Staebel Careturner User Manual

Product Code: 78610

1800 772 287 hello@staebel.com.au www.staebel.com.au

Thank you for choosing the Staebel Careturner

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

GENERAL

Introduction

This document belongs to an Careturner accessory and it contains important information about handling and assembly. To ensure safety when using the product, read the user manual of the related product carefully and follow the safety instructions.

Find the user manual on Careturner's website or contact your Careturner representative. See addresses at the end of this document.

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

Definitions

All references to left and right are based on a person lying on his back in the bed, with his head in the head end.

Intended Use

The Careturner® and control unit is intended to be used only in conjunction with 90-, 100- or 105 cm wide of following Wissner Bosserhoff-beds:

- Sentida 5
- Sentida 6
- Sentida 7i
- Sentida SC
- Variana

equipped with side rails in an appropriate height (see chart in Technical Data), side rail covers and a foam mattress (see size chart Technical Data).

As a part of an overall pressure injury prevention programme of care.

- To move bedridden end-users to lay on left or right side or on the back.
- Support the end-user in getting in and out of bed. When used in the "automatic" mode it has been designed to provide pressure reduction to end-users.
- When used in the "manual" mode it is designed to support the care staff in turning the end-user from side to side in the bed.
- It is suitable for use in all home care, residential and nursing care settings.
- It is suitable only for indoors use.
- It is suitable for hospital environment.

Indications

The intended patient group for Careturner® is:

- Immobile/partially immobile adult end users
- Need for prevention and relief in connection with pressure ulcers both lying down and sitting up in bed
- Need for continuous repositioning.
- Need for help with turns in the bed in connection with e.g. personal care, clothes etc.
- Pain associated with turning in bed
- Need for body boundaries and calmness/security (sensory stimulation)
- The end user reacts by being turned in bed – sensory, vestibular, uncomfortable, uneasy, extroverted behavior.

Contraindications

Careturner is not suitable for patients:

- Residents who are mobile and get out of bed themselves at night - volatile
- Unbalanced psychiatric patients, acute anxiety attacks, psychoses etc.
- Unstable fractures
- Weight over 165 kg

Precautions

- Before using Careturner®, it is important to evaluate whether Careturner® is suitable for the specific user
- For safety reasons, it is not recommended that the end user operate the Careturner® himself, except when the end user is assessed and documented by professionally trained staff to be cognitively able to operate the hand control without risk of endangering himself.

Any other or incorrect use could lead to hazardous situations. Careturner accepts no liability for any use, change or assembly of the product, other than stated in this user manual

Service Life

The expected service life of this product is five 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.

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.

Compliance

This product features the CE mark, in compliance with the Medical Device Regulation 2017/745 Class 1. The launch date of this product is stated in the CE declaration of conformity

Limitation of Liability

Careturner accepts no liability for damage arising from:

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

SAFETY

General Safety Information

Compatibility with Wissner Bosserhoff beds only: This Careturner® version is specially designed and must only be used in conjunction with 90-, 100- or 105 cm wide Wissner Bosserhoff-beds (see 1.3 Intended use).

Risk of falling: If the Careturner® is used without or with the wrong side rails, there is a risk for the end-user to fall out of the bed.

- Never use the Careturner® on a bed without side rails.
- Only use the Careturner® in combination with Invacare side rails listed in 9 Technical Data.
- Always make sure the side rail is up in the opposite site of where the care staff is placed OR one care staff is placed on each side of the bed, when the manual mode is used.
- Always make sure both side rails are up, when the automatic mode is activated.

Risk of squeezing and/or suffocation: If the side rails are used without a cover or with a non-breathable cover, there is a risk of squeezing and/or suffocation for the end-user.

- Always use a breathable cover for the side rails when using the Careturner®.

Risk of falling and/or squeezing

- Always perform a risk assessment of the enduser's condition and ability of moving.
- Never use the Careturner® if the end-user is anxious or restless.
- Always make sure the end-user is placed in the middle of the bed and all body parts are on the mattress before the wings are moved.
- Never leave the end-user unattended when the manual mode is used.
- The end-user must never get in or out of the bed while the wings are moved manually or the automatic mode is activated.
- The hand control must always be used by care giver.

Risk of injury or damage to property: Inappropriate handling of cables can cause electrical shock and product failure.

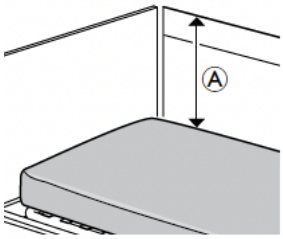
- Do not kink, shear or otherwise damage the main power cord.
- Do not roll the castors over the main power cord.
- Do not bring main power cord into moving parts.
- Disconnect the plug from the mains before moving the bed.
- Make sure that no cables (mains or from other equipment) are jammed or damaged, when the bed is used.
- Keep bed components and accessories at least 30 cm away from a heated surface and not in direct sunlight.

Mattresses

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 tables in Technical Data.

Risk of entrapment and/or suffocation:



- The end-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 Technical Data .
- Be aware that using very thick or soft mattresses (low density), or a combination of these, increases the risk.

Risk of falling: The end-user can fall over the edge and get seriously injured, if the vertical distance 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 A of 22 cm on the side of the wing the user is lying on (secondary wing elevated to max. 12°).
- Follow the maximum mattress height in combination with the side rail as stated in the mattress table in Technical Data.

Electromagnetic Interference

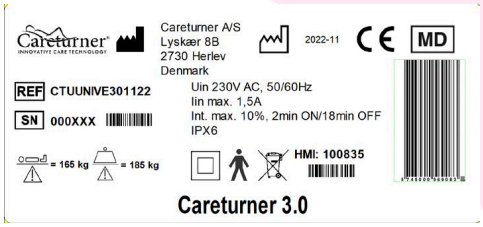
Risk of malfunction due to electromagnetic interference: Electromagnetic interference between this product and other electrical equipment can occur and disturb the electrical adjustment functions of this product. To prevent, reduce or eliminate such electromagnetic interference:

- 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 chapter 10 Electromagnetic compatibility (EMC).

LABELS AND SYMBOLS ON THE PRODUCT

Product Label

The product label is placed on the main module of the Careturner® and contains the main product information, including technical data.



Symbols

SN	Serial Number	REF	Reference Number
	Manufacturer Address		Manufacturing Date
	Max. User Weight		Max. Safe Working Load
	Type B Applied Part		WEEE conform
CE	European conformity	MD	Medical device
	Insulation Class 2	Pb	Recyclable battery

Abbreviations for technical data:

- Iin = Incoming Current
- Uin = Incoming Voltage
- Int. = Intermittence
- AC = Alternating Current
- Max = maximum
- min = minutes

For more information about technical data, refer to 9 Technical Data

Other Labels & Symbols

	Read carefully the user manual before using this product and follow all instructions for safety and use		Indicates the correct placement and orientation of the Careturner® main module on the bed. See 3.3 Mounting the Careturner® (Mounting the main module)
	Indicates the correct placement of the head and foot arms to the main module. See 3.3 Mounting the Careturner® (Mounting the arms and cover).		Indicates the correct placement of the cover on the Careturner®. See 3.3 Mounting the Careturner® (Mounting the arms and cover).

