

# USER MANUAL



# TITAN

Bariatric bed



CE



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## 1. INTRODUCTION

This user manual is for beds type: TITAN



**Do not use the bed and do not manipulate with it unless you have fully studied all the relevant points of this user's manual! All manipulation, including operation of the bed, must be done according to the user's manual. Any other manipulation, which violates the user's manual or the purpose of the bed, is done at your own risk and the producer bears no responsibility for any damage or injuries thus incurred!**

**User manual must be available to users for all the lifetime!**

**The producer reserves the right to make changes in this user's manual related to the technical parameters and modifications of the bed!**

Application environment for beds TITAN:

- intensive / critical care provided in hospitals, where the medical supervision and continuous monitoring for 24 hours is required and where the using of the systems / devices for maintain or improve the patient's vital functions during the medical treatment is necessary

- acute care provided in hospitals or other medical institutions, where the medical supervision and continuous monitoring is required and where the medical diagnostic devices for maintain or improve the patient's vital functions or medical treatment are often used

- long term care in medical institutions where the medical supervision and monitoring if necessary are required and where the using of the systems / devices for maintain or improve the patient's vital functions during the medical treatment could be used

**The bed is designed for care and manipulation with a hospitalized patient!**

**The bed must not be used for lifting of the materials, the burdens or multiple persons. The bed must not be lifted or positioned into such positions, which could worsen the health condition of the patient or could endanger the patient's life!**

**The bed can be operated by the medical personnel, who have studied this user manual. Some functions of the bed may be used by the patient, who has been instructed by the medical personnel!**



**The bed must not be operated by persons younger than 12 years without the supervision of an adult!**

**If the bed is not used, it must remain in the basic (default) position – i.e. all positioning parts of the lying surface of the bed must be horizontal and the lying surface must be in its lowest position above the floor!**

**If the patient is not under the supervision, the bed must remain in the lowest position, because of decreasing the risk of patient fall out!**

**Pictures used farther in manual are only illustrative!**

The producer is entitled to produce the products of this type based on the "Permit for production and distribution of the medical technology" issued by the Ministry of Health Care of the Czech Republic No. FAR-742-25.4.1995 733/8. The company and its production programme is certified according to:

CSN EN ISO 9001:2016  
CSN EN ISO 13485 ed2.:2016  
CSN EN ISO 14001:2016

This product complies with international standards:

EN 60601-1  
EN 60601-1-2  
EN 60601-1-6  
EN 60601-2-52  
EN ISO 14971  
93/42/EEC

## 2. METHOD OF THE DELIVERY

The bed is delivered assembled and ready for use. The accessories are supplied separately with all the fittings needed for installation on the bed.



On delivery, the whole shipment must be checked according to the bill of delivery. Any defects, missing parts or other problems must be immediately reported to the carrier and producer in writing!

### 3. SAFETY INSTRUCTIONS

- Before the use of the bed user manual must be studied and the bed must be operated solely accordance with the manual!
- The bed must be operated only by persons who have studied the manual in detail!
- The bed must NOT be used if any defects have been discovered. Especially defects which might injure the patient, the personnel, damage the bed etc.!
- The bed must be used only in interiors on smooth horizontal floors!
- The bed must NOT be overloaded!
- The bed is intended for a single patient only!
- The bed can be used only with electrical outlets for which is intended!
- Adjust the bed to the lowest position when leave the patient without supervision of the medical personnel!
- Based on the decision of the medical personnel patient may use partial functions of the bed after being thoroughly trained by medical personnel!
- The bed must always be properly braked excluding transport of the bed. The medical personnel is always required to make sure that the bed is braked before use of the bed. Unbraked bed may be at increased risk of injury especially when patient is getting up, sitting down or leaning against the bed!
- Transport of the bed is allowed only with side rails up because of the patient safety!
- When changing the height of the patient area no items or body parts must get into the space between the bed frame and the undercarriage – the operator or a third person might get injured or damage might occur!
- When positioning the back part or the leg part no items or body parts must get into the space between the bed frame, the head board and the back or the leg part – the operator or a third person might get injured or damage might occur!
- Using the special functions Trendelenburg and Antitrendelenburg is allowed only to authorized medical staff!
- The linen holder must inserted into the bed before use of Antitrendelenburg function!
- The power cable must be routed so that it cannot be damaged as a result of entanglement around moving parts or pinch between them - there is a serious risk of damage by electric shock!
- The risk of patient injury, personnel or third person or the risk of damage to surrounding equipment may occur especially in case of:
  - unauthorised use
  - using bed with unrepaired defect
  - breach instructions of back part or leg part adjusting
  - breach instructions of height adjusting
  - positioning of the bed with a lying patient into special positions – especially TR and ATR
  - operating the bed on inappropriate surface
  - maintenance done by an unauthorised method or unauthorised person
  - use special mattress intended to provide prophylactic or therapeutic effect



The bed is powered from power grid and it may disturb extremely sensitive equipment. In development of this bed, we took maximal care to drive developments of undesirable electromagnetic elements to minimal levels. Bed is manufactured according to specs of the harmonized norm ČSN EN 60601-1-2. Operate this bed according to the user's manual to precede possible problems!

### 4. CONDITIONS OF USE

The bed may be used only in the interiors, where the environmental temperatures range from +0°C to +40°C and the relative air humidity is between 30% do 75%. The bed is not designed for extreme humid or explosive environments.

## 5. TECHNICAL PARAMETERS

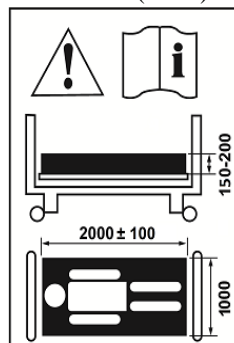
All the beds are made from quality steel profiles, which surfaces are treated with baking varnishes, or are zinc / chromium coated. The beds are also equipped with plastic and metal elements.

Parameters marked by \* could change according to chosen configuration of the bed

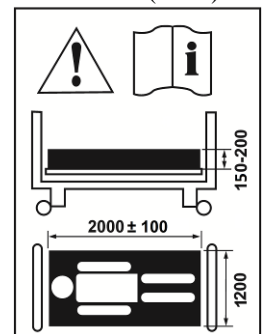
	<b>TITAN</b> width 100 cm	<b>TITAN</b> width 120 cm
Dimensions of the lying surface (w x l)	100 x 203 cm	120 x 203 cm
Maximal external dimension (w x l)	108 x 220 cm	128 x 220 cm
Lying surface extension	± 10 cm	± 10 cm
Height of lying surface (without mattress) *	45 – 85 cm	45 – 85 cm
Maximal angle of lateral tilt:	15°	15°
Maximal angle of Trendelenburg:	14°	14°
Maximal angle of Antitrendelenburg:	14°	14°
Height of boards above the lying surface (without mattress) *	50 cm	50 cm
Height of side rails above the lying surface (without mattress) *	42 cm	42 cm
Maximum load (weighing) of the weighing system:	500 kg	500 kg
Weighing accuracy in absolute mode:	± 0,5 kg	± 0,5 kg
Weighing differential in absolute mode:	± 0,5 kg	± 0,5 kg
Weighing sound power level of noise:	48 dB	48 dB
Lifting pole maximal load:	120 kg	120 kg
Max. angles of adjustable parts: α	72°	72°
β	40°	40°
γ	26° (86°)	26° (86°)

Recommended mattress dimension

1000 x 2000 (±100) mm



1200 x 2000 (±100) mm



**!** In case of using specialty mattress provided to reach prophylactic or therapeutic effect it is possible to use mattress with height till 26 cm. In this case the higher risk of the patient fall out could occur. Be careful during adjusting of the bed to protect the patient against the fall out!





Weight of the bed without mattress \*  
Safety working load capacity  
Maximal patient weight

243 kg  
500 kg  
435 kg

263 kg  
500 kg  
435 kg



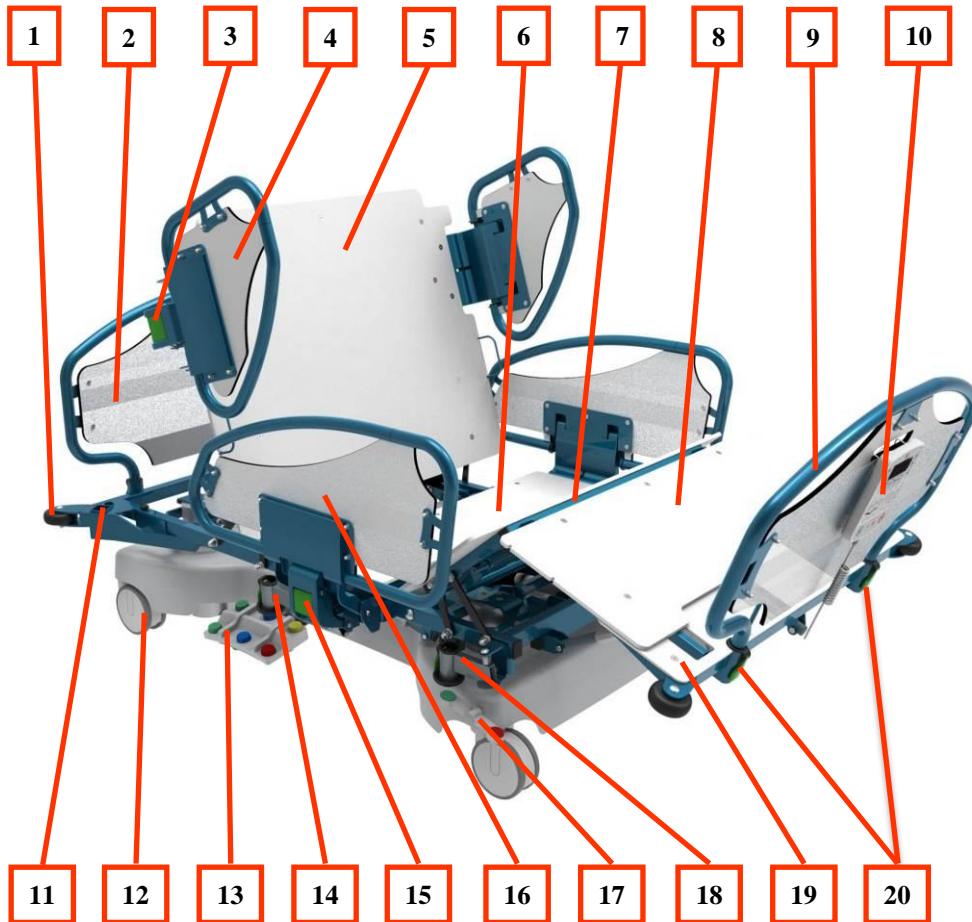
### Technical parameters of electric parts

Operating voltage:	230 V	230 V
Supply frequency:	50/60 Hz	50/60 Hz
Max power:	350 W	350 W
Protection class:	II typ B	II typ B
El. actuator cover:	min IP54	min IP54
Max el. actuator load:	2 minutes max. load /18min rest	2 minutes max. load /18min rest
Fuses type:	32 A	32 A
Markings:	Safety class II 	Safety class II 
	Safety type B 	Safety type B 

**Technical parameters of weighing system**

Units	Kg / lbs
Range of dead load	0 to 500 kg
Type of the load sensor	shear type sensors with metallic resistance strain gauges
Working temperature range	from 0 to +40 °C
Storage temperature range	from 0 to +60 °C

**6. SCHEME OF THE BED**



- |                          |                                     |
|--------------------------|-------------------------------------|
| 1 Bumper wheel           | 11 Infusion and lifting pole holder |
| 2 Head board             | 12 Wheel                            |
| 3 Head side rail locking | 13 Foot control panel               |
| 4 Head side rail         | 14 Board holder for lateral tilting |
| 5 Back part              | 15 Leg side rail locking            |
| 6 Pelvic part            | 16 Leg side rail                    |
| 7 Femoral part           | 17 Central brake lever              |
| 8 Calf part              | 18 Board holder for lateral tilting |
| 9 Leg board              | 19 Electric length extension        |
| 10 Nurse control panel   | 20 Boards locking                   |

## 7. LOCATION OF THE BED

The bed must be located, so there is at least 40 cm of space on each side. Also no items must be above the bed, such as shelves, television sets etc., because the bed could collide with them during positioning and the patient or personnel might get injured. If the bed has any accessories (such as a lifting pole or an IV pole), the personnel operating the bed must ensure, that not any part of the bed or accessories collides with the ceiling, recesses or any other fixed or removable items on the walls or soffit ceilings, such as shelves, lights etc. If there is not enough room for such manipulation, remove the accessories or place the bed elsewhere, so no collision with other items could occur.

