Bock Manual – valeo.flex TZ

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

Content

> 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.

* 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.

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 but also on the basis of EN 60601-2-38 – 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 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.

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.

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

Explanation of symbols used on name plate:

CE Mark of conformity according to 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 (duoble linsulation, protective insulation)


This product must be disposed to a selected waste disposal within the european union. This product may not be disposed together with unsorted domestic waste.


Take note of the accompanying documents

> Tip from Bock

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 ripolux 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.

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.

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 or decorative elements 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.

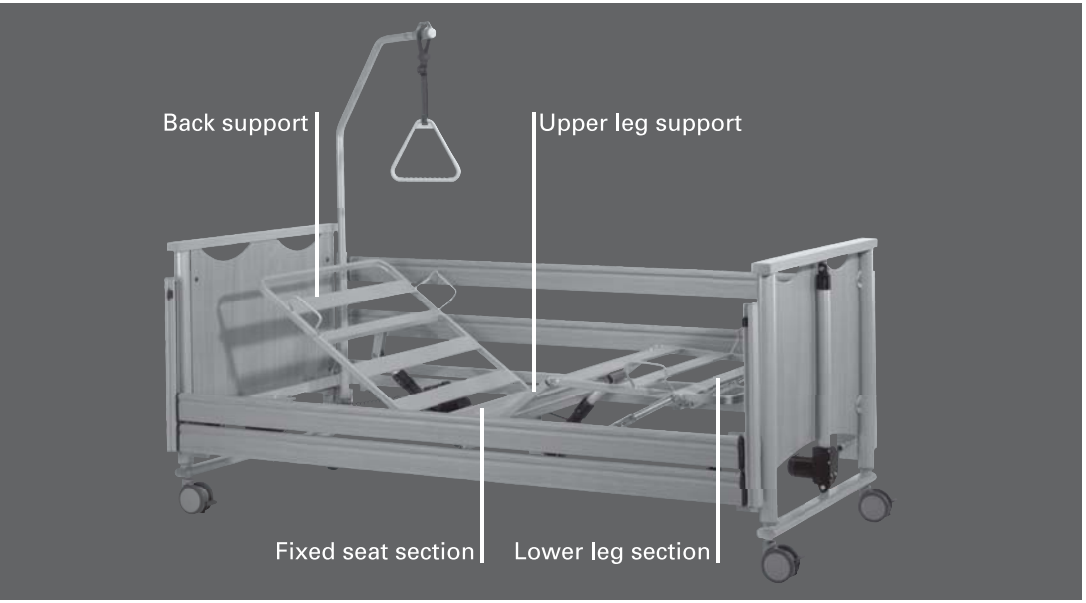
2.3 Avoiding danger
Before cleaning and disinfecting electric parts of your care beds it is essential to read the following rules in order to avoid danger in conjunction with cleaning and disinfecting them. Failure to comply with these rules can result in personal injury and considerable damage to the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

* 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.



3. General description of function

3.1. Structure and function

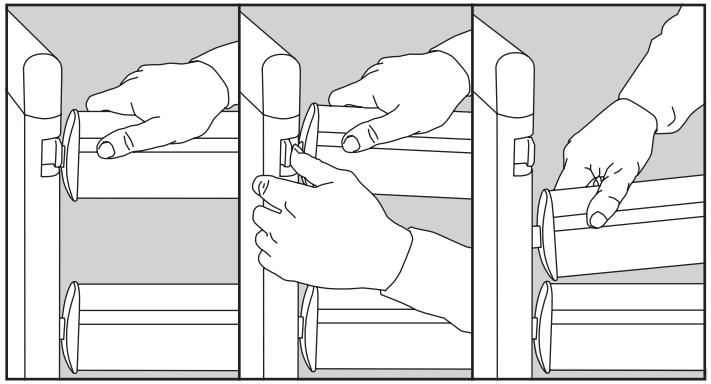
Lying surface and functional areas:
The lying surface of valeo.flex TZ is equiped with a stable metal lattice and has four functional areas:
Back support, fixed seat section, upper leg support and lower leg support. The frame for the lying surface is made of welded steel tubing that has been covered 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 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.

