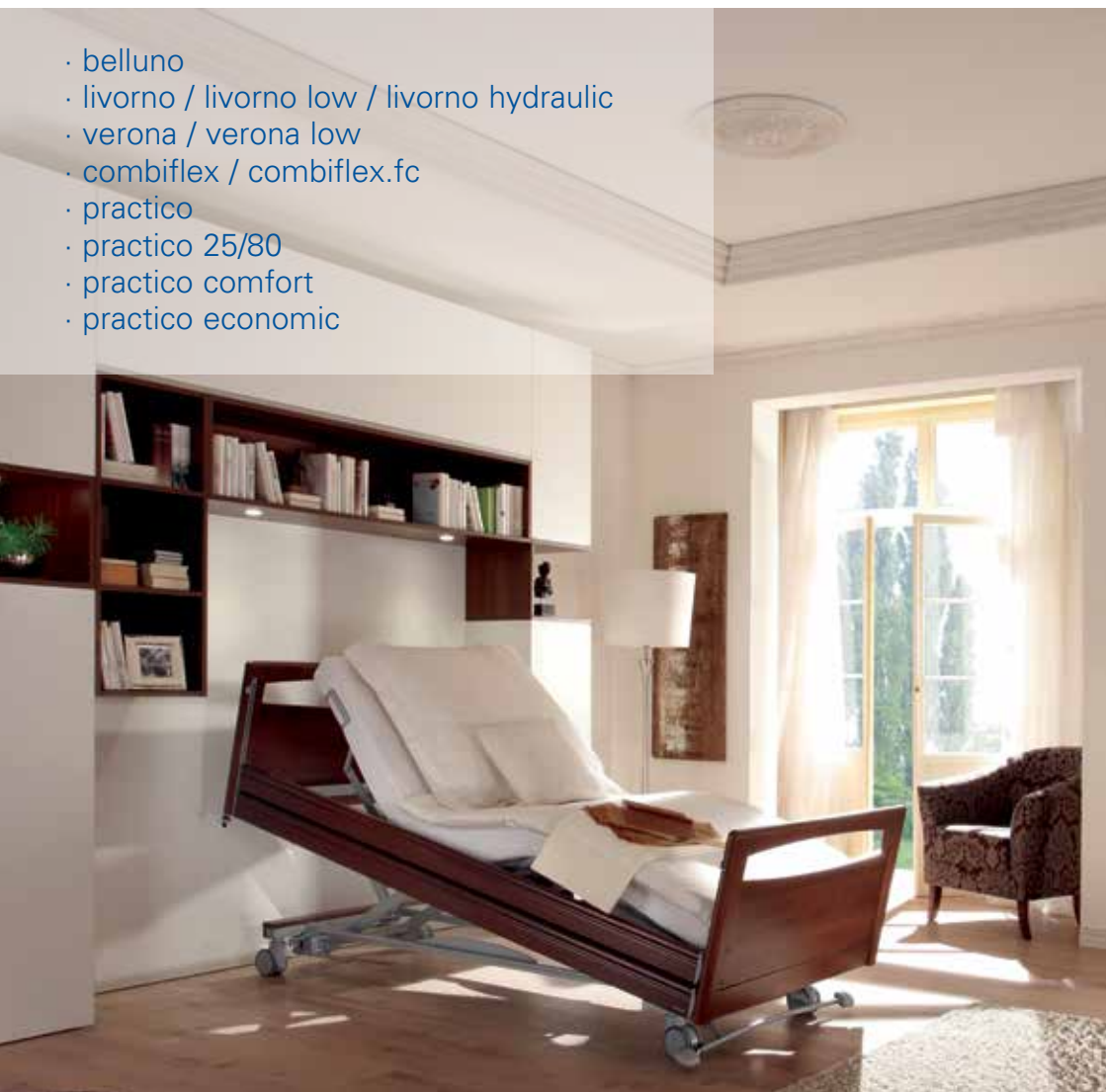


# Nursing care beds

.bock<sup>///</sup>

- belluno
- livorno / livorno low / livorno hydraulic
- verona / verona low
- combiflex / combiflex.fc
- pratico
- pratico 25/80
- pratico comfort
- pratico economic

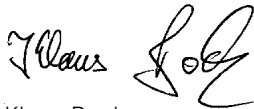


Dear customer,

In deciding to buy a nursing care 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.

Sincerely yours,

A handwritten signature in black ink, appearing to read 'Klaus Bock', with a stylized flourish at the end.

Klaus Bock

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### > Bock Top Advice

The specification of which and how many components have to be available for the visual control, can be extracted from the relative user's manual. Starting with chapter 5.

### \* Bock Hazard Note

In order to avoid possible damages and malfunction during the assembly and operation, the assembly and operating instruction has to be read completely.

# 1. Preamble and 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. Thereby reliable functionality and long-life-cycle are what characterize each single bed model as particularly high quality. Provided, that the bed is used in accordance with its purpose and serviced at regular intervals, the bed requires only a low level of maintenance. Each healthcare bed manufactured by the company Hermann Bock must pass a quality inspection and will be issued with a quality certificate by the TÜV before it leaves the production line. Hence, every healthcare bed meets the requirements of the directive 93/42/ EWG for medical devices (Class I). The beds have been manufactured and certified in accordance with the applicable standards for beds used for medical purposes.

Since April 2013, the standard applying to the beds has changed in line with the requirements of EN 60601-2- 52: 2010. The electrical component parts are in conformity with the safety standard EN 60601-1:2006 for medical devices.

The new standard distinguishes the beds between five different areas of application:

1. Intensive care in hospital, Intensive care bed
2. Short-term care in hospital or another medical facility, in-patient bed
3. Long-term care in medical environment, in-patient care bed
4. Home care treatment, sheer home care bed
5. Home care nursing service

### 1.1 Intended use

The health care bed has been designed for the positioning of persons in need of care or patients of medical facilities as of the year of 12 and a body height of at least 150 cm. The beds are intended for use in retirement or care retirement homes, rehabilitation facilities and with respect to home care treatment. Its purpose is to provide relief from disabilities and to facilitate the care process. Any other use is considered to be not intended; therefore all and any liability is excluded, if any damages can be attributed to any such unintended use.

The Trendelenburg function is a special equipment and does not belong to the basic equipment. This function can only be carried out by specialized personnel. Beds, which are applied in the application area 4, will be equipped with the hand control without Trendelenburg.

The nursing care bed is not suited for the use in hospitals. In case that the nursing care bed is equipped with visible castors, it is suitable for the transport of the patient. The nursing care bed is movable while the patient is inside. To prepare the transport, fasten the castors; bring the nursing care bed into the lowest, horizontal position. Than unfasten the castors and move the bed. After the transport fasten the castors. In case that the nursing care bed is equipped with covered castors, it is only destined to be moved inside the patient's room, for cleaning and access to the patient. If the nursing care bed is equipped with feet, it is not possible to move it.

**Important:** The beds are not equipped with any particular connections that provide for a potential equalization. Electrical medical devices connected to the patient's intravascular or intracardiac system must not be used. The operator of the medical device shall be responsible for the conformity of the combination of the devices with the requirements of DIN EN 60601-1:2006.

This user's manual contains safety notes. All persons working with the beds must be acquainted with the contents of these instructions. The improper use may involve hazards.

### > Bock Top Advice

In the event of unidentifiable errors, malfunctions, or damages of the electrically driven bed or its accessory, the power plug should be disconnected immediately and the emergency lowering function should be enabled. Please inform the operator or the Hermann Bock support team.

### \* Bock Hazard Note

The operator has the responsibility to take special safety precautions for anxious or restless patients, to avoid the catch of single extremities or the falling out of bed. The bock service team will be pleased to advise you on possible solutions for this cases.

## 1.2 Definition of person groups

### Operator

Operators (e.g. medical supply stores, specialist dealers, facilities, and cost units) include all physical or juridical persons, who use the beds or have the beds used for medical purposes. The briefing on the use of the products shall generally be conducted by the operator.

### User

Users are persons, whose training, experience, or briefing on the product allows them to operate the health care bed or carry out works on it. The user is capable of recognizing possible hazards or to prevent such from occurring and to assess the physical condition of the patient.

### Patient / Resident

Persons in need of care, disabled or invalid persons lying in a care bed.

### Professionals

Professionals include staff assigned by the operator, who are, owing to their training or briefing allowed to deliver, mount, dismount, and transport the bed. As a general rule, these persons must be instructed to the guidelines concerning the cleaning and disinfection of the health care bed.

## 1.3 Safety notes

The use of all moveable component parts in accordance with their intended use is not only crucial with respect to the hazard prevention for the patient but also when it comes to the safety of the relatives and/or the nursing staff. Another important aspect to be considered with respect to the operation of the bed is the individual physical condition of the patient and the kind and degree of their disability.

Please make sure that any hazards that might occur from unintended adjustments and incorrect operation are avoided by enabling the locking device. Whenever the operator, e.g. nursing staff or caring relatives leave the room, it is recommended to lock all operating functions of the bed; this can be done by means of the key at the hand control. For this purpose, the lying surface needs to be brought to the lowest position, and in a next step, the locking function can be enabled by means of the key, which can be found at the back side of the locking device. Just turn the key, pull it out and check, if the locking function is really working by trying the buttons of the hand control.

These recommendations are particularly important,

- > if the patient's disability hinders them to operate the hand control,
- > if the patient or nursing staff could be at risk due to unwanted adjustments,
- > if the side rails are raised, so that there is a risk of crushing or getting trapped,
- > if there are unattended children in the room.

Always pay attention that the hand control is hooked into the handle at the bed so that it cannot drop down.

As a general rule, the bed should be operated by instructed nursing staff or relatives, or in attendance of instructed persons.

When making adjustments to the lying surface, it should be made sure, that the patient's limbs are not positioned in the adjustment area of the side rails. The patient's appropriate lying position is likewise important when it comes to adjustments to the side rails. Prior to making any electrical adjustment, it should, as a general rule, be made sure that the patient's limbs are not positioned in the adjustment area between the chassis and the head- or foot board, resp. that there are no persons in the area between the floor and the raised lying surface. These areas exhibit a particular high risk of crushing injuries.

The permitted person weight depends on the total weight of the equipment that has been mounted to the bed (mattresses and other electronic medical devices). The respective max. safe capacity is specified on the name plate, which is attached to the frame of the lying surface.

#### **1.4 Life time / gurantee**

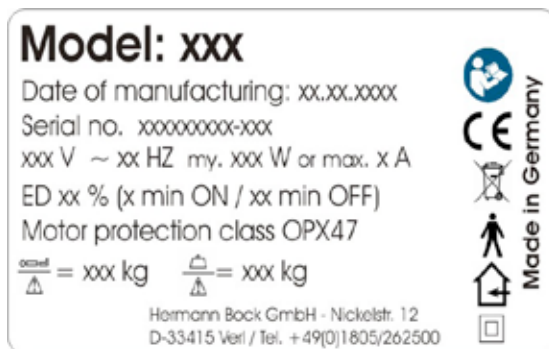
This nursing care bed has been developed, designed and constructed for a save and long use. In case of proper operation and use, the nursing care bed has an expected life time of approx. 2-10 years. The life time depends on the usaage condition and frequency. Therefore a longer lifte time in the institutions is expected.

Attention:








In case of unauthorized technical modification of the product, all warranty claims extinguish.

This product is not approved for the North Americanm market, especially the United States of America (USA). The distribution and use of this nursing care bed, also by third parties is prohibited by the manufacturer.

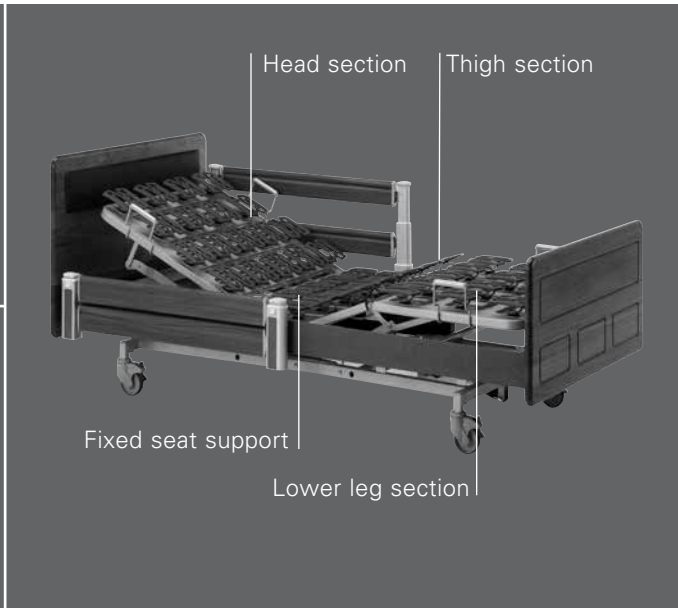
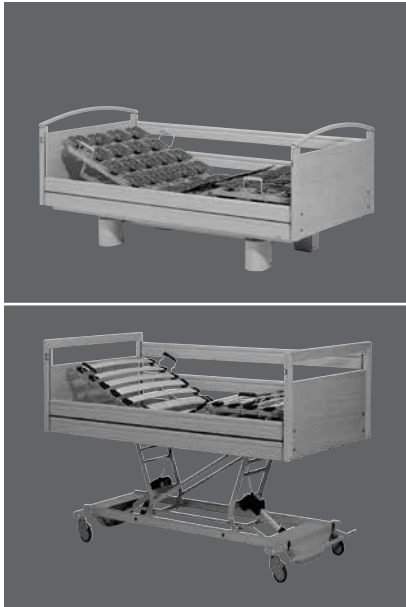
## 1.5 Type label (Example)



- (1) Model description
- (2) Date of manufacturing: Day, month, and year
- (3) Serial number: Order confirmation number – serial number
- (4) Power supply voltage; power frequency; power input.
- (5) Switch on time
- (6) Drive protection type
- (7) Safe capacity/ max. person weight
- (8) Manufacturer
- (9) Symbols (on the right-hand side)

- CE CE mark in accordance with the directive for medical product
- PX4 Protection of the electrical equipment against splashing water
-  Medical application device type B
-  Only to be used in dry rooms
-  Protection class II (double isolation, protective insulation)
-  When disposed within European Union, the product disposed to a separate waste collection. The product must be disposed to the separate domestic waste
-  Symbol for max. person weight
-  Symbol for max. safe capacity
-  Symbol for attending the user's manual





## 2. General functionality description

### Design configuration and functionality

#### The lying surface and its four sections

In the standard version, the lying surface comes with comfort wooden slats (may be supplemented with a metal lying surface or special suspension systems) and is made up of four sections: head section, fixed seat support, upper - and lower leg section.

