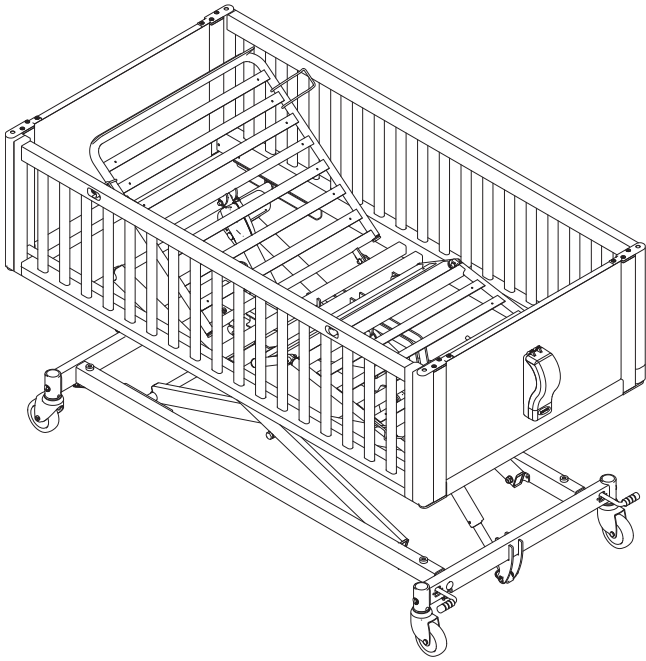


# Invacare® NordBed™ Kid

en Children's Bed  
User Manual



This manual **MUST** be given to the user of the product.  
**BEFORE** using this product, this manual **MUST** be read and  
saved for future reference.



**Yes, you can.®**

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# 1 General

## 1.1 Introduction

This user manual contains important information about the handling of the product. To ensure safety when using the product, read the user manual carefully and follow the safety instructions.

Only use this product if you have read and understood this manual. Seek additional advice from a healthcare professional who is familiar with your medical condition and clarify any questions regarding the correct use and necessary adjustment with the healthcare professional.

Note that there may be sections in this document, which are not relevant to your product, since this document applies to all available models (on the date of printing). If not otherwise stated, each section in this document refers to all models of the product.

The models and configurations available in your country can be found in the country-specific sales documents.

Invacare reserves the right to alter product specifications without further notice.

Before reading this document, make sure you have the latest version. You find the latest version as a PDF on the Invacare website.

If you find that the font size in the printed document is difficult to read, you can download the PDF version from the website. The PDF can then be scaled on screen to a font size that is more comfortable for you.

For more information about the product, for example product safety notices and product recalls, contact your Invacare distributor. See addresses at the end of this document.

In case of a serious incident with the product, you should inform the manufacturer and the competent authority in your country.

### 1.1.1 Symbols in this Document

Symbols and signal words are used in this document and apply to hazards or unsafe practices which could result in personal injury or property damage. See the information below for definitions of the signal words.



#### **WARNING!**

Indicates a hazardous situation that could result in serious injury or death if it is not avoided.



#### **CAUTION!**

Indicates a hazardous situation that could result in minor or slight injury if it is not avoided.



#### **NOTICE!**

Indicates a hazardous situation that could result in damage to property if it is not avoided.



#### **Tips and Recommendations**

Gives useful tips, recommendations, and information for efficient, trouble-free use.

#### **Other Symbols**

(Not applicable for all manuals)



#### **Triman**

Indicates recycling and sorting rules (only relevant for France).



#### **UKRP**

Indicates if a product is not manufactured in the UK.

## 1.2 Service Life

The expected service life of this product is eight years when used daily and in accordance with the safety instructions, maintenance intervals and correct use, stated in this manual. The effective service life can vary according to frequency and intensity of use.

## 1.3 Compliance

Quality is fundamental to the company's operation, working within the disciplines of ISO 13485.

This product features the CE mark, in compliance with the Medical Device Regulation 2017/745 Class I.

This product features the UKCA mark, in compliance with Part II UK MDR 2002 (as amended) Class I.

We are continuously working towards ensuring that the company's impact on the environment, locally and globally, is reduced to a minimum.

We only use REACH compliant materials and components.

We comply with the current environmental legislations WEEE and RoHS.

### 1.3.1 Product-specific standards

The product has been tested and conforms to EN 50637 (Medical electrical equipment - Particular requirements for the basic safety and essential performance of medical beds for children) and all related standards.

For further information about local standards and regulations, contact your local Invacare representative. See addresses at the end of this document.

## 1.4 Warranty Information

We provide a manufacturer's warranty for the product in accordance with our General Terms and Conditions of Business in the respective countries.

Warranty claims can only be made through the provider from whom the product was obtained.

## 1.5 Limitation of Liability

Invacare accepts no liability for damage arising from:

- Non-compliance with the user manual
- Incorrect use
- Natural wear and tear
- Incorrect assembly or set-up by the purchaser or a third party
- Technical modifications
- Unauthorised modifications and/or use of unsuitable spare parts

## 2 Safety

### 2.1 General Safety Information

This section of the manual contains general safety information about your product. For specific safety information, refer to the appropriate section of the manual and procedures within that section.



**WARNING!**

**Risk of injury or damage**

- Do not use this product or any available optional equipment without first completely reading and understanding these instructions and any additional instructional material such as user manuals or instruction sheets supplied with this product or optional equipment. If you are unable to understand the warnings, cautions or instructions, contact a healthcare professional, Invacare provider or qualified technician before attempting to use this product.
- Do not make any unauthorized alterations or modifications to the product.



**WARNING!**

**Risk of entrapment / suffocation**

- There's a risk of entrapment / suffocation between mattress support, side rail and bed end or between moving parts and objects placed nearby the bed.
- The bed, in combination with side rails must not be used by persons having a body size outside the ranges specified in *3.1 Intended Use, page 8*.
  - Due to mattress compression, an increased risk may occur over time. Periodically monitor gaps between the bed, mattress and/or side rail. Replace mattress if the gaps may lead to entrapment.



**WARNING!**

**Risk of slipping through the openings**

- The bed fulfils all requirements regarding maximum distances. However, it is possible that persons with small body dimensions slip through the openings between the side rails or through the opening between the side rail and the mattress support.
- Pay special attention, if the bed is used for the care of persons with small body dimensions.



**WARNING!**

**Risk of injury or damage**

- Inappropriate handling of cables, incorrect connections and use of unauthorized equipment can cause electrical shock and product failure.
- Do not kink, shear or otherwise damage the cables of the product.
  - Make sure that no cables are jammed or damaged, when the product is used.
  - Disconnect the plug from the mains before moving the bed.
  - Make sure the wiring is correct and connections are proper.
  - Do not use unauthorized equipment.



**WARNING!**

**Risk of tripping, entanglement or strangulation**

- Improper routing of cables may cause tripping, entanglement or strangulation hazard.
- Ensure all cables are routed and secured properly.
  - Ensure there are no loops of excess cable extending away from the product.



**WARNING!**

**Risk of injury or damage**

- Ignition sources can cause burns or fire.
- Bed must be placed with a safety space from possible ignition sources (heater, fireplace, etc.)
  - Persons using or operating the product must not smoke.



**WARNING!**

**Risk of injury or damage**

- Improper use of this product may cause injury or damage.
- Do not use the bed for the transportation of a user in any kind of vehicle.



**WARNING!**

**Risk of entrapment or tipping**

- Objects or equipment in close proximity or attached to the bed may cause tipping or entrapment.
- Make sure that there is nothing under, over, near or attached to the bed that can cause tipping of the bed or entrapment of the user.



**WARNING!**

**Risk of injury or damage**

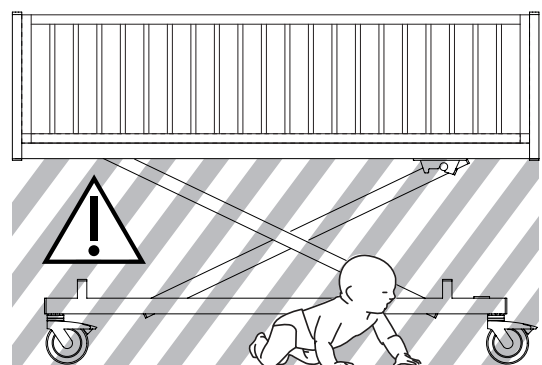
- To avoid injury or damage when operating the product:
- Close supervision is necessary when the product is used near children or pets.
  - Do not let children play with the product.