The bed is equipped with special positions Trendelenburg, Antitrendelenburg and also laterals tilting to both sides. Place the bed where does not collide with the surrounding objects in the extreme setting of these positions! When setting these positions, watch the trajectory of the accessories. Set up with a lifting pole and/or an IV pole protrudes beyond the layout of the bed in the extreme settings of the above positions. They could damage the surrounding objects or cause an injury to a third person!

**The bed must be located so there is at least 40 cm of space on each of its side. When the bed is positioned into the special positions, the lying surface may protrude out of the layout of the bed. If the bed is too close to the surrounding objects (walls, cabinets, etc.), the bed or the object can get damaged or an injury may occur!**



**If the bed is equipped with special positions Trendelenburg, Antitrendelenburg or lateral tilting place the bed where does not collide with the surrounding objects in the extreme setting of these positions!**

**If the bed is equipped with accessories (lifting pole, IV pole etc.), watch the trajectory of the accessories during any positioning of the bed, because in the extreme settings of the Trendelenburg and Antitrendelenburg positions, the accessories are moving beyond the layout of the bed !**

## 8. INSTALLATION AND COMMISSIONING OF THE BED

This chapter describes all the basic operations, which are needed to commission the bed!

1. **Remove all the packaging from the bed and dispose it ecologically**
2. **Verify completeness and condition of the shipment according to the bill of delivery. Record any problems on the bill of delivery or bill of transport and inform the producer or seller in writing.**
3. **Let the bed temperature accommodate to the temperature of the environment.**

When the bed is released from all packaging and fixation elements leave it at least for two hours without any mattress or bed linen in the room, where it is to be used. This step is necessary, to make the temperature of the bed match the temperature of the room. If any moisture condensate on the bed, leave the bed until the condensate vanishes.

4. **While the bed is accommodating to the temperature, study the WHOLE user's manual in detail. Do not do the test of functionality before having read the whole user's manual.**
5. **If there are any accessories supplied with the bed, install them according to the user's manual.**
6. **Test the functionality of the individual bed parts according to the user's manual.**

Take care, that the nurse control panel of the bed remains always positioned (hanging on) at the side of the bed so none of the buttons are pushed. CAUTION! The main power supply cable of the bed (220 V) must not be connected to adapter plugs and extension cables with one or more sockets, which are not approved in the destination country and do not have the allowed power consumption at least 1000W. None of the power supply cables must be led in a way, where it could be turned, pinched or otherwise damaged.

Insert the plug of the power supply cable to the power socket 230V/50-60Hz. At this moment the bed shouldn't make any noise or movement. If it occurs, immediately detach the power supply cable from the power source and contact the authorised service or producer. As soon as the plug is in the power socket, the backup battery of the bed starts charging. Charging of the battery is signaled on the display of nurse control panel. If the bed was out of power supply for a long time, the backup battery could be discharged, let the battery fully charged. Discharged battery could cause phased motion of individual parts during them positioning.


If the battery is fully charged test the positioning of all parts of the bed by nurse control panel, patient hand control, integrated controls build-in side rails a foot control as described further in this manual. If the movable parts of the bed's lying surface do not start moving within 5 seconds from pushing the buttons of the control panel, and if you hear the bed's el. actuators to be under extreme stress, stop the positioning, detach the bed's power supply cable and check the bed carefully again, especially check if any functions of the nurse control panel are not locked, otherwise unlock this functions. If you do not find the cause of the erratic function, contact the authorised service center or the producer. When all functions of the nurse control panel have been tested, test



the manual (patient) controller (hand held or integrated in the side-rails). If the first testing shows no problems, continue with installation according to the following paragraphs. Follow the instructions in the user's manual.

If the bed is equipped with weighting system, check its functions as described further in this manual


**7. Keep the user's manual in the safe place.**

 **If the bed recurrently functions wrong, detach it from the source of power and contact an authorised service centre or the producer!**

**The producer forbids any modifications, repairs or similar manipulations with the product to be done outside of the authorised service centre or the producer's plant!**

**9. MOVING AND MANIPULATION**

Before moving the bed to a different place put the bed into basic position (i.e. the lowest position horizontal position of all positioning parts). **Set the height of the patient area to optimal position but not higher than 20 cm below the maximum height!** Disconnect the power supply cable and hang on head board to prevent it of any damage during transportation. Before transportation make sure that you have disconnected the correct plug from the mains outlet. Make sure the controller as well as the plug and cable are secured and no damage can happen during transportation. Make sure the cable or the controller is not dragged. When connecting the bed to the power supply, obey the points listed in chapter Installation and putting into operation.

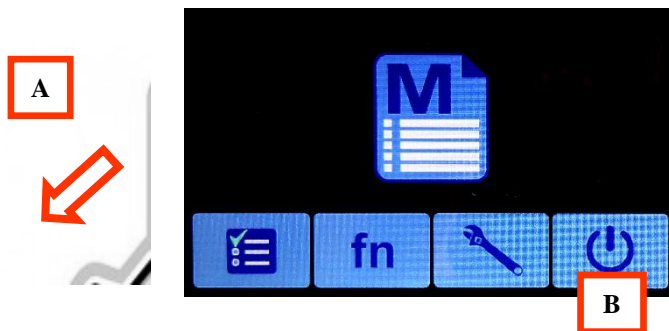
 **The bed can be transported only in the basic position (i.e. the horizontal position of all positioning parts)!**

**The bed can be transported only when the power supply and controllers cables are secured against damage!**

**9.1. TURNING THE BED OFF BY LCD NURSE CONTROL PANEL**

For needs of transport or storage it is possible to turn the bed off. Follow the next steps for turn the bed off.

- **Disconnect power supply cable from electricity (A)**
- **Press the button GO (26) to activate nurse control panel**
- **Press the button "Menu" (12)**
- **Press the button "OFF" (B) to turn the bed off**



OR

- **Disconnect power supply cable from electricity (A)**
- **Press and hold the RESET button at the top side of the control box for more than 8 seconds. When the LED switch off, release the RESET button, the bed is turned off**

**9.2. TURNING THE BED ON**

TURN the bed ON by short press of the RESET button or by plug the bed to electricity.

## 10. BED OPERATIONS

### 10.1. ELECTRONICS CONTROLS – GENERAL OPERATING INSTRUCTIONS

The beds are equipped with reliable control box, controls and actuators which are characterized by low noise level and have no special requirements for maintenance after several years of using. The bed could be equipped with different kind of electronics because of the bed configuration.

**Before adjusting any of the bed parts or changing the height of the lying surface always check there are no possibility to damage the power cable, nurse control panel cable or patient hand controller cable. It could occur because of inappropriate cable routing in undercarriage of the bed!**

**During adjusting any of the bed parts or changing the height of the lying surface, no items or body parts must get in to the space between the bed's frame and the chassis under it – the operator or a third person might get injured and damage might occur!**

**Always push the buttons of the foot control panel by the tip of the lower limb with appropriate strength. Always push the buttons of the nurse control panel, integrated controls built-in side rails and patient hand controller with the fingertips of adequate force. Too heavy pressure, pushing by other body parts or with objects, can lead to damage of the mechanism, damage of the surrounding objects or a personnel injury!**

**Buttons of the foot control panel push always with appropriate strength. Too much of the strength, using other parts of the body or using objects to control the buttons may endanger health, damage equipment or surrounding accessories!**

**Maximum of approval time for continual action of motors is 2 minutes and after that follows break for minimal of 18 minutes!**

**If the bed is not used, it must remain in the basic (default) position – i.e. all positioning parts of the lying surface of the bed must be horizontal and the lying surface must be in its lowest position above the floor!**



**If the patient is not under the supervision, the bed must remain in the lowest position, because of decreasing the risk of patient fall out!**


**Using the special functions Trendelenburg, Antitrendelenburg or lateral tilting is allowed only to authorized medical staff. The special functions could be used only in case that couldn't cause risk of the patient or medical staff injury or deterioration of patient's condition!**

**During the adjusting the activation of collisions prevention could occur. The collision prevention occur when it is not possible to adjust the bed in the direction that could causes risk of the patient or medical staff injury or damage of the bed. This situation is signaled by stopping of adjusting and short acoustic signalization. If you will still hold the button that caused the collision prevention, after 3 seconds the safe adjusting will continue. These situations could occur for example during the lowering the mattress platform back from the lateral position (or Trendelenburg, Antitrendelenburg). When one of the column actuators reach the lowest position, the motions of the bed is stopped and you can hear acoustic signalization. If you will still hold the button that controls the bed to the low position, after 3 seconds the motion will continue!**

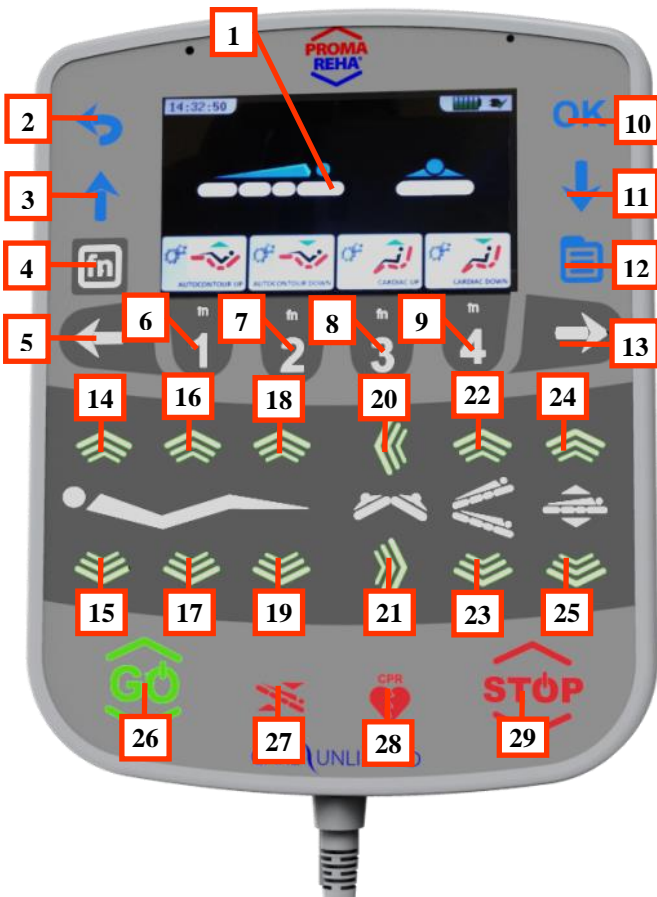
**When you are adjusting the bed from one lateral tilt to the second one or when you are adjusting from Trendelenburg to Antitrendelenburg or vice versa, in the horizontal position the bed will stops and you can hear acoustic signalization. If you still hold the button of desired position the motion will start after 3 seconds!**

**If the bed reach the maximal position and following positioning will cause collisions, the acoustic signalization will appear. Next positioning is possible only in different direction!**

## 10.2. THE NURSE CONTROL PANEL WITH LCD DISPLAY

 Before start of the first using you are required to read the general operating instructions of electronics controls in chapter 10.1. The person which is not acquainted with the general operating instructions must NOT use the bed!

The bed could be equipped with nurse control panel with LCD display. The nurse control panel is on its back side equipped with hook for hanging to spaces in side rails, head board and foot board. Description of each buttons see below.



- 1 LCD display
- 2 BACK
- 3 UP
- 4 Scale
- 5 Left
- 6 Function 1
- 7 Function 2
- 8 Function 3
- 9 Function 4
- 10 OK
- 11 DOWN
- 12 Menu
- 13 Right
- 14 Back part up
- 15 Back part down
- 16 Femoral part up
- 17 Femoral part down
- 18 Calf part up
- 19 Calf part down
- 20 Left lateral tilt
- 21 Right lateral tilt
- 22 Antitrendelenburg
- 23 Trendelenburg
- 24 Loading area up
- 25 Loading area down
- 26 GO activation button
- 27 Anti-shock position
- 28 CPR
- 29 STOP

The bed is delivered switched off. For switch on connect the bed to the electricity network. After inserting the bed's power plug into the wall socket 230V / 50Hz, the LCD display (1) switch on. If the bed won't turn on, shortly press the RESET button placed on the control box.

