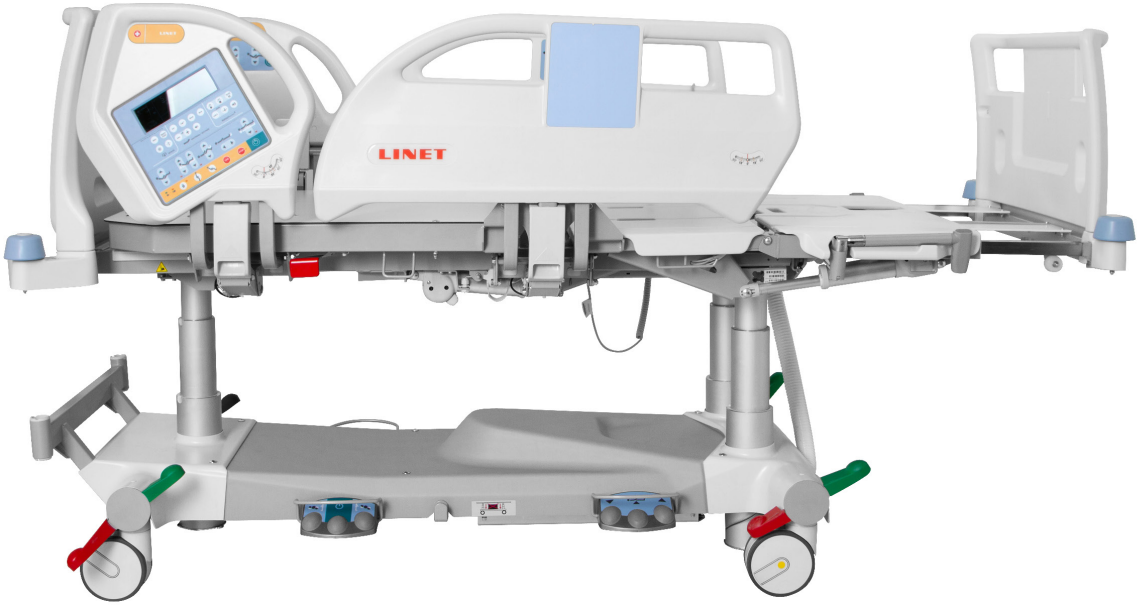
# User Manual and Technical Description




# ELEGANZA 5

## Positionable Bed for Intensive Care

*and OptiCare integrated mattress replacement system*

E212434

Complies with
AAMI ES60601-1
IEC 60601-2-52

D9U001GE5-0110

Version: 06

Publication Date: 2018-10

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**Eleganza 5**
Positionable bed for intensive care

Author: LINET, s.r.o.
Related links: www.linet.com

**D9U001GE5-0110**
Version: 06
Publication Date: 2018-10

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# 1 Symbols and Definitions

## 1.1 Warning Notices

### 1.1.1 Types of Warning Notices

**Warning notices are differentiated by the type of danger using the following key words:**

► **CAUTION** warns about the risk of material damage.
► **WARNING** warns about the risk of physical injury.
► **DANGER** warns about the risk of fatal injury.

### 1.1.2 Structure of Warning Notices



**SIGNAL WORDS!**
**Type and source of danger!**
► Measures to avoid the danger.

## 1.2 Instructions

**Structure of instructions:**

► Perform this step.
Results, if necessary.

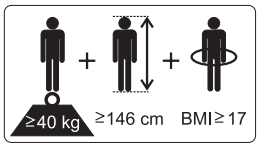
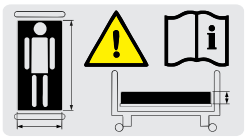
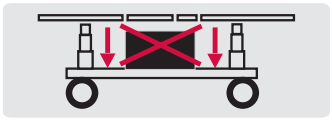
## 1.3 Lists

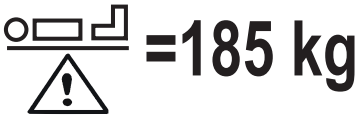
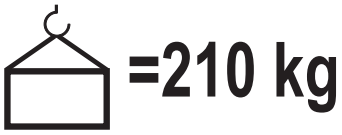
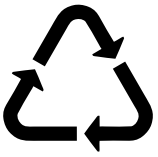
**Structure of bulleted lists:**

- List level 1
  - List level 2
    - List level 3

## 1.4 Symbols and Labels on the Bed

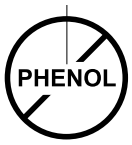
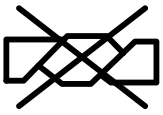
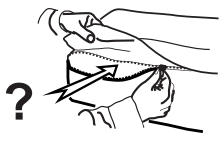
| | |
|---|---|
|  | READ INSTRUCTIONS FOR USE |
|  | GO BUTTON (PRESS TO ACTIVATE CONTROL ELEMENT) |
|   | STOP BUTTON (PRESS TO INTERRUPT BED POSITIONING) |

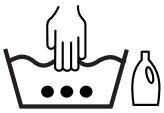
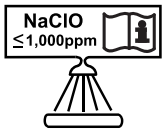
| | |
|---|---|
|  | SAFE WORKING LOAD |
|  | PHYSICAL DESCRIPTION OF AN ADULT<br>(DESIGNATION OF MEDICAL BED FOR ADULTS) |
|  | USE MATTRESS RECOMMENDED BY MANUFACTURER |
|  | DO NOT PUT ANY OBJECTS ON UNDERCARRIAGE |
|  | CALFREST LOAD LIMIT |
|  | WARNING AGAINST CRUSHING OR TRAPPING OF HANDS |
|  | JACK FOR ATTACHMENT OF CONDUCTOR FOR POTENTIAL EQUALISATION |
|  | CPR LEVER |
|  | GENERAL WARNING SIGN |
|  | CAUTION |
|  | TYPE **B** APPLIED PARTS |
|  | THERMAL PROTECTION FOR TRANSFORMER |

| | |
|---|---|
|  | SAFETY ISOLATING TRANSFORMER (GENERAL) |
|  | FOR INDOOR USE ONLY |
|   | MAXIMUM PATIENT WEIGHT |
|   | WEIGHT OF BED |
|   Complies with AAMI ES60601-1 IEC 60601-2-52 E212434 | **MET** MARK FOR Eleganza 5 |
|  | **CE** MARK FOR OptiCare |
|  | WEEE SYMBOL (RECYCLE AS ELECTRONIC WASTE, DO NOT PUT INTO THE HOUSEHOLD WASTE) |
|  | RECYCLING SYMBOL |
|  | RECYCLING SYMBOL |
|  | RECYCLING SYMBOL |
|   | DO NOT OPEN |

| | |
|---|---|
|  | MANUFACTURER |
|  | MANUFACTURING DATE |
|   | REFERENCE NUMBER (PRODUCT TYPE DEPENDING ON CONFIGURATION) |
|   | SERIAL NUMBER |

## 1.5 Symbols and Labels on the Mattress

| | |
|---|---|
|  | DO NOT IRON! |
|   | DO NOT USE PHENOL! |
|  | DO NOT WRING! |
|   | REGULARLY INSPECT THE INSIDE OF THE COVER FOR CONTAMINATION |
|   | MACHINE WASH AT MAX. 71°C FOR 3 MINUTES |

| | |
|---|---|
|  | TUMBLE DRY ON LOW HEAT SETTING (MAX. 60°C) |
|  | HANDWASH WITH DETERGENT<br>(INITIAL TEMPERATURE OF HOT WATER SHOULD NOT EXCEED 50°C) |
|  | DISINFECT USING SOLUTION CONTAINING LESS THAN 1000 ppm OF CHLORINE<br>(REFER TO INSTRUCTIONS FOR USE) |
|  | WIPE WITH WATER |
|  | DRY |
|  | COVER MATERIALS ARE FIRE RESISTANT TO BS7175, SOURCE 0, 1 AND 5 |
|  | MATTRESS FOOT PART (OptiCare) |

## 1.6 Serial Labels with UDI

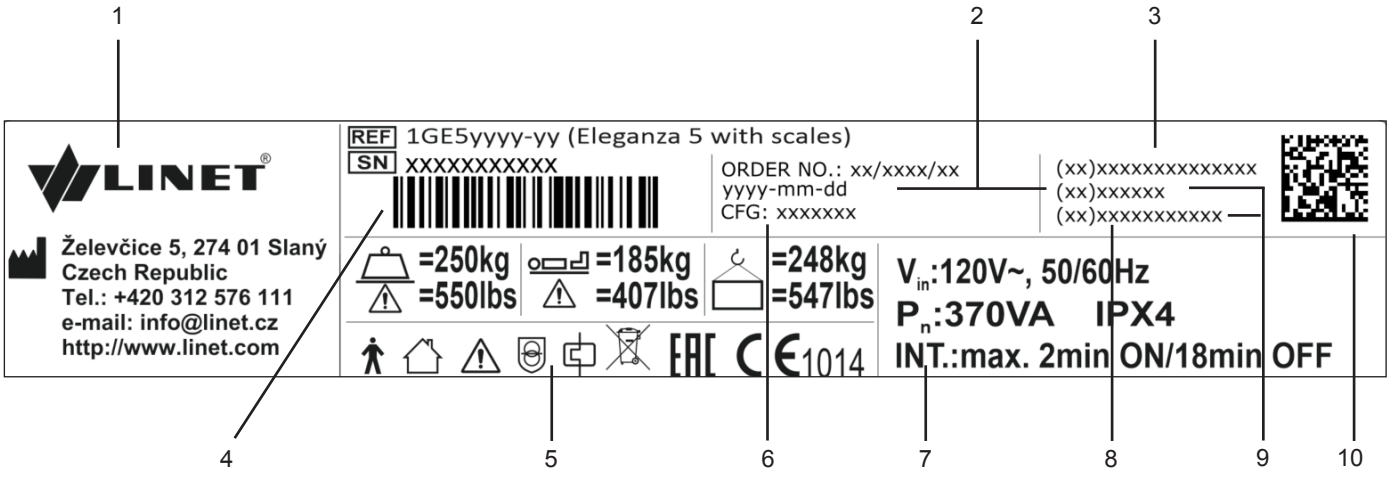



*Fig. Serial Label with UDI (Eleganza 5 with scales)*

| | |
|---|---|
| 1 | Address of Distributor |
| 2 | Manufacturing Date (Year-Month-Day) |
| 3 | DI (Device Identifier) / GTIN (Global Trade Item Number) |
| 4 | 1D Bar code GS1-128 (Serial Number) |
| 5 | Symbols |
| 6 | Configuration number |
| 7 | Electrical Specification |
| 8 | Serial Number |
| 9 | PI (Product Identifier) |
| 10 | 2D Bar Code (GS1 DataMatrix) **DI+PI=UDI** |

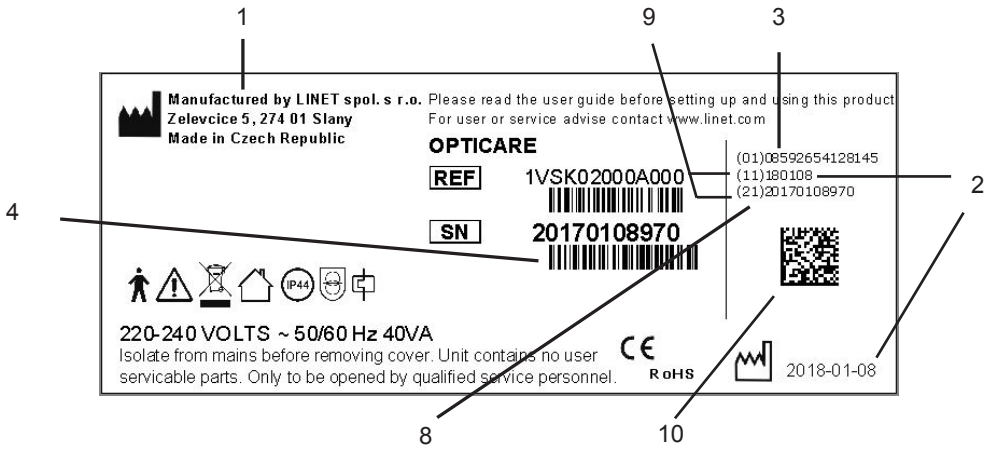



*Fig. Serial Label with UDI (OptiCare - SCU)*

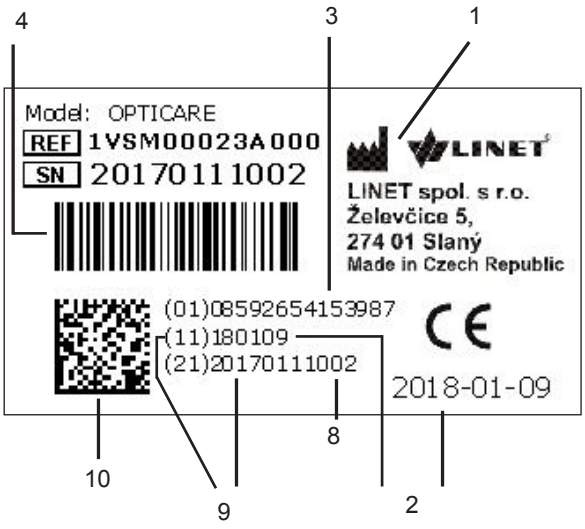



*Fig. Serial Label with UDI (OptiCare - mattress)*

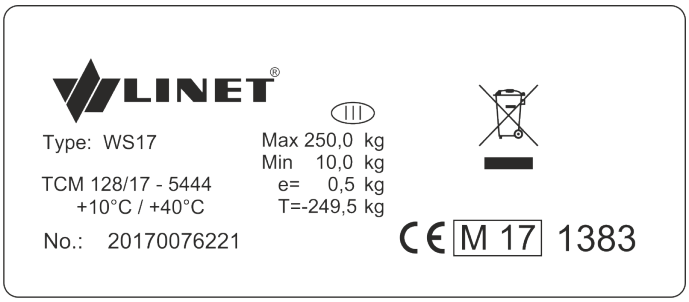



*Fig. Scales label (WS17)*

| | |
|---|---|
| 1 | Address of Distributor |
| 2 | Manufacturing Date (Year-Month-Day) |
| 3 | DI (Device Identifier) / GTIN (Global Trade Item Number) |
| 4 | 1D Bar code GS1-128 (Serial Number) |
| 8 | Serial Number |
| 9 | PI (Product Identifier) |
| 10 | 2D Bar Code (GS1 DataMatrix) **DI+PI=UDI** |

## 1.7 Acoustic signalisation

| SOUND | MEANING |
|---|---|
| **CONTINUOUS SOUND** | overheating, scales overload, actuator overload, battery over-current |
| **BEEP + CONTINUOUS SOUND** | lateral tilt + head siderail or foot siderail in down position |
| **REPEATED DISCONTINUOUS SOUND** | |
| **(0,6s sound / 2,6s silence)** | STOP error (all STOP buttons are disabled) |
| **(0,6s sound / 0,6s silence)** | Bed Exit Alarm |
| **DISCONTINUOUS SOUND** | |
| **(duration 0,3s)** | confirmation |
| | signalisation of stopping or signalisation of locked function |
| | lateral tilt 15° achieved |
| | transition from tilt (lateral tilt, Trendelenburg, Antitrendelenburg) to horizontal position |
| | Bed Exit Monitoring: transition from OFF to ON, transition from PAUSE to ON |
| **(duration 0,5s)** | start of service mode or end of service mode |
| | keyboard error (positioning blocked) |
| **(duration 3s)** | system error |
| **(duration 3 min: 1,1s sound / 1,1s silence)** | Brake Alarm |

## 1.8 Illumination

**NIGHT LIGHT**

Bed illumination helps the nursing staff as well as the patient to orientate. The lowered intensity of lightning is set up after turning the bed on. The night light is turned off during battery operation.

The bed is equipped with three-phase illumination:
1. Lowered intensity of illumination
2. Full intensity of illumination
3. Illumination is turned off

**After pressing any button:**
► The bed illumination will light up at full intensity for 17 minutes.
After 17 minutes the bed illumination will be lowered.
After disconnection of the bed from the mains illumination lights up for few seconds.

**Turning off bed illumination:**
► Disconnect bed from the mains.
After disconnection of the bed from the mains illumination lights up for few seconds.

## 1.9 Definitions

| | |
|---|---|
| **Basic Bed Configuration** | the pricelist model configuration, not including a mattress |
| **Bed Weight** | The value depends on the product configuration, accessories or customer adjustments. |
| **Clearance of Undercarriage** | the height from the floor to the lowest point of the undercarriage between the castors, for the manipulation of accessories under a braked bed in the standard position |
| **Duty Cycle** | cycle of operation of the motor: time of activity/time of rest |
| **Ergoframe** | Ergoframe is the kinematic system of Mattress support platform Adjustment whose effect is the elimination of pressure on the patient´s abdomen and pelvic area and frictional forces on the patient's back and legs. |
| **Maximum Patient Weight** | Maximum Patient Weight depends on the application environment according to IEC<br>60601-2-52. For application environment 1 (intensive/critical care) and 2 (acute care) reduce Safe working Load by 65 kg. For application environment 3 (long-term care) and 5 (ambulatory care) reduce Safe working Load by 35 kg. |
| **Safe Working Load** | the highest allowable load on the bed (patient, mattress, accessories and the load<br>supported by those accessories) |
| **Siderail Height** | the height of the upper crossbar or the edges of the siderails (not the highest point of the siderail controls) from the patient surface |
| **Standard Bed Position** | - The height of the patient surface with regard to the floor is 400 mm<br>- The mattress support platform, including the individual parts, has to be in a horizontal (level - 0°) position.<br>- The siderails are always locked in the upper position.<br>- The basic position of the integrated extension. |

## 1.10 Abbreviations

| | |
|---|---|
| **AC** | Alternating Current |
| **CE** | European Conformity |
| **CPR** | Cardiopulmonary Resuscitation |
| **dB** | Sound Intensity Unit |
| **DC** | Direct Current |
| **CUC** | Configuration number |
| **EMC** | Electromagnetic Compatibility |
| **FET** | Field-effect transistor |
| **HF** | High Frequency |
| **HPL** | High Pressure Laminate |
| **ICU** | Intensive Care Unit |
| **INT.** | Duty Cycle |
| **IP** | Ingress Protection |
| **IV** | Intravenous |
| **LED** | Light Emitting Diodes |
| **ME** | Medical Electrical (Equipment) |
| **MET** | MET Laboratories testing and certifying for the U.S. market |
| **ppm** | parts per million, millionth (1000 ppm = 0,1%) |
| **REF** | Reference Number (product type depending on configuration) |
| **SCU** | System Control Unit |
| **SN** | Serial Number |
| **SWL** | Safe Working Load |
| **UDI** | Unique Device Identification (for medical devices) |
| **USB** | Universal Serial Bus |
| **WEEE** | Waste Electrical and Electronic Equipment |

# 2 Safety Instructions



**WARNING!**
**Eleganza 5 bed should be left in its lowest position when the patient is unattended in order to reduce risk of injury due to falls!**



**WARNING!**
**Siderails of Eleganza 5 should be located in the „up“ position to reduce the risk of the patient accidentally slipping or rolling off the mattress!**



**WARNING!**
**Incompatible siderails and mattresses can cause an entrapment hazard!**



**WARNING!**
**Inappropriate handling of the power supply cord, e. g. by kinking, shearing or other mechanical damages is hazardous!**



**WARNING!**
**When routing cables from other equipment in the Eleganza 5 bed avoid squeezing those between parts of the Eleganza 5 bed!**



**WARNING!**
**Eleganza 5 bed should not be used with bed hoists and bed lifts!**



**WARNING!**
**The bed is intended for adults.**
►Follow the chapter **Intended use**.



**WARNING!**
**Incompatible mattresses can create hazards.**



**WARNING!**
**To avoid the risk of electric shock, this equipment must only be connected to a supply mains with protective earth.**



**WARNING!**
**No modification of this equipment is allowed.**



**WARNING!**
**Do not modify this equipment without authorization of the manufacturer.**



**WARNING!**
**If this equipment is modified, appropriate inspection and testing must be conducted to ensure continued safe use of the equipment.**



**WARNING!**
**An additional multiple socket-outlet or extension cord shall not be connected to the medical electrical system.**

**WARNING!**
**During specific investigations or treatments the significant risks of reciprocal interference posed by ME equipment may occur.**

- ► Follow the instructions carefully.
- ► Use the bed exclusively if it is in perfect working order.
- ► If necessary, check the bed functions daily or at each shift change.
- ► Ensure any user has read and understood this manual completely before operating the product.
- ► Use the bed exclusively with the correct mains supply.
- ► Ensure that the bed is operated exclusively by qualified personnel.
- ► Ensure that the patient (health permitting) has been informed about the operation of the bed and all applicable safety instructions.
- ► Move the bed exclusively on even, hard-surfaced floors.
- ► Replace any damaged parts immediately with original spare parts.
- ► Ensure that maintenance and installation are performed exclusively by qualified personnel who have been trained by the manufacturer.
- ► During peak loads or unavoidable excess loads (CPR), place Mattress Platform in the lowest position.
- ► Ensure that only one adult patient uses the bed at any time.
- ► Take care to avoid injuries or squeezing when operating moving parts.
- ► When using lifting poles or infusion stands, ensure that nothing will be damaged when you move or adjust the bed.
- ► Brake the castors when the bed is occupied.
- ► Keep the mattress platform in the lowest position at any time when the healthcare personnel are not treating the patient in order to prevent the patient from falling or injuries.
- ► Ensure that siderails are operated exclusively by healthcare personnel.
- ► Never use the bed in areas where there is a hazard of explosion.
- ► Enable or disable functions on patient controls using the iBoard Standard supervisor panel as appropriate for the patient's physical and mental state. Verify that the function is actually disabled.
- ► Never handle the mains plug with wet hands.
- ► Disconnect the product from the mains exclusively by pulling the mains plug.
- ► When pulling the mains plug, always hold the plug, not the cable.
- ► Position the mains cable so that there are no loops or kinks in the cable; protect the cable from mechanical wear and tear.
- ► Improper handling of mains cable can cause an electric shock hazard, other serious injuries or damage to the mattress replacement system.
- ► Ensure that the stipulated duty cycle of motor is not exceeded.
- ► To change fuses or cables contact servise organisation authorized by manufacturer.
- ► Ensure that the moving parts of the bed are not blocked.
- ► To prevent failures, use exclusively the manufacturer's original accessories and mattresses.
- ► Ensure that the stipulated safe working load is not exceeded.
- ► If the patient's condition could lead to an entrapment, leave the mattress support platform in the flat position whilst unattended.
- ► Adjust bed height when transporting the bed in order to facilitate overcoming possible obstacles.
- ► Do not exceed maximum load of 80 kg (176.37 lbs) for mattress platform extension.
- ► Do not modify bed and its components without the manufacturer´s approval.
- ► Use the mattress system exclusively as specified in this manual and in perfect working order.
- ► Use the mattress system exclusively with the correct mains supply (see Electrical Specifications).
- ► Use the mattress system exclusively in its original state and do not modify it in any way.
- ► Have the mattress system used exclusively by or under supervision of trained and qualified nursing personnel.
- ► Have the mattress system serviced and installed exclusively by qualified personnel trained and authorised by the manufacturer.
- ► Do not exceed the maximum patient weight limit (see Mechanical Specifications).
- ► Do not use the SCU near flammable gases. (This does not apply to oxygen cylinders.)
- ► Do not hang anything on any cable.
- ► Never use the mattress replacement system near radiators or other heat sources.
- ► Never cover the SCU while in use.
- ► Select a suitable location for the placement of bed accessories and other objects to prevent involuntary activation of buttons or controls which may result in the adjustment of bed positioning.
- ► Do not use the bed in the event parts have been removed (e.g. parts of mattress platform) unless these parts are de signed to be removed (e.g. head and/ or foot end of the bed).
- ► Never place any accessories or handset on the siderails where keyboards are located.
- ► After each emergency situation always check if any of the controllers (in side rails, hand set or ACP) is not involuntarily pressed by the bed accessories or by the mattress.
- ► The weighing system must be calibrated at regular intervals and in accordance with the metrological regulations of the relevant country. All testing and certification must be carried out by qualified personnel. The healthcare provider is responsible for ensuring the required testing frequency and testing procedure of the weighing system is carried out.
- ► To avoid injury or crushing, take extra caution when operating any moving parts of the bed.
- ► To avoid unintended activation of moving parts during any use of the bed always check that none of the control elements of the bed is not involuntary pressed by persons, mattress or other objects.
- ► Use the mattress system exclusively with the correct mains supply.

- ► Use the mattress system exclusively in its original state and do not modify it in any way.
- ► Have the mattress system used exclusively by or under supervision of trained and qualified nursing personnel.
- ► Have the mattress system serviced and installed exclusively by qualified personnel trained and authorised by the manufacturer.
- ► Do not exceed the maximum patient weight limit (see Mechanical Specifications for OptiCare).
- ► Do not use the SCU (System Control Unit) near flammable gases (This does not apply to oxygen cylinders.).
- ► Never use the mattress replacement system near radiators or other heat sources.
- ► Never cover the SCU while in use.
- ► Never cover the filter of SCU while in use.

# 3 Intended Use

**Eleganza 5 is a positionable bed for intensive care. Its purpose is to support patient and to facilitate treatment and manipulation with patient for nursing personnel. Eleganza 5 is equipped with weighing system designed for weighing patients. Eleganza 5 is compatible with OptiCare integrated mattress replacement system. The OptiCare mattress system is intended to aid in the prevention and treatment of pressure injuries of patients. The OptiCare mattress can only be used when installed on a Linet Eleganza 5 bed frame.**

**Eleganza 5 must be used exclusively by or under supervision of trained and qualified nursing personnel.**

Eleganza 5 with OptiCare integrated mattress system is suitable for:

- ■ **Patients**
  - □ Standard bed:
    - ● With weight ≥ 40 kg
    - ● With height ≥ 146 cm
    - ● With BMI ≥ 17
  - □ Bed equipped with Junior Kit:
    - ● Older than 4 years with minimal height of 90 cm
  - □ Whose weight (including mattress and accessories) does not exceed the SWL in long-term treatment (depending on bed type)



**Length adjustment of the bed must be proportional to the height of patient!**

**Risk of trapping or squeezing because of patient´s body constitution disproportionate to the size of mattress support platform!**

- ■ **Personnel**
  - □ qualified medical staff
  - □ patient (condition permitting)
- ■ **Use**
  - □ intensive/critical care units
  - □ hospital rooms
  - □ patient transport
- ■ **Transport**
  - □ in original bag
- ■ **Medical purpose**
  - □ support for patients in Eleganza 5 beds
  - □ pressure ulcer prevention
- ■ **Location**
  - □ The bed is determined for application environment 1 and 2 according to IEC 60601-2-52.

**NOTE** For information concerning uses other than those, please contact Linet ®.

# 4 Product Description

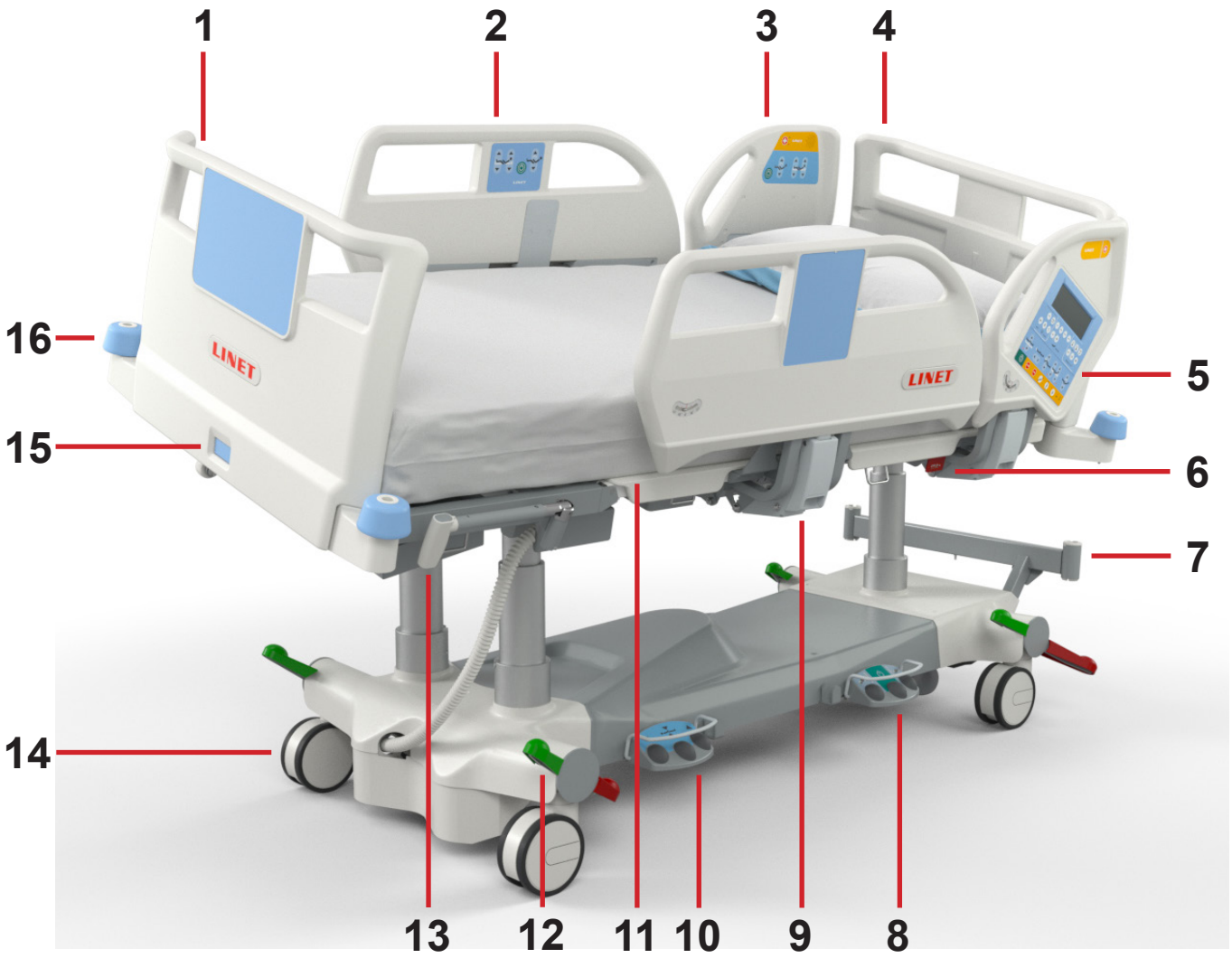



Fig. Bed Overview (Eleganza 5)

1. **Removable Foot Board**
2. **Split Siderail – Middle Siderail with Integrated Control Panels for Patient**
3. **Split Siderail – Head Siderail with Integrated Control Panels for Patient**
4. **Removable Head Board**
5. **iBoard Standard**
6. **CPR Lever – Backrest Release**
7. **Poles Adaptor**
8. **Foot Switch (Lateral Tilt)**
9. **Siderail Release Lever**
10. **Foot Switch (Bed Height)**
11. **Four-part Mattress Platform with Ergoframe® System (under the mattress)**
12. **Castor Control Lever**
13. **Mobi-Lift® Handle**
14. **Castor**
15. **Foot Board Safety Lock**
16. **Bumper**

# 5 Technical Specification

All technical data are rated data and are subject to construction and manufacturing tolerances.

**WARNING!**
**If Eleganza 5 bed is used with OptiCare integrated mattress system respect values of mechanical and electrical specifications which can harm none of them!**

## 5.1 Identification of Applied Parts (Type B)

All part of the bed (and accessories) the patient can reach are type B Applied Parts.

- Mattress Platform Frame, Covers and all Movable Parts
- Head and Foot End
- Siderails
- Mobi-Lift Handles
- Handset

## 5.2 Scales

**Accuracy of displayed weight values:**
- 0,5 kg (1,1 lbs)
- Scales Class III

## 5.3 Mechanical Specifications (Eleganza 5)

| Parameter | Value |
|---|---|
| External Dimensions in Standard Bed Position (length x width) | 219 cm x 100 cm |
| Siderail Height above Mattress Platform | 14,2 cm (minimum), 45 cm (maximum) |
| Bed Extension | 0 cm - 22 cm |
| Dimensions of Mattress (length x width) | 208 cm x 90 cm |
| Maximum Mattress Height | 23 cm |
| Clearance in Standard Position | 14,2 cm (with fifth castor 11,3 cm) |
| Castors | 15 cm |
| Minimum-Maximum Mattress Platform Height above floor (without Mattress) | 43,5 cm - 81,5 cm |
| Ergoframe (Backrest/Thighrest) | 7,4 cm / 4 cm |
| Maximum Backrest Angle | 65° |
| Maximum Thighrest Angle | 30° |
| Maximum Calfrest Angle | 30° |
| Angle between Thighrest and Calfrest | 120° |
| Lateral Tilt Adjustment | +15°/-15° |
| Trendelenburg/Anti-Trendelenburg Position (Angle) | +14°/-14° |
| Bed Weight in Basic Configuration (depending on configuration, without mattress) | 210 Kg (462 lbs) - 248 Kg (545,6 lbs) |
| SWL (Bed Safe Working Load) | 250 Kg (550 lbs) |
| SWL (Lifting Pole Safe Working Load) | 75 Kg |
| Maximum Patient Weight | 185 Kg (407 lbs) |
| Application Environment in accordance with IEC 60601-2-52 | 1, 2 |

## 5.4 Environment conditions (Eleganza 5)

| Use Conditions | |
|---|---|
| Ambient Temperature | 10°C - 40°C |
| Relative Humidity | 30% - 75 % |
| Atmospheric Pressure | 795 hPa - 1060 hPa |
| **Storage and Transport Conditions** | |
| Ambient Temperature | -20°C- 50°C |
| Relative Humidity | 20% - 90 % |
| Atmospheric Pressure | 795 hPa - 1060 hPa |

## 5.5 Electrical Specifications (Eleganza 5)

| | |
|---|---|
| Input Voltage, Frequency | 230 V AC, 50/60 Hz |
| Maximum Power Input | 370 VAC |
| Ingress Protection (EN 60529) | IP X4 |
| Protection Class | Class I |
| Electrical Motor Duty Cycle | 2 minutes ON /18 minutes OFF |
| Battery | Pb AKU 2 x 12 V / 1,2 Ah / Fuse 15A |
| Fuse | 2 x T2.0A L 250V for 230 V |

**NOTE** Upon request, Linet ® can deliver hospital beds with electrical specifications that comply with regional standards (custom voltage, different mains plugs).

