Brukerveiledning

Careturner® for Wissner-Bosserhoff Sentida 6

NORSK

Careturner®
INNOVATIVE CARE TECHNOLOGY

CE

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

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Innholdsfortegnelse

Denne brukerveiledningen MÅ utleveres til bruker av produktet. FØR produktet tas i bruk må brukerveiledningen leses og beholdes for senere behov.

1 General

1.1 Introduksjon

Dette dokumentet tilhører et GDV-tilbehør og inneholder viktig informasjon om håndtering og montering. For å sikre sikker bruk av produktet, må du lese bruksanvisningen nøye og følge sikkerhetsinstruksjonene.

Finn bruksanvisningen på GDVs nettsted eller kontakt din GDV-representant. Se adresser på slutten av dette dokumentet. GDV forbeholder seg retten til å endre produktspesifikasjoner uten ytterligere varsel.

Forsikre deg om at du har den nyeste versjonen før du leser dette dokumentet. Du finner den nyeste versjonen som PDF på GDVs nettsted.

Hvis du finner ut at skriftstørrelsen i det trykte dokumentet er vanskelig å lese, kan du laste ned PDF-versjonen fra nettstedet. PDF-en kan deretter skaleres på skjermen til en skriftstørrelse som er mer behagelig for deg.

I tilfelle en alvorlig hendelse med produktet, bør du informere produsenten og den kompetente myndigheten i landet ditt.

1.1.1 Definisjoner

Alle referanser til venstre og høyre er basert på en person som ligger på ryggen i sengen, med hodet mot hodegavl.

1.2 Symboler i dette dokument

Symboler og advarsler som brukes i dette dokumentet gjelder farer som kan oppstå ved feil bruk og kan føre til personskade eller materielle skader. Se informasjonen nedenfor for definisjoner av advarslene.

ADVARSEL
Indikerer en farlig situasjon som kan føre til alvorlig personskade eller død hvis den ikke unngås.

FORSIKTIG
Indikerer en farlig situasjon som kan føre til skade hvis den ikke unngås

Viktig
Indikerer en farlig situasjon som kan føre til skade på produktet hvis den ikke unngås.

Tips og anbefalinger
Gir nyttige tips, anbefalinger og informasjon om effektiv og problemfri bruk.

1.3 Tiltenkt bruk

Careturner og kontrollenhet er ment kun å brukes sammen med 85 eller 90 cm brede Wissner-Bosserhoff Sentida 6 senger, utstyrt med sengegrinder passende høyde (se diagram i 9 Tekniske data, side 21), sengegrind og madrass (se størrelseskart 9 Tekniske data, side 21)

- Til forebygging av trykksår
- For å vende pasienten fra høyre til venstre side i pleien.
- Støtte pasient med å forflytte seg inn /ut av sengen.
- Når den benyttes i “automatisk” modus er den beregnet for å forebygge trykksår for bruker.
- Når den benyttes i manuell modus er den beregnet som en hjelp for pleiepersonalet til å vende bruker i pleiesituasjoner.
- Careturner egner seg til bruk i hjemmepleie og på sykehjem.
- Den er kun beregnet for innendørs bruk.

Indikasjoner

Tiltengt pasientgruppe for Careturner is:

- Sengeliggende immobile/delvis immobile voksne pasienter
- Som har behov for trykkavlastning.
- Som blir pleiet i sengen i forbindelse med personlig hygiene, påkledning osv. Denne gruppen pasienter vil ofte bli forflyttet fra seng til stol ved hjelp av pasientløfter eller støttet av pleiepersonalet i kombinasjon med et hjelpemiddel som for eks. en rullator.

Kontraindikasjon

Careturner er ikke beregnet for psykiatriske, rastløse og engstelig personer, samt personer med spasmer.

Forholdsregler

- Før Careturner tas i bruk er det viktig å vurdere om den er egnet for pasienten.
- Av sikkerhetsgrunner må ikke pasienten betjene Careturner selv.

ADVARSEL!
All annen eller feil bruk kan føre til farlige situasjoner. GDV påtar seg intet ansvar for bruk, endring eller montering av produktet, annet enn angitt i denne brukerhåndboken.

1.4 Levetid

Den forventede levetiden for dette produktet er fem år når det brukes daglig og i samsvar med sikkerhetsinstruksjonene, vedlikeholds intervaller og korrekt bruk, angitt i denne håndboken. Den effektive levetiden kan variere etter frekvens og intensitet i bruken

1.5 Garantid informasjon

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.