The complete frame of the lying surface has been welded from steel tubes and stove-enameled using a PES-powder coating. The electrical stepless variable height adjustment of the lying surface is controlled by means of 24 V-direct current motors and the smooth-running keys of the hand control. The head section can be electronically adjusted. The leg part consists of a two-part feet bracket. The stepless adjustment of the position can be made by means of the hand control. The control via the electronic hand control allows also for an automatic triple function for the stretched elevation of the legs towards the heart- and knee bend. In the event of a blackout, the back- and leg part can be lowered by means of a 9 V battery.

### **The chassis**

The height adjustment of the beds can either be made via two height-adjustable actuators or a basic frame which can be operated via a single or double-drive. The surface of this steel tube construction is stove-enameled with a PES-powder coating.

### **The side rails**

Every health care bed comes with integrated side rails on both sides and therefore, exhibits a special degree of safety. The side rails can be raised and lowered by means of a steel bar. Owing to an integrated slider, the sliding blocks are particularly smooth and the ends are provided with a well-designed sealing cap. An ergonomically shaped trigger button allows for the easy operation of the side rails. According to the bed model, customers can choose between long and short side rails.

### **The splitted side rail\***

The health bed is optionally available including splitted side rails. The splitted side rails prevent the patient from falling out of the bed and enable a safe and easy stepping in and out of bed. Due to the easy trigger mechanism, the individual side rail elements can be brought into the uppest or lowest position.

\* Not available with all models.

**Operating the plug-on or plugged-in side rails**

The locking device of the plug-on or plugged-in side rails is installed at the backside of the metal facing, which is attached beneath the wooden side rails. If the splitted side rails should be lowered, one has to unlock each side rail element individually.

For this purpose, just grab the upper edge of the side rail. Use your other hand to take hold of the moveable handle bar, which is situated at the metal bar underneath the wooden side rail (Fig 1). The handle bar is provided with a latex cover at the edge. Now, just press the handle bar together in order to release the side rail locking (Fig 2).

Once the lock is released, take off your hand from the handle bar and lower the wooden side rail by slightly moving to the front and bottom (Fig. 3). Please make sure to pull out your hand, before lowering the side rails, as there might be otherwise the risk of crushing injuries.

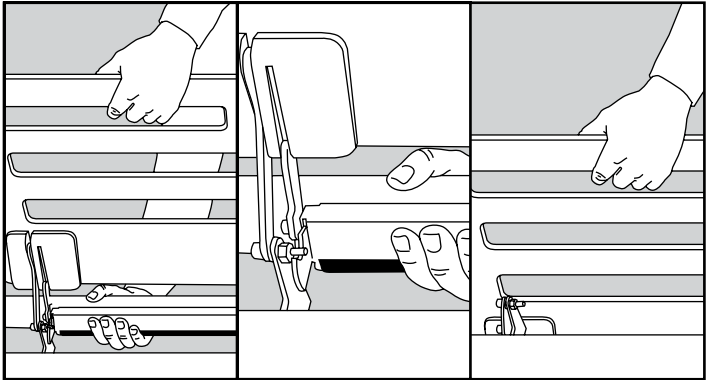


Fig.1

Fig. 2

Fig. 3

**\* Bock Hazard Note**

When making any electrical adjustment of the lying surface, please ensure that all patient's extremities are not in touch with the side rails. Furthermore, it is very important that, while operating the side rails, the patient lies in an appropriated position.

**> Bock Top Advice**

If from the diagonal position (Fig.3) the side rail should not be further lowered but should be raised, please grab the top of the middle bar and pull it up until it is locked in place.

## Usage of the splitted telescopic side rails

Each side rail element can be adjusted individually. The locking mechanisms are on the middle bar and on the end panels. In order to lower the side rails please grab the upper part of the telescopic bar, lift it a little bit and with the other hand push the button of the locking mechanism (Fig. 2). You are now able to lower this part of the side rail easily. The side rail is now in a diagonal position (Fig. 3).

### > Bock Top Advice

When using different mattress thicknesses, the minimal height of 22 cm minus the compression, measured from the upper edge of the side rails above the mattress, must not be undershot. The use of higher mattresses requires an additional plug-on rails which is available as accessory.

Various nursing beds by Bock provide special functions whose description can be found under chapter 5 in the assembly manual of the individual models.

#### Note:

Provided, that the braces/mounting points of the side rails are positioned outside of the side rails (bright grey depiction), distance A which runs along the lower side rails towards the lying surface applies.

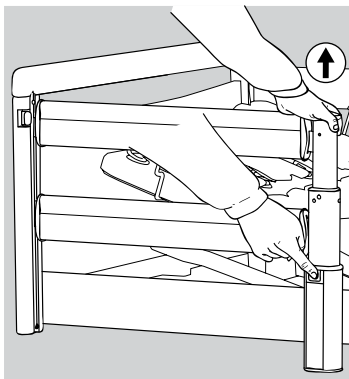


Fig. 2

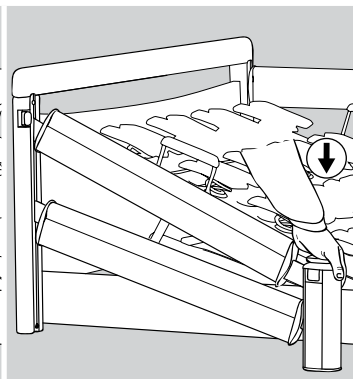


Fig. 3

In order to lower the other part of the side rail, please grab the side rail on the other end panel. Push the locking device on the end panel (Fig.4) and lower it slowly. Now the side rail is in the lowered position (Fig. 5).

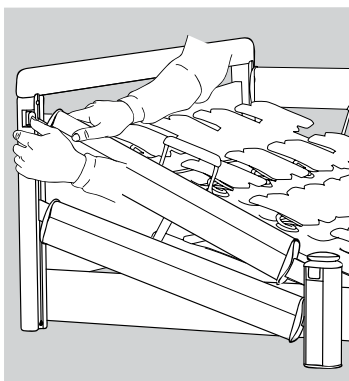


Fig. 4

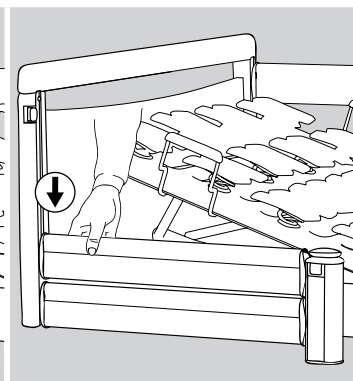


Fig. 5

When one of the side rails is to be adjusted to the top position so as to prevent the patient from slipping out, just hold the middle of the upper side rail in the handle hold and pull it to the upper side, until it locks into place on both sides. Now, the side rail is in the uppest position (fig 6).

### Handling of the continuous side rail

The release button for the adjustment of the continuous side rails is mounted at the top of the end panels on the inside, and can be found right next to the metal guide rails for the side rail mechanism.

In order to lower the side rails, grasp the upper side rail (Fig 1), slightly lift it and push one of the release buttons at the end panels (Fig. 2). Now, the side rail of the respective side gets released and can be easily lowered down to the end stop (Fig. 3). Now, the side rail has been brought into a diagonal position. In order to lower the other side, just repeat the steps mentioned above at the facing side. Now the side rail has been brought into the lowest position.

Provided, that one of the side rails is to be adjusted to the upper position so as to prevent the patient from slipping out, grasp the middle of the upper side rail and pull it to the upper side, until it locks into place at both ends. Now, the side rail is in the uppest position.

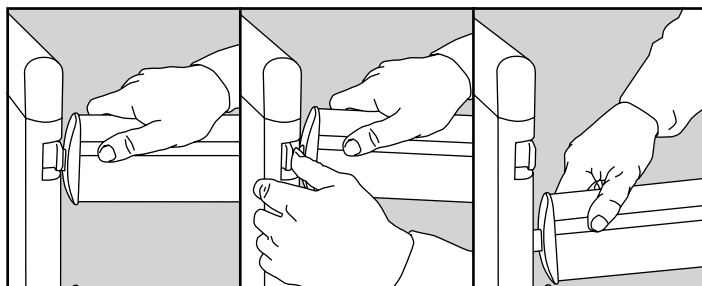


Fig. 1

Fig. 2

Fig.3

The main purpose of the side rails is to prevent the patient from falling out of the bed. This protection by means of the side rails does not automatically provide sufficient protection with very frail patients and therefore, it is necessary to provide further protective measures such as the additional mounting of side rail bumpers (accessories).

The distances between the side rails needs to be less than 12 cm. Note that the continuous side rails must not remain in diagonal position, when they are being used.

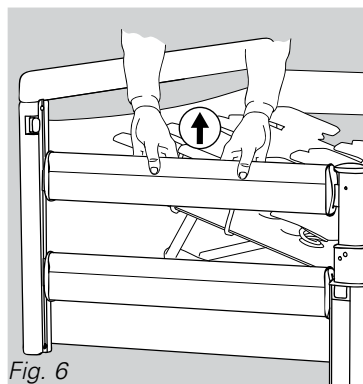


Fig. 6

### \* Bock Hazard Note

Please note that the side rails should only be operated by instructed care personnel.

### \* Bock Hazard Note

- 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 side-rails 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.

Fig. 1: Continuous wooden/steel side rails , two side rails

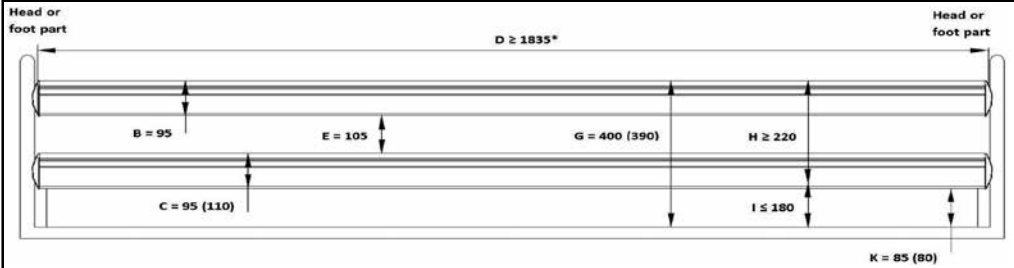


Fig. 2: Continuous wooden/steel side rails , three side rails

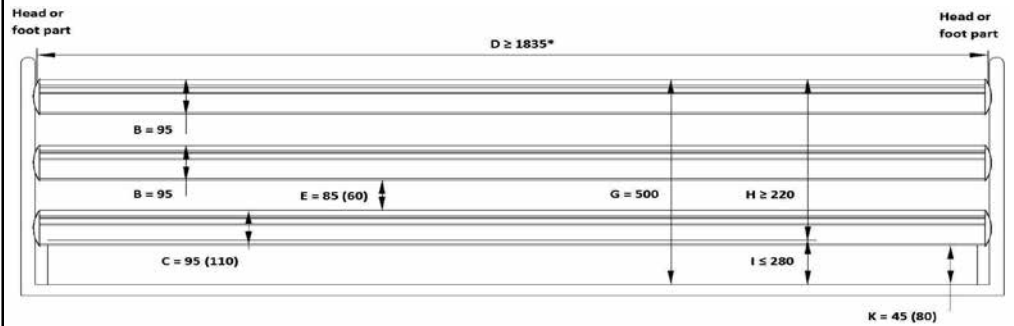


Fig. 3 Telescopic wooden side rails, duo middle bar

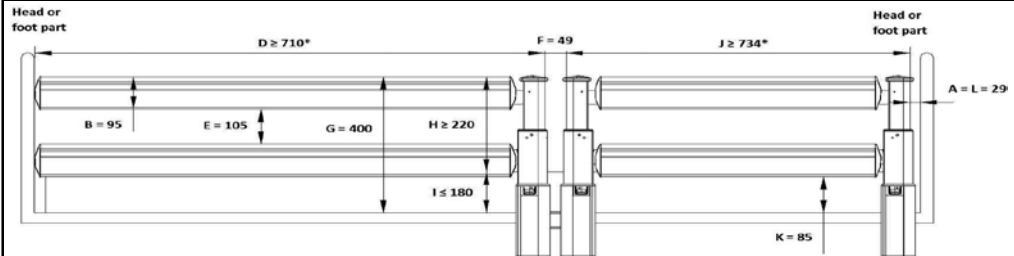


Fig 4: Telescopic wooden side rail, solo middle bar in the middle

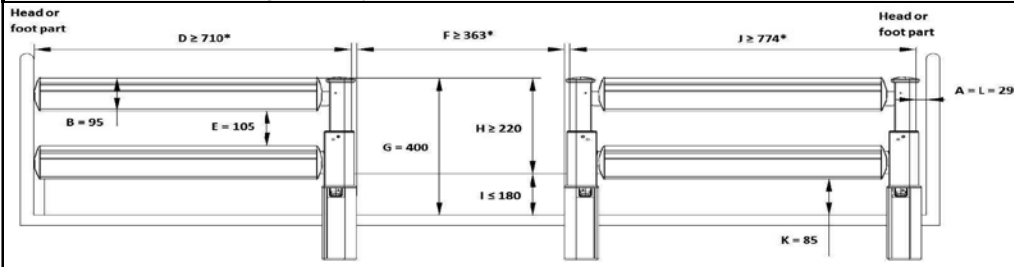
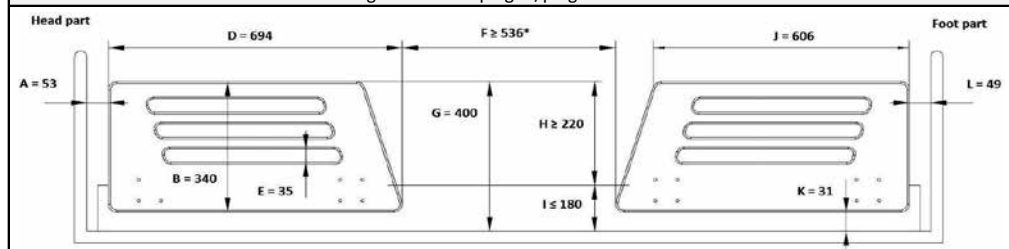


Fig 5: Wooden plug-in/plug-on side rail



Description

All measures in mm.

