style="list-style-type: none"> • When making any adjustments with the footboard inserted, always ensure that there are no patient limbs in the way that could become trapped. • Ensure that the mobilisation supports [17] are only swung out as far as engagement position “1” in order to avoid trapping the patient; see Chapter 4.3.5.1. • For obese patients, check whether it is possible to use the table function with the larger body mass without risking entrapment of the patient. • Ensure that the patient cannot use the NURSE handset in any case. • Ensure that the footboard [20] is correctly inserted: <ul style="list-style-type: none"> • The sticker  must be visible on the outer side of the bed. • It must be possible to fold the footboard down horizontally (linen holder function; see Chapter 4.4.3) but only slightly slanted inwards towards the middle of the bed. • Otherwise, remove the headboard (see Chapter 4.3.5), turn it a half revolution and insert it again.
 <p>Warning</p>	<ul style="list-style-type: none"> • Max. load for table top: 15 kg • Do not sit on it!

- The footboard [20] with the label  must be inserted pointing to the outside of the bed.
- Bring the mobilisation supports into the slightly inclined position "1". (If the footboard is already inserted, only simultaneously; without inserted footboard, it's possible to do this sequentially); Chapter 4.3.5.1
- Using both hands, slide both release sliders [1] on the footboard [20] towards the inside simultaneously and
- cautiously fold the footboard inwards towards the middle of the bed




The surface of the footboard provides the patient with a horizontal table top, for example, for eating, writing, or supporting a book.



4.3.9 Ending the Stand-Up Function

Requirement

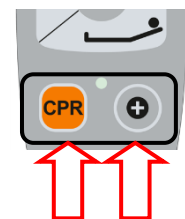
The mattress base must be moved back until the thigh rest and lower leg rest are flat and horizontal by using the NURSE handset and holding down the button .



Advice The backrest remains slightly inclined.

The stand-up function is only ended when:

- The NURSE handset has not been operated for two minutes,
- or
- Previously the button shown on the NURSE handset [15] was held down for at least 3 seconds.



When ending the stand-up function:

- The orange flashing light on the NURSE handset [15] extinguishes: The handset is locked
- The normal patient handset [3] is active again.
- **All normal functions of the electrical actuator system can be used again; see Chapter 4.2.**



4.4 MANUAL ADJUSTMENTS



Advice

This instruction manual describes all the manual adjustments. It is possible that certain functions or special features are described which are not incorporated in your bed.

4.4.1 Safety Information



Danger

- When making any adjustments, always ensure that there are no patient limbs in the way that could be trapped in the process.



Warning

To avoid damaging the bed or any adjacent objects, ensure that

- no obstacles, such as bedside lockers, supply rails or chairs could impede the adjustments.
- no objects are stored on the bed chassis.

4.4.2 Emergency Release of the Backrest (CPR)



After actuating the operating lever, a heavy patient may cause the slightly raised backrest to drop down quickly!

Always grip the backrest by the grab handle **[4]** with one hand so as to "control" the adjustment.

This procedure can be carried out from either of the long sides of the bed

1. Lower any safety sides that are raised, at least on the side chosen to perform the procedure, to make it easier to reach the bed
2. With one hand, grasp the grab handle **[4]** on the backrest.
3. With the other hand, pull the red operating lever **[12]**, which is located under the mattress base near the backrest, upwards and guide the backrest down to the desired position using the grab handle **[4]**.
The backrest is not held in position until the operating lever **[12]** is released.



As soon as the drive system is connected to the mains supply again, the backrest can be adjusted using the handset or control panel.



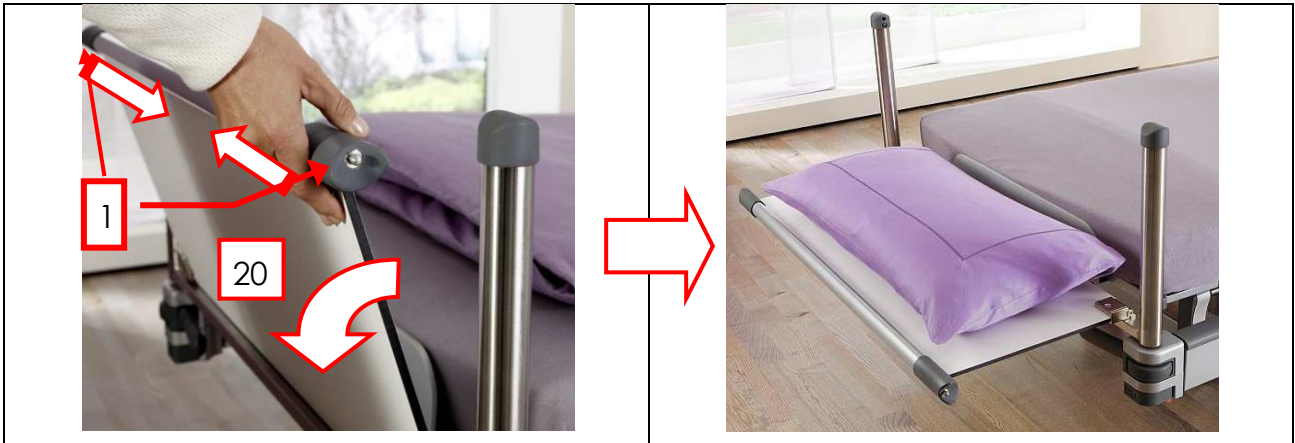
The red operating lever **[12]** for lowering a backrest with weight resting on it in an emergency is only for emergency situations and must not be continually used for mechanical adjustment!

If the backrest has no weight resting on it and is steeply inclined, the backrest must also be forcefully pushed down by hand in order to overcome the attenuation built-in to prevent it from lowering too quickly.

4.4.3 Bed Extension (Optional)

The fold-down footboard (optional) [20] can also serve as a linen holder.

Fold out:



Slide both release sliders [1] towards the inside with both hands simultaneously and fold the footboard [20] out towards the outside.

 Warning	<ul style="list-style-type: none"> • Max. load 15 kg • Do not sit on it!
---	--

Fold in:



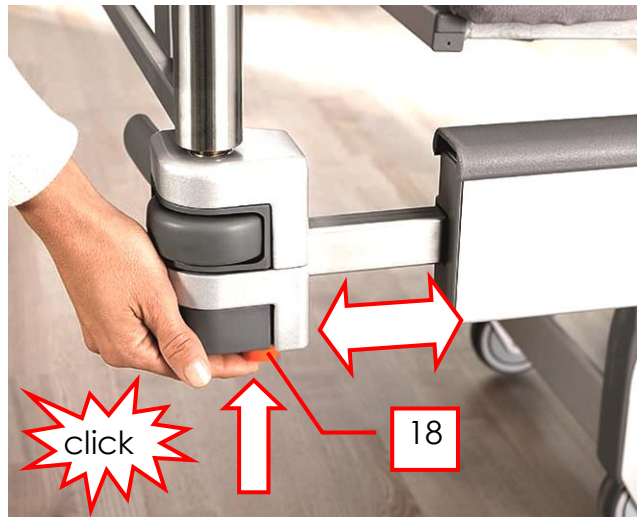
Fold the footboard [20] up as far as the holding bars [S] and then, using both hands, simultaneously slide both release sliders [1] towards the inside.

Swing the footboard centred as far as the upper end of the holding bars towards the inside and let go of the release slider -
 The footboard clicks in place on both sides.
 Check engagement by shaking the footboard.

4.4.4 Extending the Mattress Base

The bed should be immobilised.

