Allura II

BURMEIER

Instruction Manual

Part A: General Information

Part B: Operator and Technical Personnel

Part C: Care staff, residents and private purchasers

REF: 232119

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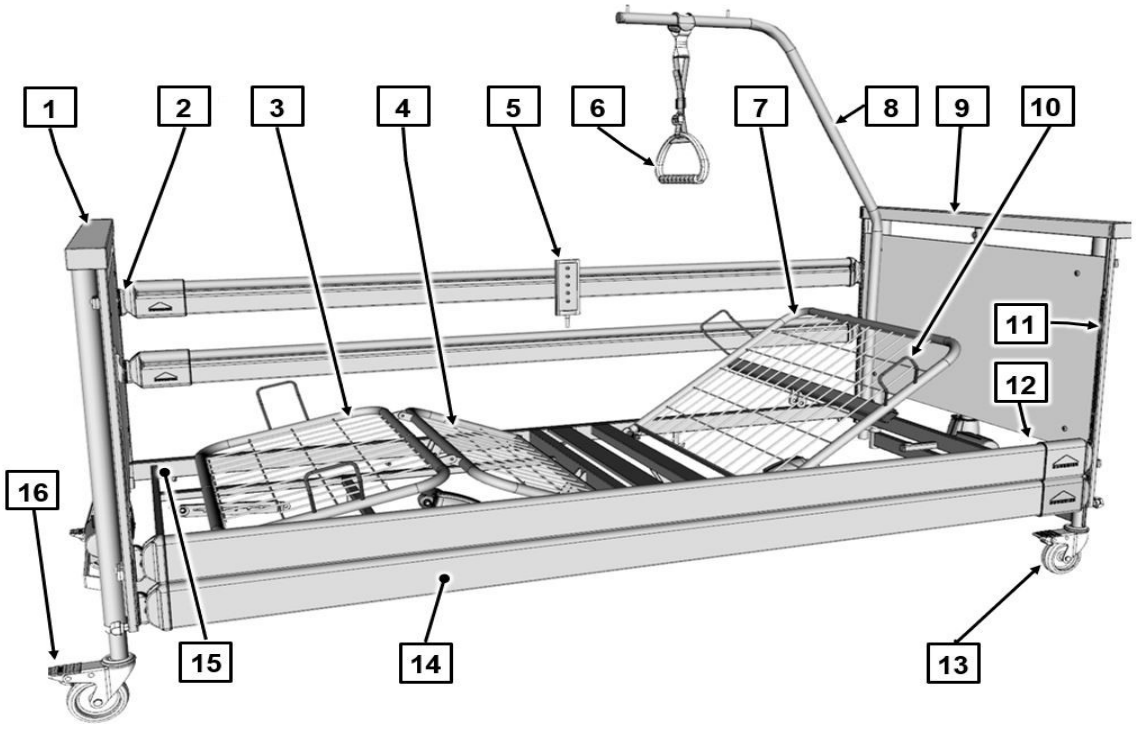
Part A: General Information



[1] Foot end chassis	[2] Safety side release buttons (4)
[3] Lower leg rest	[4] Thigh rest
[5] Handset	[6] Triangular grab handle
[7] Backrest	[8] Patient lifting pole
[9] Head end chassis	[10] Mattress retainer bars (4)
[11] Guide rails (4)	[12] Lifting pole sleeves (2 - concealed in picture)
[13] Castors (4)	[14] Safety side bars
[15] Mattress base frame	[16] Brake pedal

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Contents

Part A: General Information

1 Address, information for customers, market note

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Service centre

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

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Industriestraße 53 / 32120 Hiddenhausen / Germany

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Market Information

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

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 Foreword

Dear Customer,

Burmeier has built this bed to give you the best possible help with the challenges of care in the home. We passionately pursue the goal of developing products that are durable and of a high-quality. Our products should make residents feel as safe and comfortable as possible during their stay in bed and also lighten the workload of care staff and caring relatives. For this reason, the electrical safety and all functions 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 for your users. This instruction manual is a practical reference book and should be kept close to hand at all times.

The medical retail trade that delivered this bed is also there to assist you with any questions you may have concerning servicing and repairs during the product's lifetime of use.

This bed is designed to give the person in need of care and all users a safe and practical piece of equipment that provides decisive support with the ever-increasing requirements of care-giving.

Thank you for the confidence you have place in us and our products.

Burmeier GmbH & Co. KG

www.burmeier.com

3 Conventions of this Instruction Manual

3.1 Safety information

At the time of leaving the factory, this care bed represents state-of-the-art technology and has been tested by an independent testing institute.

Only use the care bed if it is in perfect working order.

Explanation of the safety symbols used

In this instruction manual, safety information is displayed in the following way:

⚠ WARNING

WARNING

- WARNING indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury.

⚠ CAUTION

CAUTION

- CAUTION indicates a potentially hazardous situation that, if not avoided, could result in minor or moderate injury.

⚠ ATTENTION

ATTENTION

- NOTICE indicates a harmful situation that could result in damage to the product or something around it.

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!

3.2 Icon information

General information and cross-references will be displayed in the following way:

General information, tips and helpful courses of action.

Cross-reference or active link: Indicates the chapter of the instruction manual and the page number where you can find specific information. Example: Part B: Safety Information » 3.

4 Product Description

4.1 Use for the intended purpose

- The Allura II care bed, hereafter referred to as the bed, is a comfortable solution for positioning and facilitating the care of frail persons in need of care in homes for the elderly or nursing homes. Furthermore, it was developed as a supporting solution for home care, for infirm, disabled or frail persons. It it designed to support this care.
- This instruction manual is intended as a reference work on the safe handling of the product for both private purchasers and commercial operators. It contains information on operating, servicing and caring for the bed and draws attention to potential dangers due to inappropriate use.
- The use of the care bed in hospitals is only permitted in rooms designed for medical treatment of the application group 0.
- Further details on permissible environments for use can be found in chapter Part A: Ambient conditions » 12. Further information on possible electromagnetic influences can be found in the chapter Part A: Information on electromagnetic compatibility (EMC) » 15.
- This bed must only be used as a single bed.
- This bed may be intended for care under the supervision of a doctor and be used for diagnosis, treatment or observation of the resident. It is therefore equipped with a locking function of the electrical adjustment devices.
- This bed has no special connectors for potential equalisation. Please pay attention to this before connecting additional mains-operated (medical) electrical equipment.

  If necessary, further advice on additional protective measures can be found:

  - In the instruction manuals of these additional mains-operated electrical devices (e.g. compressed air positioning systems, infusion pumps, enteral feeding devices, etc.)
  - In the current edition of the DIN EN 60601-1 standard (Safety of Medical Electrical Systems)
  - In the current issue of the VDE 0107 standard (High-voltage Installations in Hospitals)
- This bed may be operated without restrictions with a permanent maximum load of 250 kg (resident and accessories).
- The permitted weight of the resident depends on the total weight of accessories attached at any time (e.g. respirators, infusions,…)

Weight of accessories (incl. mattress)	Maximum permitted weight of resident
10 kg	240 kg
20 kg	230 kg

- Please refer to the safety information provided in the chapter Part B: Safety Information » 3, especially in the case of residents in poor clinical condition.
- This bed may be operated only by persons who have received instruction in its safe operation.
- This bed is suitable for multiple use. When re-using the bed, pay attention to the necessary requirements:

  → See chapter Part B: Cleaning and disinfection » 22.

  → See chapter Part B: Maintenance » 26.

- The bed may be moved within the room even when the resident is lying in bed. First of all, adjust the mattress base to a flat home position at its **lowest** level.
- This 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.
- This bed must not be modified without authorisation by the manufacturer.

4.2 Contraindications

This bed is only suitable for residents who do not fall below the following minimum body size/ weight:

→ Height: 146 cm

→ Weight: 40 kg

→ Body mass index "BMI": 17

BMI calculation:

BMI = weight of resident (kg)/height of resident $(m)^2$

Example a:

41 kg/(1.5 m x 1.5 m) = 18.2 = **OK!**

Example b:

35 kg/(1.5 m x 1.5 m) = 15.6 = **Not OK!**

⚠ CAUTION

Risk of injury

Failure to heed this warning may result in physical injury to the resident due to entrapment or crushing of limbs.

- Owing to the smaller limbs of residents with a body height/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.

4.3 Components of the Bed

The bed is delivered unassembled and mounted on a storage aid. It can also be transported easily within blocks of flats. It comprises two chassis (a head and footboard); a mattress base frame divided in the centre; four safety side bars and a lifting pole with a grab handle. The bed stands on four steerable castors which are all fitted with a locking brake.

4.3.1 Mattress Base Frame

The mattress base frame is divided into four sections with a backrest, a fixed middle section, a thigh rest and a lower leg rest. The backrest and thigh rest can all be adjusted with the aid of electric motors. The mattress base height can be adjusted horizontally to a high position or to a reverse-Trendelenburg position. All adjustments are activated with a handset.

4.3.2 Safety Side (Click-In)

The bed has click-in safety side bars on both sides of the bed that are raised to present a barrier, or lowered, if they are not required. Safety sides protect the resident from accidentally falling out of bed. The click-in safety side excels through its easy installation and user-friendly operation. It is available in a wood or metal design depending on the characteristics of the bed.

4.3.3 Electrical adjustment system

The bed’s electrical adjustment system is first-error-secure, flame-resistant (V0) and consists of:

- An “external” switch mode power supply.
  The switch mode power supply consists of: Voltage transformer and low voltage connection cable. The voltage transformer generates a protective low voltage that is safe

for residents and users. The switch mode power supply provides all drives (motors) with protective low voltage using a connection cable. The socket available on the chassis is protected against the ingress of water. **Electricity only flows from the external switch mode power supply unit to the bed while the handset is being used.**

- a handset with a strong hook.

  The user can lock the adjustment options on the handset if the poor clinical condition of the resident necessitates this.
- The central bus control unit, containing plug-in connections for all drive motors and the handset that work with protective low voltage.
- Two drive motors for horizontal height adjustment.
- A drive motor for the thigh rest.
- A drive motor for the backrest.

4.4 Mattress base sizes

The bed can be ordered in the following sizes.

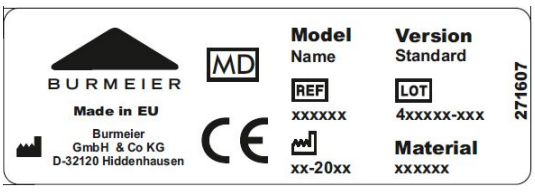
This instruction manual may describe functions or features that your model of bed does not have.

Mattress base dimensions (WxL)	External dimensions (WxL)
100 x 200 cm (wooden or metal mattress base)	111 x 224 cm
120 x 200 cm (wooden or metal mattress base)	121 x 224 cm

4.5 Technical Data

4.5.1 Type plate

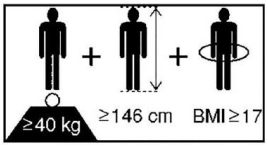
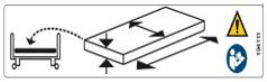
You can find the type plate on the bed frame at the head end. The type plate contains the following information:



Type plate, example

Type plate (electrical data), example

Explanation of the graphical symbols used:	
Model	Bed model
Material	Material variant (if applicable)
Version	Variant (if applicable)
	Item number (Kmat)
	Order number
	Date of manufacture (week/year)
	The article is a medical device
	Device with type BF applied part in accordance with IEC 601-1 (special protection against electric shock)
	Protection Class II device, shock-proof
	Only for use in enclosed spaces – do not use outdoors
	Dispose of electrical components in accordance with the WEEE Directive. Do not dispose of as household waste!
	Attention! Follow the operating instructions
Total :	Total weight of the bed
IP X4	Protection of electrical equipment from water splashing from any direction
CE	Conformity mark according to Medical Devices REGULATION (EU) 2017/745 (MDR)

Explanation of the graphical symbols used:	
	Safe working load
	Permissible weight of patient
	Minimum resident measurements/weight: Height: 146 cm, weight: 40 kg; body mass index “BMI”: 17
	Only use mattresses that are approved by the manufacturer.
	Lock the handset if the resident could be at risk due to inadvertent motorised adjustments.

4.5.2 PID Number

Relevant order information is summarised for the manufacturer under the PID number. Have the PID number ready any time you contact your specialist dealer. You can find the PID no. on the bed frame at the head end.

Part A: Image1:
PID Number

4.5.3 Materials Used

The bed is made predominantly of steel sections coated with a polyester powder finish or a metal alloy of zinc or chromium. The safety side bars and mattress base are made of wood or metal depending on the bed model. The chassis are made of steel profiles with wooden panels. All surfaces are sealed.

The surfaces indicated are safe for contact with the skin.

4.5.4 Dimensions and weights

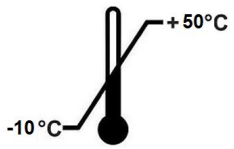
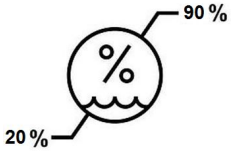
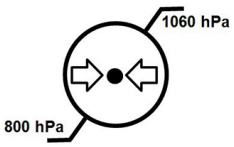
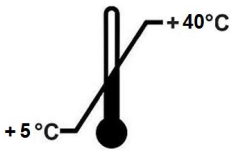
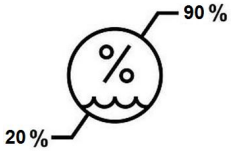
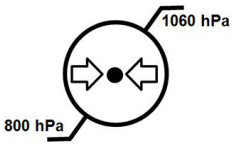
All the indicated dimensions and weights in this manual are approximate.

Assembled bed with safety sides:	
Mattress base dimensions	Depending on the version of head-board/footboard, see the chapter Part A: Mattress base sizes » 8.
Note: Please refer to the dimensioned sketch on our website for further details: www.burmeier.com/de/information/downloads.	
Total weight, depending on model	from approx. 120 kg to approx. 133 kg
Safe working load	250 kg
Disassembled bed:	
Headboard/footboard with a motor	from approx. 22.8 kg to approx. 24 kg
Mattress base frame with motors	from approx. 46 kg to approx. 54 kg
4 wooden safety side bars	15 kg
Patient lifting pole	6 kg
Storage aid	3 kg

4.5.5 Adjustment ranges

Height adjustment of mattress base	Approx. 30 – 80 cm
Adjusting the backrest	Approx. 0° – 70°
Adjusting the leg rest	Approx. 0° – 35°
Adjusting to reverse-Trendelenberg position	14°

4.5.6 Ambient conditions

Noise level during adjustments	max. 48 dB(A)	
The ambient conditions stated below must be maintained:		
For storage/transport:		
Storage temperature	min. -10°C, max.+50°C	
Relative humidity (not condensed)	Min. 20 %, max. 80 %	
Air pressure (at altitude ≤ 3000 m)	Min. 700 hPa, max. 1060 hPa	
In operation:		
Ambient temperature	min. + 5°C max. + 40°C	
Relative humidity (not condensed)	Min. 20 %, max. 80 %	
Air pressure (at altitude ≤ 3000 m)	Min. 700 hPa, max. 1060 hPa	

4.5.7 Classification

- This bed fulfils all the requirements of the Medical Device Regulation (EU) 2017/745 (MDR)
- This bed is classified as a Class I active medical product with type BF application parts
- EMDN code: V08060101 ; HOSPITAL/HOME CARE ELECTRIC MEDICAL BEDS
- For use in the following application environments in accordance with 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 resident. (e.g. retirement and nursing homes, rehabilitation facilities and geriatric institutions)
4:	Care in the home. A medical electrical device is used to alleviate or compensate for injuries, disabilities or illnesses.