\* Depending on the lying surface length

Single telescopi bar on the head/foot end are optional.

The meassures in brackets is valid as optional

Legend

Area	Description
A	Distance between head end and side rail
B	Height 1 of the side rail
C	Height 2 of the side rails
D	Width 1 of the side rail
E	Distance between the elements within the side rails
F	Distance between the splitted side rails
G	Distance between lying surface and upper edge of the side rail
H	Height of the upper edge of the side rail above unpressured mattress
I	Thickness of the mattress of intended use
J	Width 2 of the side rail
K	Smallest distance between side rail and lying surface (without side panneling of the frame if provided)
L	Distance between foot end and side rail

Article number

Description	Art.No.
Continuous wooden/steel side rails	
2 side rails (Fig. 1)	
Wooden side rails (Set: 95 / 95mm)	90223
Wooden side rails (Set: 95 / 110mm)	91247
Steel side rails (Set: 95 / 110mm)	91314
Three side rails (Fig. 2)	
Wooden side rails (Set: 95 / 95mm)	91566
Wooden side rails (Set: 95 / 110mm)	91531
Telescopic wooden side rails	
Duo telescopic bar in the middle (Fig. 3)	
Duo telescopic bar in the middle (Fig. 3)	91210
Wooden side rails head end : (set: 95 / 95mm)	80344
Wooden side rails foot end (set: 95 / 95mm)	80345
Solo telescopic bar in the middle (fig. 4)	
Solo telescopic bar (head right, foot left)	91211
Solo telescopic bar (head left, foot right)	91212
Wooden side rails (set: 95 / 95mm)	80346
Telescopic bar on head and foot end( without fig.)	
Solo telescopic bar (head right, foot left)	91211
Solo telescopic bar (head left, foot right)	91212
Continuous wooden side rails( Set: 95 / 95mm)	80346
Plug-in/plug on wooden side rails (Fig. 5)	
Fitting plug-in	91264
Fitting plug-on	91260
Wooden side rail	80118

#### \* Bock Hazard Note

The maximum switch-on time should not be more than 2 minutes. A subsequent break of 18 minutes has to be observed.



*9-V-block battery for emergency lowering*

## 3. Electric components

### 3.1 Drive unit

The drive unit consists of a twin drive which combines two separate drive units for the electrical adjustment of the back and leg part. A switch-mode supply with rectifier is part of the external motor system. This switch-mode supply converts the input voltage of 110-240 V AC at 50-60 HZ at 70-180 W into a low voltage of 29 V DC. With this non-hazardous low voltage the motors and the hand control are operated. The cables are isolated twice and the power plug disposes of a primary fuse.

The internal emergency lowering is carried out by a 9 V battery. In addition a power adjustment takes care of a constant velocity. The safety demands therefore corresponds to the safety class II and the moisture protection IPX4.

The maximum switch-on time is indicated on the bed (type label). E.g. 10% (2 min. on/ 18 min. off) means that each electronic adjustment should only be done for 2 min in 18 min (over-heat control).

In case that the maximum operation interval of two minutes is exceeded, due to e.g. continuous operation of the hand control, overheating of the actuators resulting in the immediate disconnection of the bed's power supply through the thermal fuse. It takes a cooling-down time of approx. one hour, until the power supply is automatically switched on again.

### 3.2 Locking device for all functions

The standard hand control with its 6 buttons comes with an integrated locking device enabling the nursing staff to lock all functions of the hand control by means of a key.

### 3.3 Level adjustment drive

The adjustment of the lifting appliance is effected through one or two integrated low-voltage direct current drives whose range of adjustment depends upon an integrated end-switch. The adjustment drive is connected with the control unit by means of a spiral cable.



### 3.4 The lockable hand control, fault safe operation

The extra-large, easily operable 6 buttons positioned on the ergonomically shaped hand control provide the main functions and can be controlled at the touch of a finger. Each of the operating buttons is labeled with appropriate symbols.

As long as the button for the adjustment of the actuators is pushed, the actuators are operating. A spiral-shaped cable provides the necessary clearance whilst the operation is being performed. The rear side mounted clip is rotatable by 90° on both sides. The radius is exactly in line with the radius of the side rail and the lifter, so that there are no unsteady clearances. The possibly disturbing position of the hand control while performing cleaning or maintaining operations can be avoided simply by turning it to another side or easily clipping it onto any spot of the bed.



*The Bock hand control*

Function button 1	Head rest up
Function button 2	Head rest down
Function button 3	Foot part up
Function button 4	Foot part leg part down
Function button 5	Lying surface up
Function button 6	Lying surface down

#### > Bock Top Advice

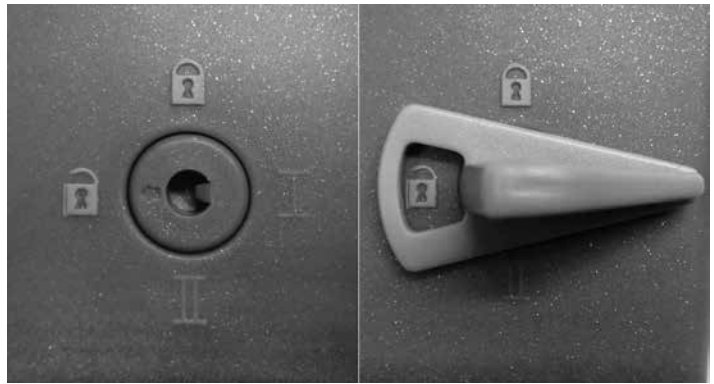
The drives with the E-transformer 24V: Due to the low standby- mode consumption (max. W) and the ideal efficiency of the power plug, the bed is remarkable economic in the energy consumption.

Drives with the mains isolation: Due to the mains isolation the bed is completely smog free and remarkable economic in the energy consumption. Electricity is only used when the bed is adjusted by the hand control

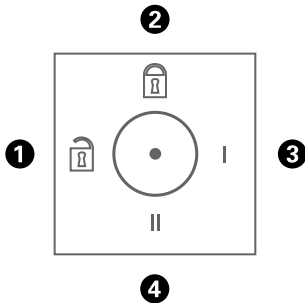
#### \* Bock Hazard Note

The high safety standards of Hermann Bock's health care beds is not understood as a exclusion of all risks. The strict compliance with all specifications and instructions concerning the intended use provide the prevention of all risks.

Moreover, on the back side the hand control disposes of an integrated locking device. That can be activated by using the provided nurse key. For the setting of the electronic functions of the bed, just put the key into the lock on the back side and turn it to the desired function.



*Key for the locking device*



Switch setting 1  
Switch setting 2 & 4  
Switch setting 3

Hand control active  
Hand control inactive  
Activation of Trendelenburg function  
(with beds providing the Trendelenburg function)

### 3.5 Caution: Electrically operated drive

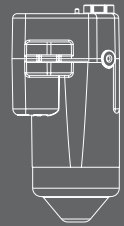
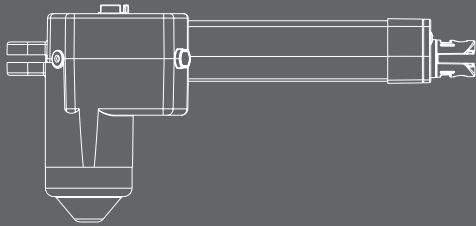
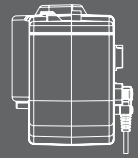
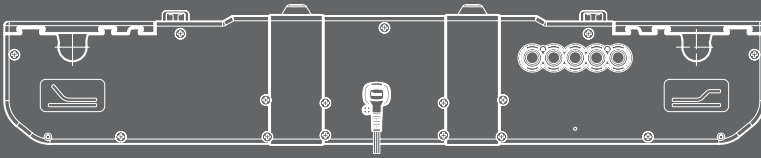
Hermann Bock calls its electrically operated nursing and therapy beds health beds, because they considerably facilitate the care recipient's recovery process in both physical and mental aspects while relieving pain at the same time thanks to their versatile functions. When applied as medical product, electrically operated beds require particular consideration with respect to the continuous safety inspections. These include the safe and professional handling of the bed, the daily check of the electrical equipment, and the proper maintenance and cleaning.

In order to avoid damages to the cables, the cable installation should be placed off-side potential damage areas. Also avoid contact with square-edged components. Notes for an appropriate cable installation can be found in chapter 5. All potential risks of exposure to too high contact voltages should be excluded, as this helps to prevent injuries caused by any electrical shock. This may especially occur when the mains connection has been damaged, the leak currents are unacceptable or too high, or liquids have penetrated the motor housing, e.g. caused by improper cleaning.

#### \* **Shock Hazard Note**

The simultaneous use of electrical devices may cause, especially in the direct environment of the ready-to-operate bed, low electromagnetic interactions between the electrical devices, such as radio noises. When such a rare case occurs, you should extend the distance between the devices. Do not use the same wall socket or switch off the noisy device temporarily.

If the bed is not operated in line with its purpose, thus simultaneously with electrical, medical devices, you should deactivate the functions of the bed for the time being. The deactivation can be done by the integrated locking device on the back side of the hand control.



#### \* Bock Hazard Note

Never open any drive components!  
Both repair and exchange of components are only allowed to be done by especially authorised experts.

## 4. The drives

### 4.1 The 24 Volt drives

Hermann Bock equipped their health care beds with various Limoss drive systems.

#### 4.1.1 The drives system

Both, the double drive for the stepless adjustment of the lying surfaces and the linear drive applied for the height adjustment of the lifting frames are each made up of four main components.

- Housing
- Drive
- Gearbox
- Spindle with nut

The housing principle and its double drive and the single drive guarantees the permanent function of all drive components. The special construction design is based on two load absorbing housing cases. Owing to a detailed internal engineering, the patented design of the inner housing constitutes an essential requirement for the precisely fitting intake of the drive technology.

The totally easy assembly/disassembly and the spacious installation compartment for battery and electronics positioned above the robust hinged cover make the housing of the doubledrive stand out. The drive comes with a mains isolation in the mains plug and has an emergency lowering function.

#### 4.1.2 The external switch-mode power supply SMPS

The SMPS wall power supply (switch-mode power supply) is an electronic transformer, which has an integrated performance control. A constant voltage until the maximum load (without loss in velocity) and a safety against overload are given. The external transformer offers safety beginning at the wall socket, as there the line voltage is directly converted into 29V low voltage, with which the bed is operated. The transformer is connected to the motor cable and can be changed separately in case of damages.

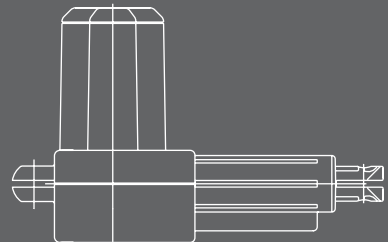
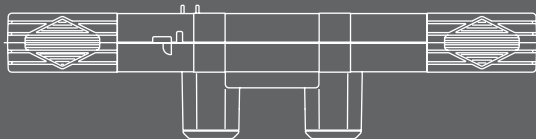
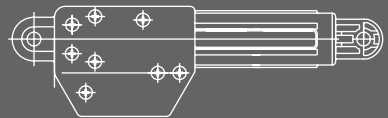
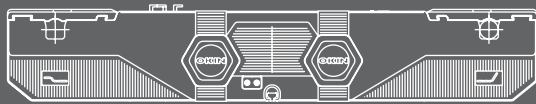
The wall power supply already corresponds to the upcoming new European standards for electronic domestic appliances. In the standby-mode it has an energy consumption of max. 0.5 W. Due to its variable input voltage of 100 V-264 V it is applicable worldwide. With the SMPS power supply alternating electrical magnetic fields are not measurable and in use comparing to motors with mains isolation even lower (due to the concurrent flow).

#### > **Back Top Advice**

Once a year the 9 Volt battery of the motor should be tested and if necessary exchanged. Furthermore regular visual inspections should be done.



*The external switch- mode power supply*



#### \* Bock Hazard Note

Never open any drive components!

Both repair and exchange of components are only allowed to be done by especially authorised experts.

### 4.2 The drives with mains isolation

Representing the market leader in the field of manufacturing adjustment systems, ILCON stands out for their highly-qualified performance and excellent know-how. This synergy provides the basis for an ideal collaboration in the field of medical products, as it allows us to achieve a unique quality.

#### 4.2.1 Dual drive systems

The dual drive systems that enable the stepless adjustment for lying surfaces combined with the linear drive that is used as a single drive for the height adjustment of the lifting appliances consist of four main components each.

- Housing
- Drive
- Gearbox
- Spindle with nut

The designs of the housing for the dual drive and linear drive ensure the durable functionality of all drive components. The specific design principle is based on two load-absorbing housing cases.

Due to its internal construction, the housing fulfills an essential requirements for the installation of the drives. Especially the easy assembly/dismounting of the battery and electronic by stable holding sheets characterize this dual drive. The dual drive can be combined with any ILCON motors. The dual drive disposes of a mains isolation and an emergency lowering device.

4.2.2 The mains isolation

The integrated ILCON-mains isolation in the mains plug provides, besides a high safety guarantee, many practical advantages when in use. In the net free mode, the mains isolation prevents any magnetic and electric AC fields in the bed. The mains isolation is self-contained and requires no additional transformer for its stand-by. With the drive working in disconnected mode, no energy is consumed and a switching sound in the relay serves as indicator of the correct operation. The mains isolation is compatible with superordinate mains isolation.

The ILCON-mains isolation in the mains plug can be activated at the touch of the button on the hand control. A direct current loaded capacitor in the drive conducts current to the double-pole relay in the mains connection and activates the transformer whilst the drive is in use. In this process, the capacitor is being reloaded in order to be ready for the next actuation. Everytime the hand control button is being let go, the mains is disconnected from both poles by the relay. A switching sound indicates the performance of this function.

The 9-volt battery for the emergency actuation which is a standard installation in the control, buffers the capacitor of the mains isolation for the case of need, if it has not been used for a longer period and has,therefore, lost its voltage. Should the capacitor and the 9-volt buffering battery be used up, it just takes a touch on the green button so that the mains isolation starts working as usual again.

> Bock Top Advice

Once a year the 9 Volt battery of the motor should be tested and if necessary exchanged. Furthermore regular visual inspections should be done.



