Wunder
inspired by precision

PL VEGA

Beds with weighing system

CE

Instructions for installation and use

Translation of the original instructions

TABELLA REVISIONI		
REVISIONE	DATE	NOTE
0.0	06/10/2017	Prima Edizione

Content

Manufacturer certifications

Certificato

kiwa
Partner for progress

Reg. Numero	11334- A		
Data di rilascio	2004-04-21	Data di ultima modifica	2016-04-19
Data di prossimo rinnovo	2018-09-15	Settore	EA: 19 , 29 a

Certificato del Sistema di Gestione per la qualità

ISO 9001:2008

Si dichiara che il sistema di gestione per la Qualitá dell'Organizzazione:

WUNDER SA.BI. S.r.l.

è conforme alla norma UNI EN ISO 9001:2008 per i seguenti prodotti/servizi:

Progettazione, produzione ed assistenza di bilance ad uso medicale ed industriale.
Commercializzazione ed assistenza di bilance ad uso domestico ed industriale

Chief Operating Officer
Giampiero Belcredi

Il mantenimento della certificazione è soggetto a sorveglianza annuale e subordinato al rispetto dei requisiti contrattuali Kiwa Cermet Italia.

Il presente certificato è costituito da 1 pagina.
La data di rilascio di questo certificato corrisponde alla data di primo rilascio da parte di altro Ente accreditato

WUNDER SA.BI. S.r.l.
Strada Vecchia per Monza 20
20056 Trezzo sull' Adda MI Italia

Kiwa Cermet Italia S.p.A.
Società con socio unico, soggetta all'attività di direzione e coordinamento di Kiwa Italia Holding Srl
Via Cadriano, 23
40057 Granarolo dell'Emilia (BO)
Tel +39.051.459.3.111
Fax +39.051.763.382
E-mail: info@kiwacermet.it
www.kiwacermet.it

CERMET

IAF

ACCREDIA
L'ENTE ITALIANO DI ACCREDITAMENTO
SGQ N° 007A SSI N° 006G
SGA N° 010D FSM N° 004I
PRD N° 069B

Certificato

kiwa
Partner for progress

Reg. Numero 11334- M

Data di rilascio 2004-04-21 Data di ultima modifica 2016-04-19

Data di prossimo rinnovo 2019-02-28

Certificato del Sistema di Gestione per la qualità

ISO 13485:2003

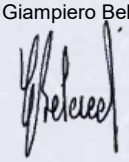
Si dichiara che il sistema di gestione per la Qualitá dell'Organizzazione:

WUNDER SA.BI. S.r.l.

è conforme alla norma UNI CEI EN ISO 13485:2012 per i seguenti prodotti/servizi:

Progettazione, produzione ed assistenza di bilance ad uso medicale.

Chief Operating Officer
Giampiero Belcredi



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EEC declaration of conformity

DICHIARAZIONE DI CONFORMITÀ UE
DECLARATION OF CONFORMITY UE

CE

0122

Numero dell'Organismo Notificato (NMi) che ha eseguito la sorveglianza CE in riferimento alla direttiva del consiglio 2014/31/UE. Certificato n°: CE-247
Identification number of the notified body (NMi) that carried out the EC Surveillance referred to the Council Directive 2014/31/UE. Certificate n°: CE-247

FABBRICANTE: Manufacturer:	**Wunder Sa.Bi. S.r.l.** Via Vecchia per Monza, 20 20056 Trezzo sull'Adda (MI)
TIPO/MODELLO: Type/Model:	**PL VEGA**
Nr. del certificato di approvazione CE del tipo: No of the EC type-approval certificate:	**DK 0199.336 rev 01** **EU-Notified Body No.0199**
Matricola Serial Number	**xxxxxxxxxx**

- **La presente dichiarazione di conformità è rilasciata sotto la responsabilità esclusiva del fabbricante.**
  This declaration of conformity is issued under the sole responsibility of the manufacturer.
- **Strumento per pesare a funzionamento non automatico**
  The non-automatic weighing instrument
- **Classe di precisione:**
  Precision class: **III**
- **Corrisponde al modello descritto nel certificato di approvazione CE del tipo.**
  Corresponds to the model described in the EC type-approval certificate.
- **È conforme alle seguenti Direttive:**
  It is complies to the following Directives:

  2014/31/UE (NAWI): Norma EN45501
  2014/31/UE (NAWI): Norma EN45501

  CEI EN 60601-1

  CEI UNI EN 60601-2-52 Apparecchi elettromedicali
  Parte 2: Prescrizioni particolari relative alla sicurezza fondamentale e alle prestazioni essenziali dei letti medici

  93/42/CEE e successive modifiche compresa la 2007/47/CE
  93/42/EEC and further amendments 2007/47/EC included

- **Altre direttive applicate**: 2011/65/UE, 2006/42/CE, 2014/35/UE, 2014/30/UE
- **La marcatura CE 0476 è posta in conformità agli allegati V e VII della Direttiva 93/42/CEE**
  Emesso da organismo rif. Certificato KIWA CERMET Italia S.p.a. (VIA CADRIANO 23- CADRIANO DELL'EMILIA -BOLOGNA) **N° MED 31187**
  CE 0476 mark is applied in accordance to annex V and VII of Directive 93/42/EEC
  Issued by organism ref. **Certificato KIWA CERMET Italia S.p.a.** (VIA CADRIANO 23- CADRIANO DELL'EMILIA -BOLOGNA) **N° MED 31187**

Firmato a nome e per conto del Fabbricante:
Signature:

Amministratore Unico
Mauro Filippo Cassera

WUNDER SA. BI. s.r.l.

Luogo: **Trezzo sull'adda (MI) Italy**
Place:

Data: **xx/xx/xxxx**
Date:

wunder sa.bi. srl
Sede operativa e amministrativa: via Vecchia per Monza, 20 - 20056 Trezzo sull'Adda (MI) - Italy
Sede legale: via Montegrappa, 7 - 24121 Bergamo
Cod. Fisc. e P.IVA / VAT(IT) 01786290161 - R.E.A. BG 236719 - R.E.A. MI 1255333
(+39) 02 90964566 - Fax: 02 90964533
www.wunder.it
wunder@wunder.it

General instructions

Presentation of the manual

This manual is an integral part of the item.
Read carefully the warnings and instructions contained in the manual as they give important information about SAFETY OF USE AND MAINTENANCE.
The descriptions and illustrations provided in this manual cannot be considered final.
The manufacturer reserves the right to make any changes that are deemed useful, without committing to updating this document.
The illustrations and images contained in this manual are only used as examples and can be different from practical situations.
The manufacturing company denies any liability for direct or indirect damage, including loss of benefit, or for any other damage to business that may derive from a use of the product that does not comply with what is described in this manual.

Client support service

The client support service is available for further information about the use, maintenance and support for this product.

Conventions

In this manual the following conventions were applied:

ATTENTION! ***Is used before the description of some procedures. Failing to comply with these instructions can cause damage to the item.***

WARNING! ***Is used before the description of some procedures. Failing to comply with these instructions can cause damage to the user, the patient or the item.***

Safety

General instructions

WARNING! ***Improper use of the article and improper maintenance can cause damage to people or objects.***

WARNING! ***IN CASE OF BLOO DTRANSMITTED DISEASES: To reduce the risk of exposure while using the bed, carefully follow the maintenance instructions written in this manual, and the personnel safety regulations as established by the person in charge of the Medical Emergency Service.***

Operators must read and follow this manual carefully, and familiarise themselves with the correct operating and maintenance procedures of the bed. Always use and carry out the maintenance procedures of the article as prescribed in this manual, and use only spare sparts and customer service centre of the manufacturer.
Do not use the bed for any purpose other than that for which it was intended and designed. Always advise the patient before adjusting the bed. While stopped always secure the brakes to lock the bed. Never leave the patient on the bed unattended. Keep this manual for future reference and to support personnel training. Keep this manual together with the product in the event that you sell or give the product to a new user.
Do not overload the device beyond its maximum capacity value.
Do not apply loads abruptly.
Do not press the keys using sharp or cutting objects.
Do not try to open the weight indicator.
Do not remove the seals on the device.
Do not bypass the weight indicator and the battery.
To supply power to the weight indicator, use only the external adapter provided by Wunder. Before using the device, check for compliance between the local network voltage and the voltage indicated on the external adapter plate.
Periodically check the power cable for integrity and ensure that it does not get in contact with hot devices.
Ensure that the power cable do not hinder any operation.
Before cleaning the device, disconnect the power cable.
Do not immerse the device in water or in other liquids.
Regularly carry out maintenance operations and metric checks.

Manufacturer

The item described in this manual was manufactured by:

Wunder Sa.Bi. S.r.l.
Via Vecchia per Monza, 20
20056 Trezzo sull'Adda (MI)
Tel. +39 02 90964566
mail: wunder@wunder.it

Expected life-cycle

Wunder beds are designed to operate for 10 years without danger or risk to persons and things within the limits and conditions set forth herein, after which it is recommended to replace the bed. Proper operation is guaranteed only by contacting our Customer Service whenever breakdown of the bed occurs.

Designated use

- The device is intended for use in diagnosis, treatment and monitoring of an adult patient* under the strict supervision of medical personnel.
- Operating environment: 1, 2 or 3**. The room of installation must be equipped with electrical system compliant with current standards.
- People authorised to use the product: patient, specialised operators and doctors.
- Supervising and responsibility: the bed must be used only under a doctor's supervision.
- Warning: the bed cannot be used in potentially explosive or inflammable atmosphere.
- Limitations of use: the bed can only be used as described in the manual.

* adult refers to a patient of weight greater than or equal to 40kg, height greater than or equal to 146cm, and a body mass index (BMI) greater than or equal to 17.

** reference to CEI EN 60601-2-52 standards: 2016-02

Essential functions of the bed

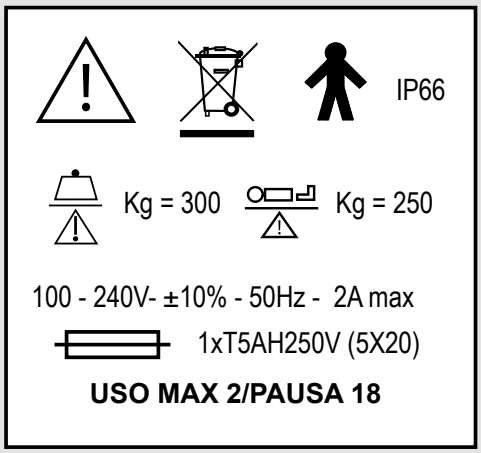
The essential functions of the medical beds are:

- **trendelenburg position**: the Trendelenburg position can be reached in all conditions by means of the push-button and the ACP keypad in less than 30 seconds;
- **horizontal bed top**: you can bring the mattress in a horizontal position in all conditions by means of the push-button, flexible patient panel and the ACP keypad in less than 30 seconds;
- **horizontal backrest**: it is possible to bring the back section in the horizontal position in all conditions using the mechanical CPR lever in less than 30 seconds;
- **safe position:** it is possible to bring the bed in a safe position bringing the matress to the horizontal position in the lowest position with the side rails lifted, the bed extension closed, push-button controls disabled and the brake enabled. When the bed reaches the safe position, a green LED is turned on under the base.

Identification

CAUTION! ***The tag on the device must not be removed.***

The item can be identified with the data indicated on the rating tag fixed on the base:

SYMBOL / LABEL	DESCRIPTION	IDENTIFICATION TAG
	Manufacturer identification data	
	Read the instructions	
	Precision class	
PL VEGA	Model bed	
DK0199.336rev1	EEC Type Certificate	
Matr.xxxx	Register	
Max	Maximum capacity	
e=	Verification scale interval	
T=	Tare Max	
CE	According to directive 2014/31/UE	
14	Date of manufacturing	
0122	Notified organism number	
+5°C +35°C	Operating Temperature	
	Attention: read the instructions for installation and use.	
	Date of manufacturing;	
	Safe operating load;	
	Maximum patient weight;	
	Special waste;	
	Part applied type B;	
USO MAX 2/PAUSA18	Working time;	
IP66	Degree of electrical protection - IP;	
100 - 240V±10% 50Hz - I in 2A max	Frequency, voltage and wattage;	
1xT5AH250V (5x20)	Fuse.	

Beds description

The innovative series PL VEGA with weighing system present a product that responds to four basics features that are: Safety Functionality Ergonomics Total Protection.

Structure

The epoxy-polyester powder coated steel structure consists of a height-adjustable matress base with a system of independent compasses in pairs linked to a lower base.
The matress base is made with rounded corners with large outer radii of curvature to avoid injuries to nursing staff and patients. The matress base consists of 4 sections of which 3 are jointed (back, hip, leg) and 1 centrally fixed section (pelvis).
Sections can be completed, for the support of the mattress, with electro galvanized mesh bases or thermoformed ABS perforated panels. The intermediate frame, recessed in relation to the matress base, includes the movement mechanisms of the individual sections and compasses, rotation joints, linear guides and the support head/footrest panels; the rotation joints are made with steel-teflon
The base consists of two painted steel tubular frames, between which 4 load cells are assembled for detection of the patient's weight. The lower base is equipped with 4 twin wheels of ø125mm or 150mm, foot and head end braking system, wheel controls at the two ends and a thermoformed ABS cover. An electronic terminal with weight display can be placed at one of the 4 corners of the bed.
The base is designed to receive:
- 4 twin or monorail wheels complete with a simultaneous locking balanced brake system of 4 steel pedals at the corners of the base;
- 5th central wheel of 125mm diameter with directional lock driven by the main braking system of the bed;
- bilateral electric footpedal with safety arch to prevent accidental operation.

The bed is equipped with:
- bed extension which allows to adjust the bed base length by 17.5 cm;
- steel cable reel holder fastened under the frame.

The bed can be supplied with a blanket holder in HPL with retaining rail and ACP accommodation underneath the mattress at the foot end.

Ends and sides in 4 sections

Made of medium density linear POLYETHYLENE. The material is UV stabilized, grey in colour and is spun dyed. Customizable with ultra-permanent high cohesion coloured PVC adhesive film guaranteed 7/8 years outside. Headboard with side panels support in steel with ABS coating with 4 rubber bumper wheels and 4 slots for poles at each corner. Red central knob for locking and anti-removal of ends. In some versions, the side rail at the head is fixed to the base to avoid interference with the bed accessories and with the overhead lamps of the beds in the rooms.
The side rails of four sections are positioned: 2 on back sections (follow the movements of the mattress) and 2 on the intermediate base in the femoral area with tilt indicator (for Trendelenburg and the backrest section). The optimal design of the side rails and the simplified exit position allow the correct positioning of the patient and ensure a stable and safe support to help him get up or move to the chair.

Compass side rails

The pair of compass side rails consists of three horizontal bars made of steel with epoxy powder coating finish, and from two vertical bars in anti-trauma plastic material.
The semiautomatic coupling device is placed at the foot end. They are retractable by compass with a drop level to the mattress. The side rails are fixed to the intermediate frame by means of clamps with locking handle and are easily removable.

Movements

The back section and upper leg section are controlled electrically with linear actuators.
The lower section of the legs can be adjusted, depending on the model:

- manually with double semi-automatic rack with 6 positions;
- manually with gas spring and release lever located at the foot of the bed;
- electrically with linear actuator and controls located at the foot of the bed. The ACP Panel cannot inhibit this movement.

The joint between the upper leg section and the lower leg section is equipped with a negative rotation lock in the lower leg section to prevent the reverse angle of the knees.
The lifting of the bed is made by electric linear actuators, which operate the compasses, which also allow the Counter Trendelenburg and Trendelenburg movements to be made.
The backrest moves back and rises automatically during rotation (translation) to reduce the compression of the chest/pelvis area, limiting the formation of bedsores.
During movement of the backrest, the 30° inclination is notified by stopping (VAP-High Risk Zone), by re-pressing the function key movement resumes.
Unblock backrest (CPR) with amortized descent motor, unblock by bilateral levers located under the pelvis area.

Electrical system

The electrical system can be powered with variable voltage (auto-adaptive) 100-240V, 50/60 Hz and then be transformed and used, via the control unit with SMPS electronic transformer, low voltage 24V DC.
The electrical system is built in class 1, with all metal parts connected together creating a continuous circuit.
There is a terminal for equipotential connection, placed at the head end of the bed.
The electrical system has a watertight IP66 seal against liquid penetration.
There is an integrated rechargeable emergency battery that allows the movement of the bed in case of no direct power of the network. There is an on/off button on the control unit, which excludes the battery in case of prolonged storage.
The bed is equipped with acoustic alarm in case the brakes are deactivated with plug inserted and a red/green night safety light; the green light indicates that the bed is placed at a minimum height; this can avoid the risk of accidental falls during the night-time descent of the patient.

Commands

The control devices are divided into two categories:

-Patient controls: push-button keypad, suspended panel with reading light, integrated controls on side rails in 4 sections (internal);

-Operator controls: standard ACP panel or with liquid crystal display LCD, integrated controls on side rails of 4 sections (external) and bilateral pedal.

Through the ACP panel, it is possible to enable/disable every single movement of the push-button panel, the suspended panel, the integrated panels of the side rails and pedals (the dedicated emergency Trendelenburg and CPR commands cannot be locked, they are always active). The relative red LED signals the inhibited commands. Alternatively, it is possible to block the push-button keypads by removing the safety key (on the push-button and ACP keypad

The push-button panel and ACP can be enabled or disabled by using the power button, and are equipped with automatic standby after 3 minutes of inactivity.

The complete bed configuration complies with the CEI UNI EN 60601-2-52:2016 standards.