1.6 Begrensning av ansvar

GDV påtar seg ikke ansvar for skader som skyldes:

- Manglende overholdelse av brukerveiledningen
- Feil bruk
- Naturlig slitasje
- Feil montering eller konfigurering av kjøper eller tredjepar.
- Tekniske modifikasjoner
- Uautoriserte modifikasjoner eller uorginiale reservedeler

1.7 Overholdelse

Dette produktet har CE-merke, i samsvar med Medicalical Device Regulation 2017/745 Class 1. Dato for lansering av dette produktet er angitt i CE-samsvarserklæringen.

2 Sikkerhet

2.1 Generell sikkerhets informasjon

Advarsel!

Compatibilitet med Wissner-Bosserhoff Sentida 6 senger

Careturner er spesielt designet og må kun benyttes sammen med 85 cm Wissner-Bosserhoff Sentida 6 senger.

Advarsel!

Risiko for fall

Hvis Careturner brukes uten, eller med feil sengegrinder er det fare for at pasient kan falle ut av sengen.

- Bruk aldri Careturner på en seng uten sengegrind.
- Benytt bare Careturner i kombinasjon med sengegrind oppført i *9 Tekniske Data, side 21*.
- Forsikre deg alltid om at sengegrind er oppe på motsatt side av stedet der pleier er plassert, ELLER at en pleier er plassert på hver side av sengen når manuell modus brukes.
- Forsikre deg alltid om at begge sengegrinder er oppe når automatisk modus er aktivert

Advarsel!

Klemfare

Hvis sengegrinder brukes uten trekk eller med et ikke pustende trekk er det klemfare og / eller kvelning for pasient

- Benytt alltid et pustende trekk over sengegrinder under bruk av Careturner.

Advarsel!

Risiko for fall eller klemskade

Hvis sengegrinder brukes uten trekk eller med et ikke pustende trekk er det klem fare og / eller kvelning for pasient

- Gjennomfør alltid en risikovurdering av pasientens tilstand og evne til å bevege seg.
- Bruk aldri Careturner hvis pasienten er engstelig eller rastløs.
- Forsikre deg alltid om at pasienten er plassert i midten av sengen og at alle kroppsdeler er på madrassen før vingene beveges.
- Ikke la pasient være uten tilsyn når manuell modus brukes.
- Pasient må aldri forflyttes inn eller ut av sengen mens vingen beveges manuelt eller automatisk modus er aktivert.
- Håndkontrollen skal kun brukes av pleiepersonalet.

Advarsel!

Risiko for personskade eller materielle skader

Feilaktig håndtering av kabler kan føre til elektrisk støt og skade på motor .

- Ikke knekk, kutt eller på annen måte skade nettkabel.
- Ikke kjør hjulene over nettkabelen.
- Ikke la nettkabel komme inn i bevegelig deler.
- Koble støpselet fra før du flyttes sengen.
- Forsikre deg om at ingen kabler (stikkontakt eller annet utstyr) sitter fast eller blir skadet når sengen brukes.
- Hold seng og tilbehør i en avstand på minst 30 cm fra varme overflater og ikke i direkte sollys.

Madrasser

Advarsel!

Sikkerhetsaspekter ved kombinasjon av sengegrinder og madrasser:

For å få et høyest mulig sikkerhetsnivå, når du bruker senegrinder på sengen, må minimums- og maksimums mål for madrasser overholdes.

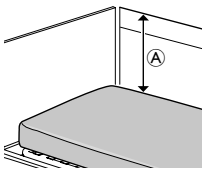
- For korrekte madrass mål, se madrasstabell i kapittel 9 Tekniske data, side 21.

Advarsel!

Risiko for klemskade/ kvelningsfare

For å få et høyest mulig sikkerhetsnivå, når du bruker senegrinder på sengen, må minimums- og maksimums mål for madrasser overholdes.

- Pasienten kan bli "fanget" og eller kveles hvis det horisontale rommet mellom madrasssiden og innsiden av sengegrind er for stort. Følg minimumbredden og lengden på madrasser i kombinasjon med sengegrind som angitt tabell i kapittel 9 tekniske data side 21.
- Vær oppmerksom på at bruk av veldig tykke elle myke madrasser eller en kombinasjon av disse øker risikoen.



Advarsel!

Fallrisiko

Pasienten kan falle over kanten og bli alvorlig skadet hvis den vertikale avstand Ⓐ mellom topp av madrass og kanten på sengegrind er for kort. Se bilde over.