SETUP

General safety information

When you receive the product, check the packaging. If the packaging shows any signs of damage upon delivery, contact the shipping company.

Risk of injury or damage to property: The assembly and installation must be done by authorised or trained personnel.

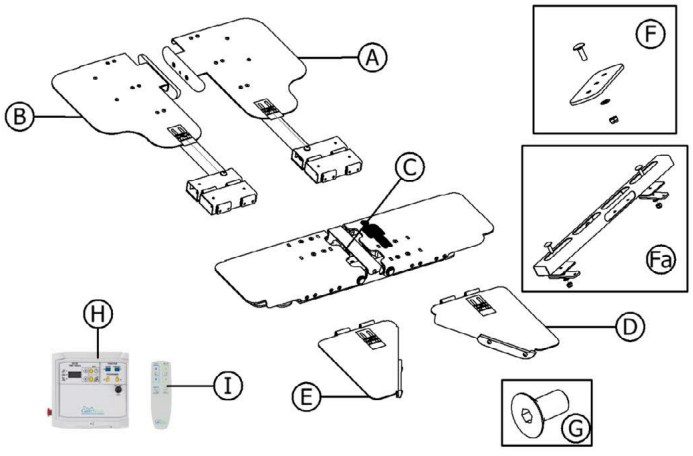
- This Careturner® version is specially designed and must only be used in conjunction with 90-, 100- or 105 cm wide Wissner Bosserhoff-beds (see 1.3 Intended use).
- Follow instructions carefully. If you have any question regarding the assembly, contact your local dealer or Careturner® representative.
- If the product shows any sign of damages, do not use the product. Contact your local dealer or Careturner® representative.
- The electrical equipment of the product must not be dismantled or combined with other electrical equipment.
- After each assembly, check that all fittings are properly tightened and that all parts have the correct function.

Scope of Delivery

The Careturner® is delivered partially assembled in a cardboard box.

Main Parts

A Head end arm of left wing
B Head end arm of right wing
C Main module (pre-assembled unit)
D Foot end arm of left wing
E Foot end arm of right wing
F 1 set: Plates, Carriage-bolts, washers & lock nuts
Fa 1 set: Plates, wire, Carriage-bolts, wire clamp,washers and lock nuts
G 16: Undersunk head bolts
H Control Box
I Hand Control
Textile cover (not show in image)



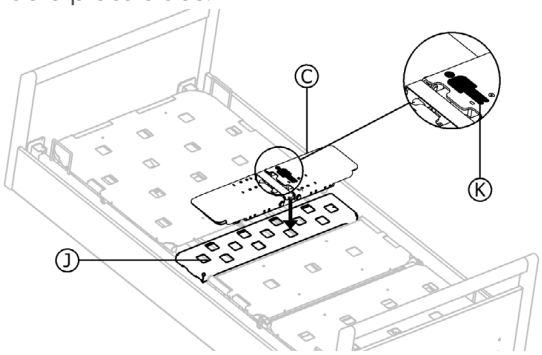
Mounting the Careturner

Mounting the main module

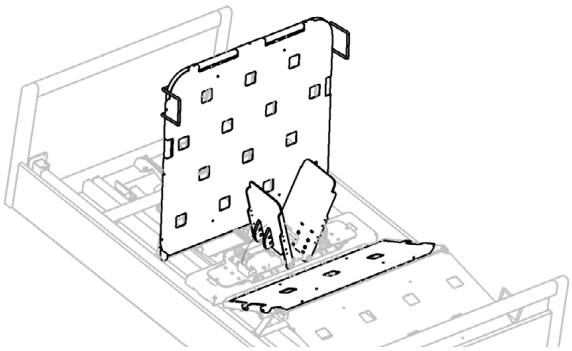
Risk of injury or damage to property: Holding the main module at wrong parts while lifting, can cause product damage or injury.

- Only hold the main module at the cover plates of the wings or the mounting brackets on the base frame, where the lift here stickers are placed.
- Do not hold on the middle cover plate.

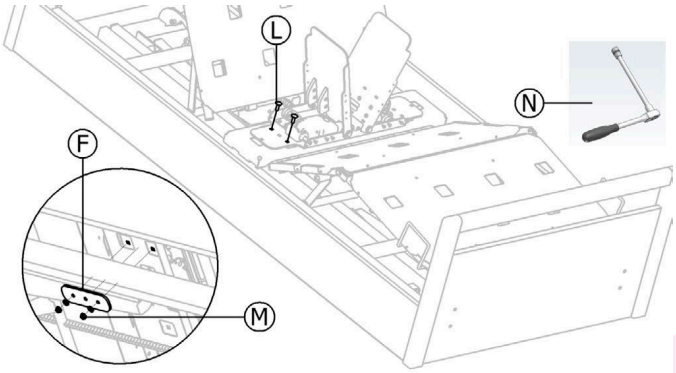
1. Place the main module C onto the middle plate J, following the symbol represented in the zoomed image K. Head facing towards the head end of the bed and feet towards the foot end of the bed. Ensure that the main module is placed in the middle of the plate from the bed sides and the middle plate sides.



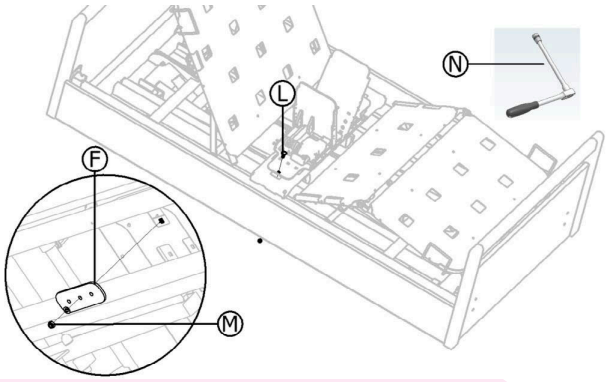
2. Cut the 4 plastic strips holding the top wings to the main module and secure both wings in the upper position, find a suitable support for the wings to avoid injuries. Elevate the head end and knee bend of the bed in the max upper position, for better access under the bed.



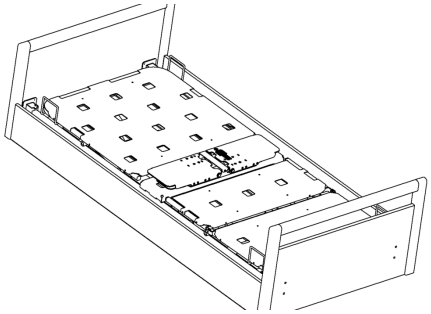
3. a. This step assembly is for Sentida 5, 6 and 7i beds. Mounting instructions for sentida SC or Variana, please go to 3.b.
Fix the main module to the bed by placing the 2 carrige-bolts L from the top through the main module and bed, connect the bolt with the support plate F, from under the bed by using the washers and lock nut M. Make sure the lock nut is well tightened and the main module stays fixed on the bed. To tighten the lock nut use a 13 mm socket wrench N with a long extension as shown in the image. All the parts for this step are found in set F.