**WARNING!**

**Risk of entrapment**

- When lifting or lowering the bed, there's a risk of entrapment between mattress support, shear arms and base frame.
- Never leave children unattended playing around the bed.
  - Do not allow children to linger under the bed.
  - When lifting or lowering the bed, always make sure that there is no children near the bed moving parts.



**CAUTION!**

- For a person entering or exiting the bed, always lower the bed to an appropriate height. The backrest can be used as a support. Make sure, the thigh- and leg section is horizontal to avoid overloading the mattress support.
- Always lower the bed to the lowest position before leaving a person in the bed unattended.
- Make sure that there is nothing under, over, or near the bed that can obstruct the height adjustment, like for example furniture, lifts or window frames.

**CAUTION!**

- Non-original or wrong accessories may affect the function and safety of the product.
- Only use original accessories for the product in use.
  - Due to regional differences, refer to your local Invacare catalog or website for available accessories or contact your local Invacare representative. See addresses at the end of this document.

**CAUTION!****Risk of injury or damage**

- The product can get hot when exposed to sunlight or other heat sources.
- Do not expose the product to direct sunlight for prolonged periods.
  - Keep the product away from heat sources.

**CAUTION!**

- There is a risk of entrapment of fingers in the bed moving parts.
- Pay attention to your fingers.

**NOTICE!**

- The bed has no isolator (main switch). If the bed needs to be electrically disconnected, it has to be unplugged from the mains socket.
- Always place the bed in a way so the mains socket is easily accessible to unplug the bed.

**NOTICE!**

- With the bed lowered to heights of 400 mm or less, the base of some mobile patient lifts might not fit under the bed. It might be required to use mobile patient lifts with a smaller base or other transfer methods.

**NOTICE!**

- Accumulation of lint, dust and other dirt can impair the product.
- Keep the product clean.

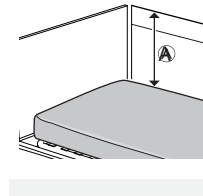
## 2.2 Mattresses

**WARNING!****Safety aspects regarding combination of side rails and mattresses:**

- To get the highest possible safety level, when using side rails on the bed, the minimum and maximum measures for mattresses, must be respected.
- For correct mattress measures see mattress table in chapter 8 *Technical Data*, page 19.

**WARNING!****Risk of entrapment and/or suffocation**

- The user could get trapped and/or suffocate, if the horizontal space, between the mattress side and the inside of the side rail, is too big. Follow the minimum width (and length) of mattresses in combination with a side rail, as stated in the mattress table in chapter 8 *Technical Data*, page 19.
- Be aware that using very thick or soft mattresses (low density), or a combination of these, increases the risk.

**WARNING!****Risk of falling**

- The user can fall over the edge and get seriously injured, if the vertical distance  $\textcircled{A}$  between the top of the mattress and the edge of the side rail/bed end, is too short. See image above.
- Always keep a minimum distance  $\textcircled{A}$  of 22 cm if the bed is used with bed ends and side rails of 40 cm height
  - Always keep a minimum distance  $\textcircled{A}$  of 60 cm if the bed is used with bed ends and side rails of 80 cm height
  - Follow the maximum mattress height in combination with the side rail as stated in the mattress table in chapter 8 *Technical Data*, page 19.

## 2.3 Safety information on electromagnetic interference



### WARNING!

#### Risk of malfunction due to electromagnetic interference

Electromagnetic interference between this product and other electrical equipment can occur and disturb the electrical adjustment functions of this product. To prevent, reduce or eliminate such electromagnetic interference:

- Only use original cables, accessories and spare parts, to not increase electromagnetic emission or reduce electromagnetic immunity of this product.
- Do not use portable radio frequency (RF) communications equipment closer than 30 cm to any part of this product (including cables).
- Do not use this product near active high-frequency surgical equipment and the RF shielded room of a system for magnetic resonance imaging, where the intensity of electromagnetic disturbances is high.
- If disturbances occur, increase the distance between this product and the other equipment or switch it off.
- Refer to the detailed information and follow the guidance in 9 *Electromagnetic compatibility (EMC)*, page 22.



### WARNING!

#### Risk of malfunction due to electromagnetic interference

Do not use this bed adjacent to or stacked with other electrical equipment, than specified in the following, as it could result in improper operation. If such use is necessary, the bed and the other equipment must be closely observed to verify that they are operating normally.






























This bed can be used together with Invacare approved accessories and medical electrical equipment connected to the heart (intracardially) or blood vessels (intravascularly) provided that following points are respected:

- Medical electrical equipment should not be fixed on the bed's metallic accessories such as side rails, lifting pole, drip rod, bed ends, etc.
- The medical electrical equipment power supply cord should be kept clear of the accessories or any other moving parts of the bed.

## 2.4 Labels and symbols on the product

### 2.4.1 Identification Label

The identification label is placed on the frame of the bed and contains the main product information, including technical data.

 Invacare Portugal, Lda Rua Estrada Velha 949 4465-784 Leça do Balio Portugal		 YYYY-MM	   
 REF	XXXXXX XXXXX XX	 SN	XXXXXXXXXXXXXX
 UDI	XXXXXXXXXXXXXXXXXXXX	 = xxx kg  = xxx kg	 
			
 SN	Serial number		
 REF	Reference number		
 UDI	Unique Device Identifier		
	Manufacturer		
	Date of manufacture		
 MD	Medical device		
	Max. user weight		
	Max. safe working load		
	CLASS II equipment		
	Type B applied part		
	Do not dispose of this product in normal household waste		
	European Conformity		
	UK Conformity Assessed		

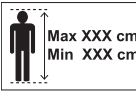



Abbreviations for technical data:

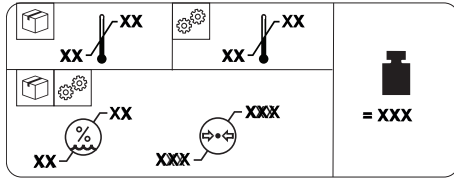







- I<sub>in</sub> = Incoming Current
- U<sub>in</sub> = Incoming Voltage
- Int. = Intermittence
- AC = Alternating Current
- Max = maximum
- min = minutes

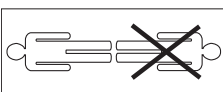
For more information about technical data, refer to 8 *Technical Data*, page 19.

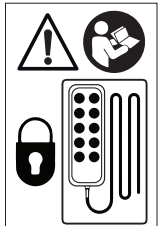
### 2.4.2 Other Labels



Read the user manual before using this product and follow all instructions for safety and use.


	
	Definition of min. and max. height of the user (depending on bed size). See 3.1 <i>Intended Use</i> , page 8 .
	Refer to user documentation for the correct mattress measures. See 8 <i>Technical Data</i> , page 19.

	 = XXX
	Total weight of the product with the maximum safe working load applied
	Temperature limit
	Humidity limitation
	Atmospheric pressure limitation
	Transport and storage conditions
	Operation conditions


Indicates the correct body position in the bed.


Refer to user documentation for the correct storage of the hand control to keep it out of the reach of children. See 4.4 <i>Hand Control</i> , page 9.


Risk of entrapment or squeezing Keep your hands and other body parts away from moving parts.


Indicates detachable parts with a mass of more than 20 kg. See 8 <i>Technical Data</i> , page 19



## 3 Product Overview

### 3.1 Intended Use

This is a medical bed for children, which is electrically operated, adjustable in height and features a profiling support surface intended to be used in combination with a mattress. Medical beds for children are designed for support of the child and used for the mitigation, relief, and recovery from certain medical conditions. The medical bed for children also supports and eases the caregivers' and families working environments.

