

# Bock Manual lugano



Tubular Steel Products  
Interior Furnishings  
Therapy and Rehabilitation Beds

# bock

Assembly and  
Operating Instructions

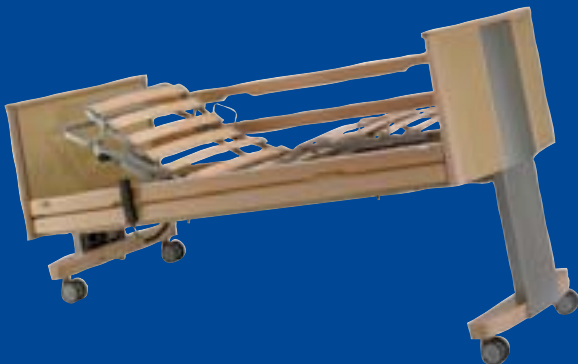
Dear Customer,

In deciding to buy a therapy and rehabilitation bed from Bock you have opted for a care product that has a long service life and delivers first class functionality at the highest safety level. Our electrically adjustable care beds guarantee optimum comfort when lying, and support professional care activities. The focus is on people who need care, encouragement and protection. We have created the basic requirements for this with our care products. We urge you to prevent potential malfunction and risk of accidents by complying strictly with the safety and operating instructions and carrying out the necessary maintenance.

Yours sincerely



Klaus Bock



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## > Tip from Bock

*Please refer to the assembly instructions for your specific model (from chapter 7 on) to see which parts, and how many of them, have to be present for your visual checks of the care bed.*

## 1. General information

The various bed systems that are made by Hermann Bock GmbH meet the special requirements for use in rehabilitation and therapy establishments as well as for care at home. Their reliable functioning and long service life mean that all our beds are of a particularly high quality. Our beds need little maintenance when used and inspected properly. No bed leaves the Hermann Bock production plant until it has passed final quality inspections and has been tested by a technical inspectorate in Germany named TÜV. Every health bed thus meets the requirements of directive 93/42/EEC for medical products. The beds are tested not only on the basis of the new European standard EN 1970/2000 but also on the basis of EN 60601-2-38/98 – the standard for electric medical equipment with special specifications for the safety of electrically operated hospital beds.

The electric components of our beds conform with safety standard EN 60601-1/1996 for medical devices.

All care beds are subjected to a careful function check on site by our trained delivery staff. At the same time authorised persons are given basic training in the functioning and safe handling of the beds. Additional information is given in the Bock security guide, these assembly and operating instructions and in the “Upgrading with Bock” brochure.

**Note:** An evaluation of the bed in accordance with EN 60601-1:1996-03 is only partly possible, since for beds there is the product specific standards EN 60601-2-38:1996+A1:2000. Should there be product specific standards, these should be used in the first place for testing. EN 60601-1:1996-03 is used additionally for electronic testing.

### 1.1 Practical – no packaging

Bock has developed a special system that enables our care beds to be transported reliably and stored in a space-saving way. The intelligent Bock plug-in system is very environmentally-friendly because it comes with minimal any packaging material. Furthermore, the bed can be assembled easily and quickly by one person. Bed models that require more extensive assembly work are put together completely on Bock’s premises and shipped without packaging.


### 1.2 First impression – visual inspection

Before assembling the bed and putting it into service, look at it carefully to see that it is complete and has no visible damage. Only when you are convinced that the bed is in its proper, fault-free state should you get round to learning the correct way of using the individual bed elements in the following function description.

## \* Warning note from Bock


***As the user, you should read these installation and operating instructions completely in order to avoid any damage or malfunction in the course of assembly and use.***

Explanation of symbols used on name plate:

 Mark of conformity in accordance with guidelines for medical products

**IPX4** Protection of electrical parts from splashwater

 “Medical equipment part, type B”

 “only to be used in dry environment”

 Protection class II (double insulation, protective insulation)

*Scratches that go through the entire coating should be sealed with suitable repair agents to prevent the penetration of moisture.*

## 2. Cleaning, care and disinfection

The individual bed elements are made of first-class materials, largely from steel, whose surface has been given a durable polyester powder coating.

The surfaces of all wooden parts have been sealed with a material that contains no harmful substances. The patented ripoflex support system is made of high-grade plastic. All bed elements can be easily cleaned and looked after with wipe-and-spray disinfectants that meet the hygiene requirements for the various areas of use. The usefulness and optical condition of your care bed will be retained for a long time if you heed the following care instructions. The individual bed elements are made of first-class materials, largely from steel, whose surface has been given a durable polyester powder coating.

### 2.1 Cleaning and care

#### *Steel tubing and sprayed metal parts:*

To clean and care for these surfaces use a moist cloth with a mild commercial household cleanser.

#### *Wooden, decorative and plastic parts:*

All common furniture care and cleansing agents are suitable. To clean plastic parts a moist cloth with a mild commercial household cleaner is suitable. A special product for plastic material should be used for the care of plastic surfaces.

#### *Motor unit:*

The motor housing should only be wiped with a slightly moist cloth in order to prevent moisture getting into it.

#### *The ripoflex and ripoplan support system:*

To clean the plastic carrier and spring elements as well as the base use a slightly moistened cloth without adding any cleaner, or add a product that has been designed specifically for plastics. If the support system needs particularly intensive cleaning, remove the spring elements from the carrier elements by turning them 90° to the left and pulling the carrier elements from the lying surface frame, which takes a few minutes. The plastic elements that you have removed in this way can be cleaned or sprayed with hot flowing water. The plastic elements can be sprayed with a suitable plastic cleaning agent for disinfection. Most of the moisture can be removed from the surface of the plastic by a gentle shaking, the remainder will dry within a short time. After drying thoroughly with no residue, re-assemble the parts.

Alternatively the individual lying surface elements can be completely removed from the frame and cleaned (see chapter 3.1 and 3.2).

#### *Hygiene certificate:*

ripoflex fulfils all requirements that are set out for a product after suitable cleaning with listed products in accordance with the currently valid German Society for Hygiene and Microbiology (DGHM) list and according to the Robert-Koch-Institute (RKI-guidelines) "Hygiene Requirements for the Treatment of Medical Products", the recommendations for infection protection, and was therefore certified.