## 5.6 Mechanical Specifications (OptiCare)

| Parameter | Value |
|---|---|
| **External Dimensions** | |
| Inflated Mattress | 214 cm x 86 cm x 22 cm |
| SCU | 36 cm x 22 cm x 10 cm |
| **Weight** | |
| Inflated Mattress | 10 kg (22 lbs) |
| SCU | 6 kg (13.1 lbs) |
| Inflation time after storage | max. 15 min (typical < 10 min) |
| CPR deflation time (depending on patient weight, chosen mode - optimization or maximum internal pressure - and on type of CPR - electric or manual) | max. 30 s |
| Max. Mattress Load | 250 kg / 550 lbs / 39 stones |
| Min. Mattress Load | 40 kg |

## 5.7 Environment conditions (OptiCare)

| Use Conditions | |
|---|---|
| Ambient Temperature | 10°C - 40°C |
| Relative Humidity | 30% - 75 % |
| Atmospheric Pressure | 700 - 1060 hPa |
| Remain Inflated in Transport Mode | 12 hours (whem starting from Maximum Inflate Mode) |
| Noise Level | max. 45 dBa (normal operation without alarm) |
| **Storage and Transport Conditions** | |
| Ambient Temperature | -40°C - 70°C |
| Relative Humidity | 10% - 100 % (non-condensing) |
| Atmospheric Pressure | 500 - 1060 hPa |

## 5.8 Electrical Specifications (OptiCare)

| | |
|---|---|
| **Input Voltage, Frequency** | **100/127 VAC, 50/60 Hz (Model 110V)** |
| **Maximum Power Input** | **max. 40 VA (when operating from mains supply)** |
| **Ingress Protection (EN 60529)** | **IPX4** |
| **Protection Class** | **Class I with Applied Parts Type B** |
| **Electrical Safety** | **in conformity with EN 60601-1** |
| **Fuse** | **2 x T1A Anti-surge Fuse** |

## 5.9 Electromagnetic Compatibility

**Bed is intended for hospitals except for near active HF surgical equipment and the RF shielded room of a medical system for magnetic resonance imaging, where the intensity of EM disturbances is high.**

**Bed has defined no essential performance.**



**WARNING!**
**It is recommended to avoid the use of this device next to or in block with other device, because it could lead to improper operation. If such use is needed, this device and the other equipment should be under surveillance to verify proper operation.**

**List of used cables:**
- ► **Mains cable**, maximum length 6 m
- ► **Additional Supervisor Panel**, maximum length 3m
- ► **Handset,** maximum length 3m



**WARNING!**
**Use of the accessories, converters and other cables, than specified and provided by manufacturer of this bed could lead to increase of electromagnetic emission or lower the electromagnetic immunity of this bed and lead to improper operation.**



**WARNING!**
**Mobile RF communication device (including end use devices like antenna cables and external antenna) should not be used closer than 30 cm (12 inches) from any part of this bed Eleganza 5, including cables specified by manufacturer. Otherwise this could lead to deterioration of functionality of this bed.**



**WARNING!**
**Do not overload the bed (SWL), respect the duty cycle (INT.) and consider chapter 17 Maintenance in order to maintain the basic safety with regard to electromagnetic disturbances for the expected service life.**

### 5.9.1 Manufacturer instructions - electromagnetic emissions

| Emission Test | Compliance |
|---|---|
| RF emissions<br>CISPR 11 | Group 1 |
| RF emissions<br>CISPR 11 | Class B |
| Harmonic emissions<br>IEC 61000-3-2 | Class A |
| Voltage fluctuations / flicker emissions<br>IEC 61000-3-3 | Complies |

## 5.9.2 Manufacturer instructions - electromagnetic susceptibility

| Immunity Tests | Compliance level |
|---|---|
| Electrostatic discharge (ESD)<br>IEC 61000-4-2 | ± 8 kV for contact discharge<br>± 15 kV for contact discharge |
| Radiated RF<br>IEC 61000-4-3<br><br>Proximity fields from RF wireless communications equipment<br>IEC 61000-4-3 | 3 V/m<br>80 MHz – 2,7 GHz<br>80 % AM at 1 kHz<br><br>See Table 1 |
| Fast electrical transients / burst<br>IEC 61000-4-4 | ±2 kV for power line<br>repetition frequency 100 kHz |
| Surge<br>IEC 61000-4-5 | ± 1 kV Line-to-line<br>± 2 kV Line-to-ground |
| Conducted RF<br>IEC 61000-4-6 | 3 V (0,15 MHz – 80 MHz)<br>6 V in ISM bands between 0,15 MHz and 80 MHz<br>80 % AM at 1 kHz |
| Power frequency (50/60 Hz) magnetic field<br>IEC 61000-4-8 | 30 A/m |
| Voltage dips, short interruptions on power supply input lines<br>IEC 61000-4-11 | 0 % UT; 0,5 cycle<br>At 0°, 45°, 90°, 135°, 180°, 225°, 270° a 315°<br>0 % UT; 1 cycle and 70 % UT; 25/30 cycle<br>Single phase: at 0°<br>0 % UT; 250/300 cycle |

**Table 1 - IMMUNITY to RF wireless communications equipment**

| Test frequency (MHz) | Band (MHz) | Service | Modulation | Immunity Test Level V/m |
|---|---|---|---|---|
| 385 | 380 - 390 | TETRA 400 | Pulse modulation 18 Hz | 27 |
| 450 | 430 - 470 | GMRS 460, FRS 460 | FM ± 5 kHz deviation 1 kHz sine | 28 |
| 710<br>745<br>780 | 704 - 787 | LTE band 13, 17 | Pulse modulation 217 Hz | 9 |
| 810<br>870<br>930 | 800 - 960 | GSM 800/900, TETRA 800, iDEN 820, CDMA 850,<br>LTE band 5 | Pulse modulation 18 Hz | 28 |
| 1 720<br>1 845<br>1 970 | 1 700 - 1 990 | GSM 1800; CDMA 1900; GSM 1900; DECT; LTE band 1, 3, 4, 25; UMTS | Pulse modulation 217 Hz | 28 |
| 2 450 | 2 400 - 2 570 | Bluetooth, WLAN, 802.11 b/g/n, RFID 2450,<br>LTE band 7 | Pulse modulation 217 Hz | 28 |
| 5 240<br>5 500<br>5 785 | 5 100 - 5 800 | WLAN 802.11 a/n | Pulse modulation 217 Hz | 9 |

**NOTE** There are applied no deviations to requirements of IEC 60601-1-2 ed. 4

**NOTE** There are no known other measures for keeping the basic safety based on EMC phenomena.

**NOTE** Beds equipped with communication module meet standard for IEEE 802.11 b/g/n (2400,0 MHz – 2483,5 MHz, modulation DSSS (IEEE 802.11 b ), OFDM (IEEE 802.11 g/n) 20MHz bandwidth, EIRP = 0,34 W).

# 6 Use and Storage Conditions

**DANGER!**
**Danger to life due to electric shock!**
To ensure the bed's class I protection against electric shocks:
► Ground the mains.
► Use exclusively Hospital Grade or Hospital Only receptacles for grounding.

Eleganza 5 and OptiCare are designed for use in rooms for medical purposes. Electrical installations must therefore meet local norms laying down the necessary conditions for electrical installations.
► Disconnect the bed from the mains in exceptional cases (i.e. lightnings, earthquake).

**Eleganza 5 and OptiCare are not suitable for indoor environments containing flammable gases (except oxygen cylinders).**

# 7 Scope of Delivery and Bed Variants

## 7.1 Delivery

► Upon receipt, check that the shipment is complete as specified on the delivery note.
► Notify the carrier and supplier of any deficiencies or damages immediately as well as in writing or make a note on the delivery note.

## 7.2 Scope of Delivery

- Eleganza 5 hospital bed
- User Manual

## 7.3 Eleganza 5 Variants

s = standart
o = optional

**Optional bed features:**
- Integrated Mattress
  - bed with OptiCare mattress (complete set) (o)
  - OptiCare ready bed without mattress and without System Control Unit (o)
  - OptiCare ready bed without mattress and with System Control Unit (o)
- Scales
  - without scales (without Bed Exit Alarm) (o)
  - with scales (with Bed Exit Alarm) (s)
- Castors
  - Tente Integral 150 mm (5.9 in.) single castors (s)
  - Tente Integral 150 mm (5.9 in.) double castors (o)
  - Tente Integral 150 mm (5.9 in.) single castors + 5th castor (o)
  - Tente Integral 150 mm (5.9 in.) double castors + 5th castor (o)
  - Tente Integral 150 mm (5.9 in.) single castors + Retractable 5th castor (o)
  - Tente Integral 150 mm (5.9 in.) double castors + Retractable 5th castor (o)
  - Tente Integral 150 mm (5.9 in.) single castors + i-Drive Power® (o)
  - Tente Integral 150 mm (5.9 in.) double castors + i-Drive Power® (o)
- Control Elements
  - iBoard Standard in both head siderails (s)
  - Additional Supervisor Panel (s)
  - Handset with illuminated buttons and adapter for simple connection Plug and Play (o)
  - Foot Control for Lateral Tilt (s)
  - Foot Control for Height Adjustment (o)
  - Patient Control Elements integrated in foot siderails (s)
  - Patient Control Elements integrated in head siderails (o)
- 1 pair of Mobi-Lift® handles (o)
- i-Brake® (o)
- x-ray cassette holder (0)
- EMR ready bed (o)
- Nurse call (o)
- Safestop (o)
- USB (o)

**NOTE** Type of undercarriage cover (one part undercarriage cover or split undercarriage cover) depends on configuration.

# 8 Initial Instructions

**Set up the bed as follows:**

- ► Unpack the bed.
- ► Check the delivery (see Scope of Delivery and Bed Variants).
- ► Remove isolating foil from the mains control box (see Battery Activation).
- ► Install equipment and accessories (see Installation).
- ► In case of delivery with dismantled bed ends, mount the head and foot ends (see Foot Board and Head Board).
- ► Set up the bed exclusively on a suitable floor surface (see Transport).
- ► Ensure that the mains cable does not collide or get stretched when adjusting the bed.
- ► Check that the plug is inserted correctly.
- ► Do not leave any extension cords or power strips loose on the floor.
- ► Ensure that all of the required mechanical and electrical prevention mechanisms are available on site.
- ► There is no mains switch on the bed, i.e. the mains cable is the only means to isolate the bed from the mains. Ensure that the mains cable is always accessible.
- ► Have the separable plug of the mains cable changed and maintained exclusively by qualified and trained service techni cians authorised by the manufacturer.

**CAUTION!**
**Material damage due to temperature difference!**

- ► If there is a considerable temperature difference between the bed and the place of operation (after transport/storage), leave bed unconnected for 24 for the difference to balance itself.

## 8.1 Battery Activation

### Control Section Placement

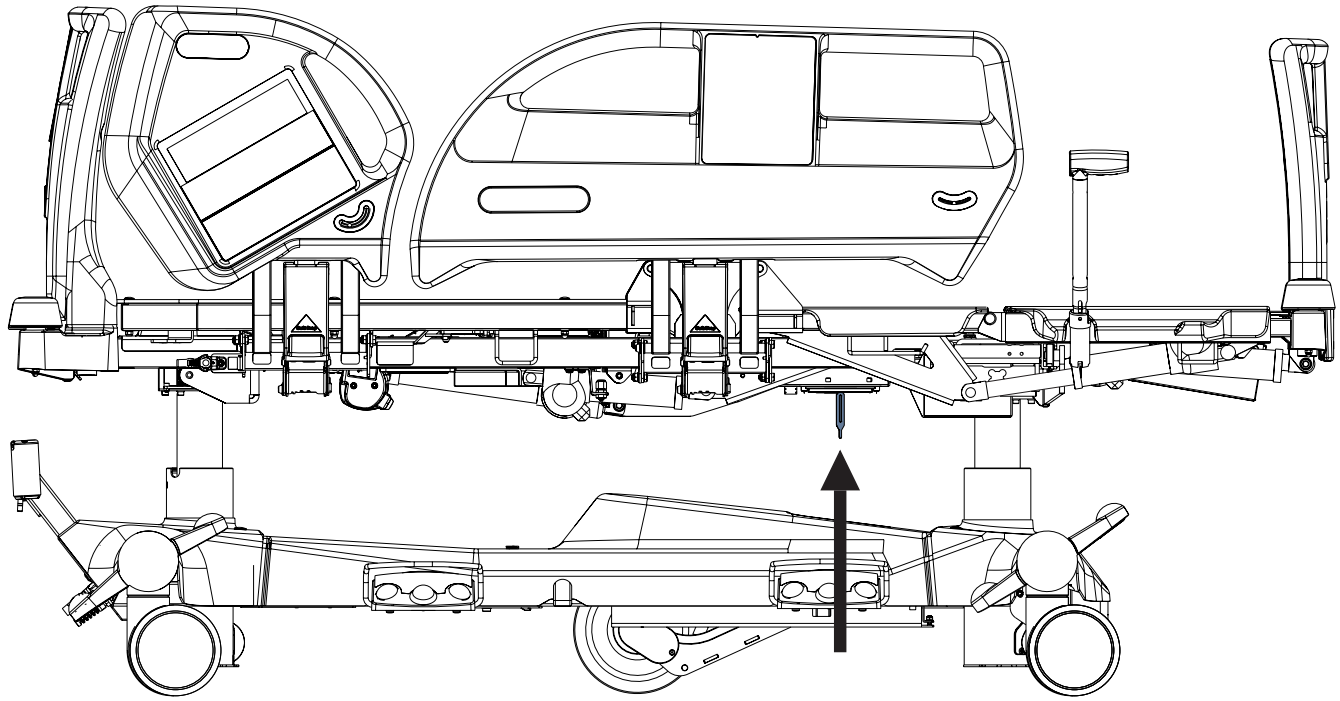


*Fig. Isolating Foil Placement*

### Removing the Isolating Foil

**To remove isolating foil:**

- ► Remove isolating foil from mains control box **1** by pulling strap **2**.
- ► Check if isolating foil is complete and undamaged.
- ► If isolating foil is damaged, contact the manufacturer's service department immediately.

**NOTE** Isolating Foil is sharp-edged. Remove it carefully not to cut yourself.

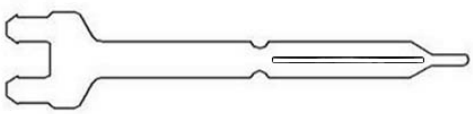


*Fig. Detail of Isolating Foil*

## 8.2 Putting into Service

**WARNING!**
**Risk of injury when working on the bed!**
- ► Ensure that the bed is disconnected from the mains connection prior to assembly, disassembly and maintenance.
- ► Ensure that the castors are locked prior to assembly, disassembly and maintenance.

**CAUTION!**
**Material damage due to incorrect assembly!**
- ► Ensure that assembly is performed exclusively by customer service or trained hospital personnel.

**NOTE** For safe, easy handling, Linet ® recommends having two technicians assemble the bed.

### Foot Board and Head Board

**Dismount the bed ends as follows:**
- ► Unlock sleeve fitting.
- ► Pull bed ends from sleeve fitting.
- ► Lock sleeve fitting.

**Install the bed ends as follows:**
- ► Unlock sleeve fitting.
- ► Slide bed ends into sleeve fitting.
- ► Lock sleeve fitting.

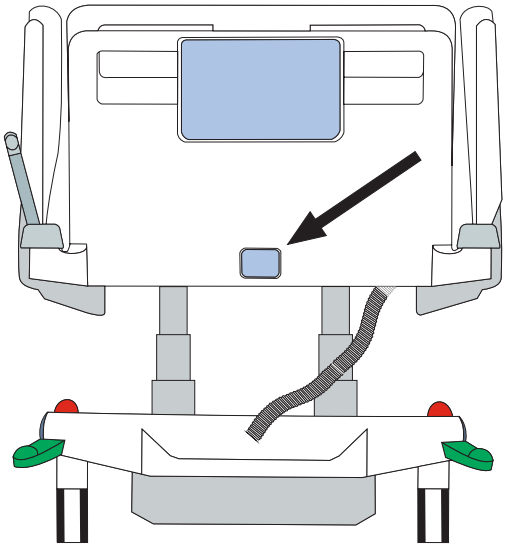


*Fig. Locking of the foot board*

### Mattress Platform

Eleganza 5 without x-ray cassette holder has four removable parts of Mattress Platform (**1,2,3 and 4)**.

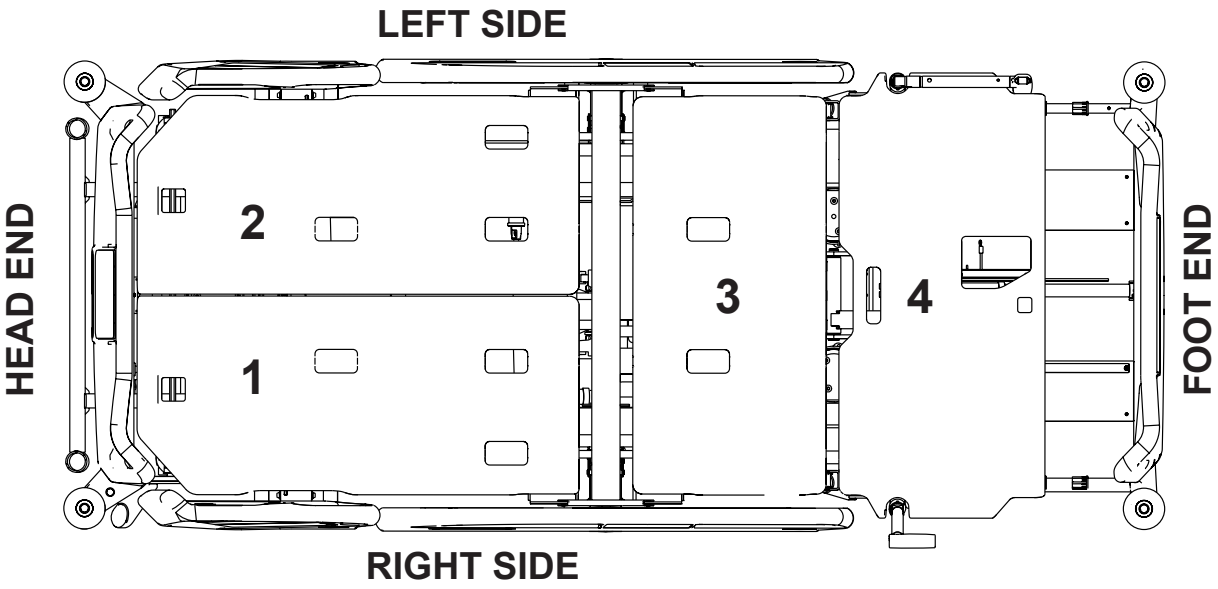



*Fig. Parts of Mattress Platform*

## 8.2.1 Potential Equalisation

The bed is equipped with a standard protective connector. This connector is used for potential equalisation between the bed and any intravascular or intracardiac device connected to the patient to protect the patient from static electric hocks.

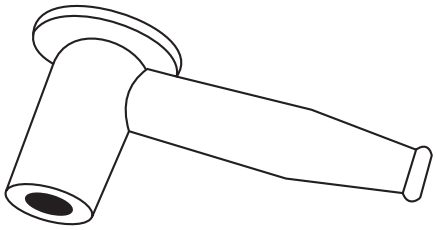


*Fig. Potential equalisation connector - female*

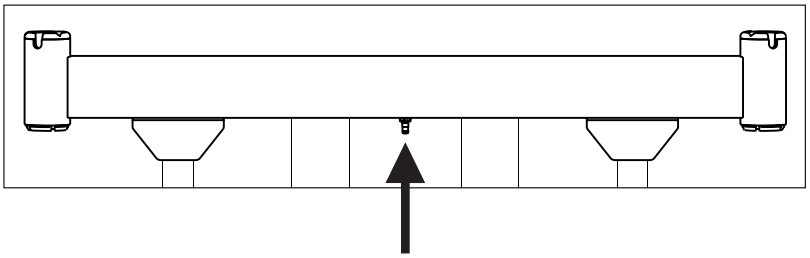


*Fig. Potential equalisation - male*

**Use equalisation connector if:**
- the patient is connected to any intravascular or intracardiac device.

**Before connecting the patient to an intravascular/intracardiac device:**
- ► Connect the ground wire of the device to the potential equalisation connector on the bed on which the patient in question is lying.
- ► Use a standard hospital connector.
- ► Make sure that the connectors match.
- ► Make sure that there is no possibility for inadvertent disconnection.

**Before moving the bed:**
- ► Disconnect the patient from the intravascular or intracardiac device.
- ► Disconnect the potential equalisation connector.

# 8.3 Before Use

**Prepare the bed for use as follows:**
- ► Connect the bed to the mains.
- ► Charge the battery.
- ► Raise and tilt the mattress platform to the highest position.
- ► Lower and tilt the mattress platform to the lowest position.
- ► Check that the castors as well as main brake work correctly.
- ► Check that the bed extension works correctly.
- ► Check that it is possible to remove the head and foot boards.
- ► Check all of the functions on the control elements.
- ► Check that the siderails function properly.
- ► Dispose of all packaging (see Disposal).

# 8.4 Transport

**For a safe transport, observe the following:**
- ► Ensure that no cables are run over when moving a bed.
- ► Ensure that the mains cable is attached with a hook (at the head end of the bed).
- ► Ensure that the castors are unlocked before moving the bed during the loading/unloading process (see Castor Control).
- ► Adjust bed height to at least 20 cm below maximum height.
- ► Push bed by handles on head or foot end.
- ► Move the bed exclusively on suitable floor surfaces.
- ► Ensure the bed is braked when it should not move.

**Suitable surfaces:**
- Tile
- Hard linoleum
- Poured flooring

**Unsuitable surfaces:**
- Too soft, unsealed or defective flooring
- Soft wooden flooring
- Soft and porous stone floors
- Carpeted floors with underlay
- Soft linoleum

► For longer distances, ensure that the castor steering function (main control) is activated.
► Ensure that the brakes are released while moving the bed.

# 9 Power Supply Cord (Mains Power Cable)

Attachment plug is means of connecting and disconnecting bed from the mains.
Mains power cable must be attached with a hook at the head end of the bed during transport.



**CAUTION!**
**Disconnecting bed from the mains does not stop motions of the bed!**
► Stop the bed before disconnection bed from the mains.

**Where the integrity of the external protective conductor in the installation or its arrangement is in doubt**
► operate the bed from internal battery only.

# 10 Battery

## Purpose

The battery serves as a backup during power failures or for emergency bed positioning.

► Use only batteries approved by the manufacturer.
► Check the batteries' functionality at least once a month in accordance with the user and service manuals and have the batteries changed if necessary.
► Use exclusively batteries approved by the manufacturer.

**NOTE** The service life of the batteries depends on the frequency and method of use.

**The manufacturer will assume no responsibility for any damage to the bed or the battery caused by:**
- non-observance of the manufacturer's instructions in the user manual
- using batteries not approved by the manufacturer

## Warranty

The manufacturer provides a **6-month** warranty for the full function of the batteries.

## Charging

The battery supplied with the bed is delivered uncharged.

**For declared lifetime period of leaded accumulators is recommended during storage:**
► To prevent accumulators from deep discharging (state-of-charge under 10%) and to keep accumulators at least partly charged by regular recharging
► To store accumulators on dry and cold places (from 10°C to 0°C)
► To prevent accumulators from being in the sunshine

**To charge the battery:**
► Connect the bed to the mains.

## Signalisation

**The LED (on iBoard Standard or Additional Supervisor Panel) indicates the battery's charge status:**

| Yellow LED | Battery charge status |
|---|---|
| Not lit | Battery capacity is sufficient (charging completed) |
| Short flashing (shortly lit, longer not lit) (circa 1.8 sec.) | Battery is charging - continue charging until the LED is extinguished. In emer- gency cases, the battery can be used as a backup power source for a short period. If LED is still flashing after 12 hours of charging or stops flashing, but you can not position with bed, battery is defective or broken. Contact manufacturer. |
| Short flashing (0,2s lit, 0,2s not lit) | Only CPR function can be used. |
| Long flashing (longer lit, shortly not lit) (circa 0.2 sec.) | Low battery voltage - battery can not be used as a backup power supply even for a short period; battery is completely discharged or defective (if this type of signalisation persists, it is necessary to replace the battery - service action) |
| Lit continuously for several hours (circa 10 hours), when bed is connected to the mains. | Battery absence or failure condition (battery is connected incorrectly, line between the power supply and battery is broken or battery fuses are faulty); contact service department of the manufacturer in case of such signalisation. |

## 10.1 Replacing the battery

**CAUTION!**
**Damage to the bed due to incorrect battery replacement!**
- ► Have the battery replaced exclusively by qualified personnel.
- ► Exclusively use batteries approved by the manufacturer.

**CAUTION!**
**Material damage due to overheating!**
If the battery is faulty, degassing may occur. In rare cases this might cause deformations of the battery case, control panel housing or cable.
- ► Stop using the bed immediately (see Removing the Bed from Service).
- ► Inform the manufacturer's service department.

**CAUTION!**
**Risk of reducing battery durability due to incorrect use!**
- ► Use bed on battery only in crisis situations (e.g.: power blackout, patient compli- cations during transport, etc.)
- ► After reconnecting bed to the mains charge battery to full capacity (see chart Bat- tery charge status).
- ► Have batteries replaced exclusively by a qualified service organisation.
- ► For more detailed information on how to replace the batteries, request service manual from manufacturer.
- ► The manufacturer recommends to replace the battery by qualified service organization after 2 (two) years of use. After this period the supposed service life of battery ends and the manufacturer cannot guarantee the battery service life after this period.

**Status "Faulty battery"**

The battery is regarded as faulty if at least one of the following conditions applies:

- ► Battery charging constantly
- ► Low voltage on battery
- ► Low charging current of battery

This status is indicated by the battery status indicator being constantly lit. These statuses are summarised to Linis and written to Blackbox.

**To cancel this status:**
- ► Press button 

.

**Status "Discharged battery"**
The battery is regarded as discharged if the following condition is met:

- ► Defined decrease of voltage depending on discharging current
- ► This status is indicated by the battery status indicator flashing quickly.
- ► The electric CPR position is the only possible position.
- ► This status will be cancelled automatically when the bed switches to sleep mode.

**To cancel this status:**

► Press button 

.

## 10.2 Removing the Bed from Service

**Remove the bed from use as follows:**
► Disconnect the bed from the mains.
► Disconnect the ground wire.
► Deactivate the battery.
► Remove accessories.

**To prevent damage during storage:**
► Pack or cover the bed and accessories.
► Ensure that storage conditions are the same as the operating conditions.

## 10.3 Deactivating the Battery

**To avoid damaging the bed and the environment during storage:**
► Deactivate the battery on the supervisor panel.

**To deactivate the battery on the supervisor:**
► Disconnect the bed from the mains.
► Disconnect the ground wire.
► Activate the keypad by pressing the button  on the supervisor.
► Press the Thighrest Up + Thigrest Down + Trendelenburg Position buttons at the same time and hold them for three seconds.

The battery is deactivated.

**To activate the battery again:**
► Connect Power Cable to the mains.

# 11 Manipulation



**WARNING!**
**Risk of injury when adjusting the bed!**
► Ensure that there are no body parts between the mattress platform elements and the mattress platform frame when adjusting the bed.
► Ensure that there are no body parts below the mattress platform frame before adjusting the bed.

## 11.1 Control Elements

The bed is operated by different control elements.

**Control elements depending on the model:**
■ iBoard Standard in both head siderails
■ Patient Control Panels integrated in both foot siderails (illuminated)
■ Patient Control Panels integrated in both head siderails
■ Additional Supervisor Panel
■ Handset with illuminated buttons and with adapter for easy connection (Plug and Play)
■ Lateral Tilt Foot Control
■ Bed Height Foot Control

**Disabling individual functions on the Additional Supervisor Panel will affect all control elements.**

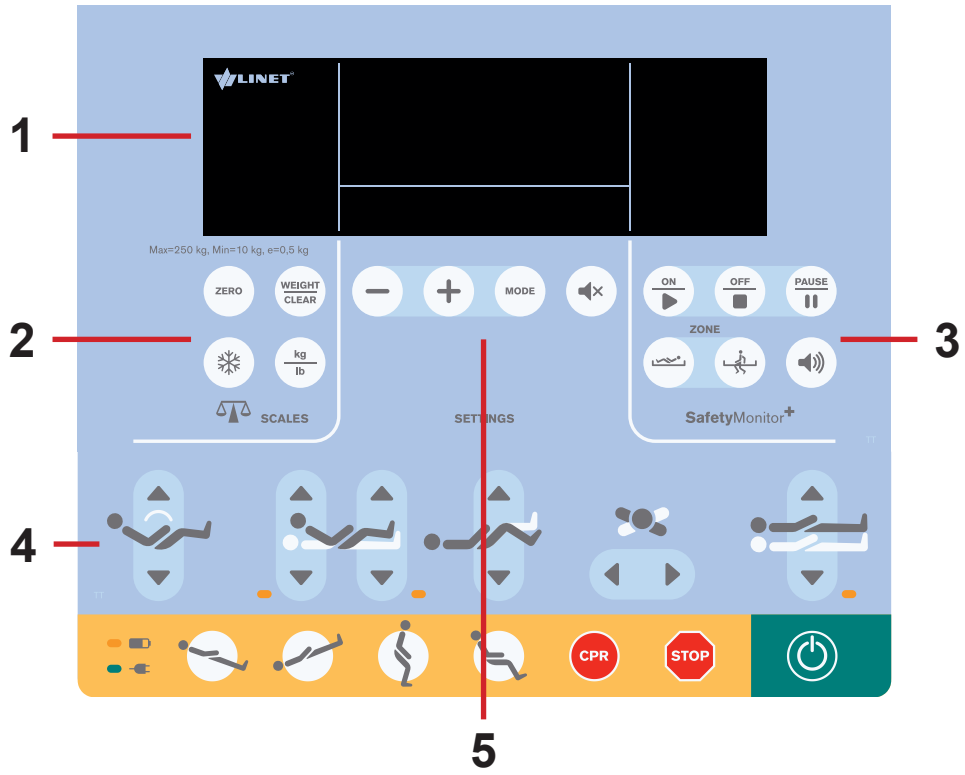
**If the bed does not react to individual position settings:**
► Check whether the function is disabled on the supervisor panel.

| POSITIONING | iBoard Standard | Additional Supervisor Panel | Handset | Integrated Control Panels (head side-rail, foot siderail) | Foot Control-Height | Foot Control-Tilt |
|---|---|---|---|---|---|---|
| Backrest | ✔ | ✔ | ✔ | ✔ | | |
| Thighrest | ✔ | ✔ | ✔ | ✔ | | |
| Calfrest | ✔ | ✔ | | | | |
| Bed Height | ✔ | ✔ | ✔ | | ✔ | |
| Autocontour | ✔ | | ✔ | ✔ | | |
| Examination Position | | | | | ✔ | |
| Emergency Trendelenburg Position | | ✔ | | | | |
| Anti-Trendelenburg and Trendelenburg Tilt | ✔ | ✔ | | | | |
| Bed Extension | | ✔ | | | | |
| CPR Position | ✔ | ✔ | | | | |
| Cardiac Chair Position | ✔ | ✔ | | | | |
| Mobilization Position | ✔ | | | | | |
| Lateral Tilt | ✔ | ✔ | | | | ✔ |

## 11.1.1 iBoard Standard

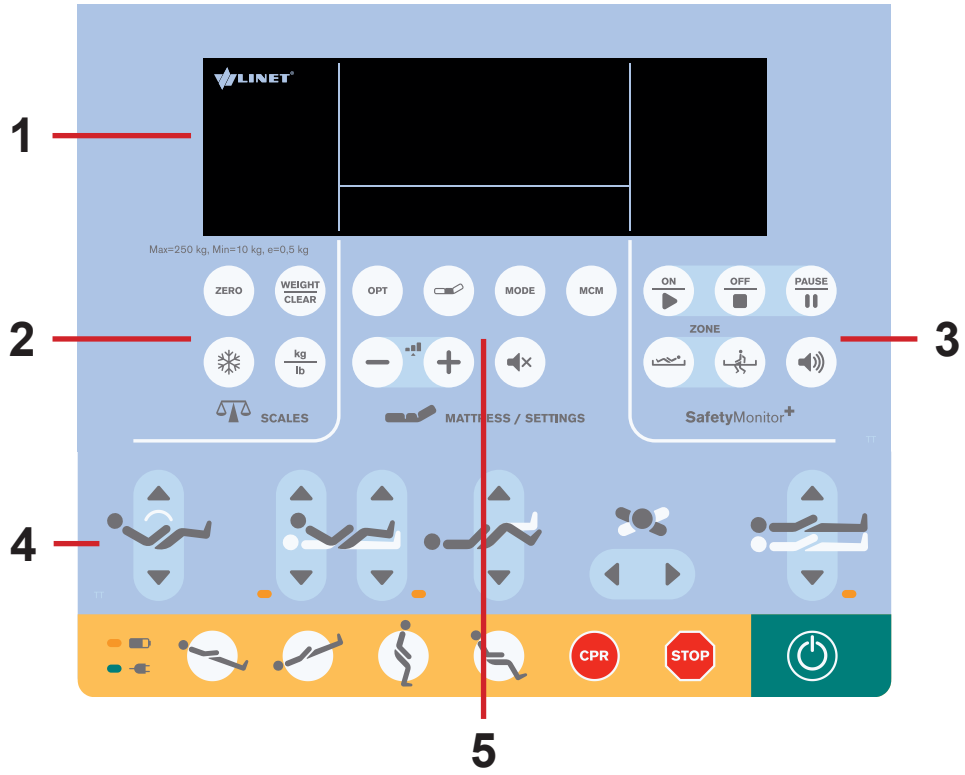
The iBoard Standard is the main Control Element for the caregivers. It is integrated in the outside of both head siderails. Only version with scales can be equipped with iBoard Standard.

► Ensure that exclusively trained nursing staff operates the iBoard Standard.




1. Display
2. Keyboard - Scales Section
3. Keyboard - Bed Exit/BedMonitor Section
4. Keyboard - Positioning Section
5. Keyboard - Settings Section or Setting Section and Integrated Mattress Section

Fig. iBoard Standard without Integrated Mattress Keyboard




1. Display
2. Keyboard - Scales Section
3. Keyboard - Bed Exit/BedMonitor Section
4. Keyboard - Positioning Section
5. Keyboard - Settings Section or Setting Section and Integrated Mattress Section

*Fig. iBoard Standard with Integrated Mattress Keyboard*

## Settings Section

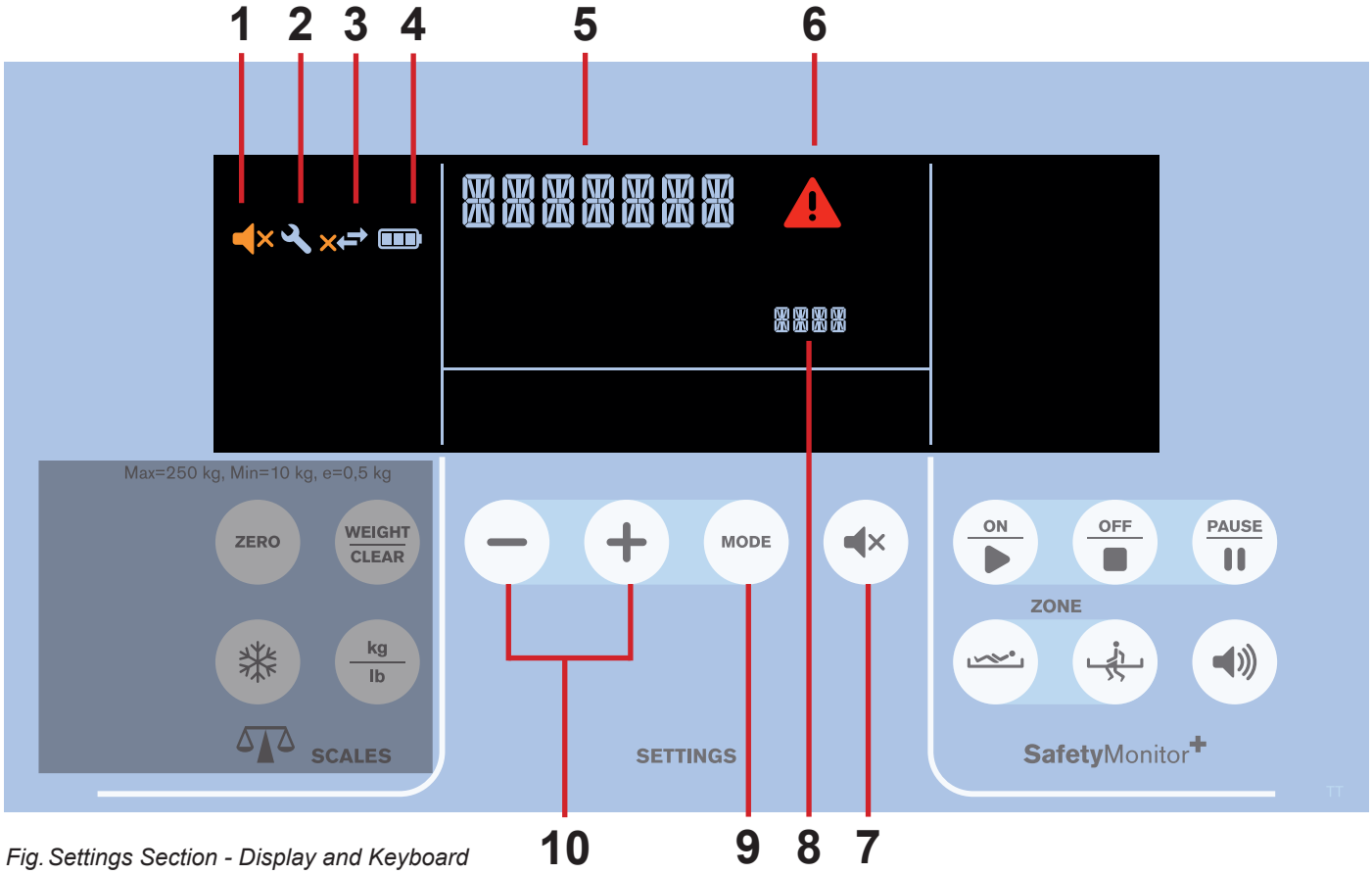



*Fig. Settings Section - Display and Keyboard*

1. MUTE Icon
2. Service required Icon
3. Connection to server Icon
4. State of charge (Battery)
5. Status
6. ALERT Icon
7. MUTE Button
8. Value to be set
9. MODE Button
10. -/+ Buttons (previous/next item or reduce/increase value)

## MUTE (1)

Function MUTE can mute Siderail Alarm and Brake Alarm for 3 minutes.