The medical bed for children is intended to be used on:

- *Application environment 3*; Long-term care in a medical area where medical supervision is required and monitoring is provided if necessary and medical electrical equipment used in medical procedures may be provided to help maintain or improve the condition of the patient.
- *Application environment 4*; Care provided in a domestic area where medical electrical equipment is used to alleviate or compensate for an injury, disability or disease.

#### Intended users

Children with disabilities, with limited mobility who need to be cared for in bed.

#### Indications

The medical bed is intended for children from 3–12 years of age and a body size of

- NordBed Kid Small: 75 - 125 cm
- NordBed Kid Medium: 125 - 135 cm
- NordBed Kid Large: 135 - 154 cm
- The bed is intended for indoor use only.
- Maximum user weight is 70 kg and safe working load is 100 kg.

#### Contra-indications

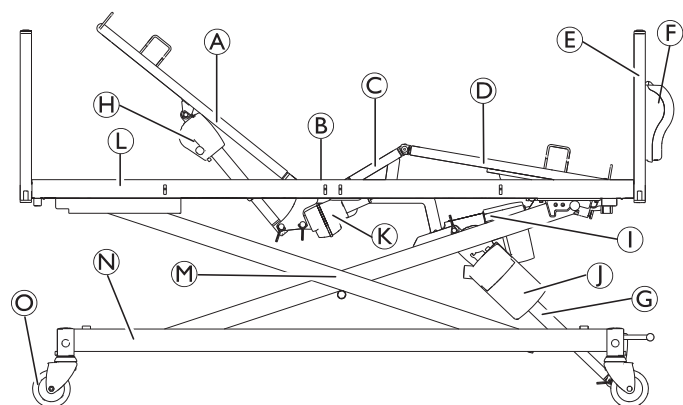
The bed is not intended for transportation of users. (It is mobile within a room with a user in it. Castors are lockable.)

The bed is not intended for a child with psychosocial disability.

#### Intended Operator

A healthcare professional or private person who has received proper training is the intended operator of this product.

### 3.2 Main Parts of the Bed



Parts of standard bed:

- Ⓐ Back section
- Ⓑ Seat section
- Ⓒ Thigh section
- Ⓓ Leg section
- Ⓔ Bed end
- Ⓕ Hand Control Box
- Ⓖ Height adjustment actuator
- Ⓗ Back section actuator
- Ⓘ Leg section actuator
- Ⓢ Control unit
- Ⓚ Thigh section actuator
- Ⓛ Mattress support platform
- Ⓜ Lifting mechanism
- Ⓝ Base frame
- Ⓞ Castor

Hand Control (not shown)

Side rails (not shown)

### 3.3 Accessories



Due to regional differences, refer to your local Invacare website or catalog for details about available accessories or contact your Invacare provider.

#### Side rails

Side rails are intended to be operated by a person standing beside the bed and to reduce the risk for the user of unintentionally falling out of the bed, when locked in their uppermost or closed position.

- Fixed side rail – Full length wood side rail (40 cm or 80 cm height)
- Lowering side rail – Full length wood side rail (40 cm height)
- Side rail with foldable doors – Full length wood side rail (40 cm or 80 cm height)

For more details on side rails see *8 Technical Data, page 19*.

#### Bed ends

Bed ends are intended to provide an esthetic and physical barrier at the head end and the foot end of the bed.

- Standard bed ends — with 40 cm or 80 cm height

For more details on bed ends see *8 Technical Data, page 19*.

#### Other

- Upholstery – for side rails and bed ends

### 3.4 Scope of Delivery

- Complete bed with castors, control unit and actuators.

Bed ends, side rails and other parts or accessories might be delivered apart.



## 4 Usage

### 4.1 General Safety Information



#### WARNING!

##### Risk of personal injury and damage to property.

- The bed must be placed so that the height adjustment is not obstructed by, for example, lifts or furniture.
- Take care that no body parts are being squeezed between fixed parts (such as side rails, bed ends etc) and moving parts.

### 4.2 Setup



#### WARNING!

##### Risk of injury or damage

Damaged parts may affect the safety of the product.

- Check all parts for shipping damage before use.
- In case of damage, do not use the product and contact your Invacare provider for further instructions.



#### WARNING!

##### Risk of injury or damage

- The assembly of the bed and installation of accessories must only be performed by a qualified technician or a person who has received proper training.
- The assembly of the bed is described in the service manual and installation of accessories is described in the service manual or in the documentation delivered with the accessory.

### Before use



#### NOTICE!

- To prevent condensation, the bed should not be used until it has reached operating temperature. See 8 *Technical Data*, page 19.

1. Move the bed to its correct position.
2. Connect the bed to the mains.

### 4.3 Castors and brakes



#### CAUTION!

##### Risk of trapping/squeezing

All brakes are foot-operated.

- Do not release the brake with the fingers.



#### CAUTION!

##### Risk of injury

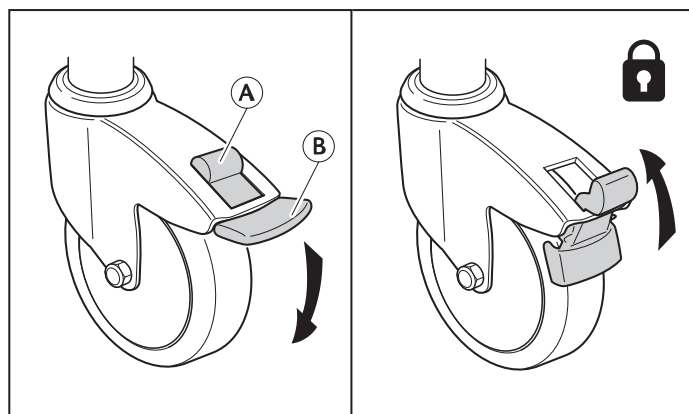
User can fall, while entering or exiting the bed, if brakes are not locked.

- Always lock the brakes before the user is moving in or out of bed or when attending to the user.



Castors might make marks on different types of absorbing floor surfaces - such as untreated or badly treated floors. To prevent marks, *Invacare*® recommends to place a suitable kind of protection between the castors and the floor.

#### 4.3.1 Individual brakes



**Locking the brake** - Step on the outer pedal (B)

**Unlocking the brake** - Push up the release button (A)

#### 4.3.2 Central brake system

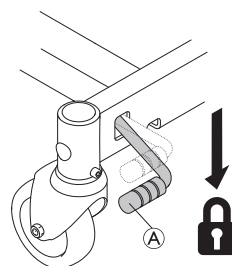


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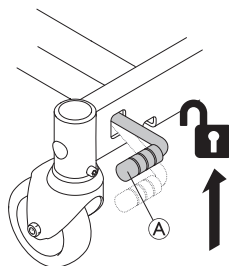
With the mattress support is in its lowest position, access to the brake pedals is limited.

- If required, lock the brakes before moving the mattress support to its lowest position.

All castors are locked by locking one of the pedals.



1. Lock the brakes:  
Push down the pedal (A).



2. Unlock the brakes:  
Pull up the pedal (A).

### 4.4 Hand Control



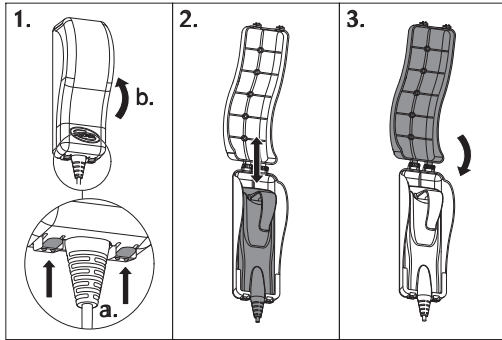
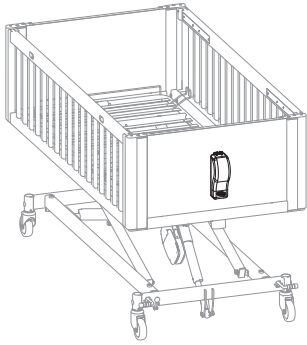
#### WARNING!

##### Risk of Injury or Damage

If the hand control is used by children this may lead to injury or damage.