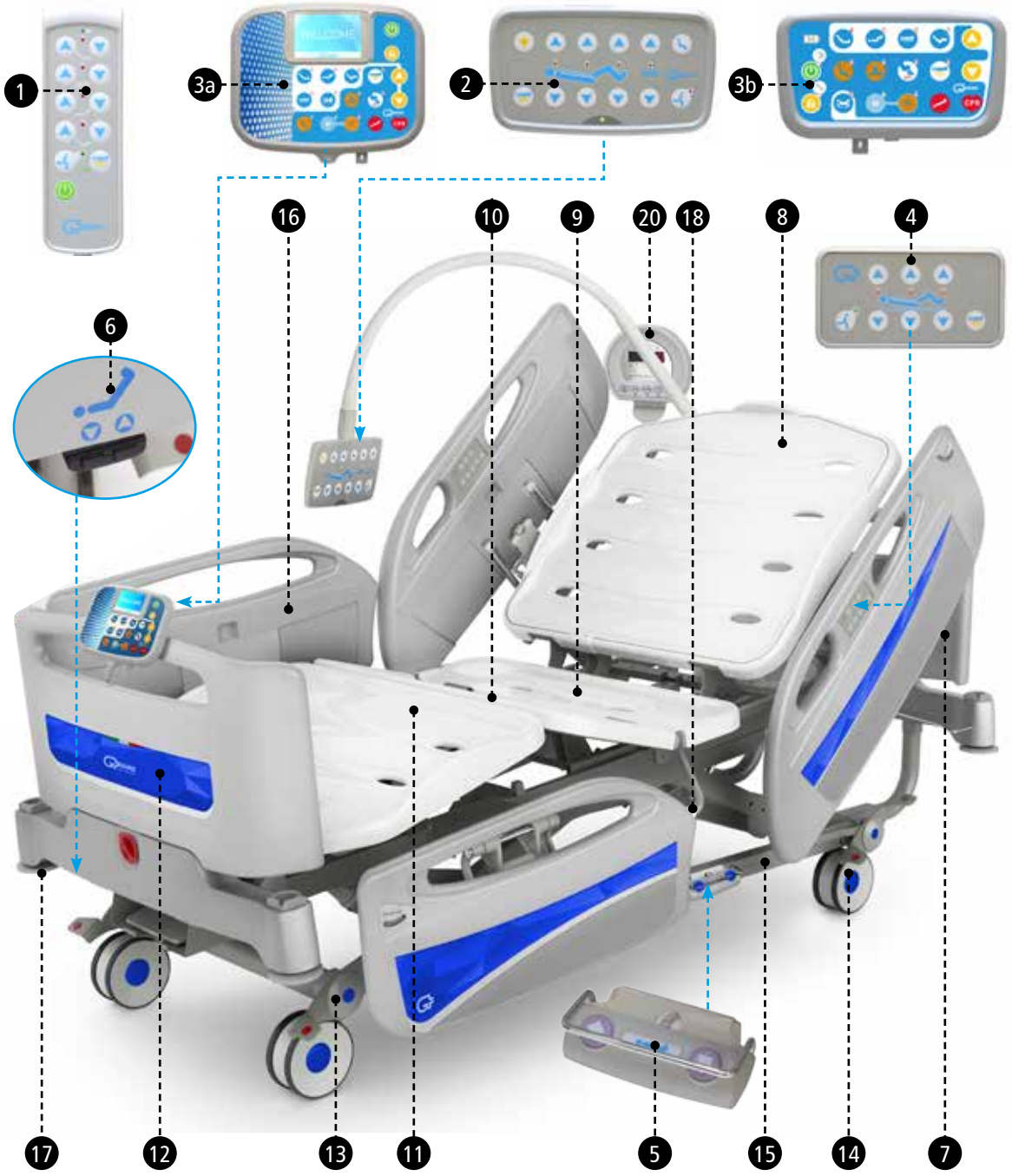
PL VEGA Conf. ZEBT510W

PL VEGA Conf. ZEBT514W

General description

Names of major parts: PL VEGA conf. ZEBT514W

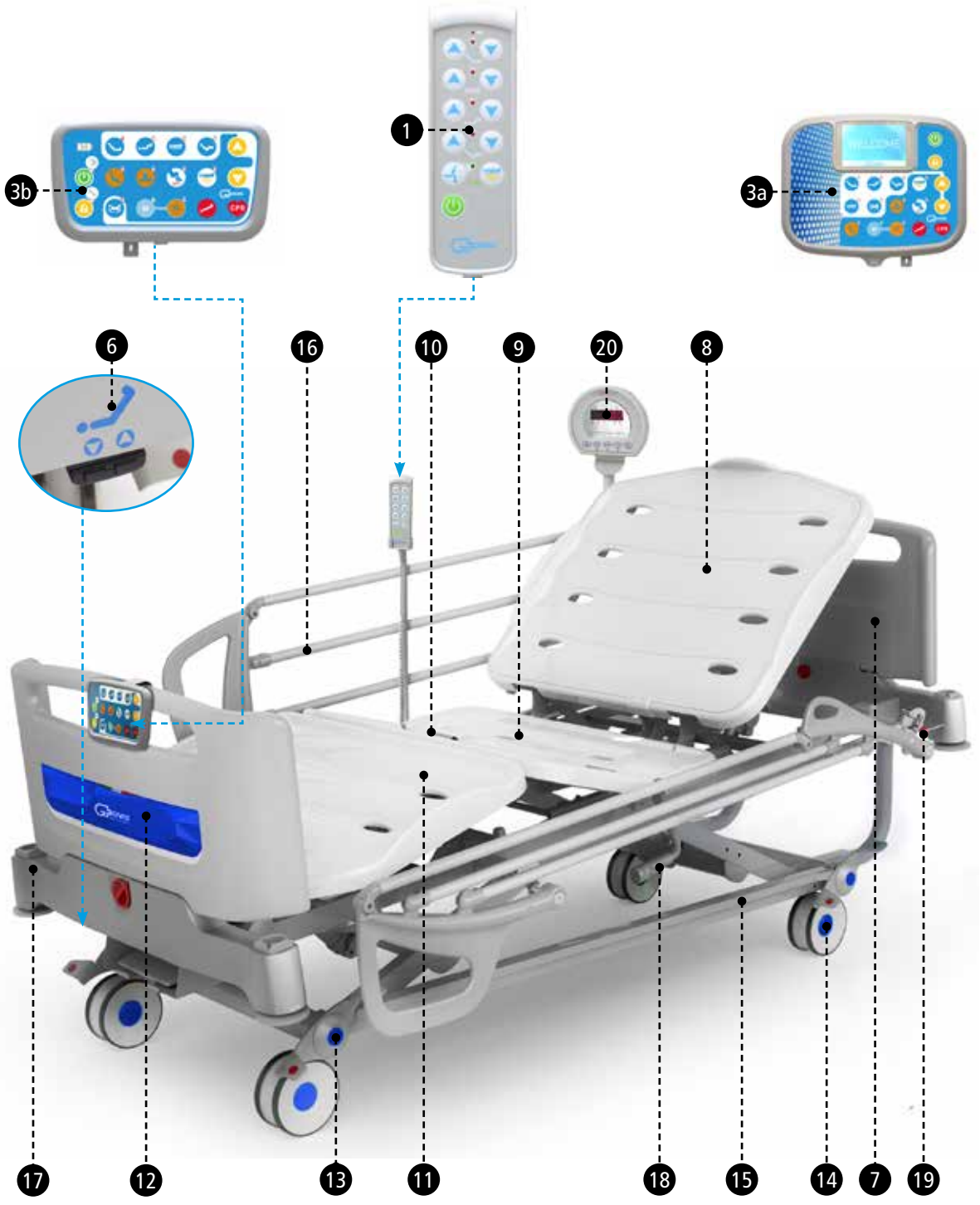
1. Free push-button keypad (opz. RAT500W);
2. Patient flexible panel (opz. RAT515W);
3a. ACP panel with display (opz. RAT525W);
3b. Standard ACP panel (opz. RAT520W);
4. Push-button control integrated on the side panels (ZEBT518W);
5. Pedal operated control (opz. RCXXXXW);
6. Controls on foot side (opz. RAT560W);
7. Headboard;
8. Backrest section;
9. Seat section;
10. Upper leg section;
11. Lower leg section;
12. Footboard;
13. Brake;
14. Castor wheels;
15. Base;
16. Side rails in 4 sections;
17. Bumper wheels;
18. Bilateral emergency CPR lever.
19. Weighing system display.



ID 01771 - rev. 0.0 del 06.10.2017

Names of major parts: PL VEGA conf. ZEBT510W

1. Free push-button keypad (opz. RAT500W);
3a. ACP panel with display (opz. RAT525W);
3b. Standard ACP panel (opz. RAT520W);
6. Controls on foot side (opz. RAT560W);
7. Mobile headboard;
8. Backrest section;
9. Seat section;
10. Upper leg section;
11. Lower leg section;
12. Footboard;
13. Brake;
14. Castor wheels;
15. Base;
16. Compass side rails;
17. Bumper wheels;
18. Bilateral emergency CPR lever;
19. Side rails release mechanism.
20. Weighing system display.



Technical Features

Technical data

CODE		PL VEGA
Sections		4
Length with bumpers: - Bed with fixed ends - Bed with mobile ends	mm	 2220 2170
Width with bumpers: - Bed with side rails in 4 sections - Bed with compass side rails	mm	 1020 1005
Size of ABS bed frame	mm	1960 x 870
Height adjustment (double wheels Ø 125mm H 145 mm)	mm	407 — 822
Height adjustment (double wheels Ø 150mm H 165 mm)	mm	427 — 842
Integrated bed extension	mm	175
Automatic backrest backward movement	mm	100 rise 50
Trend/anti-trend adjustment	deg	15°/15°
Backrest adjustment	deg	1°-30°-70°
Upper leg section adjustment	deg	0 - 28°
Lower leg section adjusting by rack mechanism	deg	0 - 16°
Weight Bed with side rails in 4 sections with fixed ends Bed with compass side rails with mobile ends	Kg	 180 160
Safe working load*	Kg	300
Safe working load lifting rod	Kg	75
ABS backrest section	mm	750 x 870
ABS seat section	mm	240 x 870
ABS upper leg section	mm	350 x 870
ABS lower leg section	mm	620 x 870
Space under the base for lifting patients	mm	> 150
Side rail height from base top	mm	390
Reference standards		CEI EN60601-1 Third Ed. CEI UNI EN 60601-2-52 Second Ed. EN60601-1-2 (EMC)
Additional technical standards applied		UNI CEI EN ISO 14971:2012 UNI CEI EN ISO 15223-1:2012 UNI 6141:1968 UNI EN ISO 3746:2011

*WORK LOAD is used to refer to the total sum of: patient (250 Kg), mattress (30 Kg) and accessories (20 Kg).

Electric technical data

Electric technical data	
Power voltage	100-240 V ± 10%
Use Voltage	32 VDC
Network frequency	50/60 Hz
Max power absorbed	250 - 600 VA
Max current absorbed	2,5 A Max
Work cycle	2/18 (2min uninterrupted use and 18 min stand-by)
Noise emitted when loaded	<30 dB
Electric protection class	I
Part applied	Type B
Electric protection level	IPX6
Number / type of batteries	2 Pb sealed
Battery capacity	1,3 Ah
Battery voltage	12 V
Battery recharge time	6 - 8 hours
Battery autonomy	10 lift cycles
Motor supply	24V
Motor power	Height 8000 N/ Back 5000 N/ Upper leg section 3500 N
Type of fuses in the circuit (not accessibles)	2xT5Ah 250V
Room temperature while operating	C° 10-40
Room humidity while operating	30-75%

Display model		WU150 LED 5 keys
Scale capacity	kg	200
Scale category	g	50 (up to 100 kg) ~ 100 (from 101 to 200 kg)
Precision class		III
Display		1 LED 20mm 5 digit
Function keys		ON / ZERO / OFF, CW., STANDBY, TARA, PRINT
Power indicator		Rechargeable battery pack for Adapter 12 V - 2A
Indicator dead weight	kg	~ 2
Reference directive		2014/31/UE
Applied metrics standard		EN 45501

Technical features of the mattress

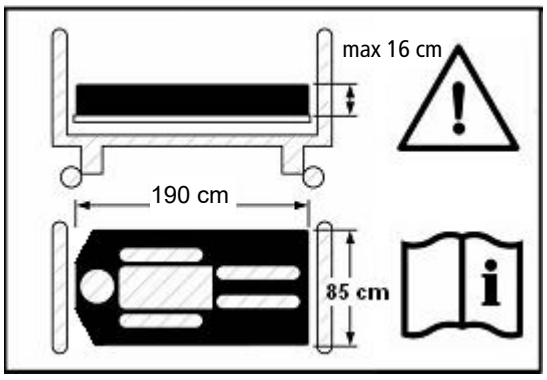
In standard configuration (Unless otherwise specified in the order) the bed is calibrated considering a weight of 7.5 kg mattress.

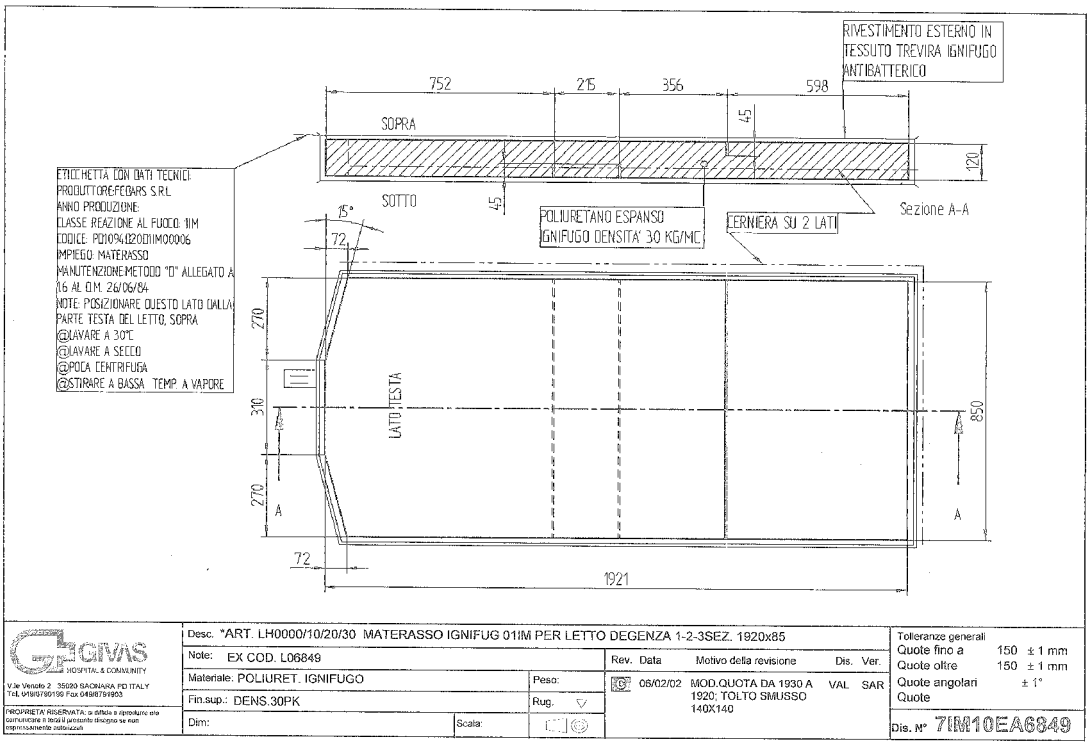
Technical dimension data

Dimensions	mm	1900 x 850
Thickness	mm	160
Weight	kg	7,5 ± 3,5
Fire reaction class	-	1IM
Density	Kg/mc	30
Composition	-	Fireproof foamed polyurethane
External covering	-	TREVIRA antibacterial fireproof fabric

WARNING! Mattress with different dimensions and characteristics of the ones specified may create risks for patients.

WARNING! If replacing the mattress make sure that the weight of the new mattress is within the above mentioned parameters. Otherwise the scale may cause overload or under load.



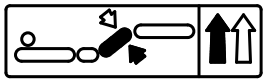


Controls identification

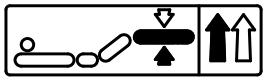
Identification of the graph symbols

The following graphic symbols are represented in the device.

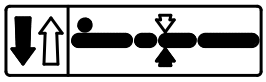
LIFTING AND LOWERING THE BACK



LIFTING AND LOWERING THE PELVIS SECTION

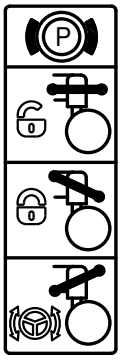


LIFTING AND LOWERING THE LEG SECTION



LIFTING AND LOWERING THE BEDSPRING

TRENDELENBURG AND REVERSE-TRENDELENBURG



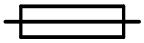
BRAKE BLOCKING - UNBLOCKING

SPECIAL WASTE

TERMINAL FOR EQUIPOTENTIAL CONNECTION

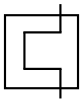
SAFE WORKING LOAD

TYPE B DEVICE



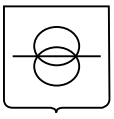
FUES

CAUTION



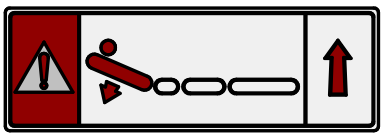
TRANSFORMER THERMAL PROTECTION

DANGER CRUSHING

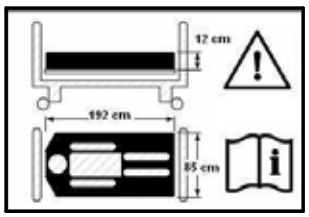


ELECTROMAGN. COMPATIBILITY

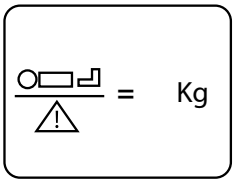
MATERIAL RICYCLABLE



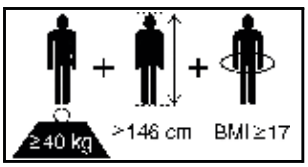
EMERGENCY RELEASE BACK CPR



LABEL MATTRESS



MAXIMUM PATIENT WEIGHT



PHYSICAL DESCRIPTION ADULT

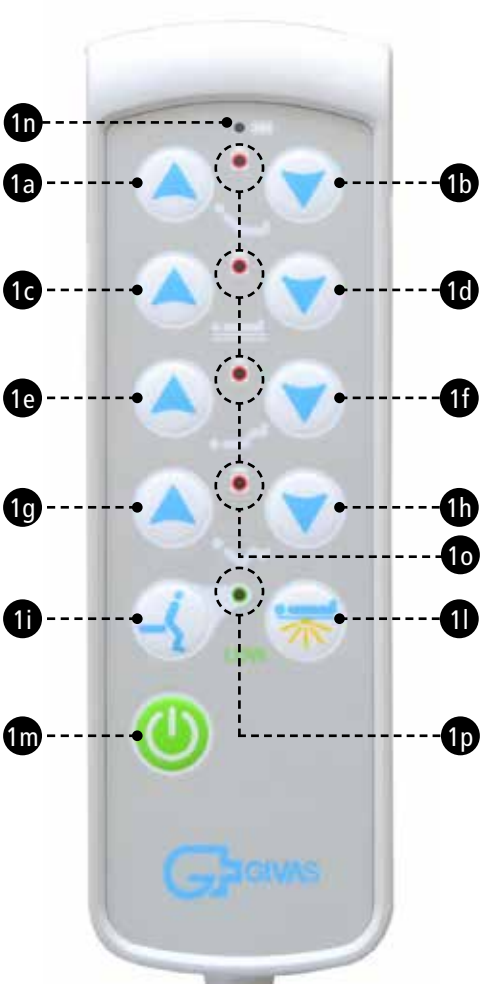
Keypad

Free backlit push-button keypad (Optional RAT500W)

WARNING! Before making any movement refer to the corresponding section of the manoeuvre to be carried out.

The following movements can be made using the keypad actioned by the patient:

1a. Lifting the backrest;
1b. Lowering the backrest;
1c. Lifting the bed;
1d. Lowering the bed;
1e. Lifting the upper leg section;
1f. Lowering the upper leg section;
1g. Simultaneously lifting the backrest section and the upper leg section (Autocontour);
1h. Simultaneously lowering the backrest section and the upper leg section (Autocontour);
1i. Descent position (backrest high, upper leg section reset, minimum height);
1l. Turn on/off night safety light;
1m. Keypad activation/deactivation (N.B. the keypad is deactivated after 3 minutes of inactivity);
1n. RED LED: the push button keypad is powered by battery;
GREEN LED: the keypad is powered from the mains;
1o. RED LED: lit when the corresponding movement is blocked;
1p. GREEN LED: lit when the descent position is reached correctly.



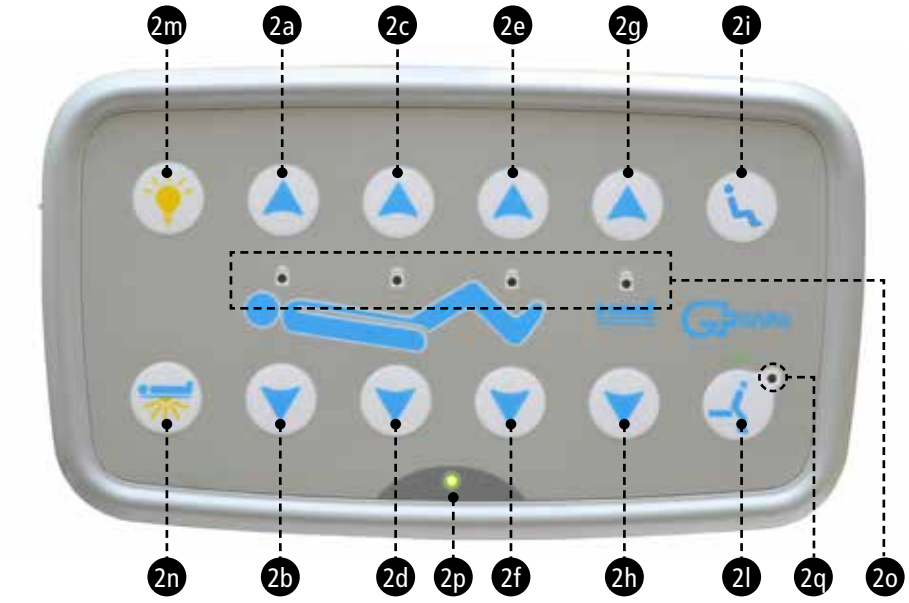
Buttons and movement symbols are backlit and therefore easy to use in low light situations.

Flexible Patient Panel FPP (optional RAT515W)

WARNING! Before making any movement refer to the corresponding section of the manoeuvre to be carried out.

The following movements can be made using the flexible patient panel:

2a. Lifting the backrest;
2b. Lowering the backrest;
2c. Simultaneously lifting the backrest section and the upper leg section (Autocontour);
2d. Simultaneously lowering the backrest section and the upper leg section (Autocontour);
2e. Lifting the upper leg section;
2f. Lowering the upper leg section;
2g. Lifting the bed;
2h. Lowering the bed;
2i. Comfort position (backrest + upper leg section + counter Trendelenburg);
2l. Descent position (backrest high, upper leg section reset, minimum height);
2m. Turn on/off the back reading light;
2n. Turn on/off night safety light;
2o. LED indicators: RED indicates that the corresponding movement is blocked; to lock/unlock the movements see paragraph relating to the "ACP standard keypad/display" as applicable);
2p. LED indicator: GREEN indicates that the keypad is powered;
2q. GREEN LED: lit when the descent position is reached correctly.



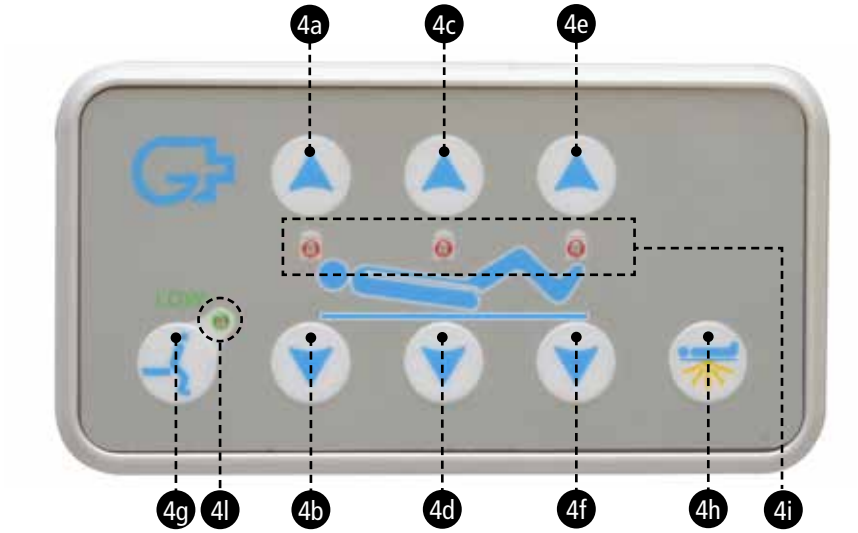
In the back of the flexible patient panel, there is a LED light for reading.
To turn on/turn off press the button for **2m**.

Keypad integrated on the side rails (only on ZEBT518W)

WARNING! Before making any movement refer to the corresponding section of the manoeuvre to be carried out.