3.b. This step assembly is for Sentida Sc and Variana beds.
Fix the main module to the bed on both sides, by placing 1 carrigebolt L from the top through the main module and bed, connect these bolts with the support plate F, from under the bed by using the washers and lock nut M. Make sure the lock nut is well tightened and the main module stays fixed on the bed. To tighten the lock nuts use a 13 mm socket wrench N with a long extension as shown in the image. All the parts for this step are found in set F.



4. Bring the Careturner® and the bed in a flat position.



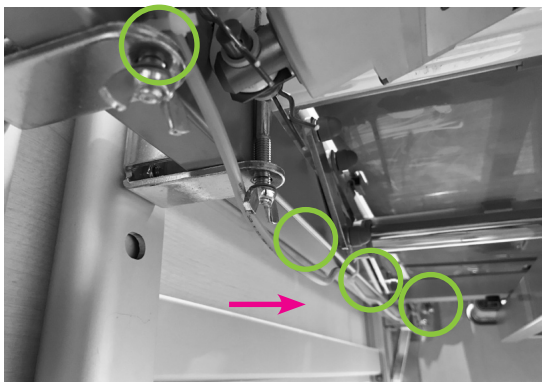
Wiring

The control box and hand control is to be hung at the footboard.

Connections at the control box:

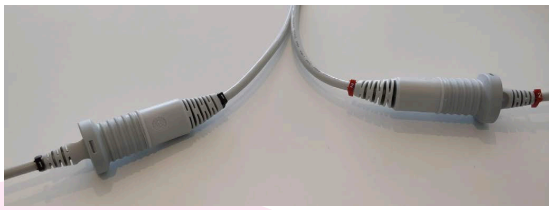
- Q Power supply
- R Hand control
- S Right motor
- T Left motor

1. Run the motor cable underneath the bed frame toward the foot end (indicated by the arrow in the image), on both sides of the bed and fix each of the cables with zip ties onto the frame tube. Ensure that both motor cables are tighten with zip ties (marked by the circles in the picture), first zip tie near the motor and the last 3 on the frame tube toward the foot end. Make sure the end of the zip ties, are not facing outwards from the bed frame.



2. Connect the hand control to cable R and connect the power cable Q to the mains. The hand control cable is marked 3 on the cable clip corresponding to 3 on the control box cable.

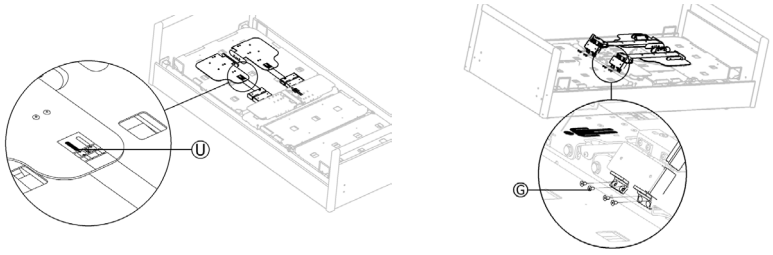
3. Connect the cables of the right and left motor to the two extension cables S and T from the control box. The right motor cable is marked 1 on the cable clip corresponding to 1 on the cable from the control box and the left motor cable is marked 2 on the cable clip corresponding to 2 on the control box cable. Deactivate the emergency stop, turn the system on, activate manual mode and use the hand control to check that the left and right motor are correctly connected to the control box (see chapter Usage for detailed instructions).
   Ensure that all cables run underneath the bed frame tubes and move the bed all the way up and down to ensure no cables are getting squeezed.



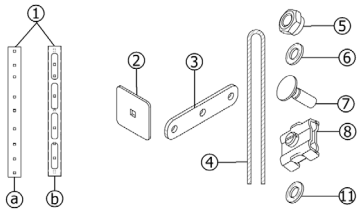
4. Collect the motor cables in a bundle and tighten it with a zip tie, move the bed up and down to make sure that the bundle is not clinging on any bed parts and moves freely.

Mounting Arms & Cover

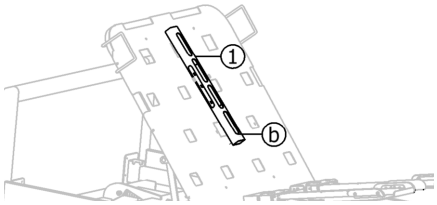
1. (a) Place the top arms on the bed towards the head end of the bed, following the representation on the arms label shown in the zoomed image U, the black shaded area on the sticker represents the location where the arm must be placed.
   (b) Flip the arms from the head end of the bed to the foot end of the be to gain access to the hinges and fix the top arms on the main module with the under-sinked bolts from set G and tighten them well, using a 3 mm Allen key. Keep the arms in this position for the next steps.



2. For the following steps you need to use the parts from set Fa , which includes:
   1 :Long profile: 1 pcs
   a : View from Bottom side
   b : View from Top side
   2 : Square plates: 2 pcs
   3 : Support plates: 2 pcs
   4 : Wire: 1 pcs
   5 : M6 lock nut: 2 pcs
   6 : M6 washer: 2 pcs
   7 : M6X20 Square neck round Head bolts (carriage-bolts): 2 pcs
   8 : Wire clamp: 1 pcs
   11 :M6 washer: 2 pcs

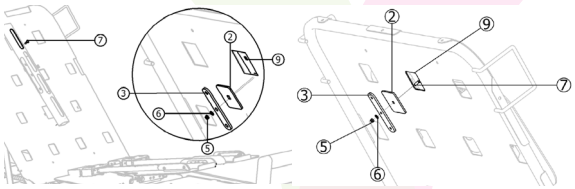


3. Elevate the head end of the bed to gain an accessible position from under the plastic plates of the bed. Place the long profile 1 on the head end plastic plates, with the “Top side” b facing up. The long profile 1 needs to be fixed to the plastic plates of the bed in two locations.

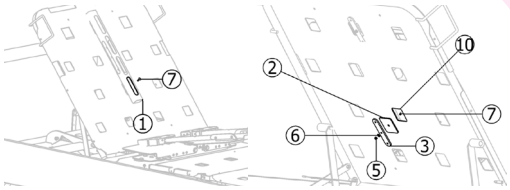


a. Connecting first location
From the “Top side” of the long profile, place 1 carriage-bolt 7 in the second small square hole on the long profile 1. Under the plastic plate, the first location is connected in the following order: square plate 2 , support plates 3 , M6 washer 6 and M6 lock nut 5 to the carriage-bolt 7 . Note the square plate 2 needs to fit in the plastic plates hole 9 :

b. Connecting second location
From the “Top side” of the long profile, place 1 carriage-bolt 7 in the second last small square hole on the long profile 1. Under the plastic plate, the second location is connected in the following order: square plate 2 , support plates 3 , M8 washer 6 and M8 lock nut 5 to the carriage-bolt 7 . Note the square plate 2 needs to fit in the plastic plates hole 10.
IMPORTANT! Check for collision at the back of the bed’s headboard - certain models have a cross lift bar. Please see picture below – arrows pointing at the bar.