- The hand control must not be used by children.
- Keep the hand control out of reach for children.
- Always store the hand control in the closed hand control box while not in use.

## Hand Control Box

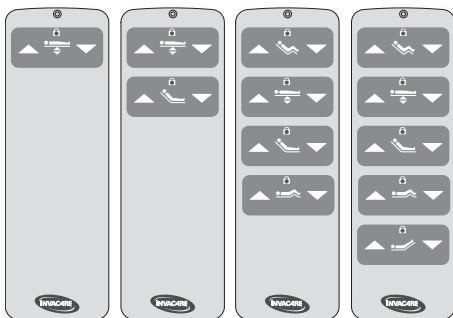


The storage box for the hand control is placed at the foot end of the bed.

1. To open the box:
  - a. Push and hold up the two latches at the underside of the box.
  - b. Fold up the lid.
2. Place or remove the hand control from the box.
3. Fold down the lid and ensure the two latches engage with an audible click.

## Using the Hand Control

The hand control is equipped with one, two, four or five buttons to operate the electrical adjustment functions of the bed. The buttons on hand control can be locked individually.



1. Locate the desired function.
2. Press and hold the up (▲) button on the left or the down (▼) button on the right:

### Sitting position



- Up (▲): Raise to a sitting position.
- Down (▼): Lower to a horizontal position.

### Height adjustment



- Up (▲): Raise the bed.
- Down (▼): Lower the bed.

### Back section



- Up (▲): Raise the back section.
- Down (▼): Lower the back section.

### Thigh section



- Up (▲): Raise the thigh section.
- Down (▼): Lower the thigh section.

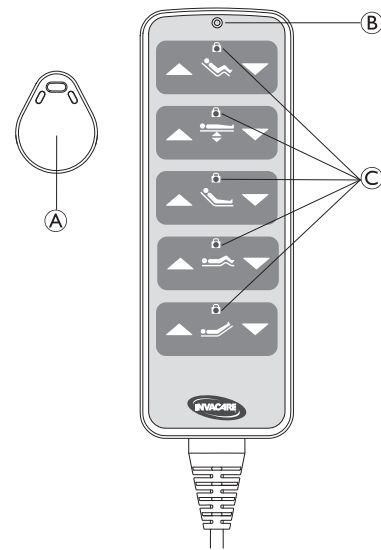
### Leg section



- Up (▲): Raise the leg section.
- Down (▼): Lower the leg section.

## Locking Function

The locking function prevents usage of certain function buttons. Regardless of how many buttons your hand control has, they can all be locked individually.



To lock a function:

1. Place the magnetic key (A) onto the marking (B) on top of the hand control.
2. Locate the desired function and press the corresponding up (▲) or down (▼) button. The corresponding LED will switch on to indicate that the function is locked.

To unlock a function:

1. Place the magnetic key (A) onto the marking (B) on top of the hand control.
2. Locate the desired function and press the corresponding up (▲) or down (▼) button. The corresponding LED will switch off to indicate that the function is unlocked.

## 4.5 Operating side rails



### WARNING!

#### Risk of entrapment or suffocation

There's a risk of entrapment or suffocation between mattress support, side rail and bed end.  
— Always ensure correct fitting of the side rails.

**WARNING!****Risk of Falling**

- Never leave the user unattended in the bed with the side rail down or open.
- Make sure the side rail is in its highest position or closed and properly locked while leaving the user unattended.

**CAUTION!****Risk of Injury**

There is a risk of entrapment or squeezing while operating the side rail.

- Pay attention to your limbs and body parts of the patient.

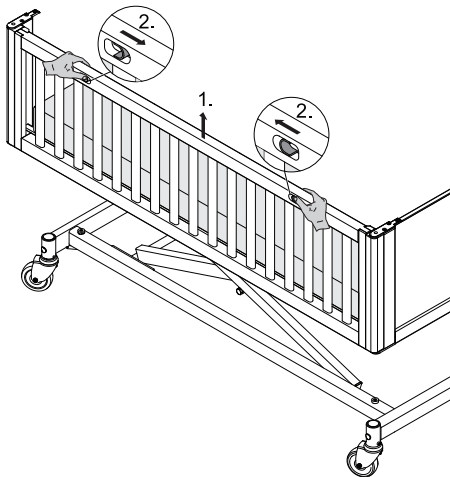
**4.5.1 Operating the Lowering Side Rail****CAUTION!****Risk of Injury or Damage**

If the side rail is not properly locked or handled it can cause injury or get damaged.

- Pull/push the top bar of the side rail to ensure that the locking system is properly engaged.
- Never force or drop the side rail while handling it.
- Pay attention to your feet when lowering the side rail with the bed in a low position or when lowering the bed with the side rail down.

**Lowering the Side Rail**

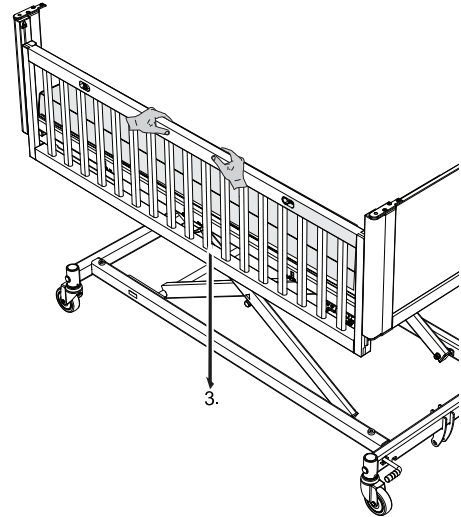
1. Slightly pull and hold the top bar upwards with both hands.
2. Push and hold the two latches towards each other.



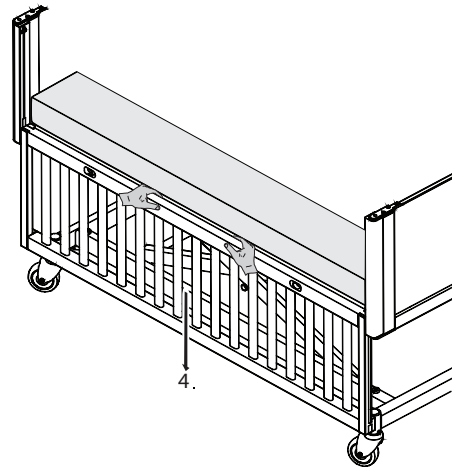
3. Slightly lower the side rail and release the two latches.



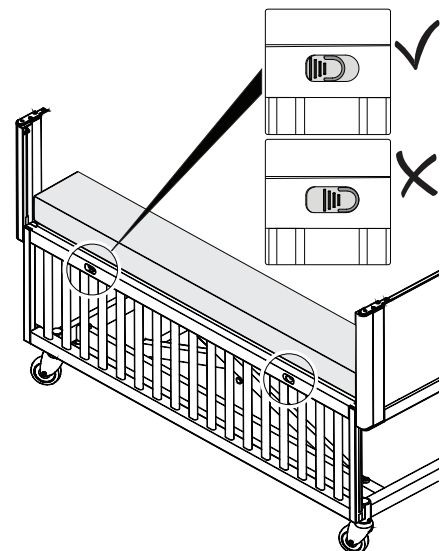
Keep your hands out of the latches to ensure the side rail is correctly used.



4. Continue lowering the side rail until its end stopper.

**NOTICE!**

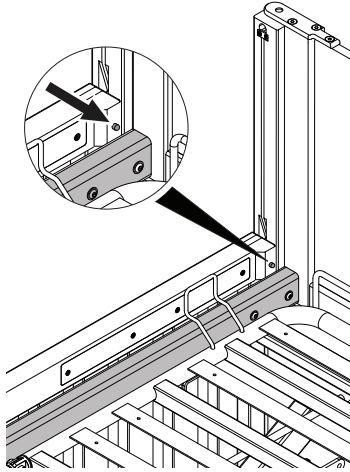
- Make sure that the two latches are in the correct position. If the latches are not in the correct position for any reason, raise the side rail until the two latches are in the correct position.



