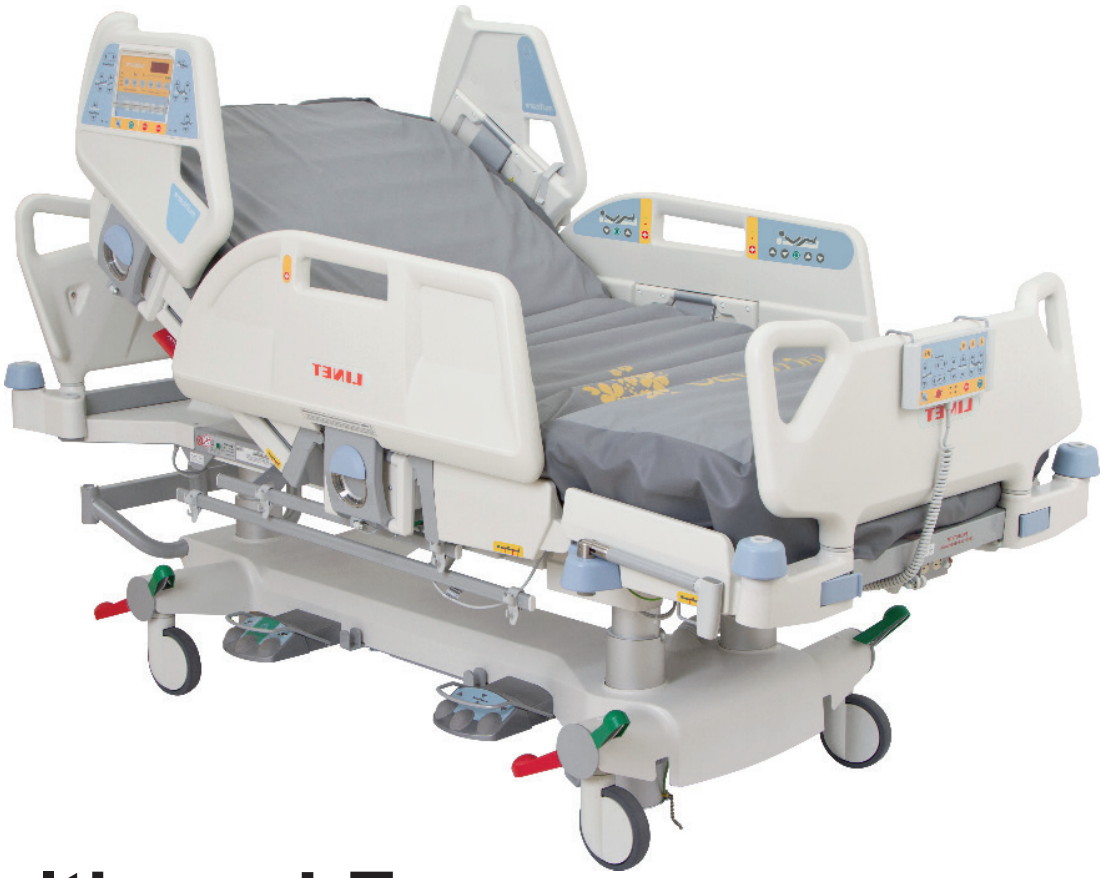
Instructions for Use and Technical Description



Multicare LE

Positionable bed for intensive care with scales and without scales

CE 0123

CE

D9U001MC5-0101

Version: 09

Publication Date: 2020-12

Manufacturer:

LINET spol. s r.o.
Želevčice 5
274 01 Slaný

Tel.: +420 312 576 111
Fax: +420 312 522 668

E-mail: info@LINET.cz
http://www.linet.com
Service department: service@linetgroup.com

Multicare LE
Positionable bed for intensive care with scales and without scales

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

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Table of Contents

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:

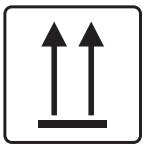
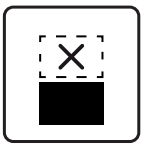
► Perform this step.
Results, if necessary.

1.3 Lists

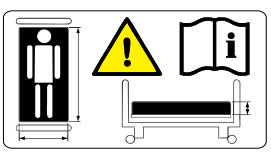
Structure of bulleted lists:

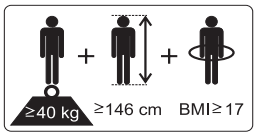
- List level 1
  - List level 2
    - List level 3

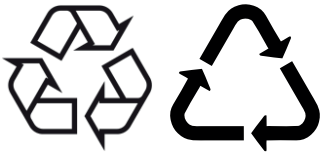
1.4 Symbols on the Package

	FRAGILE, HANDLE WITH CARE
	THIS WAY UP
	KEEP DRY (PROTECT FROM HUMIDITY)
	PAPER RECYCLING SYMBOL
	DO NOT USE HAND TRUCK HERE
	DO NOT STACK DURING STORAGE

1.5 Symbols and Labels on the Bed

	READ INSTRUCTIONS FOR USE
	THERMAL PROTECTION FOR TRANSFORMER
	WARNING
	ONLY SUITABLE FOR INDOOR USE
	APPLIED PARTS TYPE B
	SAFETY ISOLATING TRANSFORMER, GENERAL
CE 0123	CE MARK (MULTICARE LE WITH SCALES)
CE	CE MARK (MULTICARE LE WITHOUT SCALES)
	JACK FOR ATTACHMENT OF CONDUCTOR FOR POTENTIAL EQUALISATION
= kg	SAFE WORKING LOAD
	WARNING AGAINST CRUSHING OR TRAPPING
	USE MATTRESS RECOMMENDED BY MANUFACTURER

	DO NOT PUT ANY OBJECTS ON UNDERCARRIAGE
= kg	MAXIMUM WEIGHT OF PATIENT
= kg	WEIGHT OF BED
	DESIGNATION OF HOSPITAL BED FOR ADULTS
	ANTIBACTERIAL SURFACE FINISH
	WEEE SYMBOL (RECYCLE AS ELECTRONIC WASTE, DO NOT PUT INTO THE HOUSEHOLD WASTE)
EAC	EAC MARKING (EURASIAN CONFORMITY)
	DO NOT POLLUTE THE ENVIRONMENT
	TÜV MARK
	GO BUTTON (PRESS TO ACTIVATE CONTROL ELEMENT)
	STOP BUTTON (PRESS TO INTERRUPT BED POSITIONING)

	RECYCLING SYMBOL
	MEDICAL DEVICE (COMPATIBLE WITH MEDICAL DEVICE REGULATION)

1.6 Serial Label with UDI

Pictures of serial labels below serve just for explanation of the signs and fields on the serial labels.

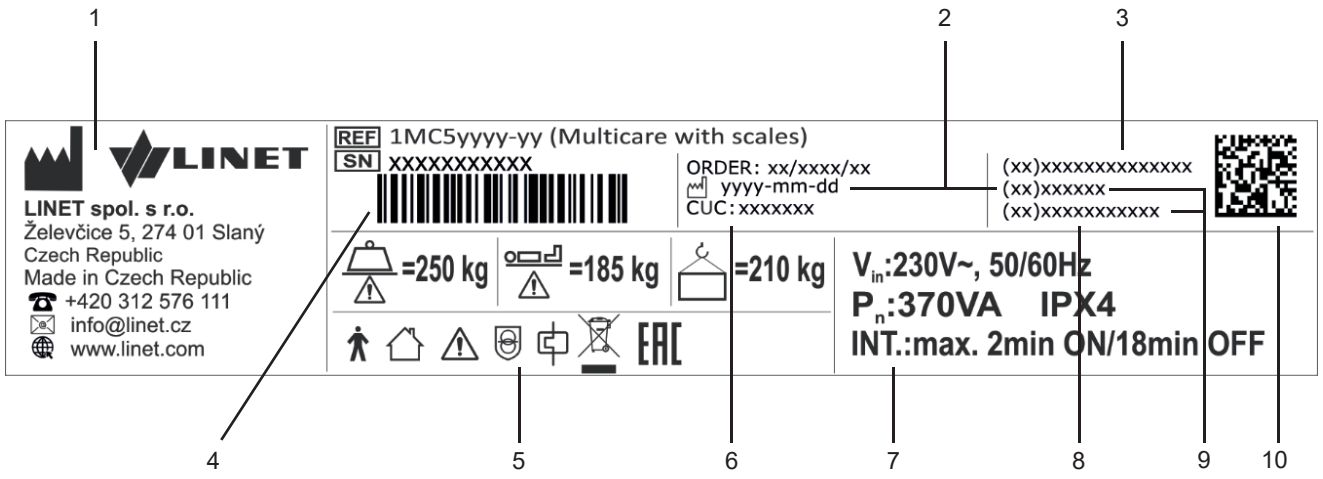


Fig. Serial Label with UDI (Multicare LE with scales)

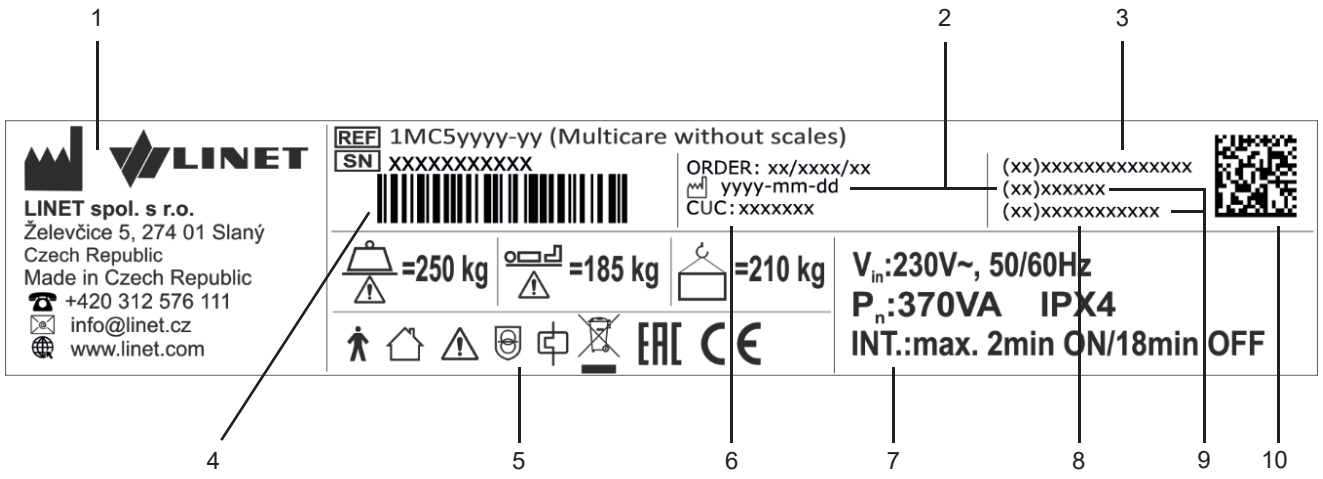


Fig. Serial Label with UDI (Multicare LE without scales)