### 2.2 Disinfection

All disinfectants set out in EN 12720 can be wiped on the beds to clean them. To maintain the material condition of plastic elements such as the motor housing, ripoflex and ripoplan, only use mild agents. Concentrated acids, aromatic and chlorinated hydrocarbons, high alcohol, ether, ester and ketone corrode the material and should therefore not be used.

#### \* Warning note from Bock

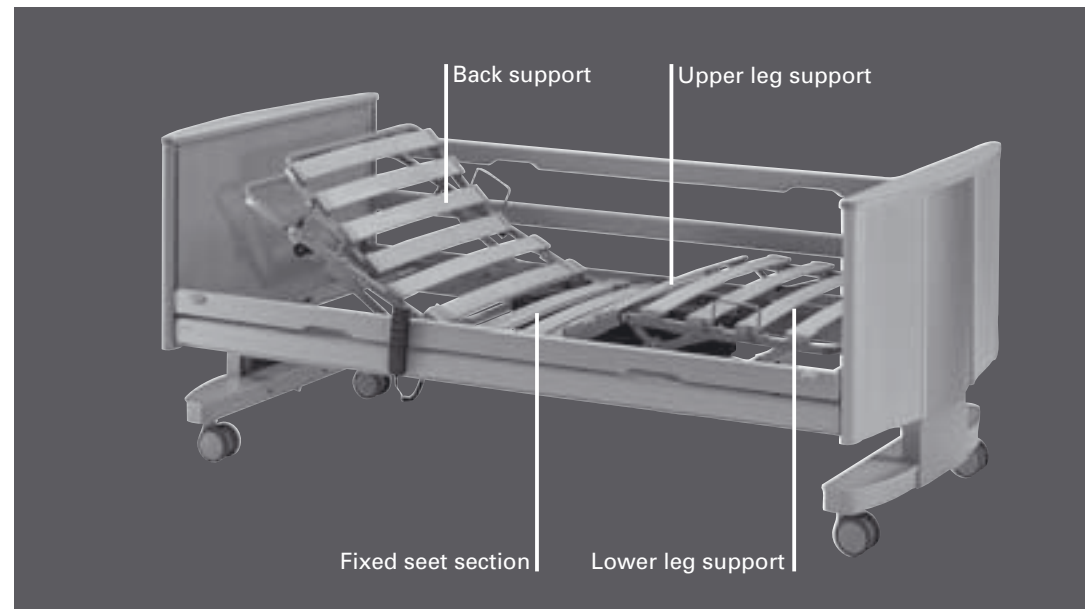
**Never use scouring agents or other abrasive cleansers, cleaning pads or stainless-steel care agents to clean the beds. Nor should you use organic solutions such as halogenated/aromatic hydrocarbons and ketones, or acidic and alkaline cleaners.**

**The bed must never be sprayed with a water hose or high-pressure cleaner because this could let moisture penetrate the electric components, thus leading to malfunctions and danger.**

### 2.3 Avoiding danger

Before cleaning and disinfecting electric parts of your care beds it is essential to read the following rules in order to avoid danger in conjunction with cleaning and disinfecting them. Failure to comply with these rules can result in personal injury and considerable damage to the electric cabling and the drive unit.

1. Pull the mains plug out and place it where it cannot come into contact with excess water or cleaning agents.
2. Check that all plug-in connections fit properly.
3. Check the cabling and electric parts for damage. If you detect any damage do not clean the parts involved but first make sure that the defect is eliminated by the operator or by authorised technicians.
4. Before putting the bed back into service check that the mains plug does not have any residual moisture on it, and rub or blow it dry if necessary.
5. If you suspect that moisture may have penetrated any electric components pull out the mains plug immediately, or do not reconnect it to the mains if you have already removed it. Take the bed out of service without delay, label it accordingly, and notify the operator.



## 3. General description of function

### 3.1. Structure and function

#### Lying surface

All Bock care beds can be equipped with two different lying surface versions as an option to the a stable slatted frame:

#### The patented ripoflex anti-decubitus system

The patented ripoflex support system is available for any lying surface. ripoflex consists of a comprehensive tubular steel lying surface frame with four lying sections: Back support, fixed seat section, upper leg support and lower leg support. On the lying surface frames there are four ripoflex carrier elements made of high-grade plastic with a total of 48 spring elements.

The electrical adjustment of ripoflex is performed without limitation in the same manner regardless of the Bock bed model.

The ripoflex support system includes the following:

- 4 plastic carrier elements
- 48 plastic spring elements
- 5 connecting pieces to adjust the firmness

Other connecting pieces can be ordered as required.

### 3.2 How to assemble fast and easily:

1. Place the carrier elements with the pre-assembled spring elements on the cross-rails of the lying surface frame in such a way that the Velcro patches lie exactly on top of each other, and press the elements firmly together.
2. Insert the connecting pieces into the spring elements at the required positions.

Do the following if you need to remount individual spring elements after disassembly, for example after cleaning or replacement:

Place the spring elements individually on the carrier elements one after another. For that, place every spring element with the small aperture on the attachment point and turn it 90° to the right. Make sure that all elements are aligned in exactly the same way and straight.



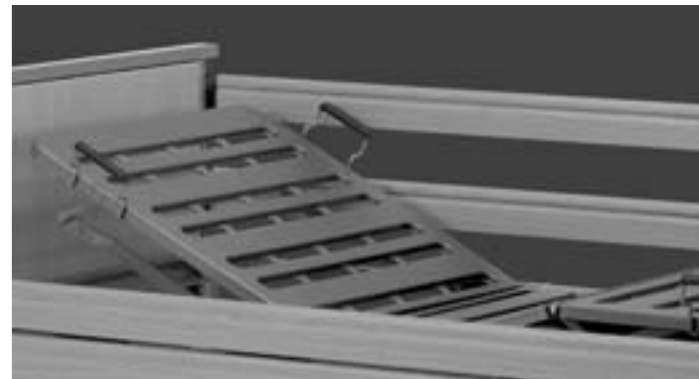
Disassembly:

1. Remove the carrier elements from the lying surface frame by tugging on them briefly.
2. Remove the spring elements individually from the carrier elements with a 90° turn to the left.



### The ripoplan plastic base system

The four plastic base elements can be easily fitted onto the same carrier system as ripoflex. The ripoplan lying surface is just as functional as a slatted frame and offers additional advantages when cleaning.