4.5.8 Electrical data

Switch mode power supply	
Type	Linak SMPS 20
Input voltage	AC 230 V, ± 10 %, 50 Hz
Max. current input	AC 2.5 A
Output voltage	DC 35 V
Output current	Max. DC 6.0 A
Duty cycle	Intermittent duty, 2 min ON / 18 min OFF
Protection category	IP X4
Classification	Protection class II, not for use in explosive atmospheres

Handset with locking function	
Type	Linak HL 74
Protection category	IP X4

Motors for mattress base height	
Type	Linak LA 27
Force/installation dimension/lift	1900 N / 700 mm / 505 mm
Input voltage	DC 24 V
Duty cycle	Intermittent duty: 2 min ON / 18 min OFF
Protection category	IP X4

Backrest motor	
Type	Linak LA 27
Force/installation dimension/lift	3500 N / 320 mm / 110 mm
Input voltage	DC 24 V
Duty cycle	Intermittent duty: 2 min ON / 18 min OFF
Protection category	IP X4

Thigh rest motor	
Type	Linak LA 27
Force/installation dimension/lift	2500 N / 270 mm / 60 mm
DC 24 V	Input voltage
Duty cycle	Intermittent duty: 2 min ON / 18 min OFF
Protection category	IP X4

4.5.9 Information on electromagnetic compatibility (EMC)

To ensure electromagnetically interference-free operation, only use cables and accessories that are approved by the manufacturer (see also the chapter “Replacement Parts; Accessories” in the instruction manual for the bed).

For the intended use as described in the main instruction manual, no significant performance limitations of this bed are known/expected as a result of possible electromagnetic interference from neighbouring devices.

ATTENTION

Risk of malfunctions

Failure to heed this warning may result in malfunctions and material damage.

- The use of accessories, transducers and cables other than those supplied by BURMEIER for this bed may result in increased electromagnetic emissions or reduced electromagnetic immunity of the bed and may lead to incorrect operation.
- The use of this device next to other devices should be avoided, as this could result in incorrect operation. If such use is nevertheless necessary, this device and the other devices should be monitored to ensure that they are working properly.
- Portable RF communication devices (radio, mobile phones etc.), including their accessories (such as antenna cables and external antennas) should not be used at a distance of less than 30 cm from the electrical parts and cables of this bed. Failure to observe this may result in a reduction in the performance of the device.

The bed is intended for use in the electromagnetic environment described below. The operator or user of the bed must ensure that it is used in such an environment.

This device is compliant with the following EMC standards regarding interference emissions and immunity:

Ambient limit values of the interference emissions	
Phenomenon	**Home healthcare environment**
Conducted and radiated interference emissions	CISPR 11
Harmonic distortions	See IEC 61000-3-2
Voltage fluctuations and flicker	See IEC 61000-3-3

Sheathing		
Phenomenon	**EMC basic standard or test method**	**Immunity level (test + compliance)**
		Home healthcare environment
Electrostatic discharge (ESD)	IEC 61000-4-2	+/- 8 kV contact
		+/- 2 kV, +/- 4 kV¸ +/- 8 kV, +/- 15 kV; +/- 25 kV air
High-frequency electromagnetic fields	IEC 61000-4-3	10 V/m ; (80 MHz to 2.7 GHz; 80% AM at 1 kHz)
High-frequency electromagnetic fields in the immediate vicinity of wireless communication devices	IEC 61000-4-3	See separate table zz (at the end of this chapter)
Magnetic fields with rated power frequencies	IEC 61000-4-8	See separate table zz (at the end of this chapter)

AC port for supply input		
Phenomenon	**EMC basic standard**	**Immunity level (test + compliance)**
		Home healthcare environment
Electrical fast transient disturbances/bursts	IEC 61000-4-4	+/- 2 kV; 100 kHz repetition frequency
Electrical surges: conductor to conductor	IEC 61000-4-5	+/- 0,5 kV; +/- 1kV
Conducted interference induced by high-frequency fields	IEC 61000-4-6	3 V; 0.15 MHz to 80 MHz; 6V in ISM and amateur radio frequency bands between 0.15 MHz and 80MHz 80% AM at 1 kHz
Voltage dips	IEC 61000-4-11	0% UT; 1/2 period; at 0, 45, 90, 135, 180, 225, 270 and 315 degrees
		0% UT; 1 period; and 70% UT; 25 periods; single-phase at 0 degrees Celsius
Voltage interruptions	IEC 61000-4-11	0% UT; 250 periods

Ports for signal input/signal output parts		
Phenomenon	**EMC basic standard**	**Immunity level (test + compliance)**
		Home healthcare environment
Electrostatic discharge (ESD)	IEC 61000-4-2	+/- 8 kV; contact +/- 2 kV, +/- 4 kV¸ +/- 8 kV, +/- 15 kV; +/- 25kV air;
Electrical fast transient disturbances/bursts	IEC 61000-4-4	+/- 1 kV; 100 kHz repetition frequency
Conducted interference induced by high-frequency fields	IEC 61000-4-6	3 V; 0.15 MHz to 80 MHz; 6V in ISM and amateur radio frequency bands between 0.15 MHz and 80MHz 80% AM at 1 kHz

Table zz: Test specifications for the immunity of sheathings to high-frequency wireless communication equipment

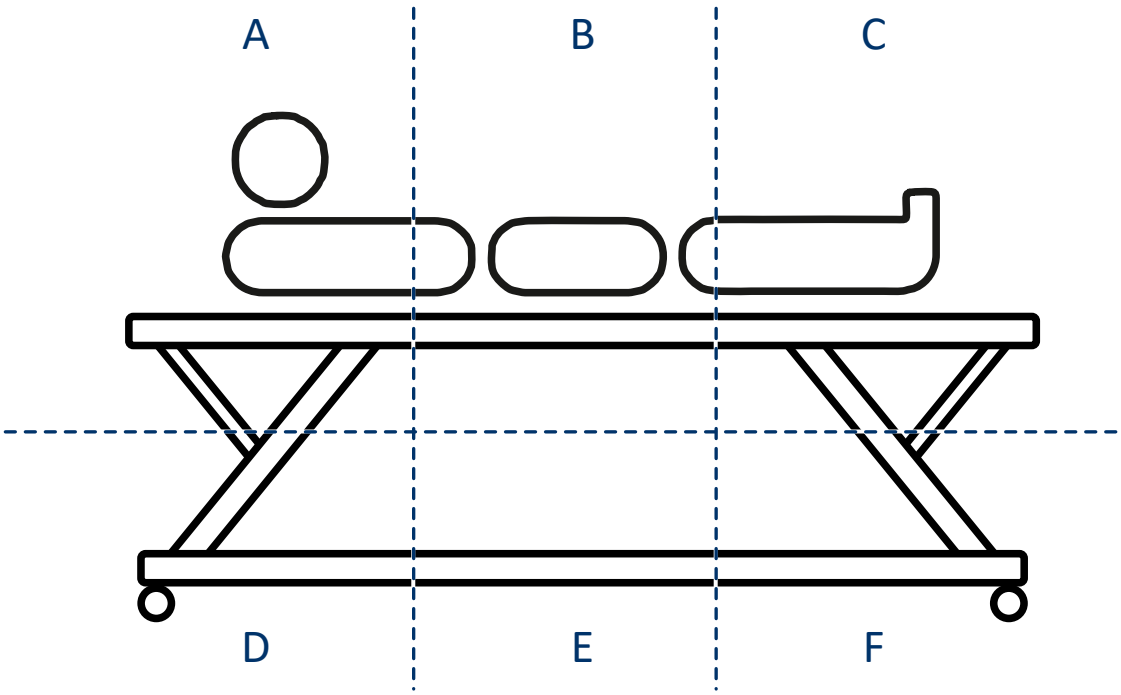
Test frequency MHz	Frequency band	Radio service	Modulation	Max. power W	Distance m	Immunity test level v/m
385	380 to 390	TETRA 400	Pulse modulation 18 Hz	1.8	0.3	27
450	430 to 470	GMRS 460 FRS460	FM +/- 5% deviation, 1kHz sine wave	2	0.3	28
710	704 to 787	LTE band 13, 17	Pulse modulation 217 Hz	0.2	0.3	28
745						
780						
810	800 to 960	GSM 800/900 TETRA 800 iDEN820, CDMA 850, LTE band 5	Pulse modulation 18 Hz	0.2	0.3	28
870						
930						
1720	1700 to 1990	GSM 1800 CDMA 1900,	Pulse modulation 18 Hz	2	0.3	28

Table zz: Test specifications for the immunity of sheathings to high-frequency wireless communication equipment						
Test frequency MHz	**Frequency band**	**Radio service**	**Modulation**	**Max. power W**	**Distance m**	**Immunity test level v/m**
1845		GSM 1900, DECT, LTE band 1; 3; 4; 25; UMTS				
1970						
2450	2400 to 2570	Bluetooth, WLAN 802.11 b/g/n, RFID 2450, LTE band 7	Pulse modulation 217 Hz	2	0.3	28
5240	5100 to 5800	WLAN 802.11 a/n	Pulse modulation 217 Hz	2	0.3	9
5500						
5785						

4.5.10 Electrical connection diagram

This bed can be supplied with the following standard equipment. In the following chapter, you will find the connection diagram for the electrical components.

The following figure will help you to localise the electrical components on the bed.

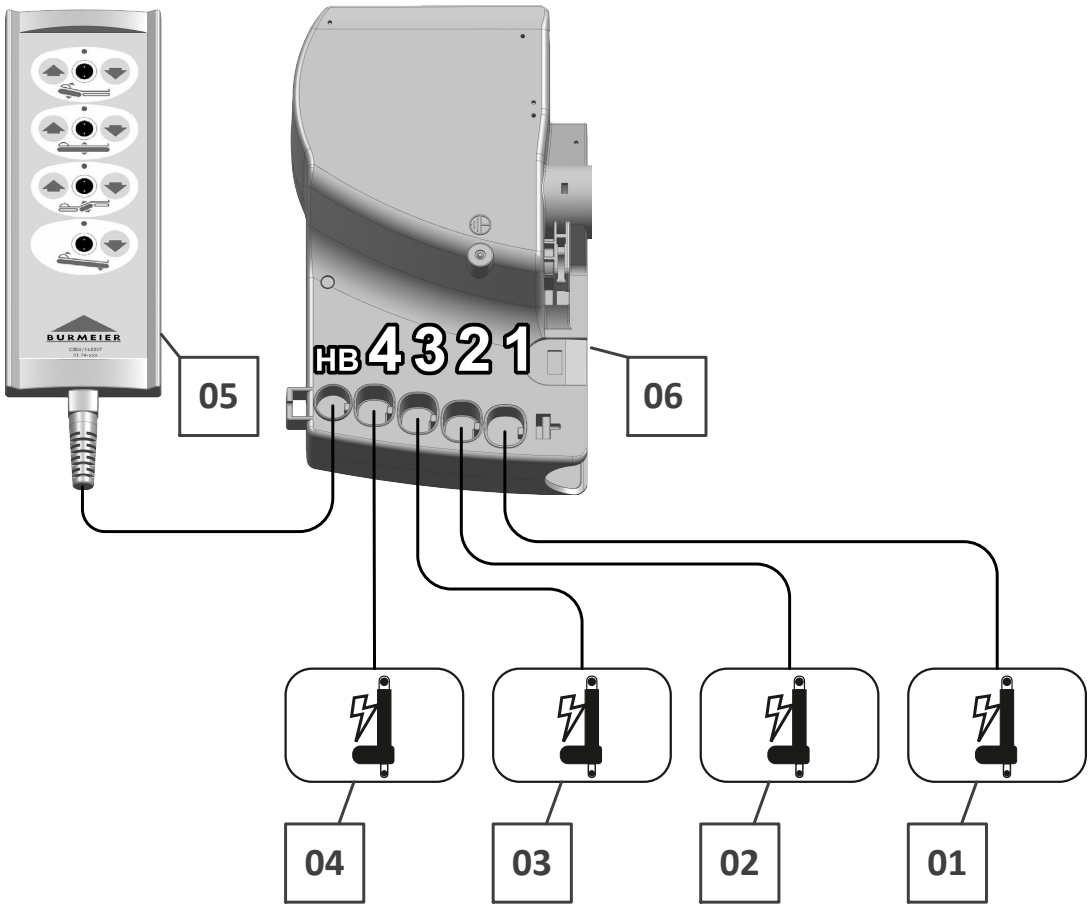


Part A: Image2:
Location of the electrical components

A: Head end, high up	B: Centre of bed, high up
C: Foot end, high up	D: Head end, low down
E: Centre of bed, low down	F: Foot end, low down

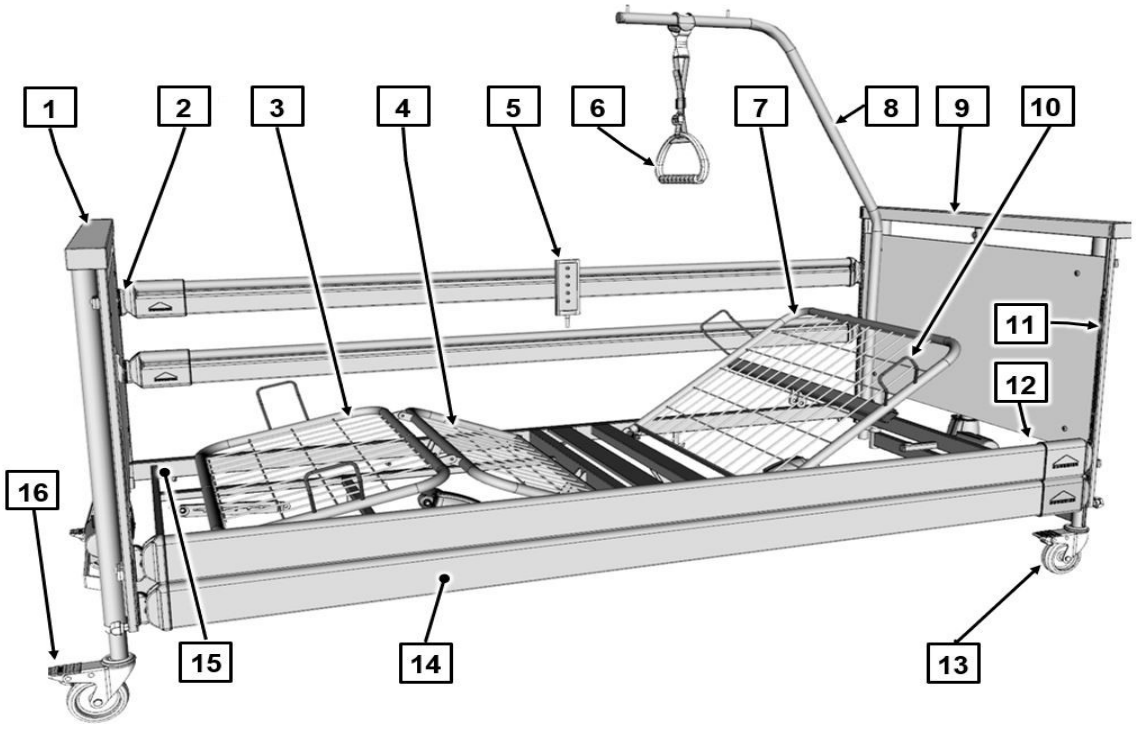
4.5.10.1 Standard features

The letters in the following tables refer to the previous picture “Location of the electrical components”. This indicates where the component is located in the bed.



1: Backrest motor → A	2: Height adjustment motor at head end → D
3: Thigh rest motor → C	4: Height adjustment motor at foot end → F
5: Handset → A	6: Control unit → A

Part B: Operator and Technical Personnel



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Contents

Part B: Operator and Technical Personnel

1 Target Groups, Qualifications and Duties

1.1 Target groups of the commercial sector

1.1.1 Operator

Operators (e.g. medical equipment retailers, specialist dealers, health insurance) are all natural or legal persons who use the care bed or on whose behalf it is used. It is a requirement that the operator duly instructs care staff in its use.

1.1.1.1 Responsibilities of the operator

Please observe your obligations as the operator in accordance with the Medical Devices Operator Ordinance (Medizinprodukte-Betreiberverordnung, German abbreviation: MPBetreibV), to ensure that this medical product is always operated safely and with no risk to residents, care staff or third parties. In other countries the relevant national regulations concerning the duties of the operator must be followed!

Only permit persons who have been properly instructed to use this bed!

