

BURMEIER

Instruction Manual

Nursing Bed

ARMINIA II



Model number
51.3431.33 S

Type
153456



Independent Living Solutions

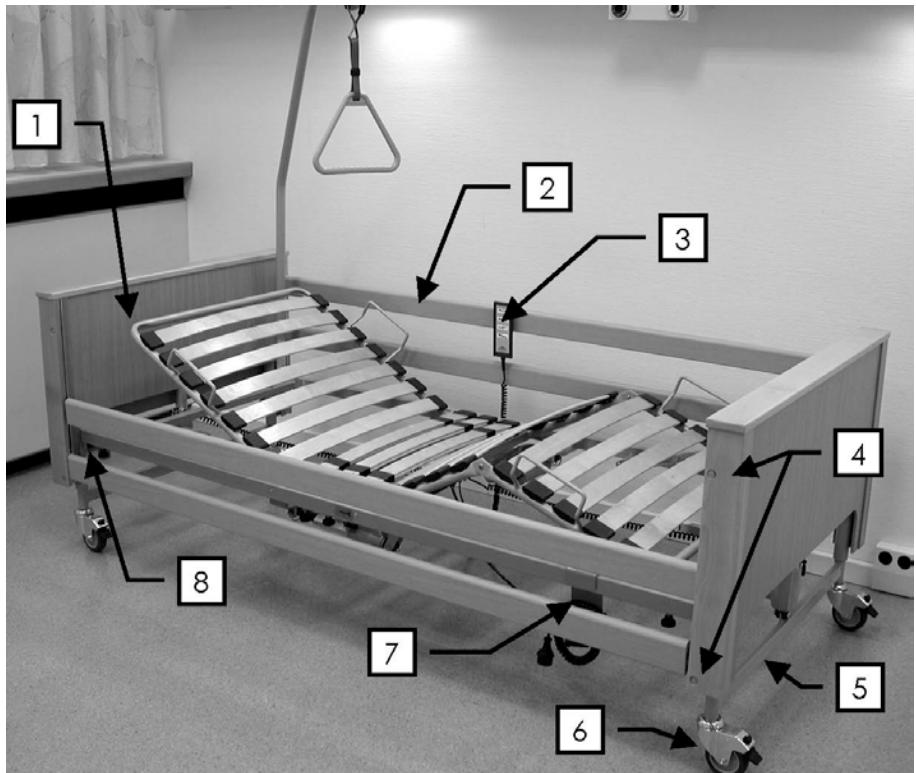


Medical technical
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1 = head board (wooden sections)

2 = side guard

3 = handset

4 = release buttons for side guards

5 = foot

6 = castor

7 = mains cable holder

8 = location (both sides) of sleeves for patient's lifting pole at mattress base frame

Contents

1	Foreword	5
2	General Information	6
2.1	Definition of the Groups of Persons Involved	7
2.2	Safety Information	8
2.2.1	Explanation of the Safety Symbols Used	8
2.2.2	Safety Information for the Operator	9
2.2.3	Safety Information for the User	10
2.3	Product Description	12
2.3.1	Designated Use	12
2.3.2	Special Features	13
2.3.3	Materials Used	13
2.3.4	Structural Design	13
3	Assembly and Putting into Service	15
3.1	Assembly	15
3.1.1	Assembly of the Mattress Base	16
3.1.2	Assembly of the bed	17
3.1.3	Assembly of the Side Guards	19
3.2	Electrical Connection	20
3.2.1	Plug Assignment of the Control Unit	21
3.3	Putting into Service	21
3.3.1	Strain Relief	22
3.3.2	Location Requirements	23
3.3.3	Operational Readiness	24

3.4	Dismantling	24
3.5	Storage Dolly	25
4	Operation.....	26
4.1	Special Safety Information for the Drive Unit System	26
4.2	Handset	27
4.2.1	Using the Handset	28
4.3	Handset with Blocking Function (Accessory)	29
4.3.1	Blocking function	30
4.3.2	Using the handset	31
4.4	Castors	32
4.5	Mains Cable Holder	32
4.6	Patient's Lifting Pole (accessory)	33
4.7	Lower Leg Rest	34
4.8	Side Guards	34
4.9	Emergency Lowering of the Backrest	37
5	Cleaning and Disinfection.....	38
5.1	General Information	38
5.2	Cleaning and Disinfection Instructions	39
5.3	Instructions for the User and Expert	39
5.4	Cleaning and Disinfection Agents	40
5.4.1	Handling Disinfection Agents	41
6	Maintenance	42
6.1	By the User	43
6.2	By the Operator	44
7	Trouble-Shooting	45



1 Foreword

Dear Customer,

BURMEIER would like to thank you for the confidence you have placed in us and our products in deciding to purchase this Arminia II nursing bed.

Each bed has been tested by the manufacturer for electrical safety and functionality and has left our factory in perfect condition.

This instruction manual informs you as the operator and your users about all the functions necessary to ensure ease of operation and safe handling of this bed on a daily basis.

You should, therefore, also regard this instruction manual as a practical reference book to be kept near the bed and at hand at all times.

We wish you and your users every success in care-giving. We are confident that this product enables us to play an important role in achieving just that.

Burmeier GmbH & Co. KG

2 General Information



Advice The nursing bed ARMINIA II is manufactured in various model versions. This instruction manual has been issued for several bed types. It is possible that certain functions or features are described which are not incorporated in your model.

Overview of the ARMINIA II bed models:

Model	Wooden mattress base in 4 sections	Metal mattress base in 4 sections
side guards	Modelnumber:	Modelnumber:
2 bars	51.0300.33 S	51.0300.33 S

Before using the nursing bed for the first time:

- Read through this instruction manual from start to finish so as to prevent damages due to incorrect operation.
- Clean and disinfect the nursing bed prior to first-time use.

Before using a nursing bed, the user must check that the bed is fully functional and in perfect working order as well as follow the instruction manual in accordance with the Medizinprodukte-Betreiberverordnung (German abbreviation: MPBetreibV, Operators of Medical Products Ordinance) § 2. The same applies for accessories. This nursing bed fulfils all the requirements of the 93/42/EWG directive for medical products. It is classified as a class 1 active medical product in accordance with the Medizinproduktegesetz (German abbreviation: MPG § 13, Medical Products Act). The nursing bed ARMINIA II has been inspected by TÜV (German abbreviation for Technischer Überwachungsverein, Technical Inspection Authority). Any piece of technical equipment, electrical or otherwise, can prove hazardous if not properly operated. Please also pay attention to your obligations as the operator in accordance with the MPBetreibV (Operators of Medical Products Ordinance), in order to ensure a permanent safe operation of this medical product with no risk of danger to patients, users and third parties.