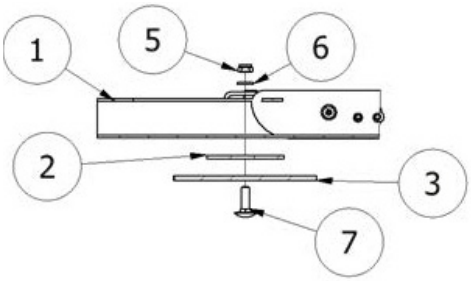


a. Connecting first location

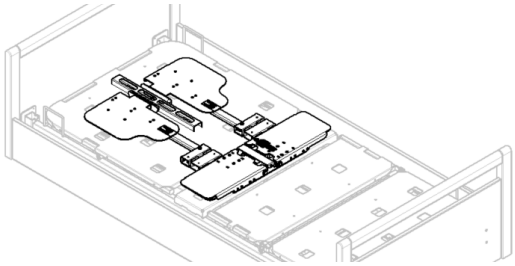


b. Connecting second location

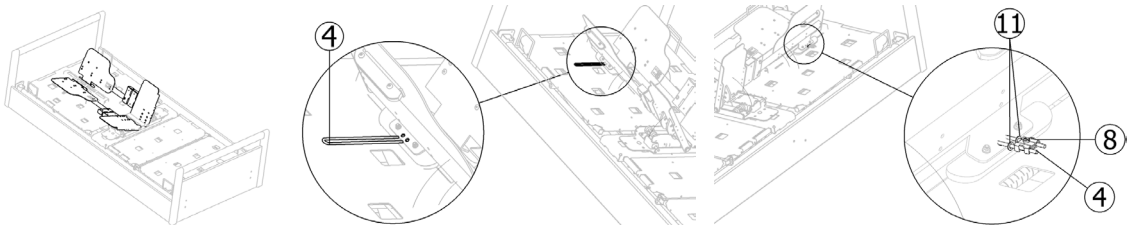
4. If so, to avoid collision the M6X20 Square neck round head bolts (7) should be mounted from beneath the mattress support platform and NOT over the mattress support platform as described above. Please refer to below illustration and mount the back piece (1) with the bolts inserted from beneath.



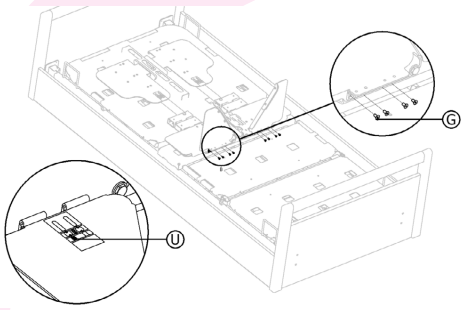
5. After the long profile 1 is mounted flip the arms back in normal position.
Risk of injury or damage to property: The top arms assembly can move from side to side when the head end is elevated. Be cautious until the arms are fixed to the middle plate.



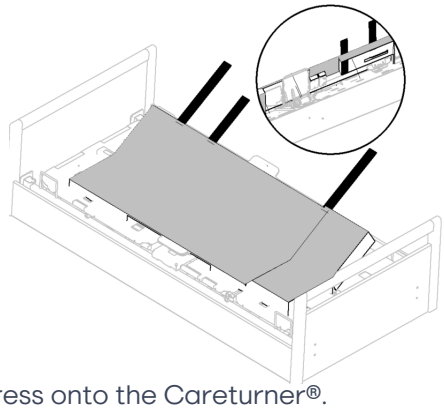
6. (a) Elevate one side of the Careturner® to the max angle and the other side slightly using the control box in manual mode (see chapter 4 Usage for details).
(b) On the side that is elevated less, pass the wire 4 through the holes of the arms all the way on the other side. The wire needs to pass through all the parts, arms and long profile 1 .
(c) On the other side, first place the two M5 washers 11 , and then the wire clamp 8 , onto the wire 4 , there should be a distance of about 1 cm from the wire ends to the clamp. Use a flat screwdriver to tighten the clamp on the wire, make sure it is tighten well.



7. Connect the bottom arms with the main module, following the representation on the arms label shown in the zoomed image U, the black shaded area on the sticker represents the location were the arm must be placed. Flip the arms from the foot end to the head end of the bed to gain access to the hinges and fix the bottom arms on the main module with the under-sinked bolts from set G and tighten them well, using a 3 mm Allen key.



8. Elevate both wings to put on the blue cover using the control box in manual mode (see chapter 4 Usage for details). Mount the cover by sliding the pockets over the head end and foot end arms. Make sure the plastic support from the arms fits the holes in the cover. The head end of the cover contains the label information and placement of the cover symbol



9. Place and secure the mattress onto the Careturner®.
   a. Release the Velcro fastener of both straps on the side of the cover and fold them away to the side.
   b. Place the mattress onto the bed on top of the Careturner® (for compatible mattresses see 9 Technical Data).
   c. Guide the straps over the mattress and refix the Velcro fastener to tightly secure the mattress to the Careturner®.

USAGE

General safety information

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.
- The hand control must not be used by children.
- The hand control must only be used by care giver.

If a power failure occurs, the battery secures the possibility of resetting via the “ON/OFF” function.

- – Make sure the battery is fully charged before using the Careturner®.
- – Refer to Battery in the Maintenance section for further information.

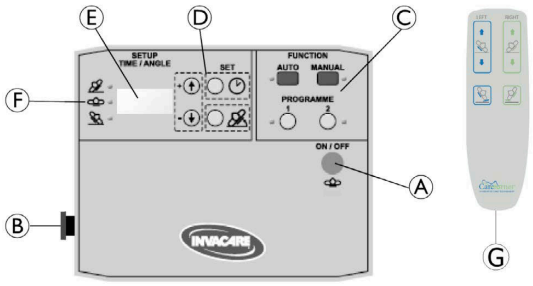
Overview

The Careturner® can be operated either in manual or automatic mode. In both modes it is possible to activate the normal functions of the bed.

It is recommend to have the head section slightly raised, while using the Careturner®, to provide a more comfortable position to the end-user.

- **Manual Mode**: The manual mode has been designed to support the care staff in turning the end-user from side to side in the bed. The wings can be raised and lowered via the hand control (see section Manual Operation).
- **Automatic Mode:** The automatic mode has been designed to provide pressure reduction to end-users. In the AUTO program, the wings will move automatically according to pre-defined parameters for time and angle (see section Auto Program Sequence). In Program 1 and 2, the wings will move automatically according to individually defined parameters for time and angle (see chapter Programming).

Control Box and Hand Control



- A On/Off and Reset function button
- B Emergency stop button
- C Function buttons to choose the mode of operation.
- D Setup buttons to set the parameters for program 1 and 2
- E Display
- F Position indicators
- G Hand control

On/Off and Reset function

Turn the system on:

1. Press and hold the button A for 3 sec. to turn the system on

Reset function:

The Reset function overrides all commands and moves both wings into a horizontal position.

1. To activate the Reset function press button A (without holding)

Turn the system off:

1. Press the button A to reset the system and if applicable, wait until both wings moved into horizontal position.
2. Press and hold the button A for 3 sec. to turn the system off.