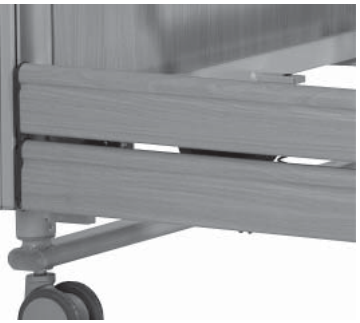
The chassis
The telescopic lifting chassis consists of a basic frame whose height is adjusted by four lifting columns. The surface of this steel tubing construction has a heat seated PE powder coating.

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. With an ergonomically formed release button the siderails can easily be raised or lowered.

Usage of the siderails
If the side lattices are to be lowered, hold them by the designated groove of the upper siderail (fig. 1), lift this siderail firmly and press the release buttom either on the head or on the foot section (fig. 2). The siderail is now released on that side and can be lowered downwards up to the impact. Now the siderail is in an diagonal position. In order to lower the other side, you'll have to perform the steps described above on that side, too. The side rail is now in the lowered position.



left: Fig. 1, center: fig. 2, right: fig.3



> 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.

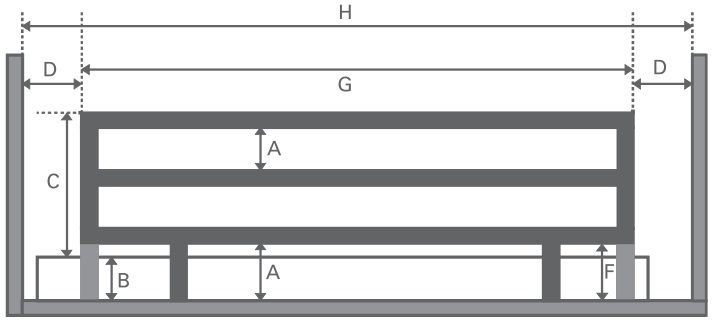
Various care beds from Bock have special functions that you can find in the assembly instructions for the individual models from chapter 7 on.

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.

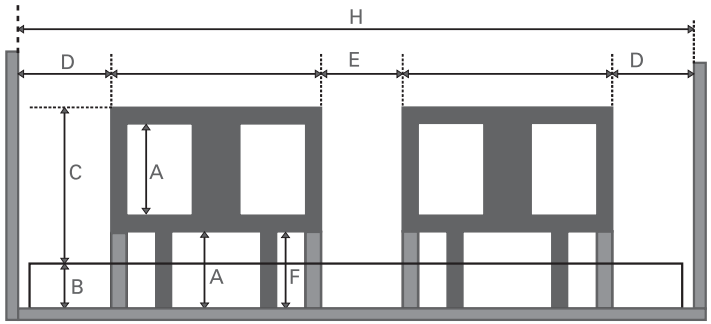
If you want the siderails back in the upper position as a protection from falling out of the bed, get the upper siderail in the center of the grasp-groove and pull it upwards, until it locks at both ends audibly.

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

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≤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≥220
D	Distance between the head or foot section and the side rail.	D≤60 or D≥235
E	Distance between split side rails and the lying surface in a flat position.	E≤60 or E≥235
F	Smallest size of all accessible apertures between the side rails and the lying surface.	if D≥235 then F≤60 if D≤60 then F≤120
G	Total length of the side rails or the total lengths of split side rails on one side of the bed	G≥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

*** 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.

> 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.