1	Address of Manufacturer
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**

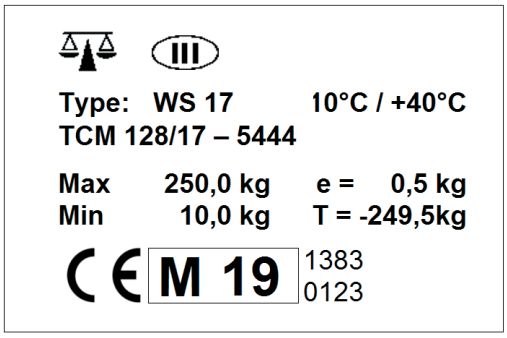


Fig. Serial Label (WS17)

Scales Abbreviations	
Max	maximum capacity of the weighing instrument
Min	minimum capacity of the weighing instrument
e	verification scale interval
T	tare value

1.7 Acoustic signalisation

SOUND	MEANING
CONTINUOUS SOUND	overheating
	accumulator overcurrent
	scales overload (only version with scales)
	actuator overload
BEEP + CONTINUOUS SOUND	Siderail Signal (lateral tilt + head siderail or foot siderail down)
REPEATED BEEP: 0,6s sound / 2,6s silence	STOP error (all STOP buttons are disabled)
MELODY: 3 beeps, pause, 2 beeps, longer pause, 3 beeps, pause, 2 beeps	Bed Exit Alarm (only version with scales)
BEEP lasting 0,3s	confirmation
	stopping or locked function
	lateral tilt 15° achieved
	transition from tilt (lateral tilt, Trendelenburg, Antitrendelenburg) to horizontal position
4 TIMES REPEATED BEEP lasting 0,3s	disconnected from the mains
	positioning powered by the accumulator
BEEP lasting 0,5s	start of service mode or end of service mode
	keyboard error (positioning blocked)
BEEP lasting 3s	system error
BEEP lasting 5s	SCU disconnected (only if integrated mattress is used)
	scale module disconnected (only version with scales)
REPEATED BEEP during 3 minutes: 1,1s sound / 1,1s silence	Brake Signal (only version with Brake Signal)

1.8 Visual signalisation

1.8.1 Mains Power LED (Multiboard, Attendant Control Panel)

MAINS POWER LED 	MEANING
lit	connected to the mains
flashing: 0,6s lit / 0,6s not lit	keyboard error (flashing inverted to Lock LED)
	error (first fault)
flashing: 0,1s lit / 0,1s not lit	service mode
not lit	disconnected from the mains power
	transformer switching error

1.8.2 Accumulator Indicator (Multiboard, Attendant Control Panel)

ACCUMULATOR INDICATOR  	MEANING
lit	accumulator disconnected or faulty
flashing: 1,6s lit / 0,2s not lit	accumulator deeply discharged
flashing: 0,1s lit / 0,1s not lit	accumulator discharged
flashing: 0,2s lit / 1,6s not lit	accumulator is charging
not lit	accumulator charged

1.8.3 Lock LED (Attendant Control Panel)

VISUAL SIGNALISATION / LOCK LED 	lit	flashing: 0,6s lit / 0,6s not lit			not lit
Thighrest, Calfrest and Bed Extension Lock LED	locked	lock error	keyboard error	motion blocked	unlocked
Backrest Lock LED	locked	lock error	keyboard error	motion blocked	unlocked
Bed Height, Lateral Tilt, Trendelenburg and Antitrendelenburg Tilt Lock LED	locked	lock error	keyboard error	motion blocked	unlocked
Foot Switch Lock LED	locked	lock error	keyboard error	motion blocked	unlocked

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 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 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 ■ The mattress support platform, including the individual parts, has to be in a horizontal (level - 0°) position. ■ The siderails are always locked in the upper position. ■ The basic position of the integrated extension.
Adult	Patient having a physical size equal to or more than 146 cm, a mass equal to or more than 40 kg and a body mass index (BMI) equal to or more than 17 (according to IEC 60601-2-52).

1.10 Abbreviations

AC (~)	Alternating Current
CE	European Conformity
CPR	Cardiopulmonary Resuscitation
dB	Sound Intensity Unit
CUC	Control Unit Configuration Number
DC (⎓)	Direct Current
EAC	Euroasian Conformity
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)
OFF	Deactivated
ON	Activated
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!
Multicare LE 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 Multicare LE 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 Multicare LE bed avoid squeezing those between parts of the Multicare LE bed!

WARNING!
Multicare LE bed should not be used with bed hoists and bed lifts!

WARNING!
To avoid 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!
The bed is intended for adults.
► Follow chapter Specifications of 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!
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.

WARNING!
Staff expert assessment is needed to consider all individual cases of contraindications!

WARNING!
Certain bed positions are not suitable for specific diagnosis/medical conditions. Fowler position is not suitable for spinal cord injuries! Trendelenburg position is not suitable for patients with higher intracranial pressure!

WARNING!
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!

WARNING!
Any serious incident that has occurred in relation to the device should be reported to the manufacturer and the competent authority of the Member State in which the user and/or patient is established!

WARNING!
Only authorised and trained person using the tool is allowed to change fuses and power supplies!

WARNING!
This medical device is not intended for oxygen enriched environment!

WARNING!
This medical device is not intended for use with flammable substances!

WARNING!
This medical device is not portable medical electrical equipment!

WARNING!
Make sure the duty cycle (2 min ON/18 min OFF) is not exceeded during bed positioning!

WARNING!
Patient is allowed to use selected control elements only if hospital personnel had assessed that the patient´s physical and psychological state is in accordance with use of them and only if the hospital personnel had trained the patient in accordance with the instructions for use!

WARNING!
Hospital personnel is allowed to use the weighing system (scales) for weighing patients only if they had been trained according to the instructions for use!

WARNING!
Risk of injury due to incorrect use!
Do not use CLP mode for patients undergoing cervical traction.
Before placing a patient on a Symbioso, always have a qualified person perform a risk assessment to ensure that the support provided is appropriate and fulfils the applicable local stipulations.

- ► Follow the instructions carefully.
- ► Only use the bed if it is in perfect working order.
  If necessary, check the bed functions daily or at each shift change.
- ► Use the bed only with the correct mains supply.
- ► Ensure that the bed is operated exclusively by qualified personnel who have been trained according to the instructions for use.
- ► Ensure that the patient (health permitting) has been informed about the operation of the bed and all applicable safety instructions.
- ► Move the bed only on even, hard-surfaced floors.
- ► Replace any damaged parts immediately with original spare parts.
- ► Ensure that maintenance and installation are performed only by qualified personnel trained by the manufacturer.
- ► Do not apply excess weight or loads to the bed according to SWL (safe working load).
- ► 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.
- ► Ensure that the castors are locked 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 only 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 Attendant Control 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.
- ► Unplug the mains cable only by pulling on the plug.
- ► Position the mains cable so that there are no loops or bends 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.
- ► Improper handling of mains cable can cause an electric shock hazard, other serious injuries or damage the bed.
- ► Ensure that the stipulated duty cycle (on-time) is not exceeded.
- ► Ensure that the moving parts of the bed are not blocked.
- ► To prevent failures, use the manufacturer's original accessories and mattresses only.
- ► If the patient‘s condition could lead to an entrapment, leave the mattress support platform in the flat position while the patient is unattended.
- ► Adjust bed height to approx. 20 cm below maximum height when transporting the bed in order to facilitate overcoming possible obstacles.
- ► Do not exceed maximum load of 80 kg for mattress platform extension.
- ► Ensure that the bed and its components are only modified with the manufacturer´s approval.
- ► Use the mattress system only as specified in the instructions for use and in perfect working order.
- ► Use the mattress system only with the correct mains supply (see Electrical Specifications (Symbioso)).
- ► Use the mattress system only in its original state and do not modify it in any way.
- ► Have the mattress system used only by or under supervision of trained and qualified nursing personnel.
- ► Have the mattress system serviced and installed only by qualified personnel trained and authorised by the manufacturer.
- ► Do not exceed the maximum patient weight limit (see Mechanical Specifications (Symbioso)).
- ► Do not use the SCU 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.
- ► 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 in the area where the integrated siderail controller is located.
- ► After each emergency situation always check if any of the controllers (in siderails, hand set or ACP) is not involuntarily pressed by the bed accessories or by the mattress.
- ► The weighing system must be tested 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.

3 Intended use

The intended use is the hospitalization of the patient in the intensive and acute care units, which includes above all the following aspects:

- ► Adjustment of the specific positions needed for the preventive reasons, routine nursing, treatments, mobilization, physiotherapy, examinations, sleeping, and relaxation. These positions are further specified and described in the clinical evaluation of this device, together with their potential clinical outcomes and benefits.
- ► Providing the safe environment for the patient during all relevant procedures. The particular requirements on patient safety are the subject of the clinical evaluation, including evaluation of the risk/benefit ratio. The relevant safety issues are the part of the risk management file.
- ► Patient in-bed indoor transport out of the patient room.
- ► Providing the suitable working conditions for the caregivers to perform the routine and specific tasks during the patient hospitalization.
- ► Indicative measurement of the patient weight, used as supportive feature without direct diagnostic effect. It helps staff to assess the general patient status and apply the nutrition and medicaments (valid for the version of the beds with in-bed scales).

3.1 User population

- ► Adult patients (weight >= 40 kg, height >= 146 cm, BMI >= 17) in the intensive and acute care units (Application Environment 1 and 2 as in IEC 60601-2-52)
- ► Caregivers (nurses, doctors, technical personnel, transport personnel, cleaning personnel)

3.2 Contraindications

- ► The medical device is not intended for the pediatric patients use.
- ► Certain positions are not suitable for specific diagnoses/medical conditions (e.g. spinal cord injuries vs. Fowler position, higher ICP patients vs. Trendelenburg). Staff expert assessment / nursing consideration is needed in all individual case of contraindication.