- Hold alltid en avstand Ⓐ på minst 22 cm fra madrass on the side of the wing the user is lying on (secondary wing elevated to max. 12°).
- Følg maksimal madrasshøyde i kombinasjon med sengegrind som angitt i tabell i kapittel *9 tekniske data side 21.*

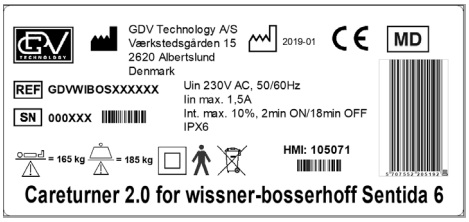
Electromagnetic interference

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 chapter *10 Electromagnetic compatibility (EMC), page 23.*

2.2 Labels and symbols on the product

2.2.1 Product label



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

Symbol

SN	Serie nummer
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, page 21.*

2.2.2 Other labels and 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 Soft Tilt® main module on the bed. See 3.3 *Mounting the Soft Tilt (Mounting the main module), page 7.*
	Indicates the correct placement of the head and foot arms to the main module. See 3.3 *Mounting the Soft Tilt (Mounting the arms and cover), page 9.*
	Indicates the correct placement of the cover on the Soft Tilt®. See 3.3 *Mounting the Soft Tilt (Mounting the arms and cover), page 9.*

3 Setup

3.1 Generell sikkerhetsinformasjon

Sjekk emballasjen når du mottar produktet.Hvis emballasjen viser tegn til skade meld fra til transportør.

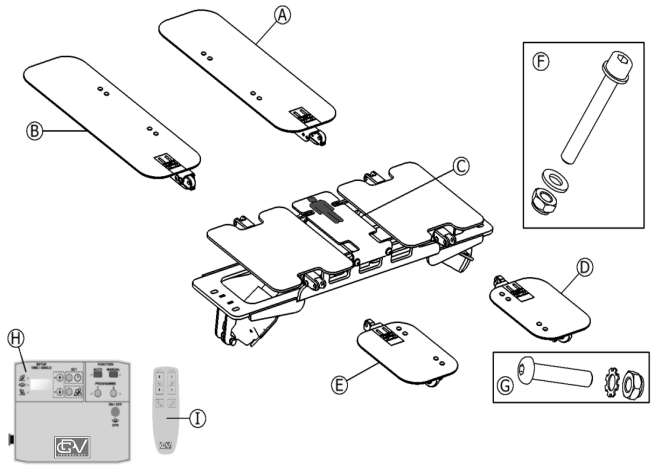
Advarsel!

Risiko for person- eller materielle skader.
Montering og installasjon må utføres av autorisert og trent personell

- Denne Careturner- versjonen er spesialdesignet og må bare brukes sammen med 85 cm brede Wissner-Bosserhoff Sentida 6 senger.
- - Følg instruksjonene nøye. Hvis du har spørsmål angående monteringen, må du kontakte Varodd Velferdsteknologi AS
- - Hvis produktet viser tegn til skader, må du ikke bruke produktet. Kontakt Varodd Velferdsteknologi AS.
- - Produktets elektriske utstyr må ikke demonteres eller kombineres med annet elektrisk utstyr.
- - Kontroller at alle beslag er strammet ordentlig etter hver montering, og at alle delene har riktig funksjon.
-

3.2 Leveringsomfang

Careturner leveres delvis montert i en kartong.
Hoveddeler



Ⓐ Hodeende arm med venstre vinge
Ⓑ Hodeende arm med høyre vinge
ⒸHoved module (pre-montert enhet)
ⒹFotende arm med venstre vinge
ⒺFotende arm med høyre vinge
Ⓕ4 sets: Monteringsbolt, skive og låsemutter
Ⓖ4 sets: Unbrakobolt, skive og låsemutter
ⒽKontroll boks
ⒾHåndkontroll
Stoff trekk (ikke vist i bilde)

3.3 Montering Careturner

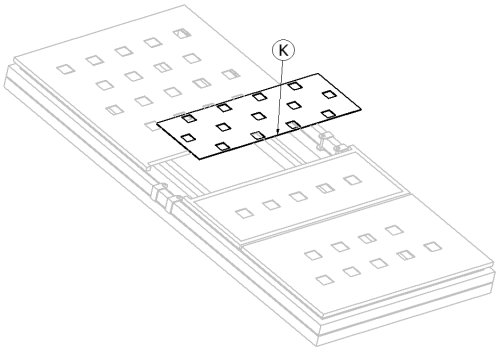
Montering av hovedmodul

Advarsel!
Risiko for person - eller materielle skader
Hvis du holder hovedmodulen på feil deler mens du løfter, kan det forårsake skade på produkt eller personer

- - Hold bare i hovedmodulen ved dekkplatene til vingene eller monteringsbrakettene på bunnrammen, der hvor klistremerker er plassert.
- - Ikke hold på den midterste dekkplaten.