- In Germany: Ensure that care staff know where this instruction manual is kept, in accordance with the Medical Devices Operator Ordinance (MPBetreibV) § 9! In other countries, the relevant national regulations must be complied with!
- Using this instruction manual, which is provided with this care bed, ensure that care staff is instructed in the safe operation of this bed before using it for the first time!
- Draw every user's attention to the possible hazards that can arise if the bed is improperly used. This applies in particular to the use of electrical drives and safety sides!
- Make sure that substitute staff are also sufficiently well instructed in the safe operation of the care bed!

Check to ensure that the safety instructions are adhered to!

If the bed is in long-term use, test the functions and check for visual damage in accordance with chapter Part B: Maintenance » 26 after a reasonable period of time!

If the care bed changes ownership, the instruction manual must be handed over with the bed.

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.

If anything is unclear, please contact the manufacturer of the device, or Burmeier.

1.1.2 Technical Personnel

Technical personnel comprises persons who, based on their training or briefing, are qualified to deliver the care bed, assemble or dismantle it and to transport the bed. Furthermore, this personnel is briefed in the cleaning and disinfection instructions.

1.2 Target group of the private sector

1.2.1 Private purchasers

Information regarding this target group is given in Part C: Private purchasers » 2.

Information on assembly work is given in Part B: Assembling the Care Bed » 11.

2 Safety Information

2.1 General information

Before using the care bed for the first time:

- Read this instruction manual in full. This will help you to prevent injuring persons or damaging materials as a result of incorrect handling.
- Please read and note the information on approved mattresses in accordance with the standard DIN 13014, (see Part B: Mattress requirements » 44).
- Clean and disinfect the care bed before using it for the first time.

Before using a care bed, the user's personnel must check that the care bed is fully functional and in perfect working order, and must observe the instructions in the manual in accordance with the Medical Devices Operator Ordinance (MPBetreibV) § 2. This also applies for accessories.

This care bed fulfils all the requirements of the Medical Device Regulation (EU) 2017/745 (MDR). It is classified as a Class I active medical device in accordance with § 13 of the German Medical Devices Act (Medizinproduktegesetz: MPG).

The safety of this care bed has been tested by an independent testing institute. Any item of technical electrical equipment can prove hazardous if not used properly.

Please observe your obligations as the operator in accordance with the Medical Devices Operator Ordinance (Medizinprodukte-Betreiberverordnung, German abbreviation: MPBetreibV), to ensure that this medical product is always operated safely and with no risk to residents, care staff or third parties.

This instruction manual contains safety information which must be followed. All persons who work on or with the care bed must be familiar with the contents of this instruction manual and must follow the safety information.

2.2 Safety Information for Operating the Bed

This care bed is not suitable for residents under 146 cm in height or for small children.

This care bed may only be operated by persons who have received instruction from the operator in its safe operation.

Electrical adjustments are only possible when the care bed is properly connected to the mains supply.

2.2.1 Electrical cables and connections

⚠ WARNING

Risk of electric shock

Failure to heed this warning may result in fatal electric shocks due to damaged mains power cables! Take the following measures to prevent hazards due to electric shock and malfunctions.

- Replace damaged mains power cables immediately! If a damaged mains cable continues to be used, this can lead to electric shock, fire and other hazards as well as malfunctions.
- Route the mains cable in such a way that it cannot be pulled, driven over or damaged by moving parts, or in any other way, when the bed is operated. Before moving the bed, always make sure that you have unplugged it from the mains supply.
- Before moving the bed, always make sure that you have unplugged it from the mains socket.
- Hang the mains cable in the mains cable holder provided on the chassis headboard to ensure that it will not fall off or trail on the floor.
- At weekly intervals when the bed is being used, carry out a visual inspection of the mains cable to check for damage (scuffing, exposed wires, kinks, pressure points, etc.). A check should also 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, or 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 mains socket, and before plugging the cable back into the mains socket whenever the bed has been moved or relocated.
- Check the strain relief of the mains power cable regularly to ensure that it is securely fixed.
- Do not place multiple socket outlets under the bed. This could cause electrical hazards due to damaged mains cables or penetrating fluids.
- Do not continue to use the bed if you suspect that the mains cable could be damaged.

2.2.2 Operating time of electric drives

Continuous operation must not exceed two minutes! After this time, a rest period of at least 18 minutes must be observed. If the electric drive is operated for a much longer period, e.g. due to the resident continually “playing” with the handset, the thermal protection device integrated in the control unit will deactivate power supply for safety reasons. Depending on the extent of overloading, it may take a few minutes until you can carry out any further adjustments. Also read and note the additional information contained in the chapter Part C: Troubleshooting » 26.

2.2.3 Handset

When not in use, stow the handset in such a way that it cannot inadvertently fall off (hang it up by the hook). Make sure that the cable (optional) cannot be damaged by moving parts of the care bed.

⚠ CAUTION

Risk of injury

Failure to heed this warning may result in physical injury due to unintentional incorrect operation.
Lock the operating functions for the resident on the handset if:

- The resident is unable to operate the bed safely or to free himself/herself from potentially dangerous situations,
- the resident is exposed to an increased risk of entrapment during backrest and thigh rest adjustments when the safety sides are raised,
- The resident could be at risk due to unintentional motorised adjustments,
- Children are left unsupervised in the room with the care bed.

⚠ CAUTION

Risk of injury

Failure to heed this warning may result in physical injury due to entrapment or crushing of limbs.

- This bed is only intended for use as a single bed. Keep a minimum safety distance of one bedside cabinet width (approximately 60 cm) between one bed and the next.

- When making any adjustments, always ensure that no limbs belonging to the resident, care staff or other persons, especially playing children, could be trapped underneath the rests or the mattress base during the adjustment.
- Do not leave children unsupervised in the room with the bed.
- Adjustments may then be made only by, or in the presence of, a person who has received appropriate instruction.

2.2.4 Switch mode power supply

⚠ ATTENTION

Material damage

Failure to follow this can lead to system malfunctions or material damages!

- After transport/storage in a cold environment, the switch mode power supply unit should not be operated until it has reached room temperature.

2.2.5 Bed adjustment

⚠ ATTENTION

Material damage

Failure to heed this warning may result in damage to the bed and/or lifting frame, and this could have an adverse effect on the loading capacity of the bed or the adjustment functions. Ensure that:

- No obstacles such as bedside cabinets, supply rails, other equipment, chairs, wall protection rails or sloping roofs are in the way,
- There are no objects lying beneath the bed,
- People do not sit on slightly raised sections of the backrest and leg rests.

⚠ CAUTION

Risk of injury

Failure to heed this warning may result in injuries to the resident due to lifting drives which do not move synchronously. These cause the mattress base to be inclined (e.g. into an undesired Trendelenburg position).

- Adjust the mattress base height whenever necessary, but at least once a day, to its upper or lowest height. This automatically equalises the two independent lifting drives and results in a level horizontal mattress base.

⚠ ATTENTION

Material damage

Failure to heed this warning may result in damage to the bed and/or objects.
If the bed is misaligned further in its adjustment path (by raising it) due to overloading or obstacles (e.g. window sills), this may cause damage to the bed or other objects since the drive system does not have an electronic overload shut-off.

- Therefore, avoid putting more weight on the bed than the permitted weight.
- Make sure that the entire adjustment range of the bed is free of obstacles. Furniture, window sills, sloping roofs, etc. must not be in the way of the adjustment path.

2.3 Special Hazards

2.3.1 Risk of fire

⚠ WARNING

Risk of fire

Failure to heed this warning may result in physical injury (due to burns).

- Use only flame-retardant mattresses and bedding if possible.
- Inform residents that smoking is not allowed in bed.

- Use only suitable mattresses that comply with the German standard DIN 13014 and are not too soft. Furthermore, these mattresses must resist ignition in accordance with DIN EN 597-1 and -2.
- Only use additional devices (e.g. electric blankets) and other electrical devices (e.g. lamps, radios) that are in perfect working order and ensure that their connection cables cannot be damaged by moving parts of the bed.
- Ensure that this equipment is used only for the purpose intended.
- Ensure that this equipment is not inadvertently placed on or under the bedding (danger of overheating)! Use only LED bulbs, as far as possible, since these generate far less heat than conventional or halogen light bulbs.
- Avoid using extension cables or multiple socket bars under the bed (risk of fire due to penetrating fluids).

2.4 Safety Information for Attachments and Additional Equipment

2.4.1 Use of resident lifts

⚠ ATTENTION

Material damage

Failure to heed this warning may result in damage to cables and drives due to the use of resident lifts when the mattress base is at its lowest height.

- Do not wheel the resident lift under the care bed when this is at its lowest level.
- Raise the mattress base so that the resident lift can easily be moved underneath.

2.5 Safety information for accessories

⚠ ATTENTION

Material damage

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

- When using external electrical components such as resident lifts, reading lamps, or compressors for positioning systems, ensure that their power cables will not become entangled or damaged by moving parts of the bed.
- Efficient and safe operation combined with maximum protection of residents can only be guaranteed if original Burmeier accessories are used that are designed for the relevant model of bed.

2.6 Safety information for disposal

⚠ WARNING

Risk of infection

Failure to heed this warning may endanger health!

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

⚠ ATTENTION

Environmental risk

Failure to heed this warning may result in environmental damage!

- Do not dispose of batteries with domestic waste.

- They can be returned to Stiegelmeyer or disposed of at local waste collection points in the same way as car batteries.
- Outwardly undamaged, discharged battery sets can also be returned to Burmeier.

3 Assembling the Care Bed

3.1 Assembling the care bed

- This chapter is intended to be read by professionals employed by the operator or medical supply retailers.

3.2 Tools

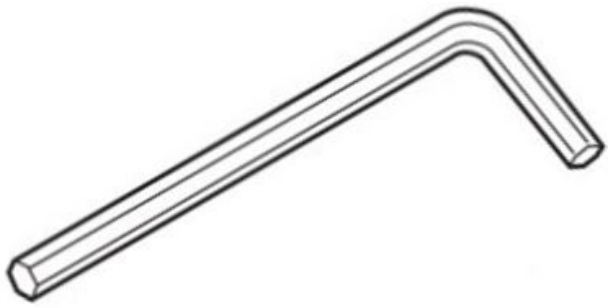
An Allen key is supplied.

Please note: An Allen key is included in the delivery of the bed.

To ensure all bed components are securely tightened, all hexagon socket head screws of the bed must be tightened with the Allen key provided (see illustration).

Tightening the screws by hand is not sufficient and can lead to bed components loosening during operation.

→ Tighten all hexagon socket head screws of the bed with the Allen key provided.



3.3 Included in the package

The bed is delivered unassembled and mounted on a storage aid. Assembly takes place on site by the operator's technical staff. Assembly can be carried out by one or two persons.

Remove all packaging materials and cable ties before starting to assemble the bed. Observe the disposal information in the chapter Part B: Disposal » 43.

3.4 Location requirements

Note the following safety relevant aspects to take into account when selecting the site of use:

- There must be sufficient room available to accommodate the bed's entire range of adjustments. Furniture, window sills, sloping roofs, etc. must not impede adjustments.
- The space underneath the bed must remain free.
- Before using the bed on parquet flooring, check whether the castors will leave stains on the parquet varnish. The bed can be used on tiles, carpet, linoleum or laminate flooring without causing any damage. BURMEIER is not liable for any floor damage that may be caused by day-to-day operation.
- A properly installed 230 volt mains socket must be available close to the bed (if possible) and available at any time.
- If any other additional 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 here to the safe routing of all loose connector cables, tubing etc. If you have any queries or concerns, consult the manufacturer of the additional equipment or BURMEIER.

⚠ ATTENTION

Material damage

Failure to heed this warning may result in damage to the flooring during assembly and dismantling of the bed caused by the sharp edges of the chassis or the mattress base.

- Carefully assemble or dismantle the bed on protective covers to prevent damage to the flooring.

3.5 Mattress base frame

Proceed as follows to assemble the mattress base frame on the chassis:

1. Remove the safety side bars and the patient lifting pole from the storage aid and set them aside for the time being.
2. Remove the two halves of the mattress base frame from the storage aid.
3. Place the head end half of the mattress base frame perpendicular to the floor. The two patient lifting poles point downwards, while the 2 drive motors point upwards.
4. Now loosen the 4 hexagon socket head screws in the foot end half of the mattress base frame. Do not completely unscrew the socket head screws; leave them about 2 turns in the thread.
5. Now take the foot end half of the mattress base frame and lift it over the head end half of the mattress base frame. Then fit the two halves of the mattress base frame together.
6. Screw in the 4 hexagon socket head screws until they are tight.
7. Now lay the assembled mattress base frame flat on the floor.

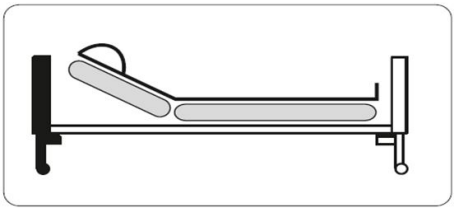
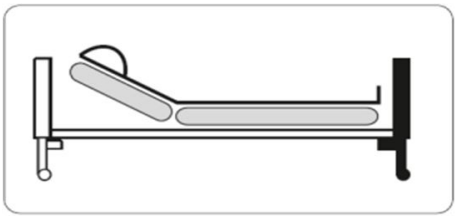
3.6 Chassis

⚠ WARNING

Danger due to Trendelenburg position

Failure to heed this warning could result in serious injury to the person lying in bed.
The two chassis should not be confused! A mix-up will lead to an unwanted Trendelenburg position instead of a reverse-Trendelenburg position.

- Take care not to confuse the two chassis when assembling the bed
- Observe the different labels for identification of the two chassis. These are located centrally on the cross tubes, near the holder for the drive motor, and centrally on the cross tubes of the mattress base frame

Adhesive label on the head end chassis	
Adhesive label on the foot end chassis	

Proceed as follows to attach the chassis to the mattress base frame:

1. Now remove both of the chassis from the storage aid by completely unscrewing the 4 hexagon socket head screws from the storage aid.

   You will need the 4 hexagon socket head screws you have just removed for assembling the mattress base frame.
2. Remove both chassis from the storage aid.
3. Connect the head end chassis to the mattress base frame. Make sure that the adhesive labels match!

   - To do so, lift up the mattress base frame at the head end and slide the two connection pieces of the head-end chassis, as far as they will go, into the tubes of the mattress base frame.

     Please note: There must not be more than 5 mm clearance between the mattress base frame and the corner posts of the chassis.
4. Tighten the 2 hexagon socket head screws by hand.
5. Repeat steps 3 and 4 for the chassis footboard.
6. Tighten the 4 hexagon socket head screws securely with an Allen key.

3.7 Safety side

The bed is equipped with either wooden or metal safety sides, depending on the features included, to prevent the resident from accidentally falling out of bed. The safety sides are made of bars (wooden or metal) with plastic end caps and are attached to the bed with a simple click-on system. If necessary, they can be manually raised or lowered by the carer.

On each chassis (at the head end or foot end) there is one guide rail on the left and one on the right. A safety side guide runs in each of these guide rails. Each guide has two holding

devices for the bars. The safety side guides are pre-assembled at the factory. The safety side bars can be attached to the holding devices quickly and with little effort thanks to the simple click-on system.