3.2 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

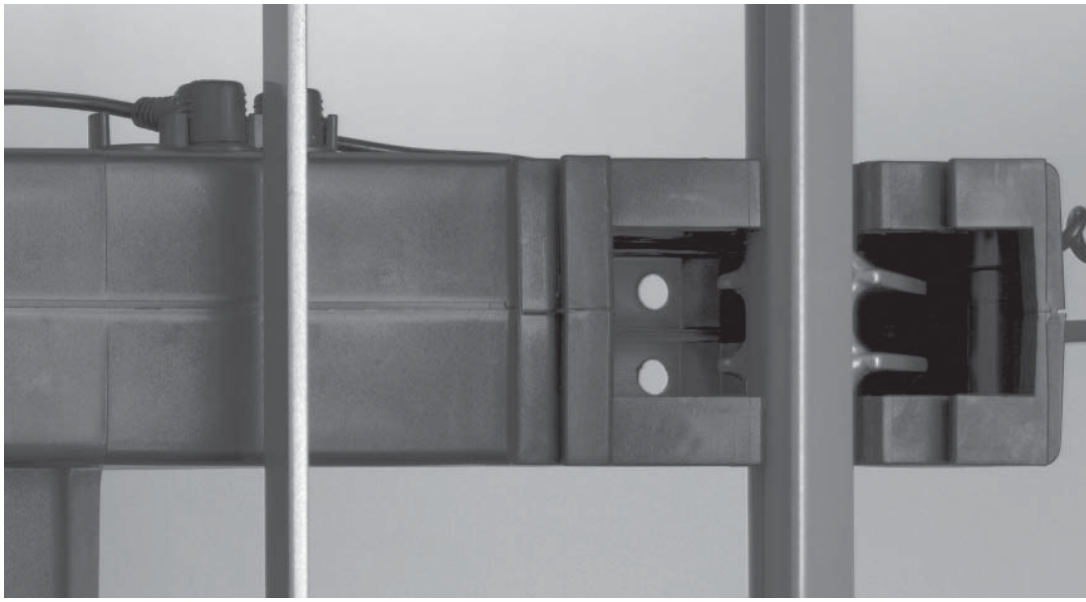
> When the occupant could be put in danger as a result of unwanted adjustments

> 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

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.

The cables are doubly insulated, and the mains plug has a primary fuse in accordance with EN 60601-1. 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.

> 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.

9-volt battery for emergency lowering

*** 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.

*** 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.

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.

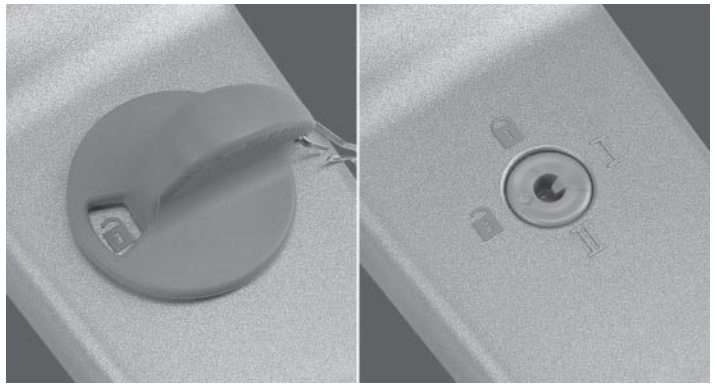
4.2 Control box for all functions
The series hand control with six keys is fitted with an integrated disabling function which enables carers to lock the hand control completely. The easy disabling function in the hand control can therefore replace the current control box, when it is necessary to cut off the entire function of the bed.

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 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.

The new Bock hand control

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

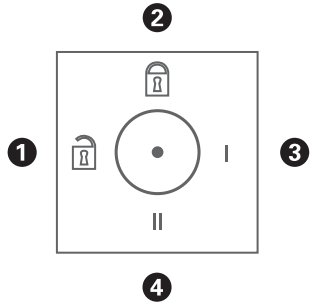

Key for disabler

Knob position 1	Hand control functions active
Knob position 2	Hand control functions deactivated

Knob positions 3 and 4 are settings for safety controls. Further information on this can be found in the safety guidelines.

> Tip from Bock

Switch settings I and II operate the testing of individual switches and should only be used by authorised qualified personnel in the framework of the annual safety controls.