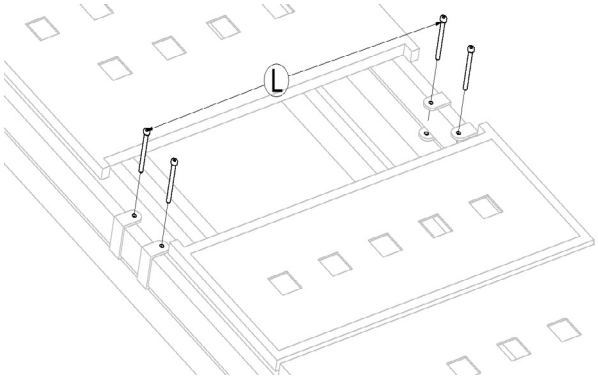
1.

a.



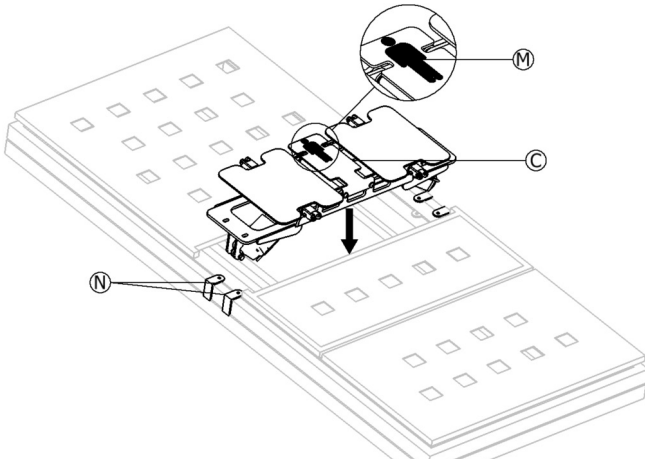
Fjern det midtre deksel Ⓚ oppbevar det for tilbakeføring hvis Careturner fjernes fra sengen.

b.



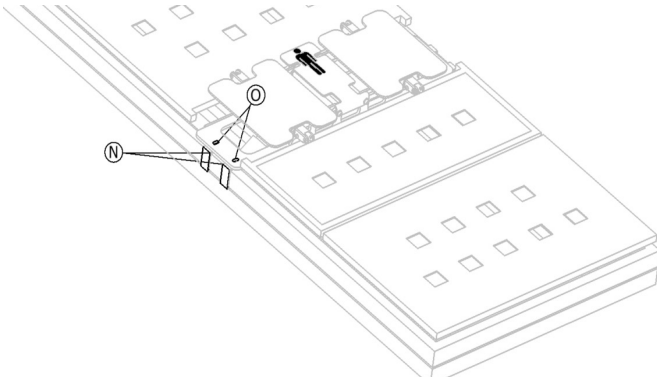
Fjern de 4 boltene Ⓛ bruk en 13 mm fastnøkkel og en 6 mm unbrakonøkkel. Oppbevar boltene hvis Careturner fjernes fra sengen.

2.



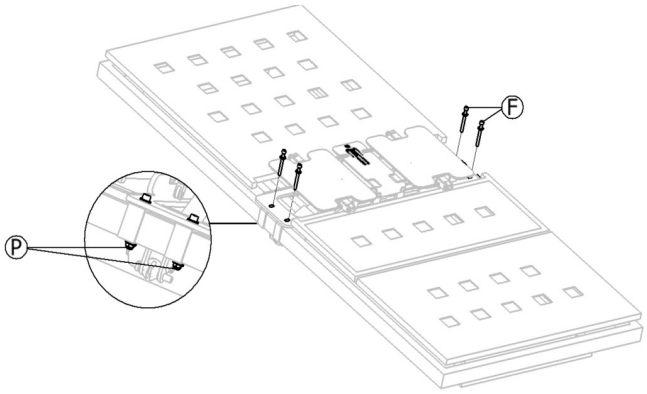
Plasser hovedmodulen Ⓒ på senge vangene Ⓝ i henhold til symbolene Ⓜ. Hode mot sengens hodeende, ben mot sengens fotende.