Assembling the wooden safety sides

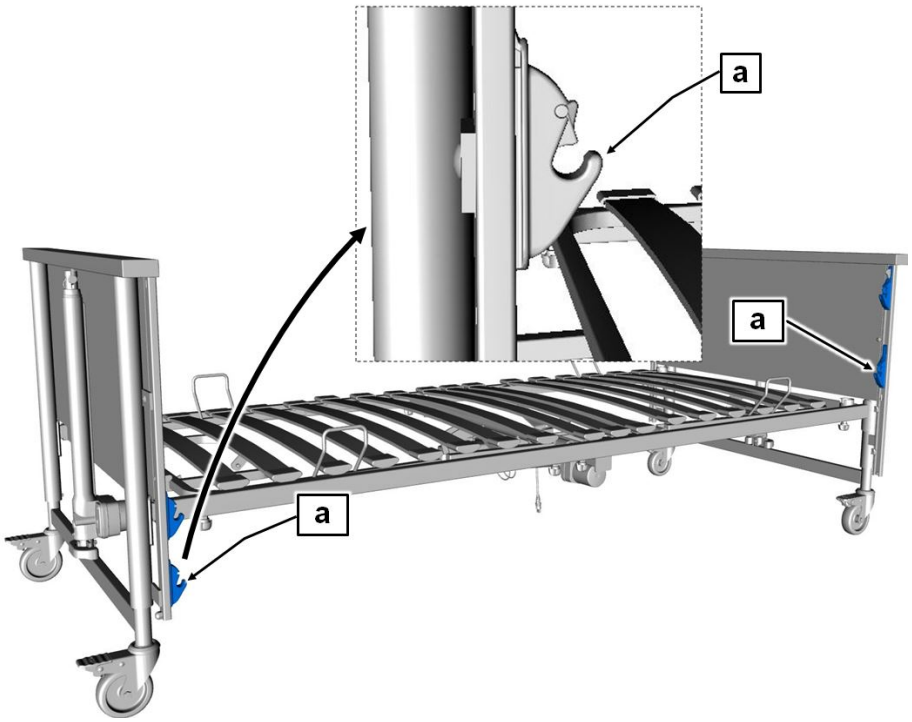
⚠ CAUTION

Risk of injury

Failure to heed these warnings may result in injury and damage to property due to improperly assembled, falling safety side bars.

- After installing each safety side bar, check that it is correctly locked into the holding fixture.
- Test the function to check that the safety sides are correctly fitted. For more information on operating the safety sides, see chapter Part C: Safety sides » 18.

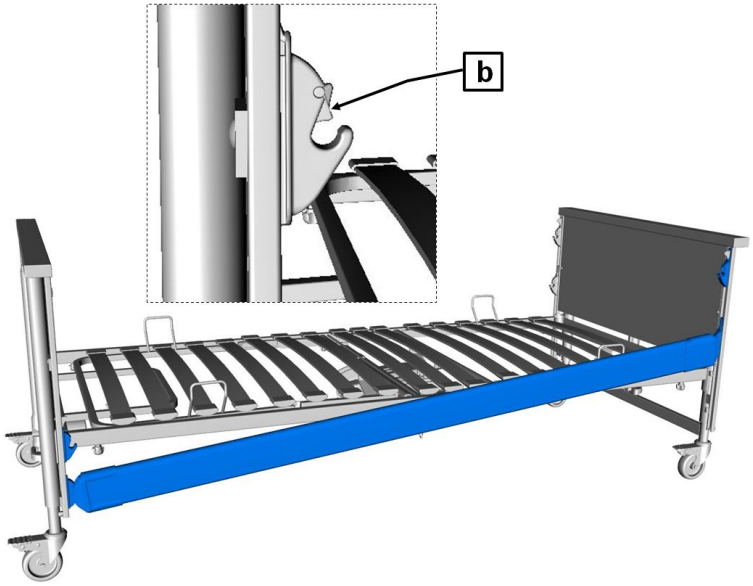
Similar to illustration!



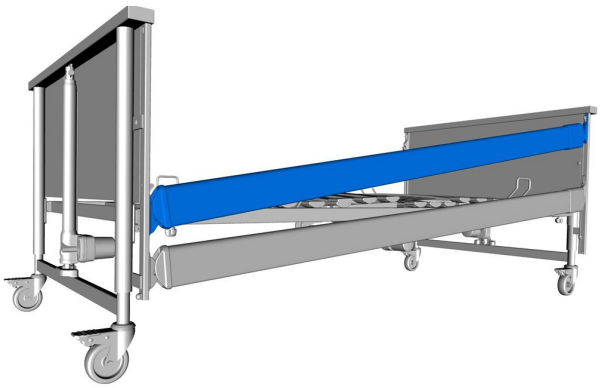
Important: The guide rails must be diagonal to each other before starting the assembly work (see picture). To ensure this, raise the guide rail at the head end and lower the guide rail at the foot end.

Start with the chassis headboard on the right-hand side of the bed and proceed as follows:

- Attach one end of the wooden safety side bar to the lower holding fixture [a].
    - Please note: The recess on the safety side bar must face inwards and the rounded side of the bar must face upwards.



- Insert one end of the bar into the lower holding fixture (at the head end).
- Insert the other end of the bar into the lower holding fixture (at the foot end).
    - The bar must firmly click into place with the aid of the release button [b].
    - Make sure that the bar is properly engaged by moving it up and down by hand.



- Repeat the last few steps to attach the second, third and fourth bars.

Assembling the metal safety sides

- Proceed in a similar way as for installing the wooden safety side.

3.8 Electrical connection

Before you connect the cables, remove the packaging material from all the cables.

The 4 drive motors are supplied with electricity by the switch mode power supply. All drive motor plugs are connected to the control unit at the factory and secured with a cover to prevent unintentional removal. The two plugs at the ends of the coiled cables must be inserted into the correct lifting motor in each case (either the lifting motor on the head-end chassis or the lifting motor on the foot end chassis) that is located under the mattress base frame.

⚠ ATTENTION

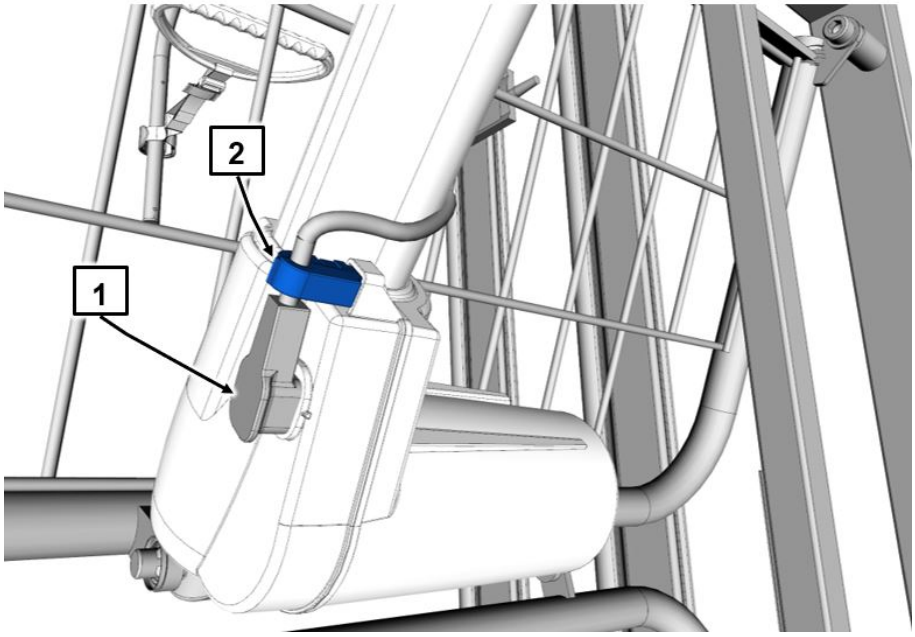
Material damage

Failure to heed this warning may result in material damage due to incorrectly routed cables.

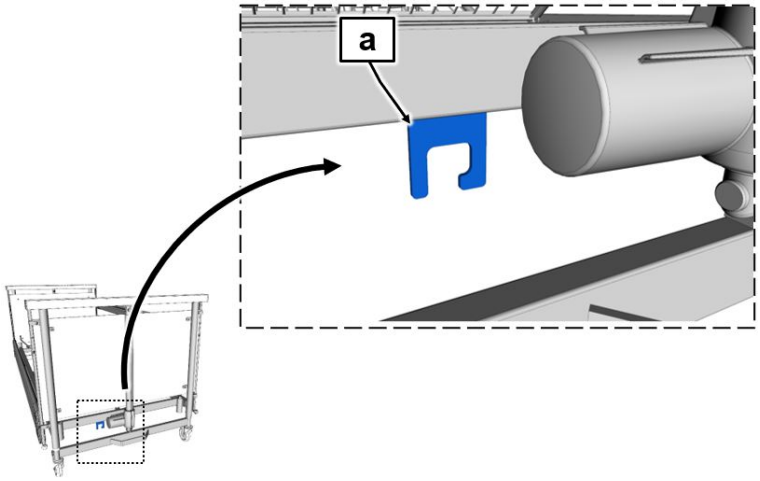
- Lay all cables carefully.

- When laying the connecting cables for the lifting drives, the cable must be routed through the guides at the head end and foot end of the bed. It is important to ensure that the coiled section of the cable is routed along the same (inward-facing) side of the chassis as the drive motors.
- Ensure that no cables are damaged, there are no loops and the cables are not squeezed by moving parts.
- The electricity cable must not be run over by the castors when the bed is moved!

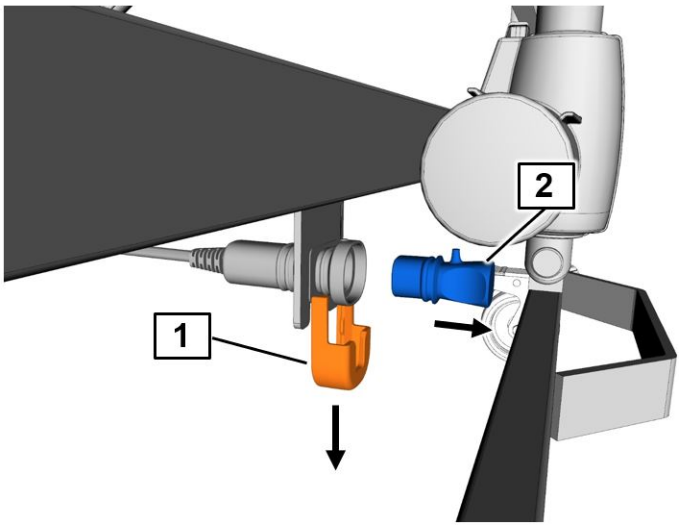
1. Insert the angled plug [1] for the drive motor on the chassis headboard or chassis footboard as far as it will go and secure it with the strain relief [2].



2. **Note:** There is a strain relief for the 24 volt connection socket on the cross tube at the head end of the mattress base frame (see [a]).



The connection socket is ready-fitted in the factory and is equipped with a pull-out prevention device [1] for the 6-pin plug of the switch mode power supply.

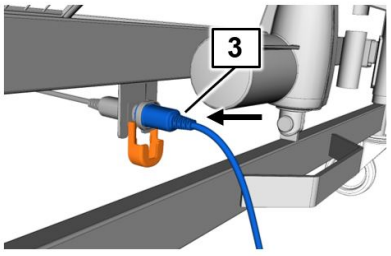


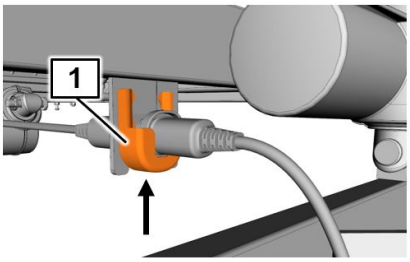
- Pull the pull-out prevention device [1] downwards to release the retaining element.
- Pull the sealing plug [2] out of the connection socket.
- Insert the 6-pin plug [3] for the switch mode power supply into the mains socket.

  Attention - incorrect connection! If the plug-in power supply unit is incorrectly connected to the connection socket, the system cannot be operated. The IPX4 protection class cannot be guaranteed.

  The 6-pin plug of the switch mode power supply unit must be correctly connected to the connection socket. The plug only fits in one particular position. If it does not seem possible to insert it, do not use excessive force but rotate the plug by a ½-turn and try again.
- Press the pull-out prevention device [1] from below onto the socket as far as it will go.

  Make sure that the plug is properly inserted.





- Now plug the switch mode power supply into an electrical socket.

  It is essential that you follow the instructions given in Part B: Switch mode power supply connection » 20.

4 Putting into Service

4.1 Switch mode power supply connection

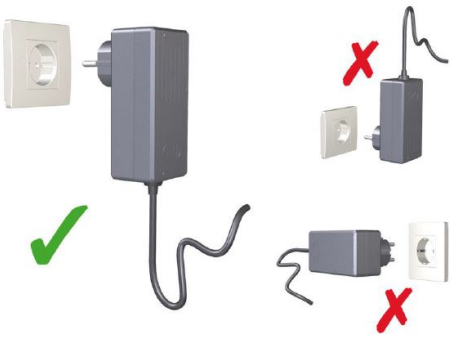
⚠ ATTENTION

Material damage

Failure to heed this warning may result in irreparable faults to the switch mode power supply unit and a short-circuit in the wall socket.

- The mains socket you wish to use for the switch mode power supply must NOT be under the bed. Otherwise, the moving mattress base frame may rip the switch mode power supply out of the mains socket during horizontal adjustments.
- Before moving the bed, always hang the switch mode power supply on the head end chassis using the cable holder. The cable holder is attached to the mains cable.
- Before moving the bed, remember the length of the electrical cable; unplug the power supply cable beforehand.
- Take care when adjusting the height: Maintain a sufficient distance at the side between the bed and the switch mode power supply to avoid damaging it. Use wall deflector rollers if necessary.

1. Plug the switch mode power supply into a mains socket.
   - The cable outlet must hang downwards (see picture).



4.2 Making ready for operation

Allow the bed to adjust to room temperature for about 20 minutes if it was stored beforehand at the lowest or highest permissible temperature.

After the bed has been assembled, carry out a check in accordance with the chapter Part B: Maintenance » 26.

Clean and disinfect the bed before it is used for the first time and before every re-use in accordance with the chapter Part B: Cleaning and disinfection » 22.

The bed is ready for operation if all the steps described in the chapter Assembling the care bed have been read and carried out successfully.

5 Cleaning and disinfection

5.1 Safety information on cleaning and disinfection

Cleaning is the most important measure and requirement for ensuring 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 if it has been visibly contaminated with infectious or potentially infectious materials (blood, stool, pus etc.) or if the doctor requires this due to the presence of an infectious disease.

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

⚠ ATTENTION

Material damage

Failure to follow these instructions could result in considerable damage to the bed frame and its electrical equipment and lead to subsequent faults!

- Unplug the power plug and store it so that it does not come into excessive contact with water or other cleaning solutions (place in a plastic bag).
- Ensure that all plugs on the bed itself are inserted correctly in the control unit and the drive motors.
- Ensure that none of the electrical components show any signs of external damage; otherwise water or cleaning agents may penetrate the system. This can result in malfunctions or damage to the electrical components.
- 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 subjected to a jet of water, a high pressure cleaner or other similar devices! Clean only with a moist cloth (at most with pressure-less splash water)!
- 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. Label the bed clearly as “out of order” and do not use the bed. Report this immediately to the operator responsible.
- Failure to follow these instructions could result in considerable damage to the bed frame and its electrical equipment and lead to subsequent faults!

5.2 Cleaning and Disinfection Plan

5.2.1 Manual cleaning

- Remove the bed linen and send it to the laundry service.
- Clean all surfaces, including the slatted bed frame and mattress base made of synthetic inserts or a metal lattice base, 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. Use 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 residents who have notifiable diseases according to § 6 of the Infektionsschutzgesetz (IfSG, Protection against Infection Act), bacterial infections, or infections with multiple-resistant pathogens (e.g. MRSA, VRE), as well as all beds in intensive care stations and infectious disease clinics. For all disinfections, the concentrations given in the DGHM list must be observed.
- Disinfection of the castors is only necessary when they have been visibly contaminated with infectious or potentially infectious materials.

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

Alternatively, the manual cleaning of the bed may be carried out after disinfection and hygienic treatment according to the Destech procedure. Please see the documents of the company Destech for further information.

5.3 Instruction of Care Staff and Technical Personnel

In order to ensure that cleaning and disinfection are conducted properly, we recommend that users and technical staff are appropriately instructed. When providing instruction, observe the following points:

- A clean bed must be transported to the resident's home in such a way that it will not become dirty or contaminated.
- When dismantling the bed, we recommend that it should be cleaned and wiped down with disinfectant straight away. Technical staff should be informed of the special measures required for cleaning and disinfection and should carry out the procedure in a reliable manner (the operator should specify the operational procedures or the individual procedural steps). Care must be taken that only disinfection agents approved by the DGHM (German Society for Hygiene and Microbiology) are used, and that these are used only in the DGHM-approved concentrations.