9-V-block battery for the emergency lowering

Mains isolation

Plug-in models



#### **4.2.3 ICS Drive system**

The Intelligent control system (ICS) allows the user to control and monitor the components and parameters of a bed in a safe and reliable way. Owing to the individual coordination of more than 100 parameters, the micro-process control can be ideally adjusted to your individual fields of application.

The ICS system can automatically detect the system in use and applies the pre-defined system-related parameters.

##### **Product features:**

- Softcontrol
- Synchronous running
- Memory function
- Special functions and process control, e.g. maintenance position or parallel adjustment of all 4 drives for e.g. enabling the seating position.
- Modular design, i.e. programming of special functions on customer request
- Easy programming, approx. 100 parameters (pre)setting possible
- Reliable and safe end positioning function, e.g. protection against collision



### **Unintended system activation/adjustment**

In the event of an unintended activation or adjustment of the system, too early lowering, a loss of the position occurs. This may e.g. result from the replacement of the drives. In order to remove the fault, it will be necessary to carry out an initialization. The initialization is made through a button combination, i.e. by pushing the third button row at the top side of the control (auto contour). Just push both buttons and keep hold of them until the initialization is fully completed. After five seconds, all drives will be lowered at half pace. Owing to the reduced pace, it is possible to provide for the prevention of collisions in a timely manner.

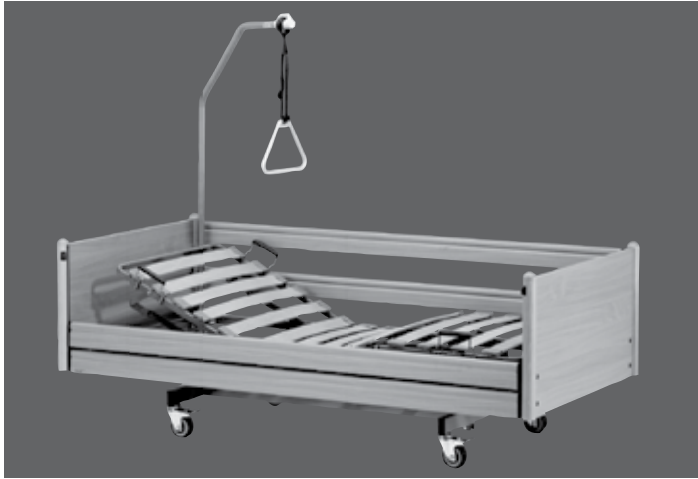
### **Position reset after MSE-release**

Due to the release of the mechanical emergency lowering device, the position of the drive is no longer in line with the set position programming. For this reason, it is necessary to reset the respective drive to default. In order to do so, just keep hold of the button "down" at the respective drive until the drive has been lowered down to the bottom end switch. Now, the drive has been successfully reset and can be operated as usual.

# 5. Assembly and operation

## 5.1 Technical data

Technical data										
Lying surface dimension: cm	belluno	livorno / livorno low	livorno hydraulic	verona / verona low	combiflex / combiflex.fc	practico	practico 25/80	practico comfort	practico economic	
External dimension: cm	90 x 200	90 x 200	90 x 200	90 x 200	90 x 200	90 x 200	90 x 200	90 x 200	90 x 200	
Safe capacity: kg	103 x 213	105 x 212	105 x 212	105 x 212	103 x 203	105 x 212	105 x 210	105 x 210	105 x 210	
max. person weight: kg	200	200	200	200	220	220	220	220	220	
Height adjustment: cm	165	165	165	165	185	185	185	185	185	
max. indicated angel toward horizontal:	37 - 82,5	37 - 83 / 28,5 - 72,5	38 - 80	39 - 81 / 28,5 - 72,5	38 - 81	38 - 81	25 - 80	25 - 80	25 - 80	
Back bar										
- Foot bar	70°	70°	70°	70°	70°	70°	70°	70°	70°	
- Trenderburg-Position (optional)	20°	20°	20°	20°	20°	20°	20°	20°	20°	
Side rail height with wooden slats: cm	not pos.	not pos.	not pos.	not pos.	15°	15°	15°	15°	15°	
Possible side rail solutions:	39	40	40	40	39 / 40	40	40	40	39	
- Continuous wooden/steel side rails	•	•	•	•	•	•	•	•	•	
- Splitted telescopic wooden side rails	not pos.	•	•	•	•	•	•	•	•	
- Plug-in/plug-on wooden side rails	not pos.	not pos.	not pos.	not pos.	not pos.	not pos.	not pos.	•	not pos.	
Lifter space: cm	15	15	15	15	15	15	15	15	15	
Sound level: dB(A)	< 65	< 65	< 20	< 65	< 65	< 65	< 65	< 65	< 65	
Weights:										
Total weight incl. continuous wooden side rails: kg	98	109	110	116	80	147	147	157	157	
Lying surface: kg	38	42	42	42	38	50	50	50	50	
Base: kg	37	37 / 39	39	45	42	53	53	53	53	
Wooden end panels: kg	12	10	10	10	10	12,5	12,5	12,5	12,5	
Continuous wooden side rails : kg/set	11,5	11,5	11,5	11,5	11,5	11,5	11,5	not pos.	11,5	
Continuous steel side rails : kg/set	15,8	15,8	15,8	15,8	15,8	15,8	15,8	not pos.	15,8	
Telescopic wooden side rails: kg/set	not pos.	18	18	18	18	18	18	not pos.	not pos.	
Plug in/plug- on wooden side rails: kg/set	not pos.	not pos.	not pos.	not pos.	not pos.	not pos.	not pos.	22	not pos.	
Special dimension: Length: cm	180 - 220	180 - 220	180 - 220	180 - 220	190 - 220	190 - 220	200 - 220	200 - 220	200 - 220	
Special dimension: Width: cm	80 - 140	80 - 140	80 - 140	n.möglich	80 - 140	90 - 120	90 - 120	90 - 120	90 - 120	
Elektrische Daten										
Input voltage : V	230	230		230	230	230	230	230	230	
Frequency: Hz	50	50		50	50	50	50	50	50	
max.current consumption: A	2	2		2	2	2	2	2	2	
Input voltage : V	100-240	100-240		100-240	100-240	100-240	100-240	100-240	100-240	
Frequency: Hz	50/60	50/60		50/60	50/60	50/60	50/60	50/60	50/60	
max.current consumption: A	2,1	2,1		2,1	2,1	2,1	2,1	2,1	2,1	
Hersteller										
Hersteller	belluno	livorno / livorno low	livorno hydraulic	verona / verona low	combiflex / combiflex.fc	practico	practico 25/80	practico comfort	practico economic	
Hersteller	90 x 200	90 x 200	90 x 200	90 x 200	90 x 200	90 x 200	90 x 200	90 x 200	90 x 200	
Hersteller	103 x 213	105 x 212	105 x 212	105 x 212	103 x 203	105 x 212	105 x 210	105 x 210	105 x 210	
Hersteller	200	200	200	200	220	220	220	220	220	
Hersteller	165	165	165	165	185	185	185	185	185	
Hersteller	37 - 82,5	37 - 83 / 28,5 - 72,5	38 - 80	39 - 81 / 28,5 - 72,5	38 - 81	38 - 81	25 - 80	25 - 80	25 - 80	
Hersteller	70°	70°	70°	70°	70°	70°	70°	70°	70°	
Hersteller	20°	20°	20°	20°	20°	20°	20°	20°	20°	
Hersteller	not pos.	not pos.	not pos.	not pos.	15°	15°	15°	15°	15°	
Hersteller	39	40	40	40	39 / 40	40	40	40	39	
Hersteller	•	•	•	•	•	•	•	•	•	
Hersteller	not pos.	•	•	•	•	•	•	•	•	
Hersteller	not pos.	not pos.	not pos.	not pos.	not pos.	not pos.	not pos.	•	not pos.	
Hersteller	15	15	15	15	15	15	15	15	15	
Hersteller	< 65	< 65	< 20	< 65	< 65	< 65	< 65	< 65	< 65	
Hersteller	98	109	110	116	80	147	147	157	157	
Hersteller	38	42	42	42	38	50	50	50	50	
Hersteller	37	37 / 39	39	45	42	53	53	53	53	
Hersteller	12	10	10	10	10	12,5	12,5	12,5	12,5	
Hersteller	11,5	11,5	11,5	11,5	11,5	11,5	11,5	not pos.	11,5	
Hersteller	15,8	15,8	15,8	15,8	15,8	15,8	15,8	not pos.	15,8	
Hersteller	not pos.	18	18	18	18	18	18	not pos.	not pos.	
Hersteller	not pos.	not pos.	not pos.	not pos.	not pos.	not pos.	not pos.	22	not pos.	
Hersteller	180 - 220	180 - 220	180 - 220	180 - 220	190 - 220	190 - 220	200 - 220	200 - 220	200 - 220	
Hersteller	80 - 140	80 - 140	80 - 140	n.möglich	80 - 140	90 - 120	90 - 120	90 - 120	90 - 120	
Hersteller	230	230		230	230	230	230	230	230	
Hersteller	50	50		50	50	50	50	50	50	
Hersteller	2	2		2	2	2	2	2	2	
Hersteller	100-240	100-240		100-240	100-240	100-240	100-240	100-240	100-240	
Hersteller	50/60	50/60		50/60	50/60	50/60	50/60	50/60	50/60	
Hersteller	2,1	2,1		2,1	2,1	2,1	2,1	2,1	2,1	



## 5.2 belluno

belluno is the classic model when it comes to the daily use in rehabilitation- and medical facilities, as well as with respect to care at home. belluno provides persons in need of care, invalid and disabled persons with a high degree of lying comfort, while the nursing staff benefits from the advantages given with respect to the care of the care-dependent person at the same time.

- > belluno is not suitable for the use in hospitals.
- > belluno is suited for the transport of the patient. The nursing care bed is moveable while the patient is inside. To prepare the transport, fasten the castors; bring the nursing care bed into the lowest, horizontal position. Than unfasten the castors and move the bed. After the transport fasten the castors.
- > belluno is suitable for persons up from twelve years and a body height of 150 cm.
- > Under certain circumstances, belluno can (if required) be used in combination with medical purposes and other electrical medical devices (e.g. draining devices, ultra-sound nebulizers, nutrition systems, anti-decubitus systems, oxygen concentrators, etc.). In this case, it would be necessary, to deactivate all bed functions by means of the integrated locking device, until the treatment is completed.

**Important:** The beds are not equipped with any particular connections that provide for a potential equalization. Electrical medical devices connected to the patient's intravascular or intracar-

diac system must not be used. The operator of the medical device shall be responsible for the conformity of the combination of the devices with the requirements of DIN EN 60601-1:2006.

### **Particular features**

belluno offers modern and reliable technique combined with easy operations of different functions.

belluno is optionally available with a lying surface which provides both 4 or 5 different adjustment functions. The electrical adjustment of the lying surface's back rest can be done by means of the hand control. In case of the 4- resp. 5-sectioned lying surface, the electrical control of the back- and leg part takes place by means of the hand control including its automatic tripple function.



### **Getting belluno ready for use**

Please remove all packaging leftovers from the health care bed before carrying out the assembly.

1. Remove all connections toward the transport packaging.
2. Position the base with its scissors and lock the castors.
3. When mounting the divided lying surface, please see to it, that the scissors are adjusted to knee height, which can be done by means of the lying surface motor. Then position the head part of the lying surface element onto the ball bearings and mount the foot part of the lying surface using the bolts. Use the spring cotter pin to avoid any unintended release of the bolts. Put both lying surface elements together and fasten them with the previously removed bolts on both sides using an allen key. Now, mount the drive in accordance with the specifications (head- and foot part) and lock it.
4. When mounting the unpartitioned lying surface, just insert the ball bearings positioned at the top section of the scissors into the provided u-channel at the bottom section of the lying surface. Now remove the spring cotter pin from the base frame. Use the bolt to adjust the lying surface between the two brackets. Use the spring cotter pin to protect the bolts against unfastening.



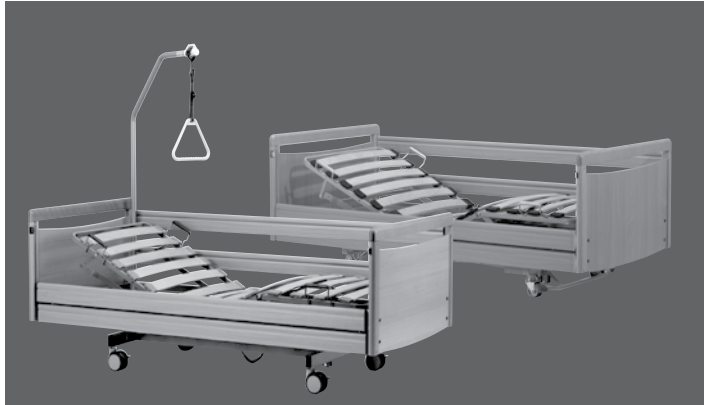
5. The net cable has to be fastened to the lying surface with the provided pull relief. Connect the mains plug and the actuators to the lying surface motor.
6. Insert an end panel on one side completely. The clip-system has to lock in place with the drillings on the lying surface. Insert the second end panel only right before the clip-system.
7. Then push the side rails into the pre-assembled metal guide ways and adjust them.

IMPORTANT: Make sure to read the labels attached on the top and bottom of the side rails' end caps, as these must not be confounded with each other.

8. Push the release button and slide it into the foot end panel until it clicks into place with the provided drilling.
9. After the assembly process resp. prior to the initial operation of bed, it will be necessary to run the adjustment area of the lying surface using the hand control, in order to check for the ideal positioning of the cables. The adjustment area must be accessible without any obstacles.

belluno is now ready for use!





## 5.3 livorno / livorno low / livorno hydraulic

### Purpose

livorno, livorno low and livorno hydraulic have been especially designed to meet the requirements of daily use in rehabilitation- and medical facilities or for care at home. Their purpose is to provide care-dependent, invalid and disabled persons with an especially home-like, comfortable environment, as well as to facilitate the care process.