**To mute Siderail Alarm or Brake Alarm:**

► Press button .

Icon indicates activated Mute Mode.

## SERVICE REQUIRED (2)

Icon appears on the left part of iBoard Standard Display when service is required.

► Contact authorized service organization.

Icon is displayed with name of status (**5**).

## CONNECTION TO SERVER (3)

This icon appears on the display if BedMonitor option is ordered and integration module is installed.

Icon appears on the iBoard Standard Display when bed is connected to server.

Icon appears on the iBoard Standard Display when bed is disconnected from server.

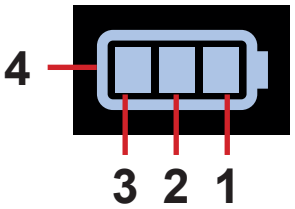
## STATE OF CHARGE (4)

Battery segments indicate state of charge (4 levels).

The more segments of battery icon the higher level of charge.

**WARNING!**
**Disabled functions due to critically discharged battery!**
► Connect bed immediately to the mains.

| Status | Indication |
|---|---|
| **Charging** | Lit segment **3**, segment **2** and **1** is flashing alternately |
| **Faulty Battery or Battery Not Installed** | Empty frame **4** is flashing |
| **Critically Discharged Battery** | Segment **3** is flashing, Bed Positioning Disabled |




## SETTINGS

During normal use icon **5** indicates time (**hours : minutes**).

**To enter Settings Mode:**

► Press and hold button MODE .

Icon **5** indicates option and icon **8** indicates its actual value.

Available options are: YEAR / MONTH / DAY / HOUR / MINUTE / WEIGHT TIMER.
It is not possible to set value for option WEIGHT TIMER in the version of Eleganza 5 bed without scales.

**NOTE**: Options are displayed in this order. YEAR follows after WEIGHT TIMER again.
**NOTE**: WEIGHT TIMER means automatic disappearance of weight value.

**To exit the Settings Mode:**

► Press and hold button MODE in the Settings Mode.

Icon **5** indicates time (**hours : minutes**).

**To set year:**

► Press button MODE in the Settings Mode when icon **5** indicates „**YEAR**“.

► To set the value use buttons − + .

► Press button MODE to save the value and continue to the setting of the other option.

The value is saved by exiting.
Icon **5** indicates another option automatically and icon **8** indicates its actual value.

**To set month:**

► Press button MODE in the Settings Mode when icon **5** indicates „**MONTH**“.

► To set the value use buttons .

► Press button  to save the value and continue to the setting of the other option.

The value is saved by exiting.
Icon **5** indicates another option automatically and icon **8** indicates its actual value.

**To set day:**

► Press button  in the Settings Mode when icon **5** indicates „**DAY**“.

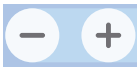
► To set the value use buttons .

► Press button  to save the value and continue to the setting of the other option.

The value is saved by exiting.
Icon **5** indicates another option automatically and icon **8** indicates its actual value.

**To set hour:**

► Press button  in the Settings Mode when icon **5** indicates „**HOUR**“.

► To set the value use buttons .

► Press button  to save the value and continue to the setting of the other option.

The value is saved by exiting.
Icon **5** indicates another option automatically and icon **8** indicates its actual value.

**To set minute:**

► Press button  in the Settings Mode when icon **5** indicates „**MINUTE**“.

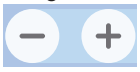
► To set the value use buttons .

► Press button  to save the value and continue to the setting of the other option.

The value is saved by exiting.
Icon **5** indicates another option automatically and icon **8** indicates its actual value.

**To set weight timer:**

► Press button  in the Settings Mode when icon **5** indicates „**WEIGHT TIMER**“.

► To set the value use buttons .

► Press button  to save the value and continue to the setting of the other option.

The value is saved by exiting.
Icon **5** indicates another option automatically and icon **8** indicates its actual value.

## Positioning Section

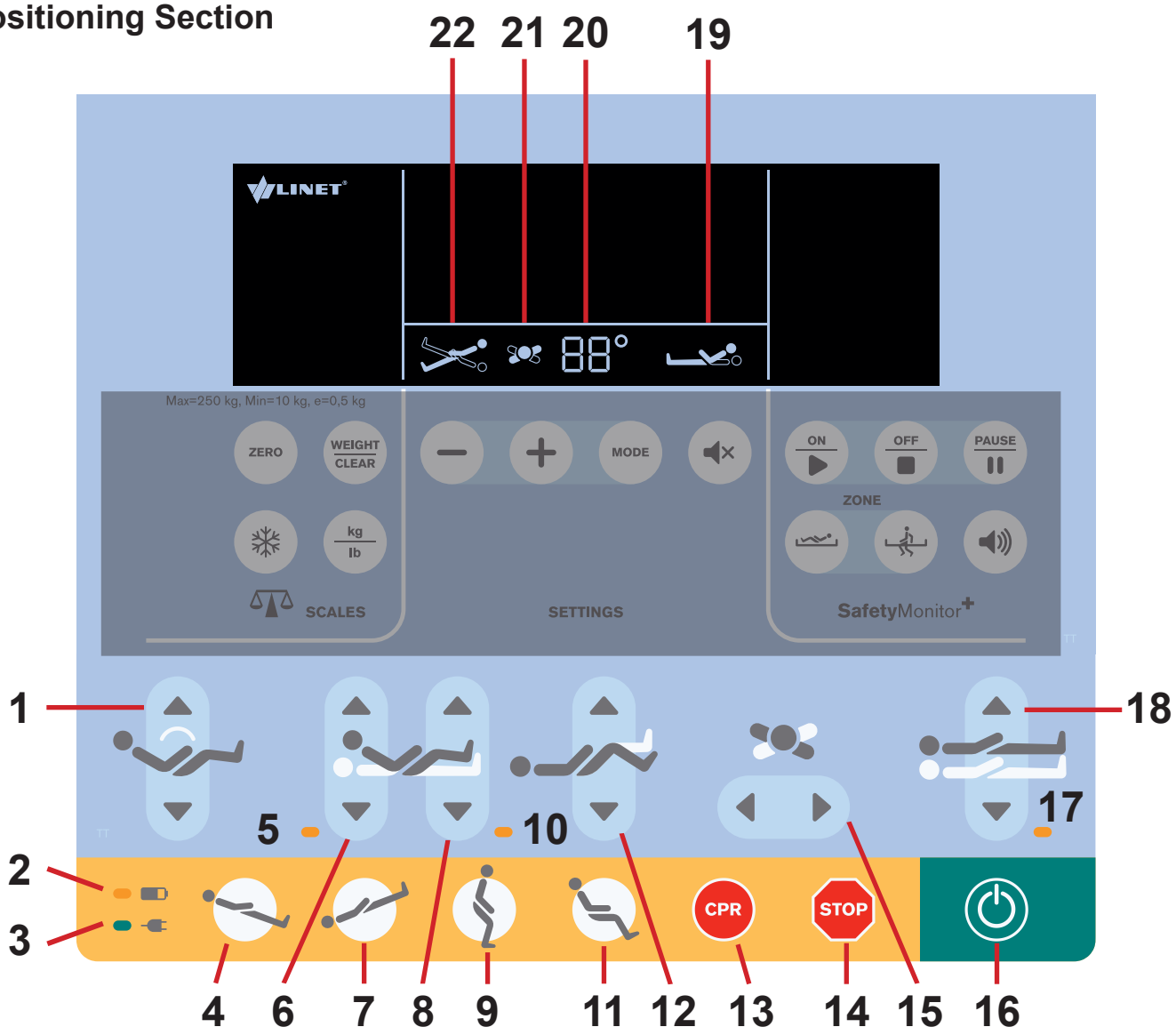



Fig. Positioning Section - Display and Keyboard

**1. Autocontour Adjustment Buttons (simultaneous movement of the Backrest and Thighrest)**
**2. Battery LED**
**3. Mains Power LED**
**4. Anti-Trendelenburg Tilt Button**
**5. Locked Backrest LED**
**6. Backrest Adjustment Buttons**
**7. Trendelenburg Tilt Button**
**8. Thighrest Adjustment Buttons**
**9. Mobilization Position Button**
**10. Locked Thighrest, Calfrest and Bed Extension LED**
**11. Cardiac Chair Position Button**
**12. Calfrest Adjustment Buttons**
**13. CPR (Resuscitation) Position Button**
**14. Central STOP Button**
**15. Lateral Tilt Buttons**
**16. GO Button**
**17. Locked Bed Height, Lateral Tilt, Trendelenburg Tilt and Anti-Trendelenburg Tilt LED**
**18. Bed Height Adjustment Buttons**
**19. Backrest Position Indicator**
**20. Angle Value**
**21. Lateral Tilt Indicator**
**22. Trendelenburg/Anti-Trendelenburg Position Indicator**

Positioning buttons **1**, **4**, **6**, **7**, **8**, **9**, **11**, **12, 13, 15** and **18** are explained in chapter Bed Positioning.

## GO BUTTON

The button  activates the keyboard of all Control Elements.

Pressing button  will keep the keyboard active for 10 minutes.

Pressing a button will keep the keyboard active for another 10 minutes.

**During this time the following is possible:**

► Adjusting individual Mattress support platform elements by pressing the corresponding positioning buttons.
► Disabling individual functions with the lock buttons.

**NOTE**: To activate CPR function (button ) the button  is not needed.

## STOP BUTTON

Pressing button  immediately stops all electronic bed movements.

## LOCKED FUNCTION SIGNALISATION

If **LED 5** is lit, Backrest Adjustment is locked.

If **LED 5** is not lit, Backrest Adjustment is unlocked.

If **LED 10** is lit, Thighrest, Calfrest and Bed Extension Adjustment are locked.

If **LED 10** is not lit, Thighrest, Calfrest and Bed Extension Adjustment are unlocked.

If **LED 17** is lit, Bed Height and Lateral Tilt, Trendelenburg Tilt and Anti-Trendelenburg Tilt are locked.

If **LED 17** is not lit, Bed Height and Lateral Tilt, Trendelenburg Tilt and Anti-Trendelenburg Tilt are unlocked.

## BATTERY INDICATOR

Signalisation of Battery LED  is described in chapter **Battery**.

## MAINS POWER LED 

| Status | Meaning |
|---|---|
| lit LED | connected to the mains |
| unlit LED | disconnected from the mains |
| flashing LED | system error |

## Pop-ups (iBoard Standard)

| Pop-up | Meaning | Required Action |
|---|---|---|
| **LOCK** | Function locked | Unlock function |
| **X-RAY** | Incorrectly inserted X-Ray Cassette Holder | Insert X-Ray Cassette Holder correctly |
| **GO** | GO Button not activated | Activate GO Button |
| **SIDERAIL** | Siderail folded down (Lateral Tilt disabled) | Raise siderail up to enable Lateral Tilt |
| **COLLISION** | Prevention from collision with floor during Lateral Tilt | Shorten Mattress Platform using Bed Extension positioning or Adjust Calfrest |
| | Trendelenburg and Anti-Trendelenburg Tilt disabled during Lateral Tilt | For information only |
| **0°** | Horizontal position was reached during Tilt | Press corresponding button to continue in positioning |
| **15°** | Lateral Tilt stopped (with siderails folded down) | For information only |
| **OVERLOAD +**  | Safe Working Load exceeded | Remove load! |
| | Maximum Lateral Tilt 15 degrees (Load more than 150 kg) | For information only |
| | Lateral Tilt disabled (Load more than 200 kg) | For information only |
| **PUMP DISCONNECTED +**  | System Control Unit disconnected | Connect mattress to System Control Unit |
| **USE MANUAL CPR +**  | Use Manual CPR | Use manual CPR! |
| **STOP SERVICE +**  **+**  | System Fatal Error | Contact service department approved by manufacturer. |
| **SAVE WEIGHT** | Confirmation of rewriting memory | Select tick for „yes“ or cross for „no“. |
| **SCALE +**  | Scales System disconnected | For information only |
| **FAULT COLUMN +**  | Column Unit Error | For information only |
| **SAFESTOP +**  | Movement of the Mattress Platform stopped by function Safestop | For information only |

## 11.1.2 Additional Supervisor Panel

The Additional Supervisor Panel is a standard Control Element. The Additional Supervisor Panel can be hung on the foot end or on siderails if required. It is possible to hold the Additional Supervisor Panel in the hand while operating.

► Ensure that exclusively trained nursing staff operates the Additional Supervisor Panel.

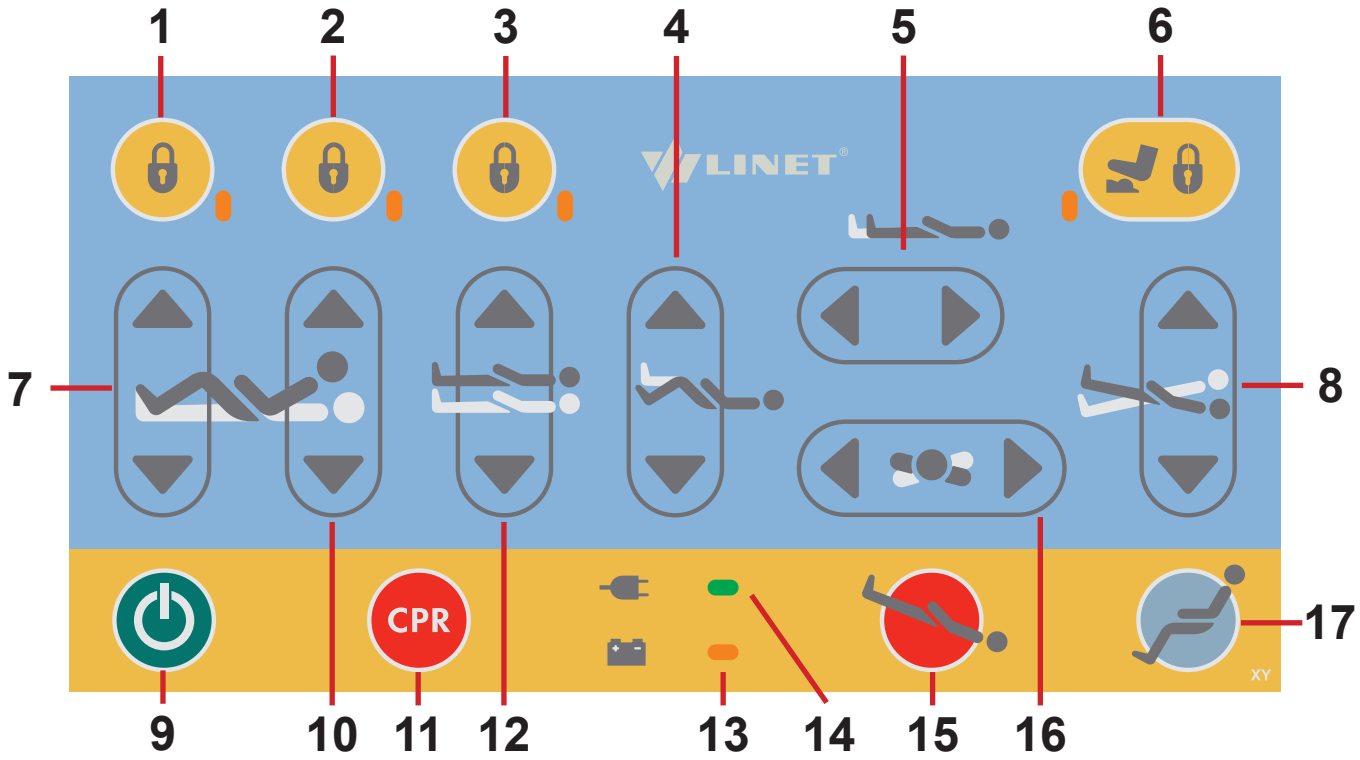



Fig. Additional Supervisor Panel

1. **Thighrest, Calfrest and Bed Extension Adjustment Lock Button and LED**
2. **Backrest Lock Button and LED**
3. **Bed Height, Lateral Tilt, Trendelenburg Tilt and Anti-Trendelenburg Tilt Lock Button and LED**
4. **Calfrest Adjustment Button**
5. **Bed Extension Adjustment Button**
6. **Foot Control Lock Button and LED**
7. **Thighrest Adjustment Button**
8. **Tilt Button**
9. **GO Button**
10. **Backrest Adjustment Button**
11. **CPR Position Button**
12. **Bed Height Adjustment Button**
13. **Battery Charge Status LED**
14. **Mains Power LED**
15. **Trendelenburg Position Button**
16. **Lateral Tilt Button**
17. **Cardiac Chair Position Button**

## Activating GO Button

The Button  activates the keyboard of all control elements for 10 minutes.

A GO Button is included on a number of different control elements. The function of the GO Button is identical on all control elements.

**During this time the following is possible:**

► Adjusting individual mattress platform elements by pressing the corresponding function buttons.
► Disabling individual functions with the lock buttons.

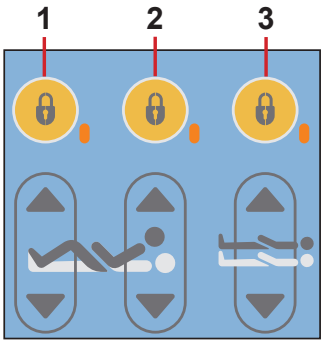
Each time a function button is pressed, the keypad will remain active for another 10 minutes.

## Function Buttons

The function buttons 4, 5, 7, 8, 10, 11, 12, 15, 16 and 17 are described in chapter Bed Positioning.

**NOTE** Pressing two function buttons at the same time will be recognized as an error by the controller. The controller will interrupt immediately all bed movements and display shows alert.

## Lock

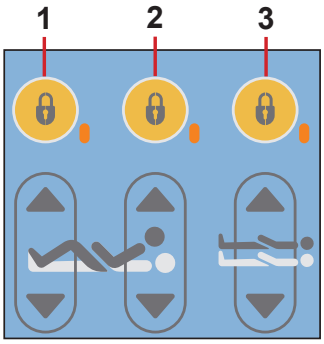



**To lock Backrest Adjustment:**
► Press button **2**.
Corresponding LED on Additional Supervisor Panel and on iBoard Standard (**5**) are lit.
Backrest Adjustment is disabled using any Control Element.

**To lock Thighrest, Calfrest and Bed Extension Adjustment:**
► Press button **1**.
Corresponding LED on Additional Supervisor Panel and on iBoard Standard (**10**) are lit.
Thighrest, Calfrest and Bed Extension Adjustment are disabled using any Control Element.

**To lock Bed Height, Lateral Tilt, Trendelenburg Tilt and Anti-Trendelenburg Tilt Adjustment:**
► Press button **3**.
Corresponding LED on Additional Supervisor Panel and on iBoard Standard (**17**) are lit.
Bed Height, Lateral Tilt, Trendelenburg Tilt and Anti-Trendelenburg Tilt Adjustment are disabled using any Control Element.

## Unlock




**To unlock Backrest Adjustment:**
► Press button **2**.
Corresponding LED on Additional Supervisor Panel and on iBoard Standard (**5**) are not lit.
Backrest Adjustment is enabled again.

**To unlock Thighrest, Calfrest and Bed Extension Adjustment:**
► Press button **1**.
Corresponding LED on Additional Supervisor Panel and on iBoard Standard (**10**) are not lit.
Thighrest, Calfrest and Bed Extension Adjustment are enabled again.

**To unlock Bed Height, Lateral Tilt, Trendelenburg Tilt and Anti-Trendelenburg Tilt Adjustment:**
► Press button **3**.
Corresponding LED on Additional Supervisor Panel and on iBoard Standard (**17**) are not lit.
Bed Height, Lateral Tilt, Trendelenburg Tilt and Anti-Trendelenburg Tilt Adjustment are enabled again.

## MAINS POWER LED



| Status | Meaning |
|---|---|
| lit LED | connected to the mains |
| unlit LED | disconnected from the mains |
| flashing LED | system error |

# 11.1.3 Handset (optional)

The handset is available with illuminated keyboard. Keyboards are illuminated with lowered intensity when the bed is connected to the mains.

**NOTE** The full illumination is activated for 7s if any button was pressed and it is activated for 10 minutes if GO Button was pressed.

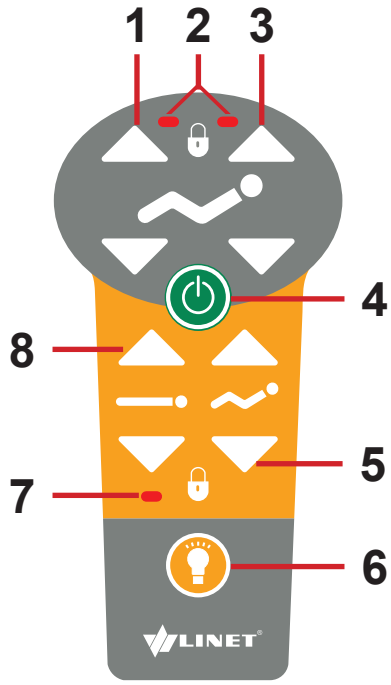



*Fig. Handset*

1. **Thighrest Adjustment Button**
2. **Thighrest/Backrest Lock LED**
3. **Backrest Adjustment Button**
4. **GO Button**
5. **Autocontour Adjustment Button**
6. **Flashlight Button**
7. **Height Lock LED**
8. **Bed Height Adjustment Button**

The function buttons **1**, **3**, **5** and **8** are described in chapter Bed Positioning.

**To switch on the flashlight:**

► Press flashlight button .

**NOTE** Depending on the patient's condition, the nursing staff decides whether the patient is allowed to adjust the bed's position.

**If required, prevent the patient from adjusting the bed as follows:**

► Disable functions.

**NOTE** An adapter for the handset is available. The adapter enables quick installation and removal (e.g. replacing a defective handset, using the handset for another bed).

## 11.1.4 Integrated Control Panels for Patient

The control panels integrated in the middle siderails allow the patient to adjust the positions of the Backrest, Thighrest and Autocontour. Optionally additional control panel is situated in the inner side of head siderails.

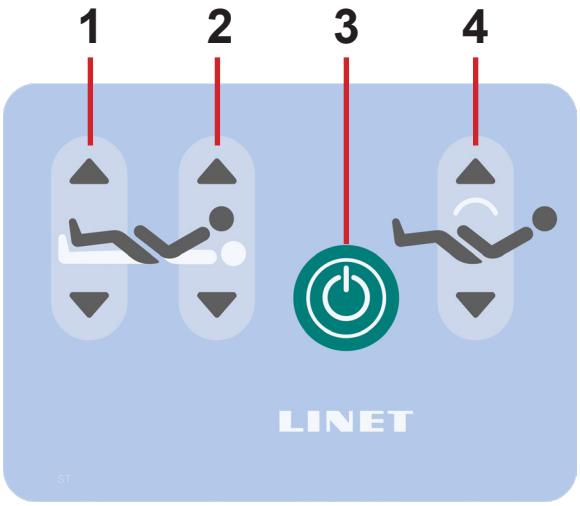



*Fig. Patient Control Panel in the foot siderails*

1. **Thighrest Adjustment Button**
2. **Backrest Adjustment Button**
3. **GO Button**
4. **Autocontour Adjustment Button (simultaneous movement of the Backrest and Thighrest)**

**NOTE** Keyboards are illuminated with lowered intensity when the bed is connected to the mains. The full illumination is activated for 7s if any button was pressed and it is activated for 10 minutes if GO Button was pressed.

**NOTE** Functions on the Patient´s Control Panel in the middle siderails are disabled when the middle siderail is in lower position.

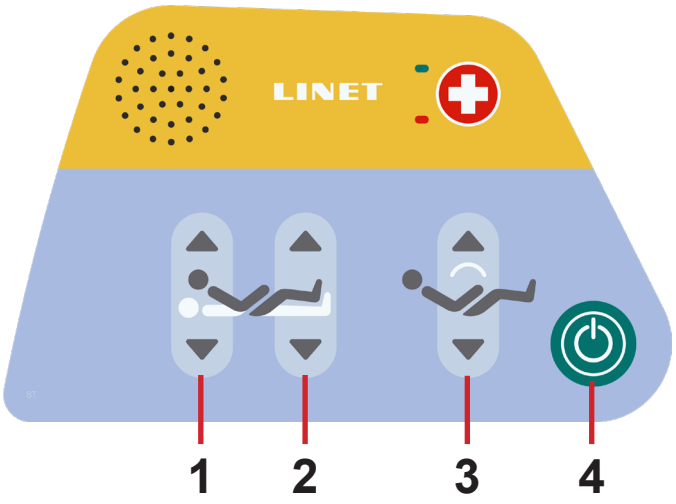
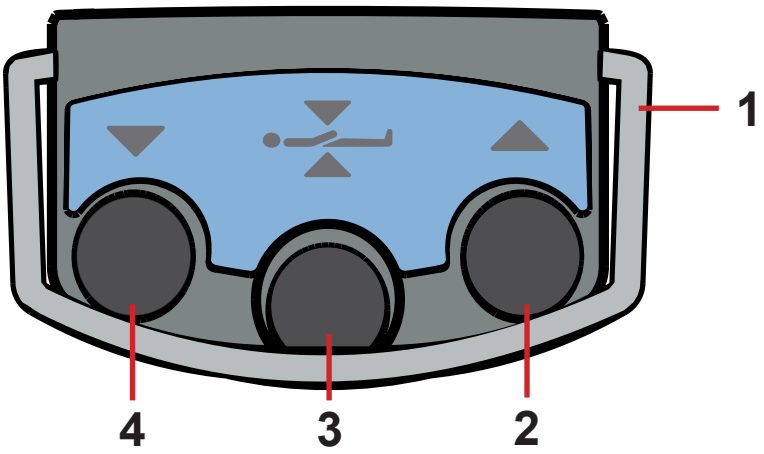



*Fig. Patient´s Control Panel in the head siderails (optional)*

1. **Backrest Adjustment Button**
2. **Thighrest Adjustment Button**
3. **Autocontour Button (simultaneous movement of the Backrest and Thighrest)**
4. **GO Button**

## 11.1.5 Foot Control Bed Height (optional)

The foot control is optional and allows setting the Height of the bed with one's feet.



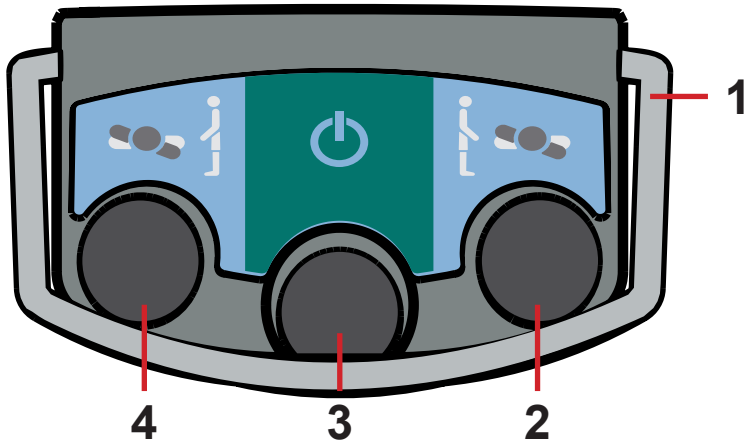

1. **Protection Frame against Unwanted Activation**
2. **Raise Mattress support platform Pedal**
3. **Examination Position Pedal**
4. **Lower Mattress support platform Pedal**

*Fig. Foot Control Bed Height*

The use of Bed Height Foot Control is described in the chapter Bed Positioning.

## 11.1.6 Foot Control Lateral Tilt (standard)

The foot control allows setting the Lateral Tilt of the bed with the feet.

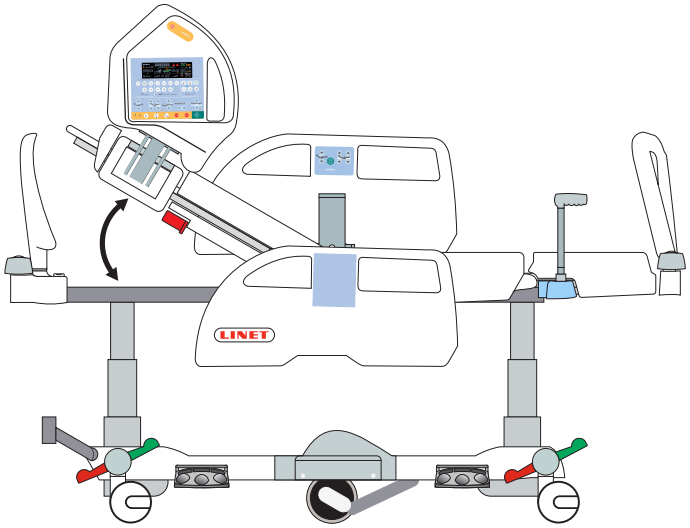



1. **Protection Frame against Unwanted Activation**
2. **Tilt Right Pedal**
3. **GO Pedal**
4. **Tilt Left Pedal**

*Fig. Foot Control Lateral Tilt*

The use of Foot Control Lateral Tilt is described in the chapter Bed Positioning.

# 11.2 Bed Positioning



## 11.2.1 Backrest

**To position Backrest use:**

- ► iBoard Standard
- ► Additional Supervisor Panel
- ► Handset
- ► Integrated Control Panel for Patient (in middle siderail)
- ► Integrated Control Panel for Patient (in head siderail)

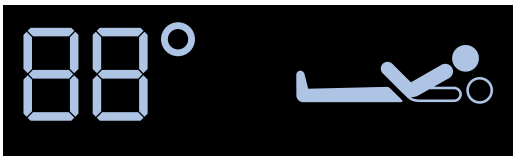



*Fig. Backrest Angle on iBoard Standard Display*

iBoard Standard Display shows Backrest Angle.

**During continuous positioning Backrest stops automatically in 30 and 45 degrees. To continue in positioning press corresponding button once more.**

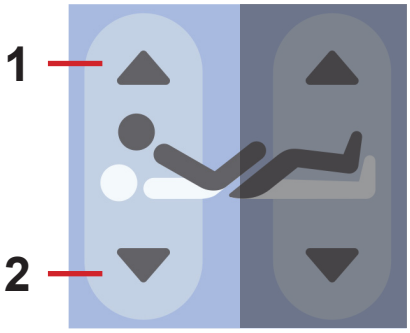



*Fig. Backrest Adjustment Button (iBoard Standard, Integrated control Panel for Patient (in middle and in head siderail))*

**1. Backrest Up**

**2. Backrest Down**

**iBoard Standard:**

- ► Press button  .
- ► Press selected part of Backrest Adjustment Button until intended position is reached.

**ntegrated Control Panel for Patient (in middle siderail):**

- ► Press button  .
- ► Press selected part of Backrest Adjustment Button until intended position is reached.

**Integrated Control Panel for Patient (in head siderail):**

- ► Press button  .
- ► Press selected part of Backrest Adjustment Button until intended position is reached.

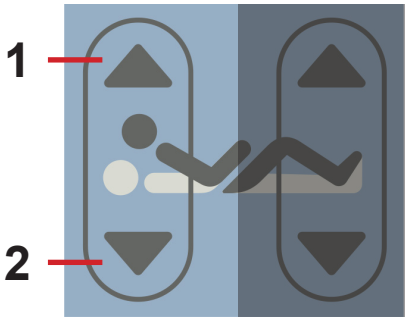



*Fig. Backrest Adjustment Button (Additional Supervisor Panel)*

**Additional Supervisor Panel:**

- ► Press button  .
- ► Press selected part of Backrest Adjustment Button until intended position is reached.

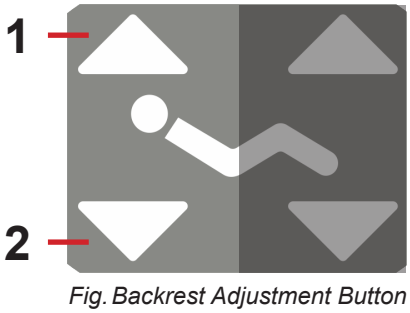
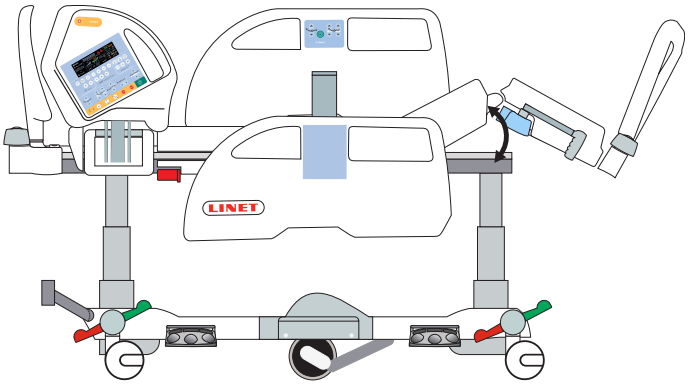



*Fig. Backrest Adjustment Button (Handset)*

**Handset:**

- ► Press button  .
- ► Press selected part of Backrest Adjustment Button until intended position is reached.



## 11.2.2 Thighrest

**To position Thighrest use:**

- ► iBoard Standard
- ► Additional Supervisor Panel
- ► Handset
- ► Integrated Control Panel for Patient (in middle siderail)
- ► Integrated Control Panel for Patient (in head siderail)

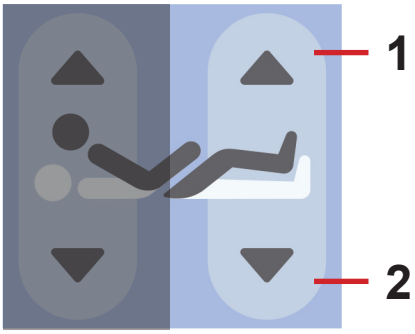



*Fig. Thighrest Adjustment Button (iBoard Standard, Integrated control Panel for Patient (in middle and in head siderail))*

**iBoard Standard:**

- ► Press button .
- ► Press selected part of Thighrest Adjustment Button until intended position is reached.