Display

System Status	Display	Notes
OFF		Display Blank
ON	Software version (3 digit number)	Displayed 2 sec. after system has been turned on (switches to passive mode if no function is selected)
ON	---	Passive mode (no function selected)
RESET	OFF	Displayed after the Reset function has been activated. The system subsequently switches to passive mode.

Emergency Stop

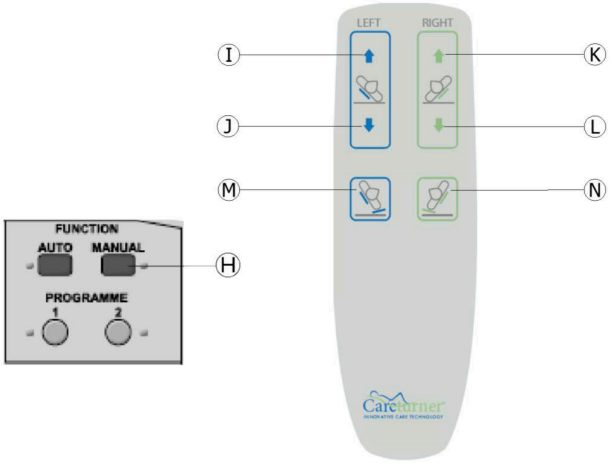
When the emergency stop is activated, the Reset function can still be activated, by pressing button A, to lower the wings to horizontal position if required. When the emergency stop is activated it stops all controls and movements immediately (wings will stay in current position).

1. To activate, push the button B.
2. To deactivate, rotate the button B clockwise.
3. Press button A to reset the system.

Manual Operation

- If both wings are simultaneously elevated to angles of more than 12° there is a risk of squeezing the patient. This option must only be used by trained personnel.
- The first time MANUAL is activated, after the system has been switched on, it will reset itself before the function can be used.

1. Press and hold button H for 3 sec. to activate manual operation.
2. Press buttons on hand control as required.
   - To raise the left wing, press I
   - To lower the left wing, press J
   - To raise the right wing, press K
   - To lower the right wing, press L
   - To raise right wing from 0° to 73° and left wing from 0° to 5°, press N. When pressing N angle of the right side is shown in the display
   - To raise left wing from 0° to 73° and right wing from 0° to 5°, press M. When pressing M angle of the left side is shown in the display
3. To deactivate manual operation, press the ON/ OFF button A.



Status indicators

Display	Display	Notes
0 = no activity Uxx = right wing moves up dxx = right wing moves down xxU = left wing moves up xxd = left wing moves down	MANUAL LED active	The letters 'xx' on the display represent the angle at which the wing is positioned, while the letters represent the direction of movement: • U = up movement. • d = down movement. • xx =x (degrees) Example: 10=10 degrees

Recommended Procedures

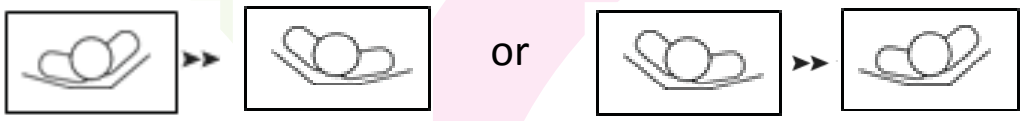
Transfer from flat position to the side:

- Press either N or M depending on which side the patient should be elevated to.

Transfer from one side to the other:

1. If left side is elevated - press and hold N to transfer from left to right side. Release button when desired height is maintained.
2. If right side is elevated - press and hold M to transfer from right to left side. Release button when desired height is maintained.

Transfer from flat position to the side

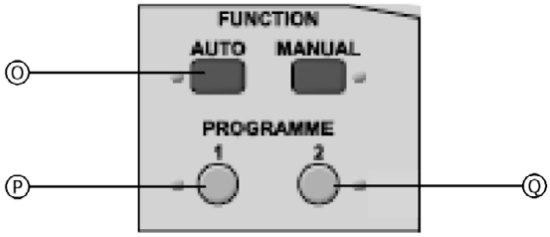


Transfer from one side to the other:

Automatic operation

The AUTO program is pre-defined and can not be changed. Program 1 and 2 can be individually defined by the care staff (see chapter Programming). Upon delivery the programs are empty and need to be defined before usage.

- If one of the programs is activated, the system will reset to FLAT position before starting the selected program.
- If a new program is selected while another program is active, the system will reset to FLAT position before starting the new program.



1. Press program buttons as required.
   - To start the AUTO Program, press and hold O for 3 sec.
   - To start Program 1, press and hold P for 3 sec.
   - To start Program 2, press and hold Q for 3 sec.
2. To stop a running program press the ON/OFF A button.
   - The hand control will not work when a program is active.

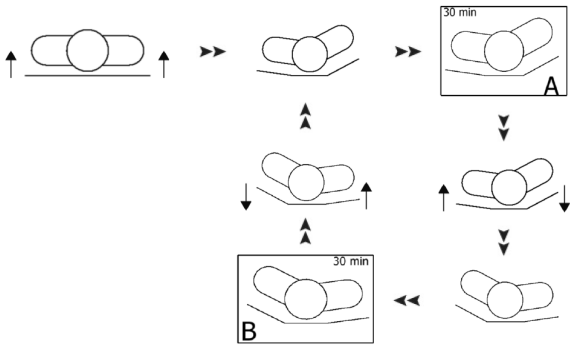
Status indicators

Active Program	Display	LED	Notes
AUTO	AU	AUTO LED active	
Program 1	P1	P1 LED active	
Program 2	P2	P2 LED active	
Timer	P1/XX and P2/XX		The display changes between the selected program and the time to the next reposition. - P1/01 = program 1 and 01 minute before next reposition. - P2/05= program 2 and 05 minutes before next reposition.

Auto Program Sequence

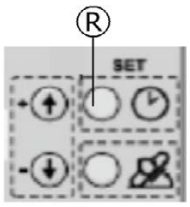
- Starting from the flat position, both wings immediately begin to raise simultaneously.
- Left wing stops at 8° and the right wing stops at 25°.
- This position A is maintained for 30 minutes.
- Simultaneously the left wing begins to raise and the right wing begins to lower.
- The right wing stops at 8° and the left wing continue to raise up to 25°.
- This position B is kept for 30 minutes.

The cycle will continue shifting between position A and B, until the program is stopped.



Pause Automatic Operation

It is possible to pause an automatic operation and use the hand control as in manual mode.



1. Press and hold for 3 sec. R button, while an automatic program is running, the wings will move to the flat position. Now the manual mode can be used.
2. The activated program before the pause action, will proceed after 30 minutes of inactivity, 10 sec before the program starts a BEEP is heard, if the inactivity period should be extended press any button on the hand control after the BEEP
3. If the automatic program should start again right away, pressand hold R for 3 sec to activate.

Charging the Battery

The battery is charging when the system is connected to the power supply and turned on.

Charging of the battery is indicated by a dot in the bottom right corner of the display.