3.



Ensure that the main module is placed on the bed support brackets Ⓝ with the slots Ⓞ on the main module concentric with the holes on the brackets Ⓝ, so a bolt can fit trough.

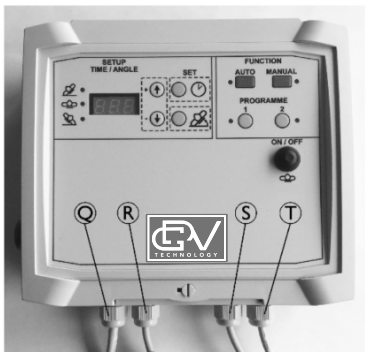
4.



Fix the main module to the bed by placing the four bolts Ⓕ with the wide washer trough the top of the main module and bed support bracket. Place the safety washers on the bolts under the bed and tighten the lock nuts Ⓟ with a 13 mm key and a 6 mm Allen key from the top.

Wiring

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



Connections at the control box

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

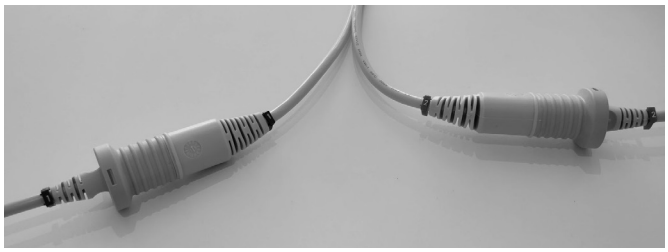
1.

Run the motor cable underneath the bed frame toward the foot end, on both sides of the bed and fix each of the cables with plastic strips onto the frame tube. Ensure that both motor cables are tighten with plastic strips, first plastic strip near the motor and the last 2 on the frame tube toward the foot end.

2.

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

3.



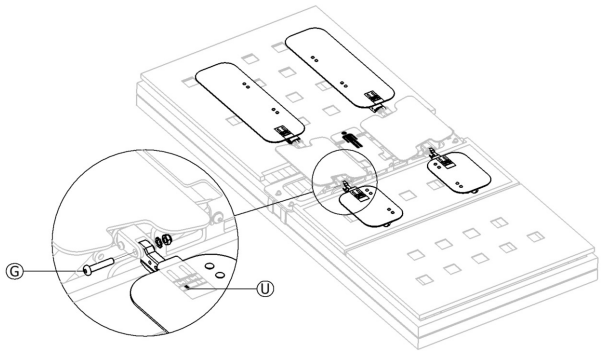
Connect the cables of the right and left motor to the two extension cables Ⓢ and Ⓣ from the control box. The right motor cable is marked ① on the cable clip corresponding to ① on the cable from the control box and the left motor cable is marked ② on the cable clip corresponding to ② on the control box 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.

Mounting the arms and cover

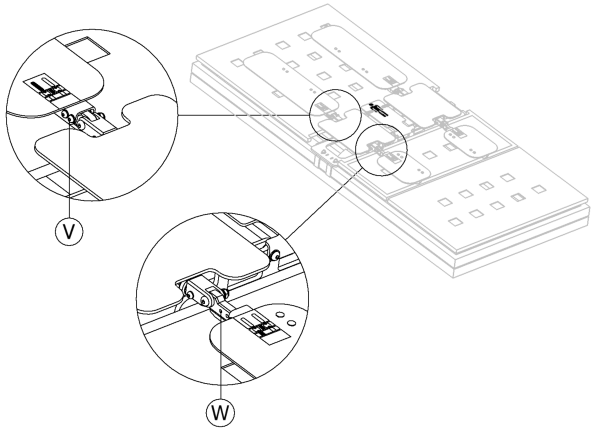
1. Ensure both wings of the main module are slightly elevated, so the connections for the arms are accessible.

2.



Connect the four arms with the main module, following the representation on the arms label shown in the zoomed image Ⓤ, the black shaded area on the sticker represents the location were the arm must be placed. Fix the four arms with the Allen bolts from set Ⓖ and tighten the lock nuts facing inwards. Ensure the safety washers are placed on the lock nut side.