  The disinfection agent must be suitable for use with the surfaces to be disinfected.
- For this activity, technical staff 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 laundered.
- When cleaning/disinfecting work has been completed, technical staff must disinfect their hands before carrying out other tasks. Technical personnel should be equipped with a suitable pump dispenser containing a disinfection medium for hands.

  The immediate cleaning of the bed on site has the advantage that no "dirty" beds or bed components are transported together with clean beds. In this way, the transfer of potentially infectious germs, which may be found on 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 re-used, it should be stored (covered) in such a way that it is protected from dust, inadvertent dirt and contamination.

5.4 Cleaning agents and disinfectants

See chapter Part C: Cleaning and disinfection » 32.

5.5 Handling Cleaning and Disinfection Agents

- Follow the instructions for use for the particular products and their manufacturer. 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 ready 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 disinfectant 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

6.1 Legal principles

Operators of medical beds in Europe are obliged, in accordance with the new Medical Device Regulation (EU) 2017/745 (MDR) and existing relevant national laws/regulations, e.g. in Germany currently the

- German Medical Devices Operator Ordinance § 7 (Maintenance)
- Berufsgenossenschafts-Vorschrift DGUV regulation 3 (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 and safety checks.

Beds purchased for private use (non-commercial use) are not subject to regular safety inspections, but these are recommended by the manufacturer.

Information for operators

This bed has been designed and built to work safely over a long period of time. When operated and used properly, the expected service life of this bed is 2 to 8 years. The bed's service life depends on its frequency of use and the conditions under which it is used.

All 'serious incidents' [1] relating to the device must be reported to the manufacturer and the competent authority of the member state in which the user and/or patient is established (in Germany: www.BfArM.de)

[1]: Incident that had, could have had, or could have, one of the following direct or indirect consequences: a) the death of a patient, user or another person, b) the temporary or permanent serious deterioration in the health of a patient, user or another person, c) a serious risk for public health, (source: MDR, Article 2(65))

ATTENTION

Material damage

Failure to heed this warning may result in damage to property and put people at risk! Frequently transporting, assembling and dismantling the bed, improper operation and long-term use may cause damage, defects and wear to the bed over time.

- To prevent damage to property and danger to persons, rectify these defects in good time when they first occur.

To this end, there are legal requirements for conducting regular inspections in order to guarantee the safe condition of this medical product. According to § 7 of the Medical Devices Operator Ordinance (Medizinprodukte-Betreiberverordnung) it is the responsibility of the operator to maintain this product. For this reason, the following regular inspections and function checks must be carried out by the operator.

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

The operator is furthermore obliged to instruct care staff about the maintenance work that they must perform. Maintenance work that must be carried out by care staff is described in the chapter Part C: Maintenance » 29.

6.2 Inspections and Function Checks

6.2.1 Inspections and function checks

The operator of this care bed is obliged according to MPBetreibV (Medical Devices Operator Ordinance) Section 7 to conduct regular inspections after each renewed assembly, after each maintenance and during regular operation to ensure the safe condition of the care bed.

These inspections must be repeated within the regular maintenance activities depending on the conditions of use according to MPBetreibV § 7 and the inspections prescribed by the Employers' Liability Insurance Associations for mobile electrical equipment in commercial use according to DGUV regulation 3 (Testing of Mobile Electrical Equipment in Commercial Use).

All servicing and maintenance measures must be carried out when the bed is unoccupied.

- Observe the following order of inspection according to DIN EN 62353:

  1. Visual inspection
  2. Electrical measurement
  3. Functional check

- In accordance with § 7 MPBetreibV, the performance test and the evaluation and documentation of the test results must only be performed by an expert with the relevant knowledge and experience required to perform them properly.
- The electrical measurement must be carried out with suitable measuring instruments in accordance with DIN EN 62353 with an automated measuring procedure. In this case, this measurement may also be performed by a person trained in electrical engineering (as defined by DGUV 3) with additional medical and device-specific knowledge.
- The test results must be evaluated and documented only by a qualified electrician with additional medical and device-specific expertise.
- Only if the bed features an external switch mode power supply unit:

  - Electrical measurements include a leakage current test of the external switch mode power supply, and not the bed itself. As a result, the bed is ready for operation immediately after the switch mode power supply has been replaced with an intact switch mode power supply.
  - BURMEIER offers leakage current testing of switch mode power supply units as a service. To take advantage of this, the switch mode power supply units must be sent to BURMEIER. You will receive tested switch mode power supply units in return. Contact us for further details about this; refer to Part B: Replacement parts » 34 for the address.

6.2.2 Operating current test procedure

Preparation

- If an external switch mode power supply is used, in the event that this should be tested independently of the bed:

- Unplug the switch mode power supply from the electrical socket.
- Unplug the 24-volt power supply cable from the socket.
- Insert the plug of the 24-volt cable into the measuring adapter (special accessory, available from BURMEIER on request).
- Connect the measuring adapter to the “test probe” or similar socket of the test device.
- Plug the switch mode power supply into the test socket on the test device.

- If equipped with a CA40 control unit or an external switch mode power supply:
  - Plug the mains plug/switch mode power supply of the bed into the test socket of the measuring device.
  - Connect the test device probe to a bare metal conductive part of the bed frame (e.g. a screw).

Test procedure:

- Leakage current test: direct or differential current in accordance with DIN EN 62353
- Perform a leakage current test in accordance with the instructions provided by the test device manufacturer.

Limit value:

- Leakage current IL must be less than 0.1 mA.

Inspection cycle:

We recommend an annual inspection and functional check. If this test has been passed, an electrical measurement every ten years is sufficient if the bed is equipped with an external switch mode power supply. When equipped with a CA 40 control unit, the electrical measurement must be carried out annually as a regular part of the inspection and function check. In the case of verifiable compliance with 2% error rate (see also DGUV regulation 3: § 5, table 1B), the inspection cycle of the electrical test and inspection and function test can be extended to a maximum of 2 years.

The inspection report templates shown on the pages that follow should be used.

6.2.3 Inspection report

The following is an inspection report template for inspecting electro-medical equipment in accordance with DIN EN 62353 (latest issue):

Inspection report
Customer / Medical facility / Practice:

Inspection report				
Address:				
Carried out: [ ] Repeat inspection	[ ] Inspection prior to initial operation (reference value)			
	[ ] Inspection following repairs/maintenance			
Equipment type: [ ] Hospital bed [x] Care bed	Protection class: [ ] I [x] II			
Bed type: Allura II	Inventory number:			
Location:	Serial number:			
Application environment (IEC60601-2-52): [ ] 1 [ ] 2 [x] 3 [x] 4 [ ] 5				
Manufacturer: Burmeier GmbH & Co. KG	Applied parts: Mattress base, headboard, footboard, safety sides			
Testing equipment used (type/inventory no.):	1:			
Medical Device Regulation classification: Class I	2:			
I. Visual inspection		**OK**	**Not OK**	**Description of defect**
Visual inspection of the electrical components				
What?	**How?**			
Stickers and type plates	Present, legible			
Up-to-date instruction manual for the product in question	Present, legible			
Control unit/plug-in power supply housing	Correct position, damage, signs of spilt liquids/contamination that may affect the insulation			
Motor housings and lifting tubes				
Handset: housing and keypad film				
Motor and handset cables	Damage, routing of cable			
Cable harness/switch mode power supply sockets	Available, correct position			

Inspection report					
Visual inspection of the mechanical components					
Stickers and type plates	Present, legible				
Patient lifting pole, adapter sleeves	Damage, deformation				
Bed frame	Damage, deformation				
Sprung slats	Damage, splinters				
Castors	Damage				
Mattress base	Damage, deformation				
Wooden surround	Damage, splinters				
Welded seams	Split welded seams				
Safety side bars	Damage, splinters				
Socket screws	Fixed securely				
Wearing parts, such as joints	Damage				
II. Electrical measurement(Use only measuring instruments according to DIN EN 62353 (VDE 0751-1)) **Note**: To minimise measuring errors, route the test leads as far away as possible from and not parallel to the power cables and handset cables of the bed. Also observe the operating instructions for the measuring instruments used.					
Insulation resistance: To be carried out only if there are doubts about the electrical insulation, such as: If the customer's RCD (residual current circuit breaker) has tripped several times If defective electrical housings are found and at the same time there are signs of spilled liquids/ contamination there that could affect the insulation.					
1. Plug the mains cable/switching power supply into the test socket of the measuring instrument 2. Connect the probe at the common measuring point of all applied parts: = bare screw of the backrest swivel joint underneath the backrest on the mattress base frame 3. Start the measuring procedure on the measuring instrument; measuring voltage = 500 V DC					
	Limit value	**Measured value**			

Inspection report					
Result: Bed prot. class II (type BF)	≥ 70 MΩ	MΩ			
Leakage current (direct or differential current measurement) (type BF) Proceed as follows:			**OK**	**Not OK**	**Description of defect**
1. Plug the mains cable/switch mode power supply into the test socket of the measuring instrument. 2. Connect the probe of the measuring instrument to the bed; measuring point: Bare metal screw under backrest in frame of mattress base 3. Operate the motors using the handset for the duration of the measurement 4. Start the measurement procedure on the measuring instrument.					
	Limit value	**Current value** (normalised to rated value of mains voltage)			
Result: Bed prot. class II (type BF)	0.1 mA	mA			
In case of measured voltage external conductor - earth		volt:			

Inspection report				
III. Functional check		**OK**	**Not OK**	**Description of defect**
Functional check of the electrical components				
What?	**How?**			
End of travel cut-out of the motors	Automatic cut-out			
External power supply/handset	No ‘rattling’ when shaken?			
Handset: Operating function, locking function	Perform the test acc. to Part C: Handset » 10			

Inspection report				
Motors	Abnormal noise development (rattling, uneven running)			
Strain relief of mains cable (if mains cable available)	Mains cable firmly fastened			
Functional check of the mechanical components				
Joints and pivots	Smooth operation			
Grab handle with strap	Securely fixed when load tested under approx. 75 kg load (hang from it briefly with two hands)			
Castors	Moving and braking			
Emergency release of the backrest	Test according to instruction manual			
Safety side	Securely engaged, secure position, unlocking			
Lower leg rest	Engages properly			
Accessories (e.g. patient lifting pole, grab handle)	Correct fastening, no damage, suitable for purpose			
Inspection result:				
Inspection passed; test approval sticker applied: [ ] Safety or functional defects were not detected [ ] No direct risk, the defects detected can be rectified quickly				
Inspection was not passed; no test approval sticker applied: [ ] Device must be taken out of circulation until the defects have been rectified! [ ] Device does not conform to requirements – modification/replacement of components/decommissioning recommended!				
All values within permissible range: [ ] yes [ ] no				**Next inspection date:**
If inspection was not passed: [ ] Defective, do not use bed! => Repair				

Inspection report		
[ ] Defective, do not use bed! => Take out of service [ ] Bed does not meet the safety standards		
Test approval sticker applied:[ ] yes [ ] no		
Documents that form part of this inspection report: [ ] Enclosure: [ ]		
Remarks:		
Inspected on:	**Inspected by:**	**Signature:**
Evaluated on:	**Operator/ Expert:**	**Signature:**

6.3 Replacement parts

The relevant replacement parts are available from BURMEIER, by specifying the item number, order number and serial number. You will find the necessary details by referring to the type plate and the PID number, which is located on the mattress base frame at the head end. For more information, please refer to Part A: Type plate » 8 and to chapter Part A: PID Number » 10.

In order to maintain operational reliability and the right to claim under warranty, only original BURMEIER replacement parts may be used! To order replacement parts, or make customer service requests or other queries, please contact:

Burmeier GmbH & Co. KG
(A Stiegelmeyer-Group company)
Industriestraße 53, 32120 Hiddenhausen
Tel.: +49 (0) 5223 9769 - 0
Fax: +49 (0) 5223 9769 - 090
Email: info@burmeier.com

7 Replacement of Electrical Components

7.1 Safety information

⚠ WARNING

Risk of injury

Failure to heed this warning may result in injuries 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 service engineers, the drive manufacturer or qualified and authorised electricians in compliance with all the relevant VDE and safety regulations!

⚠ WARNING

Risk of injury

Failure to heed this warning may result in injuries due to falling mattress base sections.

- The bed must be in the home position (with the mattress base horizontal) in order to remove the motors. Otherwise, there is a danger of crushing from falling mattress base sections.

⚠ WARNING

Risk of injury

Failure to heed this warning may result in injuries due to faulty maintenance.

- All drive components are maintenance-free and must not be opened. In the event of a malfunction, the corresponding components should always be replaced in full!

7.2 Replace the handset with a new one

1. If possible, adjust the bed to its highest position to make work easier.
2. Disconnect the mains plug of the switch mode power supply unit from the socket.
3. Disconnect the handset plug from the connection socket on the control unit.
4. Route the cable of the new handset in such a way that it cannot be damaged by any moving parts of the bed.
5. Plug the new handset plug into the connection socket on the control unit.

    - There is a recess on the handset plug.

      When inserting the plug, make sure that the recess is pointing upwards. Make sure that the O-ring seal on the plug is not damaged; otherwise, this plug connection will not be protected from moisture.

6. After replacing the handset with a new one, test that the motorised adjustments are working!

7.3 Control unit reset

Reset the control unit in the following cases:

- If a serious error was detected by the control unit and this has now been properly rectified but the control unit has locked out the affected functions for safety reasons.

  Locking can be caused, for example, by:

  - A fault in the handset (e.g. a short-circuit/interruption in the cable; a jammed button),
  - A fault in the adjustment motors (e.g. a short-circuit/interruption in the cable, or a fault in the position detection/in the end position switch),
  - An internal fault in the control unit,

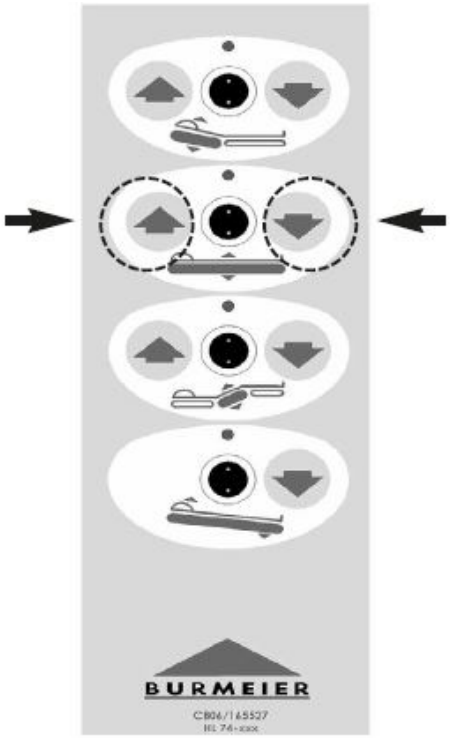
- If the module emits intermittent sound signals when making motorised adjustments, and/or no adjustments are possible or adjustments are only possible on one side.

Effect:

- Deletes any existing saved errors (RESET). The last error is retained and can still be read out/displayed.

Proceed as follows:

- Press and hold both of the marked buttons simultaneously (a continuous signal sounds) until after approximately 5 seconds an intermittent signal sounds (= RESET/ manual mode)



8 Troubleshooting

8.1 Faults and their rectification

Simple faults and problems can often be rectified by trained care staff using the troubleshooting table in this instruction manual. Please refer to the Part C: Troubleshooting » 26. In all other cases, the operator and/or the technical personnel for maintenance and repairs are responsible for rectifying malfunctions and faulty components.

→ Please ask care staff to initially try to solve faults and problems with the aid of the troubleshooting table before contacting the operator or technical personnel.