- > livorno, livorno low and livorno hydraulic are not suitable for the use in hospitals.
- > livorno, livorno low and livorno hydraulic are suited for the transport of the patient. The nursing care bed is moveable while the patient is inside. To prepare the transport, fasten the castors; bring the nursing care bed into the lowest, horizontal position. Then unfasten the castors and move the bed. After the transport fasten the castors.
- > livorno, livorno low and livorno hydraulic are suitable for persons up from twelve years and a body height of 150 cm.
- > Under certain circumstances, livorno, livorno low and livorno hydraulic can (if required) be used in combination with medical purposes and other electrical medical devices (e.g. draining devices, ultrasound nebulizers, nutrition systems, antidecubitus systems, oxygen concentrators, etc.). In this case, it would be necessary, to deactivate all bed functions by means of the integrated locking device, until the treatment is completed.

Important: The beds are not equipped with any particular connections that provide for a potential equalization. Electrical medical devices connected to the patient's intravascular or intracardiac system must not be used. The operator of the medical device shall be responsible for the conformity of the combination of the devices with the requirements of DIN EN 60601-1-1.

### Particular features:

livorno, livorno low and livorno hydraulic stand out for their advanced technology and can be perfectly integrated into home environments owing to the vast offer of decoration elements. The beds are available with a lying surface which provides both 4 or 5 different adjustment functions. The electrical adjustment of the lying surface's back rest can be done by means of the hand control. In case of the 4- resp. 5-sectioned lying surface, the electrical control of the back- and leg part takes place by means of the hand control including its automatic triple function.

Getting livorno / livorno low / livorno hydraulic ready for use:  
Please remove all packaging from the health care bed before carrying out the assembly.

1. Remove all connections toward the transport packaging
2. Position the base frame including its scissor mechanism and lock the castors. For simplification reasons, it is recommended to adjust the scissors to knee-height after you have connected to the lying surface motor.
3. When mounting the unpartitioned lying surface, just insert the ball bearings positioned at the top section of the scissors into the provided u-channel at the bottom section of the lying surface. Now remove the spring cotter pin from the base frame. Use the bolt to adjust the lying surface between the two brackets. Use the spring cotter pin to protect the bolts against unfastening.
4. The net cable has to be fastened to the lying surface with the provided pull relief. Connect the mains plug and the actuators to the lying surface motor
5. Mount the side panneling of the frame with the provided screws on the longitudinal lying surface frame bar.

The livorno hydraulic is to be assembled in the same way, only without the electronic equipment.  
Further mounting steps as described in chapter 5.7.





## 5.4 verona / verona low

verona and verona low have been especially designed to meet the requirements of daily use in rehabilitation- and medical facilities or for home care. Their purpose is to provide care-dependent, invalid and disabled persons with an especially home-like, comfortable environment, as well as to facilitate the care process.

- > verona and verona low are not suitable for the use in hospitals.
- > verona and verona low are not suitable for the transport of patients. The beds are simply defined for the moving inside the patient's room, e.g. for cleaning or access to the patient.
- > verona and verona low are suitable for persons up from twelve years and a body height of 150 cm.
- > Under certain circumstances, verona and verona low can (if required) be used in combination with medical purposes and other electrical medical devices (e.g. draining devices, ultrasound nebulizers, nutrition systems, anti-decubitus systems, oxygen concentrators, etc.). In this case, it would be necessary, to deactivate all bed functions by means of the integrated locking device, until the treatment is completed.

### \* Bock Hazard Note

The side panneling of the lying surface frame are essential for the correct side rail distance.

The beds are not to be operated without the side panneling.

This is not valid for bed models with lower installed end panels and a corresponding deeper side rail bar.

Important: The beds are not equipped with any particular connections that provide for a potential equalization. Electrical medical devices connected to the patient's intravascular or intracardiac system must not be used. The operator of the medical device shall be responsible for the conformity of the combination of the devices with the requirements of DIN EN 60601-1-1. Particular features verona and verona low stand out for their advanced technology



and can be perfectly integrated into home environments owing to the vast offer of decoration elements.

The beds are available with a lying surface which provides both 4 or 5 different adjustment functions. The electrical adjustment of the lying surface's back rest can be done by means of the hand control. In case of the 4- resp. 5-sectioned lying surface, the electrical control of the back- and leg part takes place by means of the hand control including its automatic triple function.

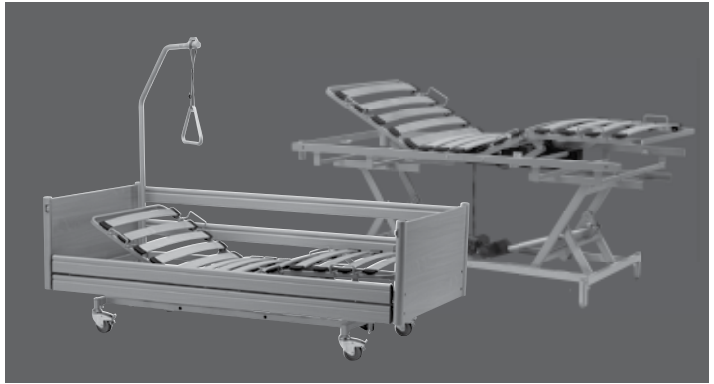
### Getting verona and verona low ready for use

Please remove all packaging from the bed before carrying out the assembly.

1. Remove all connections toward the transport packaging.
2. Position the base frame including its scissor mechanism and lock the castors. For simplification reasons, it is recommended to adjust the scissors to knee-height after you have connected to the lying surface drive.
3. When mounting the unpartitioned lying surface, just insert the ball bearings positioned at the top section of the scissors into the provided u-channel at the bottom section of the lying surface. Now remove the spring cotter pin from the base frame. Use the bolt to adjust the lying surface between the two brackets. Use the spring cotter pin to protect the bolts against unfastening.
4. The net cable has to be fastened to the lying surface with the provided pull relief. Connect the mains plug and the actuators to the lying surface motor.
5. Mount the side paneling of the frame with the provided screws on the longitudinal lying surface frame bar.



Further mounting steps as described in chapter 5.7.



## 5.5 combiflex / combiflex.fc

The model combiflex /combiflex fc has been especially designed to meet the requirements of daily use in rehabilitation- and medical facilities or for home care. Their purpose is to provide care-dependent, invalid and disabled persons with an especially home-like, comfortable environment, as well as to facilitate the care process.

- > combiflex is not suitable for the use in hospitals.
- > Provided that the nursing care bed is equipped with feet, it is suited for the transport of the patient. The nursing care bed is moveable while the patient is inside. To prepare the transport, fasten the castors; bring the nursing care bed into the lowest, horizontal position. Than unfasten the castors and move the bed. After the transport fasten the castors.
- > combiflex is suitable for persons up from twelve years and a body height of 150 cm.
- > Under certain circumstances, combiflex can (if required) be used in combination with medical products and other electrical medical devices (e.g. draining devices, ultrasound nebulizers, nutrition systems, anti-decubitus systems, oxygen concentrators, etc.). In this case, it would be necessary, to deactivate all bed functions by means of the integrated locking device, until the treatment is completed.

Important: The beds are not equipped with any particular connections that provide for a potential equalization. Electrical medical devices connected to the patient's intravascular or intracardiac system must not be used. The operator of the medical device shall be responsible for the conformity of the combination of the devices with the requirements of DIN EN 60601-1-1.

## Particular features

The combiflex offers established and modern technique with automatic profiling of the lying surface for the use at home. If needed all possible lying surface adjustment up to a comfort-sitting position can be adjusted individually.

Due to its extremely low construction the combiflex bed-in-bed system can be installed in nearly all existing bed frames. It offers a high degree of individuality.

The combiflex nursing care bed is available with the Trendelenburg function via hand control.

## Getting combiflex ready for use

Please remove all packaging leftovers before carrying out the assembly.

1. Release the ties from the packaging.
2. Put up both parts of the base frame. (Fig. 1).
3. Put together both halves of the base frame, but do not bolt them together completely. (Fig. 2)

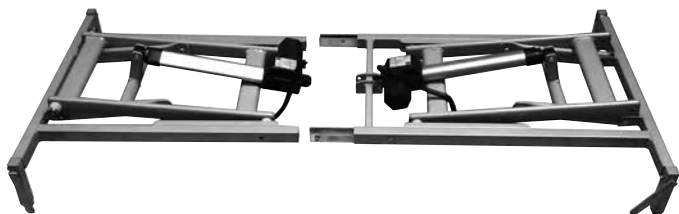


Fig. 1

4. Mount the lifting motor, insert the bolt and fix the protection cotter pin (Fig. 3 and 4)
5. Now, telescope both halves of the base frame completely and fasten them. (Fig. 5)
6. Put together both halves of the lying surface and fasten them with the provided bolts.



Fig. 2



Fig. 3



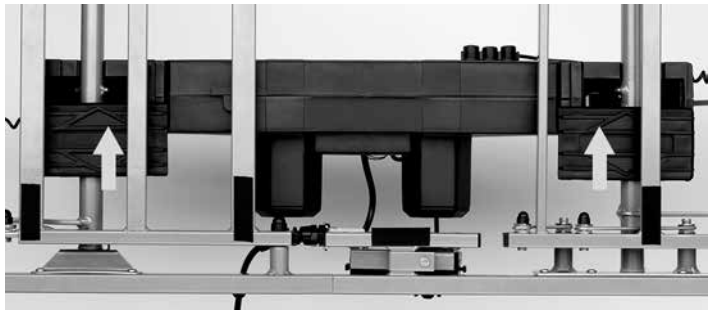
Fig. 4



Fig. 5

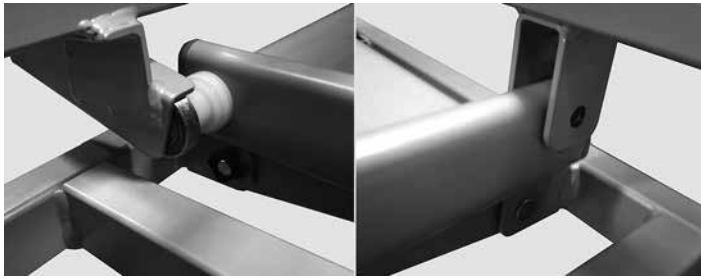


7. Hang the lying surface motor on the provided lifting elements of the lying surface. Fix it with the holding sheets (Fig.7). Make sure that the holding sheets are pushed through to the end stop.



*Fig. 7*

8. Connect the lying surface with the base frame in such a way, that the ball bearing of the top section of the base frame fits right into the u-channel at the bottom side of the lying surface. (Fig. 8).

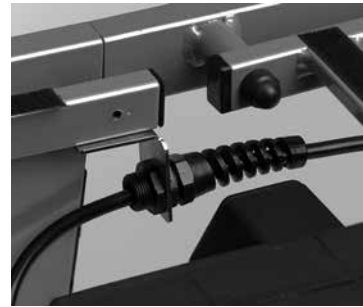


*Fig. 8*



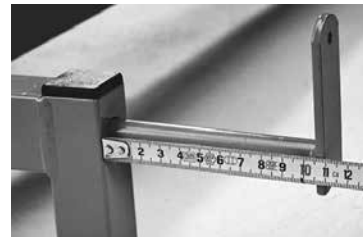
*Fig. 9*

9. Afterwards fix it with the provided bolts and secure with the protection sheet (Fig. 9).
10. The net cable has to be fastened to the lying surface with the provided pull relief (Fig. 10).
11. Connect the actuator accordingly to the main motor underneath the lying surface.
12. After the assembly, resp. before the operation of the bed, adjust the lying surface by the hand control, in order to controll the ideal positioning of the cable. The adjustment area has to be without obstacles and the hand control has to be accessible.



*Fig. 10*

**Further mounting steps as deccribed in chapter 5.7.**



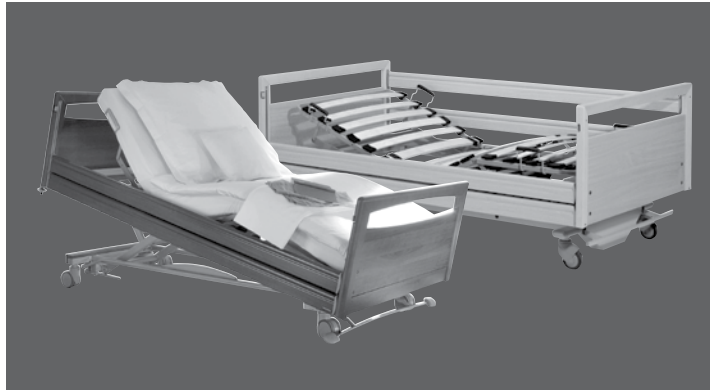
*Fig. 11*



*Fig. 12*

#### \* Bock Top Advice

Bed models with covered castors are not suitable for the patient's transport. The beds are simply defined for the moving inside the patient's room, e.g. for cleaning or access to the patient.



## 5.6 practico / practico 25/80 / practico comfort / practico economic

practico, practico 25/80, practico comfort and practico economic have been especially designed to meet the requirements of daily use in rehabilitation- and medical facilities or for home care. Their purpose is to provide care-dependent, invalid and disabled persons with an especially home-like, comfortable environment, as well as to facilitate the care process.

- > practico, practico 25/80, practico comfort and practico economic are not suitable for the use in hospitals.
- > Provided that the practico nursing care bed models are equipped with visible castors, the nursing care beds are suited for the transport of the patient. The nursing care bed is moveable while the patient is inside. To prepare the transport, fasten the castors; bring the nursing care bed into the lowest, horizontal position. Then unfasten the castors and move the bed. After the transport fasten the castors. In case that the nursing care bed is equipped with covered castors, it is only destined to be moved inside the patient's room, for cleaning and access to the patient.
- > practico, practico 25/80 , practico comfort and practico economic are suitable for persons up from twelve years and a body height of 150 cm.
- > Under certain circumstances, practico, practico 25/80 , practico comfort and practico economic can (if required) be used in combination with medical purposes and other electrical medical devices (e.g. draining devices, ultra-sound nebulizers, nutrition systems, anti-decubitus sys-

tems, oxygen concentrators, etc.). In this case, it would be necessary, to deactivate all bed functions by means of the integrated locking device, until the treatment is completed.

**Important:** The beds are not equipped with any particular connections that provide for a potential equalization. Electrical medical devices connected to the patient's intravascular or intracardiac system must not be used. The operator of the medical device shall be responsible for the conformity of the combination of the devices with the requirements of DIN EN 60601-1-1.

### Particular features:

The advanced lifting technology installed under the lying surface makes these beds stand out with an elegant design. This design includes the whole spectrum of technical comfort. The adjustment functions of the lying surface allow for virtually every position – even the sitting position is no problem.