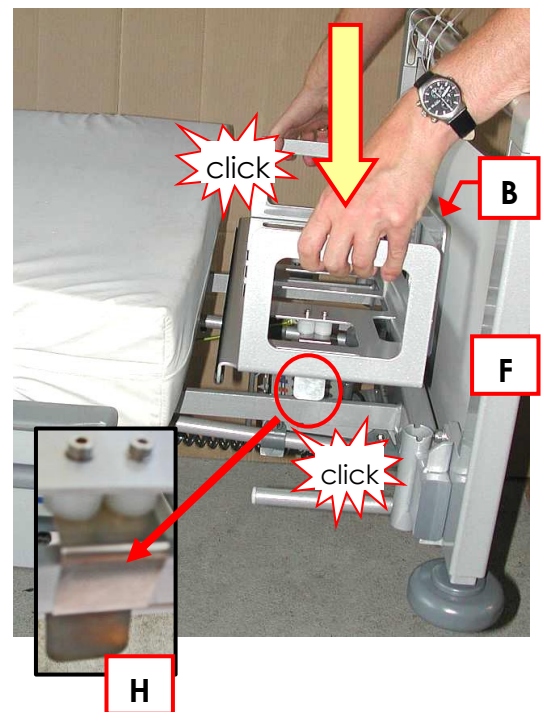
1. Grasp left and right with both hands under the outer edges of the footboard.
2. Press the red buttons [18] in on either side simultaneously and evenly pull the footboard out a bit.
3. Let go of both buttons and pull the footboard completely out until it hits the stop.
4. The footboard must securely engage on both sides with a “click”. Check that it is properly engaged by pushing it back and forth.



Insert mattress insert (accessory)

Place the base support (accessory) from above into the centre of the space for the extension. The foam insert restraint (B) on the long side must face the foot end (F)

The two fixing clips (H) on the metal bars that extend into the space for the extension must click into place.



Place the mattress foam insert (accessory) from above into the base support and ensure that it is centred.



You will find a list of accessories in Chapter 8 showing the different versions of mattress foam insert that are available.

Restoring the mattress base to its normal size

Remove the mattress foam insert:

1. The fixing clips for the base support are now visible. Press them outwards in turn by hand on both sides of the bed



and

2. Lift the base support out of the space for the extension.



To shorten the mattress base, follow the steps for extending the base in the reverse order:

1. Grasp left and right with both hands under the outer edges of the footboard.
2. Press the red buttons [18] in on either side simultaneously and evenly push the footboard in a bit towards the middle of the bed.
3. Let go of both buttons and push the footboard completely in until it hits the stop.
4. The footboard must securely engage on both sides with a "click". Check that it is properly engaged by pushing it back and forth.

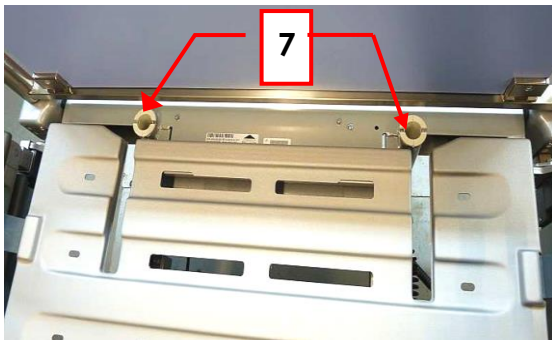


Ensure that the resulting gap is always filled with the corresponding foam insert.

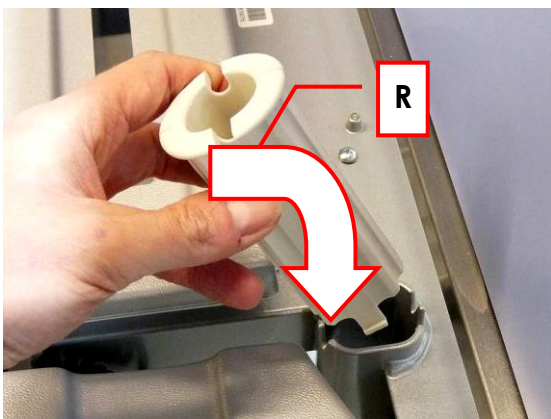
This effectively prevents the risk of the patient becoming trapped in the bed extension area.

4.5 ATTACHMENTS

4.5.1 Adaptor Sleeves for Patient Lifting Pole / Infusion Stands






The head section has holders [7] on both sides for a patient lifting pole or infusion stand.



A reduction piece [R] of plastic is in one of the holders. This is required if an infusion stand is used.

This bushing must be removed before the patient lifting pole can be inserted into the sleeve.

 Danger	<p>The maximum loading capacity at the front end of the patient lifting pole is 75 kg.</p> <p>The patient lifting pole is not suitable for rehabilitation exercises.</p>
 Warning	<p>Pay attention to door clearances when moving beds with patient lifting poles or infusion stands attached.</p>
 Advice	<p>A grab handle (accessory) is normally attached to the patient lifting pole.</p> <p>See the description provided on the following page.</p>

To insert

Insert the long, straight end of the patient lifting pole into an adaptor sleeve [7]. The metal pins must slot into the sleeve recesses and engage.


To remove

Remove the patient lifting pole/infusion stand straight upwards.

4.5.2 Grab Handle (Triangular Handle)

A grab handle can be attached to the patient lifting pole (accessory, see Chapter 8).

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



Danger Check the grab handle and belt regularly for damage (see Chapter 3.1). Damaged grab handles or belts must be replaced immediately.



Advice

Service life:

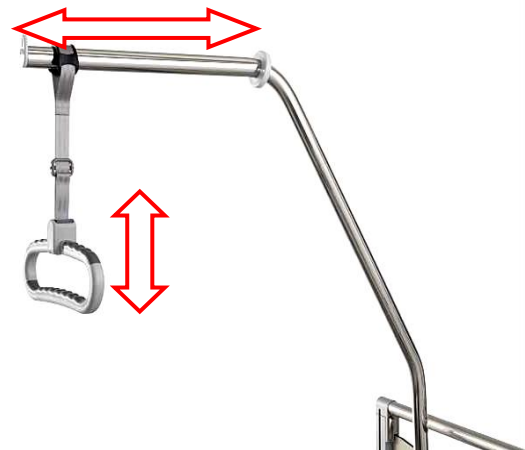
We recommend that the triangular handle bar is replaced at least every 5 years.

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.

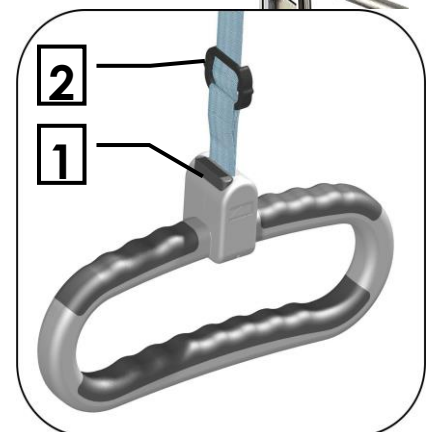
Ensure that the integrated anti-slip device is correctly fitted to the fixing points on the trapeze bar.



HEIGHT ADJUSTMENT

Extend: Pull the grab handle downwards (keep button (1) pressed) and slide the strap slide (2) downwards at the same time.

Shorten: Hold the handle (keep button (1) pressed) and slide the strap slide (2) upwards.



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.


4.5.3 Mains Cable Holder



Two mains cable holders are located on the outside of the head section.

Before moving the bed, always hang the mains cable in this holder.

Otherwise the mains cable could sustain damage as a result of being torn off, driven over or crushed.



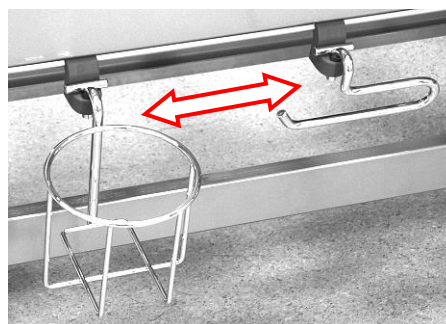
Danger of death due to electric shock!


- If a damaged mains cable continues to be used, this can lead to electric shock, fire and other hazards as well as malfunctions.
- A damaged mains cable must be replaced immediately (see Chapter 6.5.4).