**ed Control Panel for Patient (in middle siderail):**

- ► Press button .
- ► Press selected part of Thighrest Adjustment Button until intended position is reached.

**Integrated Control Panel for Patient (in head siderail):**

- ► Press button .
- ► Press selected part of Thighrest Adjustment Button until intended position is reached.

**1. Thighrest Up**

**2. Thighrest Down**

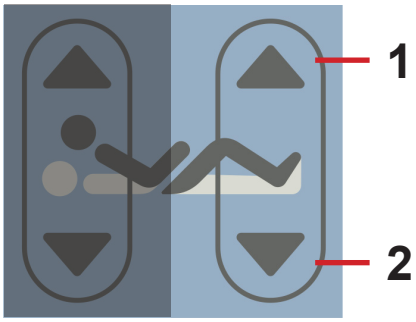



*Fig. Thighrest Adjustment Button (Additional Supervisor Panel)*

**Additional Supervisor Panel:**

- ► Press button .
- ► Press selected part of Thighrest Adjustment Button until intended position is reached.

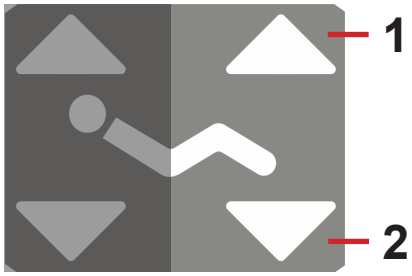
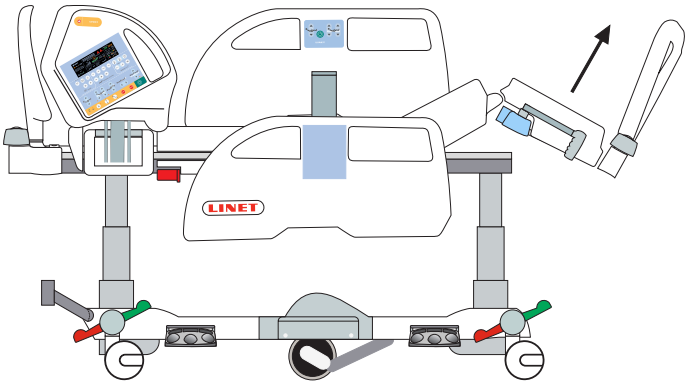



*Fig. Thighrest Adjustment Button (Handset)*

**Handset:**

- ► Press button .
- ► Press selected part of Thighrest Adjustment Button until intended position is reached.



## 11.2.3 Calfrest

**To position Calfrest position Thighrest firstly.**

**To position Calfrest use:**

- ► iBoard Standard
- ► Additional Supervisor Panel

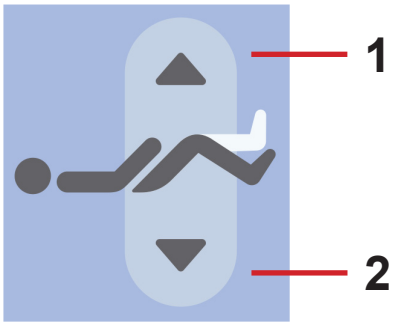



Fig. Calfrest Adjustment Button (iBoard Standard)

**1. Calfrest Up**

**2. Calfrest Down**

**iBoard Standard:**

- ► Press Button .
- ► Press selected part of Calfrest Adjustment Button until intended position is reached.

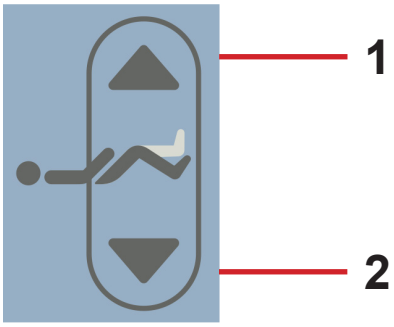
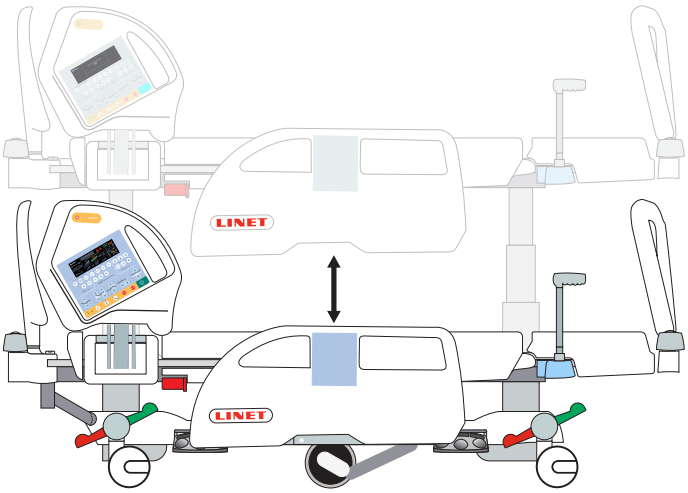



Fig. Calfrest Adjustment Button (Additional Supervisor Panel)

**Additional Supervisor Panel:**

- ► Press Button .
- ► Press selected part of Calfrest Adjustment Button until intended position is reached.



## 11.2.4 Bed Height

**To position Bed Height use:**

- ► iBoard Standard
- ► Additional Supervisor Panel
- ► Hanset
- ► Foot Control Height

**NOTE** It is possible to use Button on Mobi-Lift (optional) to position Bed Height.

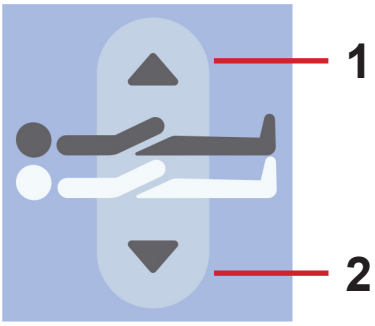



Fig. Bed Height Adjustment Button (iBoard Standard)

**iBoard Standard:**

► Press Button  .

► Press selected part of Bed Height Adjustment Button until intended position is reached.

**1. Mattress Platform Up**

**2. Matress Platform Down**

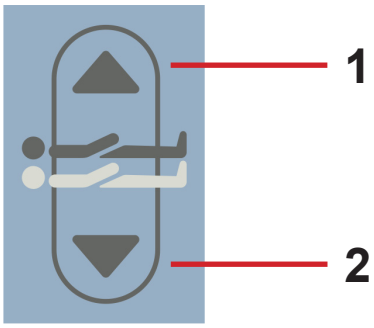



Fig. Bed Height Adjustment Button (Additional Supervisor Panel)

**Additional Supervisor Panel:**

► Press Button  .

► Press selected part of Bed Height Adjustment Button until intended position is reached.

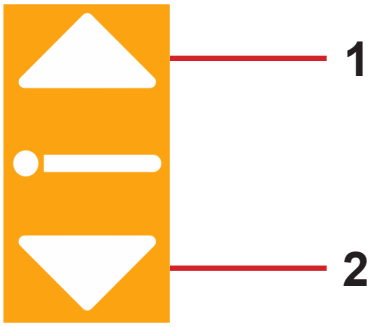



Fig. Bed Height Adjustment Button (Handset)

**Handset:**

► Press Button  .

► Press selected part of Bed Height Adjustment Button until intended position is reached.




Fig. Bed Height Adjustment Pedals (Foot Control Height)

**Foot Control Height:**

► Press the selected Bed Height Pedal and release it.
► Press and hold selected Bed Height Pedal once more until intended position is reached.

**NOTE**: Foot Control Height is activated for 30s after this procedure.

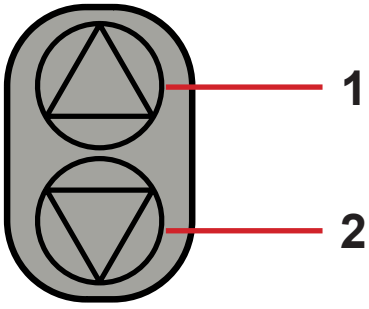
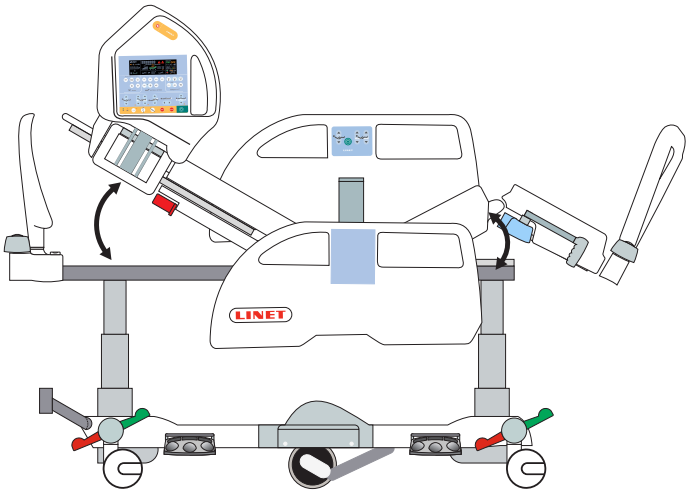



Fig. Mobi-Lift Bed Height Adjustment Button

**MobiLift:**

► Press Button  .

► Press selected part of Mobi-Lift Bed Height Adjustment Button until intended position is reached.



## 11.2.5 Autocontour

**To position Autocontour use:**

- ► iBoard Standard
- ► Handset
- ► Integrated Control Panel for Patient (in middle siderail)
- ► Integrated Control Panel for Patient (in head siderail)

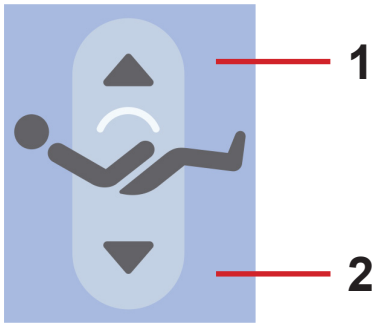



Fig. Autocontour Adjustment Button (iBoard Standard, Integrated control Panel for Patient (in middle and in head siderail)

**1. Autocontour Up**

**2. Autocontour Down**

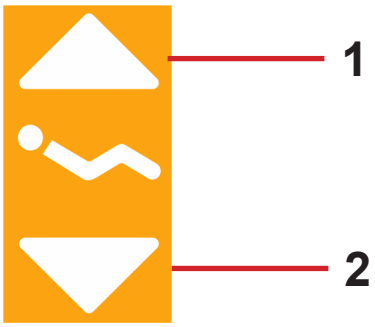



Fig. Autocontour Adjustment Button (Handset)

**iBoard Standard:**

- ► Press Button .
- ► Press selected part of Autocontour Adjustment Button until intended position is reached.

**Integrated Control Panel for Patient (in middle siderail):**

- ► Press Button .
- ► Press selected part of Autocontour Adjustment Button until intended position is reached.

**Integrated Control Panel for Patient (in head siderail):**

- ► Press Button .
- ► Press selected part of Autocontour Adjustment Button until intended position is reached.

**Handset:**

- ► Press Button .
- ► Press selected part of Autocontour Adjustment Button until intended position is reached.

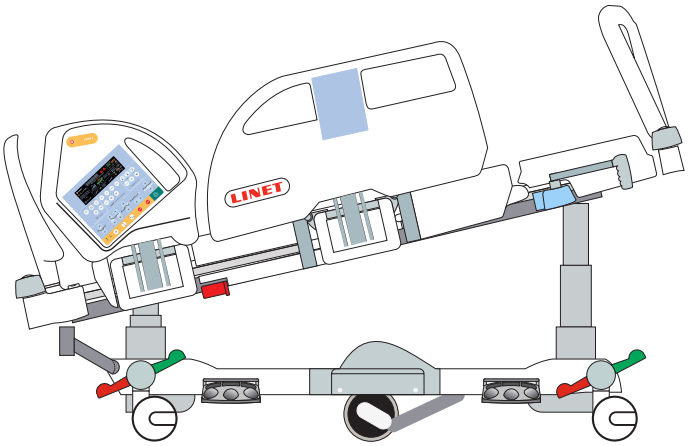


Fig. Trendelenburg Position

## 11.2.6 Emergency Trendelenburg Position

**Trendelenburg position provides anti-shock conditions for the patient. During Trendelenburg Position Mattress Platform is straightened in the tilt.**

**To position Emergency Trendelenburg Position use:**

► Additional Supervisor Panel

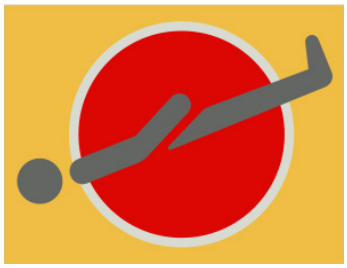


Fig. Trendelenburg Position Button (Additional Supervisor Panel)

**Additional Supervisor Panel:**

► Press Button  .

► Press Trendelenburg Position Button until intended position is reached.

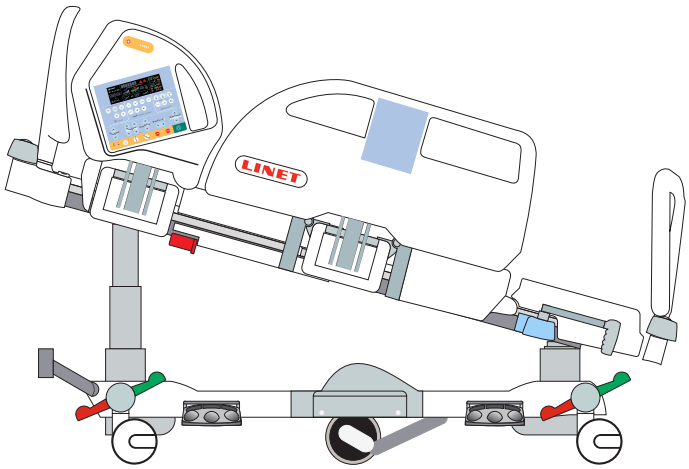


Fig. Anti-Trendelenburg Position

## 11.2.7 Anti-Trendelenburg and Trendelenburg Tilt

**To position Trendelenburg or Anti-Trendelenburg Tilt use:**

► iBoard Standard
► Additional Supervisor Panel



Fig. Tilt Angle on iBoard Standard Display

iBoard Standard Display shows Tilt Angle.

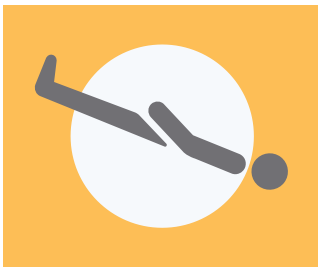


Fig. Trendelenburg Tilt Button (iBoard Standard)

**iBoard Standard:**

► Press Button  .

► Press Trendelenburg Tilt Button until intended position is reached.

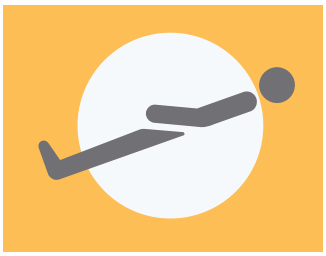


Fig. Anti-Trendelenburg Tilt Button (iBoard Standard)

**iBoard Standard:**

► Press Button .

► Press Anti-Trendelenburg Tilt Button until intended position is reached.

**1. Anti-Trendelenburg Tilt**

**2. Trendelenburg Tilt**

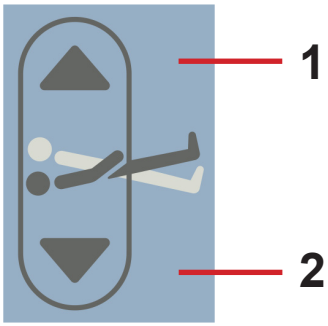
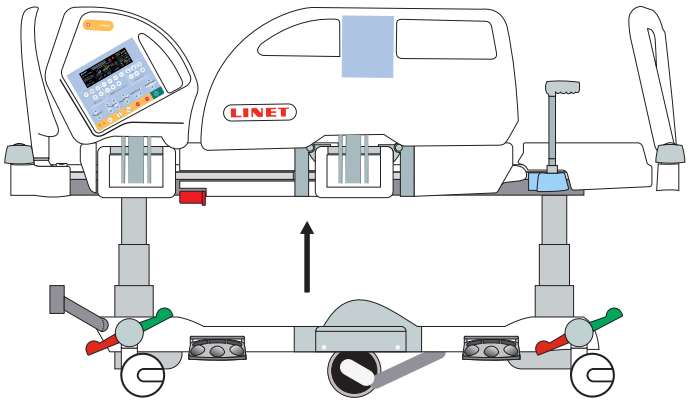



Fig. Trendelenburg and Anti--Trendelenburg Tilt Button (Additional Supervisor Panel)

**Additional Supervisor Panel:**

► Press Button .

► Press selected part of Trendelenburg and Anti-Trendelenburg Tilt Button until intended position is reached.




## 11.2.8 Examination Position

**To position Examination Position use:**

► Foot Control Height

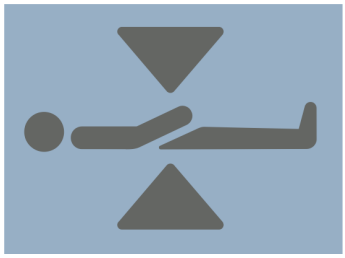
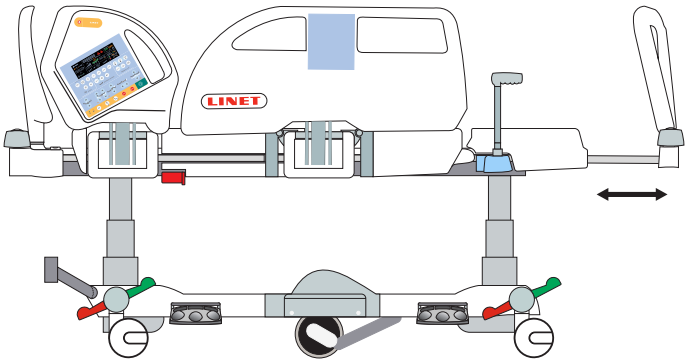


Fig. Examination Position Pedal (Foot Control Height)

**Foot Control Height:**

► Press the middle pedal to activate the panel.
► Press and hold Examination Position Pedal until intended position is reached.

**NOTE**: Bed Height Foot Control is activated for 30s after this procedure.



## 11.2.9 Bed Extension

**To position Bed Extension use:**

► Additional Supervisor Panel

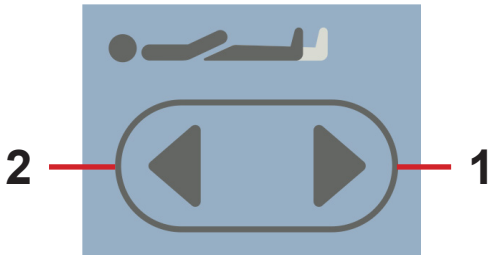


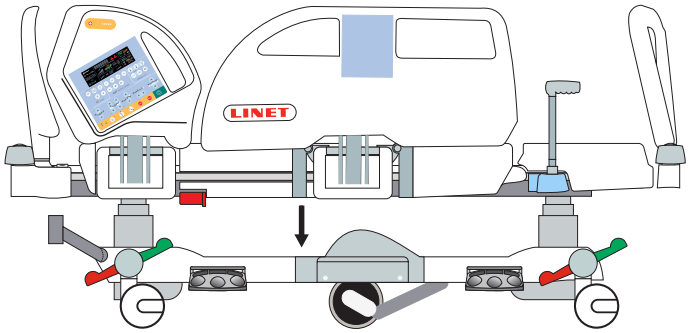

*Fig. Bed Extension Adjustment Button (Additional Supervisor Panel)*

**Additional Supervisor Panel:**

► Press Button .

► Press selected part of Bed Extension Adjustment Button until intended position is reached.

**1. Longer Mattress Platform**
**2. Shorter Mattress Platform**



## 11.2.10 CPR Position

In CPR Position bed reaches flat Mattress Platform.

If the bed is equipped with Opticare mattress, pressing CPR Button will also deflate the mattress.

**To position CPR Position use:**

► iBoard Standard
► Additional Supervisor Panel



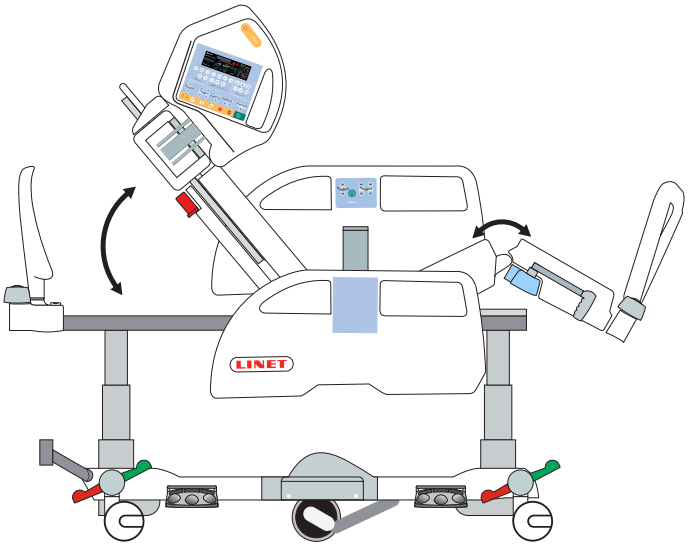

*Fig. CPR Position Button (iBoard Standard, Additional Supervisor Panel)*

**iBoard Standard:**

► Press CPR Position Button until intended position is reached.

**Additional Supervisor Panel:**

► Press CPR Position Button until intended position is reached.



## 11.2.11 Cardiac Chair Position

**To position Cardiac Chair Position use:**

► iBoard Standard
► Additional Supervisor Panel



*Fig. Cardiac Chair Position Button (iBoard Standard)*

**iBoard Standard:**

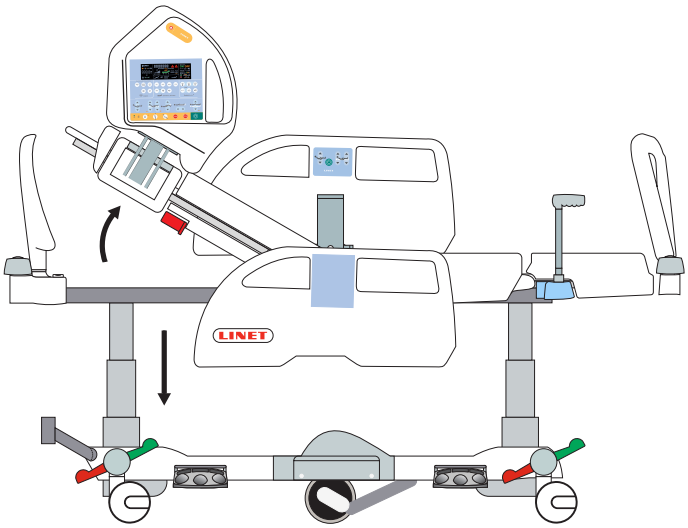
► Press Button .
► Press Cardiac Chair Position Button until intended position is reached.



*Fig. Cardiac Chair Position Button (Additional Supervisor Panel)*

**Additional Supervisor Panel:**

► Press Button .
► Press Cardiac Chair Position Button until intended position is reached.



## 11.2.12 Mobilisation Position

In Mobilisation Position bed is descending to the lowest Bed Height and Backrest reaches the maximum angle.

**To position Mobilisation Position use:**

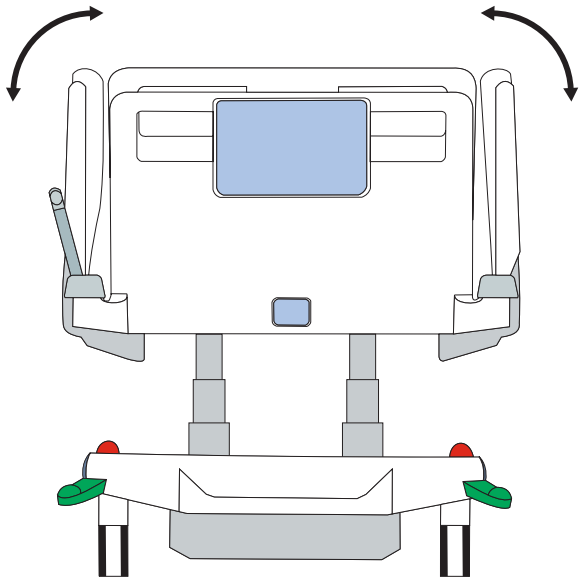
► iBoard Standard



*Fig. Mobilisation Position Button*

**iBoard Standard:**

► Press Button .
► Press Mobilisation Position Button until intended position is reached.



## 11.2.13 Lateral Tilt

**To position Lateral Tilt use:**

- ► iBoard Standard
- ► Foot Control Tilt
- ► Additional Supervisor Panel

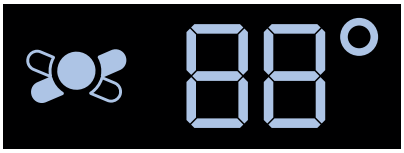


*Fig. Lateral Tilt Angle on iBoard Standard Display*

iBoard Standard Display shows Lateral Tilt Angle. Maximum Lateral Tilt Angle is 15 degrees.

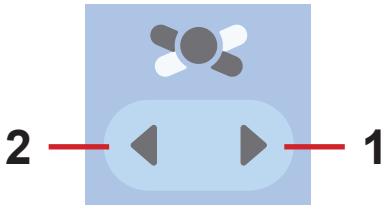



Fig. Lateral Tilt Button (iBoard Standard)

**iBoard Standard:**

- ► Press Button  .
- ► Press Lateral Tilt Button until intended position is reached.

**To facilitate mobilisation of the patient:**

► Press button  + 


until intended position is reached.
Lateral Tilt is adjusted although a siderail is folded down.

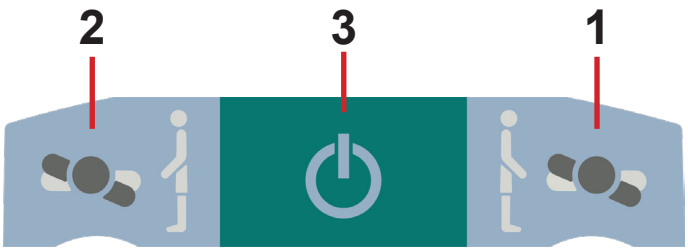



*Fig. Lateral Tilt Pedals (Foot Control Tilt)*

**1. Tilt Right**
**2. Tilt Left**
**3. GO Button**

**Foot Control Tilt:**

- ► Press Button  .
- ► Press and hold selected Lateral Tilt Pedal until intended position is reached.

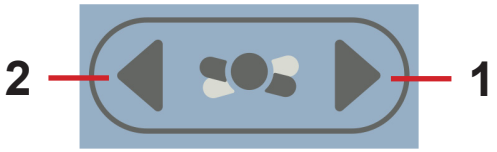



*Fig. Lateral Tilt Button (Additional Supervisor Panel)*

**Additional Supervisor Panel:**

- ► Press Button  on the Additional Supervisor Panel.
- ► Press selected part of Lateral Tilt Button until intended position is reached.

## Ergoframe

Ergoframe® is the kinematic system of Backrest and Thighrest Adjustment resulting in extension of the Mattress Platform in the pelvic section.

Ergoframe® minimalises the pressure on patient´s abdomen and pelvic area and frictional forces on the patient‘s back and legs, thereby significantly reducing the risk of pressure injuries.

Ergoframe maintains a stable ergonomic position of the body and spine of the patient, thus limiting unwanted movement of the patient by moving down or up in beds. Unified movement eliminates the patient‘s shift over the mattress and thus maintains a uniform position of the patient‘s body that is not bound to the position of the bed parts.

## 11.3 Scales Control

Use iBoard Standard to control the scales.

### iBoard Standard

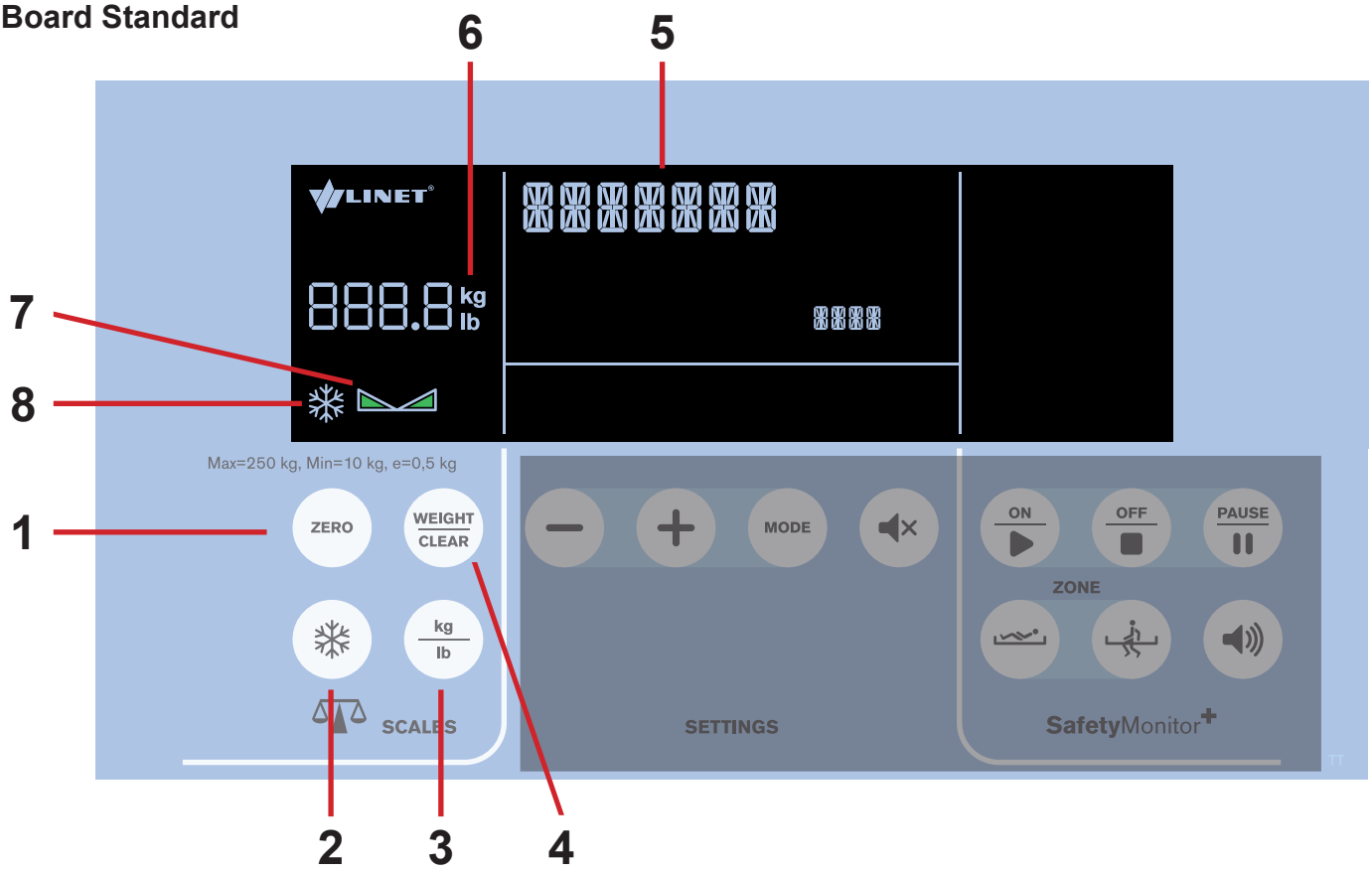



Fig. Scales Section - Display and Keyboard

**1. ZERO/T Button (tare or zero scales)**
**2. WEIGHT/CLEAR Button (cancel)**
**3. HOLD Button**
**4. Memory Button (save or display weight value)**
**5. Scale interval switch button (0,5kg/0,1kg)**
**6. Status Indicator**
**7. Weight value and unit of weight (kg)**
**8. Memory Record Indicator**
**9. Stabilized Scales Icon**
**10. HOLD Icon**

### 1) Preparation

► Install mattress and accessories to prepare bed before patient admission and using the scales.

**CAUTION!**
**Incorrect use of scales due to incomplete preparation!**
► Before each patient admission tare the scales.

### 2) Taring

Taring can be done in a range of 5kg to 249.5kg. Taring is used to set “0” on the display before placing the patient on the bed. Taring must be done with an unloaded bed with mattress, bed sheets, pillows and necessary accessories, without the patient. It is recommended to position Mattress Platform about 20 cm above the lowest horizontal position

**To tare weight:**
► Ensure that nothing and nobody touches the bed except you.
► Press and hold button ZERO until value (field **6**) starts to flash. Release button ZERO .

► Press button ZERO again to confirm taring. “0” is shown on the display.

Place the patient on the bed.

**To cancel taring:**
► Press button WEIGHT CLEAR while taring.

## 3) Displaying

Verification Scale Interval is 0.5 kg.
Field **6** shows normally actual weight value.

**NOTE** Weight value automatically disappears after 1 minute. If this value is needed press button WEIGHT CLEAR to display it again.

**To switch between units of weight (kg/lb):**

► Press button kg/lb .

## 4) Hold Mode

Hold Mode can be used only when scales are stabilized (icon **7** is shown on the display).
It allows adding or removing bed accessories and other items without changing the weight value.

**To activate Hold Mode:**
► Wait until the scales are stabilized. The icon will be illuminated when the scales are stabilized.

► Press button until snowflake icon appears on the display.

► Add or remove required accessories.

**To deactivate Hold Mode:**
► After adding or removing accessories wait until the scales are stabilized. When the scales are stabilized the icon is illuminated.

► Press button .

► Display shows the original weight.

**To deactivate Hold Mode without fixing the weight value:**

► Press button WEIGHT CLEAR .

## 5) Bed Overload

If the bed load is over 254.5kg:
► The “Hi” icon is shown on the display.

**NOTE** If the bed is overloaded it is impossible to position or manipulate the bed until overloading is removed.

**NOTE** Bed overloading always has higher priority than HOLD and Taring functions.

## 6) Bed Underload

If the bed is underloaded (factory zero – 5kg):
► Display shows the icon „Lo“

## 7) Weighing in tilt

Accuracy is conditioned by the spirit level, which is located on the right head corner of the bed. If the bubble is in the highlighted circle then weighing is accurate.

## 8) Zeroing Scales

Zeroing is only possible in a range of ±5kg from factory zero. Zeroing is used to reset weight on the display and set up user zero, which sets the maximum weight range of the weighing system.
Zeroing must be done with an empty, unloaded bed, without the mattress and accessories. Zeroing is done after installation, weight verification or servicing.

**To zero scales:**

► Position the bed about 20 cm above the lowest position and the mattress platform in the horizontal position. Ensure that nothing touches the bed except you.

► Press and hold button ZERO until weight value starts to flash.

► Press button ZERO to confirm zeroing.

"0" is shown on the display and an acoustic signal confirms zeroing.

**To cancel zeroing:**

► Press button WEIGHT CLEAR while zeroing.

# 11.4 Bed Exit Monitoring

Use iBoard Standard to control the Bed Exit Monitoring.