### 10.2.1. LCD DISPLAY

The nurse control panel is equipped with LCD display that shows added informations to positioning, the added functions, position of the bed, scale etc. Icon of connection/disconnection to power supply is in the right upper corner. Next to this is displayed condition of the battery. There is time displayed in the left upper corner. In the lower strip are displayed icons of the special functions. In the middle of the display are presented added information of the just adjusted function.

### 10.2.2. GO ACTIVATION BUTTON

The nurse control button is protected against unintended activation. Before use of controls is always necessary to press the activation button GO (26). Only the CPR function could be used without the activation of the panel. When you press the GO button, the panel is unlocked and the GO button start shines. The panel is ready to use for next 30 seconds. 30 seconds after last use, the nurse control panel will automatically turn into the sleeping mode. For next use is necessary to activate the panel.

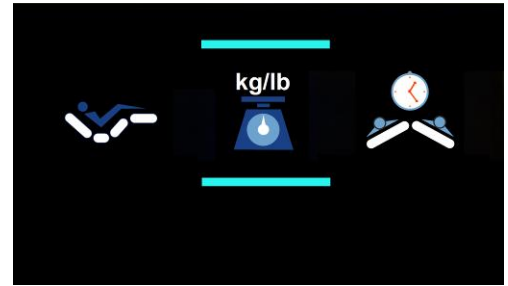


### 10.2.3. STOP

The STOP button (29) use for immediately stop of adjusting from each of the controls for 30 seconds to make necessary measures from the nurse control panel. The other controls will be lock for 30 seconds even after the activation by GO button. For activation of the nurse control panel press the GO (26).

### 10.2.4. QUICK FUNCTIONS

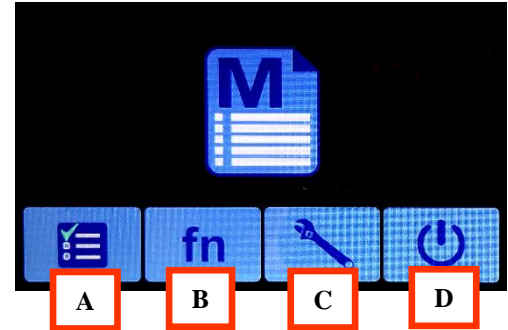
Button “Functions” (4) allows quick changing of the nurse control panel functions: easy adjusting buttons, scale system and automatic lateral rotation therapy. If the bed is equipped with the scale system or lateral therapy press the button “Functions” several times until the desired function is found. The chosen function is highlighted with lines above and below the pictogram.



### 10.2.5. MENU

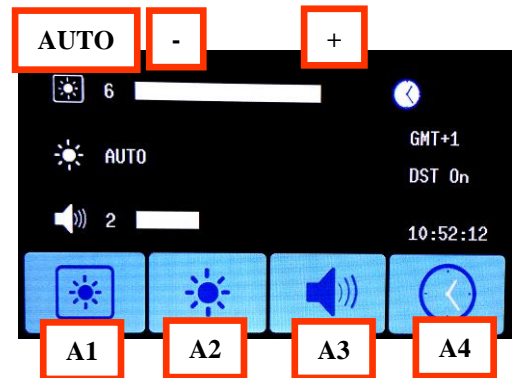
The nurse control panel with LCD brings a possibility of settings and special functions. Press button “Setting” button (12) and choose one of the next steps:

- A – Setting of the nurse control panel
- B – Special functions
- C – Service menu – locked for non-authorized stuff
- D – TURN OFF



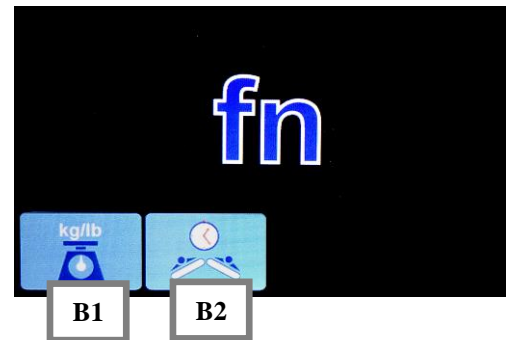
### 10.2.6. SETTINGS OF THE NURSE CONTROL PANEL

For easier manipulation with the nurse control panel you can set the functions as a brightness of the display, brightness of the nurse control panel backlight and volume of the buttons. To set the functions follow next steps. Activate the nurse control panel by GO (26). Press the “Setting” button (12) then press button of the nurse control panel setting A. you can set these attributes brightness of the LCD (A1), brightness of the panel backlight (A2), volume (A3) or time setting (A4). The attribute will be highlighted and then use the arrows “Left” (5) to high intensity and “Right” (13) to low intensity. **Go to lowest level to set automatic level of intensity.** Go back to the default screen by press “Step back” button (2).



### 10.2.7. SPECIAL FUNCTION OF THE BED

- B1 – SCALE SYSTEM
- B2 – LATHERAL TILTING THERAPY








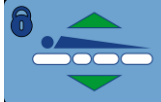










### 10.2.8. ADJUSTING OF THE BED

Press the GO button (26) to unlock the nurse control panel. In the activated state of the nurse control panel, parts of the bed are always positioned by pressing and holding relevant button for the time period necessary for the desired position of adjustment. By releasing of the relevant button, the adjustment will automatically lock in its position. When the bed reaches maximal or minimal positions, it will automatically stop movement and further positioning is possible only in opposite direction.

Adjust the **back part** by buttons (14) and (15), the **femoral part** by (16) and (17), **calf part** by (18) and (19). Set the **height of the lying area** by buttons (24) and (25). The direction of the motion is always presented by arrow on each button.

### 10.2.9. LOCK FUNCTIONS

It is possible to lock each of function of the controls built-in side rails and patient hand controller by nurse control panel to protect them against unintended controlling. Follow the next steps to lock each function. Activate the nurse control panel. Press the “Left arrow” (5) or “Right arrow” (13) to find the icon symbolized lock of the intended function. Then lock the function by press button (6), (7), (8) or (9) spaced below the icon of the function that you want to lock. When you press the button the function will lock in controls built-in side rails and in patient hand controller. The lock is signaled by change icon on the LCD and change the buttons colour on the nurse control panel to red. Unlock the function by press the same button again. List of the lock functions icons displayed on LCD see below.

	<b>Unlock foot controls</b>		<b>Lock foot controls</b>
	<b>Unlock Trendelenburg and Antitrendelenburg functions</b>		<b>Lock Trendelenburg and Antitrendelenburg functions</b>
	<b>Unlock height area adjusting</b>		<b>Lock height area adjusting</b>
	<b>Unlock lateral tilting</b>		<b>Lock lateral tilting</b>
	<b>Unlock back part adjusting</b>		<b>Lock back part adjusting</b>
	<b>Unlock femoral part adjusting</b>		<b>Lock femoral part adjusting</b>
	<b>Unlock calf part adjusting</b>		<b>Lock calf part adjusting</b>
	<b>Unlock autoconture function</b>		<b>Lock autoconture function</b>

### 10.2.10. CARDIAC CHAIR AND AUTOCONTURE FUNCTIONS

The bed could be adjusted by one click to special positions which are usually available by series of fractional steps. The **cardiac chair** function adjusts the back and femoral part to maximal position and tilts the bed to the Antitrendelenburg position. The **autoconture function** adjusts the back and femoral part together to the maximal position. Follow the next steps to use each function.

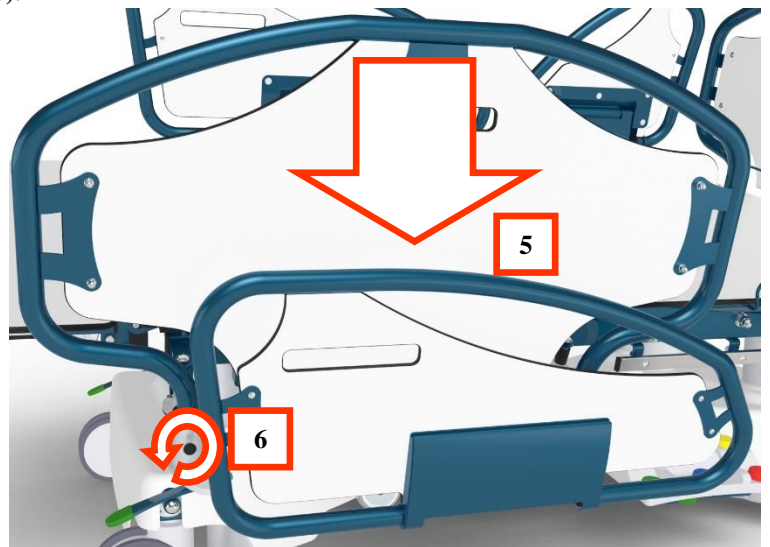
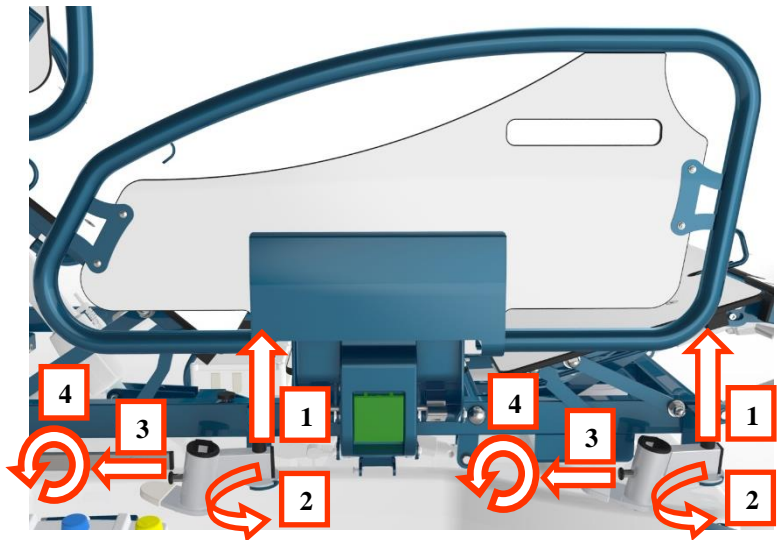
Activate the nurse control panel. Press the “Left arrow” (5) or “Right arrow” (13) to find the icon symbolized intended function. Press and hold button (6), (7), (8) or (9) spaced below the icon of the function that you want to use. When the intended position is reached, release the button, the bed will automatically stop all movements. List of the special functions icons displayed on the LCD see below.

	<b>Back and femoral part up together</b>		<b>Back and femoral part down together</b>
	<b>Cardiac chair up</b>		<b>Positioning from cardiac chair to horizontal position</b>

### 10.2.11.LATERAL TILTING

The lateral tilting function is available only after activation of safety features that protect the patient against fall out. Without the safety features is lateral tilt function blocked. **Follow the next steps, to use lateral tilt function:**

- a **On the side where you want to tilt the bed lift (1) and turn out (2) both side holders for the boards. It will be automatically locked.**
- b **Pull out the locking pin (3) and then turn 90° (2) to unlock.**
- c **Fold the side rail down. (side rails will fold towards the holders)**
- d **Remove the head or foot board and put it into the holder (5) on the side of the bed (the board must be placed as in the picture, the HPL inset toward bed).**
- e **Turn both locking pins (6) 90° to lock the board. The board must be placed in the holder for all time of the using lateral tilting.**
- f **Check that the board is locked in the holders.**
- g **Press the button left lateral tilt (20) or right lateral tilt (21) to adjust the bed. The lying area can be tilted only to the side where the safety features are placed.**



After end of adjusting follow the steps analogically. Remove the boards from the holder on the side and place to the holders at the ends of the bed, lift up the side rails and put the side holders back to the basic position belong the bed.