The following movements can be made using the keypad integrated on side rails:

4a. Lifting the backrest;
4b. Lowering the backrest;
4c. Lifting the bed;
4d. Lowering the bed;
4e. Lifting the upper leg section;
4f. Lowering the upper leg section;
4g. Descent position (backrest high, upper leg section reset, minimum height);
4h. Turn on/off night safety light;
4i. LED indicators: GREEN indicates that the corresponding movement is enabled, RED indicated that the corresponding movement is blocked; to lock/unlock the movements see paragraph relating to the "ACP standard keypad/display" as applicable);
4l. GREEN LED: lit when the descent position is reached correctly.



ACP standard keypad (optional RAT520W)

The ACP keypad for operator use allows adjusting all the positions of the bed and inhibiting the movements carried out by the keypad for patient use.

WARNING! Before making any movement refer to the corresponding section of the manoeuvre to be carried out.

The following movements can be made using the ACP keypad:
SINGLE MOVEMENT CONTROLS

3a. Section raising keypad;
3b. Section lowering keypad;
3c. Pressed together with button **3a** or button **3b** allows you to raise or lower the backrest; LED lit = function blocked;
3d. Pressed together with button **3a** or button **3b** allows you to raise or lower the upper leg section; LED lit = function blocked;
3e. Pressed together with button **3a** or button **3b** allows you to raise or lower the bed; LED lit = function blocked;
3f. Pressed together with button **3a** or button **3b** allows you to adjust the Trendelenburg or counter Trendelenburg position; LED lit = function blocked;

MULTI-FUNCTION CONTROLS

3g. Pressed together with button **3a** or button **3b** allows you to raise or lower simultaneously the backrest and the upper leg section (Autocontour); LED lit = function blocked;

3h. Comfort position (backrest + upper leg section + counter Trendelenburg); LED lit = function blocked;

3i. Examination position (maximum height with sections reset); Led lit = function blocked;

3l. Repeat the stored position; LED lit = function blocked (see p. 26);

MEMORIZATION CONTROLS

3m. Button for the memorization of a preferred position; the GREEN LED flashes 3 times, when the memorization is complete it remains alight (see page 26);

INHIBITOR CONTROLS

3n. Enable/disable the pedal (if available); RED LED = function blocked;

3o. Turn on/off night light red/green; RED LED = function blocked;

3p. Enable/disable the keypad; automatic standby after 3 minutes of inactivity;

3q. Pressed together with a function, it allows you to lock/unlock the function itself;

3r. Key for activation/deactivation of the keypad: if connected the keypad is active, if disconnected the keypad is inactive;

EMERGENCY CONTROLS

3s. Emergency Trendelenburg with bed base in a horizontal position;

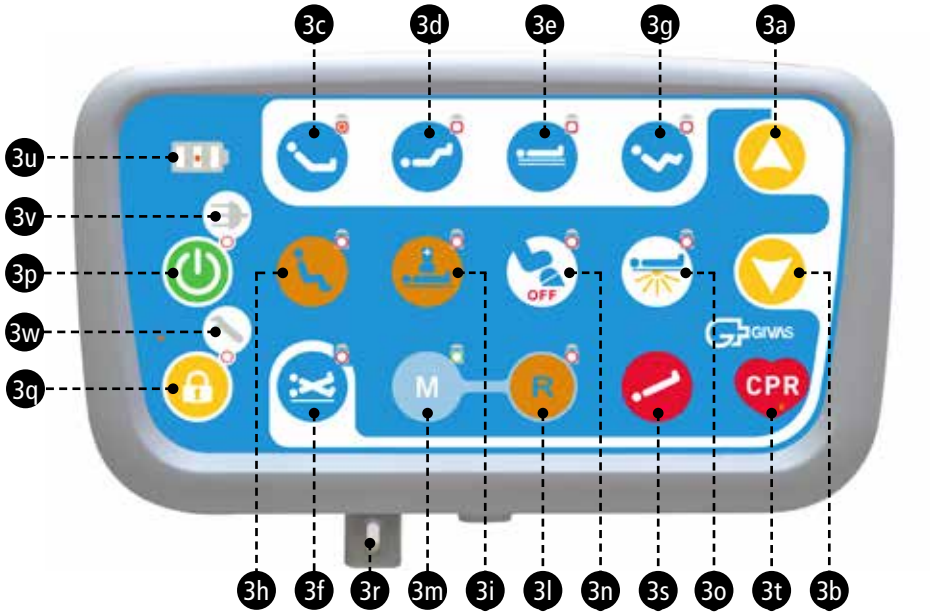
3t. CPR position (Cardio-Pulmonary Resuscitation): minimum height and bed base in horizontal position;

LED INDICATORS

3u. LED battery level indicator; flashes when charging;

3v. GREEN LED: mains power supply;
RED LED: battery power supply;

3w. RED LED: scheduled maintenance at 10,000 hours (with reset buttons).



PLEASE NOTE: if the "Multiple Movement" functions (pos. Autocontour, Comfort and Examination) are blocked from the ACP, all multiple and single functions involved in these movements (e.g. mov. backrest) will be blocked; (RED LED lit on the ACP and on the patient controls, side rails and keypads).

It is possible, however, ONLY FROM THE ACP, to unlock one or more individual functions (e.g. backrest) and move them; however, the commands on the patient controls (side panels and keypads) will remain blocked (LED alight).

Unlocking the "Multiple Movement" functions automatically from the ACP all the functions on all controls will be unlocked.

ACP keypad with display (optional RAT525W)

The ACP keypad for operator use allows adjusting all the positions of the bed and inhibiting the movements carried out by the keypad for patient use.

WARNING! Before making any movement refer to the corresponding section of the manoeuvre to be carried out.

The following movements can be made using the ACP keypad:

SINGLE MOVEMENT CONTROLS

3a. Section raising keypad;

3b. Section lowering keypad;

3c. Pressed together with button **3a** or button **3b** allows you to raise or lower the backrest; LED lit = function blocked;

3d. Pressed together with button **3a** or button **3b** allows you to raise or lower the upper leg section; LED lit = function blocked;

3e. Pressed together with button **3a** or button **3b** allows you to raise or lower the bed; LED lit = function blocked;

3f. Pressed together with button **3a** or button **3b** allows you to adjust the Trendelenburg or counter Trendelenburg position; LED lit = function blocked;

MULTI-FUNCTION CONTROLS

3g. Pressed together with button **3a** or button **3b** allows you to raise or lower simultaneously the backrest and the upper leg section (Autocontour); LED lit = function blocked;

3h. Comfort position (backrest + upper leg section + counter Trendelenburg); LED lit = function blocked;

3i. Examination position (maximum height with sections reset); Led lit = function blocked;

3l. Repeat the stored position; LED lit = function blocked (see p. 26);

MEMORIZATION CONTROLS

3m. Button for the memorization of a preferred position; the GREEN LED flashes 3 times, when the memorization is complete it remains alight (see page 26);

INHIBITOR CONTROLS

3n. Enable/disable the pedal (if available); RED LED = function blocked;
3o. Turn on/off night light red/green; RED LED = function blocked;
3p. Enable/disable the keypad; automatic standby after 3 minutes of inactivity;
3q. Pressed together with a function, it allows you to lock/unlock the function itself;
3r. Key for activation/deactivation of the keypad: if connected the keypad is active, if disconnected the keypad is inactive;

EMERGENCY CONTROLS

3s. Emergency Trendelenburg with bed base in a horizontal position;
3t. CPR position (Cardio-Pulmonary Resuscitation): minimum height and bed base in horizontal position;

This ACP keypad is equipped with a backlit LCD display for ease of use by the operator.

PLEASE NOTE: if the "Multiple Movement" functions (pos. Autocontour, Comfort and Examination) are blocked from the ACP, all multiple and single functions involved in these movements (e.g. mov. backrest) will be blocked; (RED LED lit on the ACP and on the patient controls, side rails and keypads).
It is possible, however, ONLY FROM THE ACP, to unlock one or more individual functions (e.g. backrest) and move them; however, the commands on the patient controls (side panels and keypads) will remain blocked (LED alight).
Unlocking the "Multiple Movement" functions automatically from the ACP all the functions on all controls will be unlocked.

Bed position memorization (ACP only)

The ACP keypads (3a) and (3b) are equipped with a button that allows you to memorize a user-defined position to reproduce with a single key.

PLEASE NOTE: it is possible to store only one position.

To **memorize** a position, proceed as follows:

- bring the bed into the desired position (see paragraphs relating to the chapter on "Operation and use");
- press and hold the button for a few seconds (**3m**) and the button : the green LED (**3m1**) flashes 3 times;
- when the green LED (**3m1**) **remains alight,** the position is correctly saved.

To **cancel the memorization of a position** proceed as follows:

- press and hold the button for a few seconds (**3m**) and the button : the green LED (**3m1**) turns off.

To **repeat** the memorized position, proceed as follows:

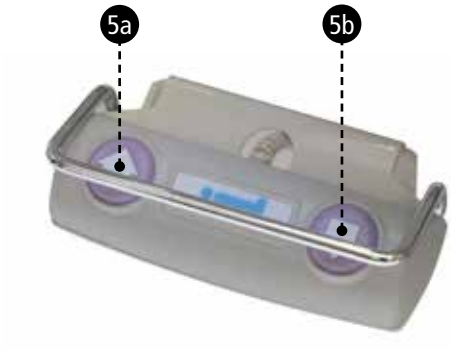
- press the button (**3l**) until the desired position is reached.

RELEASE: the function is blocked if the led (**3l1**) is RED; to unlock simultaneously press the button (**3l**) and the button .

Pedal operated control (optional in combination with the wheel component RCXXXXW)

WARNING! Before making any movement refer to the corresponding section of the manoeuvre to be carried out.

CAUTION! The pedal operated control is located on both sides of the bed. The use is restricted to health care professionals.



The following movements can be made using the pedal operated control:

5a. Raising the bed;

5b. Lowering the bed.

PLEASE NOTE: the ACP Keypad can inhibit the pedal operated keypad by pressing the button (**3m**) ; if the LED is RED it means that the pedal control panel has been disabled.

WARNING! Always block the pedal after use.

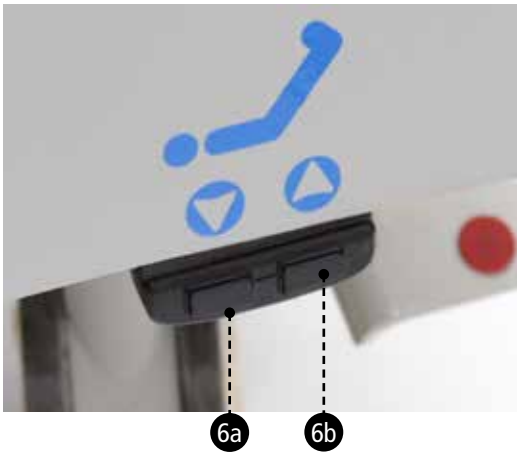
Controls on the foot side (optional RAT560W)

WARNING! ***Before making any movement refer to the corresponding section of the manoeuvre to be carried out.***

The following movements can be made using the controls at the foot of the bed:

6a. Lifting the upper leg section;

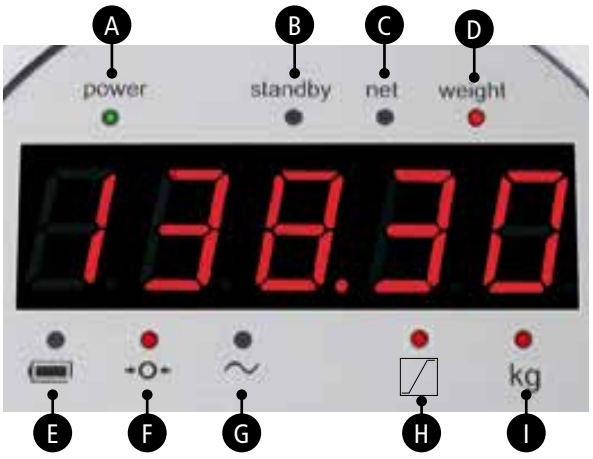
6b. Lowering the upper leg section.



PLEASE NOTE: it is not possible to inhibit in any way the foot end command.

2a. Power indicator
2b. Weight LCD display
2c. Mod. characteristics indicator
2d. Function keys

Key	Description
	ON key Press it for 3 seconds to turn the weighing device off. Indicator reset (±2% of the capacity)
	Weighing check function turning on / off.
	Block for adding/removing objects to/from bed.
	Unwanted weight tare.
	Data printing.



A. **Power**: power on indicator
B. **Standby:** standby function indicator
C. **Net:** net weight indicator
D. **Weight:** weighing indicator
E. Battery charge level
F. Weight at reset value
G. Stable weight indicator
H. Check indicator
I. Measurement unit

Transportation and packaging

WARNING! ***Lifting and handling operations must be conducted by skilled personnel trained for this purpose.***

CAUTION! ***Never lift the bed from the headboard/footboard. Danger of damage!***

Transportation can be made by: road, railway, sea and air.
The item is packed in recyclable cardboard boxes, designed for handling.
Handling must be carried out with suitable equipment. The following equipments are suitable for handling: Self-propelling lift truck, manual lift truck.

Checks at delivery

Remove the content of the package and check it. If all components are undamaged, the box and the rest of the packaging can be sent to the proper collection area for recycling that is not accessible to children and animals. If the product has been damaged during transportation, keep the box and the rest of the packaging and follow the instructions indicated in the term of sales.

Installation

Installation area preparation

The installation area should:
- have a rigid, horizontal and flat floor.

Equipment check

The package contains:
- bed (model ordered);
- headrest and feet section;
- the free keypad, the ACP control (if ordered, the flexible patient panel and the pedal control panel);
- other ordered accessories;
- user manual.

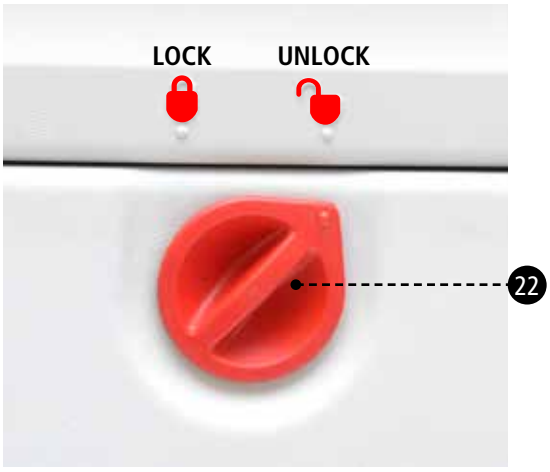
Assembling

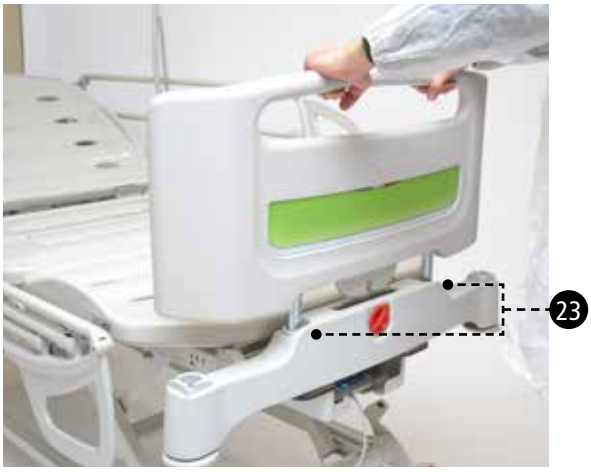
CAUTION! The assembling area must be clean and clear; its size must be at least 4x3 m in order to allow for assembling operations.

The assembling area must have the following characteristics:
- flat and not loose floor;
- lighting 400 LUX;
- power sockets complying with CEI standards and adequate for the equipment characteristics (see nameplate).

Assembling the panels

The ends must be assembled in all bed models.
Follow the instructions below to **assemble** the headboard and the footboard:
- turn the knob (**22**) clockwise until it reaches the UNLOCKED position to allow the insertion of the headboard/footboard;
- insert the headboard/footboard into the holder (**23**) as shown in the figure;
- turn the knob (**22**) anti-clockwise until it reaches the BLOCKED position.

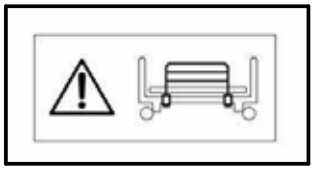




To **dismantle** the ends proceed as follows
- turn the knob (**22**) clockwise until it reaches the UNLOCKED position to allow the removal of the headboard/footboard;
- remove the headboard/footboard.

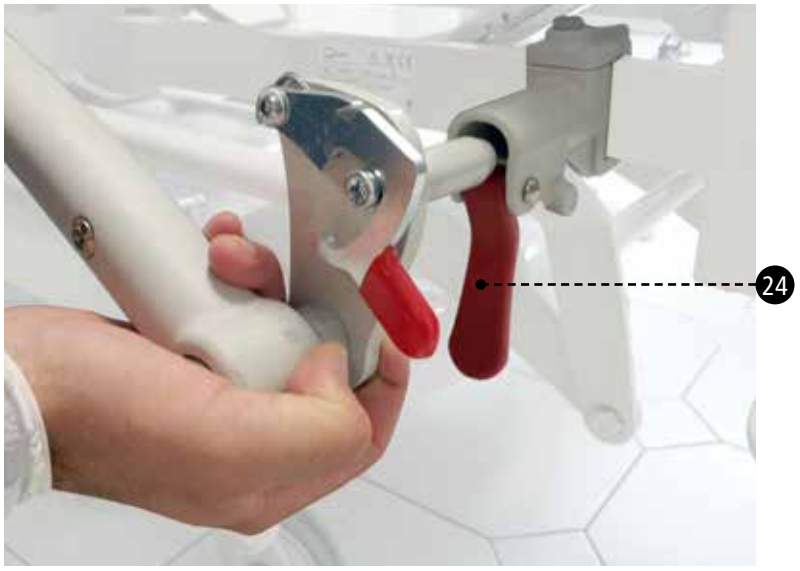
Assembling compass side rails (only on ZEBT510W)

WARNING! ***Incompatibile side rails may create risks.***



To mount the side rail, proceed as follows:

- loose the red fixing levers (**24**) by pushing them towards outside;
- insert the side rail pins on the bases;



- use the relevant lever to block the side rail in the desired position (**Fig. 1**);

FIG. 1

- repeat the same actions for the other side rail.

Display assembling

To mount the display viewer weight, proceed as follows:

- Inserts the disply support on the headboard crossbar and fix it with the 2 screws M8 (**A**) with the monitor in the bed direction.

Removal of security screws

Before starting to use the bed it is necessary to remove the 4 screws (**B**) which protects the weighing cells. Such screws are placed under the basement next to the castors.
In case of a new displacement/transport it is mandatory to : lower at minimum height the bed, fasten the 4 screws and fix the locknut.

Electrical connection

WARNING! ***The electric beds can not be used in the explosive or flammable atmosphere.***

WARNING! ***Always use the weighing device in a place that is not exposed to magnetic interferences.***

ATTENTION! ***The cable must be positioned to prevent it from being crushed, trapped, stretched, trampled, folded, wet and to avoid obstructing any moving parts.***

WARNING! ***The power cable must be suitably protected and must not obstruct the operator.***

WARNING! ***Always make sure that the voltage and the frequency correspond to that which the article was designed to work with (see rating plate).***

- prearrange a SCHUKO outlet;
- plug to main power supply;
- wait 6/8 hours for the buffer battery to charge.

Cable reel

The bed is equipped with a cable reel, useful to wind the power cable when moving the bed. It is located at the foot end, under the base.

Functional test

CAUTION! ***The following check must be repeated regularly in order to check efficiency of the product.***

Before using the product:

- perform the "Periodic review" provided for in "*Maintenance*" section.
- if the check is positive, the article is ready for use, otherwise call the Wunder after sales service immediately.

Electromagnetic compatibility

Manufacturer guide and declaration - Electromagnetic emissions		
This medical device has been designed to operate in the electromagnetic environment indicated below. Either the customer or the user should ensure that it is used in the right environment.		
Emission test	**Compatibility**	**Guide to electromagnetic environment**
RF radiated/conducted emissions CISPR11	Group 1 Class B	This medical devices uses RF energy only for its internal function. Its RF emissions are therefore very low and should not cause any interference with electronic devices
RF Emission CISPR11	Group 1, Class B	This medical device can be used in all buildings, including buildings for domestic purposes and buildings directly connected to the public power network with low voltage powering buildings for domestic purposes.
Harmonic emission	Class A	
Voltage fluctuations/ flicker emission	Compliant	

Manufacturer guide and declaration - Electromagnetic emissions		
This medical device has been designed to operate in the electromagnetic environment indicated below. Either the customer or the user should ensure that it is used in the right environment.		
Immunity test	**Compatibility**	**Guide to electromagnetic environment**
Electrostatic discharge (ESD) IEC/EN61000 - 4 -2	6kV contact 8kV air	Floors should be made of wood, concrete or ceramic. If floors are covered with synthetic material, the relative humidity should be at least 30%.
Electric fast transient/ burst IEC/EN61000 - 4 - 4	+/-2kV power supply +/-1kV for imput/output lines	The network voltage should have the same quality as a typical business or hospital environment.
Surge IEC/EN61000 - 4 - 5	+/-2kV differential mode +/-1kV common mode	The network voltage should have the same quality as a typical business or hospital environment.
Voltage dips, short interruptionand voltage variation IEC/EN61000 - 4 - 11	<5%UT for 0.5 cycle 40%UT for 05 cycle 70%UT for 25 cycle <5%UT for 5 sec	The network voltage should have the same quality as a typical business or hospital environment. Note= Ut is the power voltage value.
Power frequency magnetic IEC/EN61000 - 4 - 8	3A/m	/

Conducted immunities IEC/EN61000 - 4 - 6	3Vrms 150kHz to 80MHz (for non-life equipment)	Portable and mobile RF communication devices should never be used close to any dental unit parts (cables included), unless in case the recommended distances calculated from the equation applicable to the transmitter frequency are kept. Recommended distances d = 1.2√P d = 1.2√P from 80 MHz to 800MHz d = 2.3√P from 800 MHz to 2.5 GHz where P is the maximum nominal output power in Watt (W) according to the transmitter manufacturer and d is the recommended distance in metres (m). The intensity of the fixed RF transmitters, as determined with an electromagnetic investigation of the site a, could be lower than the compatibility level of each frequency interval b. Interferences can occur if close to devices marked with the following symbol: 
Radiated immunities IEC/EN61000 - 4 - 3	3V/m 80MHz to 2.5GHz (for non-life equipment)	
At 80 MHz and 800 MHz the highest frequency interval is applied. These guidelines could not be valid for all situations. The electromagnetic propagation is influenced by the absorption and reflection of structures, objects and people. a) Field intensities for fixed transmitters such as base stations for radiotelephones (mobile and cordless) and land mobile radio systems, radio amateur devices, radio transmitters in AM and FM and TV transmitters cannot be estimated theoretically and in detail. In order to establish an electromagnetic environment caused by fixed RF transmitters, an electromagnetic investigation of the site should be carried out. If the field intensity measured in the site where the device is used exceeds the applicable compatibility level indicated above, the standard device functioning should be checked. If anomalous performance is detected, additional measures should be required, such as a different device orientation or positioning. b) The field intensity on an interval of frequencies from 150 kHz to 80 MHz should be lower than 3 V/m.		