*** 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.

4.5 Caution: Electrical drive unit

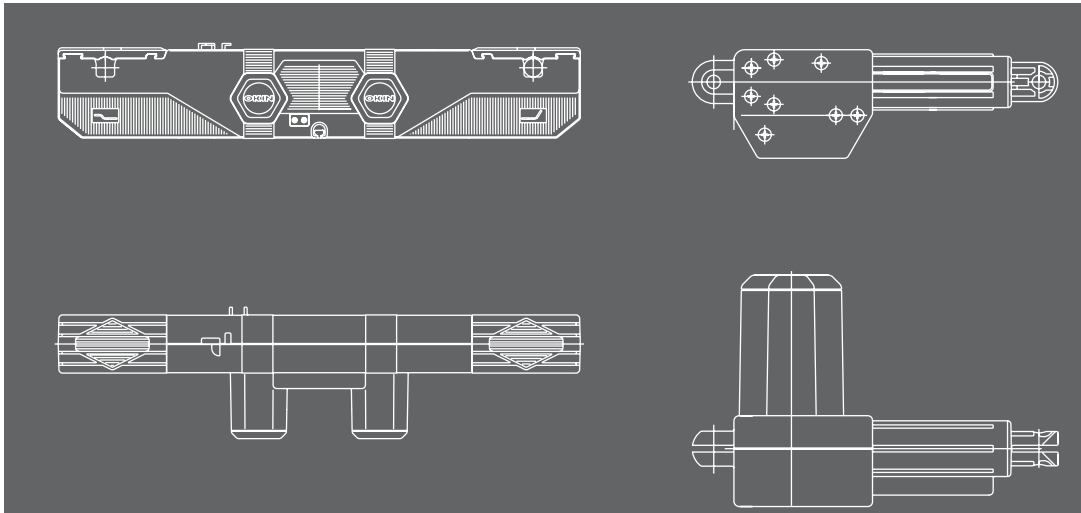
Hermann Bock refers to its electrically operated therapy and rehabilitation beds as health beds because they have many functions that help their occupants to recover physically and psychiologically while reducing pain. As medical devices, electric beds require special safety precautions including handling 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.



OKIMAT *OKIDRIVE*

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.

> 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

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.

Figure: 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.

Attention: the bed extensions for the bed valeo.flex TZ can only be used with longer side rails assembled.

6.2 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 >= 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.

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.

*** 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.

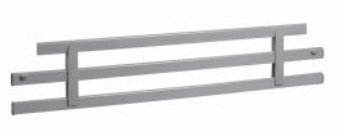


Fig. 1

Fig. 2

Fig. 3

> 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.

Urine bottle/bag holder, 1.2 kg (Fig. 4)
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 (Fig. 5)
Package: 1 clamp, 1 goose-neck, 1 fastening ring

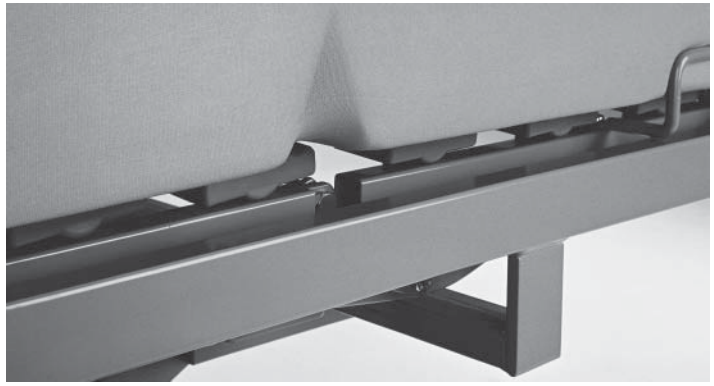
The all-purpose clamp is a special holder that enhances its manoeuvrability as a basic component and enables the flexible positioning of the modular functional accessory. It is possible to fasten bags, urine bottle holders, infusion systems or a lamp, individually or at the same time. The goose-neck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

Fig. 4

Fig. 5

6.3 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.



> Tip from Bock

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

 # Bock specifications

> valeo.flex TZ

Total weight:
105 kg incl. lifting pole
Lying surface area:
90 x 200 cm
External dimensions:
96.5 x 218 cm
Safe capacity:
170 kg
Max. person weight:
135 kg
Height adjustment range:
36 - 73 cm
Max. angle to horizontal:
Back section 70°,
Lower leg section 20°
Special lengths:
up to 220 cm length
Noise level:
< 65 dB(A)
Special widths not possible!

7. Setting up and operating – valeo.flex TZ

7.1 Design and purpose

The valeo.flex TZ was especially conceived for the demands of daily long-term use in home care. It gives the occupants, fragile and disabled people, the possibility of being supported in their usual environment with optimal care.

> The valeo.flex TZ is not suitable for deployment in hospitals.

> The valeo.flex TZ 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 valeo.flex TZ is suitable for occupants who are at least 12 years old and 150 cm tall.