This instruction manual contains safety information which must be followed. All users working on and with the nursing bed must be familiar with the contents of this instruction manual and follow the safety advice provided.



Instruction manual for the BURMEIER – Nursing Bed ARMINIA II

Instructions for the Operator:

- Any piece of technical equipment, electrical or otherwise, can prove hazardous if not properly operated. You are

obligated to instruct users in the proper use of this nursing bed in accordance with MPBetreibV § 5 (Operators of Medical Products Ordinance).

- .
 - Ensure that users know where this instruction manual is located in accordance with MPBetreibV § 9 (Operators of Medical Products Ordinance).

2.1 DEFINITION OF THE GROUPS OF PERSONS INVOLVED

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

Operator

Operators (e. g.: medical suppliers, medical specialists, medical insurance providers) are every natural and legal person who use the ARMINA II Nursing Bed or by whose orders the bed is used. The operator is obliged to properly instruct users.

User

Users are persons who, on the basis of their training, experience or through instruction, are entitled to operate the ARMINA II Nursing Bed or to carry out work on it. Users have received instruction in the handling of this bed. Furthermore, they are able to recognise and avoid possible hazards as well as assess the clinical condition of the patient.

Patient

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

Expert

Experts are defined as employees of the operator who, on the basis of their training or through instruction, are entitled to deliver, assemble, dismantle and transport the nursing bed. Furthermore, they have been instructed in the regulations regarding cleaning and disinfection.

2.2 SAFETY INFORMATION

At the time of leaving the factory, the nursing bed ARMINIA II represents state-of-the-art technology and has been TÜV inspected (German abbreviation for Technischer Überwachungsverein, Technical Inspection Authority).

- Use the ARMINIA II Nursing Bed only if you are absolutely certain that it is in perfect working order.

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

2.2.1 Explanation of the Safety Symbols Used

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

Warning of personal injury



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

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

Warning of damage to property

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

Other advice



This symbol indicates a generally useful tip. If you follow it, you will find it easier to operate the bed.

Moreover, this tip is provided for your better understanding. The respectively used safety symbol is not a substitute for the written safety information. Therefore read the safety information and follow it precisely!

2.2.2 Safety Information for the Operator

- Using this instruction manual, which must be provided with the bed, ensure that every user is instructed in the safe operation of this bed before using 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 side guards.
 - Nursing beds are classified as a class 1 active medical product in accordance with the Medizinproduktegesetz (Medical Products Act). Therefore, in order to ensure permanent safe operation of this medical product with no risk to patients, users and third parties, observe your obligations in accordance with the Medizinprodukte-Betreiberverordnung (Operators of Medical Products Ordinance). If the bed is in long-term use, test the functions and check for visual damages (see chapter 6) after a reasonable period of time (recommendation: every 6 months).
 - Only permit persons who have been properly instructed to use this bed.
 - Make sure that substitute staff are also sufficiently well instructed in the safe operation of the bed.
 - When other additional equipment (e.g. compressors for positioning systems, etc.) is attached, ensure that all equipment is safely mounted and functioning. Pay special attention to:
 - safe hook-up of all loose connector cables, tubing, etc.
 - no multiple socket outlets are located under the bed (fire hazard in the presence of penetrating fluids).
 - chapter 2.3.1 of this instruction manual.In the case of ambiguity, consult the manufacturer of the additional equipment or BURMEIER.
 - Check that your staff are complying with the safety information.

2.2.3 Safety Information for the User

- Ensure that the operator instructs you in the safe operation of this bed.
- Each time before using the nursing bed, check that it is in perfect working order.
- Ensure that no obstacles such as furniture or sloped ceilings could impede adjustments to the bed.
- When using external electrical components such as patient lifts, reading lamps, or compressors for positioning systems, ensure that all equipment mains cables will not become entangled or damaged by the moving parts of the bed.
- Multiple socket outlets should not be used to connect external electrical components.
- If any damage or malfunction is suspected, unplug immediately from the mains supply, indicate clearly that the nursing bed is "Out of Order" and take it out of service. Report this immediately to the operator responsible.

A check list for assessing the proper condition of the bed is given in chapter 6.1



- Route the mains cable in such a way that it cannot be pulled, driven over or damaged by moving parts when the nursing bed is operated.
- Before moving the bed, it is important to always unplug it from the mains supply. Store the mains cable in the mains cable holder provided to ensure that it will not fall out or trail on the floor.
- When not in use, stow the handset in such a way that it will not inadvertently fall to the floor (hang it on the hook) and make sure that the cable will not be damaged by moving parts of the nursing bed.
- Always make sure that the mattress base has travelled to its lowest position before leaving the patient unattended. In this way, you greatly reduce the risk of the patient injuring himself/herself as a result of falling when getting in or out of bed.
- To safeguard the patient, and especially children, against unintentional motorised adjustments, place the handset out of reach (e.g. at the foot end of the bed) or block the handset adjustment options (if available) if:
 - the patient is unable to operate the bed safely or free himself/herself from potentially dangerous positions.

- the patient could be at risk due to inadvertent adjustment of the electric motors.
- the side guards are raised (risk of limbs being crushed or trapped when adjusting the backrest or thigh rests).
- children are left unsupervised in the room with the nursing bed.

The adjustments may then only be carried out by, or in the presence of, a person instructed in the proper operation of the bed.

- At regular intervals, carry out a visual inspection of the mains cable to check for mechanical damage (scuffing, exposed wires, kinks, pressure points, etc.). Such a check should be performed:
 - whenever the cable has been subjected to any mechanical load, (e.g. has been driven over by the nursing bed itself or by an equipment trolley, has been bent, stretched or violently pulled due to the nursing bed rolling away while still plugged into the wall socket)
 - whenever the bed has been moved or relocated before plugging it back into the mains supply
 - regularly by the user when the bed is in constant operation.
- Check the strain relief of the mains cable regularly to ensure that the screws are tight and secure.