NOTA: UT is the power voltage value.

Recommended distances between portable and mobile radiocommunication devices and weighing device

This medical device is designed to work in an electromagnetic environment where RF radiated interferences are under control. The customer or device user can help avoiding electromagnetic interferences ensuring a minimum distance between RF mobile and portable devices (transmitters) and the device, as indicated below, as far as the maximum output power of radiocommunication devices is concerned.

Maximum nominal output power for W transmitter	**Distance at m transmitter frequency equal to**		
	150 kHz to 80 MHz d = 1,2 √P	**80 MHz to 800 MHz d = 1,2 √P**	**800 MHz to 2,5 GHz d = 2,3 √P**
0,01	0,12	0,12	0,23
0,1	0,38	0,38	0,73
1	1,2	1,2	2,3
10	3,8	3,8	7,3
100	12	12	23

For transmitters where the maximum output power is not indicated, the recommended distance d in metres (m) can be calculated using the equation applicable to the transmitter frequency, where P is the transmitter maximum nominal output power in Watt (W) according to the transmitter manufacturer.

Notes: At 80 MHz and 800 MHz the highest frequency interval is applied. These guidelines could not be valid for all situations. The electromagnetic propagation is influenced by the absorption and reflection of structures, objects and people.

USE WARNINGS

The electric beds can not be used in the explosive or flammable atmosphere (like decompression chamber).

Before to move the bed be sure that the supply wire is removed and hooked to the bed.

Sanitize the bed as described in the "SANIFICATION" chapter of this manual.

The medical staff is in charge of authorizing the patient to use the bed functions.

Warn the patient every time the bed is to be regulated.

Always lift the safety rails of the bed when a patient is laying on it. During a stop always lock the bed in position with the brakes.

Put the bed on the lowest position if the patient is to be left alone in order to reduce injury risks if the patient falls while he/she is trying to get out/into the bed or while laying down.

When the conditions of the patient (disorientation due to medicines or particular clinical conditions) can cause PATIENTS' ENTRAPMENT with the SIDE RAILS/SHOULDERS, the PLATFORM THAT SUPPORTS THE MATTRESS must be left on the flat position and lowered when the patient is left alone (unless differently required by the medical staff for special or particular circumstances).

Never use the bed for any purpose other than that for which it was intended and designed.

Before moving the bed springs, make sure that the power supply cables of the bed and of all other equipment connected are positioned so that they will not be damaged and that they do not obstacle the operation.

Safe position

The bed is in safe position when the spring box is on the lowest position in the horizonal with lifted side rails, the bed extension closed, controls on the push button keypad disabled and the brake enabled.

Emergency positions

The bed can be arranged in two emergency positions, depending on the type of emergency in which the patient is:

1. The bed is in EMERGENCY POSITION 1 when the bed frame is in the lowest horizontal position (total reset), with the side rails lowered.
2. The bed is in EMERGENCY POSITION 2 when all bed sections are reset and the bed frame reaches the Trendelenburg position with the side rails lowered.

Follow the instructions below to bring the bed in **EMERGENCY POSITION 1**:

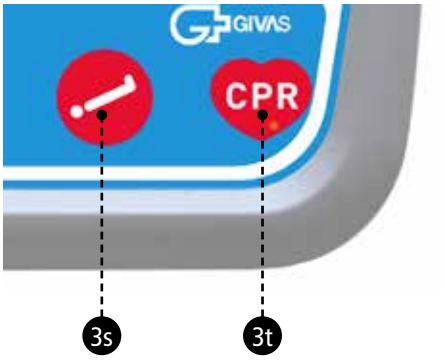
- reset all the bed frame positions using the relevant button(s) - (see relevant paragraph on keypad/panel supplied);
- lower the bed frame using button (**1d**) of the keypad, (**2h**) of the FPP, (**4d**) of the side rails keypad or (**5b**) of the pedal control;
- lower the side rails (see relevant paragraph).

FROM THE ACP PANEL

- press button (**3s**) until all positions are reset;
- lower the side rails (see relevant paragraph).

To bring the bed to **EMERGENCY POSITION 2** proceed as follows (position obtained ONLY from the ACP operating panel):

- press button (**3t**) until the position is reached;
- lower the side rails (see relevant paragraph).



Blocking the bed

The wheel lock device allows:

- in position (**A**) to leave the wheels free;
- in position (**C**) to block the wheels;
- in position (**B**) to activate the directional blocking of a wheel and keep the other free; if the bed is equipped with a 5th wheel, the directional blocking will be activated on this.

To **block** the bed proceed as follows:

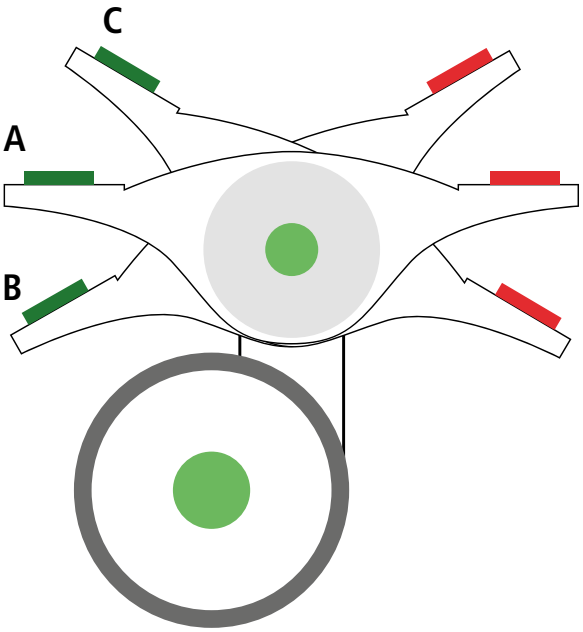
- with one foot, lift the brake pedal (**9**) upwards to position C.

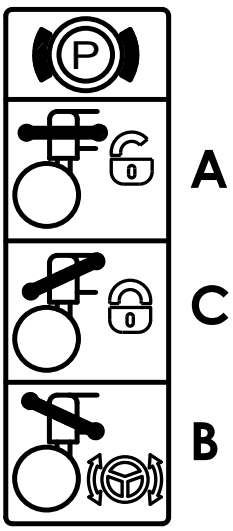
To **unlock** the bed proceed as follows:

- press the brake pedal with a foot on the side corresponding with the green dot up to position A.

To set the **directional lock** proceed as follows:

- press the brake pedal with a foot on the side corresponding with the green dot up to position B.





Fifth wheel (optional)

The bed can be equipped with the "fifth wheel", i.e., a wheel placed at the centre of the base that facilitates the displacement manoeuvres of the bed and allows it to rotate on itself. The 5th wheel is fitted with a directional lock operated by side pedals (see paragraph "Blocking the bed").
The fifth wheel is equipped with a mechanism that absorbs any unevenness of the floor.

Brake alarm

CAUTION! The alarm device does not work with the battery.

The brake alarm is an alarm device that warns the operator by means of a buzzer if the brakes are not inserted when the bed is not moving and the power cable is connected to the power supply, or when the brake is deactivated and the bed is moved while the power cable is still connected to the plug.

Night safety light

The red/green safety light is a safety device that comes as standard with the beds: if the LED is green it indicates that the bed frame is positioned at a minimum height, and this can avoid the risk of accidental falls during the night descent of the patient; in all other positions the LED is red.

To turn on/off the safety light press the button  on the keypad/panel.

To block the light, press the button  and the button  . The LED will turn red.

Moving the bed

CAUTION! If the bed must be moved sideways, make sure that the directional lock is deactivated.

To move the bed proceed in the following way:

- lift the side rails and make sure they are locked;
- disconnect the power cable and wind it up on the cable reel;
- release the brake and insert the directional block (see chapter "Blocking the bed");
- push or pull the bed from the foot end.

Lifting and lowering the bed

WARNING! ***Always inform the patient before adjusting the bed height.***

The bed height adjustment is obtained by means of two electric actuators controlled through the free keypad, the patient flexible panel, the ACP control, the keypad integrated on the side rails and the pedal control panel.

WARNING! ***Do not put your hands or any other object between the base and the moving parts. Do not intervene on the moving parts manually, and follow the instructions carefully.***

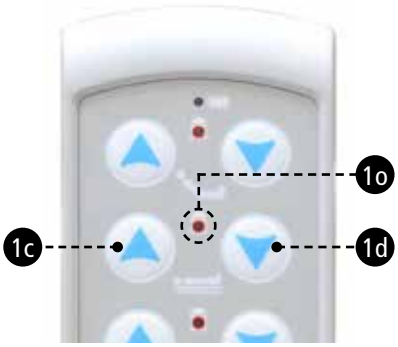
CAUTION! ***Put the bed on the lowest position if the patient is to be left alone.***

To adjust the bed height, proceed as follows:

FROM THE FREE PUSH BUTTON KEYPAD

- press button **1c** to **lift** the bed;
- press button **1d** to **lower** the bed.

If the LED **(1o)** is alight, the function is blocked; to unlock see indications on the ACP keypad.



FROM PATIENT FLEXIBLE PANEL

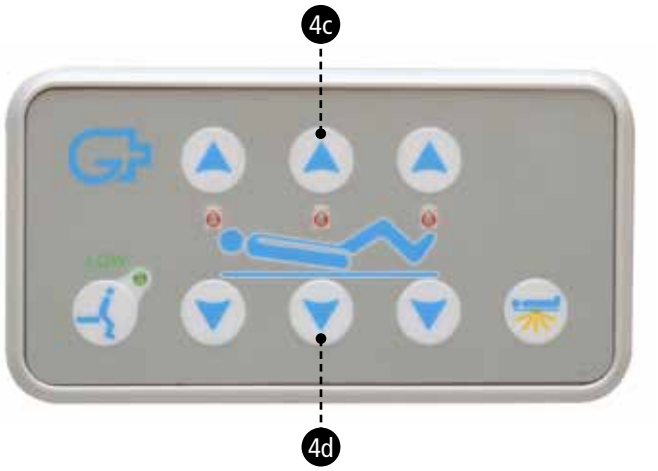
- press button **2g** to **lift** the bed;
- press button **2h** to **lower** the bed.

If the LED **(2o)** is alight, the function is blocked; to unlock see indications on the ACP keypad.

FROM PUSH BUTTON KEYPAD ON SIDE RAILS

- press button **4c** to **lift** the bed;
- press button **4d** to **lower** the bed.

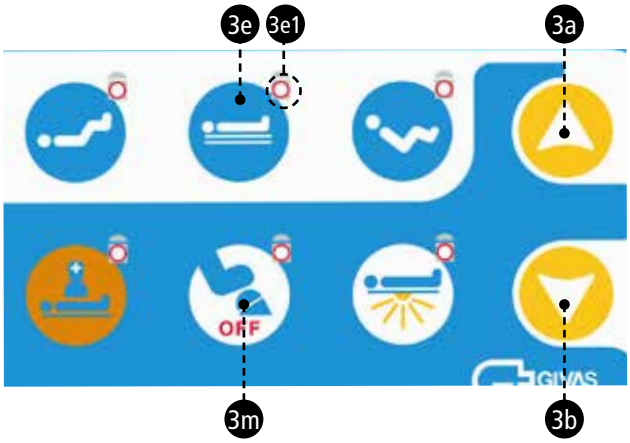
If the LED **(4i)** is alight, the function is blocked; to unlock see indications on the ACP keypad.



FROM THE ACP KEYPAD

- push at the same time buttons **3e** and **3a** to **lift** the bed;
- push at the same time buttons **3e** and **3b** to **lower** the bed.

RELEASE: the function is blocked if the LEDS (**3e1**) and the lock on the display (on ACP RAT525) are RED; to unlock simultaneously press the button **3e** and the button .



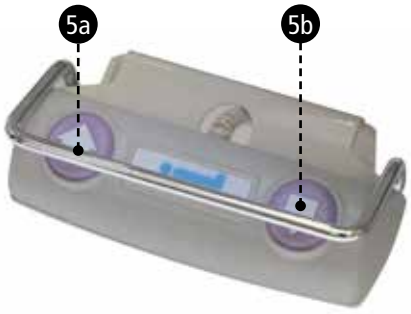
If red, the function is blocked

The screen of the ACP keypad with display (3a) shows the height of the bed frame.

FROM THE PEDAL OPERATED CONTROL

WARNING! Always block the pedal after use.

- if blocked (red LED), unlock the pedal control panel pressing (**3m**) on the ACP keypad;
- press twice in succession (without releasing the second time) with your foot on the button **5a** to raise the bed;
- press twice in succession (without releasing the second time) with your foot on the button **5b** to lower the bed;
- block the pedal control panel by pressing the button (**3m**) on the ACP keypad.



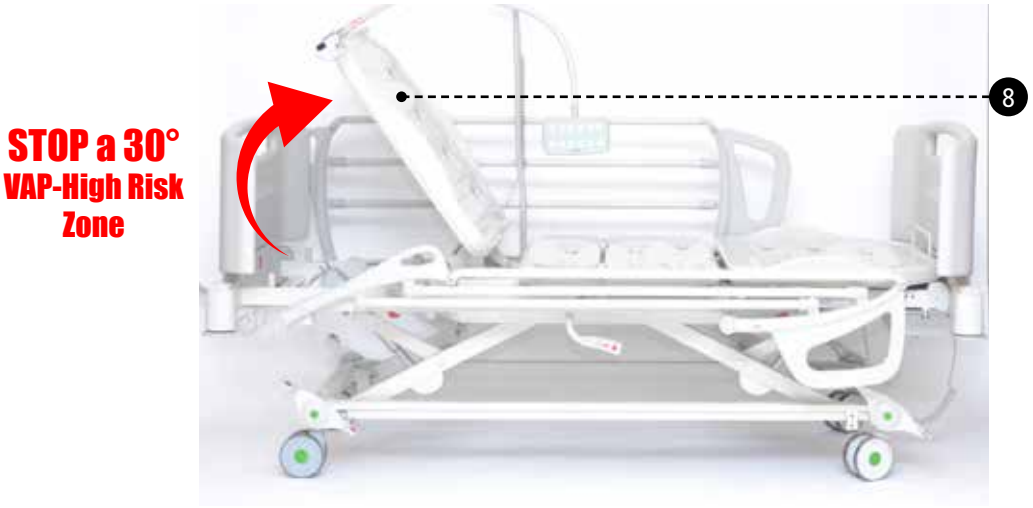
Lifting and lowering the backrest section

WARNING! ***Always inform the patient before adjusting the backrest.***

The backrest (**8**) adjustment is obtained by means of an electric actuator controlled through the push button keypad, the patient flexible panel, the ACP keypad and the keypad integrated on the side rails.

WARNING! ***Do not put hands or objects between the backrest and the spring box. Do not intervene manually on the mobile parts and follow instructions.***

WARNING! ***During the raising, the backrest stops when the inclination of 30° is reached (VAP-High Risk Zone). To continue raising release and press the button again.***



To adjust the backrest position proceed as follows:

FROM THE FREE PUSH BUTTON KEYPAD

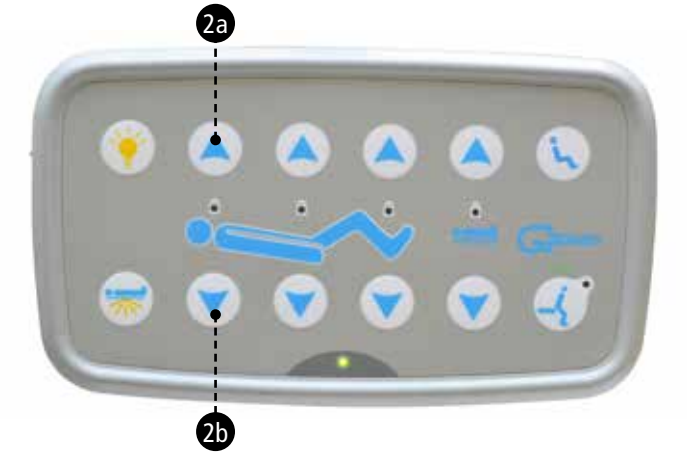
- press button **1a** to **lift up** the backrest;
- press button **1b** to **lower** the backrest.

If the LED (**1o**) is alight, the function is blocked; to unlock see indications on the ACP keypad.

FROM PATIENT FLEXIBLE PANEL

- press button **2a** per **alzare** lo schienale;
- press button **2b** to **lower** the backrest.

If the LED (**2o**) is alight, the function is blocked; to unlock see indications on the ACP keypad.



FROM PUSH BUTTON KEYPAD ON SIDE RAILS

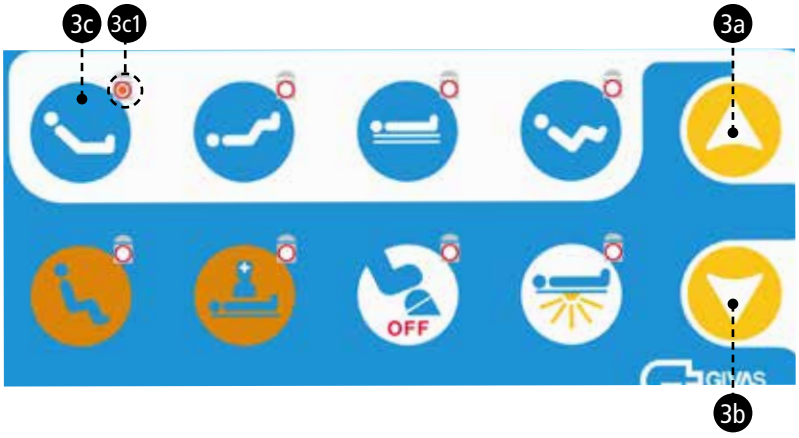
- press button **4a** to **lift up** the backrest;
- press button **4b** to **lower** the backrest.

If the LED **(4i)** is alight, the function is blocked; to unlock see indications on the ACP keypad.

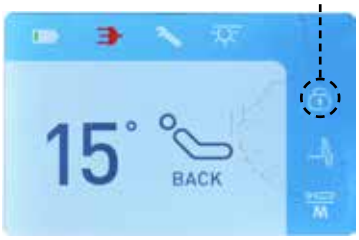
FROM THE ACP KEYPAD

- push at the same time buttons **3c** and **3a** to **lift up** the backrest;
- push at the same time buttons **3c** and **3b** to **lower** the backrest.

RELEASE: the function is <u>blocked</u> if the LEDS (**3e1**) and the lock on the display (on ACP RAT525W) are RED; to <u>unlock</u> simultaneously press the button **3e** and the button .



<u>If red, the function is blocked</u>



The screen of the ACP keypad with display (3a) shows inclination degrees of the backrest.

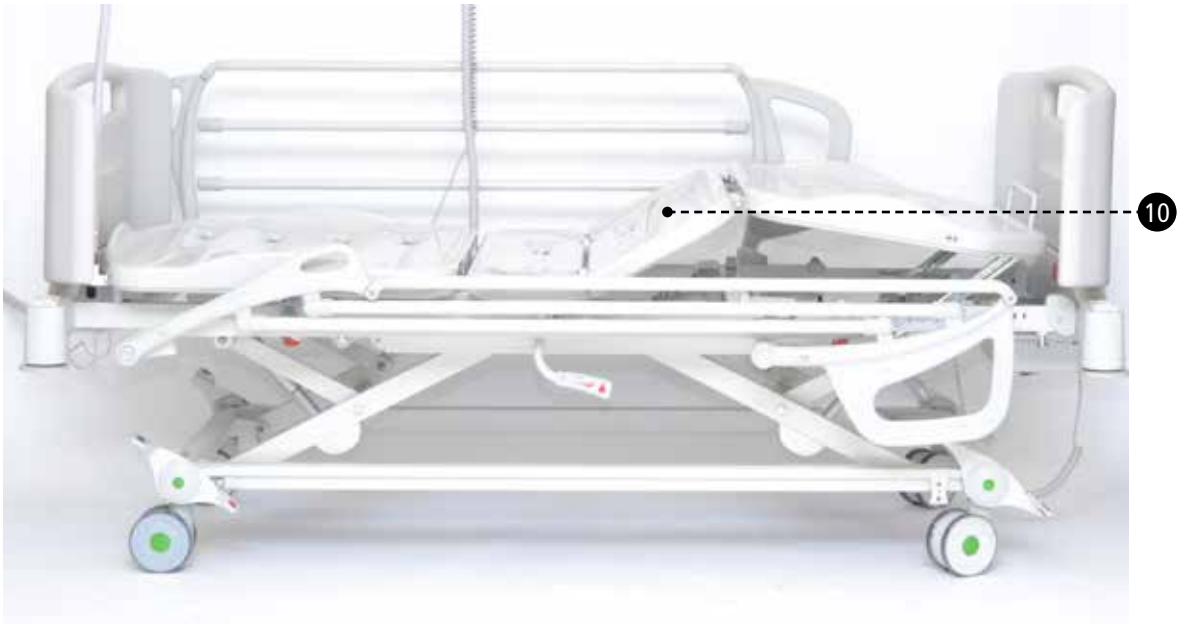
On PL VEGA beds conf. ZEBT514W the actual inclination of the backrest is displayed on the indicator located on the two semi-side panels at the head of the bed.