*The ripoplan support system*



### Functional areas

The functional areas of all four versions are identical and are spread over four areas:

Back support, fixed seat section, upper leg support and lower leg support.

The frame for the lying surface is made of welded steel tubing that has been covered with a PE powder coating.

The height of the lying surface is continuously adjustable by means of 24 V direct current motors that are operated via the easy-to-use hand control. The back support is electrically adjustable from 0 to 70 degrees. The electrical adjustment of the ripoflex lying surface and ripoplan plastic base system is performed without limitations in the same manner regardless of the bed model.

### The leg section

The leg section consists of a two-part foot unit. Each individual position can be continuously adjusted by pressing a button on the hand control. The electronic hand control can also be used for an automatic tri-function to raise the occupant's legs to a stretched position and to make a bend in the area between the heart and knees. The lower leg support automatically moves parallel to the lying surface in proportion to the upper leg support. The leg section can be lowered with the aid of a 9-volt battery in the event of a power failure.

### The chassis

The telescopic lifting chassis consists of a basic frame whose height is adjusted by two lifting columns. The surface of this steel tubing construction has a heat seated PE powder coating.

### The siderails

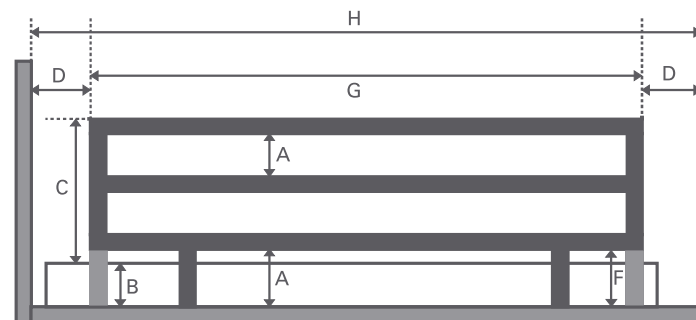
Every care bed has two integrated siderails on each side at a height that is designed to guarantee safety.

The siderails can be raised and lowered by a steel bar. The parts that move are particularly quiet as an impact damper has been built in, and the ends have an ornamental cap. The siderails automatically lock into place in the upper position when you press an ergonomically shaped button.

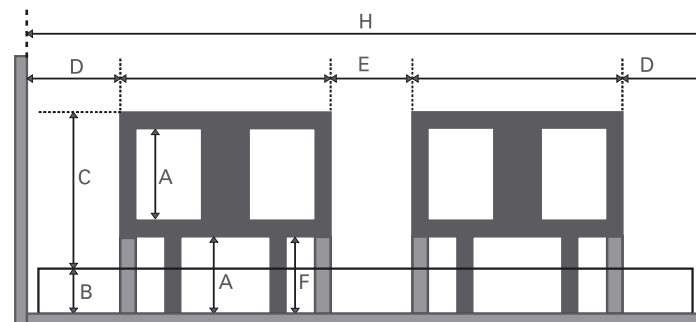
The siderails are primarily intended to stop occupants falling out of bed.

They may not be sufficient for fragile patients so additional protective measures have to be taken, for example by adding relocatable siderail bumpers (an accessory).

The bars that make up the side rail must be at most 12 cm apart. When the siderails are used they must not remain in a diagonal position.



Dimensions of a continuous siderail



Dimensions of a split siderail

### > Tip from Bock

*There must be a minimum height of 22 cm without compression when different mattress thicknesses are in use. This is measured from the top edge of the side rail above the mattress. When higher mattresses are used, a side rail attachment that is available as an accessory has to be installed.*

*Various care beds from Bock have special functions that you can find in the assembly instructions for the individual models from chapter 7 on.*

**Note:**  
*When the struts/fixing points of the siderails are outside (shown in light blue), then distance A to the lying surface is required beneath the siderails.*

#### \* Warning note from Bock

- **Only use original Bock siderails that are available as accessories for all our care beds.**
- **Only use technically perfect, undamaged side rails with the permissible gaps.**
- **Make sure that the side rails slot into place securely.**
- **Before attaching the side rails and before every movement of the bed, check all mechanical parts of the bedstead and siderails that are used to fasten the siderails to make sure they are not damaged.**
- **The operation of the side rail should always be carried out with utmost care, since fingers can easily be squashed between the longitudinal bars.**

Letter	Dimensions	Requirements in mm
A	The shortest distance between elements of the side rail in its upright/locked position or the area that is formed by the side rail and fixed parts of the bed.	$A \leq 120$
B	Thickness of the mattress for proper usage.	See maker's specifications
C	Height of the top edge of the side rail above the mattress without compression (see "B").	$C \geq 220$
D	Distance between the head or foot section and the side rail.	$D \leq 60$ or $D \geq 235$
E	Distance between split side rails and the lying surface in a flat position.	$E \leq 60$ or $E \geq 235$
F	Smallest size of all accessible apertures between the side rails and the lying surface.	if $D \geq 235$ then $F \leq 60$ if $D \leq 60$ then $F \leq 120$
G	Total length of the side rails or the total lengths of split side rails on one side of the bed	$G \geq 1/2$ on the lying surface
H	Distance between the head and foot section without extensions to these parts	No requirements

Extract from the TÜV PS 51036 test program, dimensions of the siderail according to EN 60601-2-38/98

### 3.3 Caution: Risk of injury

Proper use of all movable parts is essential to guarantee the safety of occupants, carers and nursing staff. The correct assembly and operation of the bed are essential for this. The physical constitution of the specific individual and the type and extent of disability must be taken into account when using the bed.

Use a control box to avoid hazards resulting from unintentional motor adjustments and incorrect handling. When the user, for example a nurse or caring relative, leaves the room, the functions of the hand control should be disabled completely by using the hand control key or disabled by using the separate control box. Then the lying surface has to be brought to its lowest position and activated the disabler with an appropriate turn of the key in the keylock located on the back.. Withdraw the key and as a precaution check that the hand control functions are actually disabled. Turn the knob switch when using a control box. These recommendations apply especially

- > When the occupant is unable to use the hand control properly because of certain disabilities
- > When the occupant could be put in danger as a result of unwanted adjustments
- > When the siderails are in a raised position and there is risk of trapping or injuring the occupant
- > When children are in the room containing the bed without supervision

#### > Tip from Bock

*In the event of uncertain malfunction, failure or damage of the electric bed or its accessories, the first thing you should do is to remove the mains plug and activate the emergency lowering appliance. Please inform the operator or the Bock service team about the problem.*



**\* Warning note from Bock**

***The operator has a duty to decide to undertake special safety measures for very agitated individuals in care, in order to prevent trapping of any limb or a person completely falling out. The Bock service team is happy to advise you on special solutions for these care situations.***

When the hand control is not in use, make sure it is hung on the hook on the bed and cannot fall off.