**Using the lateral tilting of the bed is allowed only to authorized medical staff. During adjusting be careful, higher risk of patient fall out could appear!**

**During adjusting the patient to special positions patient must be under the supervision of the authorized medical staff!**

**The safety features must be placed in the side holders for all time of the using lateral tilting!**

### 10.2.12.SPECIAL POSITIONS TRENDLENBURG AND ANTITRENDLENBURG

Adjust the bed to positions **Trendelenburg** (head down, legs up) and **Antitrendelenburg** (head up, legs down) by button Trendelenburg (23) and Antitrendelenburg (22). During adjusting be careful, higher risk of patient fall out could appear. Adjusting the bed to special positions TR and ATR is allowed only to authorized medical staff. Direction of adjusting is signaled by arrow on the button.

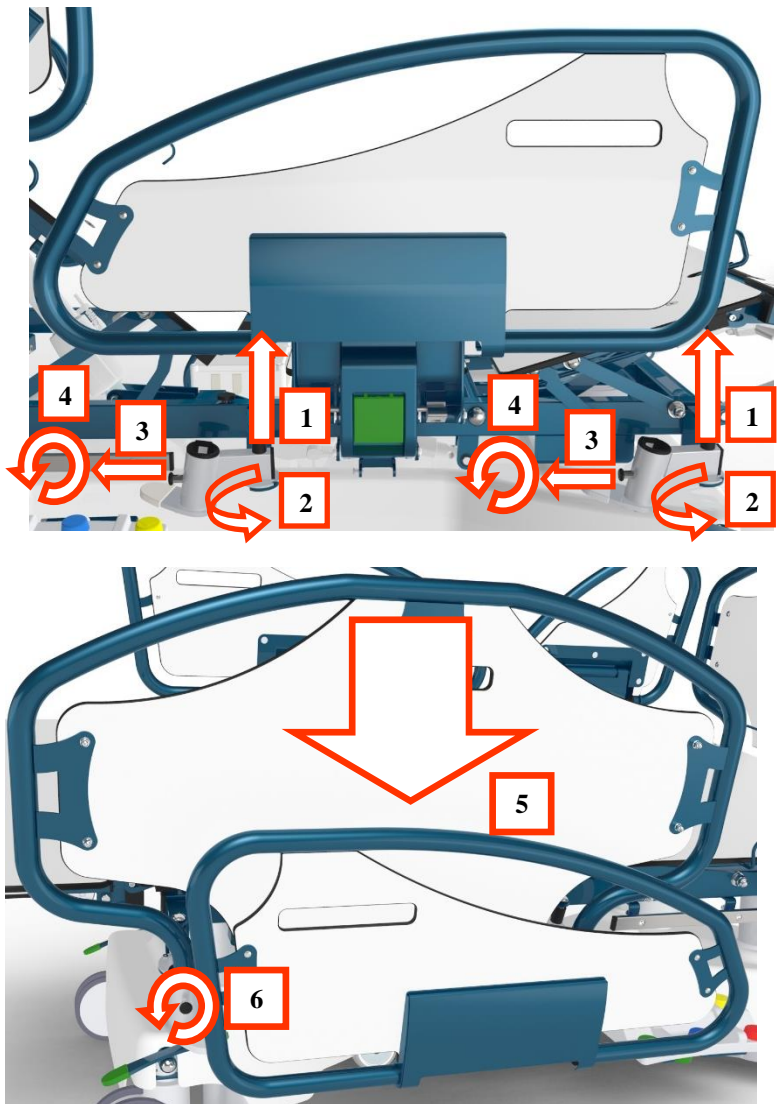
**Adjusting the bed to special positions TR and ATR is allowed only to authorized medical staff. During adjusting be careful, higher risk of patient fall out could appear!**

**During adjusting the patient to special positions patient must be under the supervision of the authorized medical staff!**

### 10.2.13. DIRECT GET OFF / IN POSITION

The bed is equipped with function of direct get off position through the foot board. Thanks to this function it is not necessary to turn the patient to the side during the leaving the bed. Follow the next steps to use the direct get off position:

- a On both sides of the bed lift (1) and turn out (2) both side holders for the boards. It will be automatically locked.
- b Pull out the locking pin (3) and then turn 90° (2) to unlock.
- c Fold the side rail down. (side rails will fold towards the holders)
- d Remove the head or foot board and put it into the holder (5) on the side of the bed (the board must be placed as in the picture, the HPL inset toward bed).
- e Turn both locking pins (6) 90° to lock the board. The board must be placed in the holder for all time of the using lateral tilting.
- f Check that the board is locked in the holders.
- g Press the GO button to activate the nurse control panel then use the buttons left arrow (5) or right arrow (13) and find the icon with get off position. Press the button FN (6), (7), (8) or (9) according to where is the function placed. When you press the button the direct get off position will adjusted in two stages.



#### STAGE I

Mattress platform and all its parts except the back part goes down to minimum position. Back part goes up to maximum position. Lying area is shortened to minimum. If you release the button before adjusting of all part to the right position, STAGE I will continue after next press of the button. When the STAGE I is finished it automatically stops all movements.

- h Press the button again to start the stage II

#### STAGE II

Calf part goes down. Lying area is tilting to Antitrendelenburg. If you release the button before adjusting of all part to the right position, STAGE II will continue after next press of the button. When the STAGE II is finished it automatically stops all movements.



When the bed is adjusted in the direct get off/in position it is not possible to adjust each part of the bed. At first the bed must be adjusted to the basic position by function of get in that is signaled by the icon on display.

To get in the bed use the analogical process than get off: when the patient sit to the bed press the button get in a hold it. The calf part will go up, mattress platform tilts back to the horizontal position and the back part will go down. When all the movements are finished, release the button. Use the bed as normally.



Adjust the bed to get out / in position



Adjust the bed back from the get out / in position

Use of direct get out / in function must be carried out as described earlier in the manual. It is forbidden to use the get out / in function with foot board fixed in the end of the bed. This could result in patient injury or damage of the bed!



Using the direct get out / in function is allowed only to authorized medical staff!

The direct get out / in function is only permitted in case of properly locked safety features described above in the instructions that support the patient when standing up or sitting down on bed!

### 10.2.14.LIGHTS

Bed could be equipped with function of **undercarriage backlights** or **patient light**. Follow the next steps to use each function. Activate the nurse control panel. Press the “Left arrow” (5) or “Right arrow” (13) to find the icon symbolized intended function. Turn the light on by press button (6), (7), (8) or (9) spaced below the icon of the function that you want to use. Turn the light of by press the same button. List of the lights functions icons displayed on the LCD see below.



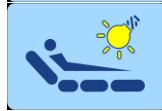
Turn the undercarriage backlights off



Turn the undercarriage backlights on



Turn the patient light off



Turn the patient light on

### 10.2.15.EMERGENCY FUNCTIONS

Bed is equipped with one click functions on the nurse control panel for acute cases as an **Anti-shock position** and **CPR**. The Anti-shock position adjusts back and femoral part to the lowest position and tilts the bed to Trendelenburg position. The CPR gets the bed and all its parts to the lowest position where the immediate resuscitation could be done. Follow the next steps to use each function. Activate the nurse control panel by GO button (26). Press and hold button of intended function. It is not necessary to use GO activation for the CPR function.



Using the special functions Trendelenburg, Antitrendelenburg or lateral tilting is allowed only to authorized medical staff. The special functions could be used only in case that couldn't cause risk of the patient or medical staff injury or deterioration of patient's condition!



Lateral tilt could be used only when the side rails are lifted up and properly locked to decrease the risk of patient fall out!

The supervision of authorized medical staff is required for all time of using the special functions!

### 10.2.16.BACKUP BATTERY

Bed is usually equipped with back-up battery that supplies the bed during power outage. When the bed is connected to the power supply, the connection is signalized by icon in the right upper corner of the LCD. After connection to the power supply the battery starts charging immediately. Condition of the battery is signalized by icon next to the icon of power supply connection.

After disconnection from the power supply the bed automatically switch to backup battery mode. Disconnection is signalized by crossed power cable on the LCD. Low battery is signalized with change colour of battery condition to red. When the low battery is signalized connect the bed to the power supply to charge the battery.



### 10.3. SCALE SYSTEM

The bed can be equipped with automatic scale system. The control and display of the functions is via nurse control panel. Follow next steps to use the scale.

**BACK (2)** – step back in menu (chapter 10.2)

**UP (3)** – move up (chapter 10.2)

**DOWN (11)** – move down (chapter 10.2)

**OK (10)** (chapter 10.2)

**LEFT (5)** – move left (chapter 10.2)

**RIGHT (13)** – move right (chapter 10.2)

**ABSOLUTE MODE (A)** – display absolute values of weight

**DIFFERENTIAL MODE (B)** – display increase / decrease value of weight after TARA of the differential mode

**TARA absolute mode (C)** – press the button and then confirm to clear the values of absolute mode

**TARA differential mode (D)** – press the button and then confirm to clear the values of differential mode

**FREEZE (E)** – freeze of displayed values of absolute and differential mode. During the freeze it is possible to load or unload subjects on the mattress platform, which have not any effect on the results of the weighting (for example pillow). Second press of the freeze button is freeze mode deactivated.

**BED EXIT ALARM (E)** – press the button to activate the acoustic alarm of patient escape. If the bed exit alarm is activated and the rapid weight loss on the mattress platform appear (patient exit), the acoustic alarm is activated. Weight value at which the alarm is activated set using the UP, DOWN, LEFT and RIGHT buttons.

**ELECTRONIC BUBBLE LEVEL (G)**

**MANUAL WEIGHTING VALUES SAVING (H)** - press button and then confirm to change the mode of saving values to inner memory

**DELETE OF THE MEMORY (I)** – press the button and then confirm to erase the inner memory

**SETTING OF AUTOMATIC SAVING MODE (J)**

MANUAL – manual saving after press the button (J)

AUTO 1x – automatic saving 1x per day in selected time

AUTO 2x – automatic saving 2x per day in selected time

AUTO 4x – automatic saving 4x per day in selected time

SETTING OF THE SAVING TIME is done by button (K)

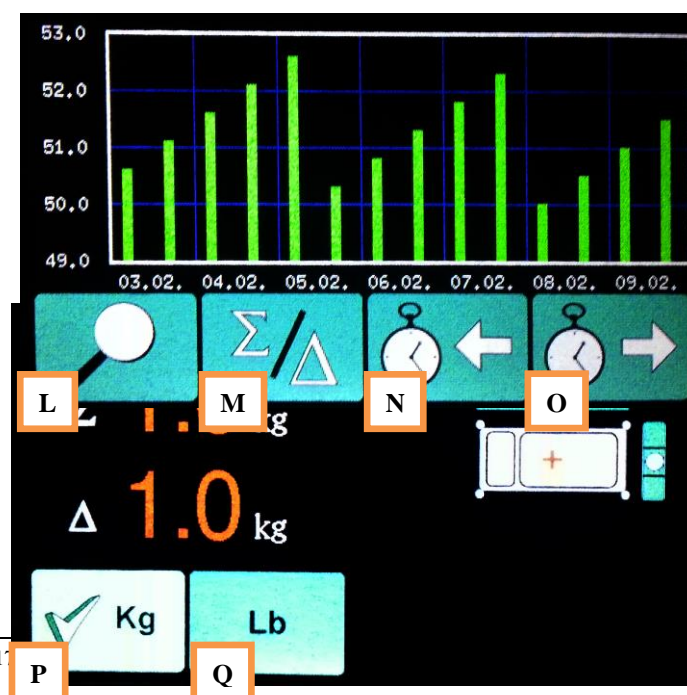
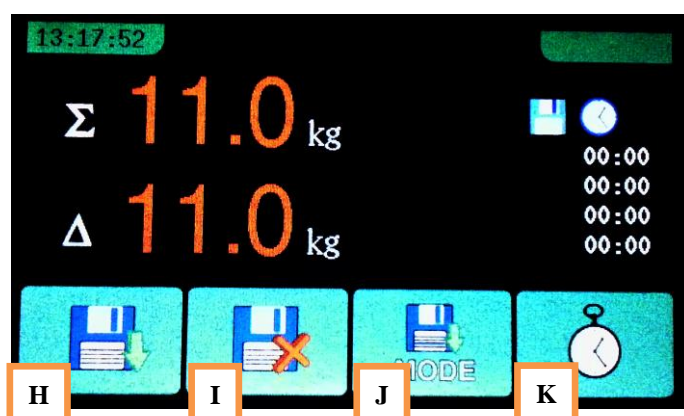
**SETTING OF THE SAVING TIME (K)** – according to the selected mode AUTO 1x, 2x, 4x are displayed predefined times for automatic saving. For change use buttons UP, DOWN, LEFT and RIGHT

**ZOOM (L)** – press the button to change the time range of displayed values in graph (3 days, week, month)

**DISPLAY OF ABSOLUTE / DIF. VALUUES (M)** – press the button to change the mode values displayed in graph


**MOVE THE GRAPH LEFT (N)** – press and hold button to move the time range in the graph left

**MOVE THE GRAPH RIGHT (O)** – press and hold button to move the time range in the graph right




**SETTING OF DISPLAYED UNITS KG/LB** – press button (P) to display kilograms (Kg) units or button (Q) to display pounds (lb) units

## 10.4. LATERAL THERAPY – ATTENTIONS

 Before start of the first using you are required to read the general operating instructions of electronics controls in chapter 10.1. The person which is not acquainted with the general operating instructions must NOT use the bed!