3.3 Operator

- ► Caregiver
- ► Patient (based on individual patient status assessment by caregiver the patient can utilize dedicated device functions)

4 Product Description

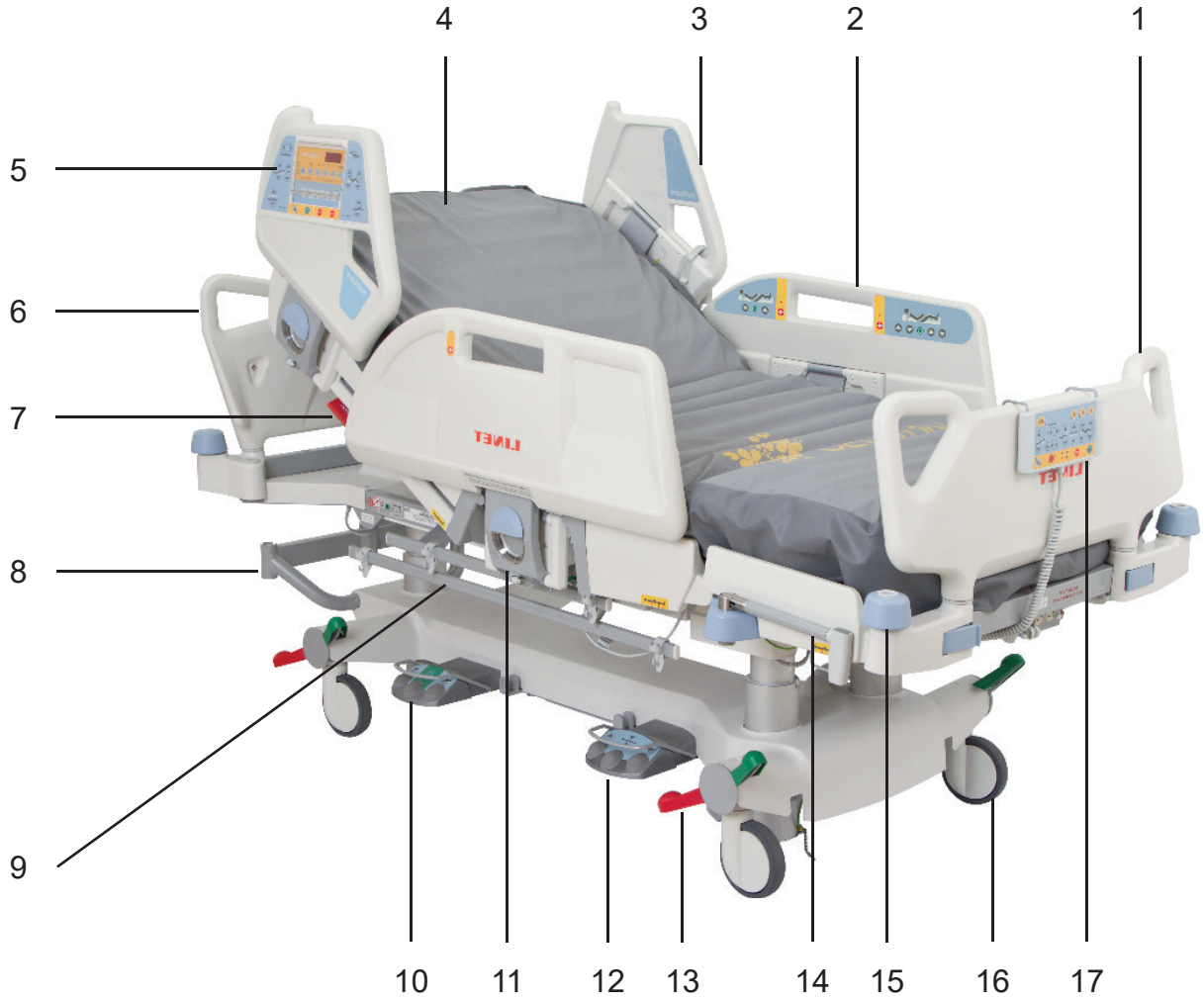


Fig. Overview of Multicare LE

1. **Removable foot board with safety locks**
2. **Foot siderail with integrated control panels for patient**
3. **Head siderail**
4. **Four-part mattress platform with Ergoframe® system (under the mattress)**
5. **Multiboard**
6. **Removable head board**
7. **CPR control lever – backrest release**
8. **Accessory holder**
9. **Bi-lateral accessory rail**
10. **Foot control – lateral tilt**
11. **Siderail release lever**
12. **Foot control – bed height adjustment**
13. **Castor control lever**
14. **Mobi-Lift® handle**
15. **Corner bumper**
16. **Castor**
17. **Attendant Control Panel**

NOTE For safe, easy handling, LINET® recommends that two technicians put the bed into service.

5 Technical Specification

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

WARNING!
If Multicare LE bed is used with Symbioso integrated mattress replacement 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 support platform frame, Covers and all Movable Parts
- Head Board and Foot Board
- Siderails
- Mobi-Lift Handles
- Handset

5.2 Scales (only version with scales)

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

5.3 Mechanical Specifications (Multicare LE)

Parameter	Value
Dimensions (With Folded-up Siderail)	**215 cm x 105 cm**
Bed Extension	**0 cm - 22 cm**
Recommended Mattress Dimensions	**208 cm x 86 cm**
Maximum Mattress Height	**23 cm**
Bed Height	**44 cm - 82 cm**
Siderail length **Head section** **Central section**	 **54 cm** **100,7 cm**
Castor (Diameter)	**15 cm**
Maximum Backrest Angle	**70°**
Maximum Thighrest Angle	**30°**
Maximum Calfrest Angle	**38°**
Maximum Lateral Tilt Angle	**30°**
Trendelenburg	**13°**
Anti-Trendelenburg Position	**16°**
Siderail Height (above Mattress Platform)	**45 cm**
Bed Weight (Basic Equipment)	**224 kg**
Safe Working Load	**250 kg**
Maximum Lifting Pole Load	**75 kg**
Maximum Patient Weight **Application environment 1, 2** **Application environment 3, 5**	 **185 kg** **215 kg**

5.4 Environment Conditions

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 (Multicare LE)

Parameter	Value
Input Voltage Version 1 Version 2 Version 3 Version 4 Version 5 Version 6	 230 V AC, 50/60 Hz 100 V AC, 50/60 Hz 110 V AC, 50/60 Hz 120 V AC, 50/60 Hz 127 V AC, 50/60 Hz 110-127 V AC, 50/60 Hz or 230 V AC, 50/60 Hz
Maximum Power Input	max. 370 VA
Ingress Protection	IPX4
Safety Class	Class I (with type B applied parts)
Electrical Motor Duty Cycle	max. 2 min ON / 18 min OFF
Accumulator Fuse Version 1 Version 2	Pb ACCU 2 x 12 V / 1,2 Ah / Fuse 15A 2x T2.0A L 250 V for 230 V version 2x T4.0A L 250 V for 100-127 V version

ERGOFRAME

Ergoframe® is the kinematic system of Backrest and Thighrest Adjustment resulting in extension of the Mattress support platform in the seat section.

Ergoframe® enlarges the space for pelvic area during Auto-contour. Because of increasement of the space the force applied results in decrease of the pressure that can cause pressure injuries in the pelvic area.

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.

5.6 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:
1. Mains cable, maximum length 6 m
2. ACP Supervisor control panel, maximum length 3m
3. 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 Multicare LE, 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 18 Maintenance in order to maintain the basic safety with regard to electromagnetic disturbances for the expected service life.

5.6.1 Manufacturer instructions – electromagnetic emissions

Emission test	Compliance
RF emissions CISPR 11	Group 1
RF emissions CISPR 11	Class B
Harmonic emissions IEC 61000-3-2	Class A
Voltage fluctuations / flicker emissions IEC 61000-3-3	Complies

5.6.2 Manufacturer instructions – electromagnetic susceptibility

Immunity Tests	Compliance level
Electrostatic discharge (ESD) IEC 61000-4-2	± 8 kV for contact discharge ± 15 kV for contact discharge
Radiated RF IEC 61000-4-3 Proximity fields from RF wireless communications equipment IEC 61000-4-3	3 V/m 80 MHz – 2,7 GHz 80 % AM at 1 kHz See Table 1
Fast electrical transients / burst IEC 61000-4-4	±2 kV for power line repetition frequency 100 kHz
Surge IEC 61000-4-5	± 1 kV Line-to-line ± 2 kV Line-to-ground
Conducted RF IEC 61000-4-6	3 V (0,15 MHz – 80 MHz) 6 V in ISM bands between 0,15 MHz and 80 MHz 80 % AM at 1 kHz
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	30 A/m
Voltage dips, short interruptions on power supply input lines IEC 61000-4-11	0 % UT; 0,5 cycle At 0°, 45°, 90°, 135°, 180°, 225°, 270° a 315° 0 % UT; 1 cycle and 70 % UT; 25/30 cycle Single phase: at 0° 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
710 745 780	704 - 787	LTE band 13, 17	Pulse modulation 217 Hz	9
810 870 930	800 - 960	GSM 800/900, TETRA 800, iDEN 820, CDMA 850, LTE band 5	Pulse modulation 18 Hz	28
1 720 1 845 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, LTE band 7	Pulse modulation 217 Hz	28
5 240 5 500 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 integration 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.

CAUTION!
Minimal clearance underneath the bed (standard version with 15 cm castors) is 4,4 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 (bed hoists for patients are permitted; clearance for the patient hoists is 15 cm).

Multicare LE with Symbioso 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. lightning or earthquake).

Multicare LE and Symbioso 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

- Multicare LE medical bed
- Mattress with cover - Applied part type B
- SCU (System Control Unit) - Applied part type B
- Instructions for use

7.3 Multicare LE Variants

s = standart
o = optional

Optional bed features:

- Symbioso
  - with Symbioso
  - without Symbioso
- Undercarriage of the bed
  - Standard undercarriage – under bed clearance under foot columns 44mm (s)
  - Higher undercarriage – under bed clearance under foot columns 69mm (o)
- Scales
  - with scales (with bed exit alarm)
- Castors
  - Tente Integral 150 mm double castors (s)
  - Tente Integral 150 mm single castors (o)
  - retractable fifth castor (o)
- Control Elements
  - Multiboard in both head sections of siderails (s)
  - Attendant Control Panel (o)
  - handset with adapter for easy connection (Plug and Play) (o)
  - handset with illuminated buttons and adapter for easy connection (Plug and Play) (o)
  - foot controls – height adjustment (o)
  - foot controls – lateral tilt (o)
  - patient control elements integrated in both middle sections of the siderails (s)
  - variant with no patient controls in siderails (o)
  - illuminated patient keyboards (0)
- 1 pair of Mobi-Lift® handles (o)
- i-Brake® (o)
- X-ray cassette holder (o)
- Additional adapter for lifting pole (o)
- Wi-fi/LAN module (o)
- EMR ready bed (o)
- Nurse Call
- i-Drive Power® (o)
- LINIS SafetyPort
  - without LINIS SafetyPort (s)
  - basic hardware preparation for LINIS SafetyPort (CE06: without Integration Module) (o)
  - complete hardware preparation for LINIS SafetyPort (CE31: with Integration Module) (o)

8 Putting into Service

WARNING!
Risk of injury when working on the bed!
► Ensure that the bed is disconnected from the mains connection prior to putting into service, putting out of service and maintenance.
► Ensure that the castors are locked prior to putting into service, putting out of service and maintenance.

CAUTION!
Material damage due to incorrect putting into service!
► Ensure that putting into service is performed exclusively by manufacturer´s customer service or trained hospital personnel.

Set up the bed as follows:
► Unpack the bed.
► Check the delivery (see Scope of Delivery and Bed Variants).
► Remove isolating foil from mains control box (see Accumulator Activation).
► Install equipment and accessories.
► In case of delivery with dismounted head board and foot board, mount the head board and foot board (see Head Board and Foot Board).
► Set-up the bed only on a suitable floor surface (see Transport).
► Ensure the mains cable does not collide or get stretched when adjusting the bed. Check the plug is inserted correctly.
► Do not leave any extension cords or power strips loose on the floor.
► Ensure all 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 the mains cable is always accessible.
► The plug on the mains cable should only be changed and maintained by qualified and trained service technicians authorised by the manufacturer.