The bed should only ever be operated by nursing staff or relatives who have received training, or in the presence of such persons.

When adjusting the lying surface, make sure that no limbs protrude into the siderails in the area that is being adjusted. When the siderails themselves are adjusted, it is essential to make sure that the occupant is in the right position, too.

**Before starting an electrical adjustment always check whether any limbs are present in the adjustment area between lower chassis and back or lower leg section or even any child or person between the floor and raised lying surface. There is a particular high risk of injuring here.**



*Motor housing*

## 4. Electric components

### 4.1 Drive unit

The drive unit consists of the motor box in which there are two motors for the individual drives to adjust the electrically operated parts of the back and leg supports. The integrated motor box incorporates a transformer and a rectifier in which the input voltage of 230 V at 50 - 60 Hz at 150 W is converted to low voltage of 24 V DC. The motors and the hand control operate with this non-dangerous low voltage.

**\* Warning note from Bock**

***The maximum period of operation of 2 minutes must not be exceeded. Afterwards it is essential to leave it unused for at least 18 minutes.***



*9-volt battery for emergency lowering*

#### > Tip from Bock

*When isolated from the mains, the bed is completely free of electromagnetic radiation. Electricity is only consumed when adjustments are carried out.*

#### \* Warning note from Bock

*Although all Bock care beds are made to a very high safety standard this does not mean that there are no risks. Only when the manufacturer's specifications are heeded and the beds are used properly do the safety measures fulfil their actual purpose – acting on a preventive basis and actively avoiding risk.*

The cables are doubly insulated, and the mains plug has a primary fuse in accordance with EN 60601-1/1996. An additional mains isolation appliance is coupled to actuation of the hand control. Emergency lowering of the bed is driven via a 9 V monobloc battery. Furthermore, voltage selection ensures the constant speed of functions. Safety features thus conform with protection class II and, for protection against moisture, IPX4 according to EN 60529.

If the maximum adjustment time of two minutes is exceeded, for instance through fiddling with the hand control, and if the motors overheat, the thermal release will immediately disconnect the power supply from the bed. Power will automatically be restored after a cooling-down time of about one hour. Since this drive does not operate at a frequency rate > 9 kHz and is mainly run for short periods, the guideline EN 550014-1 applies according to EN 60601-1-2 36.201.1.4.

#### 4.2 The Control Box

According to the regulation governing operators and/or in accordance with the hospital standard EN 60601-2-38/98, the drive must be equipped with a control box. The control box ensures the blocking of the entire (complete disconnection from mains) or individual engine functions and the access of the low-head low-leg positions of the bed.



Control box

#### 4.3 Height adjustment drive unit

The level of the lifting chassis can be adjusted via one or two built-in low voltage DC motors whose adjustment range is defined by an integrated limit switch. The height adjustment drive unit is connected by a coiled cable to the control unit.

#### 4.4 Lockable hand control, single fault safety

Basic functions can be controlled by the press of a button on the ergonomic hand control using the six extra-large, user-friendly operating buttons.

The individual buttons are labelled to indicate their function. The motors run while a button is held down.

A coiled cable allows the necessary freedom of movement for operating.



The new Bock hand control

#### Hand control lugano

Button 1	Back section up
Button 2	Back section down
Button 3	Lower leg section up
Button 4	Lower leg section down
Button 5	Lying surface up
Button 6	Lying surface down
Button 7	Low-head/leg position
Button 8	Return low-head/leg position
Button 9	Not in use
Button 10	Special function to activate/release brake

**\* Warning note from Bock**

*Simultaneous use of electrical equipment can, particularly in the immediate environment of the bed when it is ready to operate, result in small electromagnetic interactions between the electrical devices, similar to the interfering noise heard on the radio. In such a rare cases, increase the distance between the devices, do not use the same wall socket, or temporarily switch off either the interfering device or the one being interfered with.*

*If the bed, contrary to its intended use, is operated in combination with electrical and medical devices, the function of the bed must first be deactivated by means of the integrated locking function in the hand switch for the duration of use.*

The hook on the back can be turned 90° in both directions. The radius corresponds exactly to the radius of the side rail and support so that the handset fits securely. Special attention should be paid that during cleaning, disturbance by the hand control position be averted by turning it or clipping it to one of the appropriate places on the bed. The hand control also has an integrated disabler that can be activated or deactivated by its key.

To disable the entire electrical function, insert the key into the lock located on the rear and activate or deactivate the disabling function with a corresponding twist of the key.

#### 4.5 Caution: Electrical drive unit

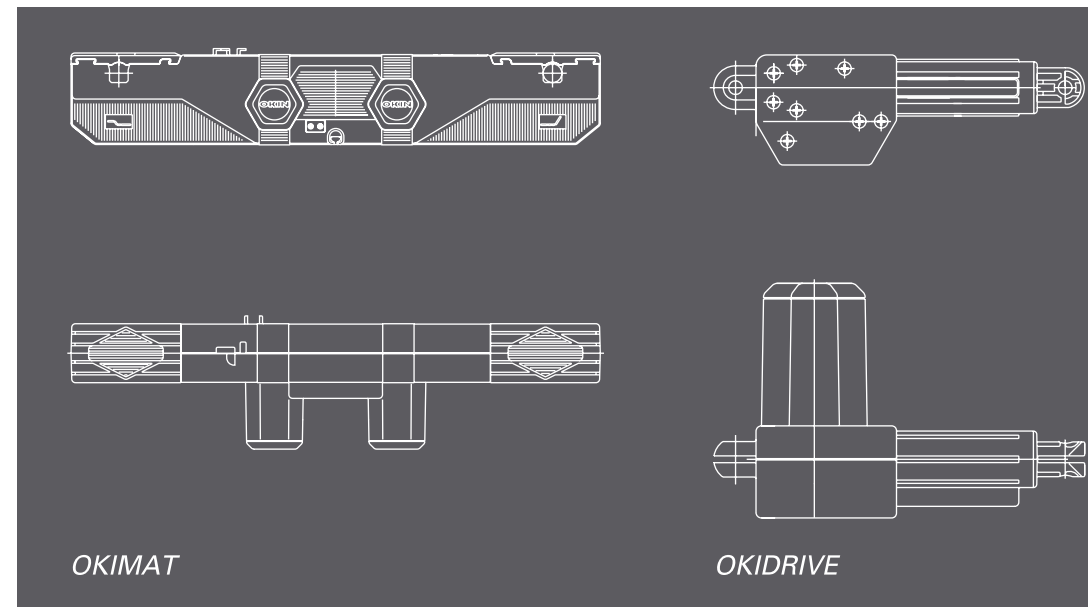
Hermann Bock refers to its electrically operated therapy and rehabilitation beds as health beds because they have many functions that help their occupants to recover physically and psychologically while reducing pain. As medical devices, electric beds require special safety precautions including handling in a suitable way for safety, daily checks of electric equipment and proper maintenance and cleaning.