2.3 PRODUCT DESCRIPTION

2.3.1 Designated Use

- The ARMINIA II Nursing Bed, hereafter referred to as the bed, was developed as a comfortable solution for the home care of infirm or disabled persons in need of care. It should support this care.
- This bed is not designed for use in hospitals.
- This bed can be used to care for a patient under a doctor's instructions and serve for diagnosis, treatment or observation of the patient. For this reason, a handset with blocking functions is available as an accessory (see chapter 8).
- This bed has no special connectors for potential equalisation. Please pay attention to this before connecting with additional electrical (medical) equipment. If necessary, further information on additional protective measures can be found:
 - o in the instruction manuals of these additional electrical devices (e.g. compressed air positioning systems, infusion pumps, enteral feeding devices ...)
 - o in the DIN EN 60601-1-1:2002 standard (Sicherheit vom medizinischen elektrischen Systemen, Safety for Electromedical Systems)
 - o in the VDE 0107:1994 standard (Starkstromanlagen in Krankenhäusern, High Voltage Installations in Hospitals)
- The safe working load (SWL) of this bed is 1700 N (~175 kg), based on a patient weight of 135 kg. The remaining 40 kg are distributed over the mattress and mounted accessories.
- This bed is not suitable for patients with a height of less than 150 cm. Please refer to the safety information provided in chapter 4.8, especially for patients 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 repeated use. When reusing beds, pay attention to the necessary requirements:
 - o Cleaning and Disinfection (see chapter 5)
 - o Maintenance / Repeat Inspections (see chapter 6.2)

This bed may only be operated according to the conditions described in this instruction manual.

Any other use shall be regarded as non-compliant with the

2.3.2 Special Features

Electrical height adjustment of the mattress base between approx. 40 and 80 cm.

Electrical adjustment of the backrest between 0° and approx. 70°.

Electrical adjustment of the thigh rest between 0° and approx. 35°.

Electrical tilting of the mattress base into the prone position to approx. 10°.

Moveable via four, individually-locking castors.

Mattress base 200 x 90 cm, in four sections; external dimensions approx. 220 x 102 cm.

Side guards for both sides, can be lowered.

2.3.3 Materials Used

For the most part, the bed was manufactured from steel profiles whose surfaces were finished with a polyester powder coating or a metal coating of zinc or chromium. The head and foot boards, side guard bars and wooden spring slats are wood or wood products whose surfaces have been finished.

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

2.3.4 Structural Design

The bed is delivered unassembled in order to make it transportable into any home. It consists of two headboards (wooden sections), a head section, a foot section, a mattress base frame that can be separated in the middle, four side guard bars and a patient's lifting pole with a grab handle (accessory, included in delivery). The bed is equipped with four individually-locking castors. A storage dolly can also be supplied.

Mattress Base

The mattress base is divided into a backrest, a fixed middle part and a thigh rest. The rests are adjustable. The mattress base can be adjusted horizontally in height or to a prone position. All adjustments are performed by electric motors using a handset.

Side Guards

In order to prevent the patient from inadvertently falling out of the bed, the bed has side guards on both sides which serve as a barrier when raised or can be lowered when not needed. The locking

mechanism is secure and can only be released when the side guard is slightly lifted.

Electrical Adjustment System

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

- the electronic control unit. The control unit generates, via a transformer, a 24 Volt protective low voltage which is non-hazardous for patients and users. All electric motors and the handset are connected to the central control unit and operate on the generated 24 Volt protective low voltage.
- electric motors for the back and thigh rests.
- two electric motors for height adjustments to the mattress base.
 - a handset with a stable hook.
 - a handset with a stable hook and blocking function (accessory). The user can block handset adjustments when necessary due to the poor clinical condition of the patient.

3 Assembly and Putting into Service

- Upon delivery the bed is packed or mounted on a storage dolly.
- The operator's experts assemble the bed on site.
- The assembly should be carried out by two people.
- Remove all packaging materials and cable bindings.

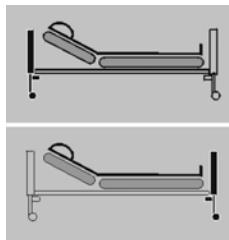
Packing units

- Box 1: mattress base complete with electrical motors 4 side
guard bars patient's lifting pole with grab handle
- Box 2: 2 head boards
- Box 3: head and foot section with
electric motors, plastic sliders
and screws

3.1 ASSEMBLY

- If the nursing bed is delivered mounted on a storage dolly (see chapter 3.5), the mattress base is provided unassembled and needs to be assembled.
- If the bed is delivered packed, the mattress base is provided pre-assembled.
- Since the bed can be tilted into the prone position, it is important that the head and foot boards are not mixed up! In order to correctly identify and position the head/foot boards, the following stickers are found in the middle of the cross tubing by the head/foot boards near the motor connector mount and in the middle of the cross tubing of the mattress base frame.

Headboard sticker at the head end of the bed



Footboard sticker at the foot end of the bed

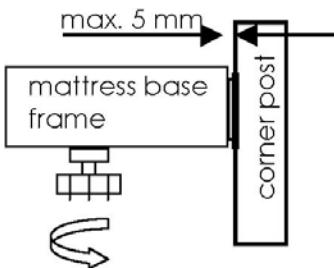
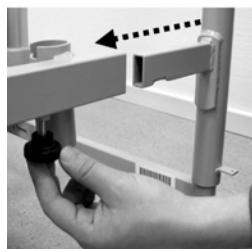
3.1.1 Assembly of the Mattress Base

- Remove the side guards and patient's lifting pole from the storage dolly. (see chapter 3.5). These parts will be assembled later.
- Remove both mattress base parts from the storage dolly.
- Rest the head section of the mattress base on end on the floor; sleeves for patient's lifting pole on the lower end.
- Unscrew the two knurled screws found on each side of the foot section of the mattress base.
- Place the foot section of the mattress base onto the head section as far as it will go.
- Hand-tighten the four knurled screws on the joint piece.
- Connect the motor lifting bar with the connector mounts of the head section of the mattress base. To do this, insert the locking pin through the connector Mount and lifting bar and secure in place by flipping the clamp around.
- Lay the mattress base frame flat on the floor.



3.1.2 Assembly of the bed

- Lay the mattress base frame flat on the floor.
- Unscrew the knurled screws at the head of the bed.
- Raise the mattress base frame at the head end of the bed. Slide the connecting piece on the headboard into the mattress base frame until the mattress base frame is adjacent to the corner posts. Pay attention to matching stickers!
- Hand-tighten the knurled screws on both sides.



- Repeat the assembly procedure for the footboard.

- Attach the head boards to the head and foot sections one after the other and press them down as far as they will go.



- Use the Spax screws to fasten the head boards through the catch.

3.1.3 Assembly of the Side Guards

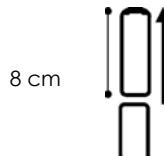
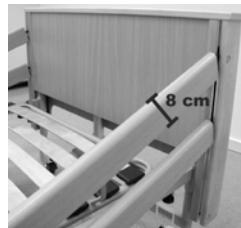
At all four bed corners there is a guide rail in the head/foot boards for the side guards.