4.5.4 Universal Holder (Optional)

Two sliding universal holders [11] are attached at each of the long sides of the bed on the lower rail of the safety sides.

Accessories, such as urine bottle holders, drainage bags, universal clamps etc can be suspended from the universal holders.





Warning

- When raising/lowering the safety sides, ensure that the accessories in the universal holders are raised or lowered at the same time.
- Ensure that attached objects do not cause damage (e.g. to door frames) when moving the bed.

4.6 SAFETY SIDES

4.6.1 Safety Information for Safety Sides

Safety sides provide suitable protection for patients against falling out of bed. They are not intended as a device to prevent the patient from intentionally leaving the bed.



- 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 patient:
 - For example, if the patient is extremely confused or very restless, avoid using safety sides as much as possible and make use of alternative/additional safety measures such as restraint sheets, fall prevention mats, adjusting the mattress base to the lowest position, etc.
 - In the case of particularly small, slightly built patients it may be necessary to use an additional form of protection to reduce the size of the safety side gaps. In these cases, use protective covers (accessories), posey belts, etc. This is the only way to ensure effective protection and reduce the risk of the patient getting trapped or slipping through the gaps.
- **Only use the specially developed Burmeier mattress for this bed** because it has necessary attachment fixtures on the mattress base, and never use a normal standard mattress loosely placed on top. This avoids the mattress sliding uncontrollably and minimises possible patient risks of injury through trapping, falling, suffocating.

Approved mattresses: See requirements in Chapter 8 "Accessories",
- If elevated resident positioning systems are used (for prevention or therapy), e.g. mattresses to prevent pressure ulcers, an effective safety side height of at least 22 mm above the non-occupied mattress must be guaranteed. This is the case for mattresses up to max. 195 mm in height. If this dimension is not adhered to, the operator must take additional or alternative measures on his own responsibility, and according to his assessment of the risks, in view of the clinical condition of the patient and in view of the characteristics of the special mattress, such as:
 - providing additional safety systems for the patient,
 - arranging for the patient to be monitored regularly,
 - issuing internal instructions for the users
- The patient's risk of falling can be lower:
 - The smaller and more settled the patient is
 - The softer the mattress is (the patient sinks deeper into the mattress)
- When the safety sides are raised, the electrical adjustment of the backrest must always be locked:
 - Attach the handset out of reach (e.g. at the foot end of the bed), or
 - Lock the handset from the control panel (refer to Chapter 4.2.2.2). Otherwise there is a danger of limbs being crushed or trapped between the safety sides if the patient inadvertently activates the handset. The effectiveness of the safety sides can also be reduced if the mattress base sections are raised to a high level.

4.6.2 MultiFlex Safety Sides (MSG)



- Raised safety side posts can also be used as a mobilisation aid.
- The safety sides consist of two identical sections along the longitudinal side, which can be adjusted individually as required.
- Observe the special safety information in Chapter 4.6.1!
- The following section describes how to raise and lower a safety side. The other safety sides are raised and lowered in the same manner.



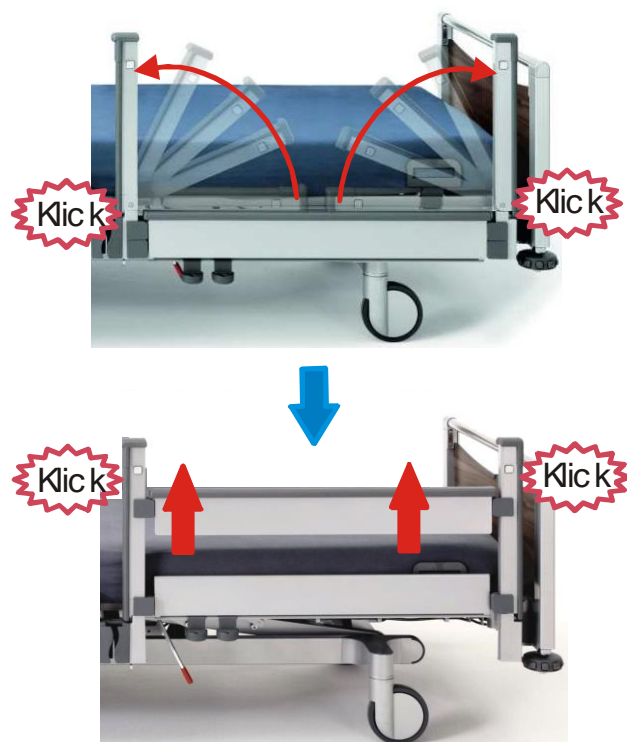
Raising the safety sides

1. Raise both posts as shown by the arrows until they are in a vertical position.

Tip: Hold on to the plastic section of the left-hand post with your left hand and, at the same time, the right-hand post with your right hand. Pull both posts upwards at the same time. Both guide posts must click into place audibly!

2. Hold on to the plastic section of the upper safety side with both hands. Raise the safety side until it is in the uppermost position.

The safety side bar must lock into place at both ends with an audible click!

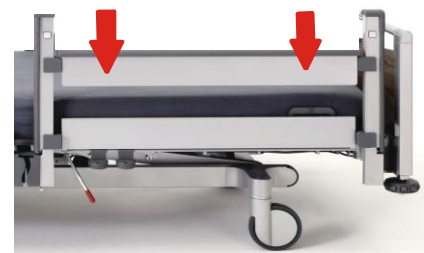
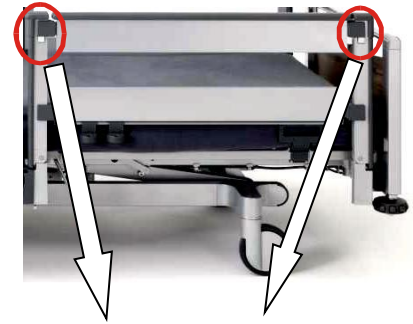


3. Check that the safety side is securely fixed by pressing and shaking the top bar!
4. Repeat the procedure for the other safety sides.

Lowering the safety sides

Tip: Carry out this procedure at both ends of the safety side bar at the same time using both hands. This will save time:

1. Hold onto the lower edge of the upper safety side bar with the palms of both hands. Raise the bar slightly and keep hold of the bar.
2. Press the release buttons with the thumb of each hand
3. Lower the safety side evenly.
Do not let it drop!



Lowering the safety side posts:

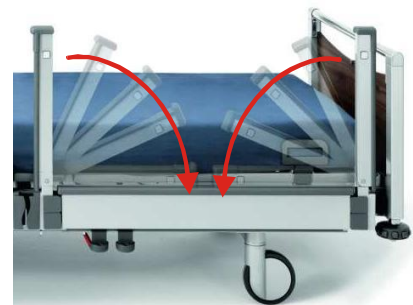
4. Hold onto the plastic section of the left-hand post with your left hand.
5. Pull the plastic section upwards with a slight jerk.
6. Lower the post as shown.

Repeat this procedure with the right hand for the right-hand post.



Tip:

With a little practice, you will be able to raise and lower the right-hand and left-hand posts quickly and easily at the same time using both hands.



7. Repeat the procedure for the other safety sides.

5 Cleaning and Disinfection

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 resident, 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 a new patient occupies the bed, it must first be cleaned and disinfected by wiping!



Before cleaning or disinfecting:

- Unplug the power cable and store the mains plug so that it does not come into excessive contact with water or other cleaning solutions.
- Make sure that all plugs are properly inserted.
- There must be no external damages visible on any of the electrical components. Non-compliance with this advice could lead to malfunctions or damage to the electrical components as a result of penetrating water or cleaning solutions.
- Before operating the bed again, ensure that there is no residual moisture on the electrical contacts by drying or blowing on the power plug.
- 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, unplug the power plug immediately or do not plug it back 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 patients 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.