Bed can be equipped with automatic lateral therapy. Controlling and setting of the therapy is done by nurse control panel.

Lateral therapy can be used only according the previous order of the medical staff based on health condition of the patient. Medical staff is responsible of the health condition of the patient and must periodically check patient condition for all the time of using lateral therapy!

 Using the lateral therapy is allowed only to authorized medical staff. The special functions could be used only in case that couldn't cause risk of the patient or medical staff injury or deterioration of patient's condition!

Lateral tilt could be used only when the side rails are lifted up and properly locked to decrease the risk of patient fall out!

The supervision of authorized medical staff is required for all time of using the special functions!

**IT IS NOT POSSIBLE TO START THE AUTOMATIC LATERAL THERAPY IF THE FOLLOWING PRECAUTIONS ARE NOT COMPLIED BECAUSE OF THE SAFETY REASONS:**

### PATIENT MUST BE FIXED



Patient must be fixed with special safety accessories because of the risk of fall out before start of lateral therapy!

### BED MUST BE CONNECTED TO POWER SUPPLY



Bed must be connected to power supply before the start of lateral therapy. If the bed is supplied only from backup battery – lateral therapy will be blocked!

### SAFETY PROTECTION MUST INSTALED AND PROPERLY SECURED (see chapter 10.2.7)



All side rails must be lifted up and properly secured before start of lateral therapy. If any of the side rail will not be lifted up – lateral therapy will be blocked!

### THERE MUST NOT BE ANY RISK OF PATIENT TUBE OR CANNULAS INTERRUPTION OR PINCHING



Check all tubes, cannulas connected to the patient before start of lateral therapy. Higher risk of pinching or interruption of the tubes can occur during bed moving. All tubes must be checked before and after each lateral therapy TEST.

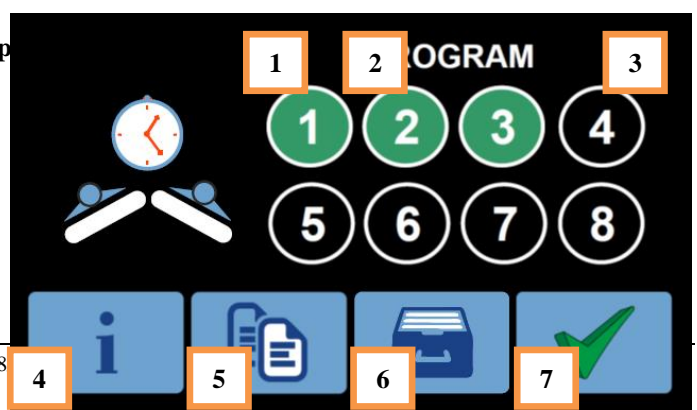
### THERE MUST NOT BE ANY RISK OF PATIENT TUBE OR CANNULAS INTERRUPTION OR PINCHING



Brake the wheels before start lateral therapy blocked!

#### 10.4.1. LATERAL THERAPY MENU

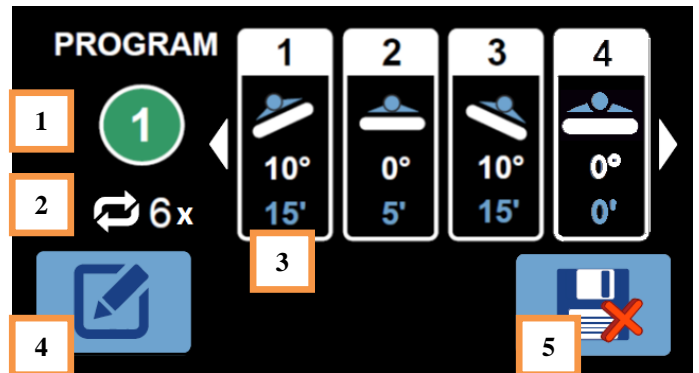
Press GO button and press several times button FN (placed left from the LCD) to get to the lateral therapy menu.



- 1) **SELECTED PROGRAM (blinking)** – use left, right, up and down arrow to select the program.
- 2) **SAVED PROGRAM (green backlight)**
- 3) **EMPTY PROGRAM (black backlight)**
- 4) **INFORMATION ABOUT PROGRAM** – press button (4) to see program information and setting (see chapter 10.4.2.).
- 5) **COPY SELECTED PROGRAM** – 1<sup>st</sup> press copy selected program 2<sup>nd</sup> paste to another empty program.
- 6) **HISTORY**– history of started programs.
- 7) **START SELECTED PROGRAM** – go to TEST mode and start the program (see 10. 4. 6).

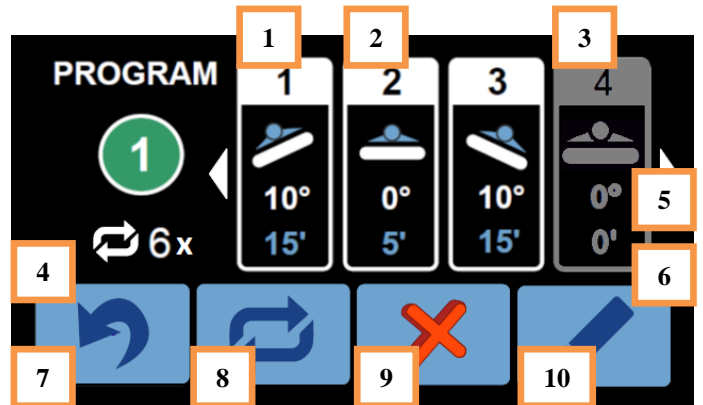
#### 10.4.2. INFORMATION AND SETTING

- 1) **NUMBER OF PROGRAMS**
- 2) **NUMBER OF REPEATS**
- 3) **EACH CYCLE OF PROGRAM** – displayed left or right tilting, cycle time and tilt angle. Press left or right arrow to show all cycles.
- 4) **EDIT PROGRAM** – press button 4 to edit program parameters (see chapter 10.4.3.).
- 5) **DELETE PROGRAM** – delete selected program.



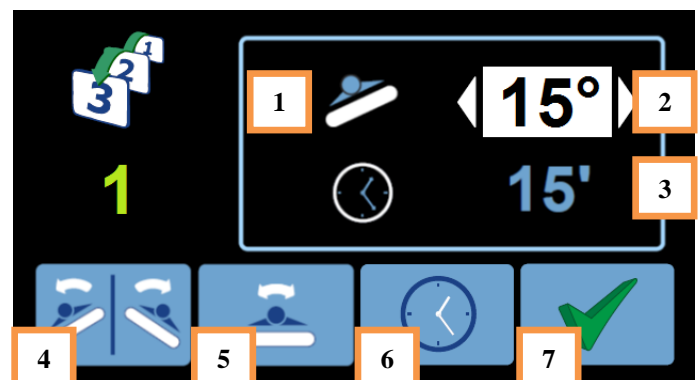
#### 10.4.3. EDIT PROGRAM

- 1) **SELECTED CYCLE (blinking)** – press left or right arrow to select cycle. Maximum number of cycles is 8.
- 2) **SAVED CYCLE (white backlight)**
- 3) **EMPTY CYCLE (grey backlight)**
- 4) **NUMBER OF REPEATS**
- 5) **ANGLE SETTING**
- 6) **TIME SETTING**
- 7) **BACK TO MENU** – press to go back to menu. If there was anything changed alert of save the program will appear.
- 8) **EDIT NUMBER OF REPEATS** - press to edit number of repeats (see 10.4.5.).
- 9) **DELETE SELECTED CYCLE** – press to delete selected cycle.
- 10) **EDIT SELECTED CYCLE** – press to enter the cycle setting (see chapter 10. 4. 4.)



#### 10.4.4. EDIT SELECTED CYCLE

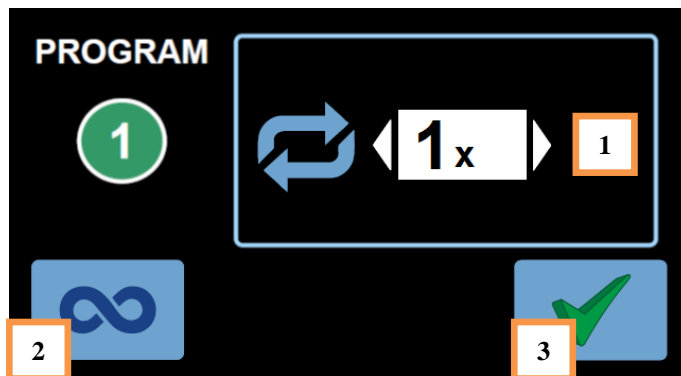
- 1) **LEFT / RIGHT TILT**
- 2) **TILT ANGLE**
- 3) **CYCLE TIME**
- 4) **LEFT / RIGHT TILT SETTING**– press to set left or right tilt.
- 5) **ANGLE SETTING** – press to set the angle. Set the angle by left and right arrow.
- 6) **TIME SETTING** – press to set cycle time. Set the time by left or right arrow.



- 7) **SAVE SETTING** – press to save the setting and leave to menu.

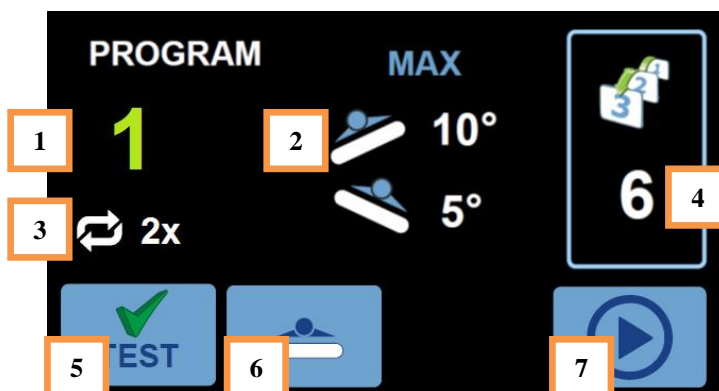
### 10.4.5. NUMBER OF REPEATS SETTING

- 1) **NUMBER OF REPEATS** – press left or right arrow to set the number of repeats.
- 2) **INFINITE CYCLE** – press to set infinite number of repeats.
- 3) **SAVE SETTING** – press to save the setting and leave to menu.



### 10.4.6. START SELECTED PROGRAM

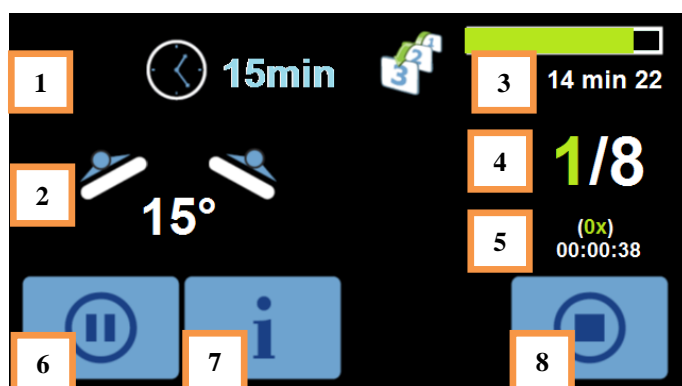
- 1) **NUMBER OF PROGRAM**
- 2) **MAX ENGLSES OF THE PROGRAM**
- 3) **NUMBER OF PROGRAM REPEATS**
- 4) **NUMBER OF CYCLES**
- 5) **TEST** – before start of lateral therapy is necessary to minimize all risk. Press and hold button TEST to check the maximum angles of the tilting to protect patient of fall out. TEST will finish automatically when the bed reaches maximum angles. IF anything happen during testing (collision with surrounding objects, interruption of cannulas) release the button and all movements stop. Press button (6) to adjust the bed back to horizontal position. If there are no other risks or problems press and hold button TEST again.