To avoid damage, cables should be laid outside the area in which damage can occur. Contact with edged parts should also be avoided.

Hints on adequate cable laying are given in chapter 7.7.

Excessive touch voltage should be avoided in order to prevent injury through electric shocks. These circumstances may arise, in particular, when the mains cable has been damaged, when there is inadmissible, excessive leakage current, or when liquid has penetrated the motor housing, for example because of incorrect cleaning.

Such damage can cause the controls to malfunction, resulting in unwanted movements of the individual bed elements that increase the risk of injury for nursing staff and users.



## 5. Drive units

Hermann Bock equips all health beds with OKIN drive systems. OKIN is a leading maker of adjustment systems with the necessary skills and expertise. This gives rise to an ideal partnership for medical devices with a unique level of quality thanks to this synergy.

### 5.1 OKIMAT drive systems

The OKIMAT dual drive unit for continuous adjustment of lying surfaces and the linear OKIDRIVE as a single drive unit to adjust the height of the lifting chassis each consist of four main components.

- Housing
- Motor
- Gearing
- Spindle with nut

**\* Warning note from Bock**

*No drive unit components are allowed to be opened! Only specially authorised technicians are allowed to carry out troubleshooting activities and replace individual electric components. Assembly and disassembly instructions for electrical technicians are given in the "Upgrading with Bock" brochure, in part II – Instructions for electricians.*

The principle of the housing for the OKIMAT dual drive unit and linear OKIDRIVE guarantee that all components will continue to function for a long time. The special design principle is based on two force-absorbing capsules. The patented, detailed interior design of the housing ensures that the drive technology will sit accurately. Ready-made, complete assemblies are not used. OKIMAT housings are characterised by particularly easy assembly/disassembly and convenient space for the battery and electronic parts beneath the robust cover. The OKIMAT can also be combined with all OKIN controls as an additional drive unit. The OKIMAT has an isolation appliance in the mains plug and features emergency lowering. The noise level of OKIN drive units can exceed 65 dB(A).

## 5.2 Mains isolation

The OKIN mains isolation facility that is integrated in the mains plug provides other practical advantages in addition to guaranteeing a high level of safety. Activation of mains isolation prevents magnetic and electric alternating fields from being generated in the bed. The mains isolation facility operates independently and does not require an additional transformer for its standby mode. When the drive unit has been disconnected from the mains, no electricity is used and a switching noise in the relay indicates correct operation. Of course, mains isolation is compatible with higher-level mains isolation options.

The OKIN isolation facility in the mains plug is activated by pressing a button on the hand control. A capacitor charged with direct current in the drive unit supplies electricity to the two-pole relay in the mains isolation facility, and turns on the transformer in the drive. The capacitor is recharged, and is ready for the next actuation. Whenever the button on the hand control is released, the relay in the mains isolation facility turns off the mains network (two poles). A switching noise indicates that this function is being executed. The 9-volt battery that is installed in the control as standard for emergency movements will, if necessary, back up the mains isolation capacitor if the latter has not been used for some time and has therefore lost its voltage. If the capacitor and the 9-volt battery have been exhausted, it is sufficient to press the green button to get the mains isolation facility working again. When taking the bed out of service, the contact to the 9 Volt battery should be released by pulling out the plug.

### > Tip from Bock

*The 9-volt batteries in the control should be tested once a year to see that they are functioning correctly, and be replaced if necessary. In addition visual inspections should be regularly carried out.*



*9-volt battery for emergency lowering*



*Mains isolation closed and open*

#### \* Warning note from Bock

*For reasons of safety, only use original accessories from Bock that have been released for the bed model in question. A precise overview of accessories and extras for your bed is given in a separate data sheet. Hermann Bock GmbH will assume no liability for any accidents, damage, injury and risks that come about through the use of other accessories.*

#### > Tip from Bock

*Of course, the Bock service team will also assemble bed extensions if required.*

*Bock always recommends that mattresses and bedding should be made of fire-retardant material in accordance with DIN EN 597.*



## 6. Accessories

Hermann Bock GmbH offers practical accessories that promote mobility to ensure that every care bed can be tailored to the specific requirements of its occupants. The accessories are attached easily and securely to the fixing points on the bed. Of course, every element of these accessories complies with Bock's special quality and safety standards. Beds can be extended to a length of 220 cm so that tall persons, too, can lie comfortably in them and enjoy the same level of functionality. Alongside our standard accessories for every bed we have an extensive range of extra accessories. These extras vary depending on the bed model, and are adjusted to the bed's special functions and place of use. These extra accessories range from technical elements through mattresses to a companion bed. A wide choice of wooden designs and colour variants is available so every care bed can be integrated harmoniously in existing surroundings.

### 6.1 Special sizes

At Hermann Bock GmbH, special sizes are standard models in our production processes.

Occupants with a particular physical build can only lie with optimum comfort if the beds have been specially made for them. With our special sizes, Hermann Bock enables every care bed to be tailored specifically to the occupant's physical condition. For persons taller than 190 cm Bock recommends using a bed extension that lengthens the lying surface up to 220 cm. In this way tall persons can lie in comfort and have the same level of functionality. Other special sizes and special functions are available in Bock's range of special beds as described in the "Bock Works In Special Ways" brochure.