Lifting and lowering the upper leg section

***WARNING!** Always inform the patient before adjusting the upper leg section.*

The upper leg section (**10**) adjustment is obtained by means of an electric actuator controlled through the push button keypad, the patient flexible panel, the ACP keypad and the keypad integrated on the side rails.

***WARNING!** Do not put your hands or any object between the upper leg section and the bed frame. Do not act manually on the moving parts and follow the instructions.*

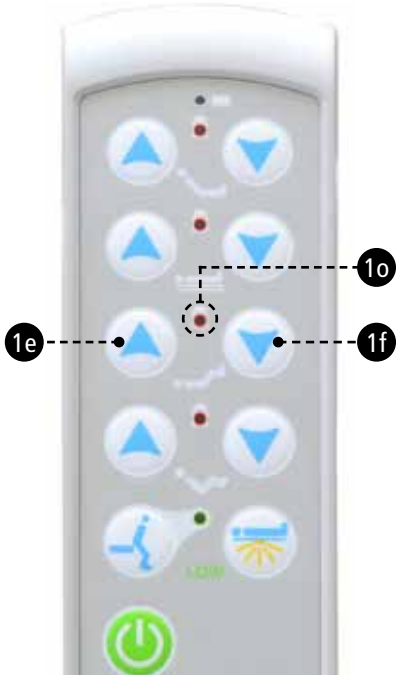


To adjust the upper leg section, proceed as follows:

FROM THE FREE PUSH BUTTON KEYPAD

- press button **1e** to **lift** the upper leg section;
- press button **1f** to **lower** the upper leg section.

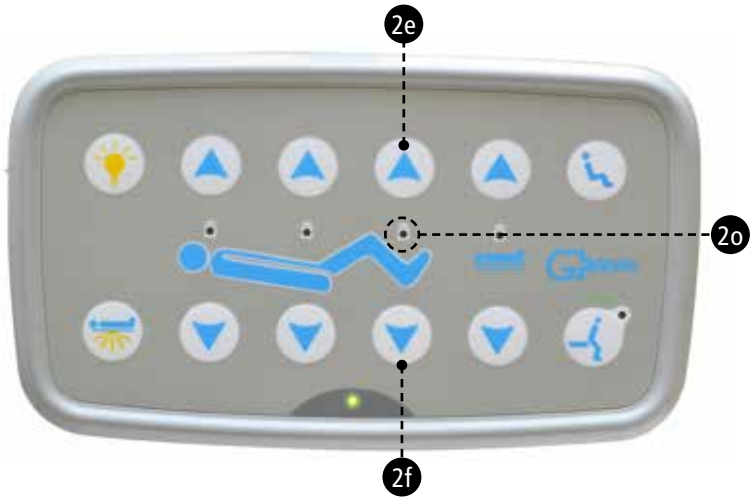
If the LED **(1o**) is alight, the function is blocked; to unlock see indications on the ACP keypad.



FROM PATIENT FLEXIBLE PANEL

- press button **2e** to **lift** the upper leg section;
- press button **2f** to **lower** the upper leg section.

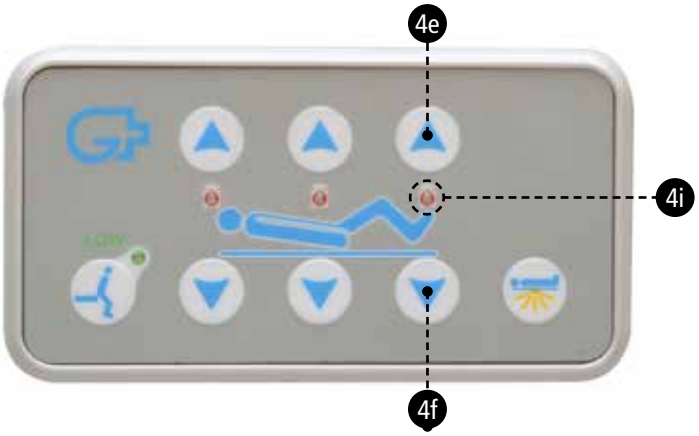
If the LED **(2o)** is alight, the function is blocked; to unlock see indications on the ACP keypad.



FROM PUSH BUTTON KEYPAD ON SIDE RAILS

- press button **4e** to **lift** the upper leg section;
- press button **4f** to **lower** the upper leg section.

If the LED **(4i)** is alight, the function is blocked; to unlock see indications on the ACP keypad.

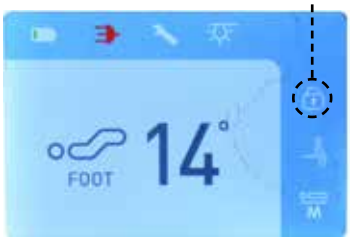


FROM THE ACP KEYPAD

- push at the same time buttons **3d** and **3a** to **lift** the upper leg section;
- push at the same time buttons **3d** and **3b** to **lower** the upper leg section.

RELEASE: the function is <u>blocked</u> if the LEDS (**3e1**) and the lock on the display (on ACP RAT525W) are RED; to <u>unlock</u> simultaneously press the button **3e** and the button .

<u>If red, the function is blocked</u>



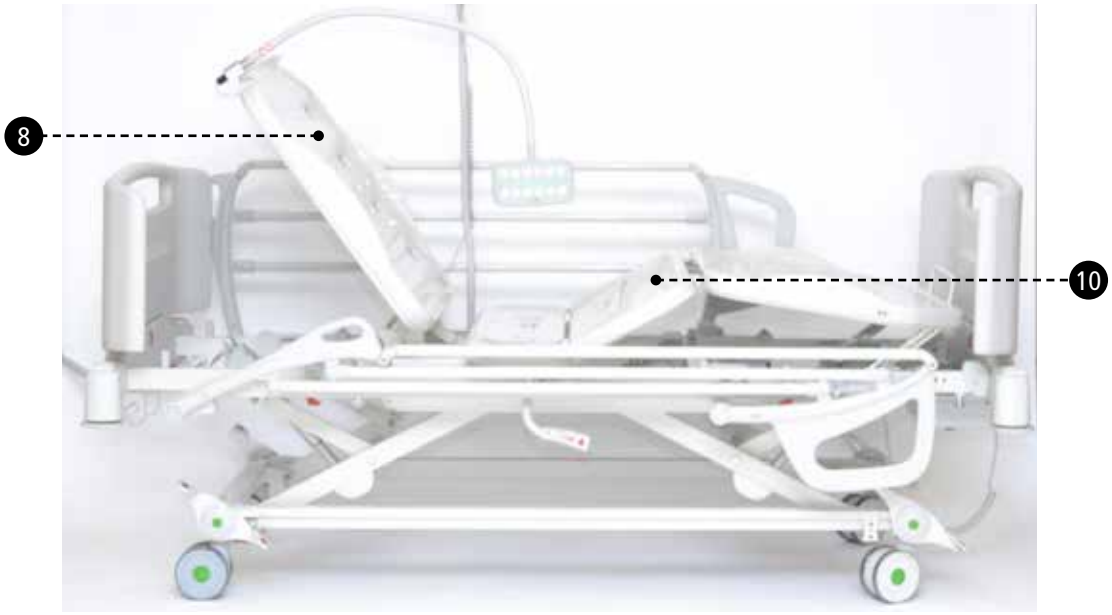
The screen of the ACP keypad with display (3a) shows inclination degrees of the section.

Autocontour (Lifting and lowering the backrest section and the upper leg section together)

WARNING! ***Always inform the patient before adjusting the bed sections.***

The adjustment of the Autocontour position (simultaneous of the backrest (**8**) and the upper leg (**10**) sections of the bed) is obtained by means of an electric actuator controlled through the free push button keypad, the patient flexible panel and the ACP keypad.

WARNING! ***Do not put your hands or any object between the sections and the bed frame. Do not act manually on the moving parts and follow the instructions.***

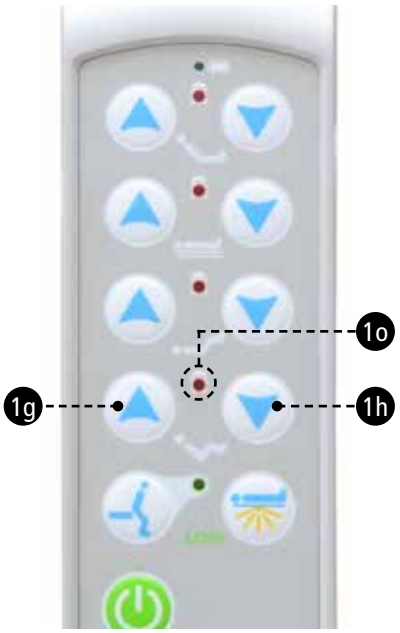


In order to adjust the autocontour position, proceed as follows:

FROM THE FREE PUSH BUTTON KEYPAD

- press button **1g** to adjust the Autocontour position;
- press button **1h** to reset the Autocontour position;

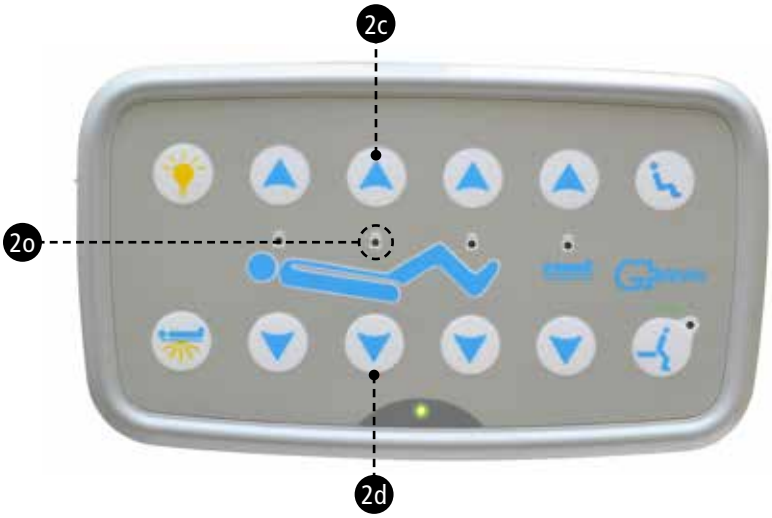
If the LED (**1o**) is alight, the function is blocked; to unlock see indications on the ACP keypad.



FROM PATIENT FLEXIBLE PANEL

- press button **2c** to adjust the Autocontour position;
- press button **2d** to reset the Autocontour position;.

If the LED **(2o**) is alight, the function is blocked; to unlock see indications on the ACP keypad.

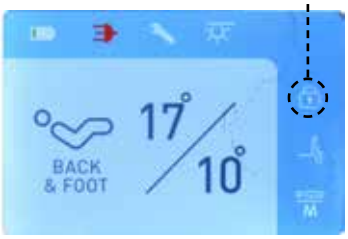


FROM THE ACP KEYPAD

- push at the same time buttons **3g** and **3a** to adjust the Autocontour position;
- push at the same time buttons **3g** and **3b** to reset the Autocontour position;

RELEASE: the function is <u>blocked</u> if the LEDS (**3e1**) and the lock on the display (on ACP RAT525W) are RED; to <u>unlock</u> simultaneously press the button **3e** and the button  .

<u>If red, the function is blocked</u>



The screen of the ACP keypad with display (3a) shows inclination degrees of the sections

<u>PLEASE NOTE</u>: if the ACP blocks the "Autocontour" function, all <u>multiple and single functions involved in these movements (e.g. mov. backrest) will be blocked</u>; (RED LED lit on both the ACP and on the patient controls, side rails and keypads).
It is possible, however, ONLY FROM THE ACP, to unlock one or more individual functions (e.g. backrest) and move them; however, the commands on the patient controls (side panels and keypads) will remain blocked (LED alight).
Unlocking the "Autocontour" function automatically from the ACP all the functions on all controls will be unlocked.

Comfort position (chair)

WARNING! ***Always inform the patient before adjusting the bed sections.***

The adjustment of the Comfort position ("Chiar") is obtained by means of an electric actuator controlled through the patient flexible panel and the ACP keypad.

WARNING! ***Do not put your hands or any object between the moving sections and the bed frame. Do not act manually on the moving parts and follow the instructions.***

In order to **adjust** the comfort position, proceed as follows:

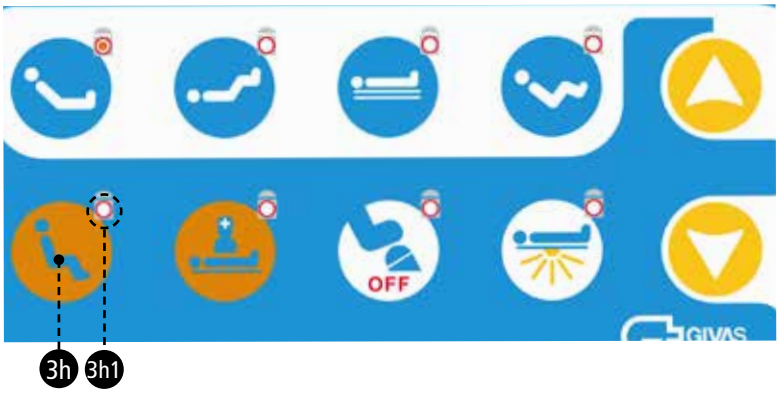
FROM PATIENT FLEXIBLE PANEL

- press button **2i** until the position is reached.

FROM THE ACP KEYPAD

- press button **3h** until the position is reached.

RELEASE: the function is <u>blocked</u> if the LEDS (**3e1**) and the lock on the display (on ACP RAT525W) are RED; to <u>unlock</u> simultaneously press the button **3e** and the button .



<u>If red, the function is blocked</u>

The screen of the ACP keypad with display (3a) during movement.

<u>PLEASE NOTE</u>: if the ACP blocks the "Comfort position" function, all <u>multiple and single functions involved in these movements (e.g. mov. backrest) will be blocked</u>; (RED LED lit on both the ACP and on the patient controls, side rails and keypads).
It is possible, however, ONLY FROM THE ACP, to unlock one or more individual functions (e.g. backrest) and move them; however, the commands on the patient controls (side panels and keypads) will remain blocked (LED alight).
Unlocking the "Autocontour" function automatically from the ACP all the functions on all controls will be unlocked.

Examination position

WARNING! ***Always inform the patient before adjusting the bed sections.***

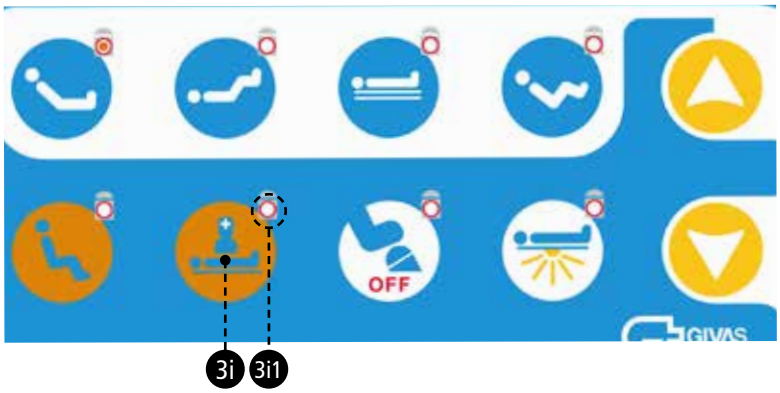
The bed is equipped with an "Examination" position, which is a function that automatically brings the bed at maximum height with the lying frame flat.
Electric actuators controlled by the ACP keypad obtain the adjustment of the "Examination" position.

WARNING! ***Do not put your hands or any object between the moving sections and the bed frame. Do not act manually on the moving parts and follow the instructions.***

To obtain the "Examination" position proceed as follows:

- press button **3i** until the position is reached.

RELEASE: the function is blocked if the LEDS (**3e1**) and the lock on the display (on ACP RAT525) are RED; to unlock simultaneously press the button **3e** and the button .



If red, the function is blocked

The screen of the ACP keypad with display (3a) during movement.

Descent position

The bed is equipped with a "Descent" position, which is a function that automatically brings the bed at minimum height with the backrest raised and the upper leg section reset. When the position is reached the Green LED lights on the keypad and the patient may get out of bed.
Electric actuators controlled by the free push button keypad, the patient flexible panel and the keypad integrated on the side rails obtain the adjustment of the "Descent" position.

WARNING! Do not put your hands or any object between the moving sections and the bed frame. Do not act manually on the moving parts and follow the instructions.

To obtain the "Descent" position proceed as follows:

FROM THE FREE PUSH BUTTON KEYPAD

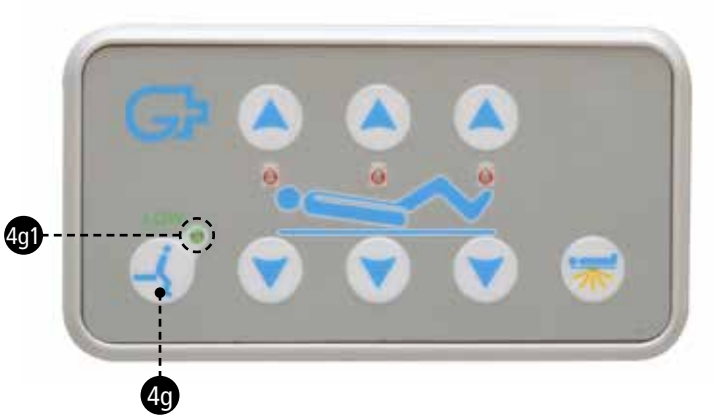
- press button **1i** until the position is reached.

On reaching the desired position, the green LED (**1p**) turns on.

FROM PUSH BUTTON KEYPAD ON SIDE RAILS

- press button **4a** fino al completo raggiungimento della posizione.

On reaching the desired position, the green LED (**4g1**) turns on.



FROM PATIENT FLEXIBLE PANEL

- press button **2l** fino al completo raggiungimento della posizione.

On reaching the desired position, the green LED (**2l1**) turns on.

Trendelenburg and Counter Trendelenburg

WARNING! Always inform the patient before adjusting the bed.

The adjustment of the Trendelenburg position can be performed only and exclusively by the ACP keypad.

TRENDELENBURG POSITION

To adjust the Trendelenburg position, proceed as follows:

- press the buttons **3f** and **3a** simultaneously until reaching the desired position.

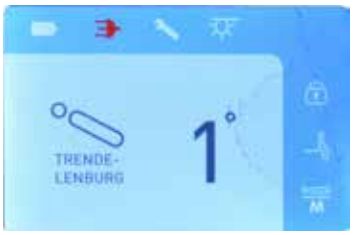
COUNTER TRENDELENBURG POSITION

To adjust the Counter Trendelenburg position proceed as follows:

- press the buttons **3f** and **3b** simultaneously until reaching the desired position.

RELEASE: the function is blocked if the LEDS (**3f1**) and the lock on the display (on ACP RAT525W) are RED; to unlock simultaneously press the button **3f** and the button .

If red, the function is blocked



The screen of the ACP keypad with display (3a) shows inclination degrees of the bed frame during the Trendelenburg and Counter Trendelenburg movements.

Emergency trendelenburg position

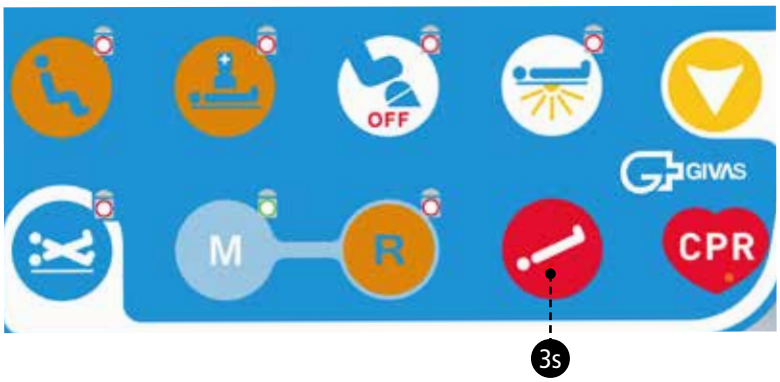
WARNING! Always inform the patient before adjusting the bed.

Electric actuators controlled by the ACP keypad obtain the adjustment of the emergency Trendelenburg position.

PLEASE NOTE: the function is always active, so it cannot be blocked.

To adjust the trendelenburg position, proceed as follows:

- press button **3s** on the ACP control panel: the control sets the bed frame to zero and to the trendelenburg position.



The screen of the ACP keypad with display (3a) during movement.