The model equipped with a central braking is also available without covered castors. The object beds of the practico series are as well available with splitted as continuous wooden side rails, end panels for the head- and foot end. The lying surface of the model practico is available with a 4 section lying surface. The electrical adjustment of the back and leg rest can be easily made by means of an automatic triple function.

The health bed practico is optionally available including a Trendelenburg function or a comfort seating position.

### Assembly of the bed

Please remove all packaging from the health care bed before carrying out the assembly.

1. Remove all connections toward the transport packaging
2. Position the base with its locked castors and bring it into the uppest position.
3. When mounting the unpartitioned lying surface, just insert the ball bearings positioned at the top section of the scissors into the provided u-channel at the bottom section of the lying surface. Now remove the spring cotter pin from the base frame. Use the bolt to adjust the lying surface between the two brackets. Use the spring cotter pin to protect the bolts against unfastening.
4. The net cable has to be fastened to the lying surface with the provided pull relief.
5. Connect the mains plug and the actuator with the main motor and bring the lying surface to its uppest position.

### > Back Top Advice

Bock supports you with a checklist in accordance with DIN EN 62353 (included to this user's manual). This is time saving and gives you the needed certainty for a thorough carry out of the maintenance.

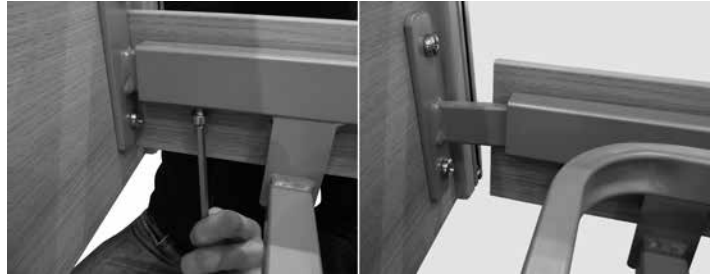
6. Mount the side panneling of the frame with the provided screws on the longitudinal lying surface frame bar (this is not valid for the practico economic).

Further mounting steps as decribed in chapter 5.7.

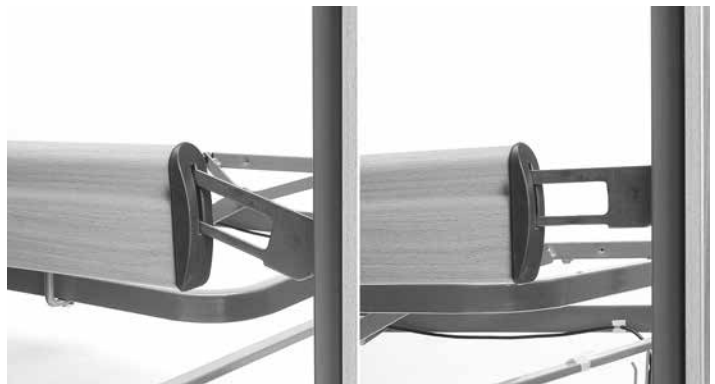
## 5.7 Assembly of the side rails

### Assembly of the continuous side rails

The head end panel has to be pushed through to the end stop and fastened. Than push the second end panel straight in front of the drilling holes.



Hook up the side rails into the pre-assembled metal guide bars. **IMPORTANT:** Ensure to follow the labeling on the side rail end caps with top and button side rail. The side rails must not be mixed up.



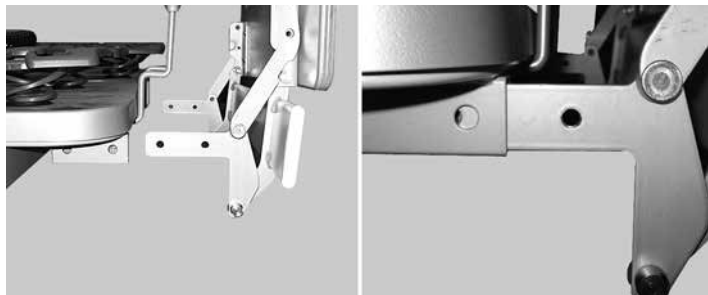
### *Assembly of the side rails*

Mount the second end panel completely and fasten it.



### Assembly of the splitted plug-in side rails

Assemble both end panels completely and fasten them. Take the splitted side rail and push it from the side into the provided guides on the lying surface frame. Fasten it with the delivered screws. Ensure that the side rails are mounted on the correct spot. Assembly the other side rails the same way.



### Assembly of the splitted plug- on side rails

Assemble both end panels completely and fasten them. Take the splitted side rail and push it from above onto the provided guides on the lying surface frame. Fasten it with the provided screws. Lower the side rail in order to reach the screws easier.

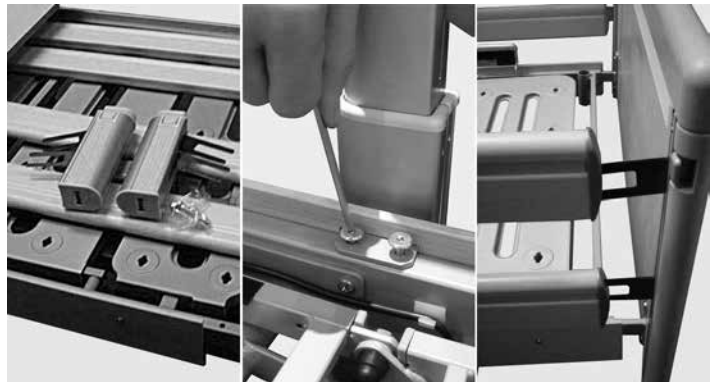


## Mounting of the splitted telescopic side rails

With this side rail version, the end panels should not be assembled completely. Both end panels should only be brought into place but not be fastened with the screws.

Take the side paneling of the lying surface frame and screw it to the provided drilling holes (Fig. 1).

Push the U-profile of the telescopic middle bar onto the frame. The holes of the middle bar and the lying surface frame have to be on top of each other. Fasten the provided screws from above (Fig. 2).



*Fig. 1*

*Fig. 2*

*Fig. 3*

Take the side rail bars and hook them on the metal guides on each side. Ensure to follow the labeling with top and bottom side rails on the side rail end caps.

When the side rails are in the correct position assemble the end panels correctly and fasten them. The side rails are now ready for use (Fig. 3).

After the assembly of the bed or before using it, the lying surface should be adjusted, in order to check the correct position of the cables. The adjustment area has to be without obstacles.

The net cable has to be placed outside of the bed and the hand control must be accessible.

Your nursing care bed is now ready for use!

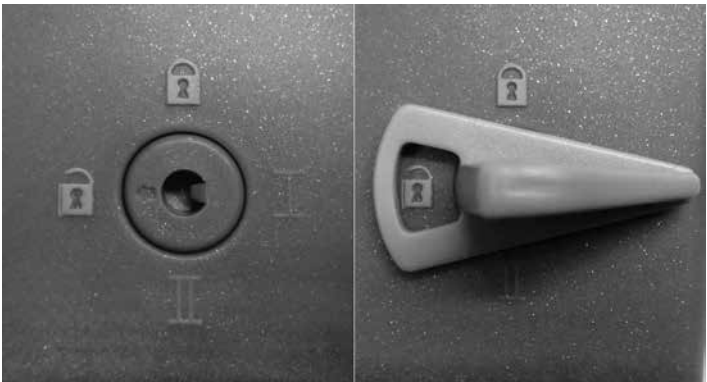
5.8 Control

The electrical adjustments are made by means of the hand control. The following functions can be enabled via a push onto the corresponding button of the hand control.



- |                  |                    |
|------------------|--------------------|
| Control button 1 | Back bar up        |
| Control button 2 | Back bar down      |
| Control button 3 | Foot bar up        |
| Control button 4 | Foot bar down      |
| Control button 5 | Lying surface up   |
| Control button 6 | Lying surface down |

Moreover, the hand control is equipped with a locking device, which can be enabled by means of the associated key. In order to lock all of the electrical functions, just insert the key into the locking gate positioned on the back side and en- or disable the locking function.



Key for the locking device

- |  |                                     |
|--|-------------------------------------|
| Switch setting 1   | Hand control functions active       |
| Switch setting 2 & 4   | Hand control functions inactive     |
| Switch setting 3   | Hand control functions 1 – 8 active |
| Low head function of buttons 9 and 10: Head down function active |                                     |

### Hand control with special functions

The ergonomic designed hand control can be operated via a touch with the finger on the extra large buttons. Each button is labeled with corresponding symbols. The actuators are operating as long as the button is pushed. A spiral cable offers the necessary freedom of movement.

### Hand control practico with Trendelenburg function (fig. 1)

Control button 1	Back bar up
Control button 2	Back bar down
Control button 3	Foot bar up
Control button 4	Foot bar down
Control button 5	Auto contour up
Control button 6	Auto contour down
Control button 7	Lying surface up
Control button 8	Lying surface down
Control button 9	Anti-Trendelenburg
Control button 10	Trendelenburg

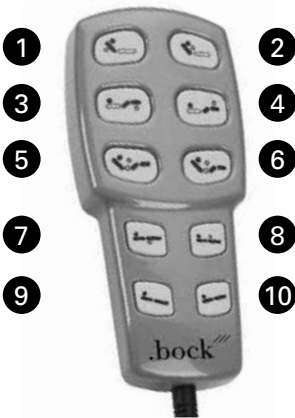


Fig. 1: hand control with Trendelenburg

### Hand control practico with comfort sitting position (Fig. 2)

Control button 1	Back bar up
Control button 2	Back bar down
Control button 3	Foot bar up
Control button 4	Foot bar down
Control button 5	Auto contour up
Control button 6	Auto contour down
Control button 7	Lying surface up
Control button 8	Lying surface down
Control button 9	Comfort-sitting position up
Control button 10	Comfort-sitting position down



Fig. 2: hand control with comfort sitting position

By exchanging the hand control special functions can be easily installed, without exchanging further components. The hand control of the two different motor suppliers are not compatible.

ATTENTION: The head down function (Trendelenburg) is only allowed to be carried out by authorized experts.

### Hand control for practico with ICS-drive and head-down function (Fig. 3)

Control button 1	Back bar up
Control button 2	Back bar down
Control button 3	Foot bar up
Control button 4	Foot bar down
Control button 5	Auto contour up
Control button 6	Auto contour down
Control button 7	Lying surface up
Control button 8	Lying surface down
Control button 9	Comfort-sitting position up*
Control button 10	Head down function
Control button 11	Bed lamp underneath lying surface on/off

Push the buttons 5 and 6 simultaneously: Reset function

*\* Remark:*

*Pushing button 9 will merely enable the comfort seat position – up. All of those positions, which have been configured individually, need be adjusted separately.*

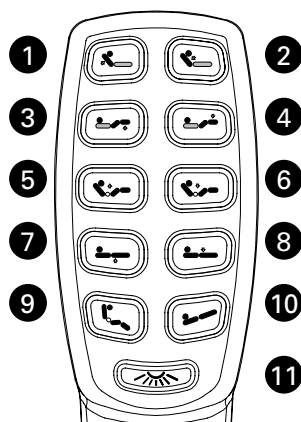


Fig. 3: Hand control for beds with ICS-drive

### Hand control for practico with ICS drive and low beds (Fig. 4)

Control button 1	Back bar up
Control button 2	Back bar down
Control button 3	Foot bar up
Control button 4	Foot bar down
Control button 5	Auto contour up
Control button 6	Auto contour down
Control button 7	Lying surface up
Control button 8	Lying surface down
Control button 9	Comfort-sitting position up*
Control button 10	Enabling low function
Control button 11	Bed lamp underneath lying surface on/off

Push the buttons 5 and 6 simultaneously: Reset function

*\* Remark:*

*Pushing button 9 will merely enable the comfort seat position – up. All of those positions, which have been configured individually, need be adjusted separately.*

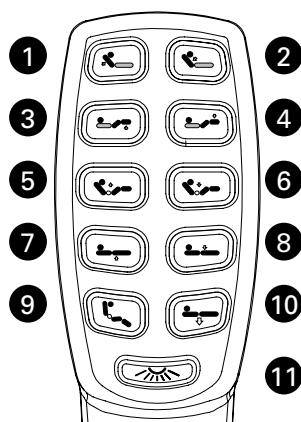


Fig. 4: Hand control for low beds with ICS-drive

Moreover, the hand control is equipped with a locking device, which can be enabled by means of the associated key. In order to lock all of the electrical functions, just insert the key into the locking gate positioned on the back side and en- or disable the locking function.

### Hand control limoss

Function button 1	Head rest up
Function button 2	Head rest down
Function button 3	Foot part up
Function button 4	Foot part down
Function button 5	Lying surface up
Function button 6	Lying surface down
Function button 7	Anti-Trendelenburg
Function button 8	Trendelenburg
Function button 9	Comfort-sitting position
Function button 10	Release of the low function

### \* Bock Hazard Note

The motors fulfill the IPX 4 requirements. The cables should not be crushed. The adjustment of the movable parts must be used for the intended purpose only. Hermann Bock GmbH assumes no liability for damages, occurred by unauthorized technical modifications..

### 5.9 Relocation/ Repositioning

In case, the bed is supposed to be moved to another place, please make sure to observe the following safety instructions:

- bring the lying surface to the lowest position.
- Disconnect the mains plug and put it into the hook-up appliance at the wooden side rail, in order to prevent the mains power cable from dropping down and getting rolled over. Please make sure, that the cable is not dragged across the floor.
- Disconnect the 9 V battery. If it should be used again, please re-connect it to the Ilco Flexx 581.
- Before connecting the mains plug, check the net cable for visual and mechanical damages (kinks, marks, open wires).
- Position the mains cable in such a way, that it cannot be torn, rolled over, or damaged due to moveable parts of the bed, before reconnecting the power plug.

5.10 Transport- and storage conditions

	Transport and storage	Operation
Temperature	0°C bis +40°C	10°C bis 40°C
Relativ humidity	20% up to 80%	20% up to 70%
Barometric pressure	800hPa up to 1060hPa	

5.11 Information on the functionality

In order to fix the bed into one location the castors on the base have to be locked. This is done by bringing the trip lever on the base (Fig.1)with the feet to the button.  
If needed the integrated side rails have to be brought to the uppest position (look chaper 3). The lowering of the side rails is to be done as described in chapter 3.2.