> The valeo.flex TZ is not suitable for connection to mains-operated medical devices whose parts are inserted into the occupants' natural or artificial orifices. Nor are any electric medical applications to be carried out on occupants in this bed.

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

valeoflex TZ is based on a specially reinforced overall design that supports convenient functions. Its long service life, reliable technology and ease of handling make valeoflex TZ the ideal bed for day-to-day care.
The lying surface is available as a 4-section version with a steel base. The leg section of the lying surface can also be adjusted to individual requirements with manual adjustment. The height can vary from 36.5 cm to 86.5 cm, so this bed has an extremely low entrance height and the optimum height for care activities.
The bed can be set up and taken down quickly as it incorporates a new slot-in system, a lying surface with individual motors, and an attachable side rail.
Thanks to its well thought-out design, the attachable side rail system provides an optimum height of 43 cm to protect the occupant, and can be used together with bed extensions.

7.3 valeo.flex TZ in parts

The Bock valeo.flex TZ healthcare bed package consists of the following parts:

Lying surface with motor	1 item
Wooden or steel siderail with attachment	2 items
Head/foot section	2 items
Hoist pole with triangle	1 items

Weights of separable valeo.flex TZ parts:	
Lying surfacce with 2 motors, separable	41.95 kg/item
Wooden siderail with attachment	13 kg/item
Steel siderail with attachment	14.7 kg/item
Head/foot section	20.10 kg/item

> Tip from Bock

Bock supports you with a maintenance instruction as a pre-prepared checklist in accordance with VDE 0751-1 (in security guidelines page 22) for your essential technical security checks. It saves time and gives you the necessary certainty for a thorough execution. From page 22 you can read which services Bock still offers for your checks and controls.

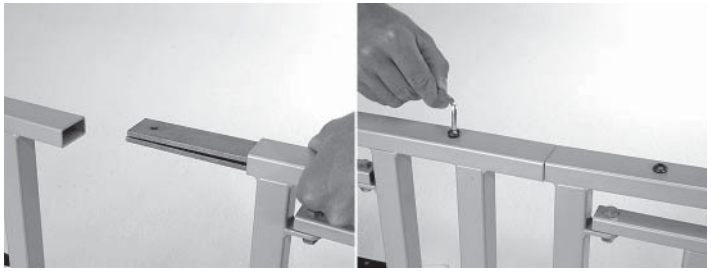
7.4 The valeo.flex TZ ready for use

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

1. Remove both of the screws with which the lying surface is fastened to the carrier system.
2. Remove both lying surfaces from the transport holder (fig. 1 and 2).

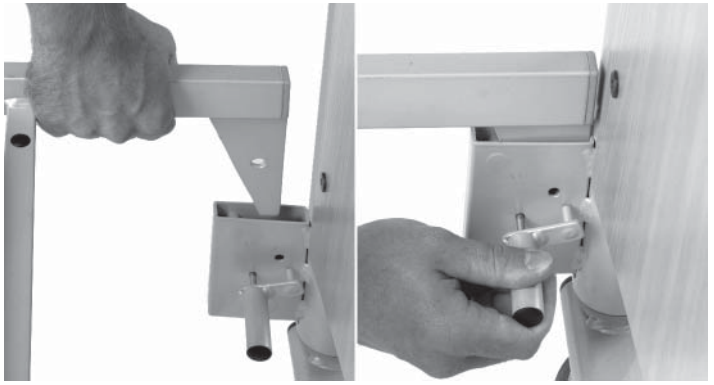
Left: fig. 1, right: fig. 2

3. Slide both parts of the lying surface together and fix them with the formerly removed screws using the delivered socket wrench (Fig. 3 and fig. 4).



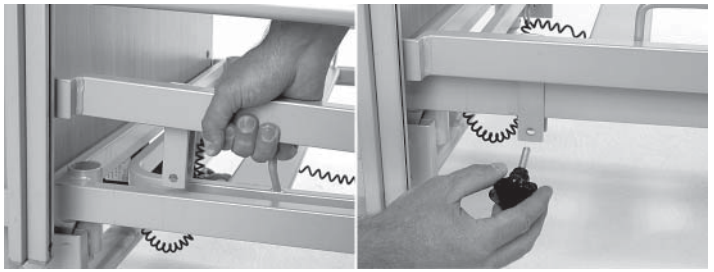
Left. fig. 3, right: fig. 4

4. Slide the lying surface into the attachment of the end panel and fix it with the premounted spring bolt (Fig. 5 and 6).