Advice

Continuous disinfection is only necessary in hospitals when a patient 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 reprocessing 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 contact 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, stainless steel cleaning agents, 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 100mg/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 no liquid residues remain on any surfaces of the bed after cleaning or disinfection. Otherwise the surfaces may become damaged in the long term in these areas.
- 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 Burmeier company 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 must not contain any substances that could change the surface structure or the adhesive properties of the plastic materials.
- The choice of cleaning agents and disinfectants available on the market may change from time to time. Stiegemeyer therefore routinely tests the most commonly used materials for compatibility. The most up-to-date list of cleaning agents and disinfectants can be obtained on request from our German service centre:

Burmeier GmbH & Co. KG

(A Stiegemeyer Group company)

Pivitsheider Straße 270

D-32791 Lage/Lippe

Tel.: + 49 (0) 52 32 / 98 41- 0

Fax: + 49 (0) 52 32 / 98 41- 41

Email: info@burmeier.com

Internet: www.Burmeier.com

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

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

Operators of commercially used care beds are obliged, under

- EC Medical Devices Directive 93/42 EEC

and the relevant national laws/regulations which result from this (e.g. in Germany)

- German Medical Devices Operator Ordinance § 4 (Maintenance)
- *Berufsgenossenschafts-Vorschrift BGV A3* (Directive of the German Employers Liability Insurance Association, Testing of mobile electrical equipment in industrial use),

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.

No technical modifications must be made to the bed.

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

6.1 SERVICING

6.1.1 Service Interval

As a guideline, we recommend that annual maintenance is carried out by our qualified service engineers during private use as well.

Please consult our service department; see page 60 for the address.




Damage, defects and wear resulting from improper operation and after long-term use cannot be ruled out. These deficiencies can cause hazards if they are not recognised and corrected immediately.

- Before carrying out any maintenance work, please bear in mind that, in order to make any adjustments, the bed must be connected to the mains supply. Remember to disconnect the mains plug from the mains socket when maintenance work is finished. Also, switch off all the drives using the control panel or locking box.
- If any damage or malfunction is suspected, take the bed out of service at once until it has been repaired or the damaged component has been replaced!

6.1.2 Servicing Plan

Measure	Material/Tool
Check that all screw connections and/or metal safety caps are firmly positioned; tighten/replace if necessary.	Suitable tools.
If necessary, clean and slightly oil the connecting bolts on the headboard and footboard as well as the corresponding sleeves on the vertical bed frame tubing.	Resin-free and acid-free grease.
If necessary, clean and lightly spray the pivot and friction bearings.	Resin-free and acid-free oil spray (e.g. lubricant A).
Check the adjustment and routing of the Bowden cable for the CPR release of the backrest. No sharp bends or kinks.	Contact the Burmeier service personnel.
Rechargeable batteries must be charged and fully functional.	Connect bed to mains supply. Recommendation: We recommend that rechargeable batteries be replaced after 5 years (wear and tear part).
If the plugs have been disconnected (e.g. when drives have been replaced or during troubleshooting), always check to see if the O-rings (sealing rings) of the electrical plugs are present and/or damaged. The plugs of new electrical components are always fitted with a new O-ring.	Only replace O-rings with original LINAK O-rings. Check the corresponding recesses in the plug for dirt or damage before reinserting the plugs.
Check earth straps for tears and tightness of screws.	Replace torn or damaged earth wires straps.
Touch up any damage in the coating.	Matching colour special-purpose paint (mechanically stable corrosion protection).

Description of component and number	Illustration	Lubricants
<p>Side Rail Posts MSG 4x per bed</p> <p>Procedure:</p> <ol style="list-style-type: none"> 1. Raise the safety side posts (H) and lift their securing bolts (R) up as far as they will go. 2. Insert the spray tube of the lubricant applicator as far as possible into the hole (B) on the inside surface of the safety side and spray once (for about half a second). 3. Jiggle the locking bolt up and down 3-4 times. 		<p>C</p>

Key to recommended lubricants

	Designation	Item no.
C	Inno Self: Mega Öl with PTFE	212871 (300mL spray can)

Recommended special paints

Colour	Designation	Item no.
silver	Varnish (500g tin)	203803
	Accelerator (100g tin)	203805
white	Varnish (500g tin)	203804

6.2 REGULAR SAFETY INSPECTIONS ON CARE BEDS

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 all maintenance work 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 Cycle

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: § 5, Table 1B).

Observe this 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.

The protocol template for inspections based on the EN 62353 (VDE 0751) standard is found on the following pages.

 Danger	<p>If damage or malfunctions are found, the bed must be taken out of operation immediately until it has been repaired or the defective components have been replaced!</p> <p>A repeat inspection must be carried out in accordance with the test sheet to determine whether the damage or malfunction has been rectified.</p> <p>Only then have the requirements for further operation been met.</p>
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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: <input type="checkbox"/> Repeat inspection <input type="checkbox"/> Inspection prior to initial operation(reference value) <input type="checkbox"/> Inspection following repairs/servicing				
Device type: <input checked="" type="checkbox"/> care bed <input type="checkbox"/> hospital bed		Protection class: <input type="checkbox"/> I <input checked="" type="checkbox"/> II		
Bed type: <i>Vertica-Homecare</i>		Inventory number:		
Location:		Serial number:		
Manufacturer <i>Joh. Stieglmeyer GmbH & Co. KG</i>		User-specific parts: <i>None</i>		
Testing equipment used (type/inventory no.):		1.		
MP-RL 93/42 Classification: <i>Class I, Type B</i>		2.		
I. Visual inspection		ok	Not ok	Description of defect
WHAT?	HOW?			
Visual inspection of the electrical components (if applicable)				
Stickers and type plates	Present, legible			
Control unit/transformer housing	Correct position, damage			
Motor housing and lifting tubes	Correct position, damage			
Handset/foot pedal	No damage			
Motor cable, handset cable, mains cable	Damage, routing			
Mains cable holder	Fixed position			
Plug and plug cover on control unit	Available, correct position			
Visual inspection of the mechanical components (if applicable)				
Stickers and type plates	Present, legible			
Patient lifting pole, location sleeves Grab handle with strap	Without damage, deformation, or cracks			
Chassis	Damage, deformation			
Castors	No damage			
Mattress base	No damage			
Welded seams	Split welded seams			
Gas springs, dampers, hydraulics	No damage, sealing			
Safety sides	Without damage, crack deformation; authorisation for this bed			
Connecting elements (screws, bolts, nuts, safety caps)	Fixed position, completeness			
Wearing parts, joints	No damage, severe wear			
II. Electrical measurement according to DIN EN 62353 (VDE 0751-1): 2008-08:				
	Threshold	Measured value		
Leakage current of the device, DC/Diff. (place bed with conductive castors in a way that it is insulated). 1. Plug the bed mains cable in the test socket on the measuring instrument. 2. Connect sensor of measurement device to a blank, conductive part of the mattress base (screw). 3. For the duration of the measurements, activate the motors using the handset	0.1mA	mA		

Inspection Report following an Inspection of Electromedical Equipment according to DIN EN 62353 (VDE 0751-1): 2015-10 - Page 2 of 2

III. Performance inspection		ok	Not ok	Description of defect
WHAT?	HOW?			
Performance inspection of the electrical components (if applicable)				
Battery powered; capacity of battery (optional equipment)	Requirements: Battery is charged + bed is disconnected from power supply: Test: Load bed with approx. 80 kg (=1 person); min. 2 cycles height adjustment Up/Down until cut-out must be possible			
Emergency operation using batteries; battery capacity; to check: connect bed to mains supply for 24 h, then run test.	Minimum of 3 height adjustment cycles with a load of approx. 80 kg on the bed.			
End of travel cut-out for motors	Automatic cut-out			
Handset, foot pedal; operational controls, locking functions	Test according to instruction manual No "rattling" when shaken			
Motors	Abnormal noise level Emergency release backrest motor			
Control unit/transformer and motors	Test according to instruction manual			
Strain relief of mains cable	Mains cable firmly fastened			
Performance inspection of the mechanical components (if applicable)				
Joints and pivots	Smooth operation			
Grab handle with strap	Secure position			
Castors	Brakes, securely engaged brake			
Safety sides	Locking in place, release			
Accessories (e.g. patient lifting pole, grab handle, external safety sides)	Fixing, damage, suitability			
Overall inspection result:				
Defects/remarks:				
<input type="checkbox"/> No safety or functional defects were detected <input type="checkbox"/> No direct risk, the defects detected can be rectified quickly <input type="checkbox"/> Appliance must be taken out of circulation until the defects have been rectified! <input type="checkbox"/> Appliance does not conform to requirements – modification/replacement of components/decommissioning recommended.				
Test approval sticker applied:		<input type="checkbox"/> yes <input type="checkbox"/> no		Next inspection date:
Documents that form part of this inspection report:				
Checked	Date:	Name:	Signature:	
Test approval sticker applied:	Date:	Name:	Signature:	
	Address/stamp of responsible company			