8.1 Accumulator Activation

8.1.1 Placement of Control Section

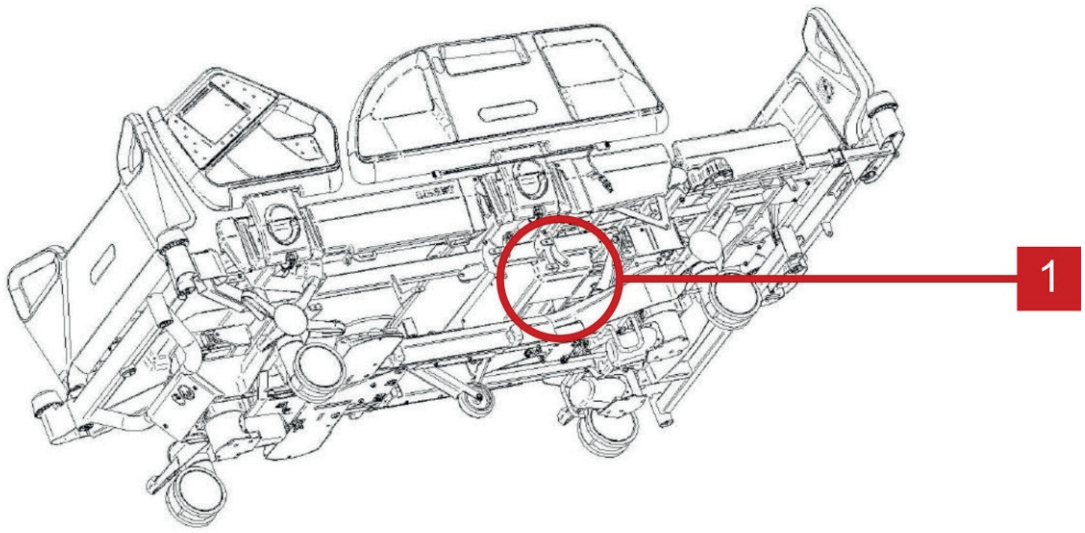


Fig. Control section placement

8.1.2 Removing the Isolating Foil

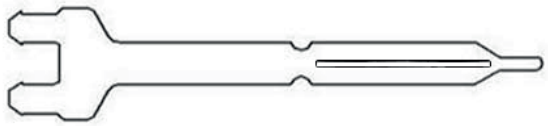
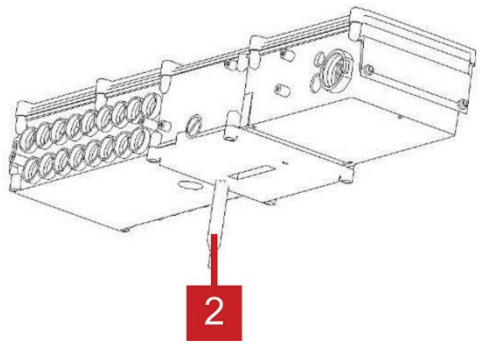


Fig. Isolating foil



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: It is recommended to wear gloves when removing the isolating foil.

8.2 Head Board and Foot Board

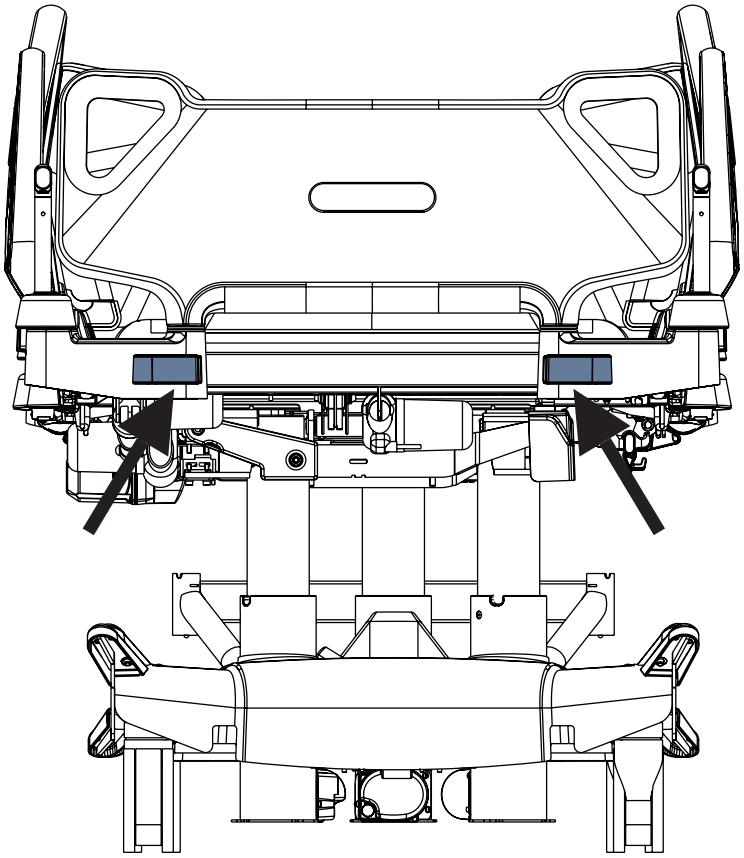


Fig. Foot Board Locks

Dismount the foot board as follows:

► Unlock sleeve fittings.
► Pull foot board from sleeve fittings.
► Lock sleeve fittings.

Install the foot board as follows:

► Unlock sleeve fittings.
► Slide foot board into sleeve fittings.
► Lock sleeve fittings.

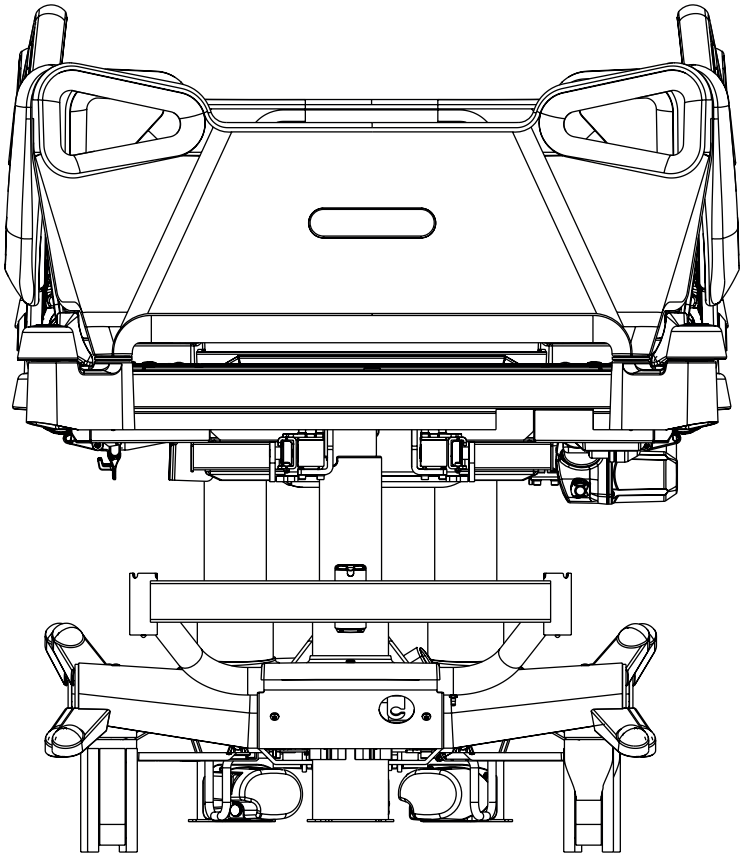


Fig. Installed Head Board

Dismount the head board as follows:

► Pull head board from sleeve fittings.

Install the head board as follows:

► Slide head board into sleeve fittings.

8.3 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 shocks.

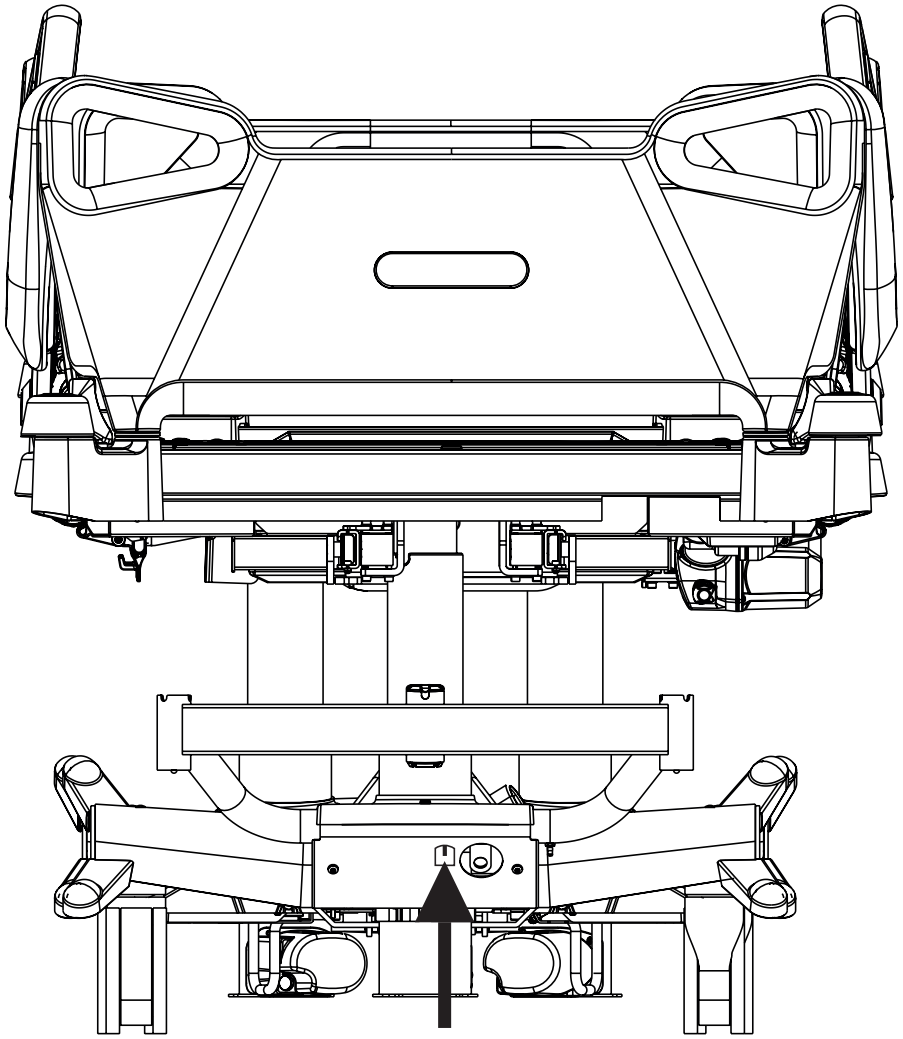


Fig. Potential equalisation connector – male

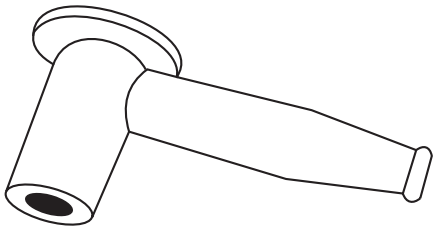


Fig. Potential equalisation connector - female

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 (male) on the bed on which the patient in question is lying.
► Use a standard hospital connector (female).
► 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.

8.4 Before Use

Prepare the bed for service as follows:
► Connect the bed to the mains.
► Charge the accumulator.
► 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 (Multiboard etc.).
► Check that the siderails function properly.
► Dispose of all packaging (see Disposal).