CPR total position reset

WARNING! ***Always inform the patient before adjusting the bed sections.***

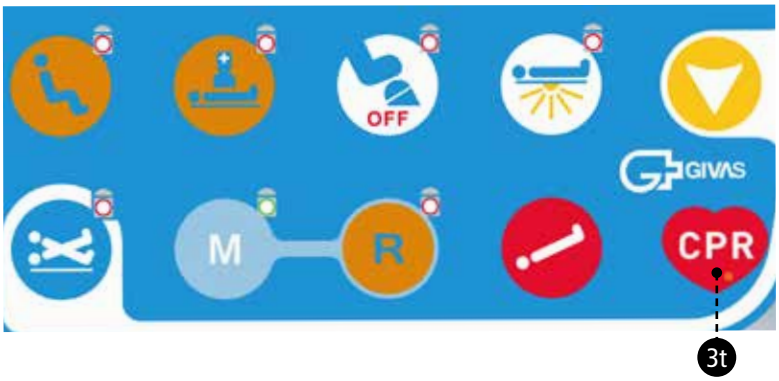
Total automatic reset of the positions allows to intervene immediately for emergencies, and it is obtained by means of the electrical actuators controlled by the ACP keypad.

PLEASE NOTE: the function is always active, so it cannot be blocked.

WARNING! ***Do not put your hands or any object between the moving sections and the bed frame. Do not act manually on the moving parts and follow the instructions.***

For an automatic total reset of positions, proceed as follows:

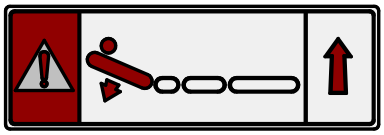
- press button **3t** on the control panel until the position is reached. The control sets the bed plan to zero and to the minimum height.



The screen of the ACP keypad with display (3a) during movement.

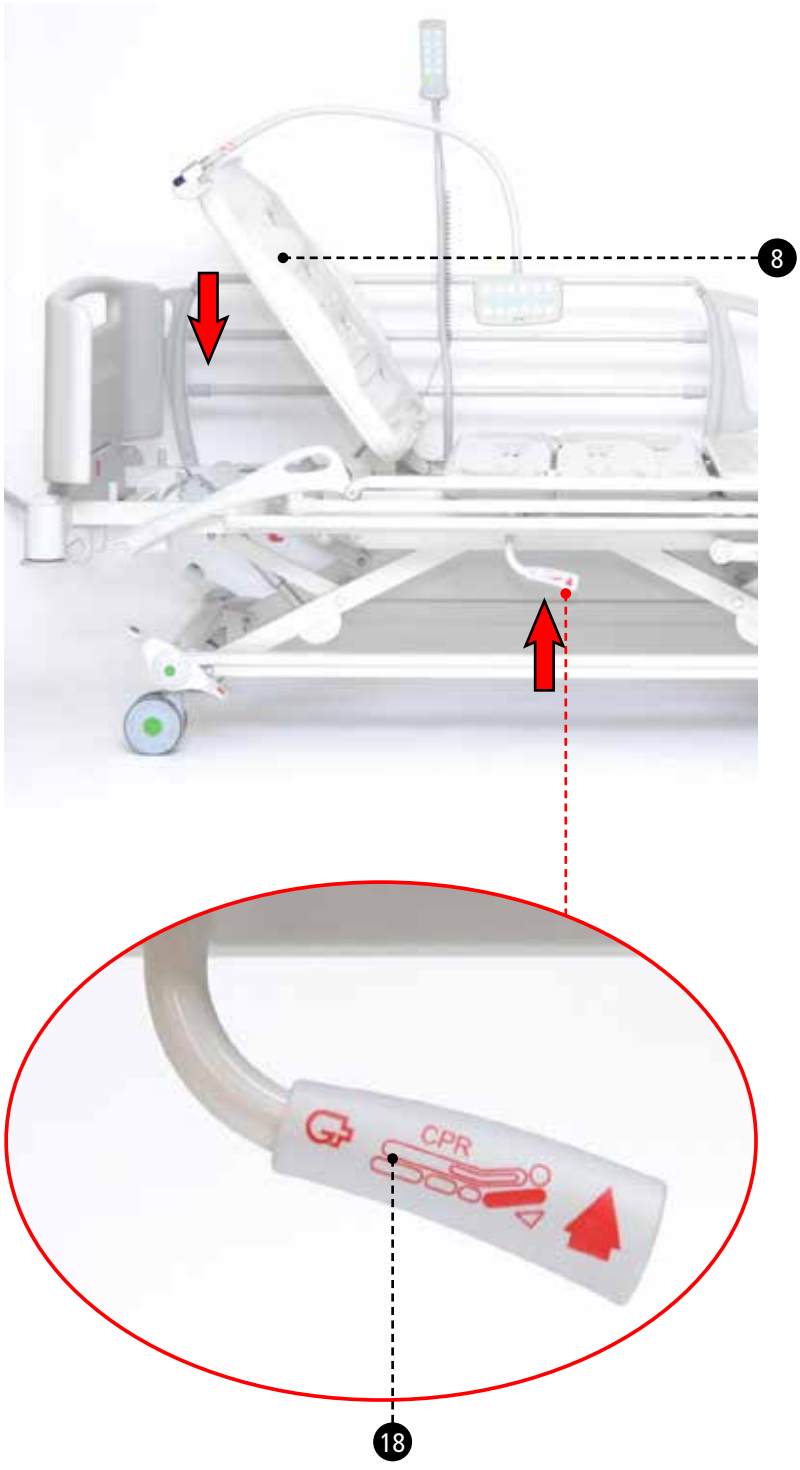
Manual emergency backrest unblocking device

Located on both sides of the bed, allows to lower the backrest quickly in case of emergencies.



To lower the backrest, proceed as follows:

- unlock the backrest (**8**) grabbing it with one hand while with the other you shift the unlock lever (**18**);
- lower the backrest (**8**) moving it downwardso: backrest lowering is controlled with a hydraulic shock absorbing buffer.

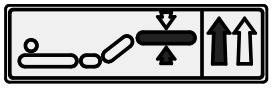


Moving the lower leg section (electric model cod. RAT560W)

WARNING! ***Before adjusting the lower leg section of the bed always warn the patient.***

The lower leg section is controlled by an electric actuator controlled by two buttons placed in the bed frame at the foot end. **It is not possible to inhibit in any way the buttons.**

WARNING! ***Do not put your hands or any object between the lower leg section and the bed frame.***

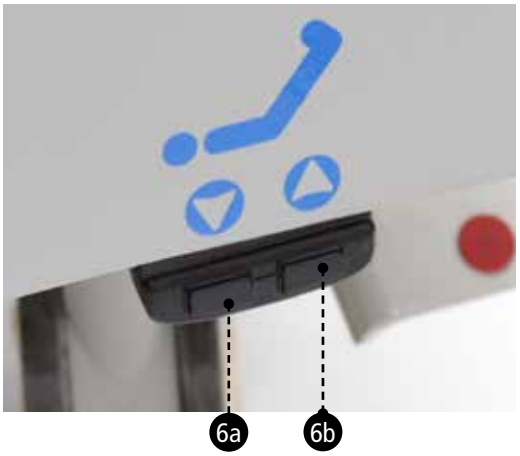


To **lift** the lower leg section proceed as follows:

- stand at the foot of the bed;
- press the button (**6b**) until the desired position is reached (see figure below).

To **lower** the lower leg section proceed as follows:

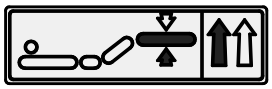
- stand at the foot of the bed;
- press the button (**6a**) until it is completely supported by the frame of the bed or until it reaches the desired position.



Moving the lower leg section (gas model RAT555W)

WARNING! ***Always inform the patient before adjusting the lower leg section.***

A gas spring with built-in lock adjusts the lower leg section.



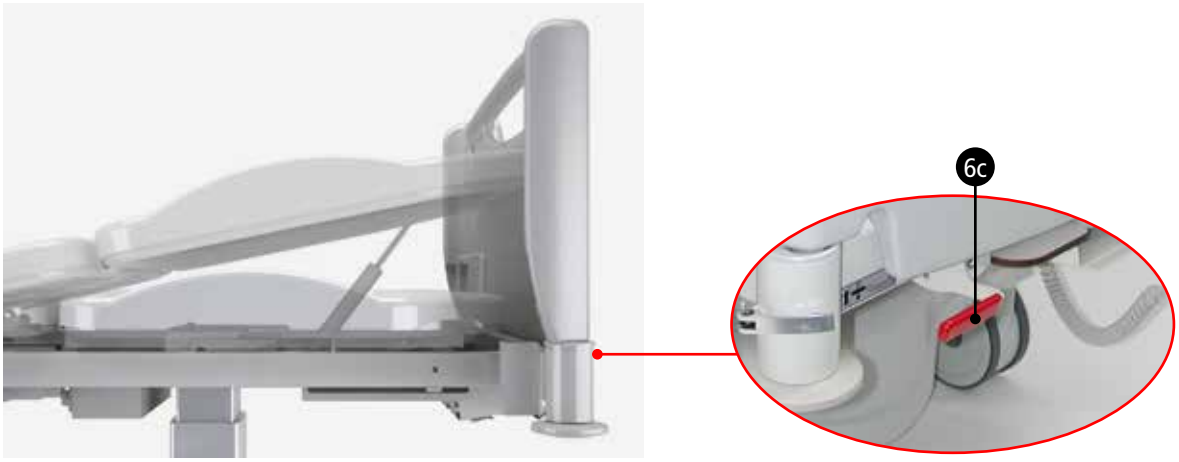
WARNING! ***Do not insert hands or objects between the lower leg section and bed frame.***

To **lift** the lower leg section proceed as follows:

- with one hand grab the lower leg section and with the other move the lever upwards (**6c**);
- lift the leg section up to the desired position and let the lever go.

Follow the instructions below to **lower** the lower leg section:

- with one hand grab the leg section and with the other move the lever upwards (**6c**);
- lower the leg section down to the desired position and let the lever go.

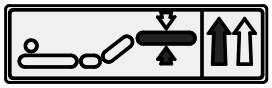


Moving the lower leg section (rack model code. RAT550W)

WARNING! ***Always inform the patient before adjusting the lower leg section.***

The lower leg section is adjusted using a rack adjusting mechanism.

WARNING! ***Do not insert hands or objects between the lower leg section and bed frame.***



To **lift** the lower leg section proceed as follows:

- posizionarsi ai piedi del letto;
- take the lower leg section and lift it until the desired position is reached (see picture below).

Follow the instructions below to **lower** the lower leg section:

- go to the end of the bed;
- take the lower leg section and lift it completely, so that the rack mechanism is unblocked;
- lower the lower leg section until it completely lays on the bed frame.

Lifting and lowering the compass side rails

To **lower** the side rails, proceed as follows:

- use one hand to keep the side rails still and the other one to act on the blocking device (**19**) to unblock the side rails;
- do not leave the side rails until it has been completely lowered.

To **lift** the side rails, proceed as follows:

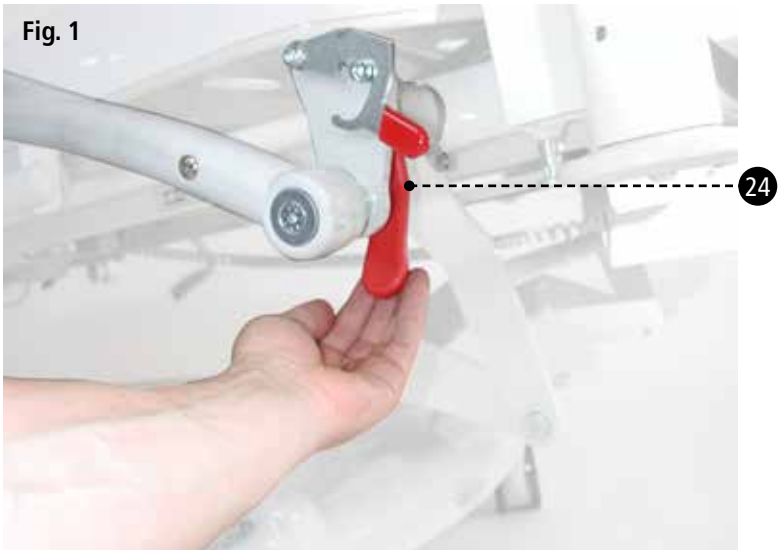
- take the side rail and lift it completely: the blocking device keeps it in the lifted position.

Disassembly of the compass side rails

Follow the instructions below to disassemble the rails:

- unlock the side rail with the lever (**24**) (Fig. 1);

Fig. 1

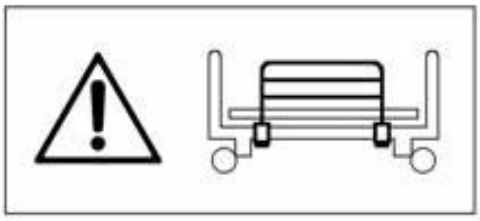


- slide out the pins of the side rail from the supports (Fig.2);

Fig. 2

- repeat the operation on the other side;
- put the side rails in a safe place.

WARNING! ***Incompatible rails can be dangerous.***



Raising and lower the side rails in four sections

To **lower** the side rails, proceed as follows:

- grasp the side rail with one hand and with the other release the side rail pulling the side release lever (**25**);
- lower the side rail by rotating it downwards: a hydraulic shock absorber controls the descent of the side rail.

To **lift** the side rail, proceed as follows:

- grasp the side rail and lift it by rotating it upwards: the blocking device supports it in the raised position.

Integrated bed extension

WARNING! ***The patient should not be on the bed during this adjustment operation.***

WARNING! ***When the bed extension is open, the bed is not in a safe position.***

This function allows for a bed extension of 175 mm.

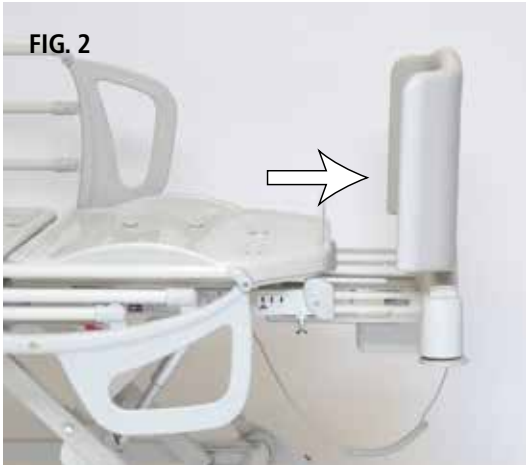
To extend the bed, proceed as follows:

- ensure that the bed is blocked (see par. BLOCKING THE BED);
- unblock the bed extension by pulling the latches (**26**), placed on both bed sides, and making them rotate to keep them into the position (Fig. 1);

FIG. 1

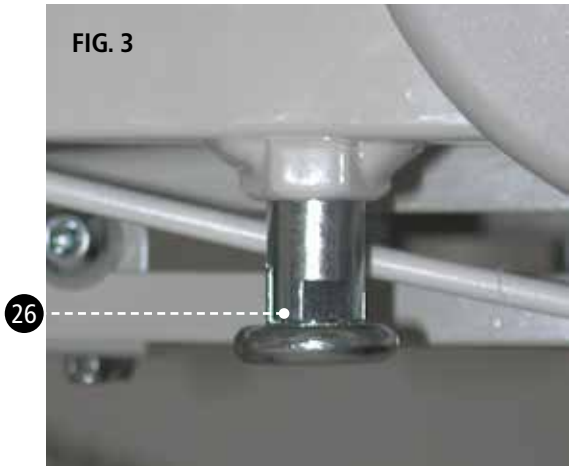
- take the extension and pull it until the desired length is reached (Fig.2);

FIG. 2



- block the extension by rotating the latches (26) and putting them back to the original position (Fig.3).

FIG. 3



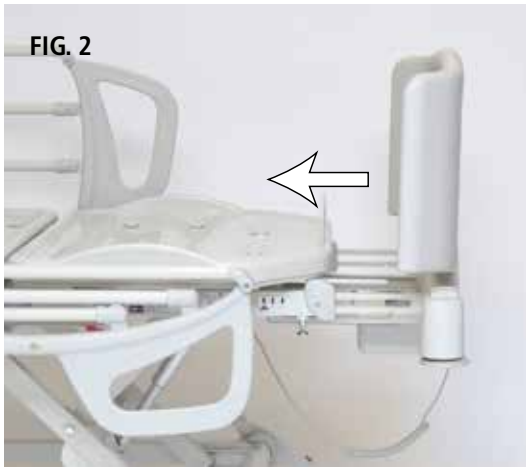
To take the bed to the standard length, proceed as follows:

- ensure that the bed is blocked (see par. BLOCKING THE BED);
- unblock the bed extension by pulling the latches (**26**), placed on both bed sides, and making them rotate to keep them into the position;

FIG. 1

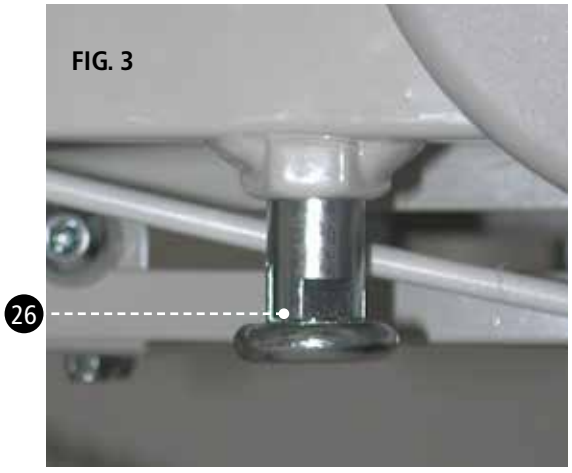
- take the extension and pull it until the stroke position is reached (Fig. 2);

FIG. 2



- block the extension by rotating the latches (**26**) and putting them back to the original position. (Fig. 3).

FIG. 3



Blanket holder (RAT610 accessory)

Beds can be equipped with a telescopic blanket holder made of multi-layer plastic laminate, built into the structure, which allows for the housing of the ACP keypad.

To extract the blanket holder element proceed as follows:
- grasp the blanket holder, lift and pull;
- lift the steel retaining ring.

To bring the blanket holder back to the original position, proceed as follows:
- lowering the steel retaining ring;
- push the blanket holder element right up to the stop.

Technical features

Safe working load	Kg	10

Abs bed frames (RAT530W)

VEGA beds are equipped with bed frames in ABS moulded plastic material without sharp edges with ventilation holes and an integrated system, which blocks the mattress in six points.
The ABS bed frames just rest on the bed and they can be removed simply by lifting them.

Steel rod bed frames (RAT535W)

The meshed bed frames for PL VEGA beds are made of white electrically welded and galvanised steel rod.
The frames of the different sections are blocked on the bed frame by means of solid plastic hooks to avoid creaking. To disassemble the bed frames, just take the frames out of their seats.

Equipotential connection

The PL VEGA beds are equipped with an equipotential connection clamp placed on the bed head side; the clamp is required for the equalisation of the elctric potentials of all the metal parts without protection.

WARNING! ***ELECTRIC SHOCK HAZARD. If the patient is connected to intravascular or intracardiac machines, an equipotential connection cable must always be used. The cable must be connected to the equipotential connection clamp placed on the bed; the clamp must then be connected to an adequate equipotential terminal.***

Weighing system

WARNING! For the first charging of the battery pack, connect the device to the plug for at least 8 hours.

WARNING! For a correct weighing, always ensure that the accessories (mattress, cushion etc.) do not touch the head sideboard.

Date and time setting

For date and time setting, proceed as follows:

- turn the scales on by pressing the key  ;
- access the TIME SETTING menu by pressing the key  ;
- **setting the year**: press the key  to enter the correct value, press  to change unit; once all the values have been entered, press  to set the date;
- **setting the date**: press the key  to enter the correct value, press  to change unit; once all the values have been entered, press  to set the time;
- **setting the time**: press the key  to enter the correct value, press  to change unit; once all the values have been entered, press  to exit menu.

Display format: **AAAA - MM.GG - HH:MM**

Weighing

To weigh a patient, proceed as follows:

- turn the scales on by pressing the key  ; once the software has been initialised, the displays shows "0.00 Kg" and the scales are ready for use;
- position the patient on the bed; the display will show the patient's weight.

If the display does not show "0.00 Kg" press the key  to reset the scales.

Standby function

The new STANDBY function can be used only while weighing the patient. The STANDBY function allows to add or remove one or more objects from the bed without having the weighing system detecting the change.
To use the STANDBY function, proceed as follows:

- turn the scales on by pressing the key ; once the software has been initialised, the displays shows "0.00 Kg" and the scales are ready for use;
- press the key STANDBY; when the display shows "STDBY" it is possible to add and/or remove objects from the bed;
- press the key STANDBY to exit.

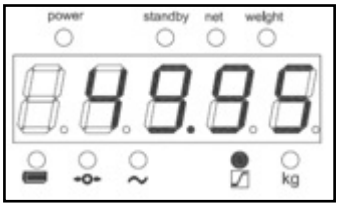
NOTE The standby function does not work if the loaded weight is lower than 9kg. The display will show "-----". Press STANDBY for 3 seconds to exit.