- Slip one plastic slider upwards into each guide rail of the head section.
- The plastic sliders must always be inserted into the guide rails such that their pointed ends point upwards.
- Press the lower release button first to negotiate the blocking. Then proceed pushing the plastic slider further up until you reach the upper release button.

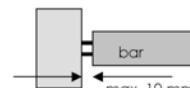


- Then press the top release button and push the plastic slider another approx. 5 cm further up.
- Release the release button and lower the slider slowly until it safely locks into place.
- Insert the side guard bar onto the mounted plastic slider. The rounded edge of the bar should be up. **Note:** the bars have different heights.

The higher of the two bars (8 cm) must occupy the upper position!



- Insert another plastic slider (tip pointing upwards) into the other end of the bars. Press the lower release button and move the plastic slider up in the guide rail of the footboard.
- Assemble the second side guard in the same manner.



- Check the remaining distance between the end of the bar and the guide rail does not exceed 10 mm. If necessary, reduce this distance by pushing the corner posts further into the mattress base. (see chapter 3.1.2).
max. 10 mm

3.2 ELECTRICAL CONNECTION

In order to use the bed with all electrical adjusting functions you have to connect the plugs of the electric motors to the control unit.



- Pay attention that the height adjustment motors are correctly arranged! These may not be mixed up. It should only be possible to tilt the bed into the prone position.

- Run the motor and handset cables underneath the mattress base frame.
- Insert the right angle plug for the height adjustment motor by the headboard and clip the strain relief in.
- Insert the right angle plug for the height adjustment motor by the footboard and clip the strain relief in.



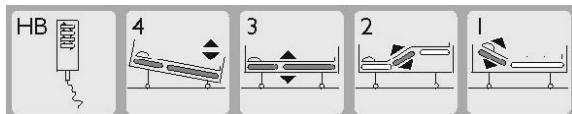


Warning

Ensure that all cables are undamaged, that no loops form along the cables and that the cables will not be pinched by moving bed parts.

3.2.1 Plug Assignment of the Control Unit

- 1 backrest motor
- 2 thigh rest motor
- 3 total height
- 4 foot end height
motor



HB handset



Advice

- When replacing individual components always ensure that the plugs are inserted into the control unit as far as possible and that the plug cover is reattached. Only then can reliable sealing and perfect operation be guaranteed.

3.3 PUTTING INTO SERVICE

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

- the bed castors are braked (see chapter 4.4).
- the power supply is compatible with the bed (230 Volt, 50 Hertz).
- the mains cable is connected and routed such that it cannot be damaged.
- the mains cable, the motor cable and handset cable cannot be damaged by moving parts of the nursing bed.
- no obstacles such as night tables, floor cable ducts or chairs will inhibit adjustments.
- all adjustment functions are in proper working order and have been checked (see chapter 6.1).

Only now the bed may be put into operation.

3.3.1 Strain Relief

The strain relief for the mains cable is located under the middle of the mattress base frame.

- Check that the strain relief is securely fastened and is operating effective



Warning

Special care is required when routing the mains cable and the motor cable. These cables must not be driven over when the bed is moved or become entangled in moving parts of the bed when adjustments are made!

- Ensure that all cables are undamaged, that no loops form along the cables and that the cables will not be pinched by moving bed parts.

3.3.2 Location Requirements

- There must be sufficient room available for the bed's entire range of adjustments. Furniture, window sills, etc. must not impede adjustments.
- Before using the bed on parquetry floors, check if the castors will cause discolouration due to the existing floor sealing compounds. Use on tiles, carpet, laminate and linoleum floors is completely safe.
- A properly installed 230 Volt mains socket must be available close to the bed (preferable).
- When other additional equipment is attached (e.g. compressors for positioning systems, etc.), ensure that they are securely fastened and functioning. In these cases, pay special attention to the safe routing of all moveable connector cables, tubing, etc. If you have any questions or concerns, consult the manufacturer of the additional equipment or BURMEIER.



Mortal Danger !

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

- Preferably use only flame-retardant mattresses and bedding.
- Do not smoke in the bed since the mattress and bedding used may not be resistant to smoking materials or smoking accessories.
- Only use additional equipment which is in perfect working order (e.g. heating blankets) and other electrical devices (e.g. lamps, radios).
- Ensure that this equipment is used only for the purpose intended and that instruments are not left unintentionally on or under the bedding (danger of overheating).
- Avoid using extension cables or multiple socket bars under the bed (risk of fire due to penetrating fluids).
- If possible, extension cables and/or multiple socket outlets should not be used at all.

3.3.3 Operational Readiness

- After the bed has been assembled, carry out an inspection in accordance with chapter 6.2.
- Clean and disinfect the bed prior to first-time use and before reusing in accordance with chapter 5.

After all the steps in chapter 3.1 to 3.3.3 have been successfully carried out and observed, the bed is considered operational.

3.4 DISMANTLING

- Remove the patient's lifting pole.
- Move the bed to the lowest horizontal position.
- Unplug the mains cable from the electrical socket.
- Block all four castors.
- Remove the side guards, one after another.
- Feed the plastic sliders back into the guide rails, ensuring that the pointed tips point upwards.
- Disconnect the plugs and strain reliefs from the height adjustment motors.
- Unscrew the Spax screws from underneath the head and foot boards.
- Remove the head and foot boars, one after another.
- Unscrew the knurled screws on the head and foot sections and remove them one after another. All loosened knurled screws should be screwed in completely onto the mattress base frame before transporting the bed (to ensure they will not be lost).

To dismantle the mattress base frame, proceed as follows:

- Rest the mattress base frame upright against a wall; head part pointing downward.
- Remove the locking pins on the lifting bars of the backrest and thigh rest motors.
- Unscrew the knurled screws on both junctions of the mattress base frame.
- Pull the mattress base parts apart.
- When transporting the bed, the loosened knurled screws on the mattress base frame should be screwed in completely and the locking pin should be inserted (to ensure they will not be lost).

3.5 STORAGE DOLLY

If the bed has a storage dolly, it can be mounted on it by following the instructions given below.

Screw the storage dolly onto the connection piece of either the head or foot board. All knurled screws have to point in the same direction. The connection pieces for the mattress base frame must point upwards, the holder for the side guard bars inwards and the sleeve for the patient's lifting pole must point outwards.

Screw the other board on.