8.5 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 board).
► Ensure that the castors are unlocked before moving the bed during the loading/unloading process (see Castor Control and Bed Transport).
► Move the bed exclusively on suitable floor surfaces.

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.

8.6 Firmware

The bed includes firmware that can be updated only by an authorised service technician.
This firmware is protected against unauthorised access by mechanical housing (tool is needed to access), by seal (components with processor are sealed), by exclusive compatibility with an authorised software tool and by check of compatibility of the new firmware with the bed.

9 Power Supply Cord (Mains Power Cable)

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

Attachment plug is means of connecting and disconnecting bed from the mains.
Power supply cable (mains power cable) must be attached with a hook at the head board during transport.

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

10 Accumulator

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.

The accumulator supplied with the bed is delivered uncharged. The accumulator serves as a backup during power failures or while transporting the patient.

For declared lifetime period of leaded accumulators is recommended during storage:
1) To prevent accumulators from deep discharging and to keep accumulators at least partly charged by regular recharging
2) To store accumulators on the places with temperature from 10°C to 40°C
3) To prevent accumulators from being in the sunshine

Accumulator lifetime could be up to 5 years if operated under optimum conditions.
Accumulator capacity can be significantly reduced if:
► too high ambient temperature
► many accumulator charge/discharge cycles
► recurrence of deep discharge
► bed is often powered only by the accumulator

10.1 Accumulator Operation

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

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

The manufacturer will assume no responsibility for any damage to the bed or the accumulator caused by:
■ non-observance of the manufacturer's instructions in the instructions for use
■ using accumulator not approved by the manufacturer

NOTE The manufacturer provides a 6-month warranty for the full function of the accumulator.

To charge the accumulator:
► Connect the bed to the mains.

NOTE Some bed adjustment options are not available without a accumulator, for example, height adjustment under a load of above 200 kg.

The LED indicates the Accumulator charge status:

Yellow LED	Accumulator charge status
Not lit	Accumulator capacity is sufficient (charging completed)
Short flashing (shortly lit, longer not lit) (circa 1.8 sec.)	Accumulator is charging - continue charging until the LED is extinguished. In emer- gency cases, the accumulator 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, accumulator 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 accumulator voltage - accumulator can not be used as a backup power supply even for a short period; accumulator is completely discharged or defective (if this type of signalisation persists, it is necessary to replace the accumulator - service action)
Lit continuously for several hours (circa 10 hours), when bed is connected to the mains.	Accumulator absence or failure condition (accumulator is connected incorrectly, line between the power supply and accumulator is broken or accumulator fuses are faulty); contact service department of the manufacturer in case of such signa- lisation.

10.2 Replacing the accumulator

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

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

CAUTION!
Risk of reducing accumulator durability due to incorrect use!
► Use bed on accumulator only in crisis situations (e.g.: power blackout, patient complications during transport, etc.)
► After reconnecting bed to the mains charge accumulator to full capacity (see chart Accumulator charge status).
► Have accumulator replaced exclusively by a qualified service organisation.
► For more detailed information on how to replace the accumulator, request service manual from manufacturer.

Status “Faulty accumulator”

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

- Accumulator charging constantly
- Low voltage on accumulator
- Low charging current of accumulator

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

To cancel this status:
► Press STOP button.

Status “Discharged accumulator”

The accumulator is regarded as discharged if the following condition is met:

- Defined decrease of voltage depending on discharging current

- This status is indicated by the accumulator 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 STOP button.

10.3 Removing the Bed from Use

Remove the bed from service as follows:
► Disconnect the bed from the mains.
► Disconnect the ground wire.
► Deactivate the accumulator.
► 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.

10.4 Deactivating the Accumulator

To avoid damaging the bed and the environment during storage:
► Deactivate the accumulator on the Attendant Control Panel.

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

The accumulator is deactivated.

To activate the accumulator 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 support platform elements and the mattress support platform frame when adjusting the bed.
- ► Ensure that there are no body parts below the mattress support platform frame before adjusting the bed.

11.1 Siderails

WARNING!
Risk of injury, damaging or involuntary 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 the integrated siderail controller is located.

The split siderails are components of the bed. A pneumatic spring supports the operation of the split siderails. The nursing personnel are responsible for the siderails being folded up while the patient is in bed. The correct placement of handset is shown at following picture.

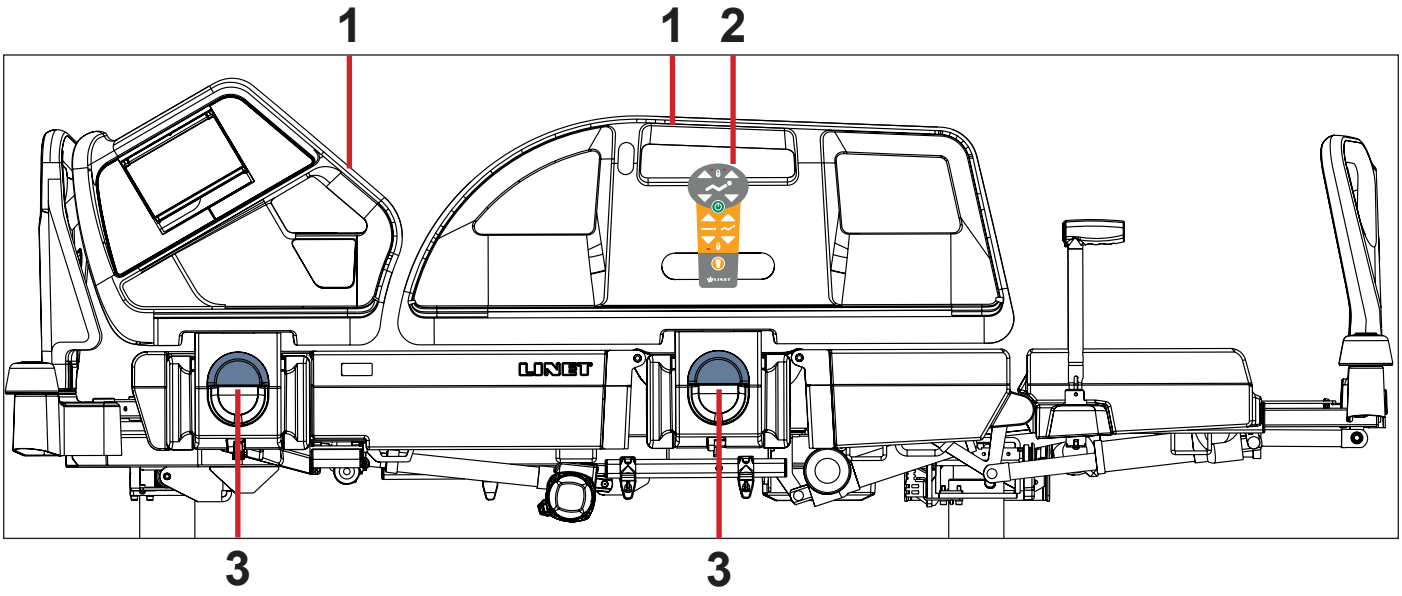


Fig. Siderails

1. Siderail Handle
2. Correct Placement of Handset
3. Siderail Release Handle

MANIPULATION

To raise siderails up:
- ► Grab siderail by Siderail Handle (**1**).
- ► Pull siderail up until it latches. You will hear audible „click“.

To release siderails down:
- ► Grab siderail by Siderail Handle (**1**).
- ► Press upper edge of siderail inwards.
- ► Unlock siderail by pulling Siderail Release Handle (**3**) to yourself.
- ► Fold down siderail slowly.

11.2 Castor Control and Bed Transport

CAUTION!
Material damage 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.
- ► Ensure that the castors are locked when the bed is occupied.
- ► Hang the mains cable on the appropriate hook on the bed during transport.
- ► Have the bed transported exclusively by nursing personnel and by at least 2 persons.

11.2.1 Central Castor Control

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

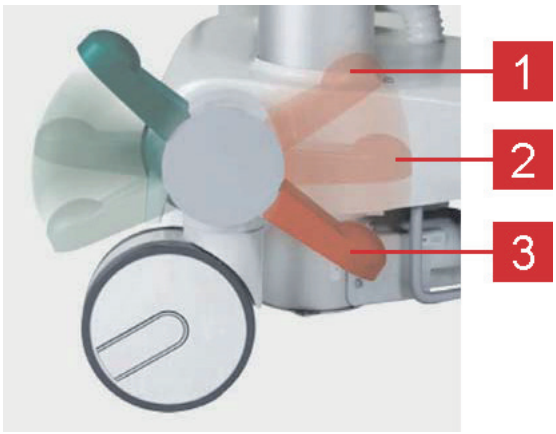


Fig. Positions of Castor Control Lever

Castor control lever positions:

1. Forward Movement
The front left castor 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 of the castors are unlocked.
3. Braked
All of the castors are braked.

11.2.2 Bed transport

Transporting the bed:

- ► Adjust bed height to at least 20 cm (9 in.) below maximum height.
- ► Push bed by handles on head board or foot board.

11.3 CPR Backrest Release

WARNING!
Risk of injury due to lowering the backrest too quickly!
- ► Ensure that the siderails are in the lowest position.
- ► Ensure that there are no body parts between the siderails and the backrest.
- ► Press the backrest down using the mattress guard handle only.

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

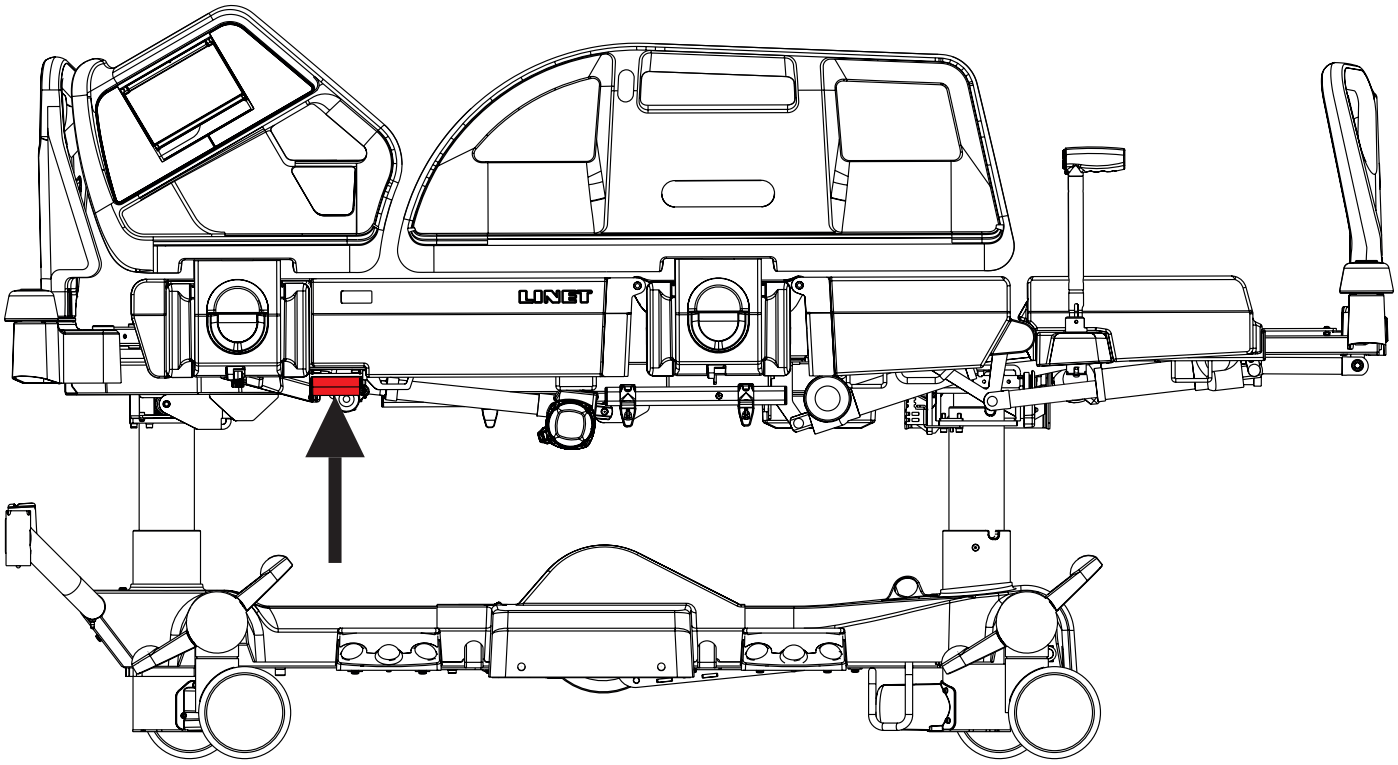


Fig. CPR lever (release handle)

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

11.4 Control Elements

The bed is operated by different control elements.