### iBoard Standard

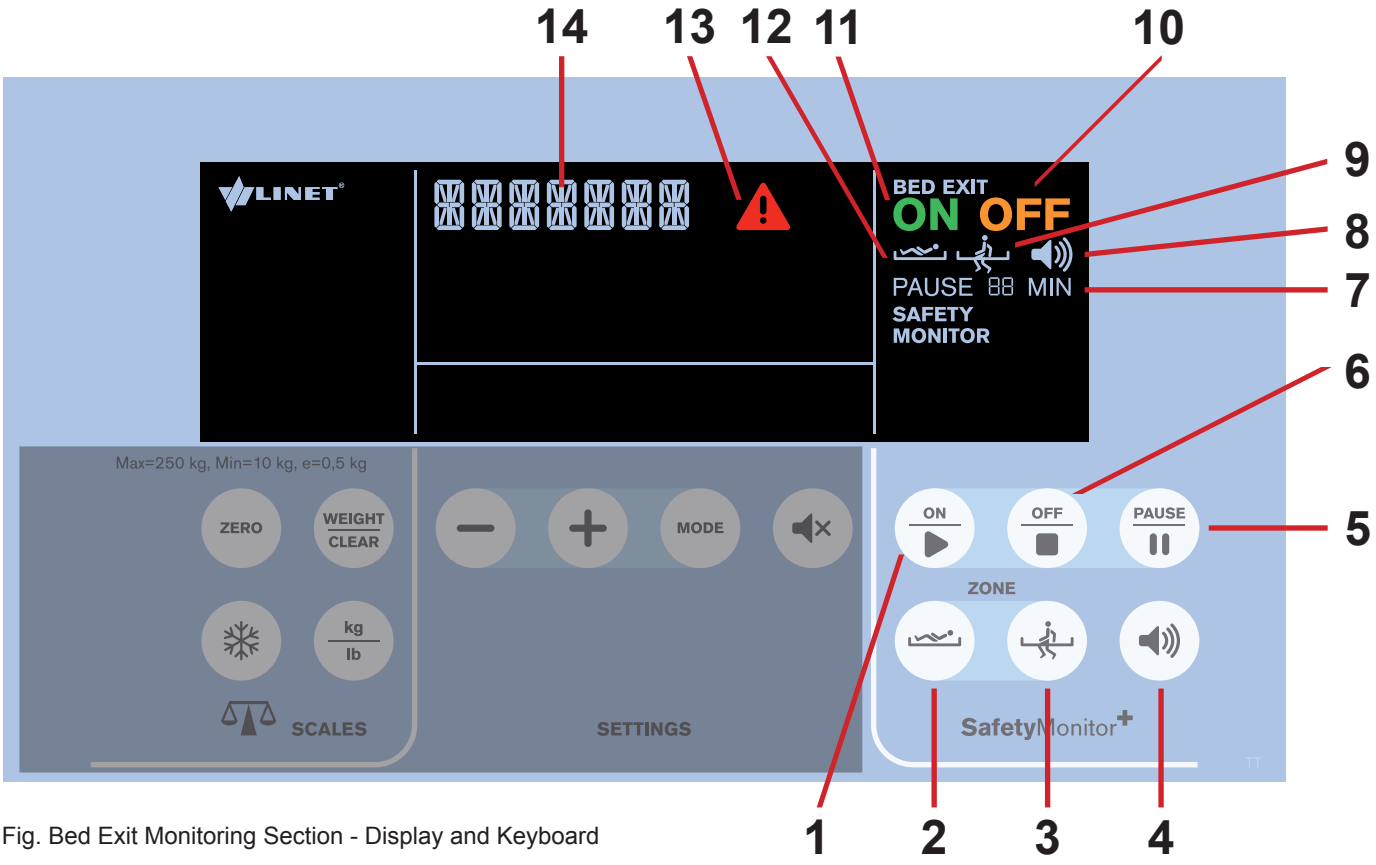



Fig. Bed Exit Monitoring Section - Display and Keyboard

**1. ON Button**
**2. Inner Zone Button**
**3. Outer Zone Button**
**4. VOLUME Button (3 levels)**
**5. PAUSE Button**
**6. OFF Button**
**7. PAUSE Coundown Icon (with remaining minutes)**
**8. Volume Icon (3 levels)**
**9. Bed Exit Monitoring Activated (Outer Zone)**
**10. OFF Icon**
**11. ON Icon**
**12. Bed Exit Monitoring Activated (Inner Zone)**
**13. Alert Icon**
**14. Status indicator**

## 1) Preparation

► Place a patient on the bed with suitable mattress.

**NOTE** For the correct Bed Exit Monitoring in the Inner Zone patient´s position in the middle of the bed is needed.

## 2) Activation of Bed Exit Monitoring

Bed Exit Monitoring is **OFF** and icon OFF is displayed by default.

**To activate Bed Exit Monitoring:**

► Press button ON .

Icon ON appears on the display.

When Bed Exit Monitoring is activated Inner Zone is set by default. Icon therefore appears on the display.

**NOTE** Minimum patient´s weight for Bed Exit Monitoring is 35 kg.

## 3) Monitored Zone

**To set Outer Zone:**

► Press button .

Icon appears on the display.

**To set Inner Zone:**

► Press button .

Icon appears on the display.

## 4) ALARM

Alarm is triggered when patient has left selected monitored zone or PAUSE period elapsed and patient is not in ordered position.

**To stop Alarm:**

► Press button OFF .

Bed Exit Monitoring is deactivated and icon OFF appears on the display.
The audible alarm is muted.

**To postpone Alarm:**

► Press button PAUSE .

Icon **7** appears on the display with 15 minute countdown timer. The audible alarm is muted.

## Alarm Volume

Maximum Alarm Volume Level is set by default.
It is possible to set Alarm Volume before and during triggered alarm.

**To lower Alarm Volume Level:**

► Press button .

Icon with lower Alarm Volume Level appears on the display. Volume is lowered.

**To return to Maximum Alarm Volume Level:**

► Press button after Minimum Alarm Volume Level has been reached.

Icon with the 3 levels appears on the display.

**NOTE** To mute Alarm completely press button described in Settings Section.

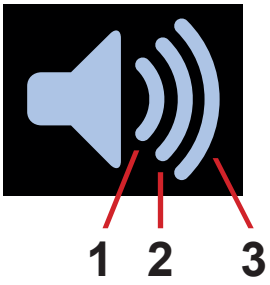



*Fig. Volume Icon*

**1. Minimum Volume**
**2. Moderate Volume**
**3. Maximum Volume**

## 5) PAUSE

During PAUSE Mode Bed Exit Monitoring is temporarily interrupted and Alarms are not activated.

**To PAUSE Bed Exit Monitoring:**

► Press button 

.

Icon **7** appears on the display with 15 minute countdown timer.
After PAUSE period elapsed and patient is in ordered position Bed Exit Monitoring is reactivated.

**To extend the PAUSE period:**

► Press button 

again to extend the countdown to 15 minutes period again.

**To terminate the PAUSE period:**

► Press button 

.

**NOTE** When Outer Zone monitoring is activated, PAUSE period is terminated when patient returns to the bed.

## 6) Deactivation of Bed Exit Monitoring

**To deactivate Bed Exit Monitoring:**

► Press button 

.

Icon 

appears on the display.

## 11.5 CPR Backrest Release

**WARNING!**
**Risk of injury due to lowering the backrest too quickly!**
- ► Ensure that the siderails are in the low position.
- ► Ensure that there are no body parts between any movable parts of the bed.
- ► Push the Backrest down using the mattress guard handle only.

The bed allows quick, mechanical lowering of the backrest for emergency procedures (CPR).

**Set the position as follows:**
- ► Pull and hold release handle.
- ► Push Backrest down.

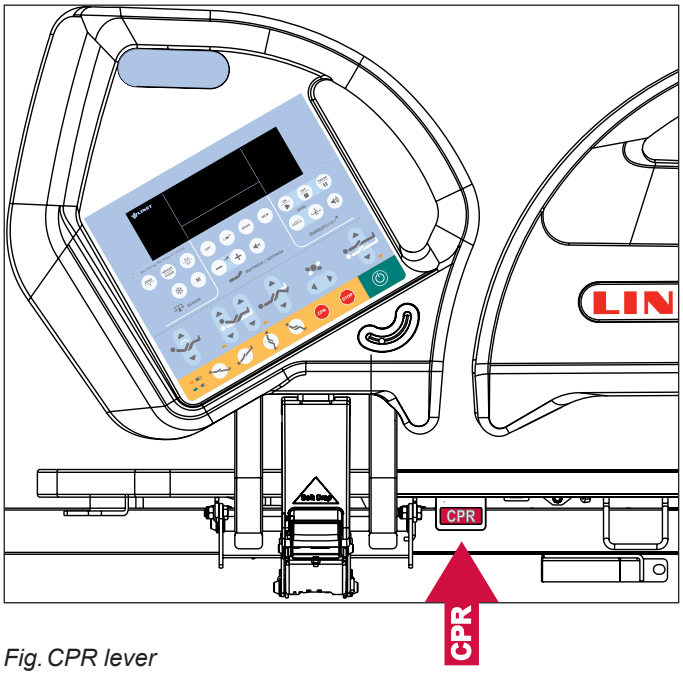



*Fig. CPR lever*

## 11.6 Castor Control

**CAUTION!**
**Material damage due to incorrect transport and involuntary movement!**
- ► Prior to transport, ensure that the bed is disconnected from the mains.
- ► Ensure that the castors are braked prior to assembly, disassembly and maintenance.
- ► Ensure that the castors are braked when the bed is occupied.
- ► Hang the mains cable on the transport hook on the bed during transport.
- ► Have the bed transported exclusively by nursing personnel and by at least 2 persons.

**CAUTION!**
**Minimal clearance underneath the bed (standard version with 15 cm castors) is 11,3 cm!**
- ► Observe the path for any obstacles and avoid collisions and possible damages of any bed´s part on the undercarriage.
- ► Do not use bed lifts and hoists for lifting the bed.

The bed is equipped with central castor´s control and brake system.
The control levers are located in the four corners of the undercarriage.

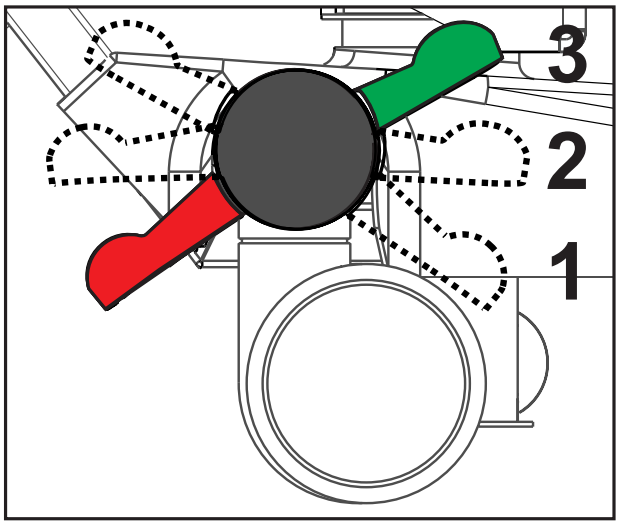



*Fig. Positions of Castor Control Lever*

**Castor control lever positions:**

**1. Forward Movement - Steering (GREEN PEDAL DOWN)**

The front castor on the left from user´s view is locked. The bed moves straight ahead. If the bed is equipped with a fifth castor, this castor determines the direction of movement.

**2. Unrestricted Movement**

All four castors are unlocked.

**3. Braked (RED PEDAL DOWN)**

All four castors are braked.

## 11.7 Siderails

The split siderails are components of the bed in contact with patient. A pneumatic spring supports the operation of the split siderails. The nursing personnel are responsible for the siderails being raised up while the patient is in bed.

**WARNING!**
**Risk of injury, damaging or unintentional movement of the bed due to incorrect placement of accessories or Handset!**
► Never place any accessories or Handset on the siderails in the area where keyboards are located.
► Never place Handset on the edge of siderail.
The correct placement of Handset is shown at following picture.

**WARNING!**
**Risk of injury due to incorrectly latched siderail!**
► Ensure that siderail is secured in the upper or lower position.

**WARNING!**
**Risk of injury due to incorrect position of siderails!**
► Ensure that siderails are folded up while the patient is in bed.

**SIDERAIL DESCRIPTION (version with iBoard Standard)**

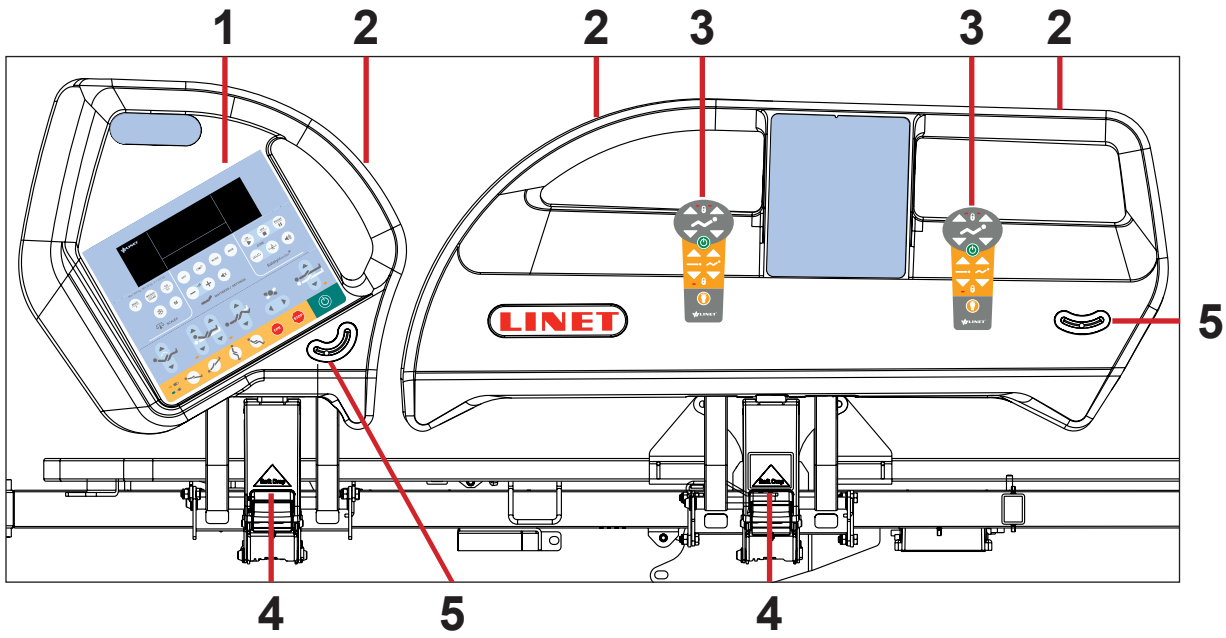



*Fig. Siderails (version with iBoard Standard)*

**MANIPULATION**

**To raise siderails up:**
► Grab siderail by Siderail Handle (**1**).
► Pull siderail up until it latches.

**To release siderails down:**
► Press Siderail Release Handle (**3**) inwards.
► Unlock siderail by pulling Siderail Release Handle.
► Fold down siderail slowly.

**1. iBoard Standard**
**2. Siderail Handle**
**3. Correct Placement of Handset**
**4. Siderail Release Handle**
**5. Angle Indicator**

**To release siderails down:**
► Press Siderail Release Handle (**3**) inwards.
► Unlock siderail by pulling Siderail Release Handle.
► Fold down siderail slowly.

# 12 Equipment

## 12.1 i-Brake® (optional)

It is possible to equip the bed with an automatic castor brake. The automatic castor brake prevents injuries of patients and staff due to an unbraked bed.

The brakes are activated automatically 60 seconds after the bed is plugged in, and 60 seconds after they have been released if the bed is not being moved.

It is possible to activate the brakes manually as well.

## 12.2 Retractable Fifth Castor (optional)

It is possible to equip the bed with Fifth Castor in the centre of undercarriage. The Fifth Castor helps to steer and manoeuvre the bed in long corridors and small rooms.
If the bed is plugged in, the Fifth Castor automatically retracts. Retracted Fifth Castor does not obstruct access to any devices under the undercarriage.

**To activate the 5th wheel i-Drive®:**
► Disconnect the bed from the mains.
► Adjust the castor control so that the green lever points down.

## 12.3 i-Drive Power (optional)

### i-Drive Power System - Basic Description

It is possible to equip the bed with the i-Drive Power wheel. The i-Drive Power helps hospital staff to drive the bed during patient transport with minimal manpower.
The i-Drive wheel is located in the center of the bed under the undercarriage. i-Drive Power is equipped with its own battery and charger and it is not dependent on the bed functions so, if discharged you can still use the bed functions. The bed is equipped with one i-Drive controller. i-Drive is oriented in straight direction of the bed.

### Safety instruction for i-Drive Power

► Follow the instructions carefully.
► Ensure that the bed is operated exclusively by qualified staff.
► Make sure the siderails are raised up during the transport.
► Never use bed positioning buttons during transport.
► Never use Fast forward button when descending. The Fast forward button is recommended for use when ascending as it is more efficient.
► Special precaution need to be considered when reversing. Always keep distance from the bed and never use reverse button when descending or ascending.
► Do not use Free Drive to transport on a slope over 1 degree unless adequate personnel are available to manage safe bed transport.
► The driving down the slope that exceeds 6 degrees will require adequate contribution of a manpower.
► Never leave the bed with an activated i-Drive Power system without supervision of the trained staff.
► Always use the regular mechanical brake system to brake and stabilize the bed.
► Pay increased attention when driving the bed using i-Drive Power. Be aware of people and objects in close proximity and avoid collision with them by careful driving, especially by appropriate speed control.
► Make sure the bed is unplugged and bed brakes are released before using i-Drive Power.
► Push the emergency stop drive button if immediate movement interruption is needed (e.g. to avoid collision with other persons or objects).
► Retract the i-Drive Power wheel to the undercarriage when parking. This will prevent misuse when unbraking and braking the bed.
► The i-Drive Power electromagnetic brake is designed just for temporary bed stop and not for the permanent parking.
► Switch off the i-Drive Power battery prior to long-term storage or transport.
► Push the emergency retraction button under the chassis cover to retract the i-Drive Power wheel
► in case an of i- Drive Power system failure. This will enable moving the bed to a safe area manually without using i-Drive Power.

► Retract the i-Drive Power wheel to the undercarriage every time you intend to move the bed sideways.
► Pay attention to the LED battery status indicator and plan your drive using the i-Drive Power accordingly. Insufficient batte ry capacity can cause unexpected complications and risks during the drive.
► Always plug the bed in when you finish your drive in order to recharge the battery and keep your bed ready to go using the i-Drive Power.
► The i-Drive Power battery must be replaced every 2 years to maintain proper functions of the i-Drive Power.

## Specifications of Use

**WARNING!**
**Risk of injury due to careless driving!**
► Always drive safely and carefully.
► Observe the path for any obstacles and avoid collisions.
► Ensure there are no people in your way.
► Manipulate with the bed carefully not to drive over any staff or patients.

**CAUTION!**
**Maximal clearance underneath the bed is 11,3 cm!**
► Observe the path for any obstacles and avoid collisions.

**Intended use:**
► bed transport (with or without patient) by the caregiver

**Unintended use:**
► riding the bed
► other usage than described in user manual
► by other person than the trained staff

**NOTE** Each bed can transport only single patient at a time and cannot be used to transport other items (except bed accessories in secured position).

**NOTE** For information concerning uses other than those outlined in the “Specifications of Use” section above, please contact Linet ®.

## Manipulation

**CAUTION!**
**Damage to i-Drive Power main control panel cable due to wrong cable placement!**
► Ensure that the main control panel connecting cable is placed correctly.

**CAUTION!**
**Material damage due to incorrect use!**
► Do not hang anything on the main control panel and its cable!

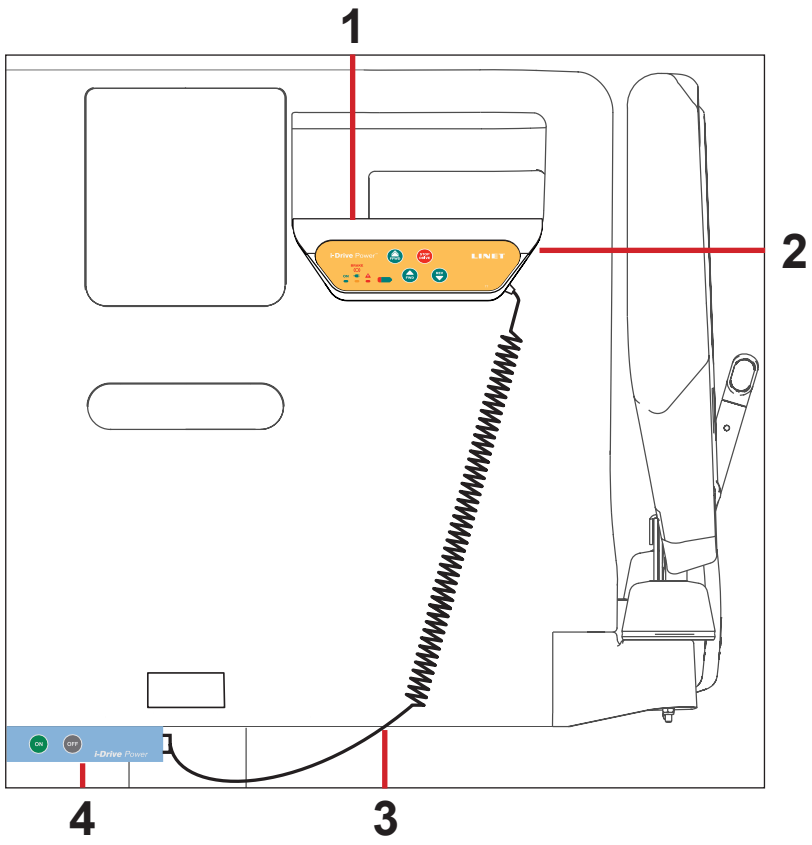



*Fig. Position of Main Control Panel*

**1. Safety Sense (touch sensor)**
**2. Main Control Panel**
**3. Main Control Panel Cable – correct cable placement**
**4. Activation Panel**

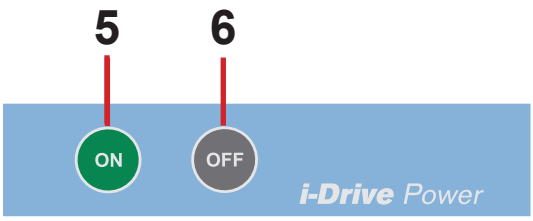



*Fig. Activation Panel (**4**)*

**5. ON Button (i-Drive Wheel Activation Button)**
**6. OFF Button (i-Drive Wheel Retraction and Deactivation Button)**
**7. FAST FORWARD Button**
**8. STOP DRIVE Button**
**9. ON LED**
**10. Mains Power LED (bed connected to the mains or bed braked)**
**11. Fault LED**
**12. State of charge and Fault LED**
**13. FORWARD Button**
**14. REVERSE Button**

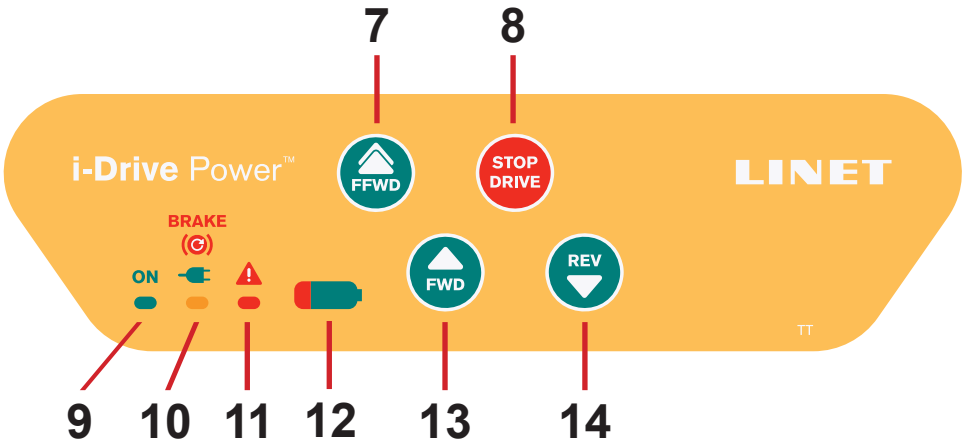



*Fig. Main control panel (**2**)*

**NOTE** The i-Drive Power controller cannot control the bed functions. Control the bed using the bed control elements.

**NOTE** The main control panel is enhanced with a touch sensor (**1**); your hand must always be in contact with the i-Drive Power control panel to use the functions. If released, the i-Drive Power will stop.

**NOTE** Raising and lowering of the i-Drive wheel is electrically controlled by the i-Drive activation panel.

## 12.3.1 i-Drive Power Activation/Deactivation

**To activate the i-Drive Power:**

1. Check, if the mains switch of i-Drive Power is activated.
2. Press the Activation button 

located on the Activation Panel. The i-Drive wheel will lower and the green indicator will flash.

**To deactivate the i-Drive Power:**

1. Retract the i-Drive wheel using the button 

located on the Activation Panel.
2. Deactivate the i-Drive using the mains switch.

**Emergency i-Drive Power wheel retraction:**

1. Press any button  on the bed.
2. Deactivate the i-Drive Power using the mains switch.
3. Press the i-Drive Power Emergency Retraction Button situated on the bottom side of undercarriage under the label.

**NOTE** Use emergency retraction in case of battery discharge or drive malfunction to move the bed to a safe area manually without using i-Drive Power.

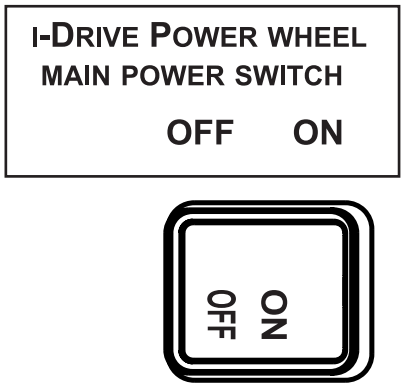
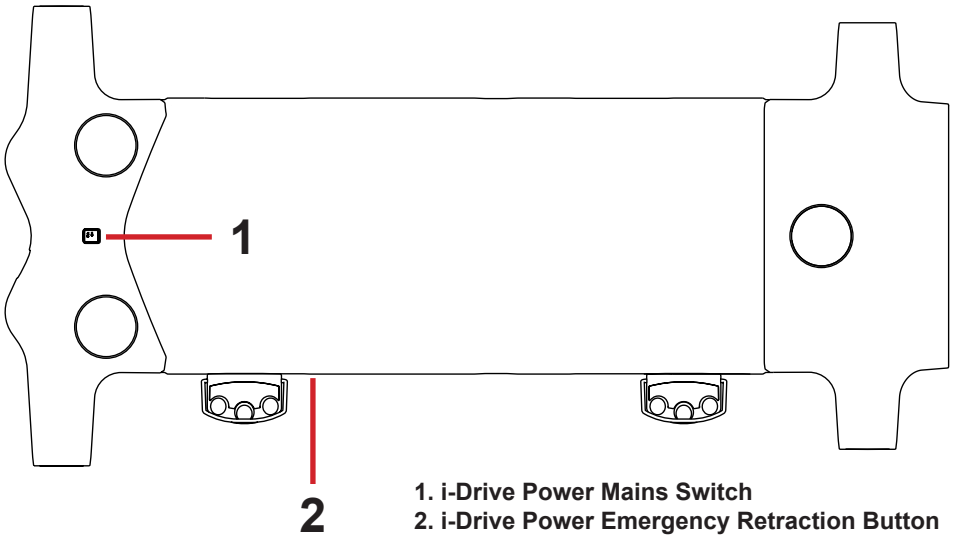



*Fig. i-Drive Power Mains Switch with Label*




**1. i-Drive Power Mains Switch**
**2. i-Drive Power Emergency Retraction Button**

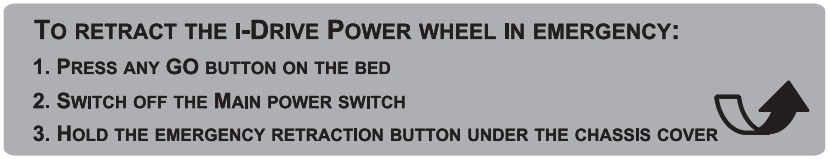



*Fig. i-Drive Power Emergency Retraction Button Label*

## 12.3.2 Powered Drive

**CAUTION!**
**Damage to property due to incorrect transport and involuntary movement!**

- ► Prior to transport, ensure that the bed is disconnected from the mains.
- ► Prior to transport, ensure that the auxiliary outlet plug (if available) is disconnected from the mains.
- ► Ensure that the castors are locked prior to assembly, disassembly and maintenance (e.g.: i-Drive Power maintenance).
- ► Ensure that the castors are locked when the bed is occupied.
- ► Hang the mains cable on the appropriate hook on the bed during transport.

1. Check, if the mains switch of i-Drive Power is activated.
2. Press the button ON on the Activation Panel. The i-Drive wheel will lower and the LED ON will flash.
3. Place your hand on the Safety Sense touch sensor (**1**) and push the button FFWD or button FWD or button REV.
   Your hand must be placed on the Safety Sense sensor to use the i-Drive Power, if released, the i-Drive Power will stop.
4. The i-Drive motor is immediately stopped and the electric brake is activated after pressing the red button STOP DRIVE when braking or in emergency.
5. i-Drive Power control system is automatically deactivated and the electric brake is activated if no i-Drive function is used for 3 minutes. This is signalized by the green LED ON which is extinguished after 3 minutes.

**NOTE** i-Drive Power is not designed for ascending or descending a slope greater than 6° or longer than 20 m. The support of personnel is needed when ascending or descending with a full SWL.

**NOTE** When i-Drive wheel is lowered, it is not possible to move the bed sideways. Press the button OFF to retract the wheel, release the castors to the neutral position and then move the bed to any direction required.

## 12.3.3 Braking

1. Press and hold the button STOP DRIVE to brake immediately.

-or-

2. Press and hold the button REV to brake slowly (Press the button FWD to brake when reversing).

-or-

3. Release your hand from the touch sensor area and i-Drive Power will brake automatically.

**NOTE** Always brake the bed by using the castor control lever when the transport is finished or interrupted. The i-Drive electromagnetic brake is not designed to permanently brake the bed.

**NOTE** In a crisis situation (e.g. acceleration when driving down a steep slope) i-Drive dual braking prevents acceleration and slows down bed movement. However, it is not guaranteed the bed will stop by itself without personnel support (using button STOP DRIVE and castor control lever).

**NOTE** When descending, it is possible to actively brake using the opposite direction button to slow.

## 12.3.4 Free Drive

The i-Drive motor is equipped with free drive, which is active after pressing the forwards ( FFWD or FWD ) or backwards ( REV ) buttons (until user holds the touch sensor area).
Free Drive is deactivated and the brake is activated when the direction of motion is changed. This is feature for lowering the risks when going to a slope.

## Battery

**Battery charge status:**

1. **While this indicator is flashing, the battery is critically discharged. (LED1)**
2. **50% (LED2)**
3. **75% (LED3)**
4. **100% - the battery is charged (LED4)**

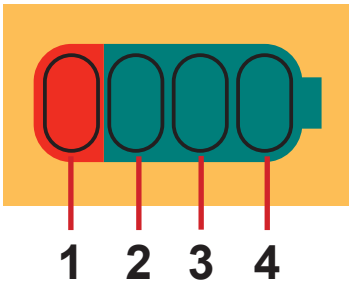


*Fig. Battery Charge Status*

**To charge the battery:**

- ► Connect the bed main cable to mains power.
- ► i-Drive will be charged (with the battery discharged, the charging may take up to 9 hours).

**NOTE** Battery charge values are just informational. Battery life is reduced when the battery is allowed to discharge completely.

## Fault Signalization

The system is protected against failure states, by stopping and braking the drive system, and respective signalization. The fault indicator flashing briefly and the battery indicator shows the fault state. Some defects are cleared automatically (e.g.: drive overheating). When drive or electronics is overheated, an short acoustic signal occurs before the drive is blocked.

| Error | LED1 | LED2 | LED3 | LED4 |
|---|---|---|---|---|
| Drive overheated | OFF | OFF | OFF | ON |
| Electronics overheated | OFF | OFF | ON | OFF |
| Brake error | OFF | OFF | ON | ON |
| Retraction not completed | OFF | ON | OFF | OFF |
| 5 V OFF limits | OFF | ON | OFF | ON |
| FET closing penetrated | OFF | ON | ON | OFF |
| Control circuit overheated | OFF | ON | ON | ON |
| Controlcircuiterror | ON | OFF | OFF | OFF |
| Activation button stuck | ON | OFF | OFF | ON |
| Retraction button stuck | ON | OFF | ON | OFF |
| Active button after start | ON | OFF | ON | ON |

## Light Indicators

| Indicator | Meaning |
|---|---|
| **Go Indicator**<br>► Constantly lit<br>► Flashing | <br>Hand is on touch sensor; drive wheel is ready for use.<br>Hand is not on touch sensor; i-Drive is not ready for use. |
| **Fault Indicator**<br><br>► Constantly lit<br>► Flashing | i-Drive cannot be activated (i-Drive wheel is not lowered, castor control lever is braked, bed is connected to the mains).<br>System is faulty (indicated on battery status indicator, see service manual)<br>-or-<br>i-Drive control box heat protection is activated. |

## Technical Specifications

| Specification | Value |
|---|---|
| i-Drive wheel diameter | 8,27 in. |
| Max. fast forward speed (flat ground, loaded) | 4,43 Km/h (±15%) |
| Max. forward speed (flat ground, loaded) | 2,16 Km/h (±15%) |
| Max. reverse speed (flat ground, loaded) | 2,16 Km/h (±15%) |
| Max. angle of ascent | 6° |
| Noise level (when retracting the drive wheel) | 65 dB |

## Electrical specification

| Specification | Value |
|---|---|
| Battery Voltage | 36 V DC, Capacity: 12 Ah |
| Maximum Power Input | 300 W |
| Fuse Accumulator fuse | pipe fuse T 3.15 A MDP 030 (30 A) |

## I-Drive Power Maintenance

Periodical maintenance of the i-Drive Power must be done by qualified service technician or authorized service organization at least once a year. To continue maintenance please see chapter Maintenance.

**Service technician must check the following:**

- ► battery status and eventual replacement of batteries (after maximum of three years of duty)
- ► gas spring – replace if necessary (after maximum of three years of duty)
- ► i-Drive Power wheel – replace if necessary
- ► lifting mechanism – grease if necessary
- ► cables, control elements – replace if necessary
- ► i-Drive Power function

# 12.4 Mobi-Lift® (optional)

Mobi-Lift® is optional. It serves as a support handle to enhance the patient's safety when getting up. Mobi-Lift® is a support handle with a built-in Height Adjustment button. It allows the patient to raise and lower the Mattress Platform.

## Using the Support Handles

**To adjust the support handle:**

- ► Lift the handle up towards the bed.
- ► Push the handle into the sleeve fitting as far as it will go.

**To adjust the height of the mattress support platform:**

- ► Press button  on any control element.
- ► Press the button to adjust the bed height.



**WARNING!**
**Risk of injury due to slipping or falling when standing up!**

- ► Ensure that the support handles are completely inserted in the sleeve fittings.
- ► Ensure that no bed linen is caught between the sleeve fitting and the support handle.