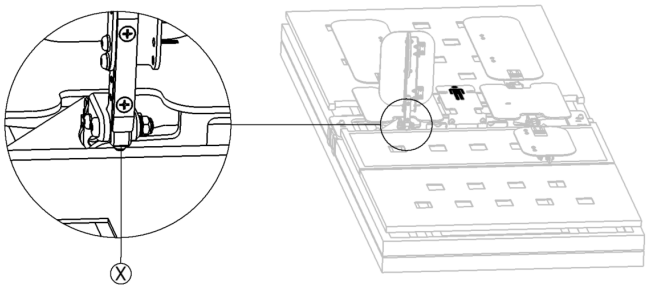
3



Ensure that the head arms is mounted on the telescopic bracket Ⓥ in the first threaded hole and you are not able to see the remaining threaded holes. For the foot arms make sure the telescopic bracket Ⓦ, is mounted on the third hole and you are able to see 2 threaded holes.

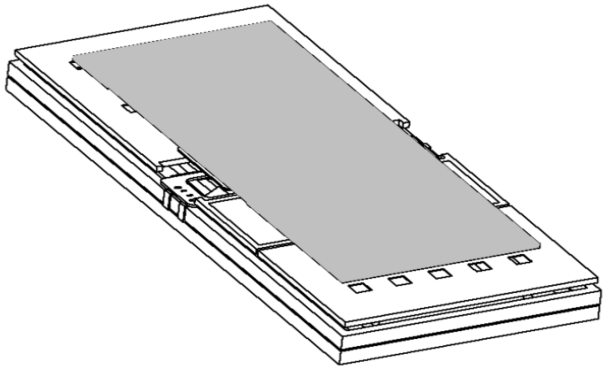
4.

IMPORTANT!
Before usage, adjust, with the patient weight into account, the position of the four arms for optimal lifting support. Ensure that the four arms still go in a horizontal position in flat mode.



To adjust the position of the arms, fold them up at the joints to the main module and adjust screw Ⓥ until the arms are in a horizontal position when folded back down.

5.



Mount the cover by sliding the pockets over the head end and foot end arms. The head end of the cover contains the label information and placement of the cover symbol:

Symbol indicating the head end of the cover.

IMPORTANT!
The Careturner must not be used without the cover.

6. 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, page 21*).
   c. Guide the straps over the mattress and refix the Velcro fastener to tightly secure the mattress to the Careturner.

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

IMPORTANT!

If a power failure occurs, the battery secures the possibility of resetting the Careturner 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.

4.2 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*).

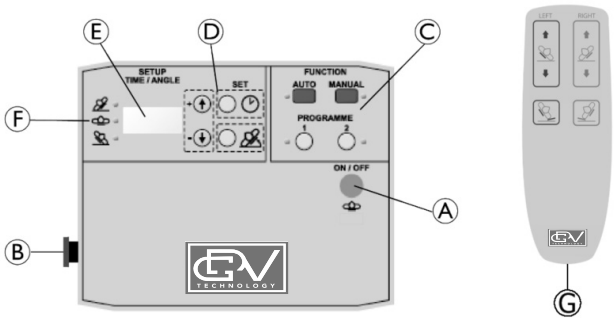
Automatic mode

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*).

4.3 Control Box and Hand Control



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

4.4 On/Off and Reset function

Turn the system on

1. Press and hold the button Ⓐ 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 Ⓐ (without holding).

Turn the system off

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

Display

System Status	Display	Note
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.

4.5 Emergency Stop

IMPORTANT!

When the emergency stop is activated, the Reset function can still be activated, by pressing button Ⓐ, 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 Ⓑ.
2. To deactivate, rotate the button Ⓑ clockwise.
3. Press button Ⓐ to reset the system.

4.6 Manual operation

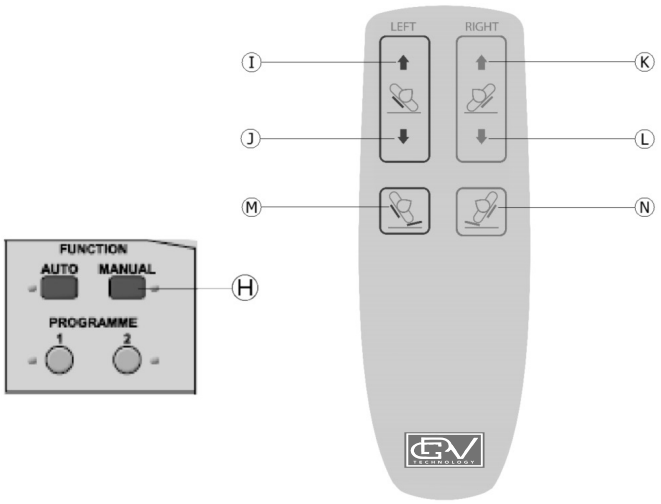
WARNING!