### 6.2. Assembling bed extensions

A bed extension includes the following parts:

- 2 adapters for the left and right foot sections
- 1 wire brace for the foot section
- 1 set of siderails
- Screws

Easy assembly with a clip system is as follows:

1. Remove the mattress from the lying surface.
2. Remove the end piece from the foot section.
3. Attach the adapters to the foot end of the lying surface and screw them on.
4. Place the wire brace on the foot unit, drill holes (diameter = 4.2 mm), and screw the parts together.
5. Slide the end piece of the foot section directly in front of the release button.
6. TAKE NOTE of the markings above and below the end caps of the siderails as it is essential that they must not be confused.
7. Insert the siderails in the pre-assembled metal guides and centre it.
8. Push the release button inwards and slide in the foot section until it clicks into its borehole provided.

### 6.3 Assembling accessories

The following standard accessories can be combined with every Bock bed model:

#### Attachable siderails, 3.8 kg (Fig. 1)

Package: 2 siderails screws

- Loosen the screws on the side rail, insert the side rail, position it in the middle and tighten the screws.

#### Lifting pole with grab handle, 6.5 kg (Fig. 2)

The safe load limit of the lifting pole is 75 kg max.

Package: 1 lifting pole with mounting ring, 1 grab handle

- Insert the lifting pole in the headboard receptacle and arrest it, attach the grab handle to the mounting ring.
- The height setting of the triangle should be at a distance of no less than 550 mm to  $\geq 700$  mm from the upper edge of the respective mattress (mattress height of 100 mm and 120 mm) to the lower edge of the horizontal grip.



Fig. 1



Fig. 2



**\* Warning note from Bock**

*When using accessories on the bed or medical devices such as infusion stands in the direct vicinity of the bed, make sure that adjustment of the back and leg supports does not subject nursing staff to the risk of squashing/shearing.*



Fig. 3

**Side rail bumpers, 1.4 kg (Fig. 3)**

Package: 1 cover, 1 item of bumpers

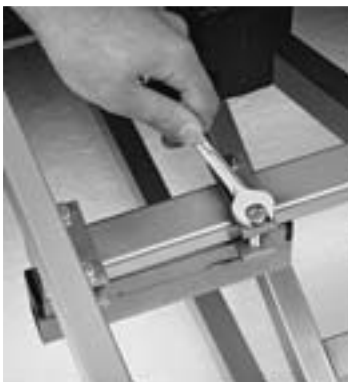
- Open the zipper of the cover, pull the bumpers on to the side rail from above.
- Pull the foam bumpers from the inside of the bed into the cover, and close the zipper.

**Grab rail, 3.0 kg**

Package: 1 grab rail with holder



- Undo the four screws on the holder.
- Place the metal parts of the holder on the cross-member and screw them tight.
- Push the grab rail into the holder, position it as required and screw it tight.



**Tray, 4.0 kg (Fig. 4)**

Package: 1 bed tray

- Place the bed tray on the side rail. The tray is prevented from slipping by two spacers.

**Urine bottle/bag holder, 1.2 kg**

Package: 1 C-profile, 1 urine bottle/bag holder, screws

- Hold the C-profile in the middle beneath the longitudinal tube of the lying surface, mark the position of a hole, drill holes with a dia meter of 4.2 mm, and fasten with the screws that are in the package.
- Make sure that one end of the C-profile rail is directly touching the foot section cross-connection.

**Goose-neck all-purpose clamp (0.6 kg)**

Package: 1 clamp, 1 goose-neck, 1 fastening ring

The all-purpose clamp is a special holder that enhances its manoeuvrability as a basic component and enables the flexible positioning of the modular functional accessory. It is possible to fasten bags, urine bottle holders, infusion systems or a lamp, individually or at the same time. The goose-neck all-purpose clamp can also be attached onto the side rail exactly as required.

- The goose-neck is clamped onto the upper side rail and attached to the fastening ring.

**> Tip from Bock**

*The Bock service hotline will be pleased to advise you about the optimum upgrade option for your bed.*

*Please phone  
+49 (0)180.5262500*

*An extensive range of additional furniture is available to supplement the various Bock bed models. The products available extend to the entire furnishing of rooms, thus combining care and convenience of living in a special way.*



Fig. 4

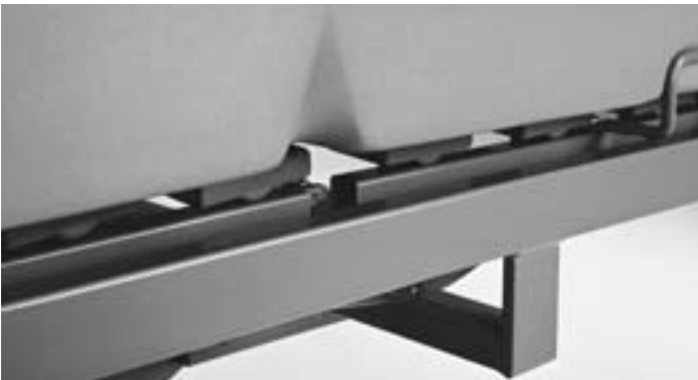


#### > Tip from Bock

*The bock service hotline will be pleased to advise you about the optimum mattress for our ripoflex support system. Please phone +49 (0)180.5262500*