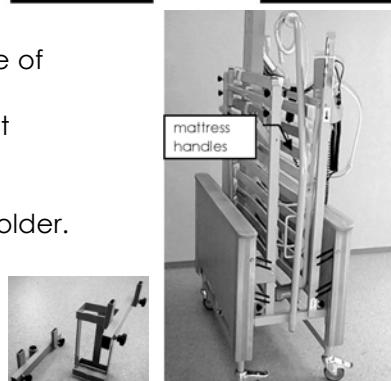
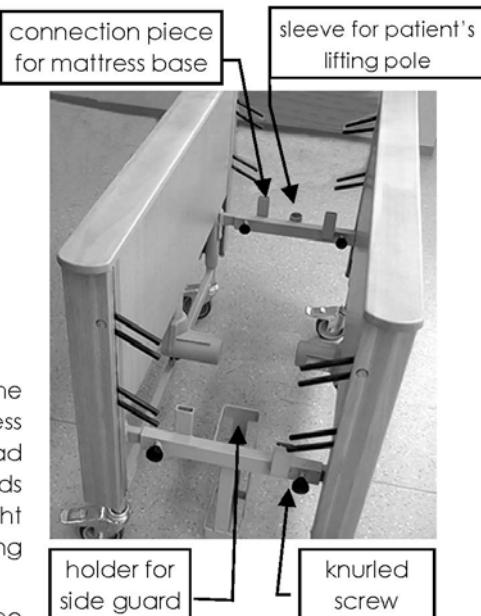
Place the backrest first onto the connection piece. The mattress handles must point inwards. The head board part must point downwards because otherwise the backrest might tip. For transportation attach the lifting bars with cable ties or similar means.

Then place the thigh rest part onto the connection piece. The mattress handles must point inwards. The side of the foot board has to point downwards to prevent the thigh rest from tipping.

Now tighten all knurled screws.

Insert the side guard bars into the holder.
Insert the patient's lifting pole in the sleeve. The bed is now ready for transport or storage.

storage dolly



4 Operation

4.1 SPECIAL SAFETY INFORMATION FOR THE DRIVE UNIT SYSTEM

When making any adjustments, ensure that no limbs from the patient, user or other persons, especially playing children, are under the rests or the bed frame. Otherwise, this could lead to trapped or injured limbs. To safeguard the patient against unintentional motorised adjustments, always block electrical handset adjustments of the back and thigh rests on electrical beds when the side guards are raised (risk of limbs being crushed or trapped when adjusting the back or thigh rests). o Place the handset out of reach (e.g. at the foot end of the bed) or block the handset adjustment options (if available). When using accessories on electrically adjustable beds, the following applies: Make sure that the arrangement of accessories does not produce any crush or shearing zones for the patient when the back and thigh rests are adjusted. If this cannot be guaranteed, the user must safely prevent the patient from adjusting the back and thigh rests. o Place the handset out of reach (e.g. at the foot end of the bed) or block the handset adjustment options (if available). Ensure that the mains cable and the handset cable cannot be pinched or otherwise damaged.

Each time before moving the bed, ensure that the mains cable will not be stretched, driven over or damaged in any other way. When moving the bed, the mains cable must be stowed in the designated mains cable holder. In order to avoid damages, ensure that no obstacles such as furniture or sloped ceilings could impede adjustments to the bed.

When the load is too high, an electronic overload switch is activated and the control unit is automatically switched off. When the overload is removed, the drive unit system can be reactivated by pressing the appropriate button on the handset. Continuous operation must not exceed two minutes! After this time, a rest period of at least 18 minutes must be observed (Alternative: one minute continuous operation followed by a nine minute rest period, etc.). For safety reasons, when the maximum operation time is purposely disregarded, a thermal safety device will permanently cut off the power supply to prevent the drive unit system from overheating due to continuous "playing".

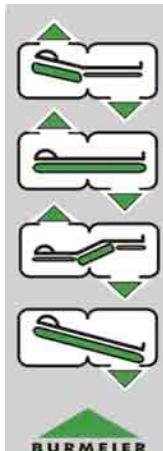


- The adjustment range for all **thigh rest** is electrically / mechanically limited to the permitted ranges.
- As with every electrical device, even if all specified limit values are observed during operation, **prone position** and to other closely situated electrical equipment can not be completely eliminated (e.g. "crackling" in a radio). In such rare cases, increase the distance between devices, do not use the same electrical outlet or switch the disruptive/disrupted device temporarily off.

4.2 HANDSET

The electrical bed functions can be activated by the patient or the user using the handset.

- o The electric motors operate as long as the corresponding buttons are pressed.
- o All adjustments, with the exception of the prone position, are possible in both directions.
- o The handset can be hung at any position on the bed with an elastic hook.
- o The coiled cable provides ample flexibility and freedom of motion.
- o The handset is washable (IP 66), water-proof and



The following base rule applies to the keys:



4.2.1 Using the Handset

Adjusting the backrest



By pressing these keys, the adjustment angle of the backrest can be altered.

Adjusting the mattress base height



By pressing these keys, the height of the mattress base can be altered.

When adjusting the height of a mattress base which has been tilted in the prone position, the bed is automatically set to the horizontal position at its highest or lowest position.

Adjusting the thigh rest



By pressing these keys, the adjustment angle of the thigh rest can be altered.

Setting the prone position



By pressing these keys, the mattress base can be adjusted to a prone position. Only the  "lower" key is active. When adjusting the height of a mattress base which has been tilted in the prone position, the bed is automatically set to the horizontal position at its highest or lowest position.

- In order to avoid possible damages to the floor, release the two castor brakes at the head or foot end of the bed before setting the prone position.



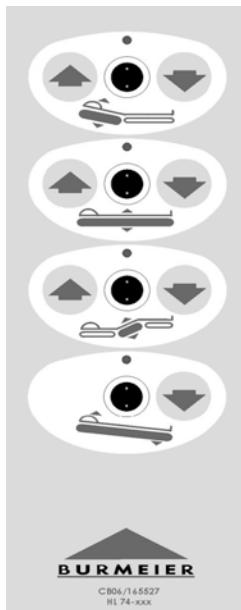
Advice The adjustment range for all functions is electrically / mechanically limited to the permitted ranges.



4.3 HANDSET WITH BLOCKING FUNCTION (ACCESSORY)

The electrical bed functions can be activated by the patient or the user using the handset. For safety reasons, a blocking function is incorporated in the handset. Depending on the clinical condition of the patient, the user can block handset adjustments when deemed necessary by the supervising doctor.

- The electric motors operate as long as the corresponding buttons are pressed.
- All adjustments, with the exception of the prone position, are possible in both directions.
- The handset can be hung at any position on the bed with an elastic hook.
- The coiled cable provides ample flexibility and freedom of motion.