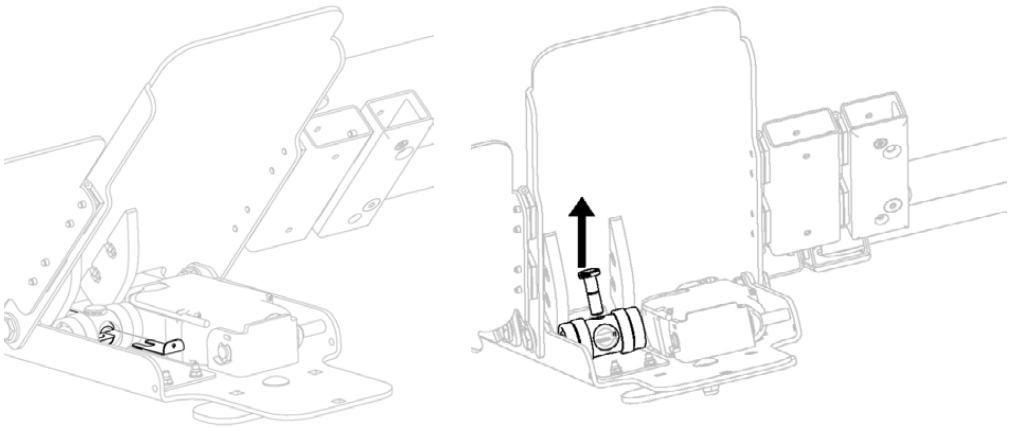
The battery will be fully charged after 12 hours.

- The battery is NOT charging when error E03 or E04 occurs.

Emergency release of the wing

In case of a power or motor failure, an emergency release of the wing could be necessary.

- Before an emergency release of the wing, remove the plug from the mains socket.
- A minimum of two persons is required for an emergency release of the wing.
- When releasing the wing it might lower fast. Keep clear the area under the wing and arms.



1. Both persons hold the elevated wing.
2. One of them locates the motor pin in question and pulls out the “red” safety lever, after the safety lever is removed pull the motor pin out.
3. After the motor pin is removed, the motor will be free of the lifting support, and slowly lower the wing.

PROGRAMMING

Individually Defined Programs

Program 1 and 2 can be individually defined by the care staff by setting the angles of the wings and the times for holding the different positions.

Defining angles

The angles of the left and right wing in the first side position can be defined individually. The second (opposite) side position will automatically be defined as a mirror image of the first side position.

- If the angle for one wing is set between 13°–35°, this wing will be defined as the “primary wing.
- The opposite wing will then be defined as the “secondary wing” and limits its selectable angle values to 0°–12°.

Two options for the wing the end-user is laying on (e.g. left wing if the end-user is laying on left side):

- If the angle of the secondary wing is set to 0° it will be elevated by 12° during the turn movement and move to a horizontal position 5 sec. after the primary wing has reached its set angle, so the end-user will rest on a flat secondary wing.
- If the angle value for the secondary wing is set between 1°–12° it will stay elevated at the selected angle in a side position and the end-user will rest on a elevated secondary wing

Defining the time

The times for the two side positions and the flat position can be defined individually between 000 and 180 minutes. It is possible to select if flat position, left or right side should start right away. If the time for one side position is set to 000 minutes.

- The program will start to transition from the flat position into the first position after the specified time.
- The program will only cycle between the flat and the other side position (e.g. flat-right-flat-right-...)

If the time for the flat position is set to 000 minutes:

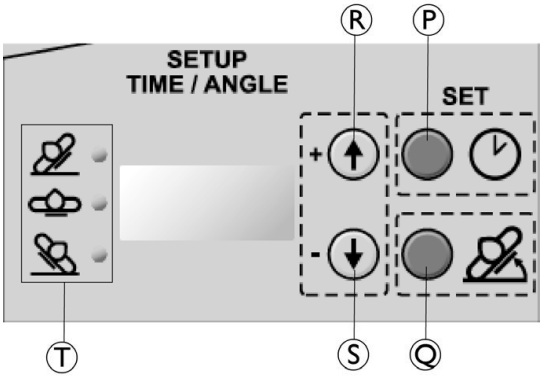
- The program will start immediately after activation with the transition to the first side position.
- The program will only cycle between the two side position (e.g. left-right-left-right-...).

If the time value for the flat position is set between 3–180 minutes:

- The program will start to transition from the flat position into the first position after the specified time.
- The program will always move into a flat position between the two side positions (e.g. flat-right-flat-left-flat-right-...)

How to program the individual automated programs

- P Set time / Start programming mode button
- Q Set angle button
- R Adjust button Plus (increase values for time & angle)
- S Adjust button Minus (decrease values for time & angle)
- T Position indicators (LEDs)
  - Right (top) = right wing or position
  - Flat (middle) = both wings in horizontal position
  - Left (bottom) = Left wing or position



When programing the Careturner®, first the time period for which the wings are in a elevated or flat position is set, second the angles at which to elevate and third the starting side of the wings (right, left or flat).This is done for either Program 1 or Program 2.

	Function		Display	LED	Notes
1	Press and hold for 3 sec.		SEL	None	Start the programming mode
2	Press		P1	P1	Choose the program to be set
			P2	P2	
3	Press		010	P1 or P2 & Right	The time value appears in the display
4	Press		001 020	P1 or P2 & Right	Adjust the time between 000 and 180 minutes (0, 3, 10-180 in +/- 10 min. intervals
5	Press		010	P1 or P2 & Flat	The time value appears in the display
6	Press		001 020	P1 or P2 & Flat	Adjust the time between 000 and 180 minutes (0, 3, 10-180 in +/- 10 min. intervals)
7	Press		010	P1 or P2 & Left	The time value appears in the display
8	Press		001 020	P1 or P2 & Left	Adjust the time between 000 and 180 minutes (0, 3, 10-180 in +/- 10 min. intervals)
9	Press		A	None	single *BEEP* = The time has now been set.
10	Press		015	P1 or P2 & Right	The angle value appears in the display
11	Press		014 016	P1 or P2 & Right	Adjust the angle between 00 and 35 degrees (+/- 1 degree interval)

12	Press		010	P1 or P2 & Left 	The angle value appears in the display
13	Press		009 011	P1 or P2 & Left 	Adjust the angle between 00 and 35 degrees (+/- 1 degree interval)
14	Press		-	None	double *BEEP* = The angle has now been set.
15	Press		SEL	Right Flat Left 	Adjust which side the Careturner® will start, RIGHT, FLAT or LEFT.
16	Press		-	None	triple *BEEP* = The starting side has been chosen and the entire program is saved.

- The programming mode will automatically be closed down without saving, if no buttons are pressed for 2 min.

Program examples for automate pressure relief

- End-user turning from right side to flat to left side and always laying on a flat wing.
  - Angle primary wing = 13°-35°
  - Angle secondary wing = 0°
  - Time for right, flat and left position > 0 min.
- End-user turning from right to flat to left side and always laying on a slightly elevated wing.
  - Angle primary wing = 13°-35°
  - Angle secondary wing = 1°-12°
  - Time for right, flat and left position > 0 min.
    This Program requires “high” side rails.
- End user turning from right to left side, never laying in a flat position and always laying on a flat wing.
  - Angle primary wing = 13°-35°
  - Angle secondary wing = 0°
  - Time flat position = 0 min.
  - Time left and right position > 0 min.
  - see section Auto program sequence as an example.
- End user turning from right to left side, never laying in a flat position and always laying on a slightly elevated wing (Cradle function).
  - Angle primary wing = 13°-35°
  - Angle secondary wing = 1°-12°
  - Time flat position = 0 min.
  - Time left and right position > 0 min.
    This Program requires “high” side rails.