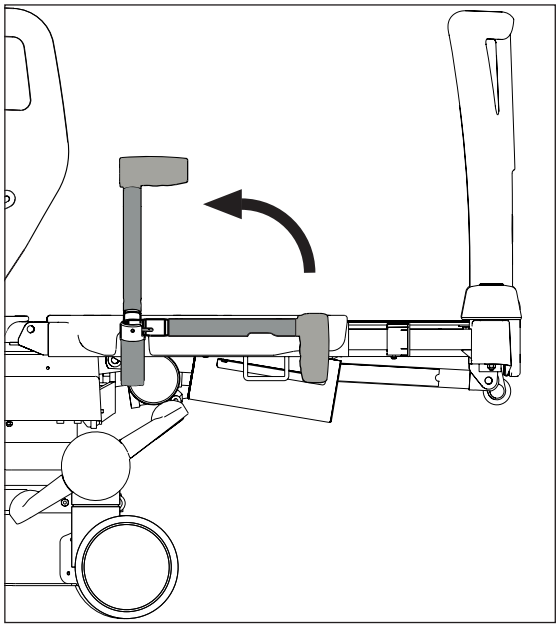


*Fig. Mobi-Lift Handle*

# 12.5 Safestop (optional)

Safestop prevents user of the bed from injuries due to crushing by the lowered Mattress Platform.
When obstacle occurs on the undercarriage and Mattress Platform is going down, the motion is automatically stopped.

iBoard Standard display shows **SAFE STOP** +  and beeping is performed.

# 12.6 X-Ray Lung Examination (optional)

The Backrest of the bed consists optionally of HPL and is x-ray translucent. The bed is equipped with an x-ray cassette holder inseted under the Backrest left side. This design allows taking x-ray images of the patient's lungs without moving the patient manually.

## Necessary Steps before the Examination

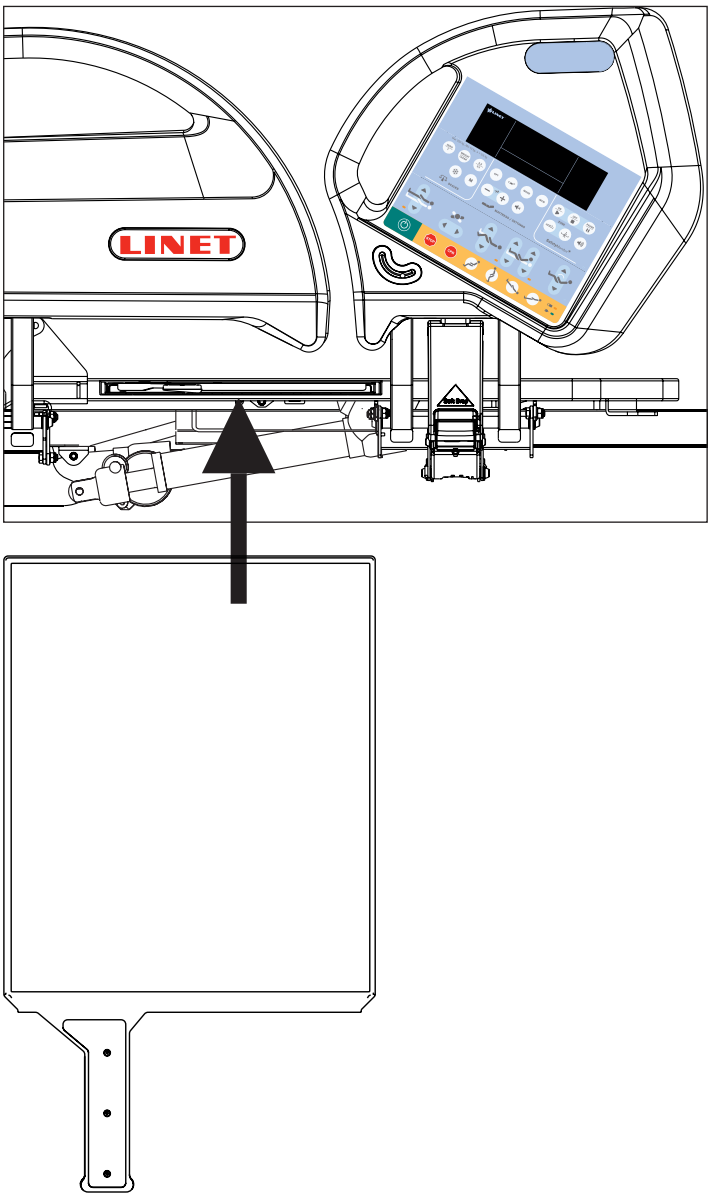



*Fig. X-Ray Cassette Holder*

**NOTE** This procedure is above all suitable for patients who cannot be moved due to critical conditions (e. g. internal bleeding) or unstable patients.

- ► Make sure that patient is in centre of bed.
- ► Make sure that backrest is in lowest position and siderails are raised up.
- ► Pull out x-ray cassette holder.
- ► Insert x-ray cassette (format 43×35 cm (16.93 in. x 13.78 in.)) in the horozontal position.
- ► Insert back x-ray cassette holder with x-ray cassette so that the cassette centre indicator is exactly under the edge of the mattress support platform.
- ► Correct position of x-ray cassette holder using the tooth mechanism so that the upper edge of the x-ray cassette is exactly under the patient's shoulder line. For the correct orientation use the scale on the label. Indicate the position of the patient´s shoulder line using the numbers on the scale. Move the x-ray cassette holder in such position so that the centre of the handrail is on the respective scale number.
- ► Adjust parameters of the x-ray device and do the image.

## 12.7 Nurse Call

**Button for activating the Nurse Call function:**

The buttons for activating the Nurse Call function are located on the inner and outer sides of the head siderails. Speakers and microphones are located on the inner sides of the head siderails.

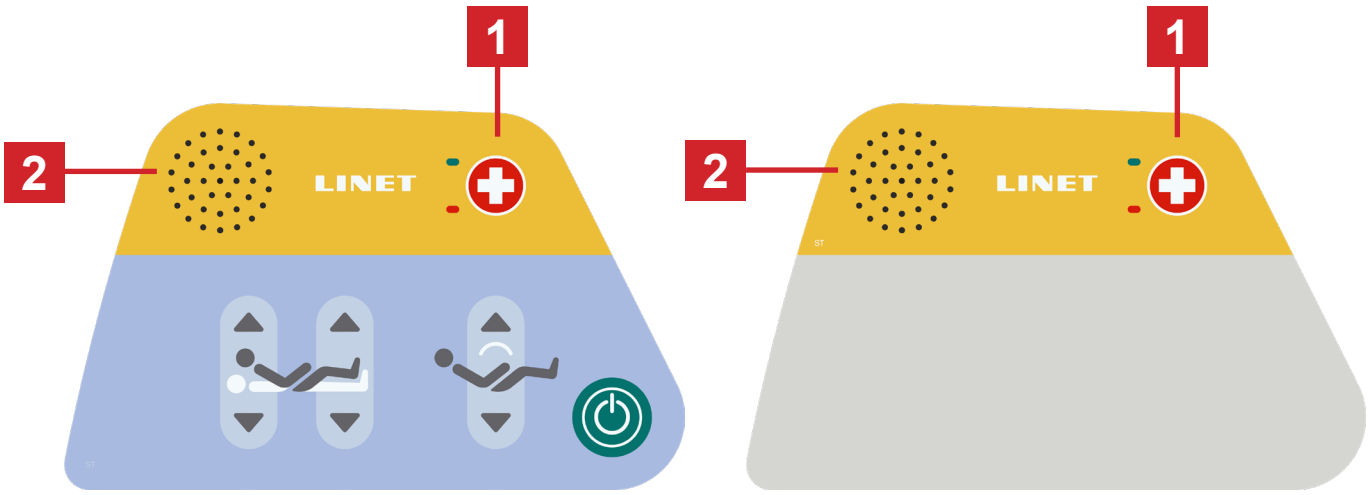



*Fig. Nurse Call Control Elememnts*

**1. Nurse Call Button**
**2. Speaker and Microphone**




**Activating the Nurse Call function:**
► Press button **1** - Nurse Call.

**When the nurse confirms the activation of this function:**
► Press button **1** - Nurse Call.

The patient can speak into the microphone – **2** located on the inner side of the head siderails.

# 13 Mattress

**Eleganza 5 bed is designed for passive and active mattresses from Linet portfolio.**

**CAUTION!**
**Incompatibility with bed due to incorrect mattress dimensions!**
► Check maximum approved mattress dimensions (chapter Technical Specification).

**The manufacturer recommends the use of the following mattress systems on the Eleganza 5 bed:**

**PASSIVE MATTRESSES**

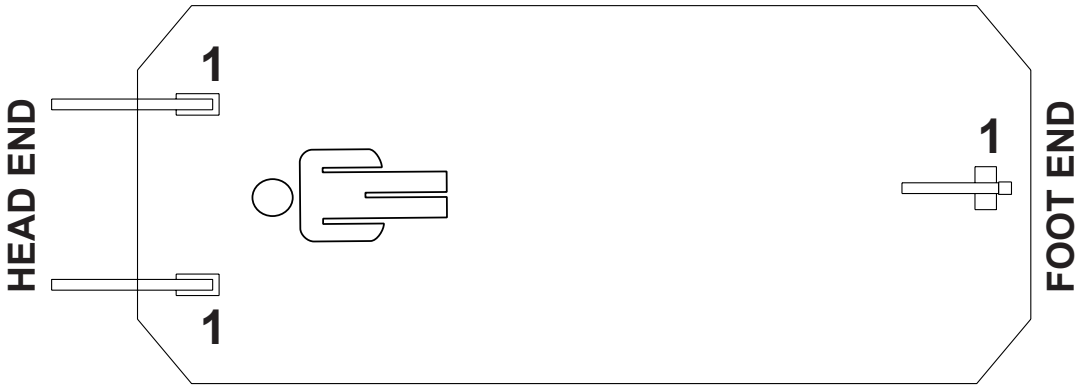
- CliniCare 10
- CliniCare 20
- CliniCare 30

**ACTIVE MATTRESSES**

- Virtuoso (not integrated)
- OptiCare (integrated)

## 13.1 Passive Mattress

Recommended Passive Mattresses are equipped with straps (1) intended for fixing mattress on the Mattress Platform.



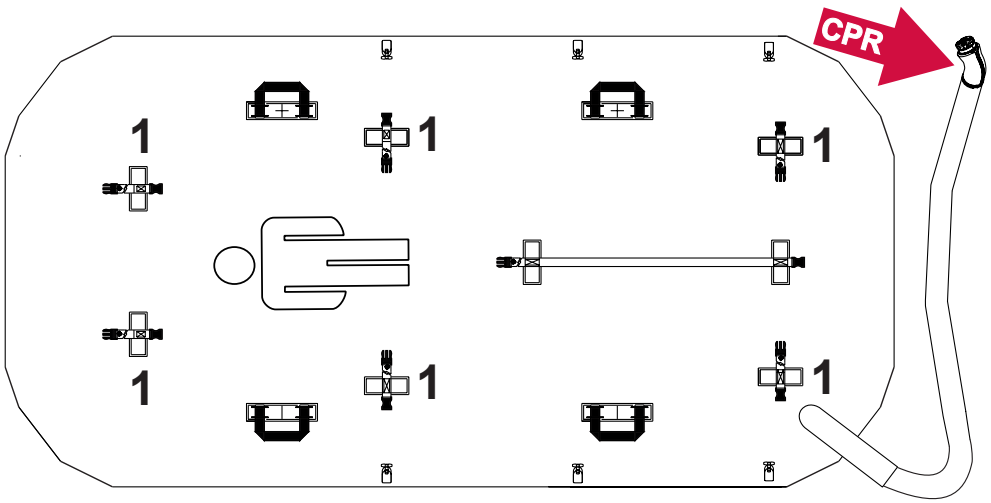

**1. Straps**

*Fig. Bottom of Passive Mattress*

## 13.2 Active Mattress (not integrated)

**WARNING!**
**Follow instructions for use of the active mattress carefully!**

► Remove any existing mattress.
► Observe mattress dimensions and its orientation before putting it on the Mattress Platform.
► Place SCU on the foot board of the bed or on the floor.




**1. Straps**

*Fig. Bottom of Active Mattress (not integrated)*

# 13.3 OptiCare (integrated mattress)

## 13.3.1 Intended Use

OptiCare is integrated mattress replacement system for use with Eleganza 5 hospital bed.

**Eleganza 5 with OptiCare suitable for:**
- ► patients at moderate risk levels
- ► patients with any stage/category of pressure ulcer

## 13.3.2 Contraindications

The OptiCare mattress provides a patient surface that can automatically set and maintain its internal air pressure at an optimum level for maximum patient immersion and comfort.

The Micro-Climate Management (MCM) feature of the OptiCare mattress is designed to help manage the heat and humidity of a patient's skin in order to help prevent or assist in the treatment of tissue damage related to moisture on the skin. MCM is used in combination with the Constant Low Pressure (CLP) mode to help address factors contributing to skin breakdown. The MCM feature of the OptiCare is suitable for use with all patients in need of a constant low pressure mattress.

**OptiCare is contraindicated for patients with cervical traction or unstable:**
- ► spinal fractures
- ► spinal cord injury
- ► fractures at risk of complication by a moving support surface
- ► trauma patients were spinal injuries have not been excluded or 'cleared'.

**NOTE** Where appropriate immobilization and fixation are in place to prevent the risk of complications from movement, the Opti-Care and the Symbioso may be used once a risk assessment by a qualified person has been completed to ensure the appropriate support surface is used. Always follow facility protocol for spinal injuries.

**Skin Assessment**

Before placing a patient on the OptiCare mattress, a skin assessment by a qualified person should be completed to ensure the appropriate support surface is used. Always follow facility protocol for skin and risk assessments.

## Mattress Description

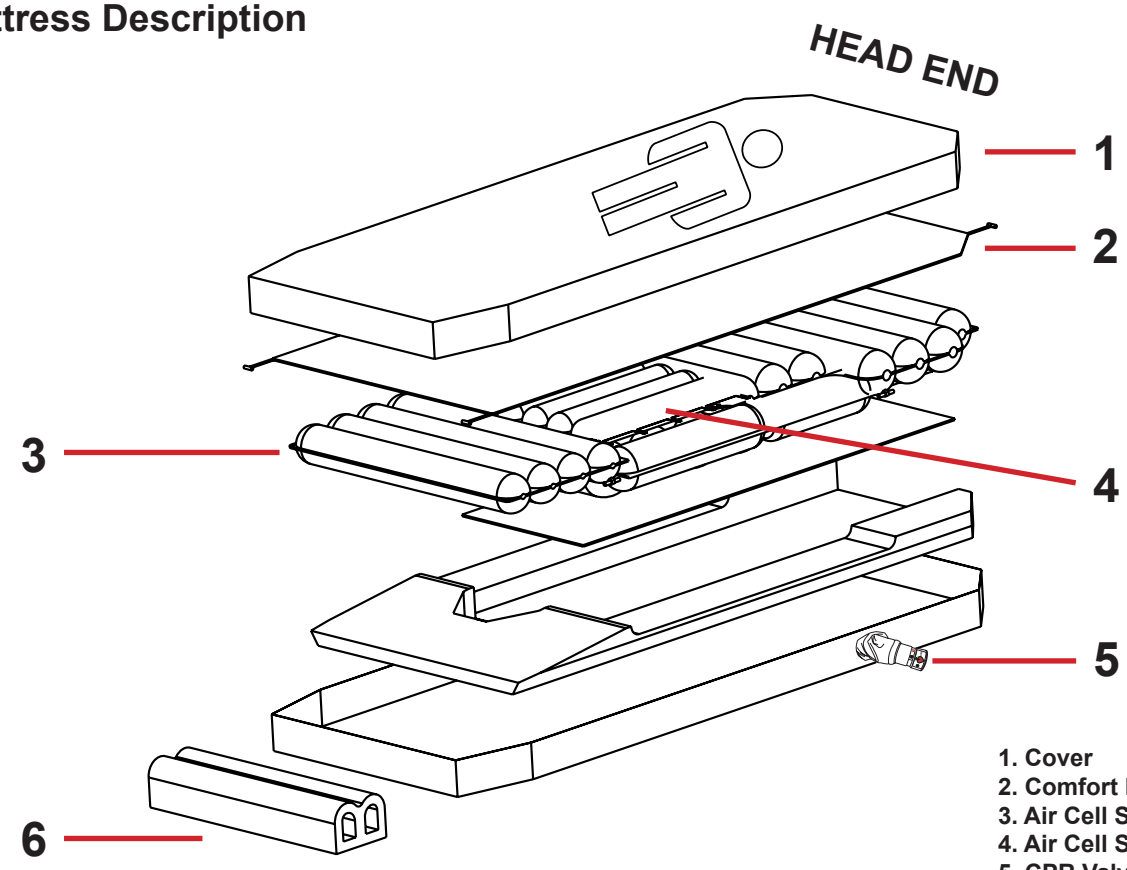



*Fig. OptiCare Mattress Description*

1. Cover
2. Comfort Layer
3. Air Cell Set (Area B)
4. Air Cell Set (Area A)
5. CPR Valve
6. Heel Section

**Mattress and Cover**

The OptiCare mattress consists of 4 sections that are held together by 6 quick release fixation toggles. The 3 sections include cover, comfort layer, air cell set and foam base which supports the leg section and side formers. Within the central cut-out of the foam base is a 10 mm high density foam sheet to protect the patient if the mattress is deflated. Air cell set is divided into Area A and Area B. A two-part cover (**1**) made of water proof vapour permeable material encloses the mattress. Beneath the cover and on the top of the upper air layer is a removable polyester comfort layer (**2**). The 2 air layers consist of 10 separate air modules for easy and cost effective replacement in case of user damage. 7 of these air modules are connected together to form the Constant Low Pressure air mattress, while the other 3 act as air manifolds for the Micro-Climate Management (MCM) function. The mattress has a 7 degree heel slope to help further off-loading of pressure in the vulnerable heel area.

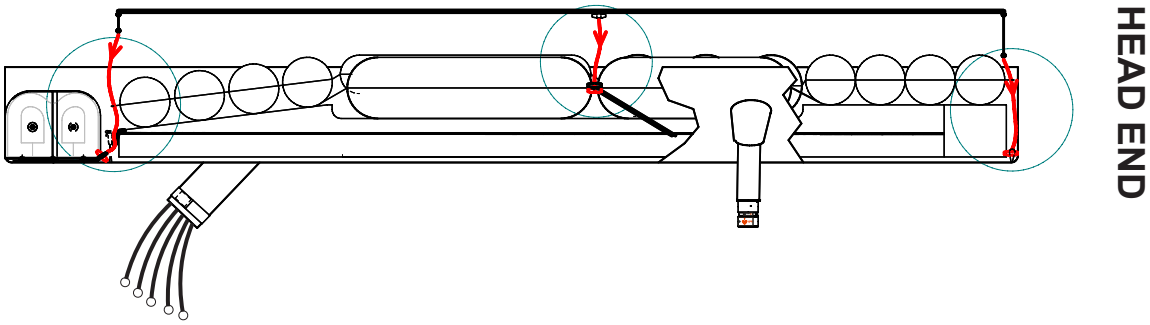



*Fig. Fixation of Comfort Layer to the cells (Fixation toggles)*

**Cover**

The top part of the cover consists of highly moisture- and vapour-permeable (MVP) two-way stretch material which forms an integral part of the Micro-Climate Management (MCM) function. The cover top is equipped with a full 360-degree zip to allow easy removal for cleaning or replacement. The zip is covered by a waterproof flap to protect the mattress against fluid ingress.
The cover base is made from water-impermeable high-strength non-stretch material that is suitable for any demanding environment. Additional quick-release straps prevent the mattress from shifting if the head or foot board is removed.

**Bottom Deck**

The bottom air layer is enclosed by a foam base fully contained within a removable waterproof cover. This provides support for the patient when entering or exiting the bed. The angled sides of the foam base are designed to fit securely into the shaped sides of the Eleganza 5 patient platform to prevent any movement of the mattress when the patient is getting into or out of the bed.

**Heel section**

The heel section is made up of 2 foam in air cells each with a custom designed internal foam shape that allows the 2 cells to collapse back into a reduced shape when pressed in by the foot board of the bedframe. This reduces the length of the mattress by 190 mm when compressed. The heel cells will self inflate when the bed is lengthened.

**Safety Straps**

The sides of the foam base fit the sides of the Eleganza 5 Mattress Platform to prevent the mattress from shifting when the patient is getting into or out of bed.
The mattress is equipped with additional quick-release straps to prevent the mattress from shifting if the head or foot board is removed. These straps are located on headend and footend of the bed.

**To fix the strap:**
► Loop black strap around metal bed frame and feed it back through the plastic clip.

**To release the strap:**
► Pull loose end of strap upward to release clip.



*Fig. Safety Strap*

**Transport Handles**

**WARNING!**
**Material damage and risk of injury due to incorrect use!**
► Transport the mattress using transport handles without patient on it!

Transport handles are intended for transport of the mattress.

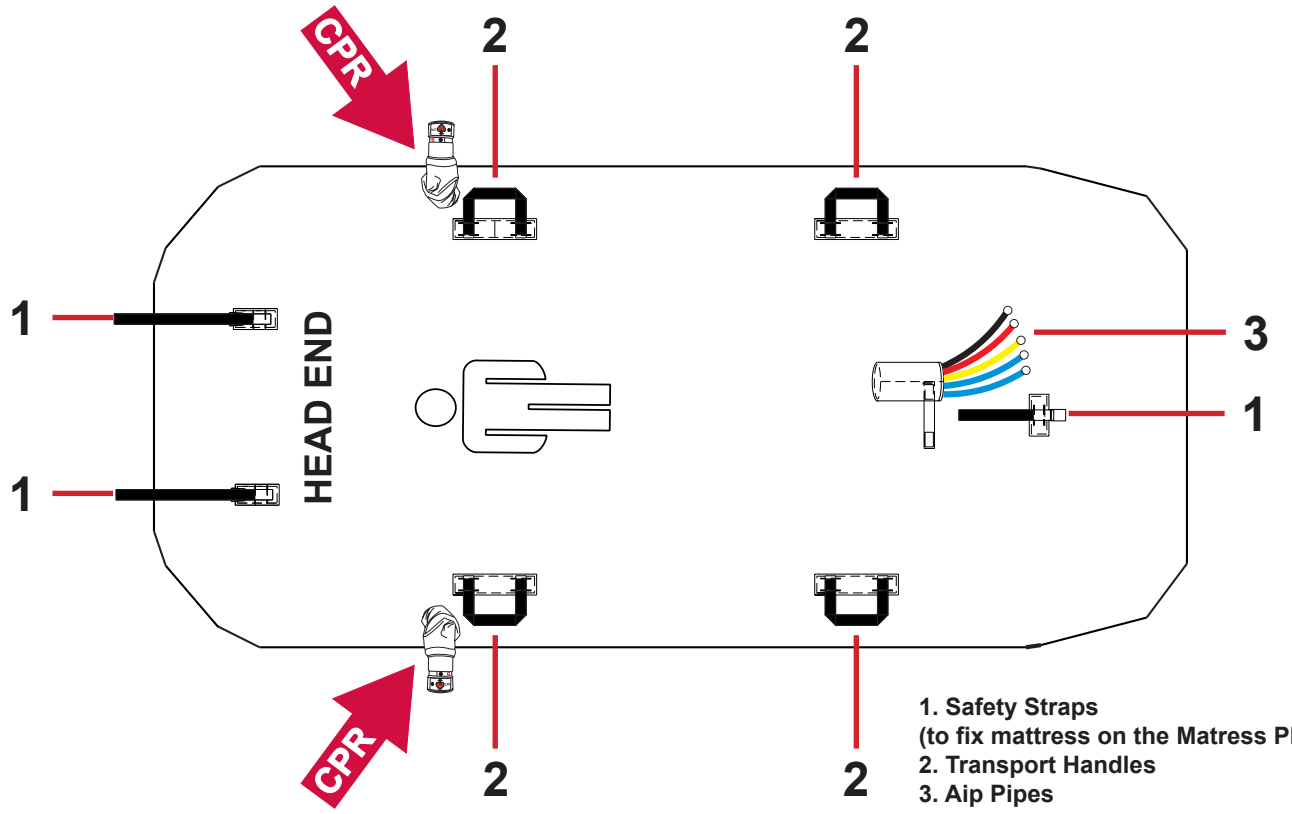



*Fig. Base Cover Description*

**SCU (System Control Unit)**

The SCU (System Control Unit) is installed under the leg section of the bed frame. It is possible to have the Eleganza 5 bed delivered with the SCU factory-fitted, or to have it retrofitted by approved service personnel.

CONNECTION

OptiCare ready Eleganza 5 bed is equipped with a dedicated power outlet for the SCU at the auxiliary power distribution point.

CONTROL

The SCU is operated via the Mattress Section on the iBoard Standard.

**NOTE** There is no ON/OFF switch on SCU.

ALARM SYSTEM

The SCU is equipped with a comprehensive alarm system which detects any problems with the system performance.

**The alarm system**
- ► gives audible and visual alarms via the iBoard Standard if a problem requires immediate action.
- ► stores information for the service personnel to review later.

## 13.3.3 Installation of OptiCare

The OptiCare mattress replacement system replaces any mattress on the Multicare bed frame.

- ► Remove any existing mattress.
- ► Put mattress on the Mattress Platform with air pipes at foot end of the bed.
- ► Connect Air Pipes to SCU observing colour code.
- ► Make sure that the CPR valves on both sides of the head end of the mattress are not left open but connected and accessible to manipulation.

**NOTE** During first installation of the mattress CPR valve is open!

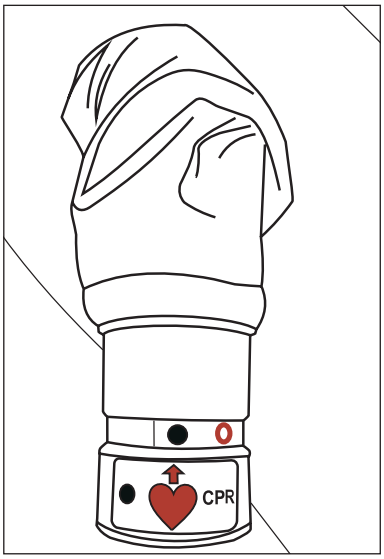
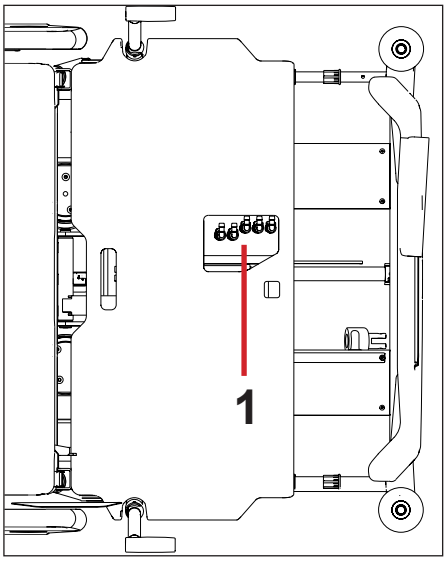



*Fig. Closed CPR valve*




**1. Air Pipes**

*Fig. SCU with Air Pipes*

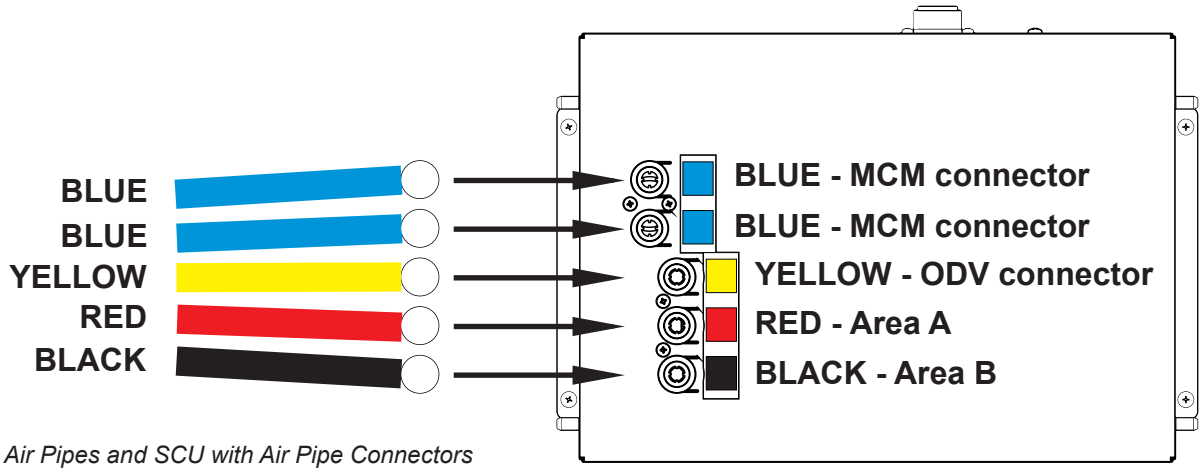



*Fig. Air Pipes and SCU with Air Pipe Connectors*

**Mattress Detection System (MDS)**

Sensors in the System Control Unit (SCU) Area A, B and ODV mattress air connectors detect that a valid air connector has been connected. When all three correct air connectors are detected, the SCU will enter Standby mode. In Standby mode mattress areas A and B are inflated to a static pressure ready for a patient to be placed onto the mattress and Optimization to start.

## 13.3.4 Installation of SCU (System Control Unit)

**WARNING!**
**OptiCare mattress is compatible with System Control Unit delivered by manufacturer only!**
► Do not use any other System Control Unit with OptiCare mattress!

**CAUTION!**
**Material damage due to incorrect installation of SCU!**
► If the SCU does not come factory-fitted, have it installed by a service engineer authorised by Linet ®.

## 13.3.5 Replacing the mattress

When replacing the OptiCare mattress with an alternative active mattress from the Linet integrated systems, the system will automatically detect that type of mattress that has been connected and switch to the correct iBoard Standard control screen. If replacing the OptiCare mattress with one that is not from the Linet integrated systems range then you will need to cancel the Mattress Not Connected alarm.

**Logging out the OptiCare:**
When replacing the OptiCare mattress by a mattress that is not part of the Linet OptiCare integrated mattress range, it is necessary to log out OptiCare.

► Press and hold  to log out mattress. Text „**M OFF**“ is displayed.

## 13.3.6 Preparing OptiCare for patient

**DANGER!**
**Risk of suffocation due to air-impermeable mattress cover!**
► Use mattress cover correctly.
► The nursing staff are responsible for the safety of the patient on the mattress cover.

**WARNING!**
**Risk of injury when positioning patient on the bed!**
**Before positioning the patient on the bed:**
► Ensure that mattress is completely and correctly inflated.
► Ensure that mattress is correctly secured with safety straps.

**CAUTION!**
**Material damage due to dampness or contamination!**
► Make sure mattress cover has been cleaned and is completely dry (see Cleaning/ Disinfection).

**Preparation**
► Inflate mattress.
► Put a sheet loosely on the mattress if not prescribed otherwise by qualified personnel.

**Positioning the Patient on the Bed**
► Put the patient on the mattress.

**Create the ideal patient position:**
► If additional blankets or sheets are used, make sure that ease of movement is sufficient.
► Ensure that blankets, sheets, clothing etc. do not cause pressure injuries (e.g. due to creases, seams etc.).
► Do not place any additional sheets, blankets etc. between mattress and patient.

## Mattress Screen

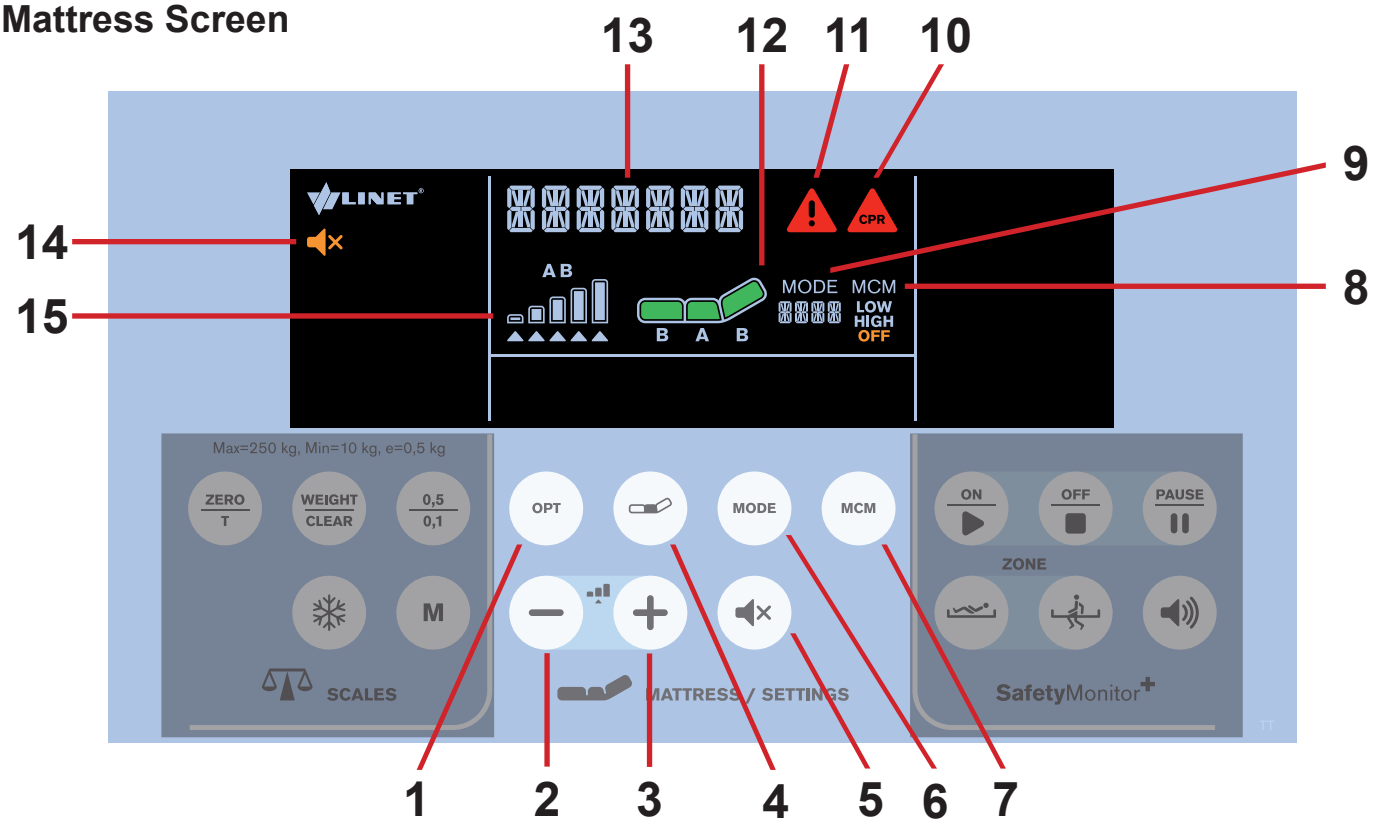



*Fig. Mattress Display and Keyboard (iBoard Standard)*

1. OPT Mode Button
2. REDUCE Button
3. INCREASE Button
4. COMFORT Button
5. MUTE Button
6. MODE Button
7. MCM Button
8. MCM Mode Icon (LOW/HIGH/OFF)
9. Mode Icon with Mode Name
10. Mattress CPR Alert Icon
11. Alert Icon
12. Mattress Icon
13. Status Indicator
14. MUTE Icon
15. Pressure Level Icon

**To mute compressor of the integrated mattress:**

► Press button  .

Icon  indicates activated Mute Mode.

## OptiCare Mattress Controls

Control and information on status of the OptiCare mattress is by the diplay and keyboard on the iBoard Standard.

**Patient in bed detection (PIB)**

Patient in bed detection system detects when a patient has entered or left the bed. This automatically starts the optimization proces on patient ingress and puts the mattress into Standby mode on patient egress. During Standby mode mattress areas A and B are inflated to a static pressure. There is a short stable pressure detection delay before reacting to change in patient PIB status to prevent unnecessary mode changes because patient has changed position.

**1) MATTRESS NOT INSTALLED**

When OptiCare compressor is installed on the bed but OptiCare mattress is not connected to the compressor „**MATTRESS NOT INSTALLED**“ text appears on the display.