Left: fig. 5, right: fig. 6

5. Insert the premounted siderails into the longitudinal bars of the lying surface and fix them with the delivered screw (fig. 7 and 8).



Left: fig. 7, right: fig. 8

valeo.flex TZ is now ready for use!

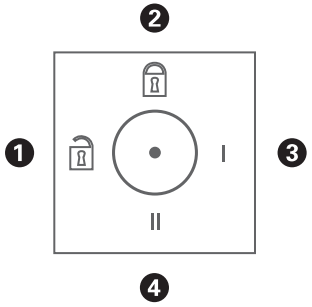
7.5 Control

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 valeo.flex TZ

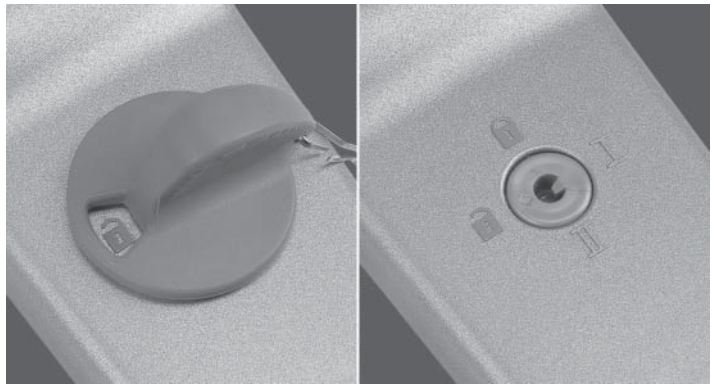
Button 1	Back section up
Button 2	Back section down
Button 3	Lower leg section up
Button 4	Lower leg section down
Button 5	Lying surface up
Button 6	Lying surface down



Knob position 1	Hand control functions active
Knob position 2	Hand control functions deactivated

Knob positions 3 and 4 are settings for safety controls. Further information on this can be found in the safety guidelines.

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.



Key for disabler

7.6 Disassembly

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

7.7 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 reinserting the mains plug, visually check the mains cable for mechanical damage (bends, pressure points, abrasions and exposed wires).
- Place the mains cable in such a way, that it will not be teared, rolled over or insecured by movable parts of the bed when the bed is in use. Insert the mains plug.

*** Warning note from Bock**

The motors comply with the IPX4 splash-water 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.

Foot lever on arresting unit.

*** 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.

7.8 Transport and storage conditions

- 0 °C to 40 °C
- Humidity 20% -80%
- air pressure between 700 and 1060 hPa

7.9 Functioning advice

The brakes have to be locked onto the castors in order to fix the bed in one place. The foot lever on the breaking units on each castor has to be depressed downwards.
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.
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.

STK - List according VDE 0751-1

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Test specimen: ☐ Bed ☐ Insert frame ☐ Controller/main drive

Model name:

Series /inventory number:

Location:

Person in charge:

Date, examinant:

Visual, mechanical and elektrical step of examination

1.	Is the overall condition of the bed alright?	☐ Yes ☐ No
	Description of defects:	
2.	All stickers, EC registrations and type plates present on bed?	☐ Yes ☐ No
	Description of defects:	
3.	Manufacturer's details such as safety guidelines and assembly or operating instructions present?	☐ Yes ☐ No
	Description of defects:	
4.	Mechanical construction defect free with no welds, bent metal frames/lifting poles, wooden elements?	☐ Yes ☐ No
	Description of defects:	
5.	Firm fit and completeness of all mechanical connecting elements (screws etc.)?	☐ Yes ☐ No
	Description of defects:	
6.	Sprung slats, carrier plates and dowels for ripolux/ripoplan without cracks or breakages?	☐ Yes ☐ No
	Description of defects:	
7.	Tight fit in correct position of all sprung slats and carrier plates?	☐ Yes ☐ No
	Description of defects:	
8.	Tight fit and straight alignment of all spring elements?	☐ Yes ☐ No
	Description of defects:	
9.	Do spring elements return to their original position after pressure load?	☐ Yes ☐ No
	Description of defects:	
10.	Tight fit and no cracks or breakages of head and foot end panels?	☐ Yes ☐ No
	Description of defects:	
11.	Adjusting space of lying surface and room for lifting height sufficient without obstructions at current location?	☐ Yes ☐ No
	Description of defects:	
12.	Safe grid mechanism of lower leg section in every step even under charge?	☐ Yes ☐ No
	Description of defects:	
13.	Side rail bars without cracks, breakages or damages?	☐ Yes ☐ No
	Description of defects:	
14.	Adequate fastening and respectively secure fit of side rails?	☐ Yes ☐ No
	Description of defects:	
15.	Load test of side rails without distortion?	☐ Yes ☐ No
	Description of defects:	
16.	Easy run of side rail bars within the tracks and easy locking?	☐ Yes ☐ No
	Description of defects:	
17.	Correct functions of side rails?	☐ Yes ☐ No
	Description of defects:	
18.	Distance between side rail bars not more than 12 cm?	☐ Yes ☐ No
	Description of defects:	
19.	Height of side rails above mattress at least 22 cm?	☐ Yes ☐ No
	Description of defects:	
20.	Bed-accessories (lifting pole, triangle grab handle, belts, control box etc.) without damages and with secure fixing?	☐ Yes ☐ No
	Description of defects:	
21.	Safe breaks, arresting and free running of wheels?	☐ Yes ☐ No
	Description of defects:	
22.	Mains cable, connecting cables and plugs without scratches, dents, kinks, porous parts or bare wires?	☐ Yes ☐ No
	Description of defects:	
23.	Strain relief fastened and efficient?	☐ Yes ☐ No
	Description of defects:	
24.	Internal plugs fully inserted and connected with strain relief?	☐ Yes ☐ No
	Description of defects:	
25.	Mains cable and plug without damage?	☐ Yes ☐ No
	Description of defects:	
26.	Correct and secure cable leading and cable connections?	☐ Yes ☐ No
	Description of defects:	
27.	Housings of motors and hand controls sealed and without damages?	☐ Yes ☐ No
	Description of defects:	
28.	Leak-prevention of motor for models older than 2001 present?	☐ Yes ☐ No
	Description of defects:	
29.	Motor lifting poles without damages?	☐ Yes ☐ No
	Description of defects:	
30.	Testing of hand controls: all buttons fully usable?	☐ Yes ☐ No
	Description of defects:	
31.	Testing of disabler on hand control: everything correct?	☐ Yes ☐ No
	Description of defects:	
32.	Testing of battery: faultless function?	☐ Yes ☐ No
	Description of defects:	
33.	Resistance of protective conductor: not applicable, because no protective conductor present (security class II)	☐ Yes ☐ No
	Description of defects:	
34.	Resistance of isolator (initiate proof voltage and measure resistance; measured value must be more than 7 MΩ):	
	Description of defects:	
35.	Alternative leakage current, maximum value (device over 200 V, security class II, type B, threshold value = 0,5 mA):	
	Description of defects:	
36.	Patient leakage current according IEC 601-1, measured value:	☐ OK ☐ Not OK
	Description of defects:	
37.	Exceeds the patient-, mattress and accessory weight the assigned safe capacity (see technical data)?	☐ Yes ☐ No
	Description of defects:	

Overall condition of the bed: everything faultless? ☐ Yes ☐ No

Notices:

Place and date:

Signature of examinant:

Next examination:

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Declaration of conformity

Manufacturer:	Hermann Bock GmbH Nickelstraße 12 D-33415 Verl
Product:	care bed valeo.flex TZ
Classification:	Medicine products class I, norm 1 and 12 appendix IX of the MDD
Selected conformity appraisal procedure:	Appendix VII of the MDD

Hereby we declare that the products specified above fulfil the precautions of the guideline 93/42/EWG of the advice over medicine products. The entire associated documentation is kept in the premises of the manufacturer.

Applied standards:	Harmonised standards, for which the proof of agreement can be supplied: DIN EN 60601-1 DIN EN 60601-1-2 DIN EN 1970:2000 DIN EN 60601-2-38/A1:2001 (For the interests of the domestic care)

Verl, July 28th 2005

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(Management)

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