With different mattress thicknesses, the minimum height must not be below 22 cm, taken from the upper edge of the side rail above the mattress excl. compression (besides, it is recommended to mount a third plug-in railing).

5.12 Disposal

Each of the components made of plastics, metal, and wood are recyclable and can be disposed in compliance with the relevant legal provisions. Please keep in mind, that electrically adjustable health care beds are considered to meet the requirements of the WEEE-EG standard 2002/96/EG, i.e. industrially used electrical waste. All electrical and electronical components, which have been replaced have to be treated and disposed in line with the requirements of the Act for electrical- and electronic devices (briefly Electro-A).

\* Bock Hazard Note

Never try to repair any defects or malfunctions in the electrical equipment on your own. Your life may be threatened! Please contact either the customer support of Hermann Bock or authorized specialist dealers for electronic devices, as these experts will perform the repair in compliance with all relevant VDE-directives and safety regulations.

The bed has to be cleaned and disinfected before using it for another person. Do also make a visual inspection so that possible damages are detected early. Learn more about this in the safety guidelines set out in chapter 8 of this assembly manual.

## 5.13 Troubleshooting

This overview helps you to detect and correct malfunctions on your own and explains, what kind of malfunctions require the consultation of experts.

Fault	Possible cause	Corrective
Hand control does not work	Mains cable is not plugged in	Plug in mains cable
	Wall socket without power	Check wall socket or fuse box
	The hand control is not plugged in correctly	Check the connection of the cables to the motor
	Faulty hand control or motor	Inform the operator or customer support of H. Bock GmbH
	Mains isolation not activated	Enable the mains isolation by pushing the green button, in addition to this, it is recommended to check the 9-V battery.
	The locking appliance or locking box of the hand control is activated.	Deactivate the locking appliance or locking box of the hand control.
Drives stop after a short time upon button actuation.	There is an obstacle in the adjustment area.	Remove the obstacle.
	The maximum safe capacity has been exceeded	Reduce the work load.
Drives stop upon long adjustment response	The adjustment time or max. tolerated work load has been exceeded and the polyswitch in the transformer has responded to the increased heat	Allow the drive system to cool down, wait at least a minute before continuing the operation.
Opposing functions while operating the hand control	The motor cables have been mixed up	Inform the operator or customer support of H. Bock GmbH
Several drives move only in one direction	Defective hand control, drive, or control device	Inform the operator or customer support of H. Bock GmbH
Drives stop and bed remains in inclined position	Constant operation of the adjustment functions	Put the lying surface to the lowest position in order to realign it horizontally, activate the locking device of the hand control.



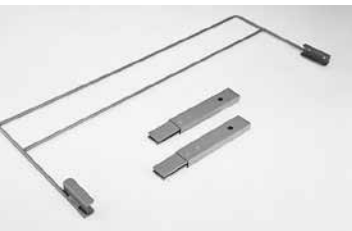


### \* Bock Hazard Note

For safety reasons only use original Hermann Bock accessories for the corresponding bed models. A detailed overview can be found on a separate data sheet. Hermann Bock does not assume any reliability for accidents, damages or risk caused by a third party accessory!

### > Bock Top Advice

Of course the assembly of the bed extension can be done by the Hermann Bock service team. In general Hermann Bock recommends the use of mattresses in accordance with DIN EN 597, inflammable material.



## 6. Accessories

As it is our goal to satisfy every need of our customers, Hermann Bock offers a wide range of practical and mobility-promoting accessories, so that each health bed can be exactly customized to the individual needs of the care recipient. The assembly is done in a quick and easy manner using the fixing points on the beds that have already been prepared for this purpose. It goes without saying, that every element of our additional accessories meets the special quality and safety standards of Bock. The bed extensions available for lengths of up to 220 cm makes it also possible for tall people to benefit from the high lying comfort with equal functionality. In addition to the standard equipment included in the delivery as basic equipment, you can also choose from our variety of accessories, which is available for each bed model. This optional accessory varies depending on the bed model and is fitted to its special functions and place of use. The range stretches from technical elements over mattresses up to the occasional extra bed. A wide offer of wooden colours and a variety of colours allow for the harmonious integration of each health bed with any kind of furniture.

### 6.1 Special dimensions

Special dimensions are an essential part of the manufacture at Hermann Bock.

Ideal lying comforts for persons in need of care who have a particular physique can only be achieved by means of custom-built models. With its customized models, Hermann Bock enables customers to have their health bed tailored to fit the individually physical constitution of the person in need of care.

For body heights up from 190 cm, Hermann Bock recommends the employment of a bed extension that allows an extension of the lying surface to a length of up to 220 cm. That way, the high lying comfort can also be ensured for tall persons, and, of course the functionality remains the same.

### 6.2 Assembly – Bed extensions (therapy beds)

The scope of delivery consists of:

- 2 Adapter units for left and right foot part
- 1 wire bracket for the foot part
- 1 set of side rails
- Fixation screws

How to carry out the easy assembly:

1. Take off the mattress from lying surface.
2. Remove foot end panel.
3. Plug adapter units into the frame of the lying surface at the foot end and fasten with screws.
4. Put wire bracket into the frame of the lying surface, drill holes ( $d = 4.2 \text{ mm}$ ) and fasten with screws.
5. Do not slide the foot end panel further than shortly before the release button.
6. **IMPORTANT:** Make sure to read the labels attached on the top and bottom of the side rails' end caps, as these must not be confounded with each other.
7. Then hook the side rails into the pre-assembled metal guides.
8. Fasten the end panels correctly.



### Assembly – Bed extensions (Interior furnishing beds)

The scope of delivery consists of:

- 1 closing element for the lying surface incl. side panel extension
- 1 set of long side rails

#### Assembly:

1. Take off the mattress from the lying surface
2. Remove bolts from the foot end and pull out the extension, while at the same time removing the side rails.
3. Insert the closing element incl. the side panneling of the frame extension and fasten them.
4. Mount the side rails
5. Fasten the foot end panel

With the model practico comfort (Model with wing rails):

- 1 closing element for the lying surface (longer lashes 270 mm)



*Fig. 1*



*Readily mounted bed extension*

### \* Bock Hazard Note

The bedside use of accessories or medically necessary appliances, e.g. I.V.poles requires the nursing person's careful attention with regard to the avoidance of crush and shear zones to the care recipient when adjusting the back or leg rests.



Fig. 1



Fig. 2



Fig. 3

**Assembly practice comfort (Model with moving along side rails rails):**

1. Take off the mattress from the lying surface
2. Remove bolts from the foot end and pull out the extension
3. Insert the closing element incl. the side panneling of the frame extension and fasten them.
4. Fasten the foot end panel

### 6.3 Assembly- Accessories

The following standard equipment can be combined with the bed models:

#### Side rail attachment (Fig. 1)

Scope of delivery: side rail attachment, completely mounted

- Open the plastic cap, plug in the side rail attachment, position it into the middle and close the cap. Please make sure, that the release button of the side rail extension faces outwards.

*Important note:*

*The bock side rail extension has been designed for the use on all bock wooden side rail models. Company Bock assumes no liability for damages arising from the use in combination with third-party products*

#### Lifting pole with triangle grip, 6,5 kg (Fig. 2)

The safe capacity of the lifting pole amount to max. 75 kg.

Scope of delivery: 1 lifting pole 1 triangle grip

- Insert the lifting pole into the provided connector on the head end of the lying surface.
- The height adjustable area of the triangle grip is not allowed to fall below  $\leq 550$  mm up  $\geq 700$  mm, measured from top of the mattress (mattress height 100mm and 120 mm) to the bottom line of the horizontal grip.

**ATTENTION: Do not swing the lifting pole outside of the lying surface.**

Under normal use the triangle grip has a durability of at least five years. We refer to the safety, technical tests.

#### Side rail bumpers, 1,4 kg (Fig. 3)

Scope of delivery: 1 cover 1 bumper

- Open the zipper of the bumper and slip it over the side rail and close the zipper or velcro again

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

Scope of delivery:

- The tray is to be placed on the side rails and is secured against slipping by two distance holders

### Universal clamp, (0,6 kg)

Scope of delivery: 1 Clamp, 1 fastening ring

The universal clamp is a special holding appliance that provides more flexibility as basis element and allows for the flexible positioning of the modular functional equipment. It is optionally possible to attach quivers, fixtures for urine bottles, infusion systems or a lamp individually or together. Furthermore, the universal clamp can be shifted along the side rails according to preference or requirement.



*Universal clamp with: drainage holder, urine bottle holder, with flexible tube and hand set holder (from left to right)*

- The universal clamp is assembled to the top side rail and fastened with the mounting ring.

### > Bock Top Advice

Hermann Bock's staff on the service hotline is looking forward to informing you on the best retrofitting solution for your bed. Call us hotline: 0180.5262500. A wide product range of auxiliary furniture complements the various bed models up to the complete interior design of your home. This combination creates a care and living comfort resulting in a perfect harmony.



*Fig. 4*

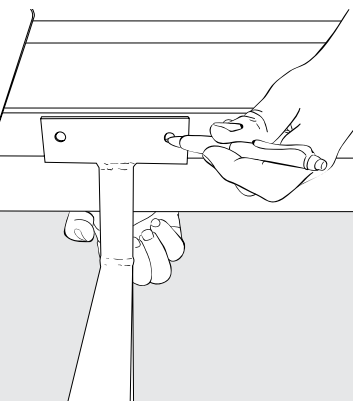


Fig. 1

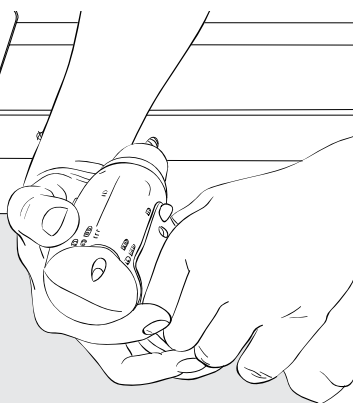


Fig. 2

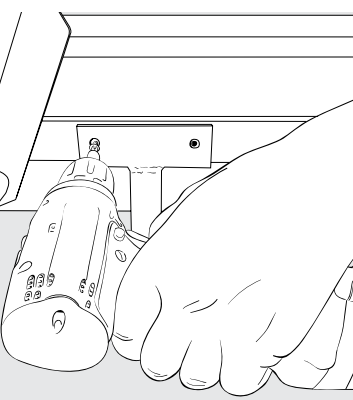
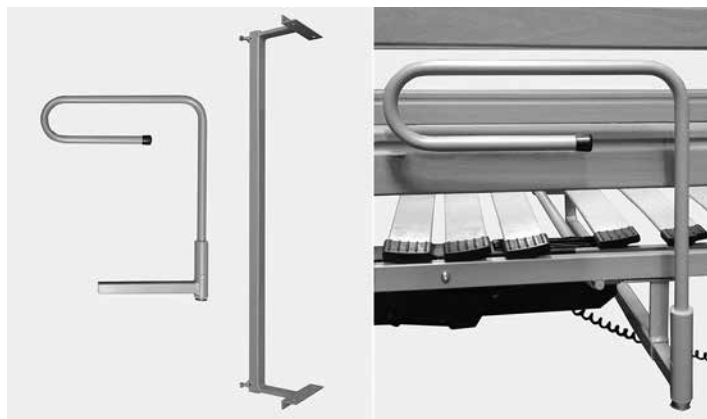


Fig. 3

## Assist handle with cross-bar for actuator beds, 3,0 kg

Scope of delivery: 1 Getting-up aid incl. 1 cross bar support, 4 bolts 4 mm



*Left side: Scope of delivery, right side: mounted getting-up aid*

- Put the cross-bar support to frame of the lying surface from the bottom up and mark the drill holes on the frame.(Fig. 1).
- Drill holes into the previously marked spots (3.5 mm) of the lying surface frame. (Fig 2)
- Use the provided bolts to fasten the cross-bar with the lying surface frame (Fig 3).
- Push the assist handle into the cross-bar bracket (Fig 4), adjust it to the desired position and fasten it. (Fig. 5).

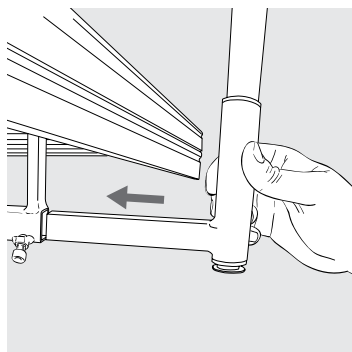


Fig. 4

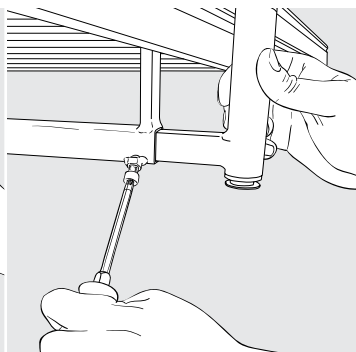


Fig. 5

## Assist handle with support bracket for scissors beds, 3.0 kg

Scope of delivery: 1 Getting-up aid incl. support bracket



- Loosen the four bolts from the support bracket.
- Put the sheets of the support bracket onto the cross-bar and fasten them.
- Push the assist handle into the support bracket, adjust it to the desired position and fasten it.

### 6.4 Mattresses

There are, in general foam and latex mattresses suitable for the Hermann Bock health beds. However, a volumetric weight of at least 35 kg/m<sup>3</sup> is required along with the dimensions of 90 x 190 cm, 100 x 190 cm, 90 x 200 cm and 100 x 200 cm. The height of the mattress which is allowed to be used:

with steel-, aluminium bars, wooden slats or ripoplan  
lying surface 15 cm (for interior furnishing beds 16 cm)

lying surfaces with a spring system 12 cm

If the height limit is exceeded, an additional side rail attachment is required which is available as additional equipment. When using foam mattresses, it is recommended to use a cut foam mattress pad to allow a better fitting with the lying surface.



### > Bock Top Advice

Scrapes and varnish chip-pings that go through the entire varnish coating should be preventively sealed with appropriate repair means against the infiltration of moisture.

## 7. Cleaning, maintenance and disinfection

The several bed elements consists of high-quality materials. The surface of the steel tubes is covered with a durable polyester powder coating.