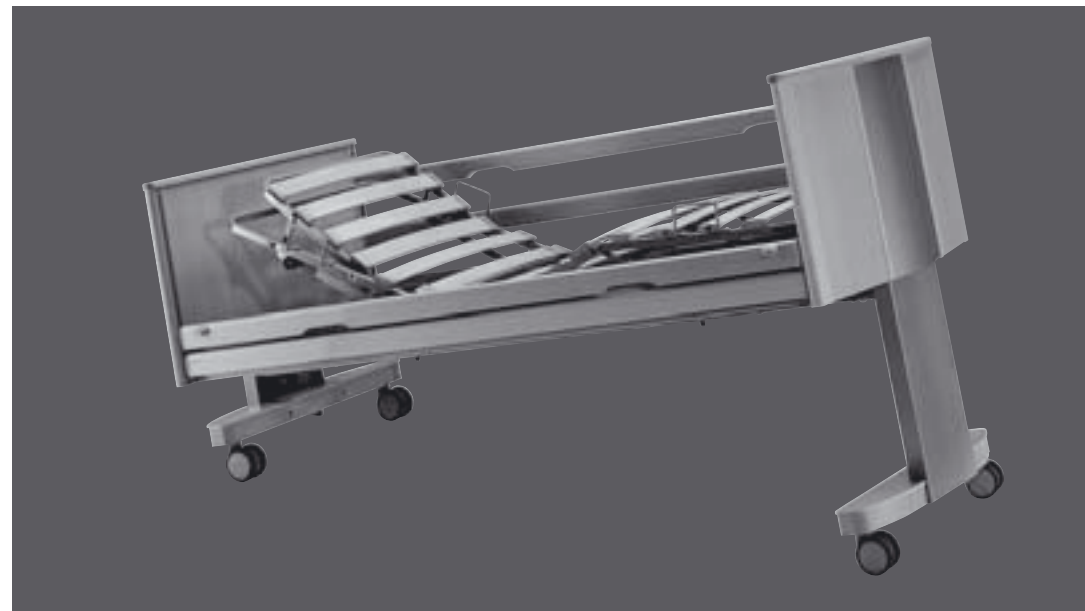
### 6.4 Mattresses

Basically all foam and latex mattresses that have, at least, a volume weight of 35 kg per cubic meter and do not exceed a height of 10 to 12 cm for the dimensions of 90 x 190 cm, 100 x 190 cm, 90 x 200 cm and 100 x 200 cm can be used for Bock health beds. When higher mattresses are used, a side rail attachment that is available as an accessory has to be installed. When foam mattresses are used, we recommend making nicks in them so that they can be adjusted better to the lying surface.



### 6.5 Special mattress ripomed

The effectiveness of the patented ripoflex anti-decubitus system is improved functionally still more by the ripomed mattress especially developed for this system. The mattress responds exactly to the pressure distribution of the suspension beneath. ripomed incorporates different densities in a sandwich configuration and has excellent breathable properties. The lower carrying level of ripomed has a volume weight of 35 kg/m<sup>3</sup> and a Strauch resistance of 4.5. The upper cold foam level has a volume weight of 40 kg/m<sup>3</sup> and a Strauch resistance of 3.1. The special mattress is 10 cm high and is available in standard dimensions 90 x 198 cm and in all special sizes.



## 7. Setting up and operating lugano

### 7.1 Design and purpose

lugano has been especially designed for the highest requirements of daily use in rehabilitation and residential care facilities, as well as domestic care. It offers ill, frail and handicapped people in need of care a particularly homely environment under the most comfortable conditions and is at the same time perfectly suited to individual care.

#### # Bock specifications

##### > lugano

Total weight:  
117 kg

Lying surface area:  
90 x 200 cm

External dimensions:  
105 x 221 cm

Safe capacity:  
170 kg

Max. person weight:  
135 kg

Height adjustment range:  
40 - 80 cm

Max. angle to horizontal:  
Back section 70°  
Lower leg section 20°

Hoist clearance:  
> 15 cm

Noise level:  
< 65 dB(A)

- > The lugano is not suitable for deployment in hospitals.
- > The lugano is suitable for transport of patients. The bed can move whilst occupied by a patient. To do this first lock the castors, lower the lying area to its lowest setting, and set horizontally. Unlock the castors and move the bed.
- > The lugano is suitable for occupants who are at least 12 years old and 150 cm tall.
- > The lugano can in some circumstances (when required) be applied for medical purposes together with other electro-medical devices (e.g. extraction equipment, ultrasonic atomisers, feeding systems, anti-bedsore systems, oxygen concentrators etc.). In such cases, all the bed's functions must be deactivated by means of the integrated locking facility for the duration of use of the other equipment.

**Attention:** The bed does not have any special connection provision for equipotential bonding. Medical electrical equipment connected intravascularly or intracardially to the patient shall not be used. The operator of the medical products is responsible for ensuring that the combination of devices satisfies the requirements of DIN EN60601-1-1.

## 7.2 Special features

lugano combines technical perfection with an elegant design. An unusually extensive range of adjustment options and special functions, in addition to a wide variety of designs and bedside lockers, make this care bed the ideal partner to meet the highest comfort requirements and individual care needs whatever the location. As an exceptional quality feature, lugano is fitted with a special and extremely stable ball bearing guidance system and stands out due to the full access underneath. The range of the adjustment height of the bed is wide and extremely practical. The degree of hardness of the lying surface can be adjusted for better pressure relief. The back section therefore offers the option of automatic mattress compensation. The electrical adjustment of the back- and leg sections of the four-section lying surface base is achieved thanks to the hand control with automatic triple function. lugano is equipped as standard with an extended function of the hand control for low-head low-feet positioning (Trendelenburg's position). In addition the lugano is fitted with a disabling function at the control box in order to allow this position.

## 7.3 lugano in parts

You can either have this bed delivered ready assembled by Hermann Bock, or it can be put together on site by our technical staff or by your specialist dealer. The following assembly instructions are therefore meant as guidelines for the group of persons who are authorised to set it up.

The Bock lugano healthcare bed package consists of the following parts:

Lying surface with box-type motor	1 item
Lifting columns with individual drive and castor	2 items
Wooden siderail	4 items
Side panels	2 items
Head/foot section	2 items

### *Weights of separable lugano parts:*

Lifting column	21 kg/item
Head/foot section	12.5 kg/item
Lying surface	38 kg/item
Siderail	12 kg/set

Bed extension up to 220 cm possible!

## 7.4 The lugano ready for use

Before you proceed with assembly, fully remove the remaining packaging.

- Insert the two lifting columns into the guide tubes below the lying surface and screw tightly using the screws provided.



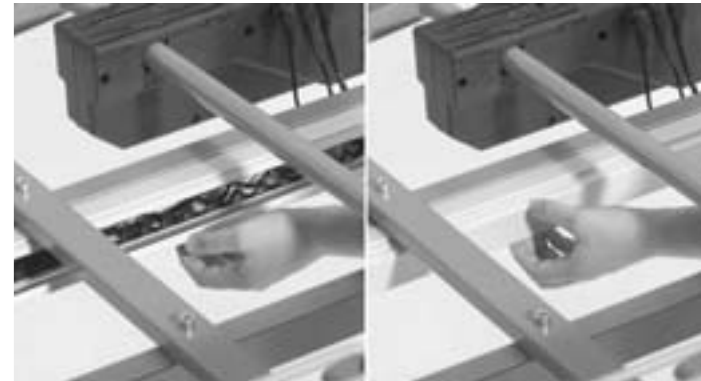
- Pull the timber elements over the lifting columns. The lifting columns must engage in the milled slot inside the timber element



- Firmly bolt the fastening screws for the timber element, then screw tightly from below the receptacles that was put in before.