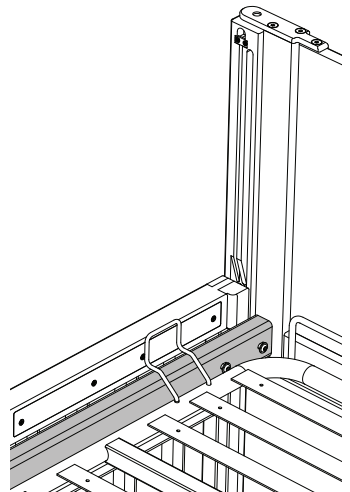
**! NOTICE!**

Only applicable for the version with visible plunger stopper.  
 — The plunger stopper shall not be in contact with the mattress platform. Plunger stoppers are an additional safe mechanism to prevent the side rails from being unintendedly removed.

**Version with visible plunger stopper**

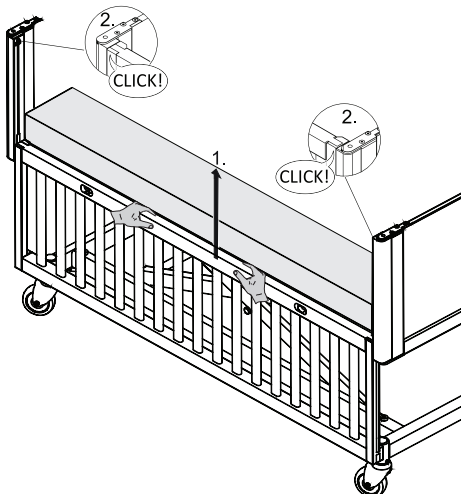


**Version with hidden plunger stopper**



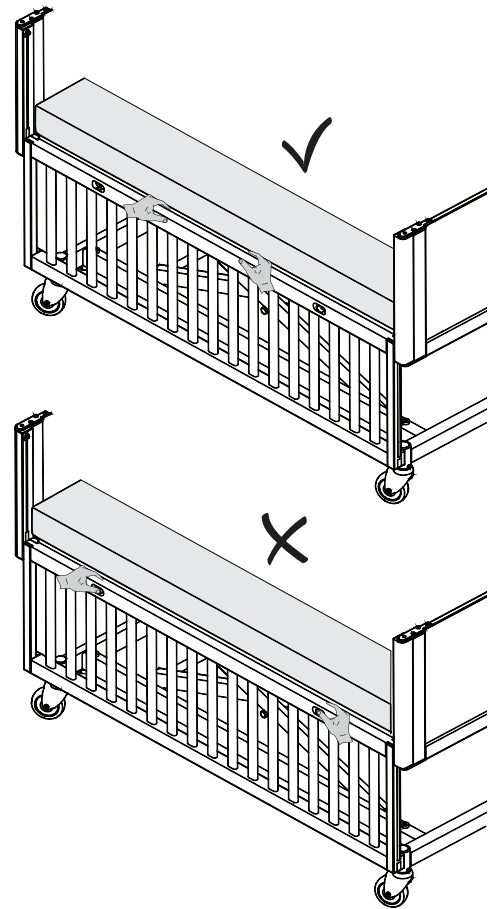
**Raising the Side Rail**

1. Pull the top bar upwards with both hands.
2. Ensure the locking pins at both ends engage with an audible click in the upper position and the side rail is properly locked.



**! NOTICE!**

— Do not use the latches when the side rail is on the lowest position.



**4.5.2 Operating the Side Rail with Foldable Doors**



**WARNING!**

**Risk of Tipping**

The bed can tip when the side rail doors are open.  
 — Do not put weight on open doors.  
 — Never unfold the doors when they are open.



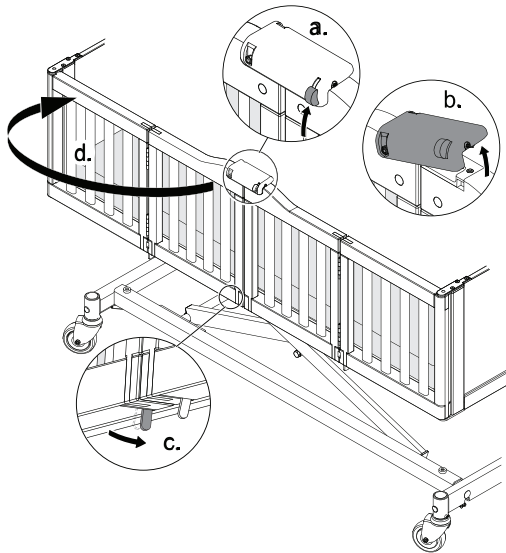
**WARNING!**

**Risk of Injury**

There is a risk of injury on the bottom latch when the door is open  
 — Always close the doors completely when the bed is not in use (no person in the bed).

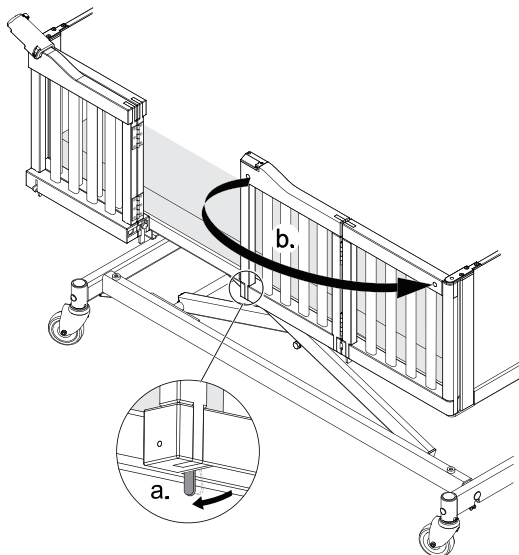
## Opening the doors

1.



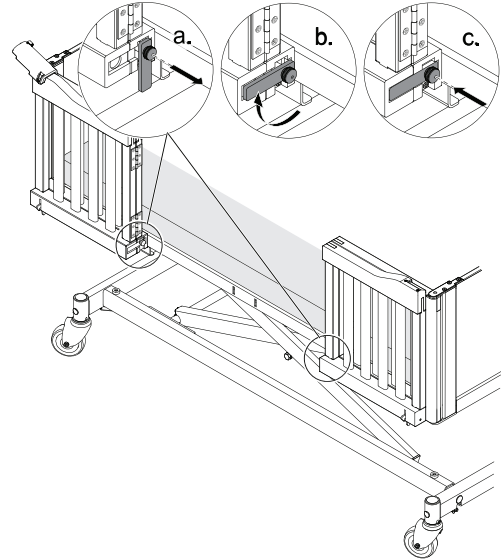
Push up the knob and lift the latch. While holding up the latch press the corresponding lever on the underside and fold the door.

2.



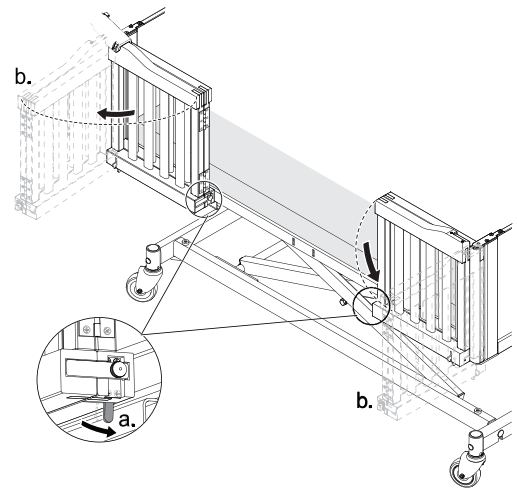
On the other door, press the lever on the underside and fold the door.

3.



Pull out the pin, rotate clockwise by 90 degrees and release it to position the tab in the horizontal slot.