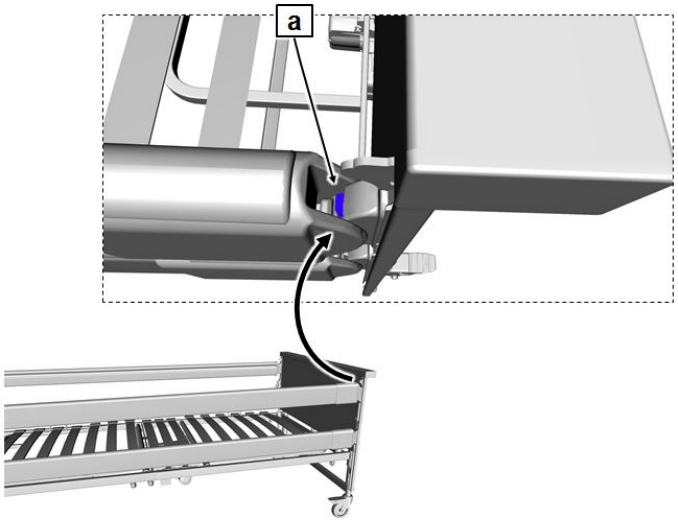
9 Dismantling the Care Bed

9.1 Dismantling the care bed

Proceed as follows to dismantle the care bed:

1. Apply the brakes to the castors on the bed.
2. Remove the patient lifting pole.
3. Remove all the safety side bars, one after the other.
   - Press the release button [a] in the safety side guide downwards with your finger and lift the bar out.
   - Repeat this step for all bars.

     Similar to illustration!



4. Move the bed to the lowest position.
5. Disconnect the mains plug of the switch mode power supply unit from the socket.
6. Disconnect the power cable plug from the socket:

- To do so, pull the pull-out prevention device on the socket upwards to release the retaining element.
- Unplug the 6-pin plug from the socket.
- Close off the connection socket with the attached blind plug.
- Press the pull-out prevention device from above onto the socket as far as it will go.

7. Remove the pull-out prevention device and then unplug the socket from the drive motors on the chassis headboard and/or the chassis footboard.
8. Loosen the socket head screws on the mattress base frame at the foot end to remove the chassis footboard; screw the loosened socket head screws into the storage aid.
9. Loosen the socket head screws on the mattress base frame at the head end to remove the chassis headboard; screw the loosened socket head screws into the storage aid.

9.2 Dismantling the mattress base frame

Proceed as follows:

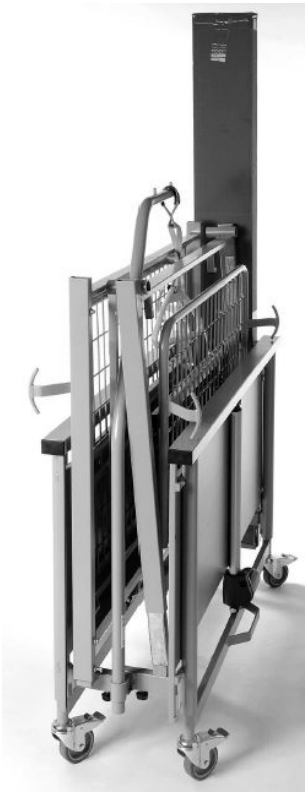
1. Place the mattress base frame upright against a wall, head end facing down.
2. Disconnect the connecting cable plug from the thigh rest motor.
3. Loosen the hexagon socket head screws at the two connection points of the mattress base frame.
4. Pull the frame sections apart.
5. Reinsert the loosened hexagon socket head screws into the mattress base frame so that they do not get lost.

9.3 Mount the dismantled bed on the storage aid

The storage aid connects the two chassis and supports the two halves of the mattress base frame. It also offers holders for the safety side bars and the patient lifting pole.

Proceed as follows:

- Screw the two parts of the storage aid onto the connection pieces of a chassis.
    - All hexagon socket head screws of the storage aid must face downwards. The holders for the mattress base frame must face upwards; the basket for the safety side bars must face inwards and the holder for the patient lifting pole must face outwards. Use the hexagon socket head screws from the mattress base.
- Screw on the second chassis.
- First place the other half of the mattress base frame (backrest) on the short holders so that the head end (lifting pole sleeves) points downwards. The mattress retainer bars are at the top and point outwards.
- Then place one half of the mattress base frame (foot half) on the longer holder so that the foot end points downwards. The mattress retainer bars are at the top and point outwards.



- Tighten all hexagon socket head screws.
- Insert the safety side bars into the basket between the two halves of the mattress base frame.
- Insert the patient lifting pole into the sleeve provided.

⇨ The bed is now ready for transport or storage.

10 Disposal

10.1 Disposal of the Bed

If the bed is to be disposed of, the plastic and metal parts must be separated and disposed of properly in accordance with relevant local and national environmental regulations and legislation of the town or country concerned. If you have any queries, you can contact your local municipal waste company or our service department.

The operator must ensure that all components of the bed that are to be disposed of are not infectious or contaminated. The following notes apply within the EU: In other countries outside Germany or the EU, the relevant national regulations must be complied with.

10.2 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.

10.3 Disposal of electrical components

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

Replaced electrical components (drives, control units, handsets, etc.) must be treated as electric scrap in accordance with the WEEE Directive 2012/19/EU and disposed of accordingly.

As a result, commercial operators are obliged to send these components directly to the manufacturer. 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.

The private owner of this bed is legally obliged to return the electrical components directly to the municipal waste collection points for recycling.

The batteries of the wireless handset must be properly disposed of in accordance with the EU Battery Directive 2006/66/EC (battery regulation) and do not belong in the household waste.

11 Appendix

11.1 Accessories

The bed must only be operated with original BURMEIER accessories. BURMEIER does not accept any responsibility for accidents, defects and hazards that arise from the use of other accessories.

⚠ WARNING

Risk of injury

Failure to heed this warning may result in danger to residents or users if accessories are used improperly.
Pay attention to the following information when using safety sides, infusion stands, etc. on electrically adjustable beds: 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, care staff must safely prevent the resident from adjusting the back and leg rests.

- Lock the handset adjustment options in such cases.

11.1.1 Mattress requirements

Basic dimensions:

	Allura II 100	Allura II 120
Length x width	200 x 100 cm	200 x 100 cm
Thickness/height	10 - 15 cm	
Foam rubber density	min. 38 kg/m^3	
Compression hardness	min. 4.2 kPa	
Applicable standards:	DIN 13014	
	DIN 597 Part 1 and 2	

11.1.2 Safety Side Requirements

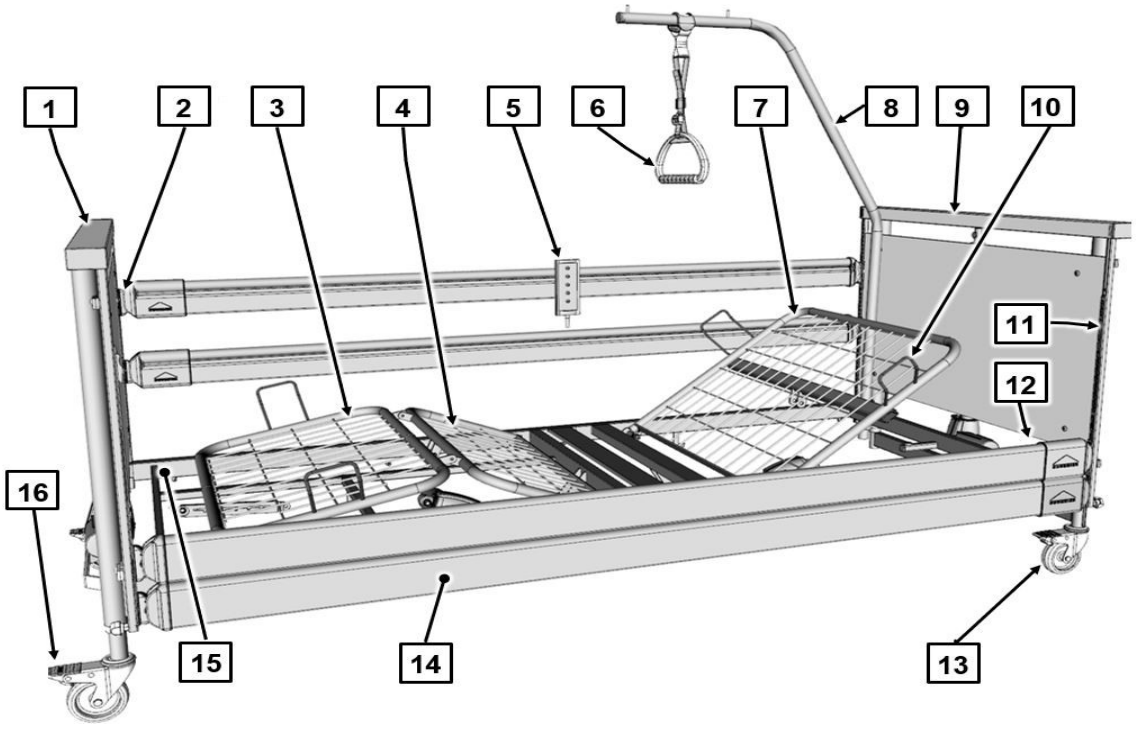
Safety Side Requirements	
Height above mattress	> 220 mm
Gap between bars and mattress base	< 120 mm
Foam rubber density	min. 38 kg/m^3
Gap between safety side and chassis head-board	< 60 mm
Gap between safety side and chassis footboard	>318 mm

11.2 Translation of EC Declaration of Conformity

We, Burmeier GmbH & CO. KG, in our sole responsibility as the manufacturer, hereby declare that this product complies with the provisions of REGULATION (EU) 2017/745 OF THE EUROPEAN PARLIAMENT AND THE COUNCIL of 5 April 2017 (MDR).

The full latest version of the declaration of conformity is available on request from our customer centre (for contact details please refer to the chapter Part A: Address, information for customers, market note » 1) or go to the dealer area on our website.

Part C: Care staff, residents and private purchasers



[1] Foot end chassis	[2] Safety side release buttons (4)
[3] Lower leg rest	[4] Thigh rest
[5] Handset	[6] Triangular grab handle
[7] Backrest	[8] Patient lifting pole
[9] Head end chassis	[10] Mattress retainer bars (4)
[11] Guide rails (4)	[12] Lifting pole sleeves (2 - concealed in picture)
[13] Castors (4)	[14] Safety side bars
[15] Mattress base frame	[16] Brake pedal

BURMEIER

Contents

Part C: Care staff, residents and private purchasers

1 Target Groups, Qualifications and Duties

1.1 Care staff

Care staff are persons who, based on their training, experience or briefing, are qualified to operate the care bed on their own authority or to carry out work with the care bed, or have been instructed how to handle the care bed. Furthermore, they are able to recognise and avoid potential hazards and assess the clinical condition of the resident.

1.1.1 Duties of care staff

- Ensure that the operator instructs you in the safe operation of this care bed.
- Ask a healthcare professional for advice if you are uncertain about a possible application of safety sides or about the necessity of activating the locking functions of the electrical adjustments.
- In Germany: Before using a care bed, you, as care staff, must check each time that the care bed is fully functional and in perfect working order, and must observe the instructions in the instruction manual - particularly the safety information - during operation and maintenance in accordance with § 2 of the Medical Devices Operator Ordinance (MPBetreibV).

  This is the only way to prevent operating errors and ensure correct handling in order to prevent injuries and damage from occurring
- In other countries the relevant national regulations concerning the duties of care staff must be followed! Please also follow the corresponding instructions in the instruction manual for accessories attached to the bed.
- Pay special attention here to the safe routing of all loose connector cables, tubing, etc. Ensure that no obstacles, such as bedside cabinets, supply rails or chairs could impede adjustments to the bed.
- If other items of equipment (e.g. compressors for positioning systems etc.) are attached, ensure that they are all securely fixed and function properly.
- If anything is unclear, please contact the manufacturer of the device, or Burmeier.

⚠ CAUTION

Risk of injury

Failure to heed this warning may result in injuries.

- 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.

⇨ A checklist for assessing the proper condition of the bed is given in the chapter Part C: Maintenance » 29.

1.2 Residents

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

It is a requirement that the operator or care staff instructs each new resident in the bed functions that are important for him/her.

1.3 Private purchasers

Private purchasers are private users who have purchased this bed themselves for private, non-commercial use and who wish to carry out any assembly work and further operation on their own responsibility.

2 Safety Information

2.1 Safety Information for Operating the Bed

2.1.1 Electrical cables and connections

⚠ WARNING

Risk of injury

Failure to heed these warnings may result in fatal electric shocks due to damaged mains power cables. Take the following measures to prevent hazards due to electric shock and malfunctions.

- Replace damaged mains power cables immediately! If a damaged mains cable continues to be used, this can lead to electric shock, fire and other hazards as well as malfunctions.
- Connect the bed only to a properly earthed mains electrical socket.
- Route the mains cable in such a way that it cannot be pulled, driven over or damaged by moving parts, or in any other way, when the bed is operated. Before moving the bed, always make sure that you have unplugged it from the mains supply.
- Before moving the bed, always make sure that you have unplugged it from the mains socket.
- Hang the mains cable in the mains cable holder provided on the headboard to ensure that it will not fall off or trail on the floor.
- At weekly intervals when the bed is being used, carry out a visual inspection of the mains cable to check for damage (scuffing, exposed wires, kinks, pressure points, etc.). A check should also 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, or 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 mains socket, and before plugging the cable back into the mains socket whenever the bed has been moved or relocated.

- Check the strain relief of the mains power cable regularly to ensure that it is securely fixed.
- Do not place multiple socket outlets under the bed. This could cause electrical hazards due to damaged mains cables or penetrating fluids.
- Do not continue to use the bed if you suspect that the mains cable could be damaged.

2.1.2 Operating time of electric drives

Continuous operation must not exceed two minutes! After this time, a rest period of at least 18 minutes must be observed. If the electric drive is operated for a much longer period, e.g. due to the resident continually "playing" with the handset, the thermal protection device integrated in the control unit will deactivate the thermal protection device. Depending on the extent of overloading, it may take a few minutes until you can carry out any further adjustments. Also read and note the additional information contained in the chapter Part C: Troubleshooting » 26.

2.1.3 Handset

When not in use, stow the handset in the holder using its elastic hooks on the bed in such a way that it cannot inadvertently fall off, and ensure that the keypad is not facing outwards away from the bed where it is exposed to potential harm, since collisions with other objects or equipment may accidentally trigger adjustments to the bed.

When routing the handset cable, ensure that it cannot be damaged by any moving parts of the bed:

- Hang the handset with the keypad facing the inside of the bed.
- Make sure that the cable cannot be crushed, stretched or otherwise damaged by moving parts of the bed.

This will prevent unnecessary hazards arising through automatically activated electrical adjustments that were not previously locked-out and system faults occurring due to locked electrical adjustment systems.

To safeguard the resident, and children in particular, against unintentional electrical adjustments, place the handset out of their reach (e.g. at the foot end of the bed) or lock the appropriate adjustment options.

⚠ WARNING

Risk of injury

Failure to heed this warning may result in injury.
Lock the operating functions for the resident on the handset if:

- the resident is unable to operate the bed safely,
- the resident is unable to free himself or herself from potentially dangerous situations,
- the resident is exposed to an increased risk of entrapment during backrest and thigh rest adjustments when the safety sides are raised,
- the resident could be at risk due to unintentional motor-driven adjustments,
- children are left unsupervised in the room with the bed.
- In these cases, adjustments must only be performed by a person trained by the operator, or in the presence of a trained person!

2.1.4 Bed adjustment

⚠ CAUTION

Risk of injury

Failure to heed this warning may result in physical injury due to entrapment or crushing!

- When making any adjustments, always ensure that no limbs belonging to the resident, care staff or other persons, especially playing children, could become trapped underneath the mattress sections or the mattress base during the adjustment.
- This bed is only intended for use as a single bed. Keep a minimum safety distance of one bedside cabinet width (approximately 60 cm) between one bed and the next.

⚠ ATTENTION

Material damage

Failure to heed this warning may result in the care bed being damaged, which could have an adverse effect on the loading capacity of the care bed or the adjusting functions.

Ensure that

- No obstacles such as bedside cabinets, supply rails, other equipment, chairs or wall protection rails are in the way,
- There are no objects lying on the chassis,
- People are not sitting on slightly raised sections of the backrest or leg rests.