- Assemble the side panels to the longitudinal frames using the screws provided, in such a way that the roundings are facing down.
- Unfasten the four cable attachment clips from the longitudinal frames, insert the cable and screw them on again. Connect the plug at the cable end of the Lifting motor to the corresponding socket in the box-type motor.



- Fit the four side rails to the receptacles on the end piece. The side rails with the long holes must be placed above, with the long holes thus facing outwards. Insert the other fitting into the side rail, remove the safety screw below in the metal profile of the timber element. Insert the fitting of the side rail into the profile and push it upwards as far as possible, until it engages. Screw on again the screw that was previously removed and install the release buttons.



- The mains cable must be screwed to the link of the lying surface using the strain relief. Connect the mains plug.
- After assembling the bed and before putting it into service use the control to travel the whole lying surface's adjustment range in order to test optimum positioning of the cabling. It must be possible to cross the entire adjustment range without obstruction. The mains cable must run outside the bed, and the hand control must be readily accessible.

Your lugano is now ready for use!

### 7.5 Assembly of Electrical Braking System (EBS)

The EBS is already pre-assembled in the end pieces. Connect the plug at the cable end of the Lifting motor and/or the braking motor to the corresponding socket in the box-type motor.

### 7.6 Control

The hand control is used to control the settings. The following functions can be controlled by pressing the appropriate button on the hand control:



*The new Bock hand control*

### Hand control lugano

Button 1	Back section up
Button 2	Back section down
Button 3	Lower leg section up
Button 4	Lower leg section down
Button 5	Lying surface up
Button 6	Lying surface down
Button 7	Low-head/leg position
Button 8	Return low-head/leg position
Button 9	Not in use
Button 10	Special function to activate/release brake

Disabling of the entire electrical functions (disconnection from mains) of the lugano bed is the role of the control box. As an option, the control box offers a function mechanism for the activation/deactivation of the low head/feet position. In order to be able to achieve the Trendelenburg's position using the hand control, the appropriate disabling function at the control box must first be deactivated. Once the desired position is reached, the disabling function must be activated again.

### 7.7 Disassembly

Before starting disassembly pull out the mains plug. The lugano is disassembled in the opposite order to assembly.

### 7.8 Relocation

Note the following safety instructions if the bed has to be relocated:

- Before relocating the bed, remove the mains plug and fasten it to the wooden siderail with the suspension device to make sure that the mains cable does not fall down or cannot be run over. It is important that the cable does not drag over the floor.
- Pull plug out of the 9 volt battery. When reconnecting the bed fasten the plug onto the OKIMAT again.
- Place the lying surface in its lowest position.
- Before relocating the bed, remove the mains plug and make sure that the mains cable cannot fall down and be run over.
- Before reinserting the mains plug, visually check the mains cable for mechanical damage (bends, pressure points, abrasions and exposed wires).

### \* Warning note from Bock

*The motors comply with the IPX4 splashwater protection level. The cables must not be squashed. Movable parts must only be adjusted in keeping with the rules for proper usage. Hermann Bock GmbH will not assume any liability for unapproved technical modifications.*

#### \* Warning note from Bock

**Never try to fix problems relating to electric equipment yourself as this could endanger your life in certain circumstances! Either get the Bock customer service or authorised electrical technicians to solve the problem; they will comply with all key safety rules and regulations.**

**Before reuse, the bed has to be cleaned and disinfected. A visual check must also be carried out to check for any mechanical damage. For detail, please consult the "Guaranteed Bock" safety guidelines on pages 26 to 30 in the checklists.**

The support conditions offered by our beds:

- 0 °C to 40 °C
- Humidity 20% -80%

#### 7.9 Functioning advice

The brakes have to be locked onto the castors in order to fix the bed in one place. The electrical braking system (EBS) on the lugano care bed is operated using the hand control.

The integrated side rail has to be raised when necessary so that it slots in at both ends. To lower, raise the side rail slightly and press the release button at the outer edge gently.

The hardness of the lying surface can be adjusted continuously by means of a slide. A higher degree of hardness can be achieved by moving the slide outwards. The lever mechanism ensures the automatic mattress compensation.

There must be a minimum height of 22 cm without compression when different mattress thickness are in use. This is measured from the top edge of the side rail above the mattress (a third side rail attachment is to be used).

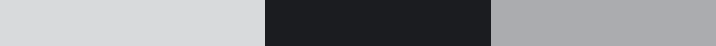
#### 7.10 Disposal

The individual plastic, metal and wood component materials are recyclable and can be recycled according to legal regulations.

#### 7.11 Troubleshooting

This overview indicates malfunctions that you can easily test and eliminate yourself, and what malfunctions have to be dealt with by experts.

Malfunction	Potential causes	Remedy
The drive units cannot be controlled via the hand control	Mains cable not connected	Connect the mains cable
	No voltage in the socket	Check the socket or fuse box
	Plug of the hand control not fixed firmly	Check the plug-in connection on the motor
	Hand control or drive unit defective	Notify the operator or Bock customer service
	Mains isolation appliance not activated	Press the green button to activate mains isolation, and also replace the 9 V battery
	Disabler or control box in the hand control activated	Deactivate disabler or control box in the hand control
When buttons are pressed, the drive units stop after a short time	There is an obstruction in the adjustment range	Remove the obstruction
	The safe capacity has been exceeded	Reduce the load
The drives stop after a longer adjustment time	The adjustment time or safe capacity has been exceeded, and the Polyswitch in the transformer of the control unit has responded to increased heat	Let the drive system cool down sufficiently for at least a minute
Opposite functions when the hand control is used	Motor plugs have been swapped round internally	Notify the operator or Bock customer service
Individual drive units run in one direction only	Hand control, drive unit or controller defective	Notify the operator or Bock customer service
Drives stop and bed remains in sloping position	Continuous operation of the up/down adjustment function or head/leg low position. Activate disabler in hand control.	Lower lying surface into its lowest position and thus realign horizontally.







.bock<sup>®</sup> ///

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