The following base rule applies to the keys:





4.3.1 Blocking function



Danger

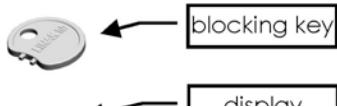
Only users are authorised to use the blocking function!

If the clinical situation of the patient is so critical that handset adjustments pose a potential danger to him/her, the user must immediately block these adjustment possibilities. The nursing bed will remain in the position it had when switched off.



Advice Upon delivery of the bed, a blocking key is fastened to the handset with a cable binding. The blocking key is not intended for use by the patient and must be removed from the handset. The blocking key should remain with the user for safekeeping.

- On the handset,
turn the respective



blocking surface
using the blocking
key into the
desired position.
The display colour
will change
accordingly (see
below).

- Respective drive blocked: Vertical blocking surface;
Display colour: yellow
The blocked buttons cannot be activated
- Respective drive released: Blocking surface rotated approx. 15° clockwise
Display colour: green
The unblocked buttons can be activated
("clicking sound")



4.3.2 Using the handset

By pressing these keys, the adjustment angle of the backrest can be altered.



Adjusting the mattress base height



By pressing these keys, the height of the mattress base can be altered.

When adjusting the height of a mattress base which has been tilted in the prone position, the bed is automatically set to the horizontal position at its highest or lowest position.

Adjusting the thigh rest



By pressing these keys, the adjustment angle of the thigh rest can be altered.

Setting the prone position

 By pressing these keys, the mattress base can be adjusted to a prone position. Only the

 "lower" key is active.

When adjusting the height of a mattress base which has been tilted in the prone position, the bed is automatically set to the horizontal position at its highest or lowest position.

- In order to avoid possible damages to the floor, release the two castor brakes at the head or foot end of the bed before setting the prone position.

4.4 CASTORS

The nursing bed is equipped with four individually-locking castors.

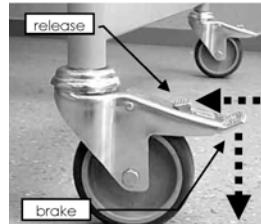


Warning

- Move the bed only when the mattress base is in the lowest position.
- Each time before moving the nursing bed ensure that the mains cable will not be stretched, driven over or damaged in any other way.
- Before moving the bed, the mains cable must be stowed in the designated mains cable holder (see chapter 4.5).

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

Release: Use your foot to push the release switch towards the bed leg.



Locking: Use your foot to press down on the foot lever.

4.5 MAINS CABLE HOLDER

The mains cable holder is located on the side of the mattress base frame near the foot section.

- Before moving the bed, always hang the mains cable in this holder. Otherwise the mains cable could sustain damage as a result of being torn off, crushed or driven over. These damages could lead to electrical hazards and malfunctions.



Instruction manual for the BURMEIER – Nursing Bed ARMINIA II

4.6 PATIENT'S LIFTING POLE (ACCESSORY)



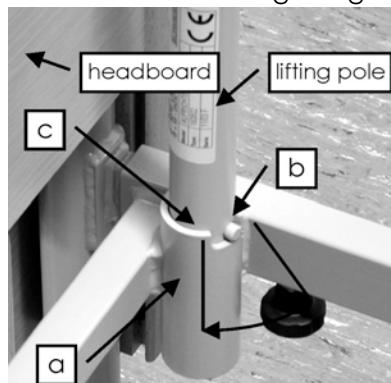
Warning

The maximum carrying capacity at the front end of the patient's lifting pole is 75 kg.

There are two location sleeves (a) for a patient's lifting pole found at both corners on the inside of the mattress base frame at the head end of the bed. Each sleeve has a recess (c) on the upper surface. The patient's lifting pole should be inserted on the side of bed where the patient gets in and out. This will ease movement when getting in and out of bed.

Inserting

- Insert the patient's lifting pole into the sleeve. The metal pin (b) must fall in the sleeve recess. This will limit the slewing range (double-ended arrow) of the patient's lifting pole.

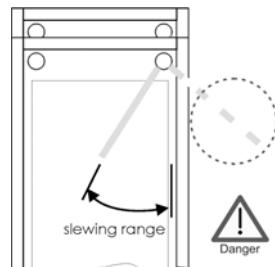


Removing

- Pull the patient's lifting pole straight up and out of the sleeve.

Slewing range of the patient's lifting pole

Do not allow the pole to swing outside of the bed area. There is the danger that the bed will tip when weight is applied to the pole. The metal pin on the patient's lifting pole must always sit in the sleeve recess.



Adjustable height range for the grab handle

The height of the lifting pole grab handle can be adjusted between approx. 55 cm and 70 cm using an adjustable belt (measured from the upper edge of the mattress).

4.7 LOWER LEG REST

The lower leg rest features two adjustable fittings that allow positioning at an individual angle.

Raising

- Raise the lower leg rest by the frame - and not by the mattress handles - until the desired position is reached. The lower leg rest will automatically lock in place.

Lowering



- First, raise the lower leg rest up to the upper limit at the frame.
- Lower the lower leg rest slowly.
There is risk of injury if the lower leg rest falls uncontrollably.

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

4.8 SIDE GUARDS

Raising

- Pull the side guard upwards in the guide rails, one after another, until it automatically locks into place at both ends in the uppermost position. They should not be able to shift upwards or downwards.
- Check that the side guards are firmly locked in place by pressing down on them. They should not be able to shift upwards or downwards.

Lowering

- Raise the side guard slightly.
- Press the release lever and lower the side guards. Repeat procedure for the other side.





Danger

Special Safety Information for the Use of Side Guards

- Side guards protect the patient from unintentionally falling out of the bed. They are not intended as a device to prevent the patient from intentionally leaving the bed. Pay attention to the following safety information so that the side guards provide the proper and intended protection:
- Only use technically perfect, undamaged side guards with approved bar spacing and which securely engage.
- Ensure that only suitable original BURMEIER side guards are used, which are approved accessories for the respective bed model or are already integrated into the bed.
- When using a nursing bed with side guards, check the suitability of the bed, taking into consideration the characteristic build of the patient. Take into account the distance between bars and cross-bars in relation to the patient's physique. For especially small, frail patients, additional protective measures through the use of slide-on side guard foam covers (accessory) may be necessary. This is the only way to effectively guarantee patient safety and reduce the risk of the patient becoming trapped or slipping through.
- Use only suitable mattresses which are not too soft, have a density of 35 to 40 kg/m³ and are between 10 and 12 cm high. In addition, these mattresses should have low flammability in accordance with the DIN 597 standard (parts 1 and 2).
- If elevated patient positioning systems are employed, such as antidecubitus mattresses, an effective side guard height of at least 220 mm above the unweighted mattress must be guaranteed. If this requirement is not met, an attachable bar (accessory) for the side guards must be used to additionally protect the patient from falling out of the bed.
- Regularly inspect the side guards and the mechanical components responsible for securing the side guards on the undercarriage for possible damages. This inspection should not only be carried out before attaching the side guards but also during use at regular intervals (minimum: before each re-use).
- To safeguard the patient against unintentional motorised adjustments, always block the electrical handset adjustments of the back and thigh rests on electrical beds when the side guards are raised (risk of limbs being crushed or trapped when adjusting the back or thigh rests).