Control elements depending on the model:
- Multiboard with LCD touchscreen in both head siderails
- Quick-Action panel in both head siderails
- Attendant Control Panel
- Handset
- Handset with adapter for easy connection (Plug and Play)
- Handset with illuminated buttons
- Foot control for lateral tilt
- Foot control for height adjustment
- Patient control elements integrated in both foot siderails

Disabling individual functions on the Multiboard will affect all control elements.

If the bed does not react to individual position settings:
► Check whether the function is disabled on the Attendant Control Panel.

11.4.1 Multiboard in Both Head Siderails

The Multiboard is the main control element. It is integrated in the outside of both head siderails.
► Ensure that exclusively nursing staff trained for critical care operate the Multiboard.

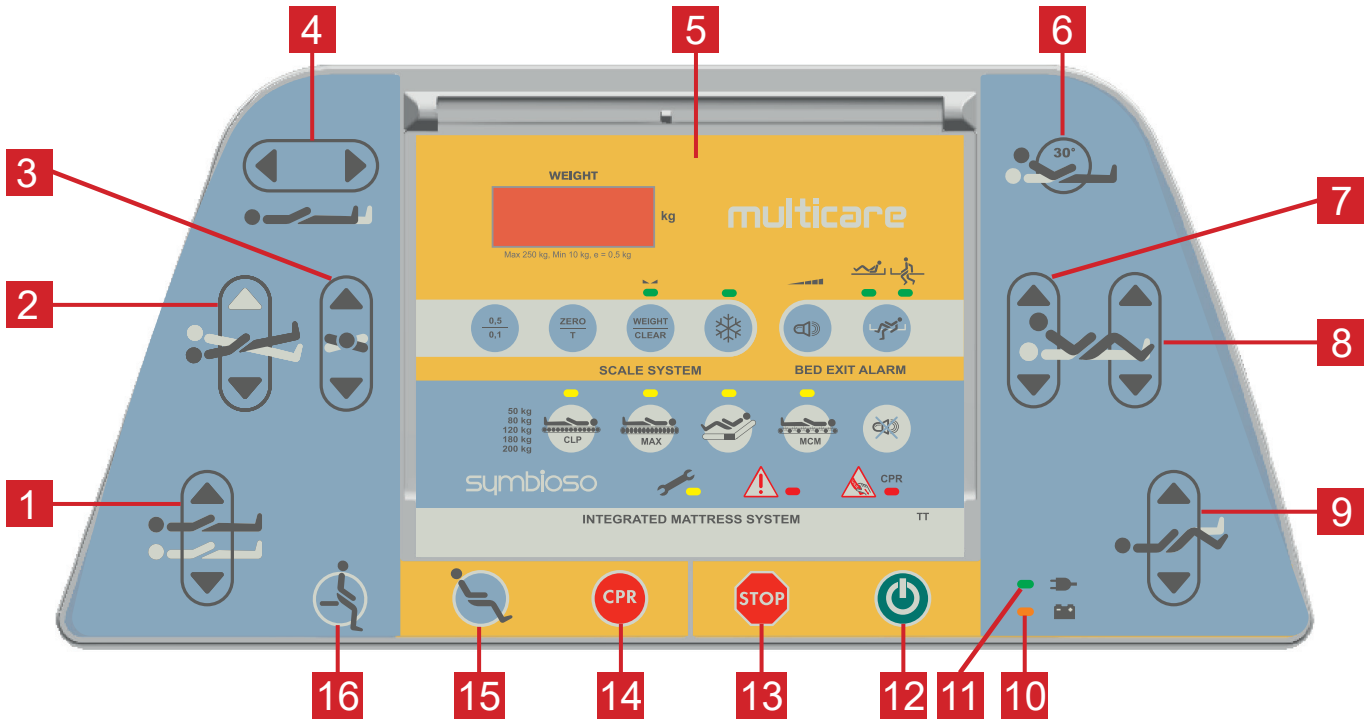


Fig. Multiboard (Multicare LE)

1. Bed Height Adjustment Buttons
2. Trendelenburg Tilt Button and Antitrendelenburg Tilt Button
3. Lateral Tilt Buttons
4. Bed Extension Buttons
5. Control Panel for Scales, Bed Exit Alarm, Integrated Mattress (Symbioso)
6. Backrest 30°C Adjustment Button
7. Backrest Adjustment Buttons
8. Thighrest Adjustment Buttons
9. Calfrest Adjustment Buttons
10. Accumulator charge status LED
11. Mains Power LED
12. GO Button
13. Central STOP Button
14. CPR (Resuscitation) Position Button
15. Cardiac Chair Position Button
16. Mobilization Position Button

Central STOP Button

The central STOP button immediately interrupts all bed movements in case of unauthorized bed positioning or an electronic failure. Pressing the central STOP button for at least 0.3 seconds immediately stops all electronic bed movements.

Activating GO Button

The GO button activates the keypad or the touchscreens of all control elements.
A GO button is included on a number of different control elements. The function of the GO button is identical on all control elements. Pressing a function button will keep the keypad active for another 3 minutes.

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 3 minutes.

Function Buttons

The positioning function buttons 1, 2, 3, 4, 6, 7, 8, 9 and 16 adjust the position of the backrest, thighrest and calfrest as well as the tilting and extending of the mattress platform. The buttons 14 and 15 allow adjusting the Cardiac Chair and CPR positions.

Button CPR (Resuscitation) Position

If the bed is equipped with Symbioso mattress, pressing button 14 will also deflate the mattress.

NOTE Bed positioning which depends on columns is continuous.

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

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 immediately.

Set the position as follows:
- ► Activate the keypad by pressing the GO button.
- ► Press and hold function button until desired position is reached.

Mains power LED

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

Statuses (Multiboard)

Pop-up	Meaning	Required Action
LOCK	Function locked.	Unlock function if required!
CASS	Incorrectly inserted X-Ray Cassette Holder.	Insert X-Ray Cassette Holder correctly!
GO	GO Button not activated.	Press GO Button!
SIDE	Lateral Tilt disabled when siderail folded down.	Raise siderail up to enable additional Lateral Tilting.
COLL	Antitrendelenburg Tilt and Trendelenburg Tilt disabled during Lateral Tilt.	Undo the Lateral Tilt to continue with Antitrendelenburg Tilt or Trendelenburg Tilt.
	Positioning blocked to avoid collision of the bed with floor or collision of the bed with bed equipments.	To continue in positioning, adjust the bed so that there is no collision.
0°	Horizontal position was reached during tilting.	Press corresponding button to continue in positioning.
15°	Lateral Tilt stopped in 15° when Patient Transfer Mode is activated.	For information only.
	Maximum Lateral tilt was adjusted by foot control (15°).	For information only.
30°L	Lateral Tilt limited to 15 degrees when Backrest Angle is in 30 degrees or more.	Lower the Backrest Angle to continue in Lateral Tilting.
LOAd	Safe Working Load exceeded (more than 10 kg over Safe Working Load).	Remove load!
	Maximum Lateral Tilt 15 degrees (Load more than 150 kg).	Remove load to enable Lateral Tilting again!
	Lateral Tilt disabled (Load more than 200 kg).	Remove load to enable Lateral Tilting again!
FAIL	System Control Unit disconnected (Symbioso).	Connect to the mains power and connect Symbioso mattress to System Control Unit.
CPr	The mattress deflating failed.	Use manual CPR! (System Control Unit (Symbioso) is disconnected or automatic deflation is not available.)
SYS	System Fatal Error.	Contact service department approved by manufacturer.
- - - - - **- - - - -**	Scale module disconnected and Bed Exit monitoring disabled.	Contact service department approved by manufacturer.
SYSC	Column Unit Error.	Contact service department approved by manufacturer.
Hi	Safe Working Load exceeded (from 4,5 kg to 10 kg over Safe Working Load).	Remove load!
Lo	The bed is underloaded.	Ensure the mattress support platform is not lifted inconveniently by something and the scales are appropriately tared.

11.5 Attendant Control Panel

The Attendant Control Panel is a standard Control Element. The Attendant Control Panel can be hung on the foot board or on side-rails if required. It is possible to hold the Attendant Control Panel in the hand while operating.

► Ensure that exclusively trained nursing staff operates the Attendant Control Panel.