6.3 REPLACEMENT PARTS

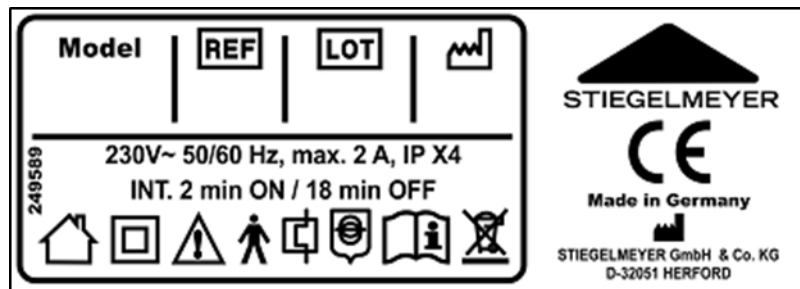



In order to maintain operational safety and the right to claim under warranty,

- Only original Burmeier replacement parts may be used!
- No technical modifications must be made to the bed

The relevant replacement parts are available from Burmeier upon specifying the item number, order number and serial number.

The necessary details are found on the type plate on the cross tubing of the mattress base frame.



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 centre:

Burmeier GmbH & Co. KG

(A Stieglmeyer Group company)

Pivitsheider Str. 270 • D- 32791 Lage/ Lippe

Telephone +49 (0) 5232/ 41-0

Fax +49 (0) 5232/ 41-41

Email: order@burmeier.de

Internet: www.stieglmeyer.com

Customers outside Germany can contact our distribution companies in their respective country if they have any questions. Contact details can be found on our website.

6.5 REPLACEMENT OF ELECTRICAL COMPONENTS

6.5.1 Safety Information



Mortal Danger !

Danger of death due to electric shock!

Before commencing any work on electrical equipment, always unplug the mains cable from the electrical socket!

Any work and/or repairs to the electrical equipment may only be carried out by the Burmeier service engineers, the drive manufacturer or qualified and authorised electricians in compliance with all the relevant VDE and safety regulations!

On no account should the user attempt to rectify malfunctions in the electrical system!



Danger

The bed must be in the home position (with the mattress base horizontal) in order to remove the control unit and the drives.

Otherwise, there is a danger of crushing due to parts of the mattress base falling.

The components (control unit, drives, handset, control panel, locking box) of the electrical system are maintenance-free and must not be opened.

If a malfunction occurs, the relevant component must be replaced in its entirety!



Warning

When replacing individual components, make sure that the plugs have undamaged O-rings (for sealing) and are pushed into the control unit as far as they will go. This is the only way to ensure proper sealing and faultless operation.

Do not switch the motor connections at the control unit. This can lead to malfunctions or even result in mechanical damage to the drive due to the system not switching off at the end position.



Advice

The component plugs are connected to the corresponding control unit.

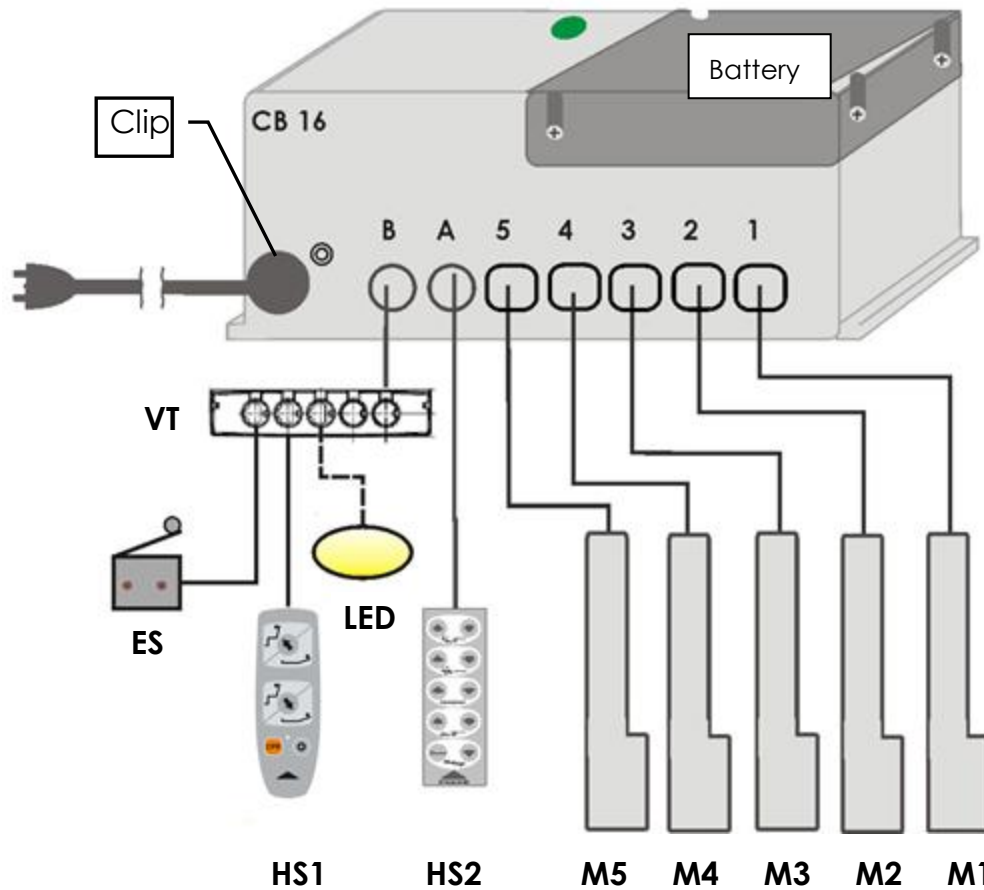
To prevent the plugs from being inadvertently disconnected, they are secured with a locking comb. This device can be carefully lifted off using a screwdriver if necessary.

The ports of the control unit should be lightly lubricated with Vaseline for the "Extended" version.

The plugs can then be inserted more easily and the O-rings provide a better seal. The locking device should always be properly fastened.

6.5.2 Terminal Assignments for Control Unit CB16

The control unit is at the foot end of the bed under a sheet metal casing.



Connection	Device
1	M1: Lifting columns for mattress base height, head end
2	M2: Thigh rest actuator
3	M3: Lifting columns for mattress base height, foot end
4	M4: Lower leg rest actuator
5	M5: Backrest actuator
A	HS2= Patient handset
B	VT=Bus junction box MJB: ES = End switch brake alarm HS1=NURSE handset LED = Under bed light

Plug assignment for Bus junction box MJB

Sockets	Possible connections
1; 2; 4; 5	Further MJB junction boxes; handsets; brake alarm
3	Under bed light ; further handsets; junction box Do not plug in here!!!: ES - Brake alert

6.5.3 Replace Handset

- Unplug the mains cable.
- Remove the locking device on the control unit/ junction box MJB (use a screwdriver).
- Pull the handset plug out of the control unit.
- Plug the new handset plug into the control unit (nut facing up).
Make sure that the O-ring on the plug is not damaged. This ring ensures that the plug is tightly sealed.
- Re-attach the locking device.
- When routing the handset cable, ensure that it cannot be damaged by any moving parts of the bed.
- Test the function of the power adjustments!