Continued on the next page

- Place the handset out of reach (e.g. at the foot end of the bed) or block the handset adjustment options (if available).

If this safety information is not observed, the patient risks being caught in the side guards or falling out of the bed due to bar spacings which are too large, as a result of damages, the use of unsuitable side guards or incomplete engaging of the side guards.

4.9 EMERGENCY LOWERING OF THE BACKREST

In the event of power supply outages or electrical drive system failures, the raised backrest can be lowered by hand.

In this case, two people are absolutely necessary!



Emergency lowering may only be carried out in the case of extreme emergencies and by properly instructed personnel who have a complete command of the procedure described below.

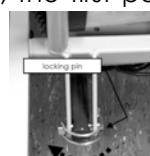
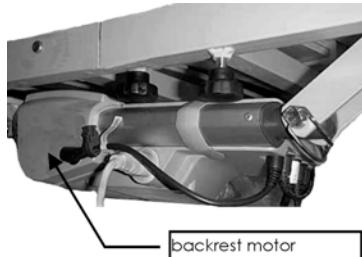
Disregard for this safety information and instructions for use may cause the backrest to fall uncontrollably, which could lead to serious injuries!

As a precautionary measure, we recommend that emergency lowering of the backrest be practiced under normal conditions so that, in the case of emergency, you will be able to react quickly and accurately.

- Before lowering, remove any loads on the backrest.
- To do this, the first person raises the backrest slightly by the outside edge of the head section and holds it firmly in this position.
- The second person now removes the locking pin (open and pull out) from the lifting pipe of the backrest motor. The motor is now separated from the backrest and the backrest can be swung downwards.
- After the second person has left the danger zone, the first person lowers the backrest carefully.



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



In order to restore the bed to its original state, the lifting bar of the backrest motor must be re-fastened to the connector mount with the locking pin.

5 Cleaning and Disinfection

5.1 GENERAL INFORMATION

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

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



Warning

Before cleaning or disinfecting:

- Unplug the mains cable and store the mains plug such that it does not come into excessive contact with water or other cleaning solutions.
- Make sure that all plugs are properly inserted.
- There must be no external damages visible on any of the electrical components. Non-compliance with this advice could lead to malfunctions or damages to the electrical components as a result of penetrating water or cleaning solutions.
- Before operating the bed again, ensure that there is no residual moisture on the electrical contacts by drying or blowing on the mains plug.
- The electrical components must not be cleaned with a water jet, a high pressure cleaner or other similar device! Clean only with a moist cloth!
- If you suspect that water or any other form of moisture has penetrated the electrical components, pull the mains plug out immediately. If already disconnected from the mains supply, make sure it is not plugged in again. Clearly mark the bed as "Out of Order" and take it out of service. Report this immediately to the operator responsible.
- Failure to follow this safety advice could result in considerable damage to the equipment and lead to subsequent malfunctions!

5.2 CLEANING AND DISINFECTION INSTRUCTIONS

- Remove bed linens and send them to the laundry service.
- Clean all surfaces including the slatted bed frame and mattress base made from synthetic inserts or wire netting with a mild and environmentally friendly cleaning agent. Clean the handset in the same manner.
- When the bed has been visibly contaminated with infectious or potentially infectious materials, the bed should be subsequently disinfected by wiping with one of the disinfection media approved by the DGHM (Deutsche Gesellschaft für Hygiene und Mikrobiologie, German Society for Hygiene and Microbiology) which is suitable for the corresponding surfaces. The same applies for all beds with patients with notifiable diseases according to § 6 of the Infektionsschutzgesetz (German abbreviation: IfSG, Protection against Infection Act), bacterial infections or infections with multiple-resistant pathogens (e.g. MRSA, VRE) and 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.

Note: continuous disinfection is only necessary in hospitals when a patient has a multiple-resistant pathogen (e.g. MRSA).

5.3 INSTRUCTIONS FOR THE USER AND EXPERT

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

- A clean bed must be transported into the patient's residence such that it will not become dirty or contaminated.
- When dismantling the bed, we recommend that the bed be promptly cleaned and disinfected by wiping. The expert should be informed regarding the details of the cleaning and disinfection procedures and reliably carry out the cleaning treatment correspondingly (procedural or cleaning step guidelines are available from the operator). Ensure that only those disinfection media listed by the DGHM are used at the concentrations given. The disinfection agent must be suitable for the surface which will be cleaned.
- For this activity, the expert should be outfitted with disposable aprons and gloves which are impermeable to fluids.
- For the cleaning treatment, only fresh, clean cloths may be used which are subsequently sent to the laundry service.
- When cleaning/disinfecting work has been completed, the expert must disinfect his/her hands before leaving the cleaning area. The expert should be equipped with a suitable dispenser with 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 the same vehicle. In this way, the transfer of potentially infectious germs, which may be found on used undercarriages, is prevented. A transfer of germs in terms of a nosocomial infection can be safely avoided by consistently and thoroughly following these recommendations.

When the bed is not immediately reused, it should be stored (covered) such that it is protected from dust, inadvertent dirt and contamination.

5.4 CLEANING AND DISINFECTION AGENTS

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

- The surfaces must be intact; each sign of damage must be promptly repaired. • We recommend a (moist) cleaning by wiping. When selecting cleaning agents, ensure that the ones chosen are mild (gentle on skin and surfaces) and environmentally friendly. A standard household cleaner can generally be used.
- For the cleaning and care of coated metal parts, a moist cloth with a mild, commercial household cleaner is best.
- For disinfection by wiping, the disinfection medium used should be one which has been listed by the DGHM (at the recommended concentration) and approved for the intended cleaning. Only in the case of an epidemic, media and concentrations, as given in the list from the Robert Koch Institute (or the former Bundesgesundheitsamt, Federal Health Office), must be used in accordance with the Infektionsschutzgesetz (Protection against Infection Act) and only by order of the Health Office responsible.
- Despite the excellent mechanical resistance of the bed, scratches, markings, etc. which permeate the entire coating should be resealed using a suitable medium to prevent the penetration of moisture. For further information, consult BURMEIER or a specialist of your choice.