- End user turning from one side to flat and back to the same side, always laying on a flat wing.
  - Angle primary wing = 13°-35°
  - Angle secondary wing = 0°
  - Time flat position > 0 min.
  - Time left or right side position = 0 min.
- End user turning from one side to flat and back to the same side, always laying on a slightly elevated wing.
  - Avoid the right side:
  - Angle for primary angle = 13°-40°
  - Angle for secondary angle = 1-12°
  - Time for flat position > 0 min.
  - Time for right side position = 0 min.
  - Avoid the left side
  - Angle for primary blade = 1°-12°
  - Angle for secondary blade = 13-40°
  - Time for flat position > 0 min.
  - Time for left side position = 0 min.
    This Program requires “high” side rails.
- Both wings raised to equal angles without repositioning (Backward hug).
  - Angle primary and secondary wing = 10°-12°
  - Time flat position = 0 min.
  - Time left and right position > 0 min (set values not relevant, see below)
  - Angle secondary wing = 1°-12°
  - Time for right, flat and left position > 0 min.
    This Program requires “high” side rails.

No automatic repositioning will occur when both wings are set to same angle and therefore, the times set for left or right side position do not have any influence.

Special feature: individually defined Hug & Cradle programs

- When using the special feature, be aware of the following warnings.
- When the special feature is unlocked it remains active until you change (lock) the system back again. Note: Important if you move the Careturner from one end user to another.
- When special feature “hug & cradle” is activated, a new risk assessment of the end user must be made before use.
- If both wings are elevated in a hug and/or cradle, the distance to the top of the side rails is decreased more than allowed and the risk of the end user falling out of bed is increased.
- If both wings stays elevated while the end user is resting

Program 1 and 2 can be defined by the care staff by setting the angles of the wings and the times for holding the different positions. To unlock this feature, a special key combination must be performed. The same procedure for programing needs to be followed, with the exception that secondary wing angles can be set in the interval 00-25 degrees, instead of 00-12 degrees.

Follow the steps bellow in order to access the Hug & Cradle futures

	Function		Display	LED	Notes
1	Passive mode		**- - -**		Passive mode
2 ENTER Hug & Cradle- SETUP MODE	Press & hold	 and LEFT UP + RIGHT DOWN on the hand control for 5 seconds	**S P E** **After 2 x** **BEEP** **0 F F**	2 x BEEP	SETUP Hug & Cradle MODE active After Hug & Cradle SETUP mode is active the user can set the function ON or OFF The programming mode is active for 1 minutes after the last button pressed.
3 EDIT Hug & Cradle- MODE	Press		**OFF** **100**	None	OFF : Hug & Cradle mode OFF 100: Hug & Cradle mode ON
4 LEAVE Hug & Cradle- MODE	Press	RIGHT UP on the hand control	**- - -**	6 x BEEP	Return to passive mode. The unit resets and loads the new configuration. All existing programs will be deleted, and you can use programs (P1 and P2) to program Hug and Cradle, where both wings can be raised up to a maximum of. 35 gr primary and 25 gr secondary wing. Wait 1 minute, and the unit will end SETUP mode.

To change the system back again, perform the same procedure as written above, when you see “OFF” in the display to confirm the reset back to normal, press right arrow up (green arrow).

Note: All existing hug and cradle programs will be deleted and the Careturner can be programmed (P1 and P2) as normally.

MAINTENANCE

General Maintenance Information

Service and maintenance of the Careturner® must be carried out together with the bed.

- For detailed information on maintenance procedures and checklists see User Manual and/ or Service Manual for the bed in use.

Cleaning & Disinfection

- Take precautions for yourself and use appropriate protective equipment.
- 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, cellulose thinner, acetone etc). We recommend an ordinary household cleaning agent such as dishwashing liquid, if not specified otherwise in the cleaning instructions.
- Never use a solvent 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.

Electrical Components

The IP classification determines the washability of the electrical components. Electronics classified IPx6 may NOT be washed with jet based cleaning equipment or in a washing tunnel. Electronics classified IP66 may be washed with a jet based cleaning equipment but NOT in a washing tunnel.

- The IP classification is stated on the serial labels of the electrical components.
- Please also note that the components can have different classification.
- The lowest IP classification decides the overall classification of the combination.

Textiles

See attached label on the textile cover for detailed washing instructions. Ensure that the foam support from foot end of the cover is taken out, before placing the cover in a washing machine.

- The replacement of cover is recommended every 12 month or when worn out.

General Cleaning Method

For detailed information of cleaning methods see instructions in the user manual of the bed in use.

- Method: Wipe off with a wet cloth or soft brush.
- Max temp: 40 °C
- Solvent/chemicals: Mild household detergent or soap and water.

Cleaning Intervals

Regular cleaning and disinfection enhances smooth operation, increases the service life and prevents contamination. Clean and disinfect the product:

- Before and after any service procedure,
- When it has been in contact with any body fluids
- Before using it for a new user.

Battery

We recommend a check of the battery every 6 months:

1. Elevate both wings and unplug the power cable.
2. Press ON/OFF button A and ensure both wings move into horizontal position.

We recommend replacement of the battery after 3 years – Call dealer/technician to replace battery.

Storage

Before storage of the Careturner®, ensure the system has been turned off completely and the emergency stop button is pressed to prevent the battery from discharging.

AFTER USE

Disposal

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.
- Batteries MUST be taken to a proper disposal site.
  The return is required by law and free of charge.
- Do only dispose discharged batteries.
- For information on the battery type see battery label or chapter 9 Technical Data.

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.

We only use REACH compliant materials and components.

- All electric parts must be dismantled and be disposed of as electric components.
- Plastic parts must be sent for incineration or recycling.
- Steel parts must be disposed of as waste metals.

Reconditioning

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

- Inspection, cleaning and disinfection as described in chapter 6 Maintenance.

TROUBLESHOOTING

Troubleshooting the electrical system

Error	Display (flashes at 0.5 sec. intervals between two codes)		Acoustic Signal	LED	Comment	Solution
Stoppage on motor LEFT Overload on motor LEFT	E01	E0	10 beeps with 1 sec. ON and 1 sec. OFF When trying to activate motor again: 1 beep for 1 sec.	Left	only in Auto mode (no display, acoustic signal and flashing LED in manual mode)	Check the cables to and from the motor for the following: • Cable undamaged. • Cable correctly connected to motor. • Cable connector correctly installed and intact
Stoppage on motor RIGHT Overload on motor RIGHT	E02	E0		Right		

Battery mode: Power failure OR Emergency stop activat-ed	E03	E0	4 beeps with 1 sec. ON and 1 sec. OFF		1st acoustic signal when disconnected from power supply OR the emergency stop is activated. The system switches to battery mode and the wings will stop moving and stay in current position. • 2nd acoustic signal after 20 min. • 3rd acoustic signal after 40 min. • After 60 min the system switches to low battery error (E04)	Connect to power supply AND / OR deactivate the emergency stop to charge and check the battery (refer to chapter Maintenance for further information).
Low battery	E04	E0	4 beeps with 1 sec. ON and 1 sec. OFF		• - 1st acoustic signal when the battery is detected to be low while in battery mode. • - Further acoustic signals occur every 20 min until the system turns off to save battery power for one CPR Lowering	
System can not be turned on					Although the system is connected to power supply it can not be turned on.	Check if the emergency stop is activated and deactivate if necessary

Press the ON/OFF button to reset an ERROR and try again.