6.5.4 Replace Mains Cable

- For easy installation, move the mattress base to the highest position.
- Unplug the mains cable.
- At the head end of the chassis, release the strain relief of the mains cable.
- Remove the mains cable from the holders.
- Pull the IEC connector out of the control unit. To do this, use a screwdriver to press the red security hooks together slightly on the IEC connector.
- Plug the new IEC connector into the control unit!
The red securing clips must prevent the plug from being disconnected unintentionally from the control unit!
- Place the mains cable back into the holders as before.
- Screw the strain relief of the mains cable back in place.
- Insert the mains plug into an electrical socket. The control unit LED must light up green.
- Carry out an electrical measurement in accordance with Chapter 6.2!
- Test the function of the power adjustments!

6.5.5 Battery Replacement

Compatible batteries are available from Burmeier; for address see page 60.




Warning

Before the installation work, make sure that the battery set is correctly connected. Please refer to the drawing in the battery compartment and check that all connections are seated correctly.

The battery compartment has been hermetically sealed from the electronics compartment by the manufacturer. When replacing batteries, this insulation must not be damaged or altered, as this could result in battery gases penetrating into the electronics compartment and causing an explosion in extreme cases.

When changing batteries, the sealing material of the housing (silicone ring or joint sealer) must not be damaged and must be correctly replaced in the joint afterwards. The screws in the housing must be tightened to a torque of approx. 1 Nm. If the sealing material is damaged, it must be replaced (LINAK article number 0008004 for a 100 m roll).

The battery compartment has its own fan. This must not be obstructed or covered as otherwise pressure could build up and an explosion could occur.

- For easy installation, move the mattress base to the highest position.
- Unplug the mains cable.
- Remove the Torx screws on the control unit (see Chapter 6.5.2).
- Replace the battery pack with an identical one.
- In doing so, pay attention to the installation instructions on the inside of the housing cover.
- Fasten the housing cover with the four Torx screws. Make sure that the silicone seal is correctly positioned!
- Place the mains cable as previously in the cable holders and screw the mains cable strain relief in place.
- Insert the mains plug into an electrical socket. The LED on the control unit must light up green and the battery charge display  on the control panel must light up orange.
- Test the function of the power adjustments!
- Charge the batteries. To do so, connect the bed to the mains supply for at least 8 -10 hours. Only then is the battery ready for emergency use without restriction.

Disposal



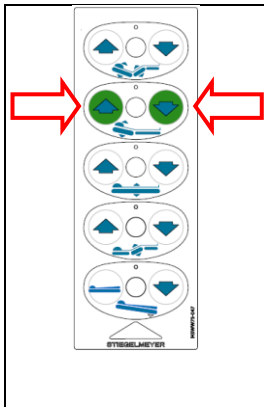
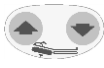
Lead-acid batteries must not be disposed of as household waste. They can be returned to Burmeier or disposed of at local waste collection points in the same way as car batteries.

6.5.6 RESET Control Unit CB16

When should it be carried out?

- After installing / exchanging the control unit CB16
- To unlock the control unit CB16 after functional failures.

How should this be done?

	<p>On the patient handset:</p> <ul style="list-style-type: none"> • Press down on both of the marked keys "Backrest UP+DOWN"  simultaneously for 5 seconds until the "Beep" signal goes off <p>Effect: Deletes any possible errors in CB16 (reset) Release of the locked control</p>
---	--

Afterwards, absolutely also perform: Actuator alignment; see Chapter 6.5.7.

6.5.7 Actuator Alignment

During the alignment, the current start positions of the actuators are transmitted to the control unit through a reference run to "0" and then the existing tolerances in ongoing operation are aligned after a period.

Valid for: all actuators M1 to M4 (not necessary for actuator M5: backrest)

When should this be carried out?

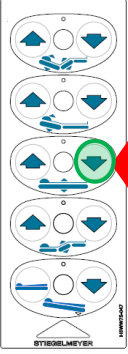

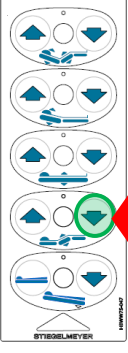

- After exchanging the control unit, the actuator or after a RESET.
- If the module emits regular sound signals when making electrical adjustments as well as when connecting the bed to the mains power, and/or no adjustments are possible, or adjustments are only possible on one side.



Advice

- When carrying out an alignment, it is important that none of the functions are locked on the patient handset!
- Any bed positions which have been saved remain saved.

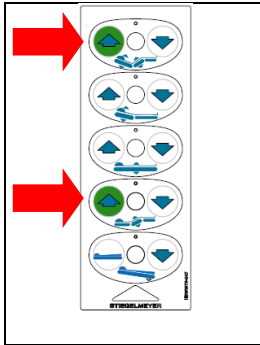


How should this be done?

	<p>On the patient handset [3]:</p> <ul style="list-style-type: none"> • Raise the mattress base height with the “Height UP”  button to the lowest horizontal position until both motors switch off automatically at the lowermost raised position, and keep the buttons pressed for further 2 seconds.
	<ul style="list-style-type: none"> • Adjust the thigh rest using the “Thigh rest DOWN” button  to the lowest horizontal position as far as the automatic switch off. At the same time, the lower leg rest moves to the horizontal position and switches off. • After the thigh rest and lower leg rest are switched off, hold the button down another 2 seconds and then let go (otherwise it won't recognise the reference position!).

Only if the lower leg rest is subsequently not also horizontal should one of the following adjustments be performed depending on the position:

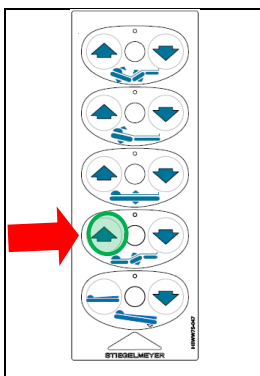

a: The lower leg rest is too low



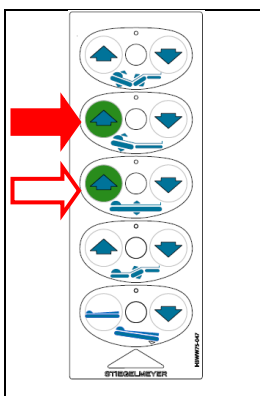


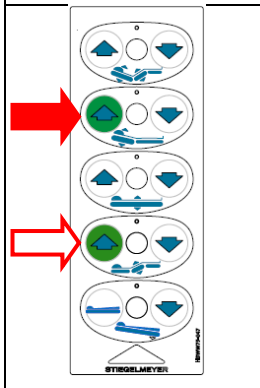

	<p>On the patient handset [3]:</p> <ul style="list-style-type: none"> • Adjust the lower leg rest upwards separately until it is in the horizontal position: • To do so, simultaneously hold both buttons, “Auto contour UP”  and “Thigh rest UP”  until the desired position has been reached.
---	--

b: The lower leg rest is too high



	<ul style="list-style-type: none"> • Adjust the thigh rest until it is parallel to the horizontal, flat mattress base using the “Thigh rest UP” button 
--	--

a+b: Save the calibrated lower leg rest position

	<p>On the patient handset:</p> <ul style="list-style-type: none"> • Press the “Backrest UP” button  and hold it down for the entire process • Briefly press the “Height UP” button  3x in succession <p>Then, within 2 seconds, while still holding the “Backrest UP” button ...</p>
	<ul style="list-style-type: none"> • also hold down the “Thigh rest UP” button  until a “Beep” signal is heard • Release both buttons <p>Effect: Save the calibrated lower leg rest position</p>

7 Troubleshooting

7.1 TROUBLESHOOTING GUIDE

The following table is a guide for rectifying faults:

Problem	Possible causes	Solution
Handset/ Actuator system not functioning (bed is connected to mains power supply)	<ul style="list-style-type: none"> • Mains cable not plugged in • No power supply to socket • Plug not inserted properly • Actuators locked • Handset, mains cable or control unit is defective 	<ul style="list-style-type: none"> • Insert mains cable; green LED on the control unit must light up • Check socket and fuse box • Check plug connections • Enable functions • Inform the operator in order to arrange for repairs
Handset not functioning, adjustments are not locked	<ul style="list-style-type: none"> • Handset faulty • Control unit has detected a fault and for safety reasons has locked the adjusting functions 	<ul style="list-style-type: none"> • Replace handset. • Perform RESET; see Chapter 6.5.6; if it occurs again: Have actuator system checked. Inform the operator in order to arrange for repairs
Battery-powered operation not possible	<ul style="list-style-type: none"> • Battery not charged • There is no rechargeable battery 	<ul style="list-style-type: none"> • Connect the bed to the mains supply for approx. 8 hours
Constant alarm sounds during adjustment	<ul style="list-style-type: none"> • Battery capacity depleted 	<ul style="list-style-type: none"> • Connect bed to the mains supply to recharge battery as soon as possible
Operation with sufficiently charged battery only possible for a short time	<ul style="list-style-type: none"> • Limit of battery's service life reached 	<ul style="list-style-type: none"> • Replace battery. Inform the operator in order to arrange for repairs
Operation is not possible despite proper power supply	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • Observe max. duty cycle: intermittent duty 2 min ON/18 min OFF; replace the control unit. • Perform RESET; see Chapter 6.5.6; • Replace the control unit. Inform the operator in order to arrange for repairs
Manual emergency lowering of backrest is not possible	<ul style="list-style-type: none"> • Bowden cable is too loose or not secured • Bowden cable is kinked 	<ul style="list-style-type: none"> • Readjust at the release lever or secure • Install new Bowden cable. Inform your operator about any necessary repairs

Problem	Possible causes	Solution
Mains control lamp in control unit does not light up	<ul style="list-style-type: none"> • No power supply to socket • Mains cable damaged • Fuses in control unit defective 	<ul style="list-style-type: none"> • Use a socket that works properly • Replace the mains cable • Replace the control unit. Inform the operator in order to arrange for repairs
Drive runs for a brief time only, then stops	<ul style="list-style-type: none"> • Drive overloaded • Structural obstructions in the way of bed adjustment 	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • One or more motors are not connected/ electrical plug connections are disconnected • There is a serious problem with the control unit. For safety reasons, all functions are locked. 	<ul style="list-style-type: none"> • Check electrical connection and all motors/plug-in connections; • Perform RESET; see Chapter 6.5.6; if it occurs again: Have actuator system checked. Inform the operator in order to arrange for repairs
Height adjustments and tilting not possible or only in one direction; acoustic signal sounds during adjustment	<ul style="list-style-type: none"> • Control unit has "forgotten" the actuator positions 	<ul style="list-style-type: none"> • Perform RESET; see Chapter 6.5.6;

8 Accessories

A wide range of accessories is available for this bed, and we are continually extending this range.



Risk of injury

- Efficient and safe operation combined with maximum protection of patients can only be guaranteed if original Burmeier accessories are used which are designed for the relevant model of bed.
- In addition to the information given in this instruction manual, please also refer in this respect to the separate special instruction manual supplied with certain accessories.
- Make sure that the arrangement of accessories does not produce any crush or shearing zones for the resident 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

Preventing damage to property

In order to minimise any potential damage to property, please read and refer to the following general information on selecting and attaching accessories



- Attach accessories only while these are required and only at the positions intended for them in such a way as to avoid damaging the surfaces of the bed and accessories.
- Avoid, for example, chafing or unprotected attachment of metal clamps on coated or varnished surfaces.
- Please note when moving the bed that attached accessories may extend beyond the height, width or length of the bed and so may collide more easily with door frames, corners of walls and other obstructions.
- In the case of very long accessories such as patient lifting poles, infusion poles, extensions, mobilisation aids, etc., avoid applying high lateral forces, such as are possible with this bed design, by manoeuvring the bed using the infusion pole. This will prevent overloading the fixing points.

Lists of accessories can be obtained from us, quoting the bed model.

Here is a small sample of the accessories available:

Patient lifting pole with "Softtouch" grab handle	Infusion stand/holder
Vertica special mattress (LxW) 200 x 90 cm	
a) Polyether cold foam: height 12 cm ; b) viscoelastic; height 14 cm	
Support base for Vertica bed extension	
With mattress foam insert for mattress height 120; 140 mm	
Footrest, short, 1 pair right+left; usable for up to 14 cm mattress height;	
Footrest, short, 1 pair right+left; usable for 15 - 22 cm mattress height;	
"Clinic" footboard with fold-down serving tray	

9 Technical Data

9.1 DIMENSIONS AND WEIGHTS

Dimensions		Weights	
External dimensions:	approx. 214 x104 cm	Empty weight: (without accessories)	approx. 175 kg;
Mattress base: (mattress dimensions)	200 x 90 cm	Safe working load:	225 kg
Mattress base sections:	82/20/36/53 cm (back/seat/thigh/lower leg)	Max. patient weight:	185 – 210 kg (depending on the weight of accessories attached)
Ground clearance: (at every height)	approx. 16.5 cm		
Castors:	Ø 12.5 cm		
Protection height of safety sides:	415 mm (above the mattress base)		

9.2 ADJUSTMENT OPTIONS

Height adjustment range:	Approx. 40.5 to 81 cm	Thigh rest:	to approx. 30°
Backrest: - for stand-up function	to approx. 70° to approx. 85°	Extended leg position:	to approx. 30°
Backrest: Length compensation acc. to DbfK	approx. 100 mm	Pivot area for mattress base in Reverse-Trendelenburg position	to approx. 16°

9.3 ELECTRICAL DATA

Bed:

The bed has no special connection for the potential equalization (see also Chapter 2.3.1). The mains connection cable is 2-pin. The electrical drive system has double protective insulation

This qualifies the bed as a protection class II product.

Mains cable: (coiled, anti-kink, with strain relief)

Type	H05 BQ-F 2 x 1 mm ² (EPR quality)
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Handset:

Type	Patient: HL75 Openbus™ Staff: HD8x Openbus™, (stand-up function)
Operating voltage	24 V DC
Protection category	HL75: IP x4; HD8x : IP X6

Control unit (rechargeable battery integrated)

Type	LINAK CB16xxx
Input voltage	AC 230 V, ± 10 %, 50/60 Hz
Current input	max. 2 A
Transformer	Toroidal transformer: High-performance, low interference, low warm-up and standby current consumption
Output voltage	24 V DC
Output current	Max. 10 A (electronic monitoring and cut-out)
Duty cycle	Intermittent duty: 2 min ON / 18 min OFF
Classification	Protection class II, ⚡ type B, device with internal power supply (if fitted with a battery), not for use in explosive atmospheres
Protection category	IP X6,

Rechargeable battery integrated:

Type	2 sealed, maintenance-free lead-acid rechargeable batteries
Capacity	1.3 Ah
Voltage	24 V DC
Lifespan	Approx. 5 years under optimum conditions The rechargeable battery's lifespan can be negatively influenced by the following conditions: <ol style="list-style-type: none"> 1. Increased ambient temperature 2. High number of charging/discharging cycles 3. High discharge depth 4. Frequently leaving the bed in a discharged state without being connected to the mains

Junction box:

Type	MJBxxx
Operating voltage	24 V DC
Protection category	IP 66

Actuator M1+3: (Electric motor lifting columns, 2) Mattress base height

Type	LINAK BL4
Path feedback	REED sensor
Force/installation dimension/lift	1600N/ 354mm/ 400mm (BL4)
End position cut-out	Micro-switch, analogue coding

Input voltage	24 V DC
Duty cycle	Intermittent duty: 2 min ON / 18 min OFF
Protection category	IP x4