2.1.5 Switch mode power supply

⚠ WARNING

Risk of injury

Failure to heed this warning may result in injuries due to electric shock.
Do not use a damaged switch mode power supply unit if

- mechanical damage is observed on the cable sleeve
- mechanical damage is observed on the mains plug and housing.

2.2 Safety Information for Attachments and Additional Equipment

2.2.1 Use of resident lifts

⚠ CAUTION

Risk of injury

Failure to heed this warning may result in injuries.

- Efficient and safe operation combined with maximum protection of residents can only be guaranteed if original Burmeier accessories designed for the relevant model of bed are used!

⚠ CAUTION

Risk of injury

Failure to heed this warning may result in injuries.

- Make sure that the attachment of accessories does not produce any crush or shearing zones for the resident when the bed sections are adjusted. If this cannot be ensured, you must lock those particular adjustment controls! (Use the locking functions on the handset for this purpose.)

⚠ ATTENTION

Material damage

Failure to heed this warning may result in property damage to accessories.

- When using external electrical components such as resident lifts, reading lamps, or compressors for positioning systems, ensure that their power cables will not become entangled or damaged by the moving parts of the bed.

2.3 Safety information for accessories

⚠ CAUTION

Risk of injury

Failure to heed this warning may result in injuries.

- Efficient and safe operation combined with maximum protection of residents can only be guaranteed if original Burmeier accessories designed for the relevant model of bed are used!

2.4 Safety information for the user, resident or private purchaser

Ensure that the operator/specialist dealer/your medical supply store instructs you in the safe operation of this bed.

Ask a healthcare professional for advice if you are uncertain about a possible application of safety sides or about the necessity of activating the locking functions of the electrical adjustments.

2.5 Tips on using the bed safely in a domestic setting

Please use the following table to help identify and avoid any unfavourable conditions of use.

Unfavourable conditions of use	Prevention through
Electrical equipment:	
Damage to handsets/connecting cables	Hang handsets up on the hook; do not stretch cables across the bed or run over them with the castors
Electrical adjustment functions not blocked; limbs could be trapped due to unintentional activation	Block the functions on the handset if they could otherwise place the bed user or playing children in danger; do not leave children unsupervised in the room with the bed
Potential overheating due to fluff and dust on electrical drive components	If necessary, use a dry cloth to remove dust from the drive components under the mattress base
Pets may chew on electrical cords: this could cause malfunctions and/or electric shocks	Do not allow rodents to run around freely in the same room as the bed
Interfering devices/objects close to the bed	
Fire hazard due to heat generated by a reading lamp, heater etc.	Use only LED reading lamps that do not heat up strongly. Use devices only if they are in good working order and are used in accordance with their operating instructions; keep them at a safe distance from the bed
Risk of collision/damage to property when adjusting the bed	Maintain a safe distance from other objects/ sloping ceilings/windowsills
Crushed connecting cables or hoses from compressed air positioning systems; inhalers etc.	Route and attach cables and hoses so they cannot be trapped when the bed is adjusted

⚠ WARNING

Risk of injury

Failure to heed this warning may result in physical injury to the bed user due to entrapment or crushing.

- Ask a healthcare professional for advice if you are uncertain about a possible application of safety sides or about the necessity of activating the locking functions of the electrical adjustments.

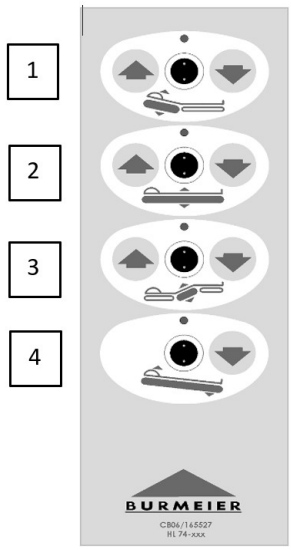
3 Operation

3.1 Handset

All the electrical adjustment mechanisms on this care bed can be controlled with the handset. The adjustment range for all functions is electrically/mechanically limited to the permitted ranges. For safety reasons, the handset features a number of locking functions. Adjustments can be locked on the handset in order to protect residents whose clinical condition is deemed by the doctor treating them to necessitate this.

- The handset can be hung on the bed with its elastic hook.
- The handset is water-protected and can be wiped clean with a cloth.
- Explain the handset functions to the resident!
- The electric motors operate as long as the corresponding button is pressed.
- With the exception of the reverse-Trendelenburg position, all of the bed's adjustment options work in both directions.
- The following basic rule applies to the buttons: ↑ Raise, ↓ Lower

[1]	Backrest
[2]	Mattress base height
[3]	Thigh rest
[4]	Reverse-Trendelenburg position Before adjusting the bed to a reverse-Trendelenburg position, release the brakes on both castors at the head end or foot end to prevent damage to the floor.



Adjust the mattress base height whenever necessary, but at least once a day, to the uppermost or lowest height. This automatically equalises the two independent adjustment drives and results in a level horizontal mattress base.

⚠ ATTENTION

Material damage

Failure to follow this can lead to damage to the bed or to objects.
If the bed is misaligned further in its adjustment path (by raising it) due to overloading or obstacles (e.g. window sills), this may cause damage to the bed or other objects since the drive system does not have an electronic overload shut-off.

- Therefore, avoid putting more weight on the bed than the permitted weight.
- Make sure that the entire adjustment range of the bed is free of obstacles. Furniture, window sills, sloping roofs, etc. must not be in the way of the adjustment path.

3.1.1 Locking functions

⚠ WARNING

Risk of injury

Failure to heed this warning may result in physical injury due to incorrect use of the handset.

- Only care staff are authorised to use the locking function!
- If the clinical condition of the resident is so critical that a particular adjustment using the handset places him/her at risk, then the user must lock this adjustment function immediately. The care bed remains in the position it was in at the time it was switched off.

3.1.1.1 Handset

⚠ ATTENTION

Material damage

Failure to heed this warning may result in damage to the handset.

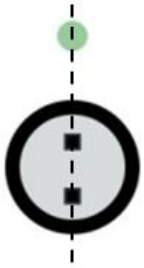
- Do not forcibly turn the locking key beyond the limit stop of the lock! The lock or the entire handset can be damaged.

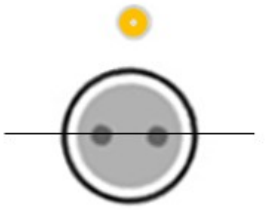
⚠ WARNING

Risk of injury

Failure to heed this warning may result in physical injury due to incorrect use of the handset.

- The bed is delivered with a locking key, which is attached to the handset with a cable tie.
- The locking key is not intended to be used by the resident.
- The locking key must be removed from the handset.
- Care staff or a person authorised by the doctor should take the locking key for safekeeping.

Tool/Symbol	Function/Explanation
	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.
	**Operation enabled:** The lock is in a vertical position Colour of display: **green** Keys can be operated (“click” sound)

Tool/Symbol	Function/Explanation
	**Drive locked:** Lock turned approx. 90° clockwise Colour of display: **yellow** Keys are locked

3.2 Operating status display via LED

The power pack, control unit and handset each have an LED which flashes orange, yellow or green depending on the operating status. Please observe the information in the following table to note the meaning of the operating status display of the operating system.

3.2.1 LED Power Pack

LED colour	State	Duration	Meaning
yellow	lights up	permanently	Enabling the voltage for the control unit. Functions can be performed
green	lights up	permanently	Power pack is in idle mode
LED off	does not light up		Power pack is: • not connected to the mains • defective • overheated

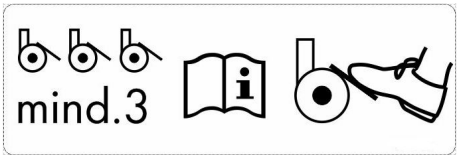
3.3 Castors

⚠ WARNING

Risk of injury

Failure to heed this warning may result in injuries due to falling after the bed rolls away when getting into/out of bed, as well as to crushing.

- To avoid toe injuries, wear closed shoes when operating the bed.
- Make sure that the brakes are applied on at least three castors.
- Ensure that the brakes of the bed are always adequately applied (at least three castors) when a resident is left unattended.
- If the bed is standing on a sloping floor (e.g. on a ramp), then the brakes must be applied on all castors.
- A safe and secure bed position must always be ensured.



Part C: Image1:
Braking the castors

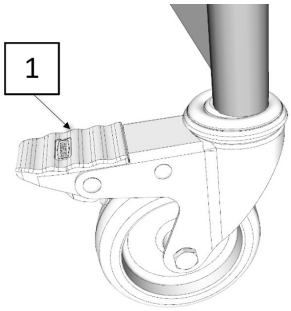
⚠ ATTENTION

Material damage

Failure to heed this warning may result in damage to the bed and to its surroundings.

- Only move the bed around if the mattress base in adjusted to its lowest position.
- Before moving the bed, always ensure that the switch mode power supply is placed safely on the bed to prevent it from falling off.

- Before moving the bed around, always ensure that all the castor brakes have been released. This prevents excessive wear of the castor treads and scuffing marks on the floor.
- Make sure that the cable of the mains plug/switch mode power supply cannot be stretched, rolled over or otherwise damaged when moving the bed.
- Check that all cables, tubes or leads belonging to any accessory devices that are attached to the bed are safely secured and cannot be damaged.



The bed stands on four steerable castors which are all fitted with a locking brake.

To brake the bed: Press the brake pedal **[1]** down with your foot.

To move the bed: Lift the brake pedal **[1]** with your foot.

3.4 Mains cable holder

The cable for the switch mode power supply is fitted with a mains cable holder. The holder is located on the mains cable itself.

⚠ CAUTION

Risk of injury

Failure to heed this warning may result in physical injuries.

- Hook the mains cable holder onto the headboard before moving the bed to prevent the mains cable from being driven over, crushed or torn off. Such damage could lead to electrical hazards and malfunctions.

3.5 Patient lifting pole

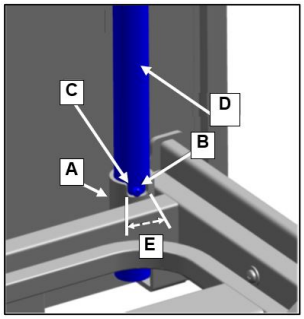
⚠ WARNING

Risk of injury

Failure to heed this warning may result in injury and damage to property due to excessive loading of the patient lifting pole.

- The maximum loading capacity at the front end of the patient lifting pole is 75 kg.
- The carrying capacity is rated to allow a heavy resident lying in the bed to sit up by himself/herself using his/her own strength.
- Do not use the patient lifting pole as “lifting gear” for the resident.
- Do not allow a heavy resident to suspend himself/herself from the patient lifting pole with his/her entire weight (e.g. when getting out of bed).

A patient lifting pole [D] attached to the bed makes it easier for the resident to get into/out of bed.



There are two round lifting pole adapter sleeves [A] at each corner of the head end of the mattress base. There is a notch [C] on the top surface of the lifting pole adapter sleeve that, together with the pin [B], restricts the slewing range [E] of the patient lifting pole. The lifting pole [D] should be fitted to the side of the bed that the resident uses to get in and out of bed.

3.5.1 To insert/remove

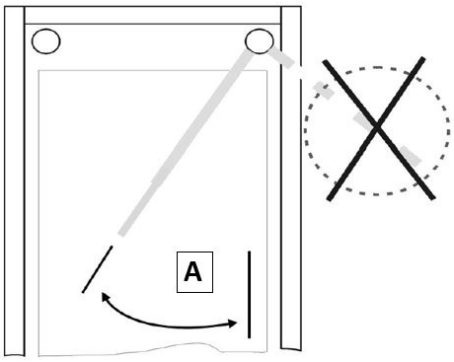
Insert

- Insert the lifting pole in the sleeve. The metal pin [B] on the pole must be located in the sleeve notch [C].

Remove

- Pull the lifting pole [D] straight up and out of the sleeve.

3.5.2 Slewing range



Part C: Image2:
Slewing range of patient lifting pole

⚠ WARNING

Risk of injury

Failure to heed this warning may result in injury and damage to property due to the bed tipping up.

- Only swivel the patient lifting pole within the slewing range of the bed [A].
- The metal pin of the patient lifting pole must therefore always sit in the adapter sleeve notch!

⇨ Otherwise, there is a danger that the bed will tip up when weight is applied to the pole.

3.6 Triangular grab handle

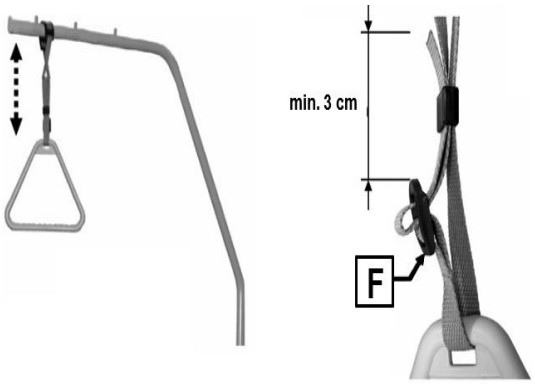
A triangular grab handle can be attached to the lifting pole. The resident can use this grab handle to sit up and readjust his/her position more easily. Check the grab handle and belt regularly for damage (see Part C: Maintenance » 29). Replace damaged grab handles or straps immediately.

3.6.1 Service Life

A date is printed on the grab handle. In normal use, the grab handle has a service life of at least five years. After this period, a visual and functional inspection must be carried out every six months to determine whether the handle may continue to be used.

3.6.2 Adjusting the grab handle

Due to its adjustable belt, the grab handle height can be adjusted to between about 55 cm and 70 cm (measured from the upper edge of the mattress).



Part C: Image3:
Adjusting the lifting pole

→ Slide the fixed loop of the grab handle over the first bolt on the lifting pole.

→ Check that the grab handle is securely attached by tugging hard on it.

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

- The height of the triangular grab handle can be adjusted using the strap.
- Make sure that the strap is correctly threaded through the buckle.
- Make sure that the end of the strap projects at least 3 cm from the buckle [F].

3.7 Safety sides

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

If not used properly, there is a considerable danger of strangulation for the resident! Be sure to observe the following safety information.

⚠ WARNING

Risk of injury

Failure to heed this warning may result in physical injury due to the incorrect use of safety sides!

- Only use technically perfect, undamaged safety sides which engage securely!
- Use only the safety sides described in this manual. Safety sides are either factory integrated into the bed or available as accessories.
- Before using the safety sides, assess and take into consideration the clinical condition and particular physical build of the resident:
- *For example, if the resident is extremely confused or very restless, avoid using safety sides as far as possible and make use of alternative or additional safety measures such as restraint sheets, fall protection mats, setting the mattress base to the lowest position etc.*
- *For especially small, slim residents, additional protective measures for reducing the space between the bars on the safety sides may be necessary. In these cases, use protective covers (accessory), 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).*
- To prevent putting residents at risk of entrapment or suffocation, only use suitable mattresses (not too soft) complying with DIN 13014, with a volume weight of at least 38 kg/m³ and dimensions complying with the specifications in the instruction manual.
- The maximum permissible mattress height depends on the model and position of the safety sides used. An effective safety side height of at least 22 cm above the non-occupied mattress must be ensured. If this dimension is not adhered to, you must take additional/alternative measures on your own responsibility and according to your assessment of the risks in view of the clinical condition of the resident, such as:
- *Providing additional safety systems for the resident,*
- *Arranging for the resident to be monitored regularly and more frequently,*
- *Issuing internal instructions for users*
- When the safety sides are raised, the electrical adjustment of the backrest and thigh rest must always be locked:
- *Lock the handset adjustment functions and attach the handset out of reach of the resident, e.g. at the foot end of the bed.*

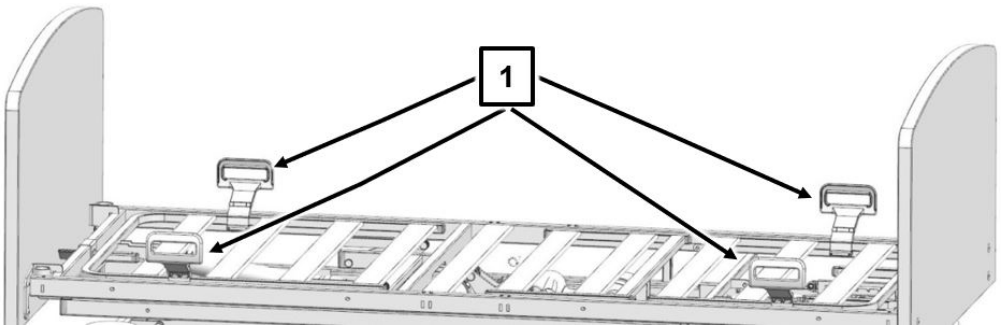
⇨ Otherwise there is a danger of limbs being crushed or trapped by the safety sides if the resident inadvertently activates the handset. The effectiveness of the safety sides can also be reduced if any mattress base sections are raised to a high level.