Contact your dealer or Careturner® representative if the above does not solve your problems.

Programming Errors

Error display for incorrect setup of values for Program 1 or 2

Error	Display	Acoustic Signal	Comment
Program 1 or 2	E40 for 4 sec.	2 beeps of 5 sec. ON and 1 sec. OFF	Occurs when activating Program 1 or 2 with incorrect time values set. The following combination of time values for the left, right and flat position are defined as incorrect setup: • All three time values = 0 min • Only one time value > 0 min / two time values = 0 min • If you select one side to 0 min and chose the same side to start.

TECHNICAL DATA

Characteristics	
Automatic Operation	Yes
Max. angle in Manual mode	73°
Max. angle in Automatic mode	Primary wing = 35° Secondary wing = 12°
Angle values in Automatic mode	0°–35° (+/- 1° interval)
Time values in Automatic mode	0, 3, 10–180 min (+/- 10 min intervals)

Weights	
Max. user weight (provided that the weight of the mattress does not exceed 20 kg)	165kg
Max. safe working load weight (including mattress)	185kg

Weights of Careturner® Components	
Complete (main module and 4 arms)	238 kg
Head arm (1 piece)	4.2 kg
Foot arm (1 piece)	1.6 kg
Main Module	12.2 kg
Control Box	2.5 kg

Allowed mattress sizes

Depending if the end-user in a side position is laying on a flat wing (mattress horizontal) OR if the wing the end-user is laying on is raised up to 12°, different combinations of mattresses and side rails are required (see appropriate chart below).

End User Laying on Flat Wing

Allowed mattress heights, when the end-user is laying on a flat wing (secondary wing = 0°).

Side Rail	Mattress Height
Highest position / full protection	12-14 cm
With side rail height extender mounted*	15-20 cm

**Must be dismounted when the side rail is collapsed and the end-user is getting out of the bed*

End User Laying on a Elevated Wing

Allowed mattress heights, when the end-user is laying on a up to 12° elevated wing (secondary wing = 1–12°).

Side Rail	Mattress Height
Highest position / full protection	12 cm
With side rail height extender mounted*	13-18 cm

**Must be dismounted when the side rail is collapsed and the end-user is getting out of the bed.*

Mattress width and length depending on bed width

Bed Width	Allowed mattress width	Min. length
85 cm	83–85 cm	200 cm
90 cm	88–90 cm	200 cm
100 cm	98-100 cm	200 cm
105 cm	103-105 cm	200 cm

A castellated mattress is recommended, with minimum or little space between the squares.

Environmental Conditions

	Storage & Transportation	Operation
Temperature	-10°C to +50°C	+5°C to +40°C
Relative humidity	20% to 75%	
Atmospheric pressure	800 hPa to 1060 hPa	

Be aware that when a bed has been stored under low temperatures, it must be adjusted to operating conditions before use.

Electrical System

- Voltage supply: Uin 230 Voltage, AC, 50/60 Hz (AC = Alternating current)
- Maximum current input: Iin max.1,5 Ampere
- Intermittent (periodic motor operation): Int = Max. 10 %, 2 min
- ON / 18 min OFF
- Insulation class: CLASS II
- Type B Applied Part:
  Applied Part complying with the specified requirements for protection against electrical shock according to IEC60601-1. (An applied parts is a part of the medical equipment which is designed to come into physical contact with the patient or parts that are likely to be brought into contact with the patient.)
- Battery type: LP 12-0.8 (12 V 0.8AH) Sealed Lead-acid Battery
  Constant voltage charge:
  - Standby use: 13.5-13.8 V
  - Cycle use: 14.4-15.0 V
  - Initial current: Less than 0.24 A
- Sound level: 58.5 dB (A)
- Degree of protection: IPx6* or IP66**
  The main module, actuators and hand control are protected according to IPx6. The Control box is protected according to IP66

** IPX6 classification means that the electrical system is protected against water projected from any direction (not high pressure).*

*** IP66 classification means that the electrical system is protected against high-pressure water jets projected from any direction and fully protected against dust and other particulates, including a vacuum seal.*

ELECTROMAGNETIC COMPATIBILITY (EMC)

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.

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 114	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 114	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	

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.

Emissions Test	Test / Compliance Level	Electromagnetic environment – guidance
Electrostatic ischarge (ESD) IEC 61000-4-2	± 8kV 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 IEC 61000-4-11	< 0% UT for 0,5 cycle at 45° steps 0% UT for 1 cycles 70% UT for 25 / 30 cycles < 5% UT for 250 / 300 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 un-interruptible power supply or a battery. UT is the a. c. mains voltage prior to application of the test level.
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** **Radiated RF** **IEC 61000-4-3**	3V 150 kHz to 80 Mhz 6V in ISM & amateur radio bands 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 60601-1-2:2014	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. 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.

Test specifications for immunity to RF wireless communications equipment

Test Frequency (MHz)	Band [a] (MHz)	Service [a]	Modulation [b]	Maximum power (W)	Distance (m)	Immunity test level (V/m)
385	380 - 390	TETRA 400	Pulse modulation [b] 18 Hz	1.8	0.3	27
450	430 - 470	GMRS 460, FRS 460	FM [c] ± 5 kHz deviation 1 kHz sine	2	0.3	28
710 **745** **780**	704 - 780	LTE Band 13,17	Pulse modulation [b] 217 Hz	0.2	0.3	9
810 **870** **930**	800 - 960	GSM 800/900, TETRA 800, iDEN 820, CDMA 850, LTE Band 5	Pulse modulation [b] 18 Hz	2	0.3	28
1720 **1845** **1970**	1700 - 1990	GSM 1800; CDMA 1900; GSM 1900; DECT; LTE Band 1, 3, 4, 25; UMTS	Pulse modulation [b] 217 Hz	2	0.3	28
2450	2400 - 2570	Bluetooth, WLAN, 802.11 b/g/n, RFID 2450, LTE Band 7	Pulse modulation [b] 217 Hz	2	0.3	28
5240 **5500** **5785**	5100 - 5800	WLAN 802.11 a/n	Pulse modulation [b] 217 Hz	0.2	0.3	9

a) For some services, only the uplink frequencies are included.
b) The carrier shall be modulated using a 50 % duty cycle square wave signal.
c) As an alternative to FM modulation, 50 % pulse modulation at 18 Hz may be used because while it does not represent actual modulation, it would be worst case.