- 6) **HORRIZONTAL POSITION** – press and hold to adjust the bed to horizontal position.
- 7) **START LATERAL THERAPY** – it is available after the complete TEST. Press to start lateral therapy.

### 10.4.7. RUNNING LATERAL THERAPY

- 1) **TIME OF ACTUAL CYCLE**
- 2) **ACTUAL ANGLE (left or right side blinking)**
- 3) **TIME TO FINISH THE CYCLE**
- 4) **ACTUAL CYCLE NUMBER**
- 5) **ELAPSED TIME**
- 6) **PAUSE** – press to pause the therapy. Start again with button PLAY
- 7) **INFORMATIONS OF RUNNING PROGRAM**
- 8) **STOP** – press to stop lateral therapy and go back to menu.



### 10.4.8. SAFETY FEATURES OF LATERAL THERAPY

States of emergency could occur during the running lateral therapy. In this cases bed automatically stops some actions:

#### UNINTENDED REMOVE OF LATERAL TILT PROTECTION

If the side rail is folded down on the lower side of the bed, it is automatically adjusted back to horizontal position and the acoustic alarm starts ringing. Lateral therapy stays in pause mode.

If the side rails is folded down on the higher side of the bed, acoustic alarm starts ringing and next cycle goes maximally to horizontal position. Lateral therapy stays in pause mode.

**Lift the side rails up to deactivate the acoustic alarm or turn the lateral therapy off!**


**DISCONNECTION BED FROM POWER SUPPLY**

If the bed is disconnected from power supply during running lateral therapy the bed is automatically adjusted back to horizontal position and the acoustic alarm starts ringing. Lateral therapy stays in pause mode.

**CPR AND ANTI-SHOCK POSITION**

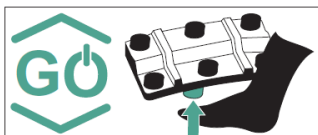
If the CPR or Anti-shock function are used during lateral therapy it is automatically turn off.

## 10.5. FOOT CONTROL PANEL

 Before start of the first using you are required to read the general operating instructions of electronics controls in chapter 10.1. The person which is not acquainted with the general operating instructions must NOT use the bed!

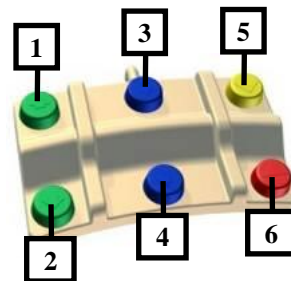
Bed can be equipped with foot controls placed in the middle of each side of the bed. The foot control panel are equipped with 6 or 4 buttons. Follow the next steps to use each function. Press and hold the relevant button with the tip of the foot till the requested position is reached. After releasing the button, the positioned part will be locked. In case of reaching maximal or minimal position, the movement is automatically stopped and the part is locked – next movement is possible only in opposite direction.

The buttons (1) and (2) (green colour) adjusts the **height of the patient area**, the buttons (3) and (4) (blue colour) adjusts the **lateral tilt** (Left or Right) of the patient area, the button (5) (yellow colour) adjusts the patient area into **examination position**, the button (6) (red colour) adjusts the patient area into **the resuscitation position, CPR**.




The foot control panel is equipped with protection against unintended activation. This type of the panel you can recognize by symbol placed in the middle of the panel. The symbol is shown on the left. Before use of each function is always necessary to activate

the foot control panel by press the GO button that is located on the bottom of the panel. For next 15 seconds is the panel ready to use. After 15 seconds of the last pushed button, the panel switches from ready to stand-by mode and next use is possible after activation.

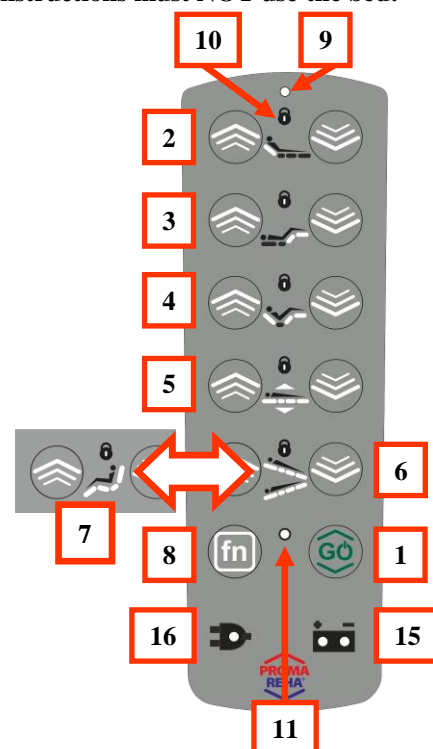


## 10.6. PATIENT HAND CONTROLLER


 Before start of the first using you are required to read the general operating instructions of electronics controls in chapter 10.1. The person which is not acquainted with the general operating instructions must NOT use the bed!

The bed can be equipped with patient hand controller. When the bed is turn on, the LED (11) shines green. Follow next steps to use patient hand controller.


- **When the patient hand controller blinks eject the Universal plastic key** (see chapter 10.3.1)
- **Press button GO (1) to activate the controller** – the controller starts shine and for next 15 seconds is ready for use. The controller is automatically turned off after 15 of last use. When the nurse control panel is activated it is not possible to use patient hand controller. Patient hand controller can be activated only when nurse control panel is deactivated.
- **Press and hold desired button in direction up or down to adjust the bed:**
  - 2) **Back part**
  - 3) **Femoral part**
  - 4) **Autoconture** – back part and femoral part at the same time
  - 5) **Height of the patient area**
  - 6↑) **Antitrendelenburg** – head up, leg down
  - 6↓) **Trendelenburg** – head down, leg up
  - 7) **Cardiac chair** (can be replaced with TR/ATR function)
- 8 short press) **Light** – turn on / off the light on patient hand controller (9)
- 9 long press) **Undercarriage backlight**– turn on / off the undercarriage backlight of the bed



Be careful during adjusting the bed. The higher risk of patient fall out could occur.

 If any of the bed functions don't work properly follow next steps to detect the reason. Always check if the GO button for activation of nurse control panel (patient hand controller) has been pressed. The malfunction can be also caused by the maximum position of the part which you want to adjust – movement is possible only in opposite direction. Any functions of the patient hand controller can be locked as a protection of unintended use – follow steps in chapter Nurse control panel or Patient hand controller to unlock the functions. If no one of the possibilities doesn't help, follow chapter 12. Troubleshooting.

The supervision of authorized medical staff is required for all time of using the special functions!

 Using the special functions Trendelenburg and Antitrendelenburg is allowed only to authorized medical staff. The special functions could be used only in case that couldn't cause risk of the patient or medical staff injury or deterioration of patient's condition!

## 10.7. PATIENT SATELLITE CONTROLLER



Before start of the first using you are required to read the general operating instructions of electronics controls in chapter 10.1. The person which is not acquainted with the general operating instructions must NOT use the bed!

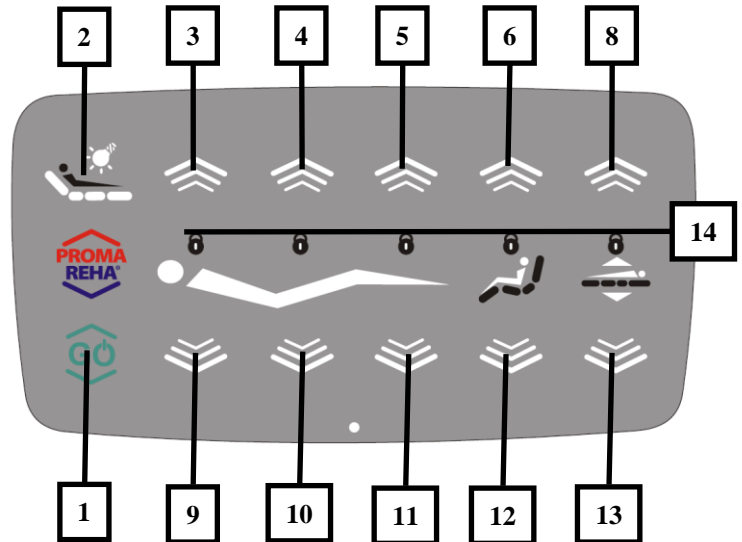
Bed can be equipped with patient hand controller. Patient satellite controller is protected against unintended activation. Before use of controls is always necessary to press the activation button GO (1). When the controller is activated by GO button the green LED on the controller turn on and the controller is ready to use for next 15s. After 15s from last use it is automatically deactivated and the LED turn off. For next use is necessary to activate by GO button.

When the nurse control panel is activated, it is not possible to activate the patient satellite controller. It is possible after the nurse control panel deactivation.

When the controller is activated press and hold relevant button with the tip of the foot till the requested position is reached. After releasing the button, the positioned part will be locked. In case of reaching maximal or minimal position, the movement is automatically stopped and the part is locked – next movement is possible only in opposite direction.

Adjust the **back part** by buttons (3) and (9), the **femoral part** by (4) and (10). **Calf part** by (5) and (11). Use the **cardiac chair** by buttons (6) and (12) and adjust the **height of the mattress platform** by (8) and (13). The function can be locked by nurse control panel. The locked function is signaled by LED 14.

The patient satellite controller is also equipped with LED light which is placed on the back side of the controller. Press the button (2) to turn the light on, press the button again to turn off.



## 10.8. ALARM OF UNBRAKED BED

Bed can be equipped with alarm of unbraked bed. That signalizes unbraked bed plugged into the electricity network at the same time. This alarm is prevention against damage of the power supply cable before the transport of the bed.

**To deactivate the alarm: brake the bed OR unplug the power supply cable from the electricity network**

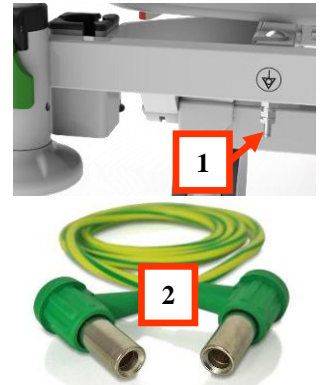
## 10.9. TERMINAL OF THE POTENTIAL EQUALIZATION


The bed can be equipped with terminal for the potential equalization, located below head board on the frame of the bed.

Use the terminal in case of involvement of beds in medical isolated systems, which serves as the ground, or when capturing electrical potentials, which are used for potential equalization between the patient and the device. The terminal allows potential equalization of all conductive parts beds and other connected electrical devices.

Connection with terminal devices perform the connection to standardized medical terminal on the frame of the patient area at the head side of the bed. To this end slide wire balancing electric potential (2) with the corresponding typified connector.