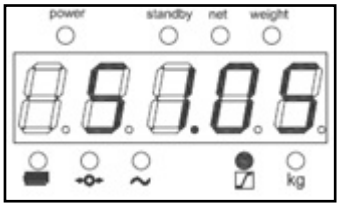
Weight control function

To use the weight control function, proceed as follows:

- turn the scales on by pressing the key ; once the software has been initialised, the displays shows "0.00 Kg" and the scales are ready for use;
- start the weight control mode by pressing C.W for three seconds;
- enter the upper limit: increase the value by pressing the key →T←, press STANDBY to change unit; once all the values have been entered, press to go to the lower limit;
- enter the lower limit: decrease the value by pressing the key →T←, press STANDBY to change unit; once all the values have been entered, confirm and exit the weight control mode;
- activate/deactivate the weight control by pressing the key C.W.

If the patient's weight is within the set limits, the led on the symbol flashes.





If the patient's weight is within the set limits, the led on the symbol flashes and the scales emit a sound.

Tare function

The tare function allows to delete the weight of either objects or clothes in order to measure the real (net) weight of the patient.
To use the TARE function, proceed as follows:

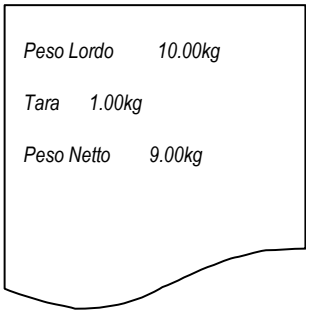
- turn the scales on by pressing the key  ; once the software has been initialised, the displays shows "0.00 Kg" and the scales are ready for use;
- put the clothes (tare) on the bed;
- when the weight is stable, press the key  ;
- position the patient to be weighed on the bed (without removing the tare). The displayed weight is the patient's net weight.

To delete the cancelled tare value, remove all the objects from the bed and press the key again.

Print function

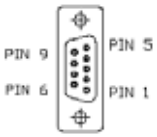
The scales can be connected to a PC or to a thermal printer (WS model) to print the weighing values.

Printer data		
Communication mode	Asynchronous transmission	Printing example
Speed	9600 bps	
Data length	8 bits	
Parity Check	None	
Stop bit	1 bit	
Handshake	None	
Code	ASCII	
Communication mode	Asynchronous transmission	



In case of connection to PC or printer TP2100, use an inverted serial cable (pins 2 and 3) connector RS232.

Terminal	Signal
2	TXD
3	RXD
5	GND



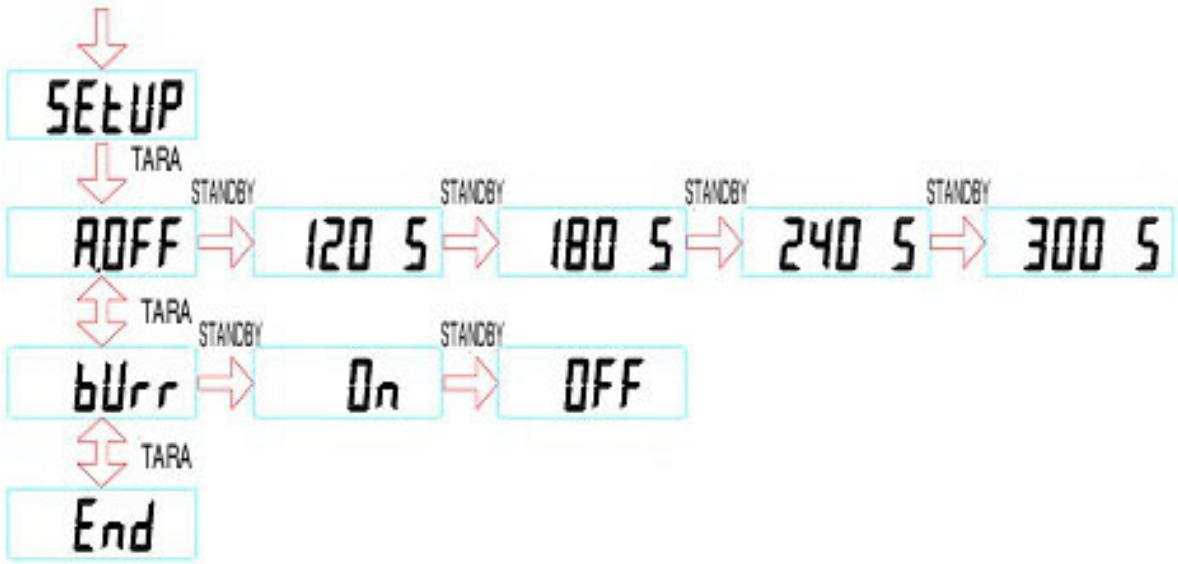
Connection to PC

- start hyper terminal: Start Menu → Programs → Accessories → Communication → Hyper Terminal;
- create a new connection;
- select Connect to select the COM port;
- set the port values: bps to 9600, Data bits to 8, Parity to None, Stop bits to 1 and Flow control Hardware and confirm;
- press the key  to transmit data to the printer/PC.

Weight indicator setting

The setup menu allows to change the auto-turn off time and the buzzer operation (beep).
The auto-turn off time can be set to 120s, 180s, 240s, 300s or off. The buzzer can be set ot ON/OFF.
To change the parameters, proceed as follows:

- turn the scales on by pressing the key ⏻/→0←; once the software has been initialised, the displays shows "0.00 Kg" and the scales are ready for use;
- access the setup menu by pressing →T← for three seconds; the display shows SETUP;
- press again →T← to display A.OFF; press STANDBY to select the standby time;
- press →T← to display BUZZ; press STANDBY to select activation (ON) or deactivation (OFF) of the beep.
- press →T← to display END and press STANDBY to confirm.



RA0023/43 I.V. rod stand with 2 or 4 hooks

Technical presentation

The I.V. rod stand is constituted by a chromium-plated steel rod with two chromium-plated steel hooks welded on the ends.

Reference standards

The item was designed and manufactured in compliance with the safety requirements of directive 93/42/CEE of 14.06.93 (class I) and further modifications to it, (Council Directive 2007/47/CEE), concerning medical devices.

Designated use

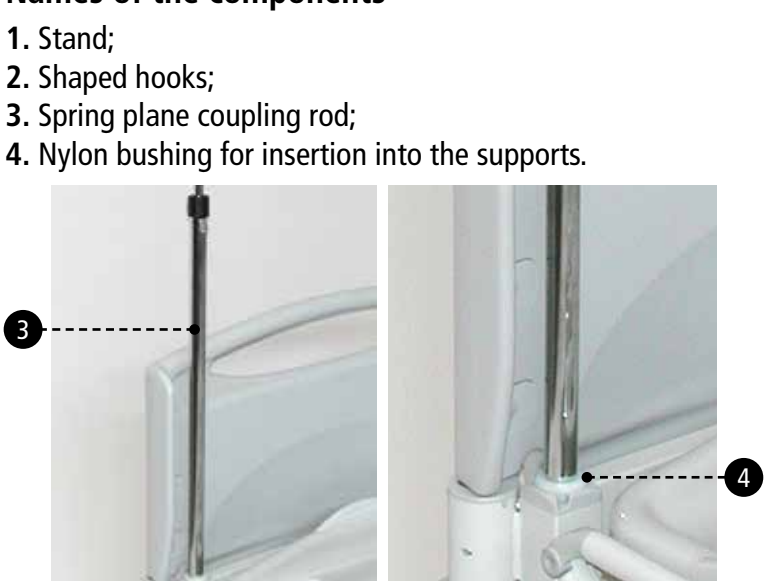
The I.V. rod stands RA0023 and RA0043 have been designed and built to be installed by the nursing staff on **Wunder** beds. The I.V. rod stand must be used in compliance with the instructions and restrictions indicated on this manual.

Material used

The I.V. rod stand is made with a CHROME-PLATED steel rod, adjustable in height and equipped with a 2 or 4 hook support. The coupling rod that connects the spring plane allows the application of the infusion pumps.

Names of the components

1. Stand;
2. Shaped hooks;
3. Spring plane coupling rod;
4. Nylon bushing for insertion into the supports.



Technical features

Item		RA0023	RA0043
Number of hooks		2	4
Dimensions	mm	250x15x1500	250x15x1500
Rod Stand Diameter	mm	16	16
Safe working load for hook	Kg	3	3
Total safe working load	Kg	6	12

How to prepare the installation area

The I.V. rod stand is to be installed on the hospital beds with a nylon bushing.

I.V. Rod stand installing instructions

WARNING! This device must be installed by specialised personnel.

WARNING! The I.V. rod stand must be positioned according to the longitudinal axis of the stretcher.

Follow the instructions below to install the I.V. rod stand:

- insert the I.V. rod stand by means of the nylon bushing as shown below.

Functional test

WARNING! The product efficiency check below must be repeated on a regular schedule.

Before placing this item in service:

- check that it works properly referring to the "Operation and use" paragraph of this accessory;
- if the check is positive the item can be placed in service, otherwise get in touch with Wunder after sales service.

Functioning and use

WARNING! Do not use the I.V. rod stand for any other purpose.

WARNING! Before use always check that the I.V. rod stand is properly installed.

WARNING! Do not exceed the safe operating load of the I.V. rod stand.

Hook the I.V. with its support on the hook of the rod stand (**2**).

RA0050/53 Standard/adjustable lifting rod with pushbutton

Technical presentation

The lifting rod is constituted by a chromium-plated steel pipe, properly bent; there are two pins on the upper end where the handle slides, and it can be easily inserted on one of the four supports arranged on the bed.
RA0050: with self-shaping plastic material handle and belt included;
RA0053: with self-shaping plastic material handle and roller belt.

Reference Standards

The item was designed and manufactured in compliance with the safety requirements of directive 93/42/CEE of 14.06.93 (class I) and further modifications to it, (Council Directive 2007/47/CEE), concerning medical devices.

Designated use

The lifting rod described on this manual has been designed and built to be used in hospitals, geriatric institutes and medical assistance divisions in general .
The lifting rod must be assembled on **Wunder** beds by nursing personnel and must be used following the instructions and the restrictions indicated on this manual.

Technical features

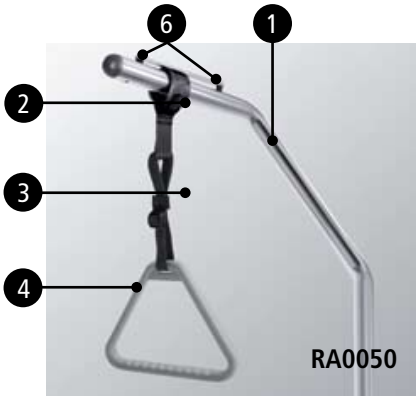
Height	mm	1300
Length	Kg	750
Width	mm	35
Safe work load	Kg	75
Net weight	Kg	5,2

Materials used

- Tubular section is made with chromium-plated steel;
- Belts are made of cotton fabric mixed with nylon;
- The handle is moulded in nylon;
- The anti-skidding lock is made of rubber.

Names of the components

1. rod;
2. anti-skidding lock;
3. adjustable belt;
4. handle;
5. belt rewind pushbutton;
6. pins (mark out handle sliding);
7. rod insertion pin.



How to preapre the installation area

The lifting rod must be assembled on the hospital beds, and we recommend to install the bed while it is empty. (However installation can also be made while the patient is in bed).

Lifting rod assembly

WARNING! This item must be assembled by authorized personnel.

WARNING! The lifting rod must be assembled so that is does not endanger patients and operators!

Follow the instructions below to assemble the lifting rod:

- Slide the patient lifting rod in the support and see that the pin (**7**) is properly inserted in its housing;
- Insert the rubber support of the handle in the upper part of the rod between the two pins (**6**).

Functional test

WARNING! The product efficiency check below must be repeated on a regular schedule.

Before using the item:

- check that it works properly referring to the "Operation and use" paragraph of this accessory;
- if the check is positive the item can be placed in service, otherwise get in touch with Wunder after sales service.

Operation and use

WARNING! Use for purposes that differ from the ones prescribed jeopardizes operation and safety of persons and equipment.

WARNING! Before use always check that the lifting rod is properly installed.

WARNING! Do not exceed the safe operating load of lifting rod.

The lifting rod can be regulated on two positions:
1) use: the rod is positioned parallel to the bed;
2) rest: the rod is positioned parallel to the head board.

Follow the instructions below to use the lifting rod for patients:

- turn the rod on use position until the pin is inserted (**7**) into the groove of the support;
- adjust the height of the handle with the adjustable belt (**3**), with the belt winding pushbutton (**5**);
- grab the handle and lift slowly.

Follow the instructions below for the rest position:

- slightly lift the rod to free the pin (**7**); turn the rod on the rest position.

RA0076 Pair of urine drainage bag supports (option for purchase order)

Technical presentation

The urine drainage bag supports are made with shaped steel sheet FE37 painted with epoxy-polyester powder, with 4+4 hooks included.

Reference standards

The item was designed and manufactured in compliance with the safety requirements of directive 93/42/CEE of 14.06.93 (class I) and further modifications to it, (Council Directive 2007/47/CEE), concerning medical devices.

Designated use

The two supports of the urine drainage bags RA0076 must be used in exclusively by the nursing staff in compliance with the instructions and restrictions indicated on this manual.

Technical features

Dimensions	mm	510x60x30
Safe work load	Kg	10

Materials used

Shaped steel sheet FE37 painted with epoxy-polyester pain.

Names of the components

1. Blood bag hooks;
2. Hole in which the support is to be fixed.

Functional test

WARNING! ***The product efficiency check below must be repeated on a regular schedule.***

Before using the item:

- check that it works properly referring to the "Operation and use" paragraph of this accessory;
- if the check is positive the item can be placed in service, otherwise get in touch with Wunder after sales service.

Operation and use

CAUTION! Position the item so that it can be reached easily by the patient and by hospital personnel.

CAUTION! It is forbidden to position the item near bed handling devices.

CAUTION! Do not use the item for purposes that are not among the ones indicated below.

CAUTION! Sanify the support after use.

Follow the instructions below to use the urine drainage bag supports:

- fix the support to the intermediate frame of the bed as shown in the figure;
- hook the bag to the support: the bag has two reinforced rings; insert the rings in the hooks (**1**) of the support.

RA0112 Monitor holder

Technical presentation

The monitor holder is made of stratified laminate and a chrome plated steel pipe supporting structure.

Reference standards

The item was designed and manufactured in compliance with the safety requirements of directive 93/42/CEE of 14.06.93 (class I) and further modifications to it, (Council Directive 2007/47/CEE), concerning medical devices.

Designated use

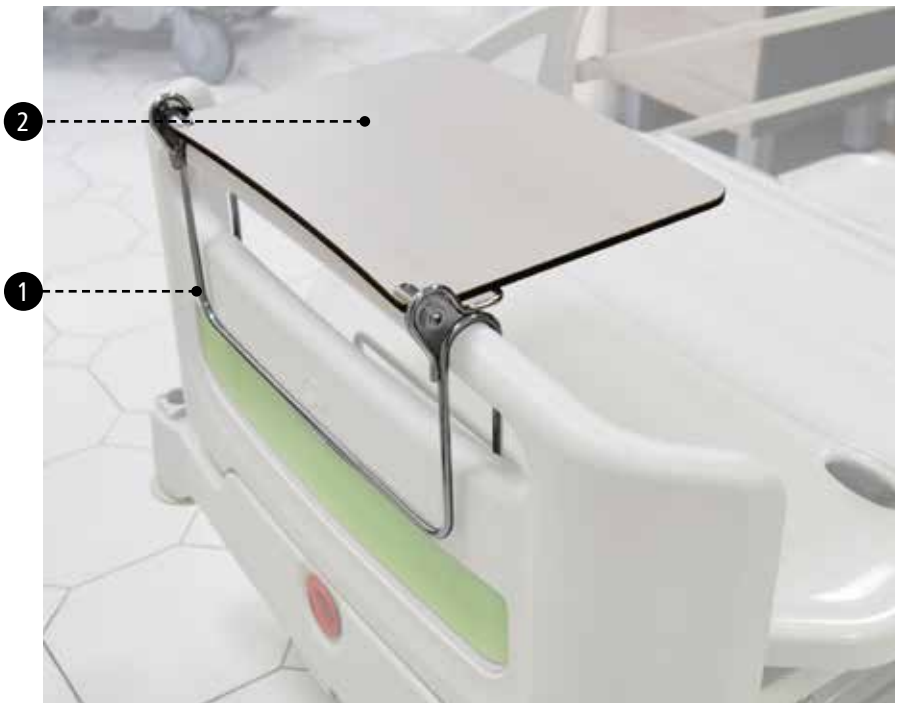
The monitor holder support was designed and manufactured to be installed on **Wunder** beds, by the nursing staff. It must be used in compliance with the instructions and restrictions indicated in this manual.

Materials used

The monitor holder support is made of chrome-plated steel with a stratified laminate top.

Names of the parts

1. Surface;
2. Support structure.



Technical features

Dimensions	mm	510x340
Thickness	mm	8
Safe working load	Kg	10

Preparation of the installation area

The monitor support must be installed on the footboard of **Wunder** beds. We recommend installing the monitor holder before placing the bed in service.

Installing the monitor support

WARNING! ***This item must be installed by nursing personnel.***

To install the monitor support, proceed as follows:

- insert the supporting structure (**2**) straddling the footboard as shown in the picture;
- rotate the top up to the horizontal working position.

Functional test

WARNING! ***The product efficiency check below must be repeated on a regular schedule.***

Before using the item:

- check that it works properly referring to the "Operation and use" paragraph of this accessory;
- if the check is positive the item can be placed in service, otherwise get in touch with Wunder after sales service.

Operation and use

CAUTION! ***Do not use the item for purposes other than the following.***

WARNING! ***Never exceed the safe working load of the surface.***

WARNING! ***Always make sure that the article is properly fixed to the bed before use.***

WARNING! ***Instruments must never protrude from the top since they can obstacle the movements of the bed, get in the way causing injuries to personnel and patient resulting from a fall and may also damage the bed.***

To use the monitor support, proceed as follows:

- make sure that the support is properly fixed to the bed and put the instruments on it.

RA0148 Oxygen cylinder holder

Technical presentation

The oxygen cylinder support is composed of a structure in chromium plated steel which can be hooked to head/feet sections and is fit for 3-7 litre cylinders.

Reference standards

The item was designed and manufactured in compliance with the safety requirements of directive 93/42/CEE of 14.06.93 (class I) and further modifications to it, (Council Directive 2007/47/CEE), concerning medical devices.

Designated use

The cylinder support RA0146 must be used only according to the modes and limitations indicated in this manual by nursing staff.

Technical features

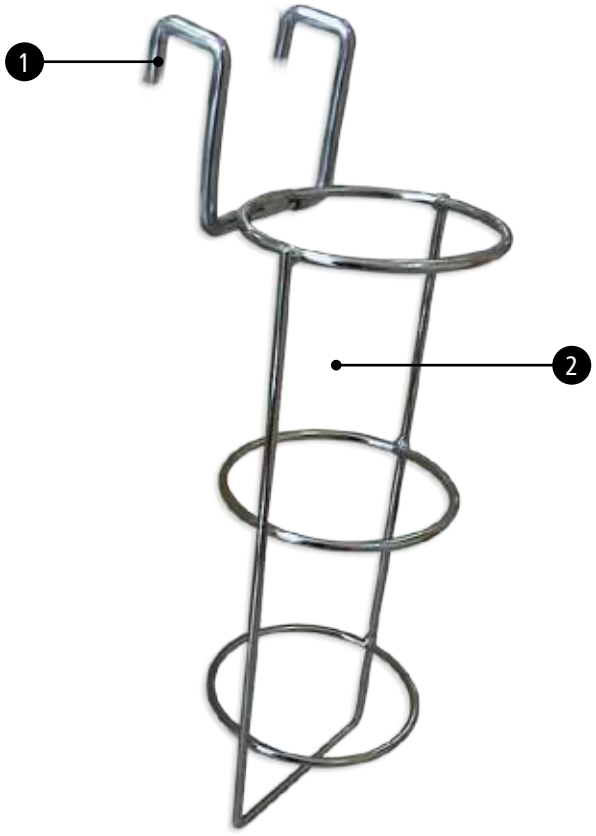
Diameter	mm	164
Length	mm	650
Weight	Kg	2,5
Safe work load	Kg	15

Materials used

Chromium plated steel wire.

Name of the components

1. Supporting hooks;
2. Cylinder seat.



Functional test

WARNING! ***The product efficiency check below must be repeated on a regular schedule.***

Before placing this item in service:

- check that it works properly referring to the "Operation and use" paragraph of this accessory;
- if the check is positive the item can be placed in service, otherwise get in touch with Wunder after sales service.

Functioning and use

CAUTION! ***Always ensure that the cylinder holder is correctly hooked to the bed before usage.***

CAUTION! ***It is forbidden to place the item close to the bed moving mechanisms.***

CAUTION! ***Do not use the item for any other purpose.***

CAUTION! ***Never exceed the cylinder holder safe work load.***

Inserting the cylinder:

- hook the cylinder holder to the bed head/feet sections as indicated in the figure;
- slowly and fully insert the cylinder into the cylinder holder.

Extracting the cylinder:

WARNING! ***Ensure that no medical devices are hooked to the cylinder. Ensure that an adequate moving space is present for safe operations.***

WARNING! ***The cylinder could in any case fall while being extracted.***

- extract the cylinder with care and put it in a safe place.

LH0055 Fireproof 3 joint mattress Fusion

Technical presentation

Foamed with modern processes free from CFCs, Fusion is characterized by values of great elasticity, anatomic-type capacity (2.8 kPa) and the reduced values of permanent deformation. The coating is in inherent fire resistant fabric, which does not lose its characteristics of resistance to fire with washing.
It is complete with a zipper on 3 sides of the mattress. The latest generation of polyurethane foam, perfectly adapts to beds with articulated joints.