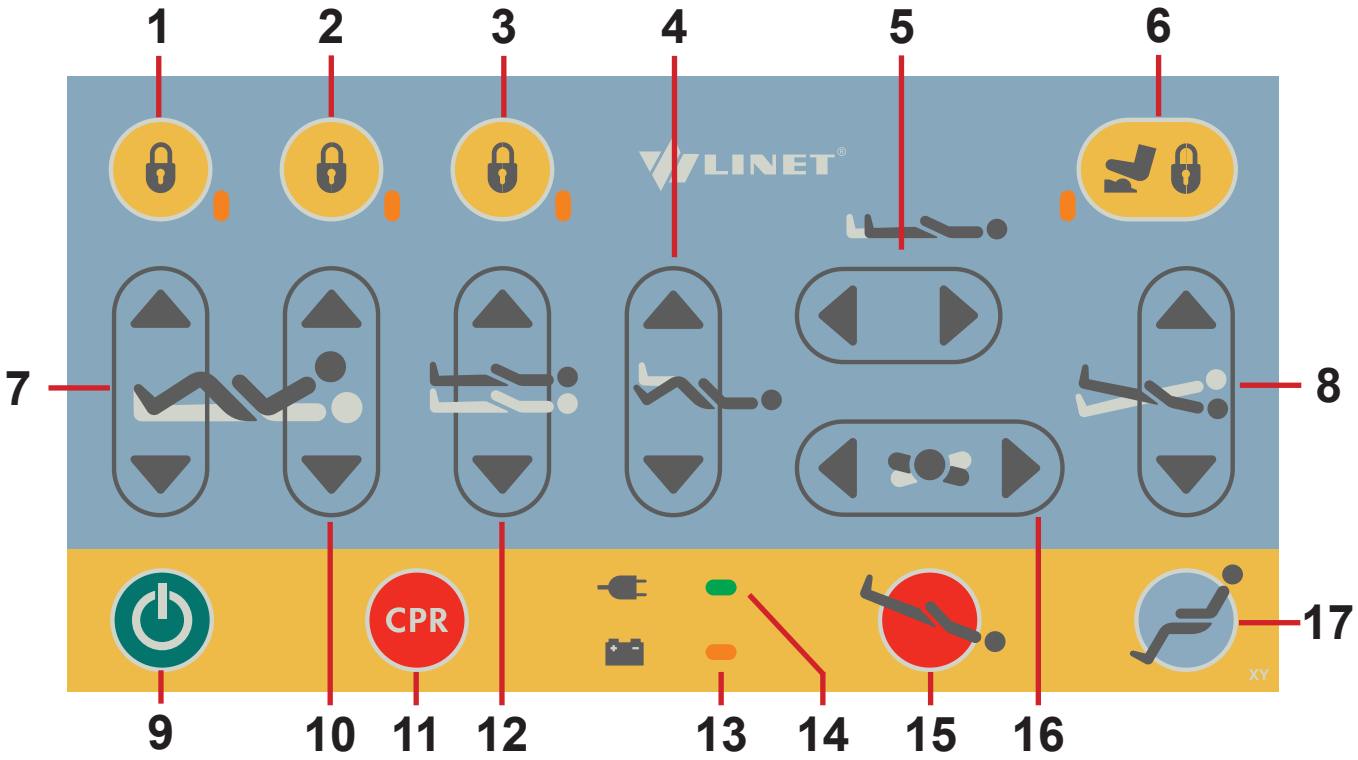


Fig. Attendant Control Panel

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 Antitrendelenburg 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. **Accumulator 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 3 minutes.

The function of the GO button is identical on all control elements.

During this time the following is possible:
► Adjusting individual mattress support platform elements by pressing the corresponding function buttons.
► Disabling individual functions with the lock buttons.

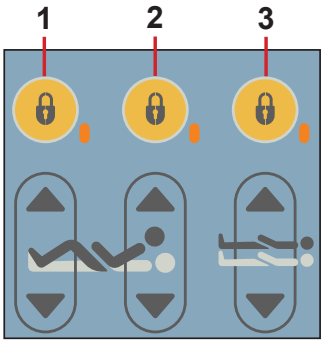
Each time a function button is pressed, the keyboard will remain active for another 3 minutes.

Function Buttons

The function buttons are indicated by numbers **4**, **5**, **7**, **8**, **10**, **11**, **12**, **15**, **16** and **17**.

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

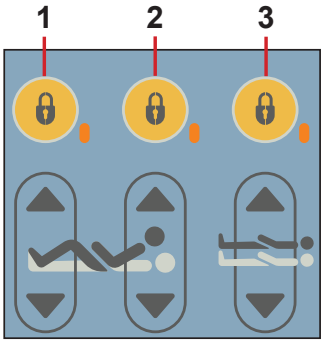


To lock Backrest Adjustment:
► Press button **2**.
Corresponding LED on Attendant Control Panel is lit.
Backrest Adjustment is disabled using any Control Element.

To lock Thighrest, Calfrest and Bed Extension Adjustment:
► Press button **1**.
Corresponding LED on Attendant Control Panel is lit.
Thighrest, Calfrest and Bed Extension Adjustment are disabled using any Control Element.

To lock Bed Height, Lateral Tilt, Trendelenburg Tilt and Antitrendelenburg Tilt Adjustment:
► Press button **3**.
Corresponding LED on Attendant Control Panel is lit.
Bed Height, Lateral Tilt, Trendelenburg Tilt and Antitrendelenburg Tilt Adjustment are disabled using any Control Element.

Unlock



To unlock Backrest Adjustment:
► Press button **2**.
Corresponding LED on Attendant Control Panel is not lit.
Backrest Adjustment is enabled again.

To unlock Thighrest, Calfrest and Bed Extension Adjustment:
► Press button **1**.
Corresponding LED on Attendant Control Panel is not lit.
Thighrest, Calfrest and Bed Extension Adjustment are enabled again.

To unlock Bed Height, Lateral Tilt, Trendelenburg Tilt and Antitrendelenburg Tilt Adjustment:
► Press button **3**.
Corresponding LED on Attendant Control Panel is not lit.
Bed Height, Lateral Tilt, Trendelenburg Tilt and Antitrendelenburg 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

11.5.1 Handset

A handset is included with the bed as an optional feature. The position of the handset depends on the patient's condition. The handset is available with and without button illumination. The illumination is activated for 7s if any button was pressed and the illumination is activated for 3 minutes if GO Button was pressed. The functions of both handsets are identical.

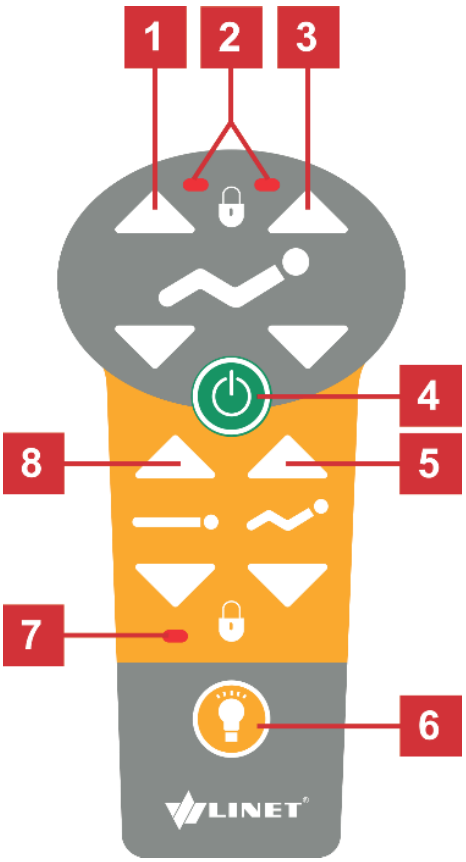


Fig. Handset

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

To switch on the flashlight:

► Press flashlight button 6.

Set the position as follows:

► Activate the keypad by pressing the GO button.

► Press and hold function button until desired position is reached.

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).

11.5.2 Patient Control Panels

The patient control panels integrated in the foot siderails allow the patient to adjust the positions of the Backrest, Thighrest and Autocontour.

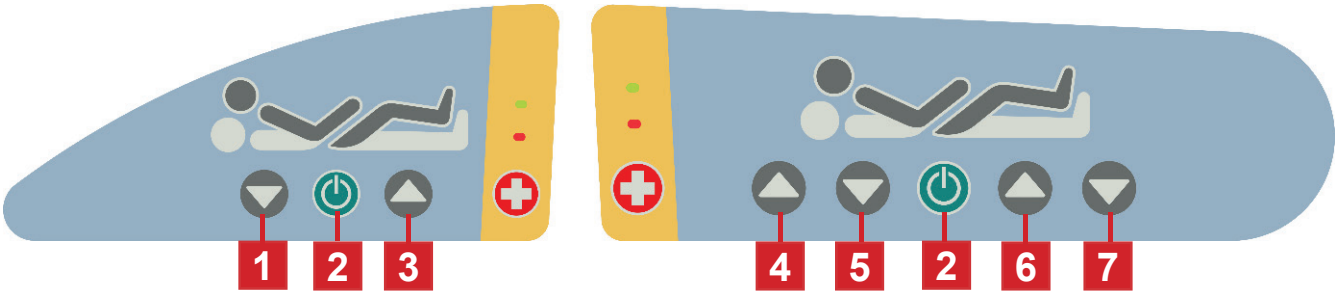


Fig. Patient Control Panels in the foot siderails

1. **Autocontour Adjustment Button – (simultaneous movement of the Backrest and Thighrest) – DOWN**
2. **GO Button (activation of the control panel)**
3. **Autocontour Adjustment Button (simultaneous movement of the Backrest and Thighrest) – UP**
4. **Backrest Adjustment Button – UP**
5. **Backrest Adjustment Button – DOWN**
6. **Thighrest Adjustment Button – UP**
7. **Thighrest Adjustment Button – DOWN**

NOTE Keyboards are optionally illuminated. The illumination is activated for 7s if any button was pressed and the illumination is activated for 3 minutes if GO Button was pressed.

NOTE Functions on the Patient Control Panel in the foot siderails are disabled when the foot siderail is in lower position.

11.5.3 Bed Height Foot Control

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

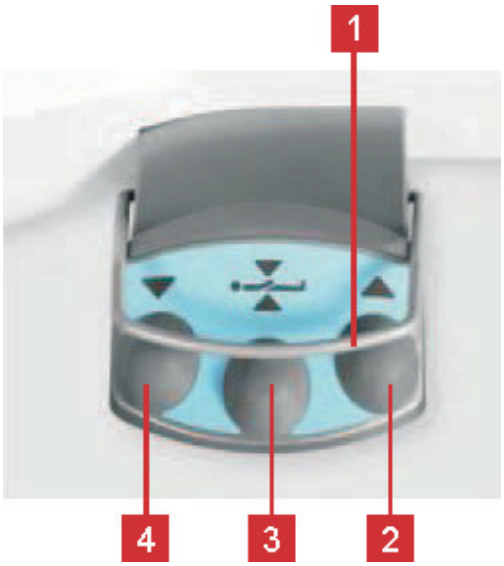


Fig. Foot Control Bed Height

1. Protection Frame against Unwanted Activation
2. Foot Switch Raise Mattress Platform
3. Foot Switch Examination Position
4. Foot Switch Lower Mattress Platform

Set the position as follows:

► Press foot switch 2, 3 or 4 to activate foot control.
► Press and hold foot switch until desired position is reached.

NOTE: It is possible to activate foot control by pressing GO button on the control elements of the bed then it is not needed to activate the foot control by buttons 2, 3 or 4.

11.5.4 Lateral Tilt Foot Control

The foot control is optional and allows setting the lateral tilt of the bed with the feet.

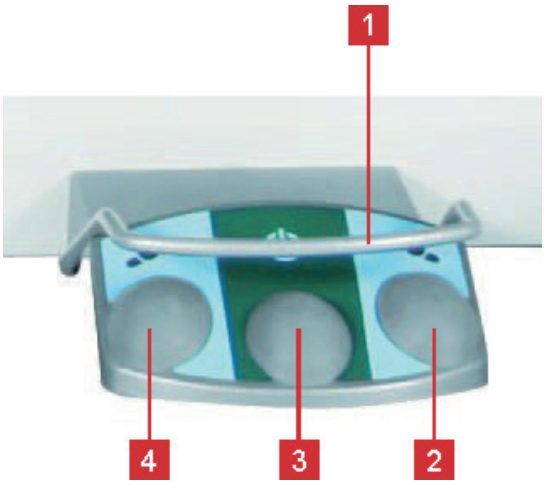


Fig. Foot Switch Lateral Tilt

1. Protection Frame against Unwanted Activation
2. Foot Switch Tilt Right
3. Foot Switch GO
4. Foot Switch Tilt Left

Set the position as follows:

► Activate the keypad by pressing the GO button.
► Press and hold foot switch until desired position is reached.