Risk of squeezing and injury

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 Ⓗ for 3 sec. to activate manual operation.
2. Press buttons on hand control as required.
   - To raise the left wing, press Ⓘ
   - To lower the left wing, press Ⓙ
   - To raise the right wing, press Ⓚ
   - To lower the right wing, press Ⓛ
   - To raise right wing from 0° to 80° and left wing from 0° to 5°, press Ⓝ
   - To raise left wing from 0° to 80° and right wing from 0° to 5°, press Ⓜ

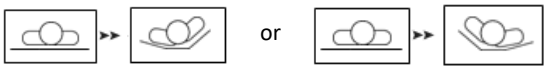
- Left and right buttons can be activated at the same time to move both wings simultaneously. The wings can be moved in a range from 0° to 80°.

3. To deactivate manual operation, press the ON/OFF button Ⓐ.

Display	LED	Note
0 = no activity U01 = right wing moves up d01 = right wing moves down U01 = left wing moves up d01 = left wing moves down	MANUAL LED active	The numbers 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. - 01 =1°

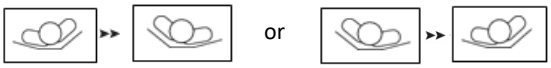
4.6.1 Recommended Procedures

Transfer from flat position to the side:



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

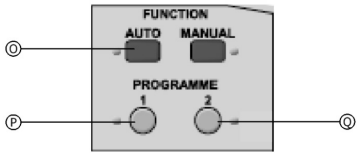
4.7 Automatic operation

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 Ⓞ for 3 sec.
   - To start Program 1, press and hold Ⓟ for 3 sec.
   - To start Program 2, press and hold Ⓠ for 3 sec.

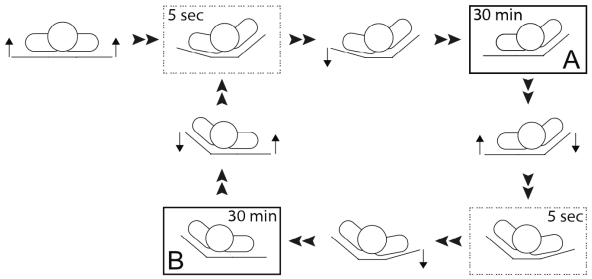
2. To stop a running program press the ON/OFF Ⓐ button.

The hand control will not work when a program is active.

Status indicators

Active Program	Display	LED	Note
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.

4.7.1 Auto program sequence

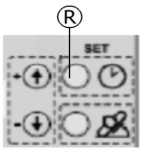


- Starting from the flat position, both wings immediately begin to raise simultaneously.
- Left wing stops at 12° and the right wing stops at 40°.
- 5 seconds after the right wing has reached 40° the left wing lowers to 0°.
- This position A is maintained for 30 minutes.
- Simultaneously the left wing begins to raise and the right wing begins to lower.
- The right wing stops at 12° and the left wing continue to raise up to 40°.
- 5 seconds after the left wing has reached 40° the right wing lowers to 0°.
- This position B is kept for 30 minutes.

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

4.7.2 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. Ⓡ 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, press and hold Ⓡ for 3 sec to activate.

4.8. 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.

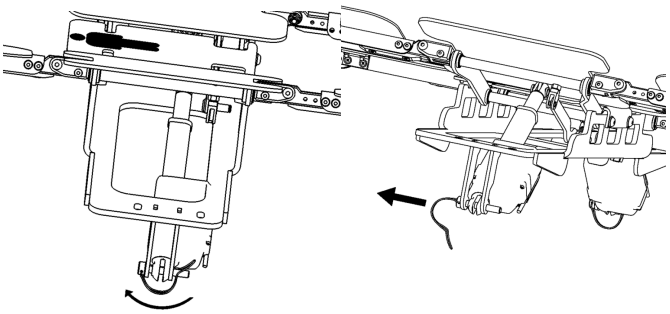
4.9 Emergency release of the wing

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

CAUTION !
Risk of injury
- 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.

IMPORTANT!
- Before an emergency release of the wing, remove the plug from the mains socket.

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



3. After the pin is removed, the motor will fall out of the support and slowly lower the wing.

5 Programming

5.1 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°–40°, 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°.
- The “primary wing” defines the first side position in the program sequence.

Two options for the wing the end-user is laying on (e.g. left wing if the end-user is laying on the 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 angel in a side position and the end-user will rest on a elevated secondary wing.