Actuator M2: (Electric motor) thigh rest

Type	LINAK LA31 machine-washable
Path feedback	HALL sensor
Force/installation dimension/lift	6000 N/ 273mm/ 70 mm
End position cut-out	Micro-switch, analogue coding
Input voltage	24 V DC
Duty cycle	Intermittent duty: 2 min ON / 18 min OFF
Protection category	IP X6

Actuator M4: (Electric motor) lower leg rest










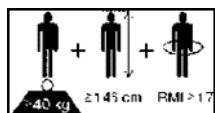
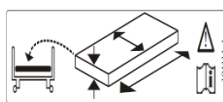
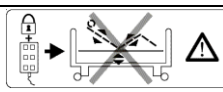


Type	LINAK LA31 machine-washable
Path feedback	HALL sensor
Force/installation dimension/lift	6000 N/ 288mm/ 105 mm
End position cut-out	Micro-switch, analogue coding
Input voltage	24 V DC
Duty cycle	Intermittent duty: 2 min ON / 18 min OFF
Protection category	IP X6

Actuator M5: (Electric motor) backrest

Type	LINAK LA34Q
Path feedback	Potentiometer
Force/installation dimension/lift	5000 N/ 438 mm/ 228 mm
End position cut-out	Micro-switch, direct switch
Input voltage	24 V DC
Duty cycle	Intermittent duty: 2 min ON / 18 min OFF
Protection category	IP X6

Operating noise: max. 47 dB(A)

Symbols used:

Symbols	Meaning	Details in Chapter
	Device with Type B applied part in accordance with EN 60601-1 (special protection against electric shock)	9.3
	Protection Class II device, shock-proof	9.3
	Thermal fuse lock	9.3
	Safety transformer to VDE 0551	9.3
	Attention! Pay attention to the instruction manual	2
	Only for use in enclosed spaces - do not use outdoors	9.3
IP 66	Protect the electrical equipment from dust collecting in the interior and from water splashing from all sides	9.3
IP 54	Protection of electrical equipment from damaging accumulation of dust and from splash water from all sides	9.3
	Mark of conformity in accordance with the Medical Devices Directive 93/42, EEC Appendix VII	11
	Safe working load (= max. permissible weight of patient, mattress and all accessories attached)	9.1
	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)	2.3.1 ; 9.1
	Minimum patient size/weight: Height: 146 cm, weight: 40 kg; Body Mass Index ¹ "BMI": 17	Fehler! erweisqu elle konnte nicht gefunden werden.
	Only use mattresses that are approved by the manufacturer with the dimensions specified.	8
	Lock the handset if the patient could be at risk should electrically operated adjustments be made unintentionally	4.2.2.2
	Operating note for the operating lever to manually adjust the backrest	4.4.2
	This electrical device must be disposed of properly as electrical waste in accordance with the European Directive 2002/96.	10

9.4 AMBIENT CONDITIONS

The following ambient conditions must be maintained:

For storage / transport:


	Minimum	Maximum	
Temperature:	-10° C	+ 50° C	
Relative humidity:	20 %	90 %	At 30°C; non-condensing
Air pressure:	800 hPa	1060 hPa	At altitude ≤ 2000m

In operation:

	Minimum	Maximum	
Temperature:	+ 5° C	+ 40° C	
Relative humidity:	20 %	90 %	At 30°C; non-condensing
Air pressure:	800 hPa	1060 hPa	At altitude ≤ 2000m

9.5 TECHNICAL INFORMATION ON ELECTROMAGNETIC COMPATIBILITY (EMC)

To ensure EMC, only use cables and accessories approved by the manufacturer (see Chapter 9.3)


 Warning	<ul style="list-style-type: none"> 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.
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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 uninterrupted electricity supply 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: U_T 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
<p>Conducted HF interference according to IEC 61000-4-6</p> <p>Radiated HF interference according to IEC 61000-4-3</p>	<p>3 V_{eff} for 150 kHz to 80 MHz</p> <p>3 V/m for 80 MHz to 2500 MHz</p>	<p>3 V_{eff} for 150 kHz to 80 MHz</p> <p>3 V/m for 80 MHz to 2500 MHz</p>	<p>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.</p> <p>Recommended protection distance:</p> <p>$d = 1.17 (P)^{1/2}$</p> <p>$d = 1.17 (P)^{1/2}$ for 80 MHz to 800 MHz</p> <p>$d = 2.33 (P)^{1/2}$ for 800 MHz to 2.5 GHz</p> <p>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</p> <p>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</p> <p>Interference is possible when in the vicinity of equipment bearing the following sign.</p> 

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 $d = 1.2 (P)^{1/2}$	80 MHz to 800 MHz $d = 1.2 (P)^{1/2}$	800 MHz to 2.5 GHz $d = 2.3 (P)^{1/2}$
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.		

9.6 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. COMMENT: This includes rehabilitation facilities and geriatric facilities.
4	Medical electrical devices for relieving or balancing an injury, handicap or illness while under home care

- If electrically adjustable: Active medical device
Equipment with type B application component.
- UMDNS code:

Bed (electrically adjustable)	10-347	Protective cover	16-492
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10 Disposal Instructions

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



Disposal of the bed

- In the case of a disposal of the bed, the used plastic and
- metal parts are to be disposed of separately and according to the applicable environmental regulations of the local community or the federal state
- . If you have any queries, you can contact your local municipal waste company or our service department.


Disposal of packaging

- Packaging must be sorted according to recyclable and other types of waste and recycled and disposed of in line with the environmental regulations and legislation of the country concerned.
- Recycling and disposal are governed in the European Union by the EU Waste Framework Directive 2008/98/EC.

Disposal of electrical parts

	<ul style="list-style-type: none"> - This bed – since it is electrically adjustable – is classified as (type b2b) industrial electrical equipment in accordance with the WEEE Directive 2012/19/EC (implemented in Germany in the law governing electrical equipment).
	<ul style="list-style-type: none"> - The electrical components used are free from prohibited hazardous substances in compliance with the RoHS-II Directive 2011/65/EU. - Replaced electrical components (actuators, control units, handsets, etc.) must be treated as electric scrap in accordance with the WEEE Directive 2012/19/EU 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. Burmeier 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

	<ul style="list-style-type: none"> - Batteries which are no longer usable and have been removed must be properly disposed of in accordance with battery regulations and do not belong in the household waste. - If you have any queries you can contact your local municipal waste company or our service department; you will find our address on page 60.
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Disposal of gas springs/hydraulic units

Any gas springs and hydraulic units are primarily constructed from metal and plastic and can be recycled.



Before disposing of these according to the manufacturer's instructions, it is important to drain off the oil and dispose of it properly.

Please note in this connection:



- The release mechanism must not be activated if gas springs are removed. These devices are under pressure.

Careless release could cause injury!

- Gas springs must first be depressurised according to the manufacturer's instructions before disposal. This information can be obtained upon request from the gas spring manufacturer (see type plate).

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,

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

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

Care beds with stand-up function **Vertica Care; Vertica Homecare**

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

It is categorised as a Class I 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 | Application of Risk Management to Medical Devices |
| EN 60601-1: 2007-07 | Safety for Medical Electrical Equipment |
| EN 60601-1-2: 2007-12 | Electromagnetic Compatibility |
| DIN EN 60601-1-6: 2010-10 | Medical Electrical Equipment - Usability |
| DIN EN 60601-2-52: 2016-04 | Particular requirements for basic safety and essential performance of medical beds |

International Standards:

- | | |
|-------------------------|--|
| IEC 60601-2-52: 2009-12 | Medical electrical equipment: |
| +AMD 1: 2015-03 | Particular requirements for the basic safety and essential performance of medical beds |
| IEC 62366:2007 | Medical equipment: Usability |

Herford, 2016-11-22



Georgios Kampisiulis Kemmler
 (Management)



Hans-Peter Löw
 (Management)



Notes:

Notes:

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