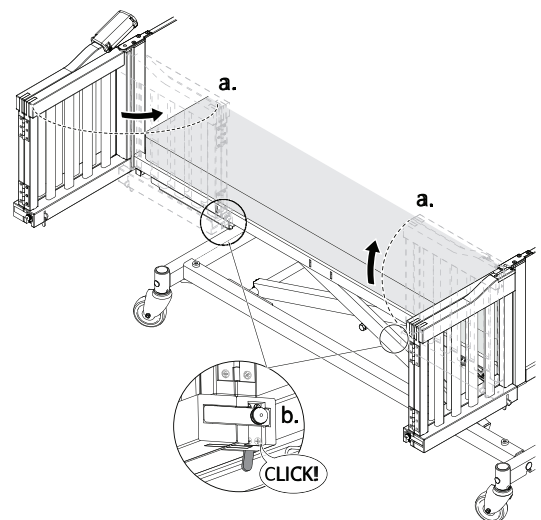
4.



Press the levers on the underside of the side rail and open the folded doors.

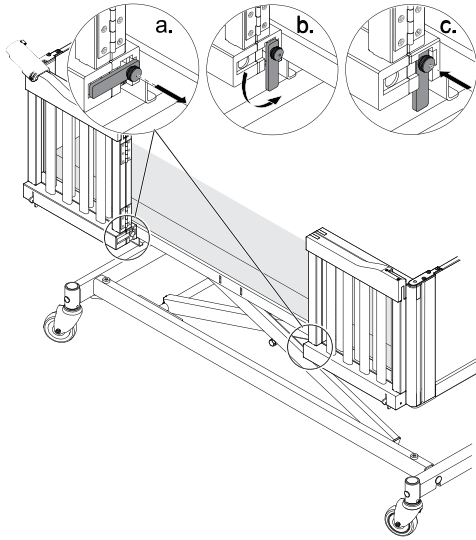
## Closing the doors

1.



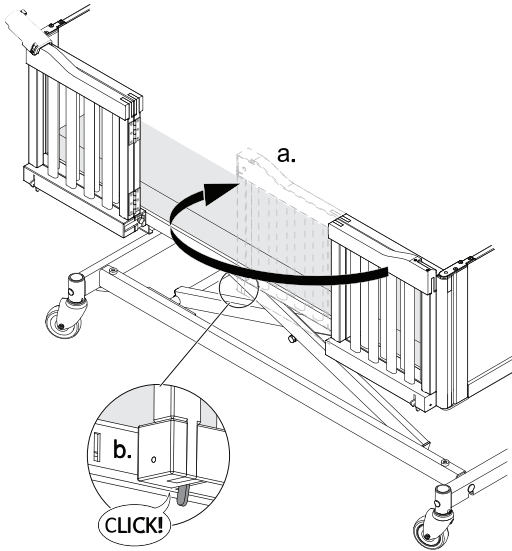
Close the folded doors and ensure the locking mechanisms on the underside engage with an audible click.

2.



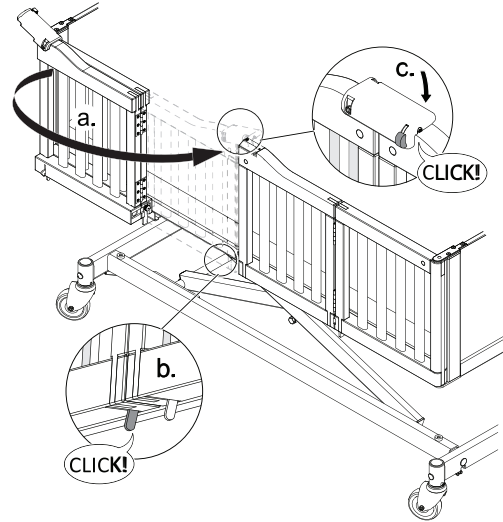
Pull out the pin, rotate anti-clockwise by 90 degrees and release it to position the tab in the vertical slot.

3.



Unfold the door without the latch on the top bar and ensure the locking mechanism on the underside engages with an audible click.

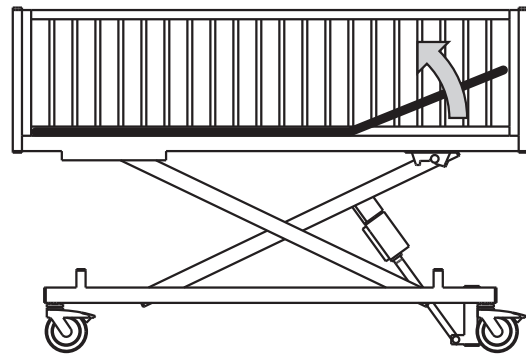
4.



Unfold the door with the latch on the top bar and ensure the locking mechanism on the underside and at the top bar engage with an audible click.

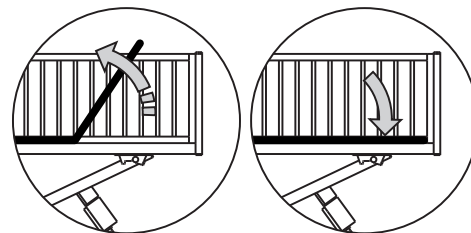
## 4.6 Manual positioning of the leg section

### Up – from horizontal position



1. Lift the leg section up to desired height.
2. Lower it until it stays in a fixed position.

### Down – from upper position



1. Lift the leg section up to its highest position and unhook it with a little jerk.
2. Sink the leg section all the way down.

## 4.7 Emergency positions

In case of a medical emergency, it might be required to bring all or certain mattress support sections into a flattened position - e.g. a flattened back section for cardiopulmonary resuscitation (CPR).



To bring a mattress support section into a flattened position,

- use the corresponding function on the hand control  
OR
- in case of power failure or urgent need for action, use the manual emergency release and lower the mattress support section.

Refer to 4.7.1 *Emergency release of a mattress support section*, page 15.

### 4.7.1 Emergency release of a mattress support section

In case of a power- or motor failure, an emergency release of the back, thigh or leg section could be necessary. An emergency release of the height adjustment is NOT possible.



#### CAUTION! Risk of injury

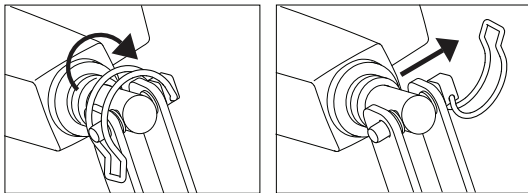
- A minimum of two persons is required for an emergency release of a mattress support section.
- When releasing a mattress support section, it might lower fast. Do not reach under the mattress support while lowering it.



#### NOTICE!

- Before an emergency release of the mattress support, remove the plug from the mains socket.

1. Both persons hold the mattress section.
2. One of them locates the motor in question and pulls out the safety pin.



3. Both persons slowly lower the mattress section until it is completely down.

## 4.8 Transportation and Storage

The bed can be transported or stored in assembled or disassembled state.

See the service manual for detailed instructions on how to disassemble the bed.

To transport or store the bed in its assembled state:

1. Disconnect the power cable from the mains socket.
2. Use the hook near the mains plug to attach the power cable to the bed (e.g. on bed ends or frame) so it is kept clear of the floor and damage during transport or storage is prevented.



## 5 Maintenance

### 5.1 General maintenance information



#### CAUTION!

##### Risk of injury or damage

- Do not perform any maintenance or service procedures while the product is in use.

Follow the maintenance procedures described in this manual to keep your product in continuous operation.

Further maintenance and inspection procedures, to be performed by a qualified technician, are described in the service manual of this product. Service manuals can be obtained from Invacare.

#### 5.1.1 Service interval

We strongly recommend a full service to be performed at least every second year and a yearly check of the actuators.

Contact your Invacare provider or in-house service department for service.

### 5.2 Daily inspections



#### WARNING!

##### Risk of injury or damage

Damaged or worn parts can affect the safety of the product.

- The product should be checked each time it is used.
- Do not use the product if damage is found or you question the safety of any part of the product. Contact your Invacare provider immediately and ensure the product is not used until repairs are made.

#### Daily Inspection Checklist

- Visually inspect the bed. Check all parts for external damage or wear.
- Check all hardware, attachment points, stressed parts and any pivot points for signs of wear, cracking, fraying, deformation or deterioration.
- Check the hand control and all actuators for smooth operation.

### 5.3 Cleaning and Disinfection

#### 5.3.1 General Safety Information



#### CAUTION!

##### Risk of Contamination

- Take precautions for yourself and use appropriate protective equipment.