*Fig. Mattress Not Installed Screen*

**NOTE** If the OptiCare mattress has been deliberately removed from the bed frame in order to use an alternative mattress then you must log out the OptiCare.

**To connect OptiCare mattress to the compressor:**

► connect each air pipe to the compressor.

**2) MATTRESS IDENTIFICATION**

When OptiCare mattress is connected to the compressor and its identification starts „**MATTRESS INSTALLED**“ text is displayed and „**MATTRESS IDENTIFICATION**“ text is scrolling on the display.

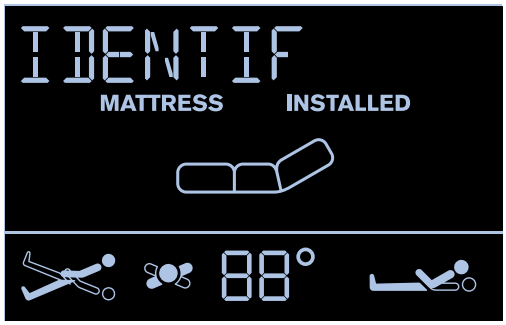



*Fig. Mattress Identification Screen*

**NOTE** Number on the place of Mode Name (**9**) indicates identification countdown.

**To achieve identification of connected mattress:**

► wait until identification countdown disappears.

**3) MATTRESS INFLATION**

When OptiCare mattress is identified it is not prepared for a patient because mattress is not inflated enough. „**MATTRESS INFLATION**“ text is scrolling on the display.

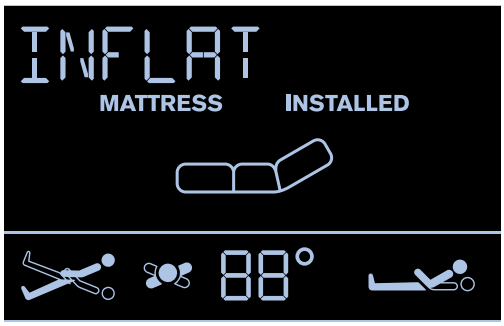



*Fig. Mattress Inflation Screen*

**NOTE** Number on the place of Mode Name (**9**) indicates inflation countdown.

**To achieve minimum inflation of the mattress:**

► wait until inflation countdown disappears.

### 4) MATTRESS PREPARED FOR PATIENT

When „**MATTRESS INFLATION**“ text disappears and Mattress icon is fully green the mattress is ready for a patient.

**NOTE** Flashing Mattress Icon with selected OPT Mode indicates continuing inflation.

**To use the mattress:**

► position patient on the mattress.

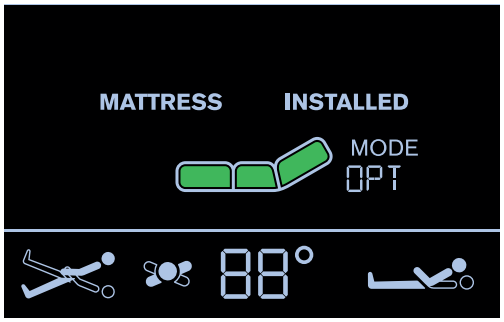



*Fig. MATTRESS PREPARED FOR PATIENT*

### 5) PATIENT ON THE MATTRESS (OPT MODE)

Integrated Micro-Climate Management system will start working automatically with intensity set by MCM button when the patient gets into bed and stop if the patient gets out. As long as the patient remains on the mattress automatic optimization will continue. Optimization will occur if the patient´s position changes sufficiently to trigger Optimization Detection or if initiated by the Optimization automatic timer.

**NOTE** During pressure optimization the Mattress icon is flashing. Fully green OPT icon indicates the mattress has achieved optimum pressure.

Optimization will stop working and the mattress air pressure will be set at a fixed level if

► the bed frame is tilted by 10 and more degrees (lateral tilt, Trendelenburg tilt, Anti-Trendelenburg tilt).

► tilt reduction reaches angle of 7 degrees.

In this case text „**TILT NO OPT**“ is displayed.

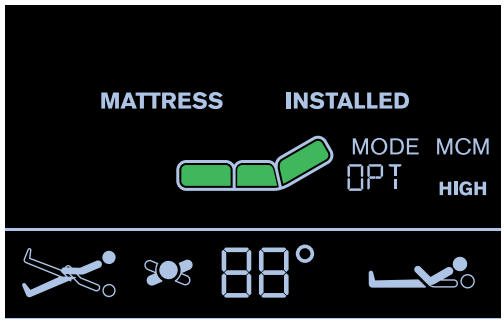



*Fig. Patient On The Mattress*

**NOTE** If at any time nursing staff feel it necessary to re-optimize the patient then this can be initiated manually by touching the button OPT . This does not over-ride Optimization settings and this process will continue as before.

**Manual pressure optimization:**

► press button OPT .

**To set intensity of Micro-Climate Management:**

► press button MCM .

### 6) MAXIMUM MATTRESS INTERNAL PRESSURE

**To set Maximum Mattress Internal Pressure:**

► press button MODE until „**MAX**“ appears on the place of the Mode Name.

**NOTE** During inflation Mattress icon is flashing until it turns green.

**NOTE** After 30 minutes the pressure optimization starts again. Countdown is displayed on the place of Mode Name (**9**).

**NOTE** Maximum Mattress Internal Pressure can be operated with or without a patient on the mattress.

**NOTE** To extend Maximum Mattress Internal Pressure you can press Mode Button again during last 5 minites of the MAX Mode.

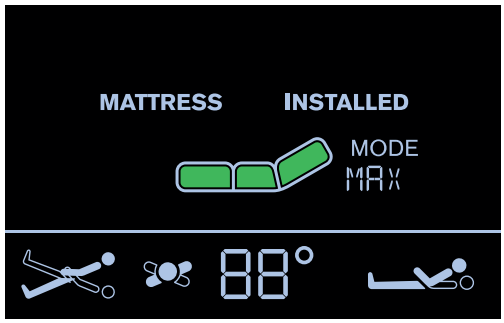



*Fig. Maximum Mattress Internal Pressure*

## 7) PRESSURE COMFORT ADJUSTMENT

The mattress pressure can be adjusted based on the patient´s needs. The pressure can be separately adjusted in the Area **A** (seat section) or in the Area **B** (torso and legg mattress sections). The grey arrow below the Area **A** or Area **B** Pressure Level Icons indicates the optimized pressure.

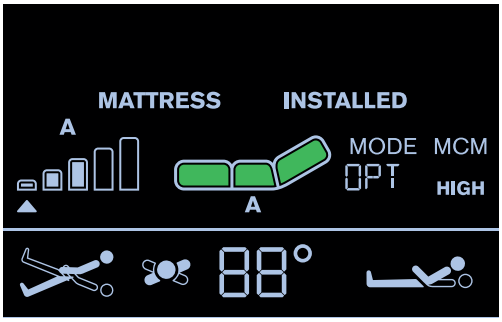


*Fig. Pressure Comfort Adjustment*

**To adjust pressure after pressure optimization:**

► press button  to select Area **A** or **B**

► press button  or button  to adjust pressure in the selected Area (**A** or **B**)

**NOTE** Letter **A** or **B** under the Mattress Icon indicates the selected Area.

**NOTE** To remove these individual settings, press button  and the pressure levels go back to optimized pressure.

## 8) MICRO-CLIMATE MANAGEMENT (MCM MODE)

The Micro-Climate Management blows through the parts under the patient and removes moisture as one of the factors contributing to the development of pressure injuries.

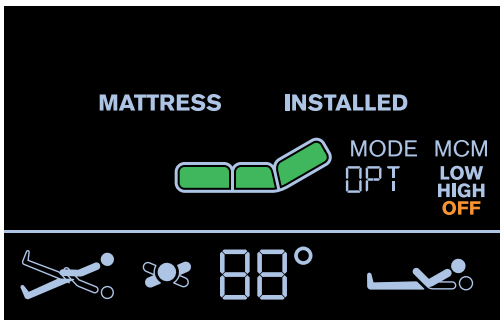


*Fig. MCM Mode*

**To enter MCM Mode:**

► press button  until **OFF** is not displayed under the **MCM** text.

**To change intensity of MCM:**

► press button  to set **LOW** or **HIGH** intensity of Micro-Climate Management.

**LOW** or **HIGH** is displayed under the **MCM** text in accordance with selected intensity level.

**To turn off MCM Mode:**

► press button  until **OFF** is displayed under the **MCM** text.

## 9) CPR MODE (CPR ACTIVATED)

When CPR is activated the mattress will deflate and chest compression can start immediately.

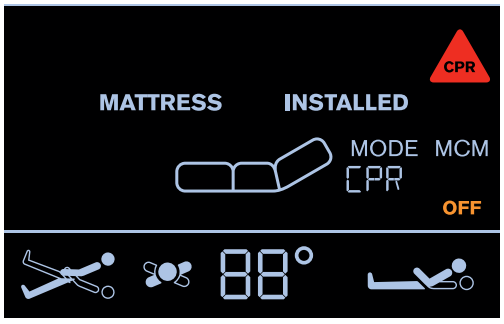


*Fig. CPR Mode*

**To activate CPR Mode:**

► press button  in the Positioning Section of the iBoard Standard.

**To deactivate CPR Mode:**

► press button  or button .

The mattress will inflate again and return to the mode it was in before CPR started.

## 10) ALERTS

### UNPLUGGED

When the power cable is unplugged or mains power fails,
the screen will show the following alert and
„**POWER**“ text is scrolling on the display.
This alert will automatically disappear when mains power is restored.

**NOTE** Red triangle with exclamation mark is displayed during this alert.

**To eliminate this alert:**
► connect the power cable to the socket!

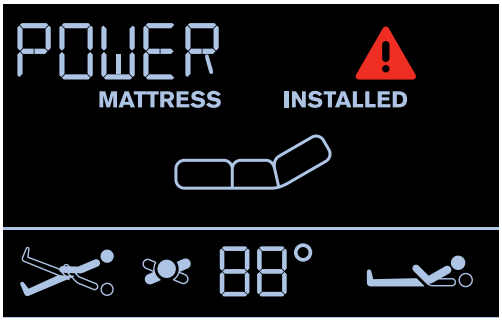


*Fig. UNPLUGGED*

### MATTRESS ERROR

When red triangle with exclamation mark appears on the display
and „**MATTRESS ERROR**“ text is scrolling on the display mattress
has a system error. The number next to
the „**MATTRESS ERROR**“ text is linked to the type of error.

**To eliminate an error:**
► note down the number and contact service department approved by the manufacturer immediately!

**To mute audio alarm:**

► press button  .

**To reset audio alarm:**

► press and hold button  .

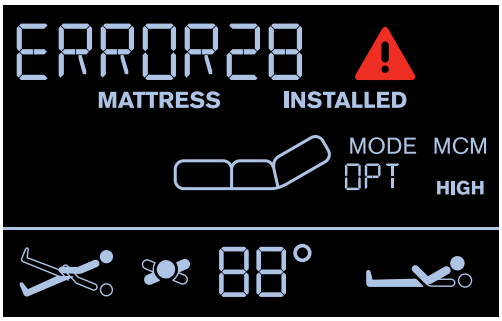


*Fig. MATTRESS ERROR*

### DISCONNECTED AIR PIPES

If either the red, yellow or black air pipe is disconnected from the
System Control Unit the following alert appears on the display.
„**MATTRESS DISCONNECTED**“ text is scrolling on the display.

**NOTE** Red triangle with exclamation mark is displayed during this alert
and audio alarm sounds.

**NOTE** Blue air pipes disconnected from the Sytem Control Unit
do not cause this alert!

**To remove this alert:**
► check and reconnect each air pipe to the compressor!



*Fig. DISCONNECTED AIR PIPES*

### CLOSE CPR

When CPR valve is opened and the mattress is inflating this alert appears.

**NOTE** Red triangle with „**USE MANUAL CPR**“ text is displayed during
this alert.

**To remove this alert:**
► close CPR valve manually!

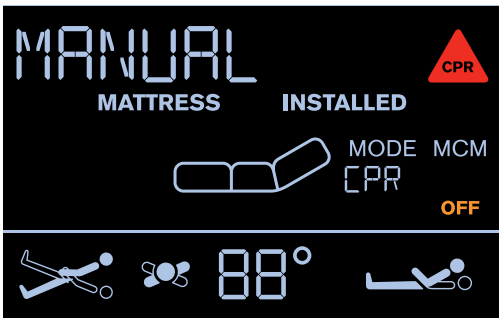


*Fig. CLOSE CPR MANUALLY*

**COMPRESSOR (SCU) NOT CONNECTED**

When SCU is removed from the bed or communication between the bed and the SCU is lost this alert appears with „**PUMP DISCONNECTED**“ text.

**NOTE** There is red triangle with exclamation mark on the display during this alert.

**To remove this alert:**

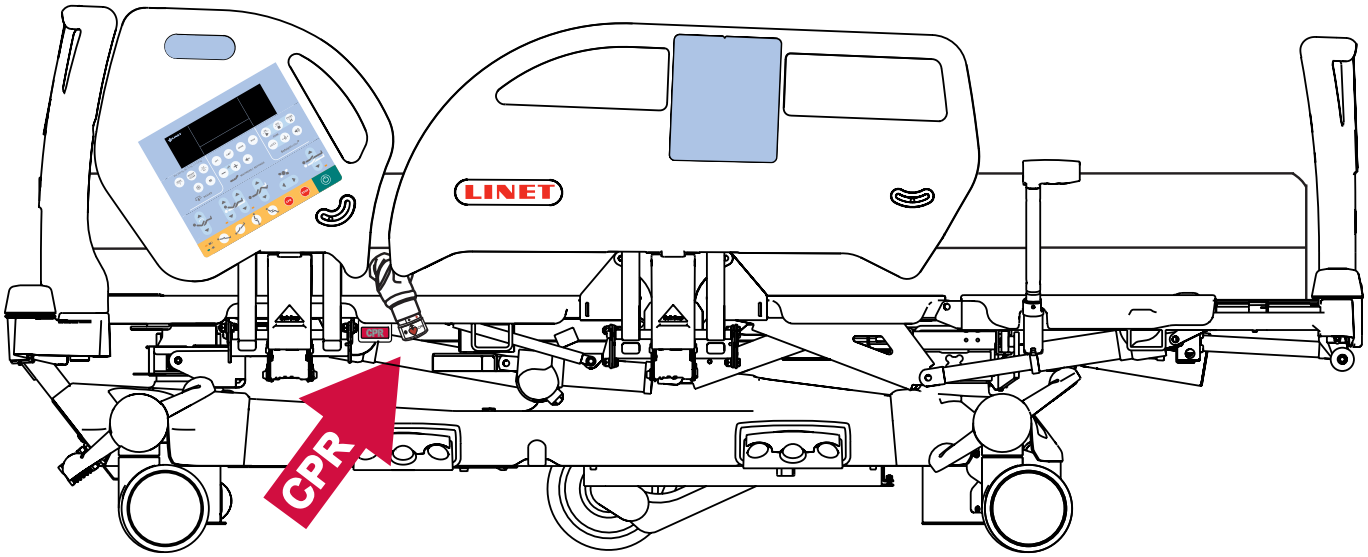
► install compressor on the bed!




*Fig. PUMP DISCONNECTED*

## Manual CPR

OptiCare is equipped with CPR valve on both sides next to the Manual Backrest Release.




**To activate manual CPR:**

► Open CPR valve on patient’s left- or right-hand side by turning the end of CPR valve to the right and aligning the CPR **red heart** with the **red circle**.

► The mattress will deflate.

► The mattress platform will straighten up.

**NOTE** The Mattress Platform will not enter the CPR position unless the CPR Button on the Positioning Section of iBoard Standard is also pressed and held until the correct position has been reached.

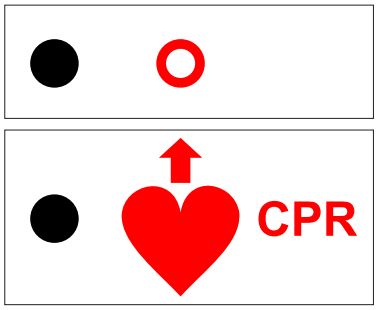



*Fig. OPEN CPR VALVE*

## Storage (OptiCare)

**When SCU is not in use:**

► Logg off the mattress.

► Unplug mains cable.

**When mattress is not in use:**

► Unclip all 5 air pipes.

► Undo webbing strap next to air pipes.

► Make sure mattress has been cleaned and is completely dry inside and out (see Cleaning/Disinfection).

► Deflate mattress and leave air connector open (CPR position).

► Roll mattress up carefully to get air out completely.

► Place mattress in storage bag.

Store in a dry and safe place and keep away from sharp objects.

# 14 Accessories

**WARNING!**
**Risk of injury due to incompatible accessories!**
► Use exclusively original accessories from the manufacturer.

**NOTE** The manufacturer is not responsible for the use of unapproved accessories.

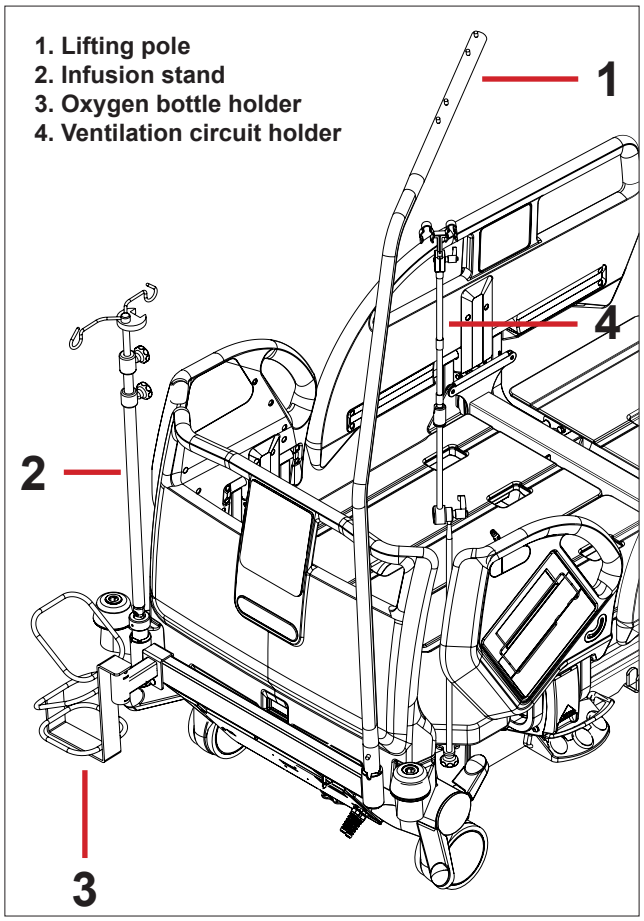



*Fig. Accessories*

## 14.1 Lifting Pole

**To ensure safe use of the lifting pole:**
► Never exceed the maximum load of 75 kg (165.35 lbs).
► Never use the lifting pole for rehabilitation exercises.
► To prevent the bed from tipping over, ensure that the lifting pole does not project out from the bed.
► Replace plastic handle every 4 years.
► Use Lateral Tilt carefully when lifting pole is installed on Eleganza 5 bed.

**To install the lifting pole:**
► Insert lifting pole in corresponding sleeve fitting on lifting pole adapter at head end.
► Ensure that safety pin locks into place.
► Attach a plastic grab handle with an adjustable strap to the lifting pole.

**NOTE** The date of manufacture is marked on the grab handle. Linet® recommends replacing the plastic grab handle every four years.

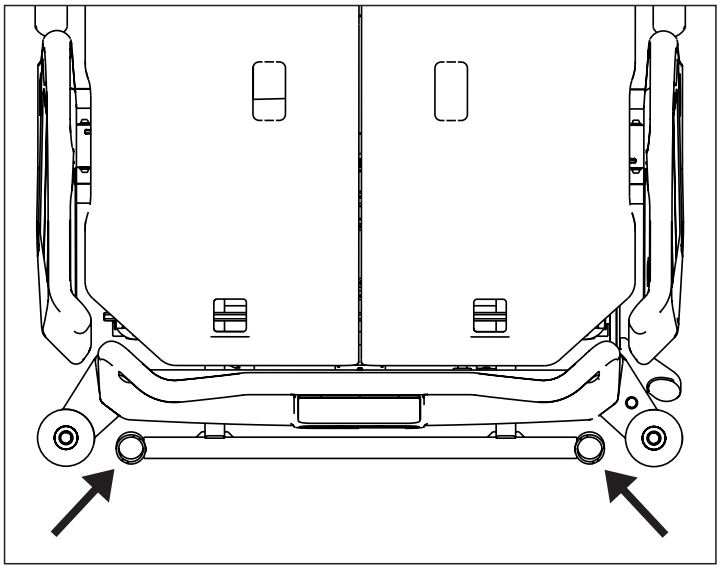


*Fig. Places for lifting pole (sleeve fittings on accessory adapter)*

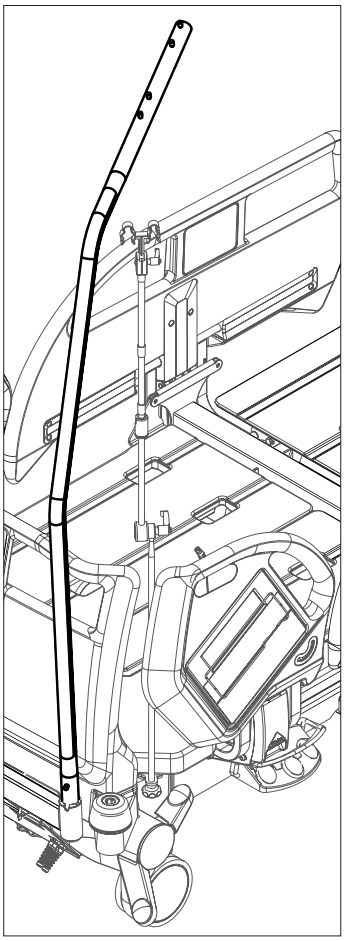


*Fig. Lifting pole*

## 14.2 Hercules

**WARNING!**
**Ensure that Hercules is operated exclusively by qualified personnel.**

**WARNING!**
**Hospital staff is responsible for the patient during his or her repositioning, The patient should not be left unattended on the bed during his or her repositioning!**

**WARNING!**
**In Backrest angle of 30 degrees or more it is not possible to use Hercules. It is indicated by LED on the side of Hercules. Follow the user manual for Hercules!**

**WARNING!**
**Do not use Hercules without the gas spring securely installed!**

**WARNING!**
**In order to facilitate CPR Backrest Release push the Backrest down using head siderail!**

**WARNING!**
**Risk of squeezing between head siderails and sides of the Hercules!**
**Manipulate carefully with head siderails when Hercules is installed!**

Hercules Patient Repositioner is intended for Hercules ready Eleganza 5 bed. Installation of Hercules must be done by qualified service technician authorized by the manufacturer. For detailed informations about Hercules follow the user manual for this product.

**Purpose:**
Hercules is intended to assist caregivers with up-in-bed patient repositioning.

**Description:**
Hercules consists of Hercules Drive, Hercules Dream Sleep Surface / Hercules dream Gel Sleep Surface and Hercules Dream Sheet.

**Placement:**
Hercules is located at the end of the Backrest.




Fig. Hercules with mattress

## 14.3 Infusion Stand

**WARNING!**
**Risk of injury due to use of incorrect accessories or because of incorrect use!**
Infusion Stands must only be used for their intended use. Always read the instructions for use!

- ► Only mount an infusion pump to the lower (wider) telescopic section of an infusion stand above the head/foot end board.
- ► Never mount an infusion pump to the upper (thiner) telescopic section of an infusion stand.
- ► Ensure the infusion pump will not collide with any movable parts of the bed (especially Backrest part) or with the patient. This must be verified after installation.
- ► Do not over tighten the infusion pump clamps during fitment. Over tightening may damage the infusion stand.
- ► Infusion pump can be only used if the infusion stand is fitted in the accessory holder socket in the head end on the under carriage of the bed.

**CAUTION!**
**Risk of collision with oxygen bottle holder on the bed end due to incompatibility!**

- ► Use the infusion stand with adapter to avoid the collision.

Infusion stands can be fitted to the head and foot end of the bed by either fitting into the IV/Infusion sockets mounted on the bed or using alternative accessory holder socket in the head end on the undercarriage of the bed.

- ► Use exclusively infusion stands with 4 hooks for hanging IV bags or baskets for intravenous solutions.
- ► Ensure the infusion stand individual hook 2kg maximum Safe Working Load is not exceeded.
- ► Ensure the infusion stand 20kg maximum Safe Working Load is not exceeded.
- ► The total maximum loading of the IV/Infusion poles must not exceed 20 Kg (44.1lbs).
- ► Follow the actual price list for information about types of infusion stands.

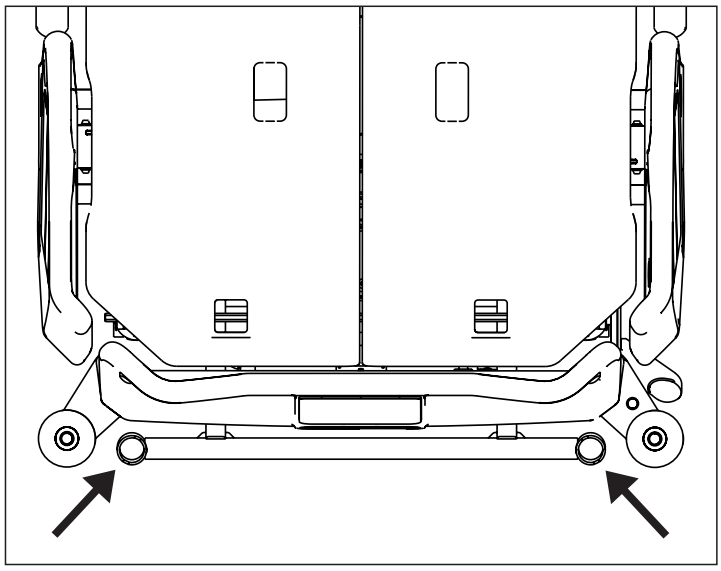


*Fig. Places for infusion stand (sleeve fittings on accessory adapter)*

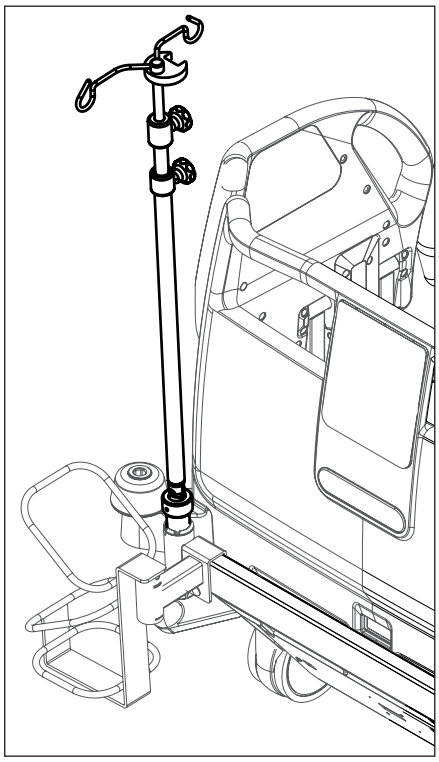


*Fig. Infusion stand*

## 14.4 Oxygen Bottle Holder

**WARNING!**
**Risk of injury with oxygen bottle holder due to incorrect use or due to careless driving!**

- ► Ensure the oxygen bottle holder is correctly fitted in correct position.
- ► It is necessary to place oxygen bottle holder (with or without O2 bottle) before transport to secure transport position.
- ► Be aware of people or objects in close proximity when driving or manipulating the bed equipped with oxygen bottle holder.
- ► Secure the oxygen bottles against falling or involuntary movement with rubber strap.
- ► Place the oxygen bottle holder on the bed by instructions in the following text.
- ► Ensure the oxygen bottle valve will not get damaged by careless or incorrect manipulation or placement.

The oxygen bottle holders are suitable for transporting oxygen bottles with a weight of up to 15 kg (33.07 lbs) and a volume of 5 litres.

**Version A (Head End)**

► Put oxygen bottle holder on transversal profile behind head end.

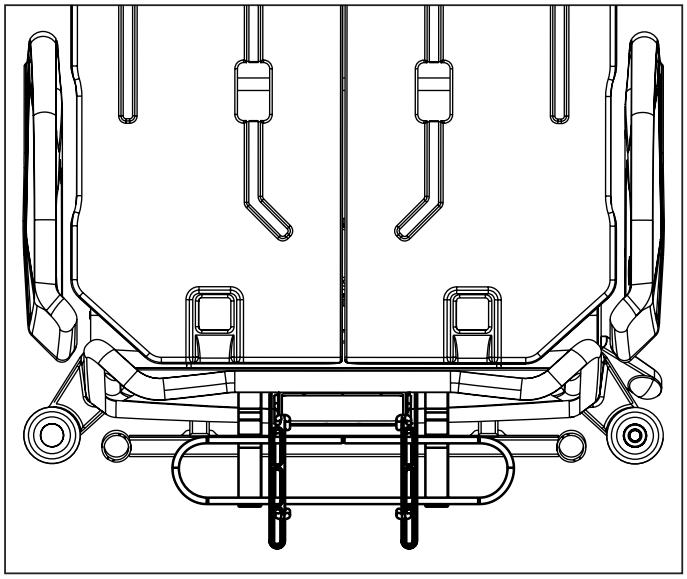


*Fig. Oxygen Bottle Holder (on the head end)*

**Version B (with adapter)**

On following pictures there are 4 positions of the oxygen bottle holder with adapter.

► Put holder on sleeve fittings in multifunctional accessory adapter on head end.
► Ensure the locking pin of oxygen bottle holder B is locked in sleeve fitting.

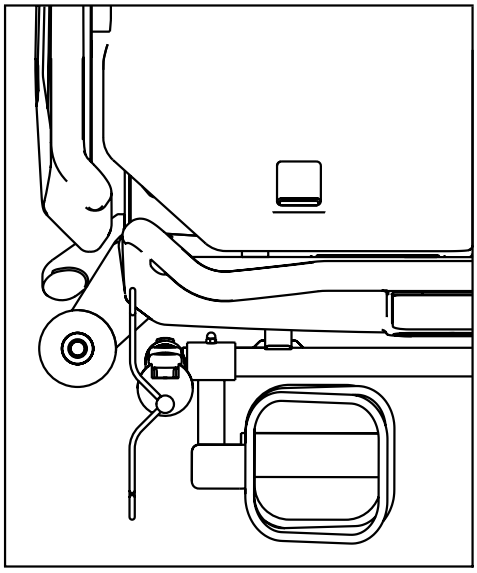


*Fig. Oxygen Bottle Holder in the adapter (position 1)*

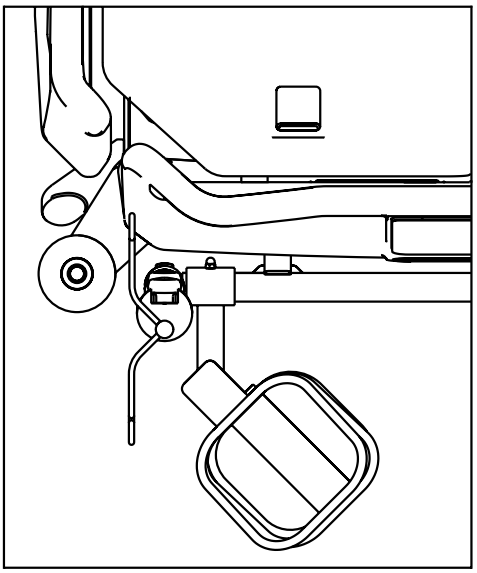


*Fig. Oxygen Bottle Holder in the adapter (position 2)*

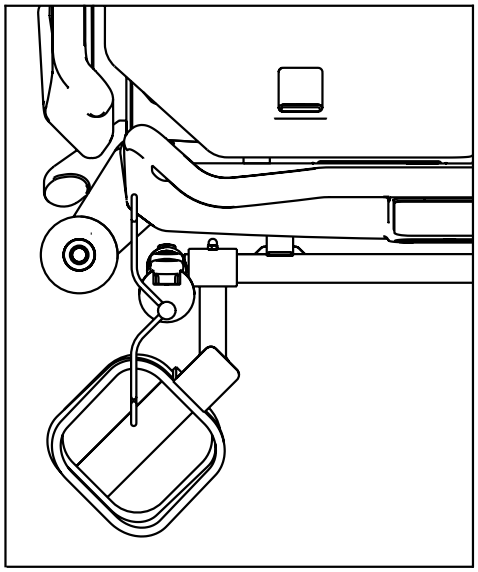


*Fig. Oxygen Bottle Holder in the adapter (position 3)*

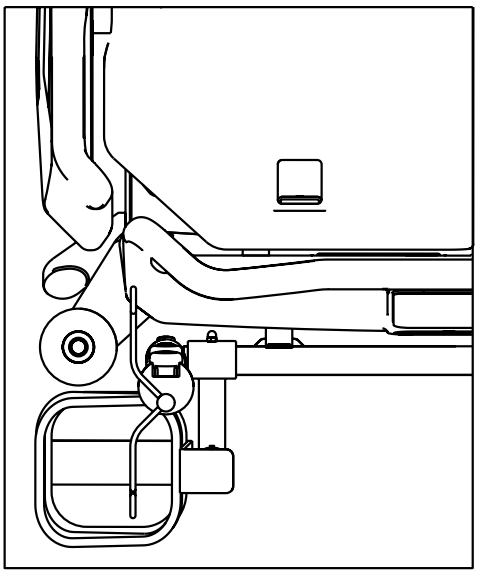


*Fig. Oxygen Bottle Holder in the adapter (position 4)*

## 14.5 Ventilation Circuit Holder

The ventilation circuit holder prevents an extubation.

► Always use Linet ® ventilation circuit holder to prevent extubation during any procedures.

**Applying ventilation circuit holder:**

► Put ventilation circuit holder in hole on right or left side of the Backrest frame.

► Fasten ventilation circuit holder with wing screw provided.

► Put intubation tube through plastic head of ventilation circuit holder.

► Tilt mattress platform left and right by 15° to check if intubation tube is fastened securely.
The fastening is secure if no parts of the ventilation circuit are disconnected.

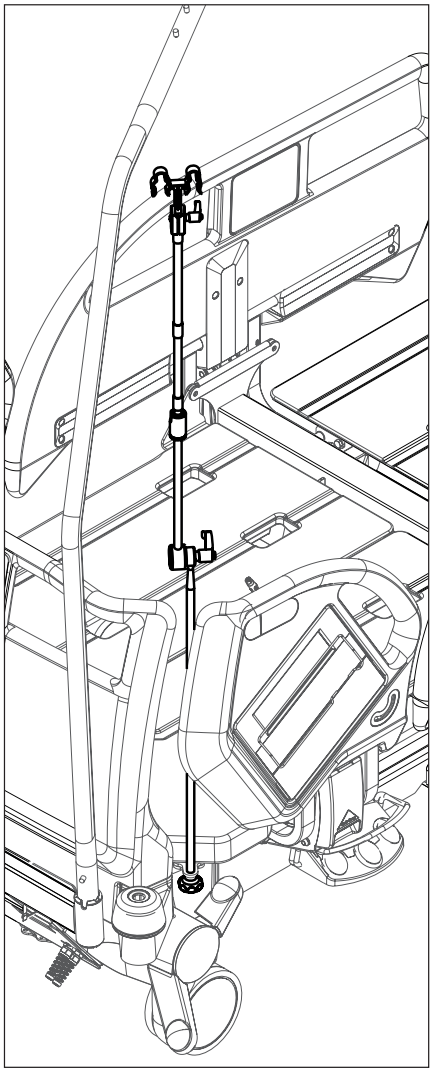


*Fig. Ventilation Circuit Holder*

## 14.6 Writing Shelf

The Writing Shelf is intended for writing of nursing staff.
It is placed in the handles of the foot end (as on the picture).