Clamp for leveling electric potential is in bed with pictograms:

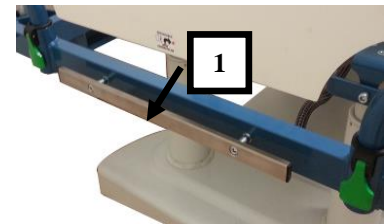




-  **To the terminal potential equalization can ONLY be connected conductor potential connections. The terminal MUST be NEVER connected to any voltage!**
- Before transporting the bed: disconnect electrical potential equalization of the bed or it may be a risk of wire breakage or damage to the bed!**

## 10.10. POWER SUPPLY CABLE

The bed is equipped with **power supply cable holder (1)** on the bed's frame in the front of the head section.. Before each manipulation of the bed follow the instructions in chapter 9. MOVING AND MANIPULATION

-  **Unplug the power supply cable from electricity**
-  **Hang the plastic hook (1) on the head board or frame of the bed (2)**
-  **Reel the cable to the plastic holder**
-  **Fix the end of the cable to protect it of pinching or damaged during the transport**



-  **The bed can be transported only when the power supply and controllers cables are secured against damage!**
-  **During transport of the bed with unsecured cable can cause damage of the cable and due to it high risk electric shock!**



## 11. MECHANIC CONTROL ELEMENTS

### 11.1. CENTRAL BRAKE

Bed is equipped with central brake system, 4 brakeable wheel and central 5<sup>th</sup> wheel. The central 5<sup>th</sup> wheel should be activated during the transport for better manipulation. Adjust the brake by levers placed under the calf part of the bed. It is possible to set the levers to 3 positions:

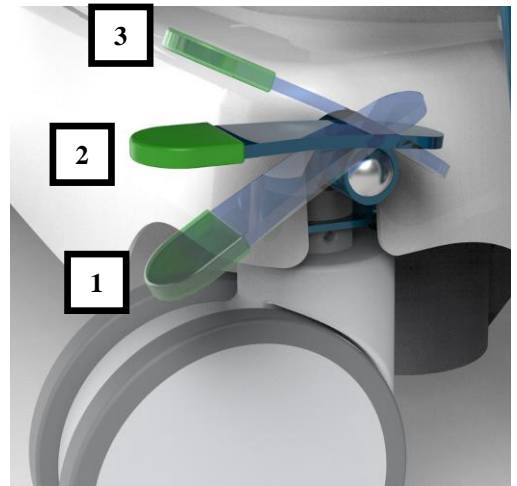
**POSITION 1 (lever down) – all for wheel braked**

**POSITION 2 (horizontal position) – all for wheel unbraked**

**POSITION 3 (lever up) – four wheel unbraked, activation of central 5<sup>th</sup> wheel for better manipulation during the transport**



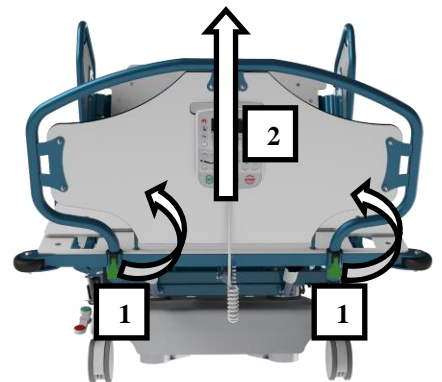
Push the foot lever with tip of the foot and always with appropriate strength. Too heavy pressure, pushing by other body parts or with objects, can lead to damage of the mechanism, damage of the surrounding objects or a personnel injury!



### 11.2. REMOVABLE HEAD AND FOOT BOARD

For the easy access to the patient are beds equipped with removable foot and head board. Lift the both green levers (1) up to unlock the board and eject the board (2) from the frame. Then fold the green levers down into the default position to protect them against damage.

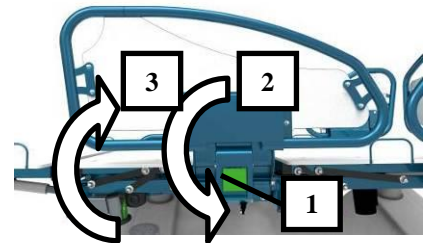
Before inserting the boards back to the frame lift the both green levers up. Then insert the board back to the holders and lock the board by folding the levers down.



Before each manipulation with the boards check that the board is locked enough to protect it against unintended removing! Unintended remove of the board could cause higher risk of dangerous or injury!

### 11.3. FOLDING SIDE-RAILS

Bed is equipped with folding plastic side-rails, which are mounted to the leg and the back part of the patient area. The mechanism of the side-rail allows moving each side-rail separately from outside, by plastic unlocking control knob. The folding proceeds as follows: Take the side-rail by one hand and pull the control knob up (1) with your other hand. Fold the side-rail under the patient area (2). The side-rail can be raised into initial position by a similar process. Take the side-rail and lift it into the top position over the patient area (3). When in top position, it locks itself automatically there.



Never lower the side-rails from higher positions into lower without holding it with your hand. It could result in mechanical damage of the side-rails, the bed or personal injury!

## 11.4. PATIENT AREA

The lying surface is manufactured from high pressure laminate (so-called HPL). Main advantages of the material are resistance to the disinfection products used in the health care and the surface stability.



**Protect the lying surface from contact with sharp objects. Their effect may damage the surface!**

**According to the adjusting mechanisms placed under the lying area, places with higher risk of pinching or interception could occur. Do not encroach to the space between the lying area and undercarriage if it is not necessary!**



**Encroach to the space between the lying area and undercarriage is permitted only because of cleaning or maintenance. The lying area and all its parts must be locked or ensured against unintended movement during the cleaning or maintenance!**

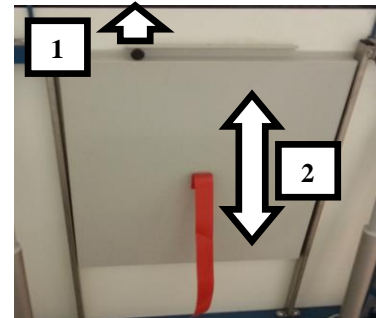
### BACK PART

The bed could be equipped with X-Rayable back part with made of HPL and removable cassette holder. The cassette holder is operated from the head side of the bed. Ejecting mechanism of the cassette holder is equipped with locking pin (1) against the unintended movement of cassette holder. For inserting or ejecting (2) of the cassette it is necessary to pull out the locking pin in the direction from the lying area and hold it until it reach full inserting or ejecting. Consequently release the pin again.

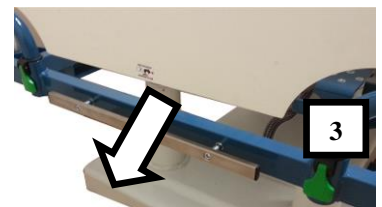
In the lowest position of the back part it is possible to eject the x-ray cassette holder through the gap between the frame of the bed and head board (3).

## 11.5. X-RAYABLE

**While inserting or ejecting of the cassette holder, hold it by its manipulation grip. Otherwise it could lead to personal injury by pinching with the X-ray cassette holder!**



**During inserting or ejecting be careful of x-ray cassette holder locking. The holder must be placed directly to the gap on the guiding lines to protect it against unintended fall out!**

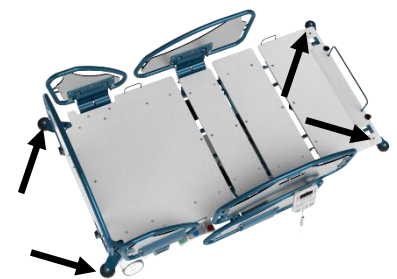


**During inserting and ejecting the x-ray cassette holder is forbidden to adjust the back otherwise it could result to damage of the bed or injury of the personnel!**

## 11.6. BUMPER WHEELS

The bed is equipped with four rubber bumping wheels in each corner. They are located in the most often damaged places of the bed and protect and absorb the impacts to surrounding objects during the transport of the patient. The bumper wheels protect outer edge of the corners against in adverted contacts, for example, with doors, walls, etc.

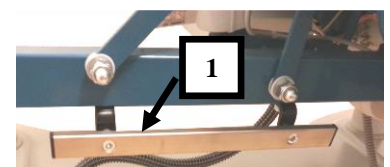
The bumper wheels cannot come in contact with sharp or heated objects. In such cases could be breached the flexible surface and deformation may occur. Restrict contact of the bumping wheels with greasy objects. Grease may disturb flexible surface.



**Bumper wheels cannot come in contact with sharp or greasy objects. In such cases could be breached the flexible surface and deformation may occur and affects their lifetime!**

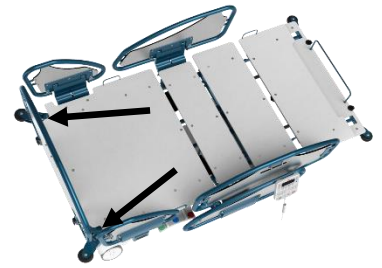
## 11.7. LATERAL STAINLESS STEEL BARS FOR ACCESSORIES

There are placed stainless steel bars for accessories on the sides of the bed under the pelvic part of the mattress platform (1). Holder are designed for hanging of accessories (such as holders of urological bags, brackets, bowl, etc.)



## 11.8. UNIVERSAL HOLDERS FOR THE ACCESSORIES

The bed is equipped with four universal holders (1) for the accessories – there is one in each corner of the bed's frame. The holders serve to hold the stand with a , IV pole, extension set etc.



Never fit the holder with accessories, which are not designed for this type of the bed. The bed or the accessories could get damaged. When using any accessories designed for the universal holders, follow the user's manual for the specific accessory. Overloading or improper use could damage the holders or even the bed.



**Never fit the holder with accessories, which are not designed for this type of the bed. The bed or the accessories could get damaged. When using any accessories designed for this type of the bed, follow the user's manual. Overloading or improper use could damage the holders or even the bed!**

## 11.9. COLUMNS CONSTRUCTION

The bed may be equipped with 4 electric columns for lifting of the lying surface. This system allows adjusting the mattress platform to special positions as Trendelenburg, Antitrendelenburg, lateralling tilting or getting out position.

Protect moving parts of the column motors against the mechanical damage, scratching and against grease. Before height adjusting always check the space between the undercarriage and the mattress platform if there are no objects or body parts. In other case, it could result to damage of the bed, damage of the surrounding objects or personnel injury.



**Always check the space between the undercarriage and the mattress platform if there are no objects or body parts. In other case, it could result to damage of the bed, damage of the surrounding objects or personnel injury!**

## 11.10. PLASTIC COVERS OF THE UNDERCARRIAGE

The bed's chassis frame is covered by plastic cover. Through the plastic cover there goes the columns of the electric motor, which allows the elevation of the lying surface.

Keep the plastic cover always clean. It is forbidden to put any objects on the cover! When the bed is being positioned, the objects could be damaged or the bed could be damaged or a personal injury could occur!

Protect the plastic cover of the undercarriage against mechanic strain, from sharp objects and any shocks. The plastic covers could get damaged seriously.



**Do not put any objects on the chassis cover. They could fall or get destroyed during positioning of the bed and a personal injury could occur, the bed can be damaged!**

**It is forbidden to change elevation of the lying surface during cleaning. The cleaning person could get pinched or suffer a serious injury!**

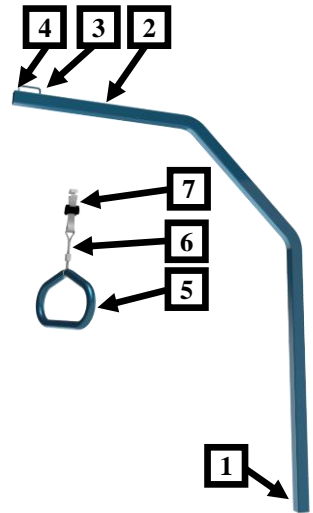
## 12. ACCESSORIES

### 12.1. LIFTING POLE WITH HANDLE

The horizontal lifting pole is made of a strong steel pipe with surface coated with powder varnish. On the bottom side it has a milled arresting groove. In its upper part it has an arresting pin for the lifting pole. The lifting pole is plastic and it hangs on a textile band, the length of which can be adjusted.

The lifting pole is ready for use as soon as the packaging is removed. The bottom end of the lifting pole (1) is designed to be fitted in the universal accessories holders in the corners of the bed frame. Before inserting the horizontal lifting pole in, first remove the plastic plug on each of the holder. The bottom end of the lifting pole (1) simply insert to one of the holders in the corners of the bed frame. Turn the lifting pole so its upper end is over the center of the bed. The lifting pole locks automatically in the optimal position, so it cannot be turned any more. Now the lifting pole is ready for use. If you want to move the lifting pole from its optimal position, move it by cca 15 cm upwards and turn in the desired direction. When the lifting pole returns to the optimal position, it locks itself in place automatically. The upper end of the lifting pole (2) has a plug (4) and a pin (3). Put the eye (7) of the lifting pole handle (5) between them. The desired height of the handle is adjusted by a clip (6).

The lifting pole is removed by lifting out of the holder in the corner of the bed.



**Maximal short term load of the lifting pole is 120 kg.**



**During the loading of the pole and the handle the deflection could occur according to the strength and flexibility of the material. During the maximal loading of the pole the dangerous decreasing of the minimal distance between the head board and the pole could occur. In this case the risk of pinching could occur.**

**Overloading of the lifting pole and the handle of the lifting pole could cause damage of the lifting pole or lifting pole handle!**

### 12.2. IV POLE

The body of the IV pole is made of aluminium profiles with. The plastic mechanisms of adjusting a folding of hooks ensure easy manipulation and long lifetime. Maximum loading of one hook is 3 kg.