#### CAUTION!

##### Risk of Electric Shock and Product Damage

- Switch off the device and disconnect from mains, if applicable.
- When cleaning electronic components consider their protection class regarding water ingress.
- Make sure that no water splashes to the plug or the wall outlet.
- Do not touch the power socket with wet hands.



#### NOTICE!

Wrong fluids or methods can harm or damage the product.

- All cleaning agents and disinfectants used must be effective, compatible with one another and must protect the materials they are used to clean.
- Never use corrosive fluids (alkalines, acid etc.) or abrasive cleaning agents. We recommend an ordinary household cleaning agent such as dishwashing liquid, if not specified otherwise in the cleaning instructions.
- Never use a solvent (cellulose thinner, acetone etc.) that changes the structure of the plastic or dissolves the attached labels.
- Always make sure that the product is completely dried before taking into use again.



For cleaning and disinfection in clinical or long-term care environments, follow your in-house procedures.

#### 5.3.2 Cleaning Intervals



#### NOTICE!

Regular cleaning and disinfection enhance smooth operation, increases the service life and prevents contamination.

Clean and disinfect the product:

- regularly while in use,
- before and after any service procedure,
- when it has been in contact with any body fluids,
- before using it for a new user.

#### 5.3.3 Cleaning by Hand

**All components** (excluding removable textiles)

- Cleaning agent: We recommend using a mild detergent with neutral or near neutral pH (5-9).



Commercially available consumer products like hand dishwashing liquid or all-purpose cleaners can be used. Read the instructions on the label of your cleaning agent and use it at the indicated concentration.

- Max. water temperature: 40 °C

1. Wipe surfaces thoroughly with a soft cloth slightly moistened with detergent solution until all visible soil is removed.
2. Remove all detergent residue with a clean damp cloth.
3. Wipe dry using a clean soft cloth.

**Removable textiles** (including upholstery and mattresses)

- See attached label on each product.

### 5.3.4 Disinfection Instructions

#### In Domestic Care

- Disinfectant: We recommend using an alcohol-based surface disinfectant (with 70-90% alcohol).



Read the instructions on the label of your disinfectant. It provides information on the activity spectrum (bacteria, fungi and/or viruses), material compatibility and the correct exposure time.

1. Ensure the surfaces are cleaned before disinfection.
2. Moisten a soft cloth and wipe-disinfect all accessible surfaces and keep them moistened for the exposure time stated on the label of the disinfectant.
3. Allow the product to air-dry.

#### In Institutional Care

Follow your in-house disinfection procedures and only use the disinfectants and methods specified therein.

## 6 After Use

### 6.1 Disposal



#### WARNING!

##### Environmental Hazard

Device contains batteries.

This product may contain substances that could be harmful to the environment if disposed of in places (landfills) that are not appropriate according to legislation.

- DO NOT dispose of batteries in normal household waste.
- DO NOT throw batteries into a fire.
- Batteries **MUST** be taken to a proper disposal site. The return is required by law and free of charge.
- Only dispose of discharged batteries.
- Cover terminals of lithium batteries prior to disposal.
- For information on the battery type see battery label or chapter 8 *Technical Data, page 1*.

Be environmentally responsible and recycle this product through your recycling facility at its end of life.

Disassemble the product and its components, so the different materials can be separated and recycled individually.

The disposal and recycling of used products and packaging must comply with the laws and regulations for waste handling in each country. Contact your local waste management company for information.

### 6.2 Reconditioning

This product is suitable for reuse. To recondition the product for a new user, carry out the following actions:

- Cleaning and disinfection
- Inspection according to service plan

For detailed information about inspection, cleaning and disinfection, consult the user manual and service manual for this product.

## 7 Troubleshooting

### 7.1 Troubleshooting

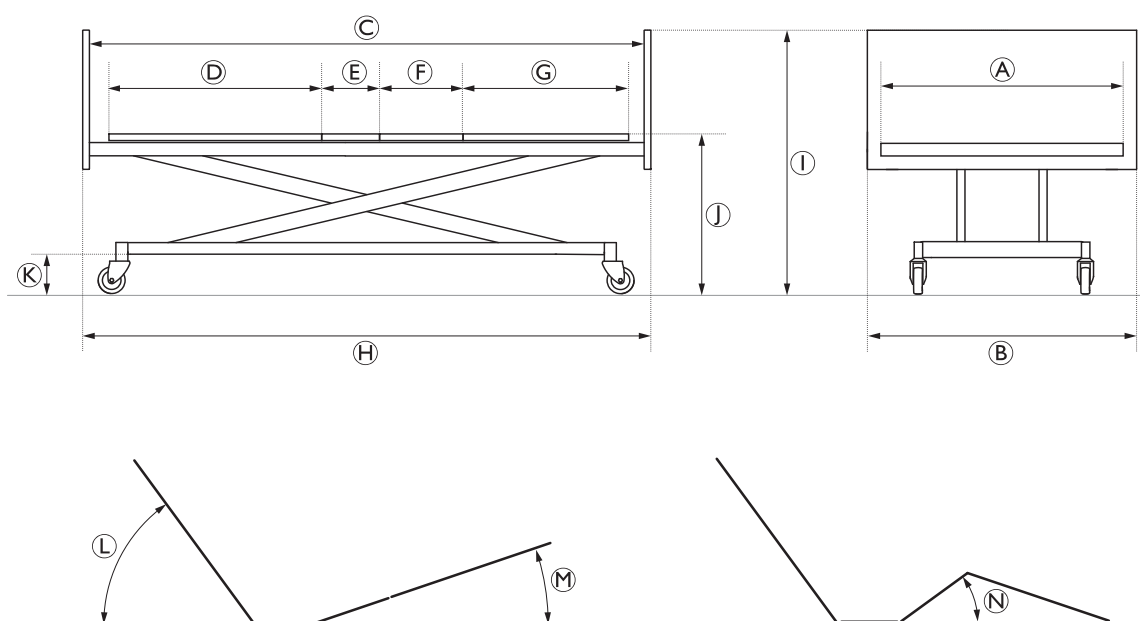
Symptom	Possible cause	Remedy
Bed section does not move	End of stroke reached	Operate opposite button
Full bed: No electric function does work	Bed not plugged in	Plug in mains cable
	Hand control not connected	Ensure hand control correctly connected to control unit.
	Hand control defective	Call dealer / technician to replace hand control
	Control unit defective	Call dealer / technician to replace control unit
	Cables entangled or pinched	Call dealer / technician to replace cables
Side rail does not open or close	Locking mechanism defective	Call dealer / technician to repair side rail

## 8 Technical Data

### 8.1 Materials

<b>Mattress Platform</b>	Steel (powder-coated)
<b>Base Frame and Shear arms</b>	Steel (powder-coated)
<b>Bed Ends</b>	Chipboard and steel (powder-coated)
<b>Side Rails</b>	Wood
<b>Actuators housing, Hand control, Control box, Castors and other Plastic parts</b>	Materials according to marking (PA, PP, PE, POM, ABS)
<b>Bolts and nuts</b>	Steel (Zinc-plated)

### 8.2 Dimensions Bed





Dimension [cm]	NordBed Kid Small	NordBed Kid Medium	NordBed Kid Large
Mattress support width <b>A</b>		80	
Total width <b>B</b>		90	
Internal length <b>C</b>	140	160	179
Back section length <b>D</b>	62	67	78
Seat section length <b>E</b>	7	13	15
Thigh section length <b>F</b>	16	18	23
Leg section length <b>G</b>	48	55	57
Total length <b>H</b>	146	166	185
Total height <b>I</b> with low bed ends	–	71 - 121	
Total height <b>I</b> with high bed ends	111 - 161		
Mattress support to floor height <b>J</b>	30 - 80		
Base to floor height <b>K</b>	15		

Angles [°]	NordBed KidSmall	NordBed KidMedium	NordBed KidLarge
<b>L</b>	0 - 70		
<b>M</b>	0 - 12		
<b>N</b>	0 - 24	0 - 30	



All dimensions are stated without tolerances and angles are stated with tolerances of  $\pm 3^\circ$ .