WARNING!

Risk of falling

If the secondary wing stays elevated while the end-user is resting in a side position, the distance to the top of the side rail is decreased.

– Only use the side rails listed for this situation in *9 Technical Data, page 21*.

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-...)

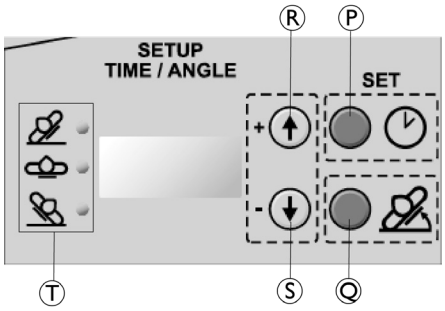
If the time for the flat position is set to 000 minutes:

- 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-...)

5.2 How to program the individual automated programs



- Ⓟ Set time / Start programming mode button
- Ⓠ Set angle button
- Ⓡ Adjust button Plus (increase values for time and angle)
- Ⓢ Adjust button Minus (decrease values for time and angle))
- Ⓣ 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.

Step	Function		Display	LED	Note
1	Press and hold for3 sec.		SEL	None	Start the programming mode
2	Press		P1	P1	Choose the program to be set
	or		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)

Step	Function		Display	LED	Note
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 40 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 40 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.

5.3 Program examples for automated pressure relief

- End-user turning from right side to flat to left side and always laying on a flat wing.

  – Angle primary wing = 13°-40°
  – 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°-40°
  – 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°-40°
  – 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°-40°
  – 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°-40°
  – 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.

  – Angle primary wing = 13°-40°
  – Angle secondary wing = 1°-12°
  – Time flat position > 0 min.
  – Time left or right 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)

  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.

6 Maintenance

6.1 General Maintenance Information

IMPORTANT!

Service and maintenance of the Soft Tilt 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.

6.2 Cleaning and disinfection

CAUTION!

Risk of contamination

– Take precautions for yourself and use appropriate protective equipment.

IMPORTANT!

Wrong fluids or methods can harm or damage your 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, 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

IMPORTANT!

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

General Cleaning Method

Method: Wipe off with a wet cloth or soft brush.

Max temp: 40 °C

Solvent/chemicals: Mild household detergent or soap and water.

IMPORTANT!

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

Cleaning Intervals

IMPORTANT!

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.

6.3 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 Ⓐ and ensure both wings move into horizontal position.

We recommend replacement of the battery after 4 years – Call dealer/technician to replace battery.

Storage

IMPORTANT!

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

7 After Use

7.1 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.
- 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, page 22.*

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.

7.2 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, page 18.*

8 Troubleshooting

8.1 Troubleshooting the electrical system

Error	Display (flashes at 0.5 sec. intervals between two codes)		Acoustic Signal	LED (flashes yellow)	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 activated	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 GDV representative if the above does not solve your problems.

8.2 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.

9 Technical Data

9.1 Characteristics

Automatic Operation	yes
Max. angle in Manual mode	80°
Max. angle in Automatic mode	primary wing = 40° secondary wing = 12°
Angle values in Automatic mode	0°–40° (+/- 1° interval)
Time values in Automatic mode	0, 3, 10–180 min (+/- 10 min intervals)

9.2 Weights

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

Weights of Careturner components

Complete (main module and 4 arms)	31.4 kg
Head arm (1 piece)	3.8 kg
Foot arm (1 piece)	2.6 kg
Main module	18. kg
Control Box	2.5 kg

9.3 Allowed mattress sizes

Mattress height and side rail compatibility

IMPORTANT!
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 (cm)
90 cm	88–90 cm	200 cm

A castellated mattress is recommended.

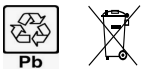
9.4 Environmental conditions

	Storage and 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.

9.5 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.

10 Electromagnetic compatibility (EMC)

10.1 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.

10.2 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 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	

10.3 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	± 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.

Immunity test	Test / Compliance level	Electromagnetic environment – guidance
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	< 0% U_T for 0,5 cycle at 45° steps 0% U_T for 1 cycles 70% U_T for 25 / 30 cycles < 5% U_T 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. U_T 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.

10. 3.1 Test specifications for immunity to RF wireless communications equipment

IEC 60601-1-2:2014 — Table 9

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

Test Frequency (MHz)	Band [a] (MHz)	Service [a]	Modulation [b]	Maximum power (W)	Distance (m)	Immunity test level (V/m)
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

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.

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.
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