The IV pole is delivered already assembled so it is ready to use as soon as the packaging is removed. Install the IV pole in the accessories holder in the corner of the bed. Lift the green lever up for unlock the adjusting mechanism and set the optimal height of the pole. Fold the lever down to lock the mechanism.

**Maximal load of the IV pole is 12kg. Maximal load of each hook is 3kg!**



**The IV pole is designed only for hanging infusion bottles and sacks used in healthcare!**

**After each length adjusting check the locking mechanism to protect it against unintended fall of the IV pole or hanged accessories!**



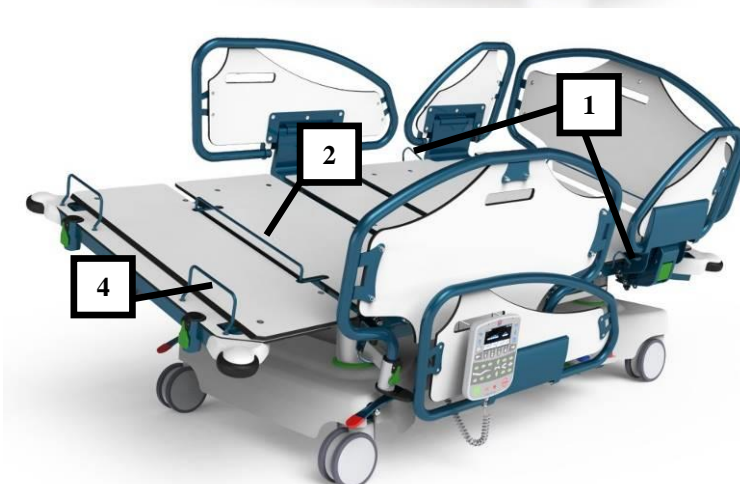
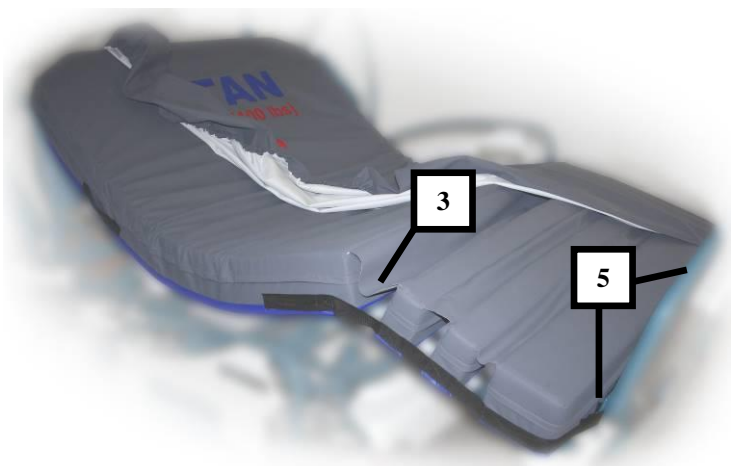
## 12.3. MATTRESS FOR TITAN BED

Bed TITAN is equipped with special anti-decubitus mattress with automatic length extension according to the length of the mattress platform. Mattress is covered by two layers of SAFR material. SAFR material is a waterproof from external side, bi-elastic, permeable and flame retardant. First layer covers the foam base of the mattress. Each base of the mattress could be removed after open by ZIP and the cover could be cleaned by washing machine. The upper cover protects the mattress against unintended pollution, leaking of fluids and mechanical damage. This cover can be easily removed and washed by washing machine.

The base of the mattress is made of lower PUR N4050 layer and upper HR K5040 layer. The mattress protects patients against the pressure sores to stage I.

Bed is equipped with special holders of the mattress all over the mattress platform. Side holders (1) protect the mattress against slide to the sides. The central holder (2) protects the mattress against the slide during the get out position. Mattress must be placed on the bed that the gap (3) between the main part of the mattress and the first extension part is placed over this holder. The holders at the foot end of the bed (4) are designed for length extension of the mattress. Mattress is equipped with two strips with Velcro (5) that must be fixed over the holders (4) to ensure the automatic length extension of the mattress.

**Unstick the Velcro under the strip on the mattress (5)**  
**Drag the strip over the holder (4)**  
**Stick the holder again.**



## 13. CLEANING

**Before start of any cleaning, the bed must be first detached from any power supply!** Make sure you unplugged the right cable. This verification is done by at least 3 seconds lasting push of any pair of buttons on the controller, first one, then the other button (caution, if the back rest, for instance, is in the top position, the command to lift upwards will cause no activity, even if the bed is still powered up. But if you push the other button, to move the back rest down, it should start moving). If the bed does not react, you can start cleaning.

Metal, plastic, rubber and wooden parts of the bed can be cleaned with normal liquid detergents and disinfection aids in concentrations prescribed for medicine applications (Chloramin, Persteril, Perform, Mikrozyd, Bacillocid, Bacillol apod.). Cleaning is done with a well squeezed cloth. Dust and other impurities are removed mechanically. Abrasive means are not allowed, such as sand or steel wool.

**Before cleaning, the bed must be first detached from the power supply!**

**Wash the electrical components carefully to avoid loosening of the connectors. We recommend checking the connectors afterwards!**



**The hand held and the nurse control panel may be cleaned only with a damp cloth, it must not be immersed into the liquids, cannot get into contact with running water and suchlike!**

**During cleaning, do not remove any covers and the construction of the bed must not be tampered in any way. The beds are not designed for central cleaning! The bed must not be cleaned with pressured water or steam!**

Using of unsuitable washing or disinfection methods, means violation of the producer's instructions. Wrong dosage of the disinfection, insufficient or wrong care of the bed, may lead to the damage, which is not covered by the warranty. The bed is not designed for washing machines or sterilizers!

## 14. STORAGE

During storage, abide by the aforesaid procedures, especially:

- clean and dry the bed well
- dismantle all accessories
- cover the bed and the accessories with suitable packaging materials, so the product or its part could not get damaged during the storage.
- store it in the environment defined in point 4, i.e. the range of temperatures must be +10°C to +40°C and the relative humidity 30% to 75%.

## 15. MAINTENANCE AND SERVICE

To ensure that bed is ready to work according to the scope of use with safety the manufacturer suggest preliminary maintenance to be done by authorized trained staff in regular intervals or upon suspicion of any malfunction :

To keep the bed functioning correctly, ensure that the following maintenance work is performed at the correct intervals:

### Maintenance every month (A)

- Perform visual inspection of all moving parts (by achieving the minimum and maximum positions in order to check continuously and proper work of the motors, and brake/unbrake functionality of the castors), labels, and replace any defective part using only original spare parts provided by the manufacture via authorized trained technician
- Check any parts for normal or aging wear and replace accordingly.
- Check the tightness of the relative parts and o-rings

### Maintenance every 6 months

- Check battery and change if necessary. Battery status depends on the use of bed. Standard operation time on battery backup is 20 minutes with maximum load capacity. Stand-by mode time on battery backup is min 12 hours.
- Lubricate with WD-40 spray (or similar) all columns of the bed
- Lubricate with silicone spray all moving parts, lifting a tilting mechanisms of the bed (especially mechanisms of: side rails, central brake and autoregression)

### Maintenance every 12 months

- Check all levers (CPR lever, Brake lever)
- Check and tighten screws of: wheels, grids joint connections, joints of the lifting a tilting mechanisms, joints of the side rails
- Clean and check functionality of all moving parts as mentioned in A

According to legislation in force, healthcare equipment must be demonstrably and professionally maintained in proper condition with technical checks, maintenance, alignment, repairs and tests performed according to instructions from manufacturer's user manual. Periodic control of the equipment, provide so-called "Safety technical inspection" (STI). With the purpose of the use of the medical equipment **the STI must be performed repeatedly in period of one year by a qualified person.** Service and STI can only be provided by authorized service centers and organizations listed on [www.promareha.com](http://www.promareha.com) . Inspection consists of technical and electrical check, moving parts adjustment, visual check and lubrication. For every inspected product there must be issued a written certificate of the safety technical inspection with a record of all parts checked and defects found. This certificate is proof for the provider to meet the basic requirements of legislation about maintenance of the medical device. Failure to comply with the specified STI interval is in violation of the warranty terms. In this case, the warranty expires.

The service center contacts are listed on the back page of this manual.

## 16. WARRANTY

The bed has a standard warranty of 24 months. This warranty starts on the day of the delivery, unless the purchase contract or the other contract states otherwise. The warranty and the after-warranty repairs are done by the producer or the authorised service centre, which are holding a written certificate for such activities. The certificate for the authorised service centre is issued by the producer.

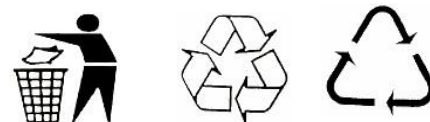
The warranty period covers the entire product, including battery. Minimum guaranteed lifetime of the battery is 6 months from the date of purchase. Gradual reduction of battery capacity is a natural phenomenon and is regarded as a natural consequence of normal wear. Reduction of battery capacity is not a defect of the product after and minimum guaranteed lifetime cannot be claimed.

## 17. DISPOSAL

The product is made of ecological materials. It does not contain any hazardous materials and its operative noise complies with all requirements for the public health protection from dangerous effects of the noise and the vibrations in controlled internal areas of the buildings.

All the waste packing remaining after commissioning is marked according to the regulations for packaging. Sort it according to the graphic symbols and hand over to the authorised subject for further processing.

The product contains recyclable non rusting and rusting steel parts with surface treatment by baking varnishes or chromium / zinc coated. The product contains glass, plastic, wooden and rubber components. To dispose of the product at the end of its life time, contact the relevant organisations specialised for this purpose or use the services of collecting or recycling yards.



The product contains lead batteries marked with a graphic symbol (see the picture on the right). At the end of the service life hand them over back to the authorised personal (you do not pay any fee).



**The product is not to be put into communal waste!**



**Information for users of electric and electronic appliances:**

This symbol on the product or its components, or documentation indicates, that these electric or electronic appliances must not be disposed off (liquidated) along with communal waste. Such components must be handed over to a person authorised to liquidate separated waste. The symbol is valid only in the countries of the European Union. Information about proper disposal of electric and electronic waste and lead batteries can be obtained from the authorities in your area or from the producer of the appliance.

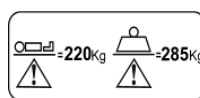
**Unsuitable waste disposal may be charged with a penalty according to the national regulations.**

## 18. USED SYMBOLS

Beds are marked according to risk analysis performed and the amount mentioned in the manual safety warnings and descriptions informative safety pictograms. These symbols indicate important places on the bed, or in places with increased risk.



**Detachable part**



**CAUTION! Maximal patient weight. Maximal safe working load.**



**CAUTION! General danger!**



**WARNING! Beware of space under the patient area!**



**CAUTION! Risk of pinching and capture!**

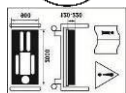


**Protection class**



**Potential equalization terminal**

**Double insulation**



**CAUTION! Replaceable mattress. Read the recommendation from the producer in user manual**



**INFO! Important information for user!**



**CAUTION! Risk of electric shock**



**CAUTION! Do NOT sit on the lifted leg parts!**

## 19. LIST OF COMAPTIBLE ACCESSORIES

- Lifting pole
- Lifting pole reinforced
- Holder for walking sticks
- Nameplate plastic – edge of the boards
- Nameplate A6 stainless
- Nameplate plastic A6 portrait
- Plastic plate with clip A5, A4, A3 portrait
- Plastic plate with clip A5, A4, A3 landscape
- Holder for urological bags - hanging on the bars
- Holder for urological bags stainless steel
- Oxygen bottles holder - hang on the board
- Hanging wire basket
- Hanging wire basket for bottle - comaxit
- Hanging bracket infusion bottles with a fuse
- Holder for urine bottle
- IV pole – to universal accessory holder
- IV pole – fixed to lifting pole
- Folding table hanged on board
- Folding table hanged on board type R2
- Nebulizer holder – to universal accessory holder
- Patient lamp – to universal accessory holder
- Bed pan holder
- Pedal with adjustable difficulty levels
- Easy move pad - ZPT-9856
- The stand leader - small
- The stand leader - big

## 20. CONTENT OF THE PACKAGE

1 x Bed as specified above

1

x

User's

manual



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