### 8.3 Maximum Loads

		NordBed Kid Small	NordBed Kid Medium	NordBed Kid Large
	Max. safe working load (including accessories)	100 kg	115 kg	115 kg
	Max. user weight (provided that the weight of the mattress and the accessories do not exceed 30 kg for the small bed and 45 kg for the medium and large bed)	70 kg	70 kg	70 kg

### 8.4 Weights

Weight [kg]	NordBed Kid Small	NordBed Kid Medium	NordBed Kid Large
Complete bed (excl. bed ends, side rails and accessories)	86	95	97
Mattress support (incl. 3 actuators)	33	40	42
Lifting mechanism (incl. actuator and control unit)	22	23	23
Base with central break	31	32	32
Base with castor breaks	30	30	30
Bed End – 40 cm height	—	7	
Bed End – 80 cm height	12		
Fixed side rail – 40 cm height	—	8	9
Fixed side rail – 80 cm height	10	11	12
Lowering side rail – 40 cm height	—	8	9
Side rail with foldable doors – 40 cm height	—	9	10
Side rail with foldable doors – 80 cm height	13	14	15

### 8.5 Dimensions Side Rails

Side rail	Height [cm]	Length [cm]			Information
		NordBed Kid Small	NordBed Kid Medium	NordBed Kid Large	
Fixed	40	146	166	185	<ul style="list-style-type: none"> <li>Type: Full length, fixed</li> <li>Material: Wood</li> <li>Mounting: On bed ends</li> </ul>
	80				
Lowering	40	—			
Foldable doors	40	146			
	80				

### 8.6 Allowed Mattress Dimension

Dimensions of mattress [cm]	NordBed Kid Small	NordBed Kid Medium	NordBed Kid Large
Length	136	156	175
Height – for bed with bed ends and side rails of 40 cm height	—	10 - 18	
Height – for bed with bed ends and side rails of 80 cm height	10 - 20		
Width – for bed without upholstery	79		
Width – for bed with upholstery	77		

## 8.7 Environmental conditions

	Storage and Transportation	Operation
Temperature	-10°C to +50°C	+5°C to +40°C
Relative humidity	20% to 80% - not condensing	
Atmospheric pressure	700 hPa to 1060 hPa	



Allow the product to reach operation temperature before usage:

- Warming up from minimum storage temperature might take up to 24 hours.
- Cooling down from maximum storage temperature might take up to 24 hours.

## 8.8 Electrical system

Voltage supply	U <sub>in</sub> 100 - 240 VAC, 50/60 Hz (AC = Alternating current)
Maximum current input	I <sub>in</sub> max. 2.5 A, 228 - 282 VA
Intermittent (periodic motor operation)	10%, max. 2 min ON / 18 min OFF
Insulation class	CLASS II equipment
Type B Applied Part	Applied Part complying with the specified requirements for protection against electrical shock according to IEC60601-1.
Sound level	55 dB (A)
Degree of protection	The control unit, external power supply, motors and hand controls are protected according to IPX6. See bed identification label and label on each electric device for correct IP class. The lowest IP-classification decides the overall classification of the bed.  <b>IPX6</b> - The system is protected against powerful water jets projected from any direction.



The bed has no isolator (main switch). If the bed needs to be electrically disconnected, it has to be unplugged from the mains socket.

## 9 Electromagnetic compatibility (EMC)

### 9.1 General EMC information

Medical Electrical Equipment needs to be installed and used according to the EMC information in this manual.

This product has been tested and found to comply with EMC limits specified by IEC/EN 60601-1-2 for Class B equipment.

Portable and mobile RF communications equipment can affect the operation of this product.

Other devices may experience interference from even the low levels of electromagnetic emissions permitted by the above standard. To determine if the emission from this product is causing the interference, run and stop running this product. If the interference with the other device operation stops, then this product is causing the interference. In such rare cases, interference may be reduced or corrected by the following:

- Reposition, relocate, or increase the separation between the devices.

### 9.2 Electromagnetic emission

#### Guidance and manufacturer's declaration

This product is intended for use in the electromagnetic environment specified below. The customer or the user of this product should assure that it is used in such an environment.

Emissions test	Compliance	Electromagnetic environment - guidance
RF emissions CISPR 11	Group I	This product 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	Class B	This product is suitable for use in all establishments including domestic establishments and those directly connected to the public low-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	


### 9.3 Electromagnetic Immunity


#### Guidance and manufacturer's declaration

This product is intended for use in the electromagnetic environment specified below. The customer or the user of this product should assure that it is used in such an environment.

Immunity test	Test / Compliance level	Electromagnetic environment – guidance
Electrostatic discharge (ESD) IEC 61000-4-2	± 8 kV contact ± 2 kV, ± 4 kV, ± 8 kV, ± 15 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; 100 kHz repetition frequency ± 1 kV for input / output lines; 100 kHz repetition frequency	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	± 1 kV line to line ± 2 kV line to earth	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	< 0% $U_T$ for 0,5 cycle at 45° steps 0% $U_T$ for 1 cycles 70% $U_T$ for 25 / 30 cycles	Mains power quality should be that of a typical commercial or hospital environment. If the user of this product requires continued operation during power mains interruptions, it is recommended that the product is powered from an uninterruptible power supply or a battery. $U_T$ is the a. c. mains voltage prior to application of the test level.




Immunity test	Test / Compliance level	Electromagnetic environment – guidance
IEC 61000-4-11	< 5% $U_T$ for 250 / 300 cycles	
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	30 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.
Conducted RF IEC 61000-4-6	3 V 150 kHz to 80 Mhz  6 V in ISM & amateur radio bands	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 this product is used exceeds the applicable RF compliance level above, this product should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating this product.
Radiated RF IEC 61000-4-3	10 V/m 80 Mhz to 2,7 GHz  385 MHz - 5785 MHz test specifications for immunity to RF wireless communication equipment refer to table 9 of IEC 60601-1-2	Interference may occur in the vicinity of equipment marked with the following symbol:   Portable and mobile RF communications equipment should be used no closer than 30 cm to any part of this product including cables.

 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

### 9.3.1 EMC test specifications

IEC 60601-1-2 — Table 9

Test Frequency (MHz)	Band <sup>a)</sup> (MHz)	Service <sup>a)</sup>	Modulation <sup>b)</sup>	Immunity test level (V/m)
385	380 - 390	TETRA 400	Pulse modulation <sup>b)</sup> 18 Hz	27
450	430 - 470	GMRS 460, FRS 460	FM <sup>c)</sup> ± 5 kHz deviation 1 kHz sine	28
710 745 788	704 - 787	LTE Band 13, 17	Pulse modulation <sup>b)</sup> 217 Hz	9
810 870 930	800 - 960	GSM 800/900, TETRA 800, iDEN 820, CDMA 850, LTE Band 5	Pulse modulation <sup>b)</sup> 18 Hz	28
1720 1845 1970	1700 - 1990	GSM 1800; CDMA 1900; GSM 1900; DECT; LTE Band 1, 3, 4, 25; UMTS	Pulse modulation <sup>b)</sup> 217 Hz	28
2450	2400 - 2570	Bluetooth, WLAN, 802.11 b/g/n, RFID 2450, LTE Band 7	Pulse modulation <sup>b)</sup> 217 Hz	28
5240 5500 5785	5100 - 5800	WLAN 802.11 a/n	Pulse modulation <sup>b)</sup> 217 Hz	9

 If necessary to achieve the immunity test level, the distance between the transmitting antenna and the Medical Electrical Equipment or System may be reduced to 1 m. The 1 m test distance is permitted by IEC 61000-4-3.

<sup>a)</sup> For some services, only the uplink frequencies are included.

<sup>b)</sup> The carrier shall be modulated using a 50 % duty cycle square wave signal.

<sup>c)</sup> As an alternative to FM modulation, the carrier may be pulse modulated using a 50 % duty cycle square wave signal at 18 Hz. While it does not represent actual modulation, it would be worst case.



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