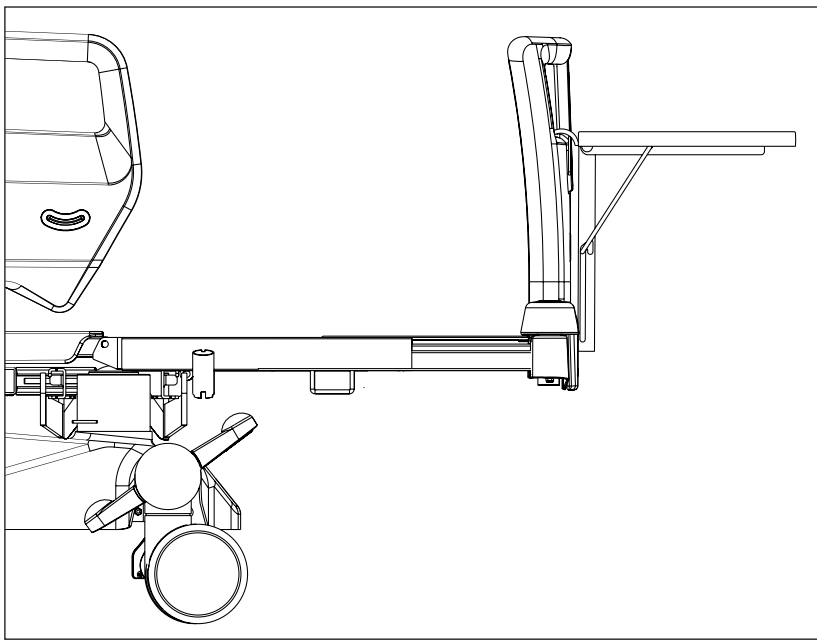


*Fig. Writing Shelf*

## 14.7 Monitor Shelf

The Monitor Shelf is suitable for transporting monitors with a weight of up to 15 kg (33.07 lbs).

**Installing the monitor tray:**

► Place the Monitor Shelf on the foot board.
► Fixate monitor with safety belts in order to avoid any damage during transport.

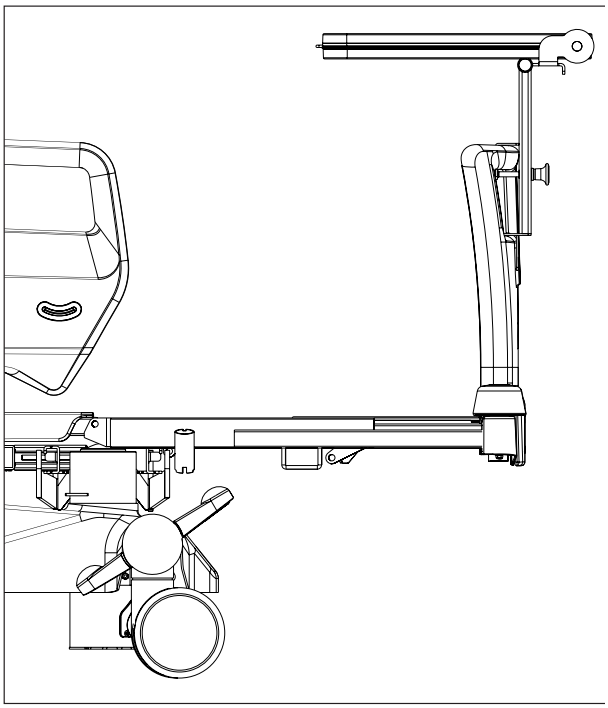


*Fig. Monitor Shelf*

## 14.8 Protector

**WARNING!**
**Risk of injury due to the patient falling off the bed!**
- ► Ensure that the Protector is installed securely.
- ► Always check that the side rails are properly locked.
- ► Make sure the fall risk assessment was done properly before Protector use.

The Protector is an optional accessory for the Eleganza 5 bed. The main purpose of the Protector is to reduce the risk of fall especially at very risky patients (confused restless patients).

The Protector is not included in the standard bed equipment and must be ordered separately. The Protector can be used with expanded or standard beds.

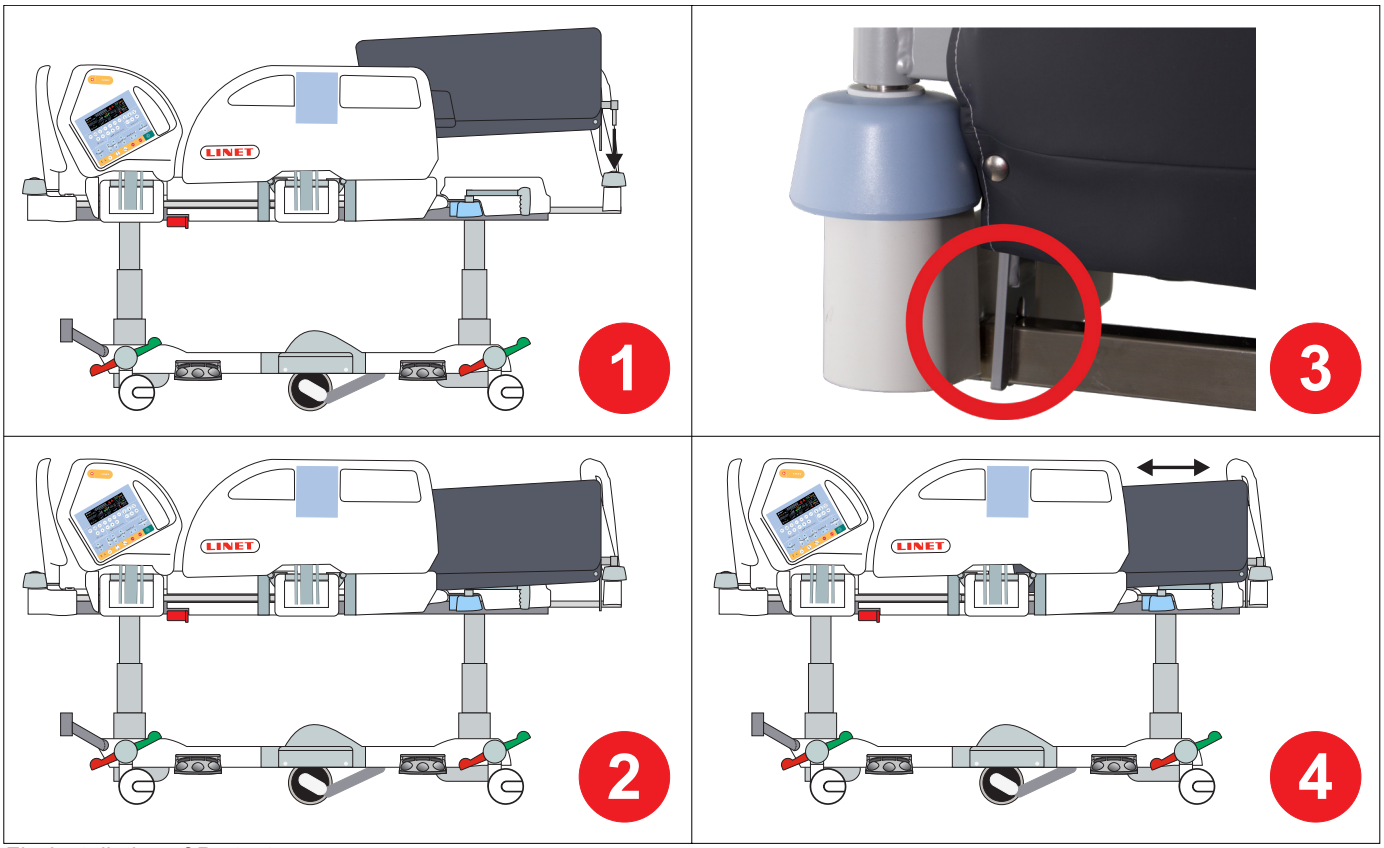



*Fig. Installation of Protector*

1. Inserting the Protector into the casing in the protective ring on the corner
2. The Protector inserted in the casing
3. The fixing element attached to the telescopic profile of the bed extension
4. The Protector attached to the Eleganza 5 bed (The Protector can also be used on expanded beds.)

**Attach the Protector to the bed as follows:**
- ► Insert the Protector pin into the casing in the protective ring at the corner of the foot end of the bed (1).
- ► Ensure that the fixing element is secured to the telescopic profile of the bed extension (3).

**Remove the Protector from the bed as follows:**
- ► Grasp the upper end of the Protector.
- ► Remove the Protector from the casing.

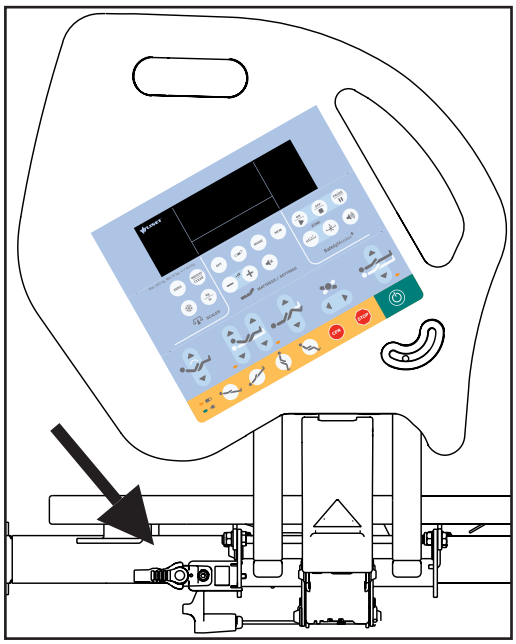
## 14.9 USB Connector

**WARNING!**
**Risk of injury due to incorrect use!**
► Ensure accessory pluged in USB connector is in pristine condition!
User of the bed is responsible for the fact that this requirement is met.

**CAUTION!**
**Risk of material damage due to incorrect use!**
► Do not plug heating element into USB connector!
User of the bed is responsible for the fact that this requirement is met.

USB Connector situated on the both sides of Backrest is intended for charging mobile phones and tablets.

**NOTE** Maximum current for this device is 2 A.



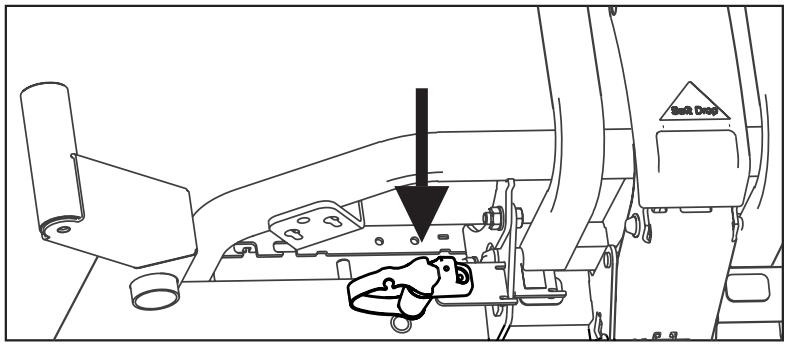


Fig. USB Connector on the right side of Backrest

## 14.10 Urine Bag Holder

Urine Bag Holders are available on both sides of the bed at Backrest area.

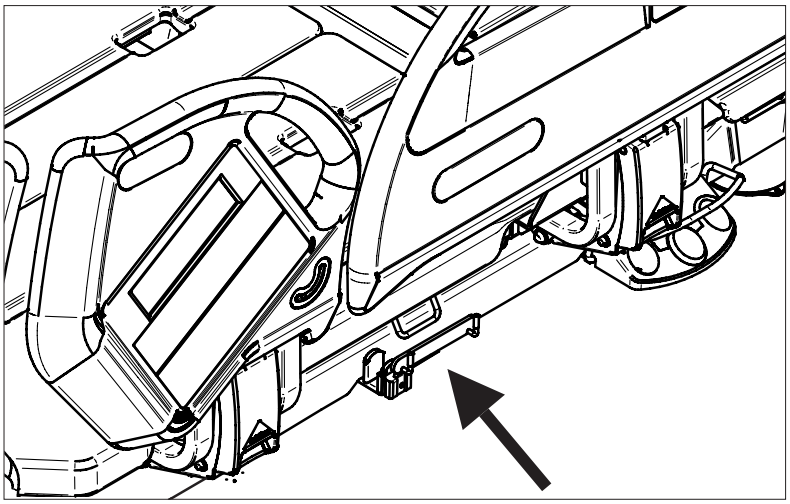


*Fig. Placement of the Urine Bag Holder*

# 15 Cleaning/Disinfection

**WARNING!**
**Risk of injury due to accidental bed movement!**
► Always disable the function buttons when cleaning between the undercarriage and mattress platform.

**CAUTION!**
**Material damage due to incorrect cleaning/disinfection!**
► Do not use washing machines.
► Do not use pressure or steam cleaners.
► Follow the instructions and observe the dosages recommended by the manufacturer.
► Ensure that disinfectants are selected and applied exclusively by qualified hygiene experts.
► **Respect used materials during cleaning and desinfection! For information see the following table.**

| Bed components | Materials used |
|---|---|
| Head and foot ends | Polypropylene + ABS |
| Siderails | Polypropylene + ABS |
| Mattress platform covers (Thighrest, Calfrest) | Polypropylene |
| Mattress platform covers (Backrest) | Polypropylene or HPL (x-ray version) |
| Castors | Polyurethane + Steel + Polyamide |
| Frame structure | Powder Coated Steel (powder is epoxy – polyester) |
| Columns | Oxidized aluminum alloy |
| Chassis cover | ABS |
| Corner covers | Polypropylene |
| Corner bumpers | Polypropylene |
| Keyboards | Polyester, MP glues |
| Siderails locks | Polyamide (PA6) |
| CPR levers | Polyamide (PA66) |

**For safe and gentle cleaning:**

► Do not use any strong acids or bases (optimum pH range 6 - 8).
► Exclusively use detergents that are suitable for cleaning medical equipment.
► Do not use abrasive powders, steel wool, or other materials and cleaning agents that might damage the mattress replace ment system.
► Never use any corrosive or caustic detergents.
► Never use detergents that deposit calcium carbonate.
► Never use detergents with solvents that might affect the structure and consistency of the plastics (benzene, toluene, acetone, etc.).
► Clean electrical components carefully and allow them to dry completely.
► Do not immerse SCU in water or steam-clean it.
► Observe local directives regarding infection control.
► Make sure any cleaning agent used is approved by:
■ the facility in which the mattress replacement system is to be used.
■ by the EPA (Environmental Protection Agency) of the country in which the mattress replacement system is to be used.

## 15.1 Cleaning (Eleganza 5)

**Prepare for cleaning as follows:**

► Put the mattress platform in the highest position.
► Adjust the back and thigh rests so that the reverse sides are accessible.
► Disable the function buttons on the control elements using the supervisor panel.
► Disable the foot controls using the supervisor panel.
► Disconnect the bed from the mains.
► Move the bed to the location where it will be cleaned.
► Lock the brakes on the bed.

## 15.1.1 Daily Cleaning

**Clean the following bed parts:**

- All control elements for adjusting the bed
- All handles
  - CPR release handle
- Bed ends
- Siderails (in highest position)
- Freely accessible mattress surface
- Mobi-Lift®
- Accessory rails

## 15.1.2 Cleaning before Changing Patients

**Clean the following bed parts:**

- All control elements for adjusting the bed
- All handles
- CPR release handle
- Bed ends
- Siderails (in highest position)
- Freely accessible mattress surface
- Mobi-Lift®
- Accessory rails
- All plastic mattress platform covers
- Plastic undercarriage covers
- Telescopic columns
- Mattress on all sides
- Freely accessible metal parts of mattress platform
- Cable ducts
- Lifting pole sleeve fitting
- Infusion stand sleeve fitting
- Bumpers
- Castors
- Brakes

## 15.1.3 Complete Cleaning and Disinfection

**Clean the following bed parts:**

- All control elements for adjusting the bed
- All handles
- CPR release handle
- Bed ends
- Siderails (in highest position)
- Freely accessible mattress surface
- Mobi-Lift®
- Accessory rails
- All plastic mattress platform covers
- Plastic undercarriage covers
- Telescopic columns
- Mattress on all sides
- Freely accessible metal parts of mattress platform
- Cable ducts
- Lifting pole sleeve fitting
- Infusion stand sleeve fitting
- Bumpers
- Castors
- Brakes
- Interior parts (accessible after removing mattress platform covers)

## 15.2 Cleaning (OptiCare)

**General guidance – Standard Cover:**

- ► Do not use any strong acids or alkalines, (optimum pH range 6 – 8. Do not exceed pH of 9). Some hard surface cleaners have pH values outside this range, these are not suitable for use on coated textiles.
- ► Only use detergents that are suitable for cleaning medical equipment and for use on coated textiles.
- ► Do not use abrasive powders, steel wool, or other material and cleaning agents that might damage the mattress. Do not scrub mattress surface.
- ► Never use any corrosive or caustic detergents.
- ► Never use detergents that deposit calcium carbonate.
- ► Never use detergents with solvents that might affect the structure and consistency of the plastics (benzene, toluene, acetone, phenol, etc.).
- ► Use only hospital-approved cleaners and observe local directives concerning infection control.
- ► Always rinse with water after cleaning and dry thoroughly before use.

| Mattress parts to be cleaned | Recommended Cleaning Agents (General cleaning) |
|---|---|
| **Top Cover**<br>**High MVP (Moisture Vapor Permeable) Material** | Standard hospital detergents, Alcohol or Quaternary Ammonium based disinfectants, Chlorine based disinfectants containing up to 1000 ppm Chlorine, followed by rinsing with water and drying thoroughly before use. |
| | **Decontamination: Blood spills/C-diff. etc** |
| | Chlorine based disinfectants containing up to 10,000 ppm Chlorine. Dwell time on surface at 10,000 ppm of 2 minutes, followed by rinsing with water and drying thoroughly before use. |
| **Base Cover, Air Cells, Foam Base** | As procedures above. |

Due to the variety of laundry equipment, chemicals and conditions in use, customers should satisfy themselves through pre-testing. It is essential that articles be thoroughly rinsed and dried after all cleaning procedures and before storage or reuse. Wet or damp PU surfaces are more prone to mechanical damage than when dry.

As stated above, after application of a suitable cleaner, the surface must be rinsed with water and dried before use. (Even if the cleaner instructions say that this is not required). This prevents a build up of chemicals on the mattress surface which could be reactivated during use and affect biocompatibility. The High MVP Coating may swell and change appearance during cleaning. This will recover after being thoroughly dried.

**NOTE** Continued use of high concentration, chlorine-based disinfectants may significantly reduce the performance and the working life of a coated material.

| Type of Cleaning | Parts to be cleaned |
|---|---|
| **Routine Cleaning and Disinfection** | ■ exposed mattress parts<br>■ exposed SCU parts |
| **Full Cleaning and Disinfection** | ■ exposed mattress parts<br>■ exposed SCU parts<br>■ internal parts of mattress<br>■ internal parts of cover |

### 15.2.1 Routine Cleaning and Disinfection

**Cleaning the mattress:**

- ► Check mattress cover top for any signs of damage.
  Replace or repair and completely disinfect mattress cover top if damaged.
- ► Check inside of mattress cover top for signs of liquid ingress.
  Replace or clean and completely disinfect mattress cover top if damp inside.
- ► Leave mattress cover on mattress.
- ► Clean with 140 °F warm water and cleaning detergent.
- ► Rinse mattress with cold water.
- ► Let mattress dry or wipe dry.
- ► Wipe mattress with disinfectant.
- ► Rinse mattress with cold water.
- ► Let mattress dry or wipe dry.

**Cleaning the SCU:**

► Wipe SCU with disinfectant.
► Let SCU dry or wipe dry.

## 15.2.2 Full Cleaning and Disinfection

**Cleaning the mattress:**

►, Deflate mattress and remove cover (see Removing the Mattress Cover).
► Check mattress cover top and base for any signs of damage.
Replace or repair and completely disinfect mattress cover top and base if damaged.
► Check mattress cover top and base for signs of liquid ingress.
Replace or clean and completely disinfect mattress cover top and base if damp inside.
► Clean all mattress cells and pipes with 140 °F warm water and cleaning detergent.
► Rinse mattress with cold water.
► Let mattress dry air dry or wipe dry.
► Wipe mattress with disinfectant.
► Rinse mattress with cold water.
► Let mattress dry air dry or wipe dry.

**Cleaning the mattress cover:**

► Remove cover (see Removing the Mattress Cover).
► If machine washing mattress top/base covers, the temperature should be raised during the wash cycle, to 65°C/149°F, for 10 -15 minutes, or 71°C/160° F, for 3 - 10 minutes, using hospital approved detergents and rinsing agents.

**NOTE** Maximum wash temperature 75°C/167°F.

► Dry cover in tumble dryer at low temperature.

**Cleaning the air pipe:**

► Wipe air pipe with cleaning agent or disinfectant.
► Let air pipe dry.

**Cleaning the SCU:**

► Remove filter.
► Wipe SCU and filter with disinfectant.
► Let SCU and filter dry.
► Reinsert filter.

## 15.2.3 Removing the Mattress Cover:

► Carefully open zipper under side skirt of mattress cover on foot end of mattress.
► Remove top part of mattress cover.
► Undo corner toggles holding comforter cover and remove comforter cover.
Inspect comforter cover and clean if necessary.
► Undo toggles holding top deck to foam base.
► Undo plastic clip next to air pipe inlet on base cover holding foam base to cover.
► Remove bottom part of mattress cover.

**After cleaning the mattress cover:**

► Reinstall mattress cover by reversing the process described above.
► Make sure all toggles are put back in their respective holes.

**General guidance – Slippy Cover**

**WARRANTY** Due to the nature and MVP (Moisture Vapor Permeability) rating of the Slippy Cover Material, the Warranty is 1 year. Chemical damage caused by using aggressive or incorrect cleaners will not be accepted under the warranty

**LIFESPAN** Typically 50 cleaning cycles in accordance with manufacturers' instructions.

- ► Do not use any strong acids or alkalines, (optimum pH range 6 – 8. Do not exceed pH of 9).
- ► Use only hospital-approved cleaners suitable for use on coated textiles and observe local directives concerning infection control.
- ► Do not use abrasive powders, steel wool, or other material and cleaning agents that might damage the mattress. Do not scrub mattress surface. Do not allow mechanical damage to occur, (e.g. Needle stick, scalpel/scissors cuts).
- ► Never use any corrosive or caustic detergents. Do not use cleaners containing Peroxide.
- ► Never use detergents that deposit calcium carbonate.

- ► Never use detergents with solvents that might affect the structure and consistency of the plastics (benzene, toluene, acetone, phenol, etc.).
- ► Use only hospital-approved cleaners and observe local directives concerning infection control.
- ► Always rinse with water after cleaning and dry thoroughly before use.
- ► Always refer to wash label and user guide for each system, as there may be specific instructions for the cover being used.

| Mattress parts to be cleaned | Recommended Cleaning Agents (General cleaning) |
|---|---|
| **Top Cover**<br>**High MVP (Moisture Vapor Permeable) Material**<br>**Slippy Mattress Cover Top** | Standard hospital detergents or cleaners suitable for use on coated textiles, as described above. Chlorine based disinfectants containing up to 1000 ppm (0.1%) available Chlorine, followed by rinsing with water and drying thoroughly before use. |
| | **Decontamination: Blood spills/C-diff. etc** |
| | Chlorine based wipes containing up to 5500 ppm (0.55%) available Chlorine (e.g. Clinell Clorox wipes). Dwell time on surface at 5500 ppm of 3 minutes, followed by rinsing with water and drying thoroughly before use. |

Due to the variety of laundry equipment, chemicals and conditions in use, it is the customers' responsibility to ensure compliance with manufacturers detailed cleaning instructions.

As stated above, after application of a suitable cleaner and after a suitable dwell time, it is essential that articles be thoroughly rinsed and dried before use. (Even if the cleaner instructions say that this is not required). This prevents a build up of chemicals on the mattress surface which could be reactivated during use and affect biocompatibility. Wet or damp PU (Polyurethane) surfaces are more prone to mechanical damage than when dry. The High MVP Coating may swell and change appearance during cleaning. This will recover after being thoroughly dried. (Air dry. Do not wipe aggressively). Before further use, the cover must be fully dry.

## 15.2.4 Machine Washing Symbioso Hi-MVP Slippy Mattress Cover

Machine wash top cover using hospital approved, detergent & rinsing agents. The detergent must not contain chlorine based bleach or peroxide. In order to kill bacteria, during the wash cycle the water temperature must be raised to 71 degrees C (160 degrees F) for 3 minutes, or 10 minutes at 65 degrees C (149 degrees F). Dry cover in tumble dryer at low temperature setting.

**NOTE** Constant use of high concentrations of Chlorine-based cleaners, or high PH value cleaners, may significantly reduce the performance and the working life of a coated material.

**NOTE** Covers that have physical damage that would allow fluids to penetrate inside the mattress cover must not be re-used but disposed of as clinical waste.

**NOTE** On High Vapour Permeable covers, vapour from chemicals with small molecules can occasionally diffuse through the polyurethane membrane in a similar manner to water vapour. Any staining on the inside of the cover caused by such an occurrence is not due to any loss of liquid / microbial barrier properties of the fabric, and being cosmetic only, should not be treated as a cover failure as replacement is not required.

# 16 Troubleshooting

**DANGER!**
**Risk of mortal injury due to electric shock!**

- ► If a fault occurs, have the electric motor, power box or other electrical parts repaired by qualified personnel exclusively.
- ► Do not open the protective covers of the electric motor or the power box.

| Error/Fault | Cause | Solution |
|---|---|---|
| Adjusting with position buttons not possible | GO Button was not pressed | Press the GO button. |
| | Function disabled on Additional Supervisor Panel | Enable disabled function. |
| | Actuators have no power<br>Defective actuators<br>Defective battery | Check the mains connection.<br>Notify the service department. |
| | Mains Plug inserted incorrectly | Insert the Mains Plug correctly. |
| | Faulty Power Source | Notify the service department. |
| | Faulty Control Element | Notify the service department. |
| Faulty Mattress Platform Height/Tilt Adjustment | Obstacle on the undercarriage cover | Remove the obstacle. |
| | Function disabled on Additional Supervisor Panel | Enable disabled function. |
| | Actuators have no power<br>Defective actuators<br>Defective battery | Check the mains connection.<br>Notify the service department. |
| | Mains Plug inserted incorrectly | Insert the Mains Plug correctly. |
| | Faulty Power Source. | Notify the service department. |
| | Faulty Control Element. | Notify the service department. |
| Lowering Backrest from the upright position not possible | Obstacle under the Backrest or in the drive mechanism. | Remove the obstacle |
| | CPR Release Handle is defective | Notify the service department. |
| Adjusting Siderails not possible | Obstacle in the Siderail Release Mechanism | Remove the obstacle. |
| | Siderail Release Mechanism is defective. | Notify the service department. |
| Faulty brakes | Obstacle blocking brakes mechanically | Remove the obstacle. |
| | The brake mechanism is defective | Notify the service department |

# 17 Maintenance



**WARNING!**
**Risk of injury when working on the bed!**
- ► Ensure that the bed is disconnected from the mains connection prior to assembly, disassembly and maintenance.
- ► Ensure that the castors are locked prior to assembly, disassembly and maintenance.



**WARNING!**
**Risk of injury due to defective bed!**
- ► Have a defective bed repaired immediately.
- ► If the defect cannot be repaired, do not use the bed.



**CAUTION!**
**Material damage due to incorrect maintenance!**
- ► Ensure that maintenance is performed exclusively by manufacturer´s customer service or technicians trained by manufacturer.
- ► If the defect cannot be repaired, do not use the bed.

**NOTE** Linet ® recommends attaching the maintenance plaque to the bed.

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

## 17.1 Monthly maintenance

► Check all movable parts for wear.

## 17.2 Maintenance every 12 months

Please refer to the Linet Periodic Preventative Maintenance and Safety Check Manual.

### 17.2.1 Spare Parts

The product label is located on the inside of the longitudinal rail of the mattress platform frame. The product label contains information for claims and ordering replacement parts.

**Information about spare parts is available from:**
- ■ Customer service
- ■ Sales
- ■ Our technical support department

### 17.2.2 Completeness

- ► Perform a visual check (with delivery note if necessary).
- ► Have any missing parts replaced.

### 17.2.3 Wear

- ► Check all bolts and tighten if necessary.
- ► Check all locking mechanisms.
- ► Check the bed for wear, scratches or rub marks.
  Eliminate the cause if necessary.
- ► Have any defective parts replaced.

### 17.2.4 Functioning

- ► Check that all bed adjustments reach the maximum position.
- ► If necessary, clean, lubricate or replace any worn spots and parts.

## 17.2.5 Electric Control

**Plug connections**

► Replace O-rings on connectors.
► Check plugs connections for dirt and defects.
Clean or replace if necessary.
► Check that the plug connectors are properly seated.

**Motors**

► Check motor movement (adjust bed positions).
Check for incorrect and interrupted movements.
Have defective motors replaced if necessary.
► Check cables for signs of wear and entanglement.
Install a new cable or have it replaced if necessary.

**Battery**

► Check that the battery is working properly (disconnect the bed from the mains).
Have the battery replaced if necessary.

**Fuses**

► Have fuses changed exclusively by qualified and trained service technicians authorised by the manufacturer.
► Use the following fuse types exclusively:
■ T4.0 A (for 100 – 127 V input)

## 17.2.6 Castors

► Clean the castors completely.
► Grease the castors if necessary (Caro EP 2 by DEA or an equivalent grease).
► Check that the castors work properly.
■ Forward Movement
■ Unrestricted Movement
■ Braked
► Have the brakes adjusted if necessary.
► Have any defective castors replaced.

## 17.2.7 Accessories

► Check that all accessories (for example, lifting pole, siderails, infusion stand, etc.) are working properly.
► Replace if necessary.

# 17.3 Safety Checks



**WARNING!**
**Risk of injury due to incorrect safety checks!**
► Ensure that safety checks are performed exclusively by customer service or autho- rised personnel (certified by the manufacturer).
► Ensure that the safety checks are recorded in the service and maintenance log.



**WARNING!**
**Risk of injury due to defective bed!**
► Have a defective bed repaired immediately.
► If the defect cannot be repaired, do not continue to use the bed.

**Technical Safety Check of the medical bed must be performed at least once every 12 months.**

The procedure for performing the safety check is stipulated in EN 62353:2014.

**NOTE** On request, the manufacturer will provide circuit diagrams, component part lists, descriptions, calibration instructions etc. for service personnel for the repair of ME equipment designated by the manufacturer as repairable by service personnel.

## 17.4 Maintenance OptiCare

**Check the following at least every 12 months:**

- ► Check inside and outside of mattress and outside of SCU for mechanical damage and signs of severe wear and tear.
- ► Check if mattress and SCU are fully operational.
- ► Perform electrical safety checks in accordance with local safety regulations.

**Check the following every month:**

- ► Check external air filter in side of SCU for dust and dirt.
  If dust or dirt is visible, replace filter.
- ► Replace any damaged parts immediately with original spare parts.
- ► Ensure that maintenance and installation are performed exclusively by qualified personnel trained by the manufacturer.

**NOTE** Linet ® provides service documentation for qualified personnel.

**The service technician approved by manufacturer is required to perform a technical safety check on the mattress every 12 months.**

## 17.5 Linet ® Service Department

Our responsible Linet ® Service partners will ensure your Linet ® products are up and running when you need them. For more information on available service support and contract offerings, please contact us at **podpora.servis@linet.cz** and ask for technical support. Linet ®'s nationwide network of highly skilled service providers that are equip- ped to service and maintain your Linet ® equipment at the highest level.

# 18 Disposal

## 18.1 Environment Protection

Linet ® is aware of the importance of environmental protection for future generations. Within the whole LINET company is applied the environmental management system, which is in accordance with the internationally agreed standards ISO 14001. The international system recognition and certification ISO are based on the external audits executed by specialists from reputable international TŰV company. Materials used in our product have the minimal ballast on the environment. Noise emissions and vibrations are in accordance with applicable regulations for the place of use. The product is made of recyclable materials. Waste is eliminated through an authorized company for waste management under the applicable None of the wooden parts is made of tropical wood (such as mahogany, rosewood, ebony, teak etc.) or from timber from the Amazon region or similar rainforests. Our products do not contain hazardous substances based on heavy metals, asbestos, PCBs and CFCs. For disposal of packaging materials after installing beds contact your sales representative or service Linet about the possibility of a free take-back of packaging through an authorized company www.linet.cz







## 18.2 Disposal

The materials of the appliance are reusable. By reusing, material recycling or other forms of use of old appliances you give an important contribution to the protection of our environment.

- ► Ask the responsible environmental protection authorities for the appropriate disposal point.
- ► Observe local and country-specific specifications for disposal.

### 18.2.1 Eleganza 5




If Eleganza 5 is equipped with Integration Module (BedMonitor System), it contains lithium battery.

## Within Europe

**To dispose of the appliance:**

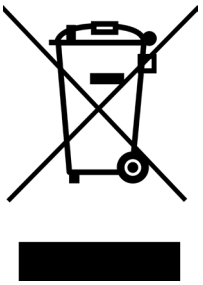
► When you dispose of your appliance do not put it into the household waste.
► Send the appliance to the recycling of electrical appliances.

The materials of the appliance are reusable. By reusing, material recycling or other forms of use of old appliances you give an important contribution to the protection of our environment.

► Ask the responsible environmental protection authorities for the appropriate disposal point.

## Outside Europe

► Dispose of the bed or its components in accordance with local laws and regulations:
■ After using the bed
■ Following maintenance and installation work
► Hire an approved waste disposal company for disposal.



### 18.2.2 OptiCare

**To dispose of the appliance (SCU):**

► When you dispose of your appliance (SCU) do not put it into the household waste.
► Send the appliance (SCU) to the recycling of electrical appliances.

# 19 Warranty

Linet ® will only be held responsible for the safety and reliability of products that are regularly serviced, maintained and used in accordance with the safety guidelines.

**Should a serious defect arise that cannot be repaired during maintenance:**

► Do not continue to use the bed.

This product is covered by a 24-month warranty from the date of purchase. The warranty covers all material and manufacturing-related failures and errors. Failures and errors caused by incorrect use and external effects are not covered. Justified complaints will be fixed free of charge during the warranty period. Proof of purchase, with the date of purchase, is required for all warranty service. Our standard terms and conditions apply.

# 20 Standards and Regulations

## 20.1 Eleganza 5

**The Eleganza 5 bed comlies with the following standards:**

- **IEC 60601-1**
- **CAN/CSA C22.2 NO. 60601-1**
- **ANSI/AAMI ES60601-1**
- **IEC 60601-1-2**
- **IEC 60601-1-6**
- **IEC 60601-2-52**
- **ISO 14971**

## 20.2 OptiCare

**The OptiCare mattress replacement system complies with the following standards:**

- **IEC 60601-1**
- **CAN/CSA C22.2 NO. 60601-1**
- **ANSI/AAMI ES60601-1**
- **IEC 60601-1-2**
- **IEC 60601-1-6**
- **ISO 10993-5**
- **ISO 10993-10**

## 20.3 Manufacturer

**The manufacturer adheres to a certified quality management system in compliance with the following standards:**

- **ISO 9001**
- **ISO 14001**
- **ISO 13485**
- **MDSAP (Medical Device Single Audit Program)**