Warning

- Do not use scouring agents, stainless steel cleaners, abrasive cleaning agents or scouring pads. These substances can damage the surfaces.

Note:

As a rule, aldehyde-based disinfection media have the advantage that they have a wide spectrum of impact, a relatively low protein effect and are environmentally friendly. The main disadvantage of these agents is their potential to cause allergies and irritation.

Glucoprotamine-based formulations do not have this disadvantage and are equally effective although most are somewhat more expensive. Disinfection media based on compounds which could potentially release chlorine may be corrosive for metals, synthetics, rubbers and other materials over longer contact periods or when concentrations are too high. Furthermore, these media have a higher so-called protein effect, are mucous membrane irritants and demonstrate poor environmental compatibility.

5.4.1 Handling Disinfection Agents

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

6 Maintenance

Legal Principles

In accordance with

- Medizinprodukte-Betreiberverordnung § 4 (Operator's Ordinance on Medical Products, Maintenance)
- Berufsgenossenschafts-Vorschrift BGV A2 (Directive of the German Employers Liability Insurance Association, previously VGB 4, Testing of mobile electrical equipment in industrial use)

operators of nursing beds are obligated to keep medical products in a safe state throughout their entire service life. This also includes regularly carrying out expert maintenance as well as safety checks.

Information for the Operator

This bed is constructed and designed to safely function over a long period of time. When properly operated and used, this bed has an expected service life of approx. 2 to 8 years, depending on the conditions and frequency of usage.



As a result of repeated transport, assembly and dismantling of the bed, improper operation as well as long-time use, damage, defects and signs of wear may occur. Such defects can present hazards if not promptly recognised and eliminated.

For this reason, legal principles dictate that regular inspections be carried out in order to permanently guarantee the safe state of this medical product.

The operator is responsible for maintenance in accordance with § 4 of the Medizinprodukte-Betreiberverordnung (Operator's Ordinance on Medical Products). For this reason, both operators and users must carry out regular inspections and performance checks as described in the following sections.

Instruct users regarding the following inspections.

6.1 BY THE USER

In addition to the standard, extensive inspections made by qualified technicians, regular users (care givers, relatives providing patient care, etc.) must also carry out minimal visual and performance checks at frequent, regular intervals and each time before the bed is reused.

Recommendation: Test all electrical and mechanical components once monthly. In addition check the mains cable and handset cable after each incidence of applied mechanical loads and each time the bed is moved. For these inspections, use the check list on the following page.



Check List: Inspection by the User

Check	ok	not ok	Description of Defect
Visual Inspection of the Electrical Components			
Handset, handset cable	Damage, routing		
Mains cable	Damage, routing		
Handset	Damage, plastic covering		
Visual Inspection of the Mechanical Components			
Patient's lifting pole, location sleeves	Damage, deformations		
Undercarriage	Damage, deformations		
Wooden spring slats	Damage, splinters		
Wooden sections	Damage, splinters		
Mattress base	Damage, deformations		
Side guard bars	Damage, splinters		
Performance Check of the Electrical Components			
Handset	Function test blocking function (if available)		
Performance Check of the Mechanical Components			
Castors	Locking, release		
Emergency lowering of the backrest	Test according to instruction manual		
Knurled screws	Firmly positioned		
Side guards	Safe locking, release		
Lower leg rest	Locking		
Accessories (e.g. patient's lifting pole, grab handle)	Fastening, damage		
Inspector's Signature:	Inspection Result:		Date:



- If damage or a malfunction is suspected, the bed must be withdrawn from service immediately and disconnected from the mains supply until the defective parts have been repaired or replaced!
- Consult your operator regarding repairs or replacements for defective parts.

6.2 BY THE OPERATOR

In order to guarantee the safe state of this nursing bed, the operator of this nursing bed is obligated to carry out regular inspections each time the bed is reassembled or maintained and when the bed is in continuous operation (in accordance with the MPBetreibV § 4, Operator's Ordinance on Medical Products).

Depending on the conditions of usage, these inspections must be repeated within the framework of regular maintenance in accordance with the MPBetreibV § 4 (Operator's Ordinance on Medical Products) and the Berufsgenossenschaften (German Employers Liability Insurance Association) for regulated testing of mobile electrical equipment in industrial use in accordance with BGV A2 (previously VBG4).

- In accordance with the MPBetreibV § 4 (Operator's Ordinance on Medical Products), only experts may carry out the inspection as well as evaluate and document the results. These experts must have the necessary knowledge, training and means for properly carrying out the inspection.
- With the use of suitable measuring devices, a person instructed in electrotechnics (as defined by BGV A2 (previously VBG 4)) with additional medical and instrument-specific knowledge may also carry out the electrical measurement according to VDE 0751. The inspection results may only be evaluated and documented by qualified electricians with additional medical and instrument-specific knowledge.
- Observe this sequence for the inspection according to VDE 0751:
 - I. Visual check
 - II. Electrical measurement
 - III. Performance check

Inspection Cycle: As a guideline, we recommend that a biannual inspection, demonstrably observing the 2 % error rate (see BGV A2: §5, Table 1B) be carried out. The interval between inspections can be extended to a maximum of two years, depending on the operating conditions and at your own risk.



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

Trouble-shooting Table

The following table is a guide for detecting and rectifying malfunctions:

Problem	Possible causes	Solution
Handset or drive unit system is not functioning	<ul style="list-style-type: none">• Mains cable is not plugged in• No power supply to socket• Handset plug is incorrectly inserted• Handset or drive unit system is defective• Functions are blocked on the handset (if available)	<ul style="list-style-type: none">• Insert mains cable• Check socket/fuse box• Check connector plugs on control unit• Inform your operator about necessary repairs• Unblock functions (see chapter 4.3.1)
Drives only operate for a short time when buttons are pressed	<ul style="list-style-type: none">• Too much weight on the bed• Bed is blocked by an obstacle	<ul style="list-style-type: none">• Reduce load• Remove obstacle
Individual drives operate in one direction only	<ul style="list-style-type: none">• Defective handset, drive unit or control unit	<ul style="list-style-type: none">• Inform your operator about necessary repairs
The wrong function is activated when handset buttons are pressed	<ul style="list-style-type: none">• Internal motor plugs incorrectly connected (mixed up)	<ul style="list-style-type: none">Inform your operator about necessary repairs
Drives stop abruptly after longer adjustment times	<ul style="list-style-type: none">• The transformer thermal switch in the control unit was activated	<ul style="list-style-type: none">• Leave the drive unit system inoperative for approx. 20 - 30 min (cool-down period)