All surfaces of the wooden parts are sealed with an ecologically compatible overlay. All bed elements are easy to clean and cared for using wipe and spray disinfection means according to the applicable cleaning requirements with respect to the various areas of application. Observing the following care instructions will retain the usability and visual appearance of your nursing bed for a long time.

### 7.1 Cleaning and care

*Steel tubes and vanished metal parts:*

Please use a wet wiper and a standard, mild household detergent for the cleaning and care of these surfaces.

*Wooden-, decorative-, and plastic elements:*

All standard furniture cleaners and cleaning detergents can be used. The cleaning of the plastic elements using a wet wiper without detergent additives should generally be sufficient. For the care of the plastic surfaces you should use a product, which is specifically suitable for plastics.

*Drive:*

In order to prevent the intrusion of moisture into the drive, it is recommended to use a slightly moist wiper to clean the housing of the drive.

*Spring systems ripolux, ripoplan and ripolux neo:*

Use a moist wiper without adding any detergents or, if deemed necessary, a detergent which is exclusively suitable for plastics to clean the supporting- and spring elements as well as the plastic surfaces. In case of heavy contamination, just remove the spring elements from the supporting elements. The dismantled plastics elements can be rinsed or spray-washed with hot water to get them clean. As regards the disinfection, the components should be sprayed with a detergent suitable for plastics. Most of the moisture drips off the plastic surface by slightly shaking it, while the rest will dry on its own within a short time. Remount the elements after they have completely dried. If required you can also remove each of the individual lying surface elements from the frame to clean them. Remount the elements after they have completely dried. If required you can also remove each of the lying surface elements from the frame to clean them.



## 7.2 Disinfection

All methods in accordance to the standard EN 12720 can be used for the wipe disinfection. However, you should apply only mild and gentle methods so as to retain the material resistance of the plastic elements such as the drive housing, decorative elements, ripolux and ripolan. Concentrated acids, aromatic and chlorinated hydrocarbons, as well as detergents containing highly concentrated alcohol, ether, ester and ketone may damage the material and should therefore be avoided.

## 7.3 Hazard avoidance

Please make sure to consider the following guidelines with respect to the electrical component parts of your nursing beds as it is crucial to avoid hazards related to cleaning and disinfection. The non-observance of these guidelines may result in considerable damage of the electrical lines and the drive.

1. Disconnect the mains supply and position it in such a way that contact with excessive amounts of water or detergents can be excluded.
2. Check all plug-connections for correct position according to the instructions.
3. Check the wires and electrical component parts for damages. Should you detect any damages, do not perform any cleaning operations, but first have the defects repaired by the manufacturer or authorized staff.
4. Check the mains supply for residual moisture before starting the operation and dry or blow out the device, according to need.
5. On any suspicion of the intrusion of moisture into the electrical components, disconnect the mains supply immediately and do not reestablish the connection. Put the bed out of operation immediately, attach an appropriate visible labeling and get in contact with the manufacturer/ supplier.

### \* Bock Hazard Note

It is absolutely not recommended to use abrasive cleansers resp. detergents containing grinding particles, cleaning pads or stainless steel cleaners for the cleaning. Do neither use organic solvents such as alkyl/aromatic haloids and ketones nor detergents containing acid or alkaline. Never clean the bed using a water hose or high-pressure cleaner, as this might lead to the intrusion of fluid into the electrical components which causes malfunctions and hazards..



#### > Bock Top Advice

Our friendly and professional hotline service awaits your questions regarding the safety of Bock health beds, the Bock Safety-technical control-trainings and gladly provides you with practical advice when you face problems with the handling of electrically operated beds. Call our hotline service under 01805262500 from Monday to Friday 9 a.m. to 4 p.m. and our experts will be at hand with support and advice for you.

The operator bears the responsibility concerning the handling of the locking devices, whose use should be considered based on the physical and mental condition of the person in need of care.

## 8. Continuous functionality check including service

The safety standards of an electrically operated nursing bed are subject to the compliance with the specified European standards.

This includes the manufacturer's strict adherence to the specifications as well as official standards defined by the government which are in accordance with the safety recommendations of the BfArM (Federal institution for drugs and medical devices) for the enforcement of the Medical Products Act. Regularly conducted inspections ensure the maintenance of high safety standards and in order to avoid hazards from occurring, the continuous and strict adherence to the regular inspection of the proper functionality is mandatory. The manufacturer may have no influence on the operator's adherence with respect to the observance of these instructions concerning the beds. However, Bock facilitates the observance of the necessary precautionary measures to be taken by means of their time-saving services.

The execution of the inspection, assessment, and documentation must be performed only by or under supervision of professional persons such as electricians or electro-technically instructed persons who have a thorough knowledge of the relevant provisions and are able to recognize possible impacts and hazards. In case that there is no suitable person on part of the operator in order to perform the Safety-technical control, Bock's service offers you to carry out the Safety-technical control including check and observance of the respective inspection terms for a charge.

**It is stipulated by the company Hermann Bock GmbH to execute an Safety-technical control for at least once a year and before and after each re-use of the bed.**

In order to facilitate the execution of all necessary safety inspections, the company Hermann Bock GmbH provides you with the Safety-technical control-checklist which can be found in the assembly- and operation manual. Please make a copy of the checklist as a form for your safety-technical inspection. The Safety-technical control-checklist serves as evidence report of the performed inspection and needs to be kept on file. The Safety-technical control-checklist is also available as download from our website: [www.bock.net](http://www.bock.net).

This nursing care bed was developed, constructed and manufactured for a long term use. If properly used the expected life time of this nursing care bed amounts to 2-10 years. The life time is regulated by the usage condition and frequency. Therefore in institutional use an even longer life time years can be expected.

**Caution:**

**Unauthorized technical modifications on the product result in an exclusion of all guarantee claims.**

**> Bock Top Advice**

The Bock-Safety-technical control-training takes place either on your site or at ours and trains your technical staff in the performance of the inspection of the Safety-technical control on Bock health beds, so that they will be in the position to carry out safety-technical inspections in an appropriate way.

**\* Bock Hazard Note**

The bed has to be cleaned and disinfected prior to every re-use. This provision is accompanied by the requirement of a visual inspection which needs to be carried out in order to prevent mechanical damages.

# Guidance and manufacturer's declaration

## Electromagnetic emission

The *medizinisches Bett* is intended for use in the electromagnetic environment specified below.  
The customer or the user of the *medizinisches Bett* should assure that it is used in such an environment.

Emissions test	Compliance	Electromagnetic environment - guidance
RF emissions CISPR 11 (partly)	Group 1	The medical used bed uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11 (partly)	Class B	The <i>medizinisches Bett</i> is suitable for use in all establishments other than domestic and those directly connected to the public-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic emissions IEC 61000-3-2	Class A	
Voltage fluctuations/flicker emissions IEC 61000-3-3	Complies	

## Electromagnetic immunity


The *medizinisches Bett* is intended for use in the electromagnetic environment specified below.  
The customer or the user of the *medizinisches Bett* should assure that it is used in such an environment.

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment – guidance
Electrostatic discharge (ESD) IEC 61000-4-2	± 6 kV contact ± 8 kV air	± 6 kV contact ± 8 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30 %.
Electrostatic transient/burst IEC 61000-4-4	± 2 kV for power supply lines ± 1 kV for input/output lines	± 2 kV for power supply lines ± 1 kV for input/output lines	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	± 1 kV differential mode ± 2 kV common mode	± 1 kV differential mode ± 2 kV common mode	Mains power quality should be that of a typical commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	< 5 % $U_T$ (>95 % dip in $U_T$ ) for 0,5 cycle 40 % $U_T$ (60 % dip in $U_T$ ) for 5 cycles 70 % $U_T$ (30 % dip in $U_T$ ) for 25 cycles < 5 % $U_T$ (>95 % dip in $U_T$ ) for 5 sec	< 5 % $U_T$ (>95 % dip in $U_T$ ) for 0,5 cycle 40 % $U_T$ (60 % dip in $U_T$ ) for 5 cycles 70 % $U_T$ (30 % dip in $U_T$ ) for 25 cycles < 5 % $U_T$ (>95 % dip in $U_T$ ) for 5 sec	Mains power quality should be that of a typical commercial or hospital environment. If the user of the <i>medizinisches Bett</i> requires continued operation during power mains interruptions, it is recommended that the <i>medizinisches Bett</i> be powered from an uninterruptible power supply or a battery.
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	3 A/m	3 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.

NOTE:  $U_T$  is the a. c. mains voltage prior to application of the test level.

## Electromagnetic immunity

The *medizinisches Bett* is intended for use in the electromagnetic environment specified below.  
The customer or the user of the *medizinisches Bett* should assure that it is used in such an environment.

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment – guidance
Conducted RF IEC 61000-4-6  Radiated RF IEC 61000-4-3	3 V  3 V/m	3 V  3 V/m	<p>Portable and mobile RF communications equipment should be used no closer to any part of the EQUIPMENT <i>medizinisches Bett</i>, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.</p> <p>Recommended separation distance: <math>d = [\frac{7}{3}] \sqrt{P}</math></p> <p><math>d = [\frac{3,5}{3}] \sqrt{P}</math> 80 MHz to 800 MHz</p> <p><math>d = [\frac{7}{3}] \sqrt{P}</math> 800 MHz to 2,5 GHz</p> <p>where <i>p</i> is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and <i>d</i> is the recommended separation distance in metres (m).<sup>b</sup></p> <p>Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey,<sup>a</sup> should be less than the compliance level in each frequency range.<sup>b</sup></p> <p>Interference may occur in the vicinity of equipment marked with the following symbol:</p> 

- NOTE 1 At 80 MHz and 800 MHz, the higher frequency range applies.
- NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.
- a

Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the *medizinisches Bett* is used exceeds the applicable RF compliance level above, the *medizinisches Bett* should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the *medizinisches Bett*.
- b

Over the frequency range 150 kHz to 80 MHz, field strengths should be less than [V<sub>i</sub>] V/m.

Recommended separation distances between portable and mobile RF communications equipment and the *medizinisches Bett*.

The *medizinisches Bett* is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled.  
The customer or the user of the *medizinisches Bett* can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the *medizinisches Bett* as recommended below, according to the maximum output power of the communications equipment

Separation distance according to frequency of transmitter m			
Rated maximum output of transmitter  W	150 kHz to 80 MHz  $d = [\frac{3,5}{3}] \sqrt{P}$	80 MHz to 800 MHz  $d = [\frac{3,5}{3}] \sqrt{P}$	800 MHz to 2,5 GHz  $d = [\frac{7}{3}] \sqrt{P}$
0,01	0.12	0.12	0.23
0,1	0.37	0.37	0.74
1	1.17	1.17	2.33
10	3.69	3.69	7.38
100	11.67	11.67	23.33

For transmitters rated at a maximum output power not listed above the recommended separation distance *d* in metres (m) can be estimated using the equation applicable to the frequency of the transmitter, where *P* is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.

NOTE 1 At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.

NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorpti-  
on and reflection from structures, objects and people.

## Declaration of conformity

Manufacturer:

Hermann Bock GmbH

Nickelstraße 12

33415 Verl

Classification:

Medical products class I, norm 1 and 12  
referring to appendix IX of MDD

Product description/ model

Medical used bed in general

Chooosed conformity evaluation process:

Appendix VII of MDD

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Hereby we declare that, the above specified products fulfill the precautions of the guideline 93/42/EWG of the advice for medical products. The entire associated documentation is kept in the premises of the manufacturer. This declaration of conformity is valid from 1.4.2013.

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Applied standards:

Harmonized standards for which the proof of concordance can be supplied:

DIN EN 60601-1:2007-07

Medical electronic devices- Part 1:

General definitions for the safety including the essential characteristics

DIN EN 60601-1-2:2007-12

Medical electronic devices- Part 1-2:

General definitions for the safety including the essential characteristics – complement standard: electromagnetic tolerance – requirements and testing

DIN EN 60601-2-52:2010-12

Medical electronic devices- Part 2-52:

Special definitions for the safety including the essential characteristics for medical beds

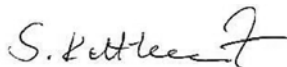
DIN EN ISO 14971:2013

Application of the risk management for medical products

Verl, 2. Juni 2014



Klaus Bock



Dr. Stefan Kettelhoit



# Constant functionality checks

In accordance with MPBbetriebV, BGV A3 and DIN EN 62353 (electrical measurements)

**.bock** ///

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

Model name:

Series /inventory number:

Location:

Person in charge:

Date, examiner:

## Visual, mechanical and electrical 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 plastic end caps and 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?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Description of defects:	
20. Bed-accessories (lifting pole, triangle grab handle, belts, control box etc.) without damages and with secure fixing?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Description of defects:	
21. Safe breaks, arresting and free running of wheels?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Description of defects:	
22. Mains cable, connecting cables and plugs without scratches, dents, kinks, porous parts or bare wires?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Description of defects:	
23. Strain relief fastened and efficient?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Description of defects:	
24. Internal plugs fully inserted and connected with strain relief?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Description of defects:	
25. Mains cable and plug without damage?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Description of defects:	
26. Correct and secure cable leading and cable connections?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Description of defects:	
27. Housings of motors and hand controls sealed and without damages?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Description of defects:	
28. Leak-prevention of motor for models older than 2001 present?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Description of defects:	
29. Motor lifting poles without damages?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Description of defects:	
30. Testing of hand controls: all buttons fully usable?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Description of defects:	
31. Testing of disabler on hand control: everything correct?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Description of defects:	
32. Testing of battery: faultless function?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Description of defects:	
33. Resistance of protective conductor: not applicable, because no protective conductor present (security class II)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Description of defects:	
34. Resistance of isolator (for old appliances) (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 = 0,1 mA):	<input type="checkbox"/> OK <input type="checkbox"/> Not OK
Description of defects:	
36. Exceeds the patient-, mattress and accessory weight the assigned safe capacity (see technical data)?	<input type="checkbox"/> Yes <input type="checkbox"/> 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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E-Mail: [info@bock.net](mailto:info@bock.net)



#### Our SALES PARTNERS

Our business partners pursue the same strategy as we do: quality, innovation and above-average standards that are internationally recognized. You can rely on our business partners as you can rely on us.

Please note that only our authorised personnel and our sales partners can provide training, supply of spare parts, repairs, safety technical controls (TSC) and other services. Otherwise, all warranty claims will be void.

Find our business partners: <http://en.bock.net/contact/distribution-partners/>