⚠ WARNING

Risk of injury

Failure to heed this warning may result in physical injury due to entrapment/suffocation.
Please follow the following instruction if the bed is only equipped with side panels on one side and safety side(s) on the other side:
An inserted mattress can slip if the mattress retainers are not raised. The resident can get stuck in the resulting free space between the mattress base and the safety side.

- Only use mattresses with suitable dimensions, as described in the chapter entitled “Accessories”
- Always use the mattress retainers [1] that are fitted to the bed, since the side panel itself does not fix the mattress in place.



Similar to images

Raising:

⚠ CAUTION

Risk of injury

Failure to heed this warning may result in physical injury to the resident due to the incorrect use of safety sides!

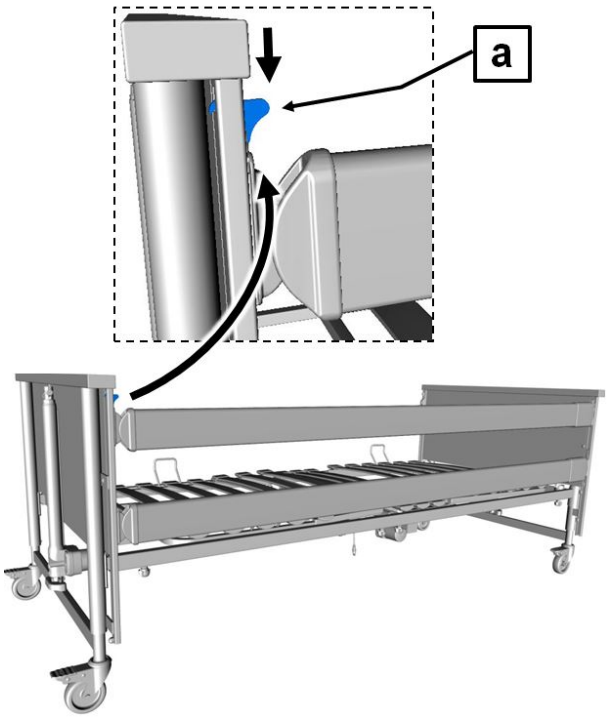
- When making any adjustments with the safety sides and backrest raised, always ensure that no limbs of residents, care staff or other persons, especially playing children, could become trapped and injured underneath the rests and mattress sections or between the mattress retainer and the safety sides during the adjustment.

1. Raise the safety side bars, one after the other, at one end until they click into place at both ends. It should not be possible to push the bars up or down.
2. Check that the safety side bars are securely locked in place by pressing down on them.

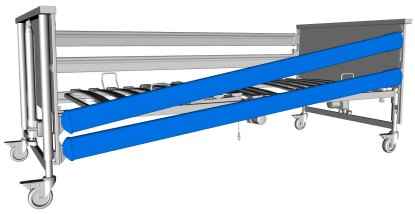
Lowering:

Similar to images

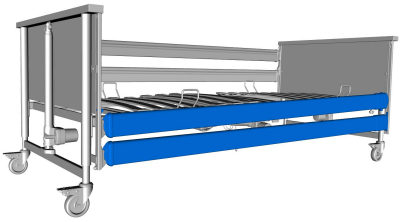
1. Raise the safety side bars slightly.
2. Press the release lever **[a]**down.



3. Lower the safety side bars slowly.



4. Repeat steps 2 and 3 at the other end of the bar.



3.8 Lower Leg Rest

3.8.1 Raising Using the Handset

If the thigh rest is raised using the handset, the lower leg rest is automatically lowered as well.

3.8.2 Lowering Using the Handset

If the raised thigh rest is lowered using the handset, the lower leg rest locks into place in several intermediate positions. When the thigh rest is raised, the lower leg rest remains in position.

3.8.3 Raising by hand (optional)

When the thigh rest is raised, the lower leg rest can be set individually. For this purpose, an adjustable fitting (optional) that locks the lower leg rest in position is located under the lower leg rest.

In order to raise the lower leg rest the thigh rest must also be raised.

- Raise the lower leg rest at the foot end - not using the mattress retainer bars - until the desired position is reached. The lower leg rest engages automatically.

3.8.4 Lowering by hand (optional)

⚠ WARNING

Risk of injury

Failure to heed this warning may result in physical injury due to entrapment or crushing of the member of staff.

- Lower the lower leg rest carefully. There is a risk of injury occurring if the lower leg rest falls unchecked.

1. Raise the lower leg rest to its full extent.
2. Then lower the lower leg rest slowly.

If the thigh rest is lowered, the lower leg rest is automatically lowered as well.

3.9 Emergency release of the backrest

⚠ WARNING

Risk of injury

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

1. The CPR release may only be carried out in the case of extreme emergencies and by users who have a complete command of the procedure described below. We strongly advise you to practise CPR release of the backrest several times under normal conditions. In the event of an emergency you will then be able to react quickly and correctly.

⚠ WARNING

Risk of injury

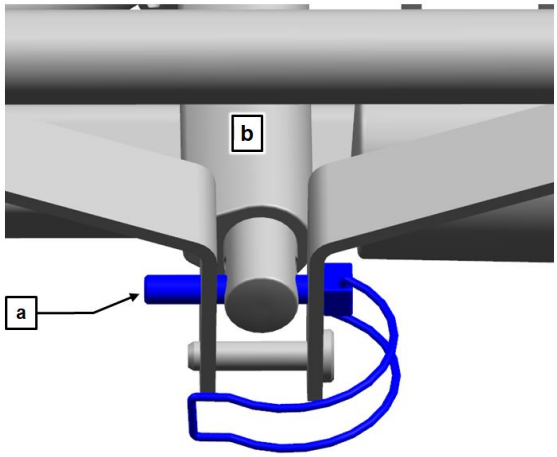
Failure to heed these warnings may cause the backrest to fall uncontrollably, which could lead to injuries to both the resident and the second user.

1. Manual CPR release of the backrest must be carried out by two people!

In the event of power supply outages or electrical drive system failures, the raised backrest can be lowered by hand. Two carers are absolutely necessary to carry this out!

1. Release the load on the backrest before carrying out the CPR release procedure.

2. To do so, the first person raises the backrest slightly by gripping the outside edge of the head section and holds the backrest in this position.



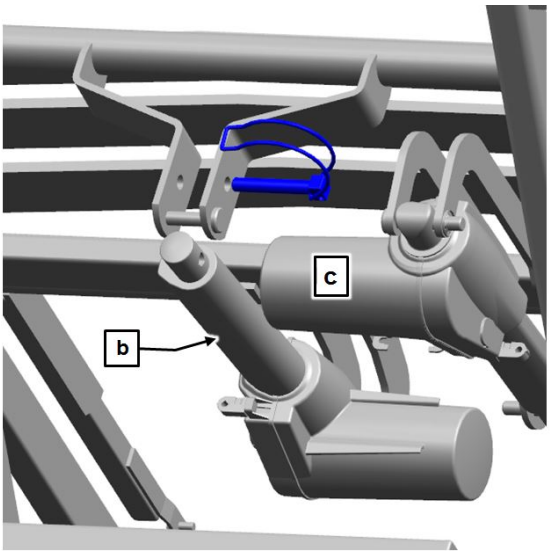
3. The second person now removes the locking pin [a]. To do so, swivel the curved clip away and draw the bolt and pin, together with the clip, out of the backrest motor lifting pipe [b].

4. The motor is now separated from the backrest and will fall off.

5. The first carer then carefully lowers the backrest.

To return the bed to its original state:

6. Swing the lifting pipe up again, use the pin to secure it in place in the motor connector mount and fold the curved clip back over.



7. Insert the pin again from the side of the thigh rest motor [c] .

4 Troubleshooting

The following table is a guide to rectifying faults.

If malfunctions occur while the bed is in use, and care staff are unable to remedy them with the aid of the troubleshooting table, the maintenance and repair personnel of the bed operator concerned must be informed.

⚠ WARNING

Risk of injury

Failure to heed this warning may result in fatal injuries.

- On no account should care staff attempt to rectify malfunctions involving electrical components!
- Any work and/or repairs to the electrical drive system may only be carried out by service engineers, the drive manufacturer or by qualified and authorised electricians in compliance with all the relevant VDE and safety regulations!

Problem	Possible causes	Solution
Handset/drive system not working	• Handset cable/power cable not plugged in • Handset or drive unit system is defective • Functions are locked on the control unit	→ Check connector plugs → Inform your operator if repairs are necessary → Release functions (see Part C: Handset » 12) → Make sure that the magnet has been removed from the handset.
Drives only operate for a short time when buttons are pressed	• Too much weight on the bed • Bed is blocked by an obstacle	→ Reduce load → Remove obstacle → Reduce distance
Operation is not possible despite proper power supply	• Control unit has shut down temporarily due to overheating • Control unit defective	→ max. duty cycle: Intermittent duty 2 min ON/18 min OFF; allow control unit to cool down for approx. 30

Problem	Possible causes	Solution
		minutes. Unplug the switch mode power supply unit from the socket → Replace the control unit. Inform your operator if repairs are necessary
Individual drives operate in one direction only	• Handset or drive unit is defective	→ Inform your operator if repairs are necessary
Drives stop suddenly after lengthy period of adjustment	• Thermal switch in switch mode power supply was triggered by overload	→ Do not make continuous bed adjustments for more than 2 minutes! After continuous operation for two minutes, let the device rest for at least 18 minutes (see Part C: Operating time of electric drives » 4) → **To reset the switch mode power supply after an overload:** Disconnect the device from the power supply and let it cool down for at least 30 minutes. Then reconnect the device to the power supply. If the device still does not function: Device is faulty – replace the device
Electric backrest adjustments not possible	• Power cut • Drives faulty • Weight of resident too high (safe working load)	→ Use CPR release of the backrest!
Adjustments do not agree with handset button icon	• Internal motor plugs incorrectly connected (mixed up)	→ Inform your operator if repairs are necessary

Problem	Possible causes	Solution
LED on the switch mode power supply unit does not light up	• Switch mode power supply unit not properly connected to the mains supply • Switch mode power supply unit overheated • Switch mode power supply faulty	→ Plug in the switch mode power supply unit correctly → Allow the switch mode power supply unit to cool down → Replace the switch mode power supply unit with a new one; inform your operator about any necessary repairs
LED on switch mode power supply unit does not change colour from green to yellow despite pressing a button	Interruption of the activation line	→ Inform your operator if repairs are necessary
Switch mode power supply unit shuts down; LED on the switch mode power supply unit is off despite the mains connection; LED on the switch mode power supply unit lights up yellow, even if no button is pressed	Short circuit in the supply line	→ Inform your operator if repairs are necessary

5 Maintenance

As well as the extensive routine inspections performed by technical personnel, the bed must also be checked at shorter regular intervals by non-technical users (care staff, family carers etc.), and be briefly visually inspected and have its functions tested before being occupied by a new user.

⚠ WARNING

Risk of injury

Failure to heed this warning may result in physical injury due to defective components.

- If you suspect that it is damaged or defective, take the bed out of service immediately and disconnect it from the mains supply until the defective pieces are replaced or repaired!
- Contact your responsible medical device retailer if the faulty parts need to be replaced or repaired.

5.1 Servicing points

To avoid potential noise development in the mattress bases, we recommend that you routinely lubricate the following spots.

Lubrication spots

- All swivel joints in the backrest, thigh rest and lower leg rest as well as all swivel joints and sliding surfaces on the chassis, etc.

Lubricant

- Synthetic lubricants such as Teflon spray or Bio-Fluid are recommended

Interval

- As necessary.

  Remove the mattress from the bed during the lubricating work. Place a cloth under the lubrication spots in order to avoid soiling the floor. Make sure the lubrication points will not drip after oiling.

5.2 Inspection work

For private users, no regular inspections are specified. However, we recommend that you check all electrical and mechanical components once a year to ensure you will enjoy many years of trouble-free operation. When doing so, please use the following checklist.

Check		OK	Not OK	Description of Fault
What?	**How?**			
Visual inspection of the electrical components				
Handset, handset cable	Damage, routing of cable			
Handset	Damage, foil			
Switch mode power supply	Damage, no rattling noises when shaken, cable routing			
Visual inspection of the mechanical components				
Lifting pole, handle	Damage, deformation			
Bed frame	Damage, deformation			
Sprung slats	Damage, splinters			
Wooden surround	Damage, splinters			
Mattress base frame	Damage, deformation			
Safety side bars	Damage, splinters			
Functional check of the electrical components				
Handset	Function test, locking function			
Functional check of the mechanical components				
Emergency release of the backrest	Test according to instruction manual			
Castors	Safe braking action			
Knurled screws	Fixed securely			

Check		OK	Not OK	Description of Fault
What?	**How?**			
Safety side	Safe locking, unlocking			
Motor bolt	Fixed securely			
Lower leg rest	Engages properly			
Accessories (e.g. patient lifting pole, triangular handle)	Fastening, damage			

6 Cleaning and disinfection

6.1 Cleaning

⚠ ATTENTION

Material damage

Failure to heed this warning may result in damage.

- Unplug the power cable and store the power plug so that it does not come into excessive contact with water or other cleaning solutions (place in a plastic bag).
- Make sure that all plugs are properly inserted in the drive motors.
- Ensure that none of the electrical components show any signs of external damage; otherwise water or cleaning agents may penetrate the system. This can result in malfunctions or damage to the electrical components.
- The electrical components must not be cleaned with a water jet, a high pressure cleaner or any other similar device! Clean only with a moist cloth!
- If you suspect that water or any other form of moisture has penetrated into the electrical components, unplug the power pack immediately and do not plug it back into the socket. Label the bed clearly as “Out of Order” and take it out of service. Have it inspected by a qualified electrician.
- Failure to follow these safety instructions could result in considerable damage to the bed and its electrical equipment and lead to subsequent malfunctions!

6.2 Cleaning agents and disinfectants

Observe the following recommendations to ensure the bed remains fit for use for as long as possible:

- Do not use scouring agents, stainless steel care products, abrasive cleaning products or scouring pads. These products can damage the surface.
- We recommend cleaning the bed by wiping it with a (damp) cloth. When selecting a suitable detergent, ensure that it is mild (gentle to skin and surfaces) and environmentally friendly. A standard household cleaning agent and disinfectant can generally be used.
- Ensure that no liquid residues remain on any parts of the bed after cleaning or disinfection. Otherwise the surfaces in these areas may become damaged in the long term.
- It is essential to follow the manufacturer's dosage advice for cleaning agents and disinfectants to prevent damaging the plastic and painted or metal surfaces! It is not permitted to clean the bed using a manually operated steel jet nozzle which is, for example, connected to a steam cleaner/high pressure cleaner. A minimum distance of 30 cm from the electrical components cannot be guaranteed in this case.
- If, despite its excellent mechanical resistance, the coated surface is damaged by scratches or marks which permeate the entire coating, the affected areas should be resealed using a suitable repair substance to prevent moisture from penetrating. For further information, consult BURMEIER or a specialist dealer of your choice.
- Disinfectants based on compounds that could potentially release chlorine may be corrosive for metals, synthetics, rubbers and other materials over longer contact periods or when concentrations are too high. Use these agents sparingly and only if expressly required.

For disinfection by wiping, most cleaning and disinfection agents commonly used in institutions 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. Burmeier therefore routinely tests the most commonly used materials for compatibility. The most up-to-date list of tested cleaning agents and disinfectants can be obtained on request.

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