Reference standards

The item was designed and manufactured in compliance with the safety requirements of directive 93/42/CEE of 14.06.93 (class I) and further modifications to it, (Council Directive 2007/47/CEE), concerning medical devices.

Designated use

The mattress was designed and manufactured to be installed on **Wunder** beds, by the nursing staff. It must be used in compliance with the instructions and restrictions indicated on this manual.

Technical dimension data

Dimensions	mm	1900 x 850
Thickness	mm	120
Fire reaction class	-	1IM
Density	Kg/mc	30
Composition	-	Fireproof foamed polyurethane
External covering	-	TREVIRA antibacterial fireproof fabric

Washing instructions

Polyurethane washing	90°
Lining washing	40°

LH0200 mattress for bed extension

Technical presentation

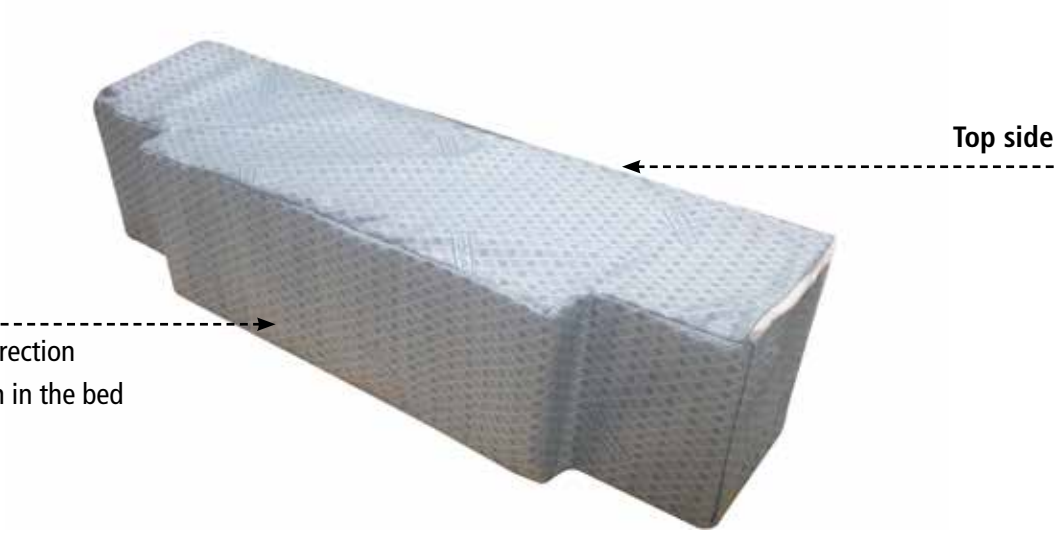
The mattress for bed extension is made of self-extinguishing flexible polyurethane foam in accordance with standard CSE RF 4/83 - Ministerial Decree of 26.06.84, referred to in the ordinary supplement to the OJ 234 of 25.08.84, concerning the classification of reaction to fire and approval of materials for the purpose of fire prevention." In addition, to the direct action of the flame, is non-drip and has no post-glow phenomena.

Reference standards

The item was designed and manufactured in compliance with the safety requirements of directive 93/42/CEE of 14.06.93 (class I) and further modifications to it, (Council Directive 2007/47/CEE), concerning medical devices.

Designated use

The mattress for bed extensions was designed and manufactured to be installed on **Wunder** beds, by the nursing staff. It must be used in compliance with the instructions and restrictions indicated on this manual.



Technical dimension data

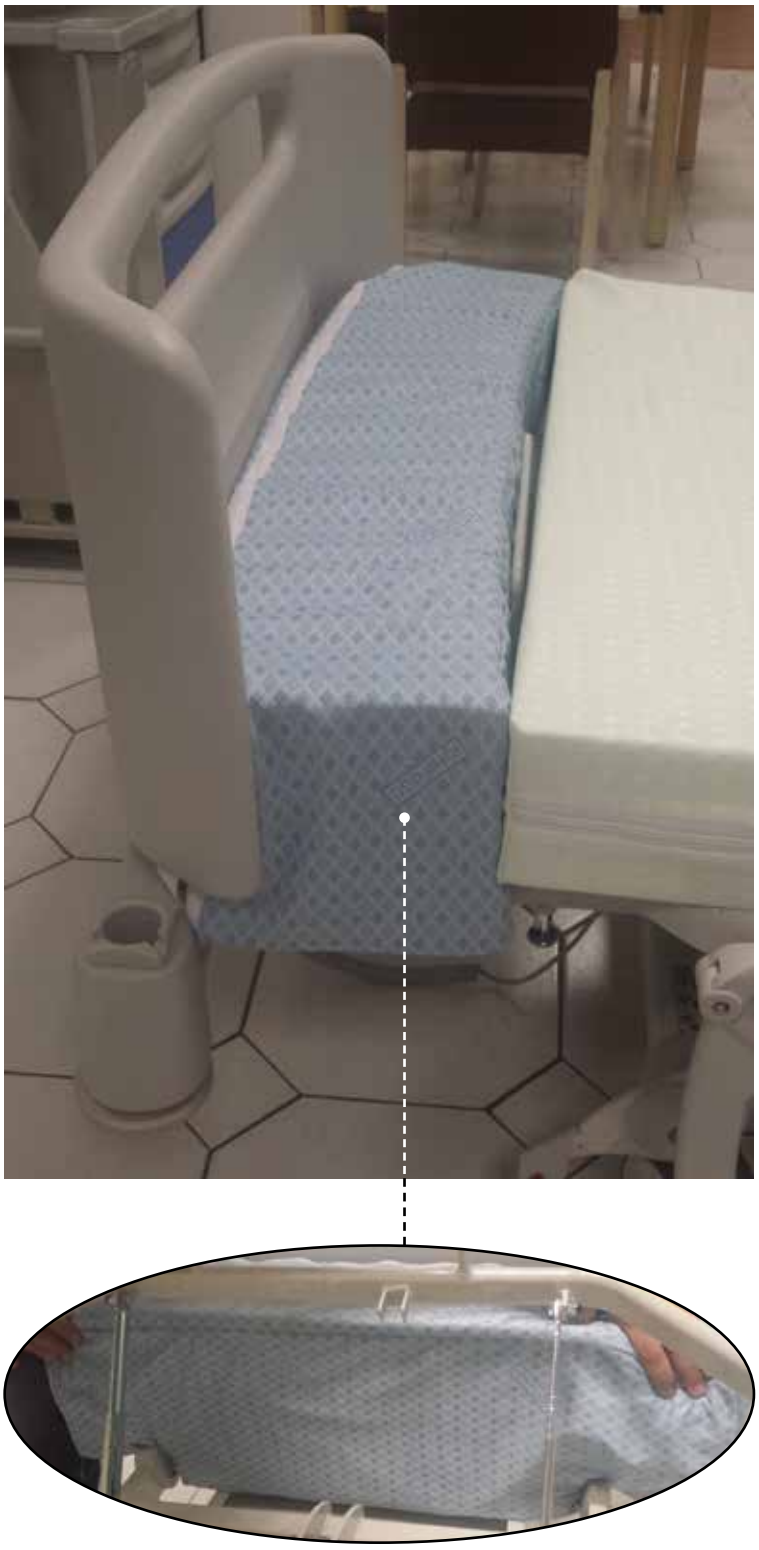
Dimensions	mm	850 x 260 x 185
Thickness	mm	120
Fire reaction class	-	1IM
Density	Kg/mc	30
Composition	-	Fireproof foamed polyurethane
External covering	-	TREVIRA antibacterial fireproof fabric

Installation of the mattress for bed extension

***CAUTION!** Do not use the article for any other purpose.*

To install the mattress on the bed extension proceed as follows:

- insert the mattress for the bed extension into the space between the footboard and the mattress of the bed, making sure that the cut is facing down.



RAT620 Keypad holder for compass side panels

Technical presentation

The keypad holder is made of a plastic support for the keypad connected to a flexible tube, attached to a steel clamp that allows the fixing to the side panel.

Reference standards

The item was designed and manufactured in compliance with the safety requirements of directive 93/42/CEE of 14.06.93 (class I) and further modifications to it, (Council Directive 2007/47/CEE), concerning medical devices.

Designated use

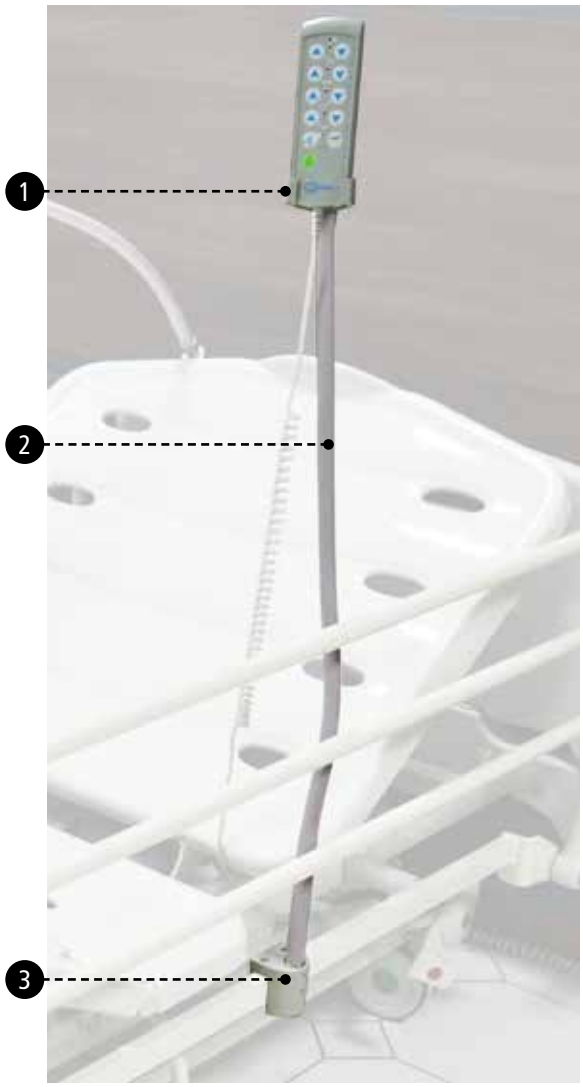
The keypad holder has been designed to be installed by nurses on compass side panels of **Wunder** beds. The keypad holder must be used in compliance with the instructions and restrictions indicated in this manual.

Materials used

The keypad holder is made of a flexible tube covered with plastic material.

Names of the parts

1. Keypad holder;
2. Flexible tube;
3. Fixing clamp accessory.



Functional test

WARNING! ***The product efficiency check below must be repeated on a regular schedule.***

Before placing this item in service:

- check that it works properly referring to the "Operation and use" paragraph of this accessory;
- if the check is positive the item can be placed in service, otherwise get in touch with Wunder after sales service.

Operation and use

CAUTION! ***Do not use the keypad holder for any other purpose.***

WARNING! ***Always check that the keypad holder is properly installed before use.***

Insert the keypad into the holder (**1**).

Sanification

Products for sanification

CAUTION! ***Sanification agents are corrosive.***

Carefully follow the specific instructions of the product manufacturer. If possible ask the manufacturer to guarantee the corrosion level of the solutions used.
It is very important to follow the specifications that concern concentration, temperature and reaction time.
Any modification of these characteristics can damage the product.
Sanification is to be made with a 1,5%.solution of water and Amuchina.

Sanification schedule

The sanification schedule is to be decided by the user depending on the needs, taking into consideration the instructions on this manual and the ones of the sanification products applied.

Periodic review

The users must control the product at least once a year; the check must see that there is not damage that can compromise integrity and proper operation of the product. I.E.:

- i ntegrity of the power supply cables and plugs;
- correct power supply cable connection;
- screws properly fixed;
- correct electric movement functionality, with reference to the section in this manual called "Operating and Use";
- correct insertion and fixing of accessories;
- general cleanness and of wheels (for instructions see the par. "Electric Bed cleaning instructions").

WARNING! Technical personnel must check efficiency of the batteries at least three times a year.

Follow the instructions below to check battery efficiency:

- disconnect the power supply plug from the socket;
- perform at least two handling cycles for each adjustment available on the bed.

WARNING! The bed must be unplugged from the power supply before and during cleaning and maintenance works.

The control unit of the VEGA beds is equipped with 3 fuses, inaccessible, for protection:

- a fuse for the protection of the two 12 V batteries;
- two thermal fuses for the protection of the equipment.

In case of damage or burning of fuses, the replacement must be carried out by specialised personnel of the Wunder after sale service.

WARNING! ***The IP protection level is lost once the cover of the unit is opened.***

WARNING! ***If damage is found, put the product immediately out of service until it is repaired or replaced.***

WARNING! ***We recommend to have all technical adjustments or equipment repairs not included in this chapter performed by specialised personnel of the after sales service.***

Cleaning and disinfection

For longer last and better efficiency of the product it is essential to clean it well periodically. We recommend to follow the instructions below.

WARNING! ***Do not spray detergents directly on the mechanical parts. We recommend to avoid the use of thinners, gasoline, or strong and abrasive detergents even on "stubborn stains".***

WARNING! ***The beds with control units with protection degree IP66 cannot be washed in washing tunnels.***

In case of need or at least every 15 days:

- clean metal parts with water and mild detergent, rinse with a damp towel and dry thoroughly;
- remove dust and dirt from the actuators' external part and ensure that there are no visible damages;
- wash the wheels with water and mild detergent, rinse and dry thoroughly, then check efficiency.

Electrical beds with IP66 protection level can be washed with water and brush. The water can be pressurized but the system must not be put into the water.

Regulations

WARNING! ***We recommend to get in touch with Wunder after sales service to make sure that all repairs and revisions are carried out properly.***

Emergency battery

The batteries have a life span that varies from 4 to 6 years depending on use. If the bed is not used for long periods and is disconnected from the power supply, recharge the battery every 6 months restoring the connection to the network and pressing one of the keys on the keypad. Furthermore, the control unit of the bed is equipped with an On/Off button for energy saving: thanks to this, it is possible to exclude the battery in case of prolonged storage in order to maintain its integrity.

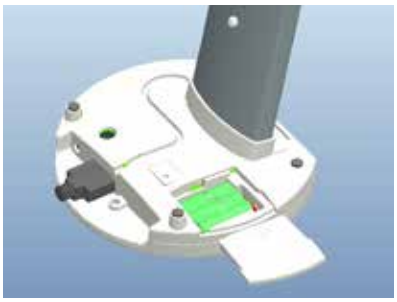
Led lit: ON
Led off: OFF

Weighing system battery

CAUTION! In case the device is not used for a long time, remove the batteries in the terminal.

The weighing system rechargeable battery allows to carry out the functions provided. The message Lo displayed indicates the low battery and the need to recharge it. The battery can be charged by connecting the network adapter provided, also in case the device is off. In case the device is not used for a long time, we recommend a complete charge/discharge cycle to be executed at least every 3 months.
In case the batteries do not keep the charge, replace them.

- open the battery case and remove the battery pack;



PL (WU150) VANO BATTERIE
Per la sostituzione della batteria
(modello ricaricabile tipo :RETC 7,2 V 2000 mAh
vedere il manuale di istruzioni)
To replace the battery
(rechargeable sealed type :RETC 7,2 V 2000 mAh
see the manual)

- disconnect the battery pack coupling and connect the new battery pack. Insert the batteries and slowly insert the connection from the side.

Electric bed trouble solutions

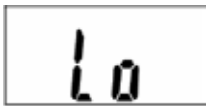
PROBLEM	CAUSES	CORRECTIVE ACTION
Continuous audio alarm signal at every movement of the bed	- less than 50% battery charge	- Connect to the power supply and charge for 6/8 hours
Led on operator's panel flashing or turned on; no movements on bed performed	- Functions blocked - Faulty electric system components - Position lost	- Unlock the functions - Check that all cables are properly inserted in the relevant housings - Reset the system and get in touch with Wunder after sales service
Intermittent audio alarm signal: beep per 200ms and 200ms pause	- Position lost	- Reset the system and get in touch with Wunder after sales service
Audio alarm signal: beep for 5s and then continuous pause	- System overheating; thermal fuses enabled	- Wait for the system to cool (at times even for 1 day)
Intermittent audio alarm signal: beep for 50ms and then 50ms pause	- Internal system error	- Reset the system and get in touch with Wunder after sales service
System resetting: the system must be reset the first time it is connected and then each time that one or more actuator has been disconnected. All motors and column must be turned off and the cables must be properly connected as indicated on the electrical diagram. Keep the "hvup" and "hv down" buttons depressed contemporarily or on "ACO" operator's panel , the unit enables a continuous audio alarm for 10 seconds.		

PROBLEM	CAUSES	CORRECTIVE ACTION
The control box (main device) does not turn on	- It is not connected to the power supply. - The fuse has blown out - The power cable is faulty - The control box is faulty	- Plug the contoal box - Replace the fuse (in the event the system is provided with fuse replaceable from the outside) or send the control box to the servicing technicians for repairing - If the cable is interchangeable replace with a new one. In the event the cable is fixed send the central box to the servicing technicians - Send the control box to the servicing technicians for repairing
The control box (main device) turns on but the actuator does not operate at all, and do you hear the CLICK sound of the control box's relays	- The actuator is not well plug into the socket of the control box. - The actuator is faulty. - The control box is faulty	- Plug the actuator into the socket of the control box - Replace the actuator - Replace the control box
The control box turns on but the actuator does not operate. You do not hear the CLICK sound of the control box's relays	-- The control box is faulty - The push button panel is faulty	- Send the control box to the servicing technicians for repairing - Send the push button panel to the servicing technicians for repairing
The actuator does not operate but the relays click at all	- The actuator is not well plug into the socket of the control box - The actuator is faulty - The control box is faulty	- Plug the actuator into the socket of the control box - Replace the actuator - Replace the control box
The actuator performs the movement of the bed in only one direction	-- The push button panel is faulty - The control box is faulty	- Replace the actuator - Replace the control box

Electric bed troubleshooting

PROBLEM	CAUSES	CORRECTIVE ACTION
No noise from the motor or no movement of the piston	- The actuator is not connected to the control box. - Blown out fuse in the control box. - Damaged cable	- Connect the actuator to the control box - Replace the fuse - Send the actuator to the servicing technicians for repairing
Excessive current consumption		- Send the actuator to the servicing technicians for repairing
The motor turns but the actuator does not	- faulty gear or piston	- Send the actuator to the servicing technicians for repairing
L'attuatore non porta il carico massimo previsto	Safety clutch faulty- the motor is damaged	Send the actuator to the servicing technicians for repairing
The actuator does not hold the maximum load foreseen		- Send the actuator to be repaired
Regular motor rev but the quick disjunction is noisy or does not work	The clutch disengagement arm has a rotation lower than 75°	- Adjust the control cable
The motor turns too slowly or does not give sufficient power	- the safety screw is enabled	- Send the actuator to be repaired
The motor turns too slowly or does not give sufficient power	- Supply voltage insufficient - Voltage drop in the cable	- Increase the supply voltage - Use a bigger cable

Weighing indicator - error messages

ERROR MESSAGE	CAUSE	ACTION
	Low battery: The battery voltage is too low and it cannot be used	Replace the battery or connect the network adapter.
	Surcharge: the total charge exceeds the scales maximum capacity	Reduced the applied load and try again.
	Counting error (high): It indicates that the signal from the charge cell is too high.	Error usually caused by a damage in the scales (cell or cables). Contact the Support Service.
	Counting error (low): It indicates that the signal from the charge cell is too low.	Error usually caused by a damage in the scales (cell or cables). Contact the Support Service.
	Zero over calibration: Zero range over +10% during start.	Calibrate the device again.
	Zero below calibration: Zero range below -10% during start.	Calibrate the device again.
	EEPROM error: Scales software error.	Error usually caused by a damage in the scales (cell or cables). Contact the Support Service.

Shelving

In case the product needs to be stored for a long period of time, do not forget to:
- Place the product in a dry place away from direct sunlight;
- Protect it from dust by covering it with a nylon cloth;
- Grease the parts which could get oxidised or damaged in case of drying.

Storage

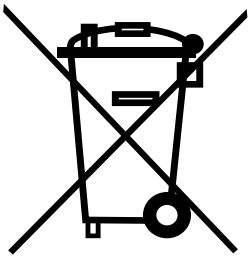
Long term storage must be performed according to the following conditions:
- The item must be packed;
- The storage area must be dry and not exposed to direct sunlight;
- Do not stack up more than 3 item.

Disposal

Items that will no longer be used must be placed in inoperative conditions. We also recommend to make all dagerous parts safe. Evaluate the class of the object according to the degree of disposal. Dispose with iron material and send it to the appropriate waste dump. If the item is considered to be among special wastes, disassemble it and divide it into homogenous parts and dispose in compliance with the laws in force.

Out of service and demolition

The following symbol that is located on the appliance, indicates that this electric device cannot be dismantled as normal waste but as differentiated waste.



Electric and electronic equipment waste requires specific treatment, essential to prevent dispersion of polluting substances contained in the appliance, for environment friendly and health safeguard. Moreover, it is possible to reuse/recycle part of the materials that compose electric and electronic equipment reducing the quantity of waste and the need of raw materials for manufacturing new products. When the appliance is demolition or placed out of service it is advisable to take all necessary safety precautions in order to avoid environmental pollution and prevent endangering persons exposed:
- disconnect the machine from the electric circuit and discharge residual power;
- bring it to the special electric and electronic equipment waste dump of your city.

Wunder Sa.Bi. S.r.l.
Via Vecchia per Monza, 20
20056 Trezzo sull'Adda (MI)
Tel. +39 02 90964566
mail: wunder@wunder.it