11.5.5 Quick-Action Panels

The Quick-Action panels integrated in the head sections of the siderails allow the nursing personnel and the patient to adjust the bed height.

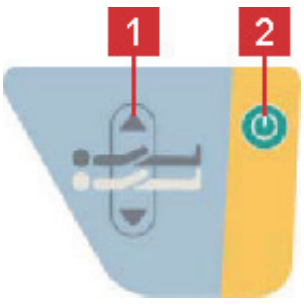


Fig. Quick-Action Panel

1. Buttons Bed Height Adjustment
2. GO Button

Set position as follows:

► Activate the keypad by pressing the GO button.
► Press and hold function button until desired position is reached.

12 Scales (WS 17)

12.1 Scales Control Panel

Multicare LE is equipped with a weighing system that allows weighing the patient in bed. The control panel for this system is part of the Multiboard.

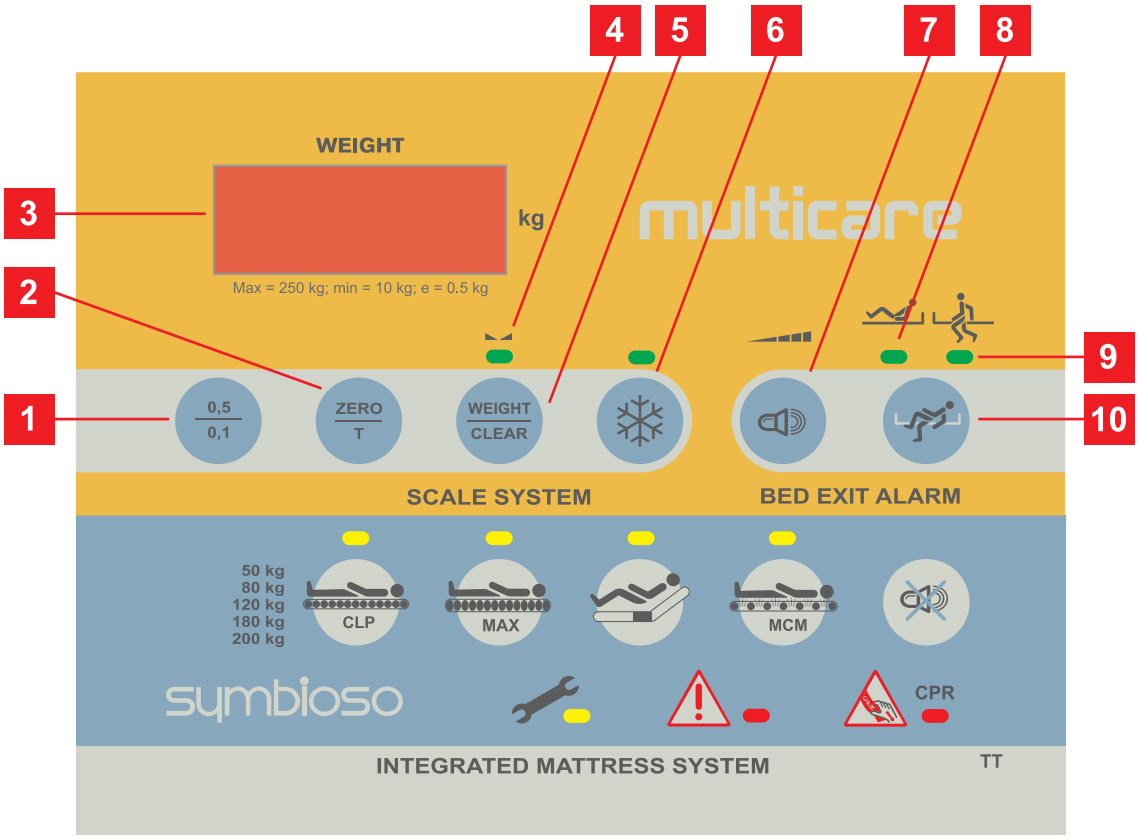


Fig. Control Panel Scales and Symbioso

1. **Indicated Value Switch Button**
2. **ZERO/T Button**
3. **Display**
4. **Weight balance indicator**
5. **WEIGHT/CLEAR Button – cancelling the activated function**
6. **HOLD Button**
7. **Bed Exit Alarm volume Button**
8. **Inner Zone Indicator**
9. **Outer Zone Indicator**
10. **Bed Exit Alarm Button**

12.1.1 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.

12.1.2 Taring

The taring is done in the range from 5kg to 249,5kg. The taring is used to set “0” on the display before placing the patient on the bed. It is used to show actual weight of the patient.
The taring must be done on the unloaded bed without patient. It is recommended to position mattress platform about 20 cm above the lowest position and the mattress platform in the horizontal position.

To tare weight:
► Ensure that nothing touches the bed except you.
► Press icon 2 (Zero/T) for 0,5 s until the display starts to flash.
► Press icon 2 to confirm taring. The „0“ is shown on the display.
Place the patient on the bed.

To cancel taring:
► Press icon 5 while taring.

12.1.3 Displaying

Verification Scale Interval is 0.5 kg.
► Press button 1 to display value with actual scale interval 0,1 kg for 5 s.
Display shows normally actual weight if other functions are not activated.

12.1.4 Hold Mode

Hold Mode must be used only when the scales are stabilized.
It allows adding or removing bed accessories and other items without changing the weight value.

To activate Hold Mode:
► Wait 5 s until the scales are stabilized. The LED 4 will be illuminated when the scales are stabilized.
► Press button 6 for 2 s.
► The display shows „**HoLd**“, indicator of activated Hold Mode is illuminated.
► Add or remove required accessories.

To deactivate Hold Mode:
► After adding or removing accessories wait 5 s, until the scales are stabilized on the display.
The LED 4 will be illuminated when the scales are stabilized.
► Press button 6 for 2 s.
► The display shows the original weight value and the indicator of Hold Mode is not illuminated.

To deactivate Hold Mode without fixing the weight value:
► Press button 5.

12.1.5 Setting Mode

To set date, date format, time and unit of weight:
► Press button 2 and button 6 simultaneously for 3 s.
The value to be changed flashes on the display.

To navigate in list:
► Press button 7 to shift to the next parameter:
1. minutes
2. hours
3. date format (month-day/day-month)
4. year
5. month
6. day
7. unit of weight

To set the corresponding value:
► Press button 2 or button 6 to increase or reduce the value.

To leave setting mode:
► Press button 5.
Setting Mode is left without saving the last setting.

12.1.6 Bed Exit Alarm

Any weight drop of more than 20 kg will activate the Bed Exit Alarm.

To deactivate Bed Exit Alarm:
► Press Bed Exit Button 10 for 2 s.

To activate Bed Exit Alarm:
► Press Bed Exit Button 10 for 2 s.

To switch between Bed Exit Alarm zones:
► Press Bed Exit Button 10 shortly to change zone of the Bed Exit Alarm.

To set up the alarm volume:
► Press button 7 until the desired volume is reached.

NOTE: If the alarm is set to minimum volume the mute mode is on.

Inner Zone monitoring (indicator 8)
► Alarm starts when patient moves from the limited area.

Outer Zone monitoring (indicator 9)
► Alarm starts when patient leaves bed.

NOTE Inner zone alarm is the default mode when the Bed Exit Alarm is activated.

12.1.7 Bed Overload

If the bed load is over 254,5kg:
► Overloading is signalized by long acoustic signal.
► The „**Hi**“ icon is displayed on the display.

NOTE: If the bed is overloaded then it is impossible to position or manipulate with the bed until the overloading is removed.
NOTE: The bed overloading has always higher priority than Hold Mode and Taring functions.

12.1.8 Bed Underload

In case the bed is underloaded (factory zero – 5kg):
► The display shows icon „**Lo**“.

12.1.9 Weighing in tilt

The bed can weight in tilt. The guarantee of accuracy is secured by spirit level which is located at the head/foot end of the bed. If the bubble is in the highlighted circle then the weighting is accurate.

12.1.10 Zeroing Scales

The zeroing can be done only in the range ±5kg from the factory zero. The zeroing is used to reset weight on the display and also to set up user zero, which sets the maximum weight range of the weighting system.
The zeroing must be done on the empty, unloaded bed without mattress and accessories. The zeroing is done after installation, weight verification or servicing.

To zero scales:
► Remove all accessories and mattress from the bed. Position the bed about 20 cm above the lowest position and the mattress platform to the horizontal position. Ensure that nothing touches the bed except you.
► Press button 2 (Zero/T) for 0,5s until weight value starts to flash.
► Press button 2 to confirm zeroing.
„0“ is shown at the display and acoustic signal confirms zeroing.

To cancel zeroing:
► Press button 5 while zeroing.

13 Equipment

13.1 Accessory rails

Fig. Accessory Rail

Load capacity:
- ► Maximum load of 5 kg (11.02 lbs) without leverage
- ► Maximum load of hook pair 10 kg (22.05 lbs)

Accessories for hanging on the accessory rail:
- ► Urine bag holder
- ► Redon bottle basket
- ► Stainless steel rails

13.2 i-Brake® (optional)

It is possible to equip the bed with an automatic castor brake. The automatic castor brake prevents injuries of pati- ents 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.

13.3 Retractable 5th wheel i-Drive® (optional)

It is possible to equip the bed with a 5th wheel in the chassis centre. The 5th wheel helps to steer and manoeuvre the bed in long corridors and small rooms.
If the bed is plugged in, the 5th wheel automatically retracts. In this position, the 5th wheel does not obstruct access to any devices under the chassis.

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

13.4 LINIS SafetyPort (optional)

LINIS SafetyPort is a medical device data system for capturing and transferring data from LINET beds into SafetyPort Dashboard and third party systems, including nurse calls, EHR and digital whiteboards. Data collection and evaluation takes place at one central location for all beds connected to the system simultaneously. The records are completely anonymous and the system does not work with any personally identifiable information. The customer can decide which data will be sent to the 3rd party system and adjust their sending period. LINIS SafetyPort is intended to be used to increase efficiency of healthcare personnel workflows by saving their time spent on documentation and eliminating errors. This is achieved by automated recording of different parameters of medical beds and their subsequent transfer to various hospital systems in HL7 format. Optional feature LINIS SafetyPort Dash- board is intended to save time the healthcare personnel spends on checking different beds at their workspace and to provide them with both near-real-time data and their aggregation to be able to check the history of provided care. LINIS SafetyPort may be used in various healthcare environments, including both intensive and non-intensive care units as well as units providing speciality care to a broad population of patients. The product is intended to be used by variety of healthcare personnel who have the cognitive skills to operate the product and are trained to use the product. LINIS SafetyPort is not an alarm system and the use of this product for this purpose means incorrect use.

13.5 Mobi-Lift®

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.

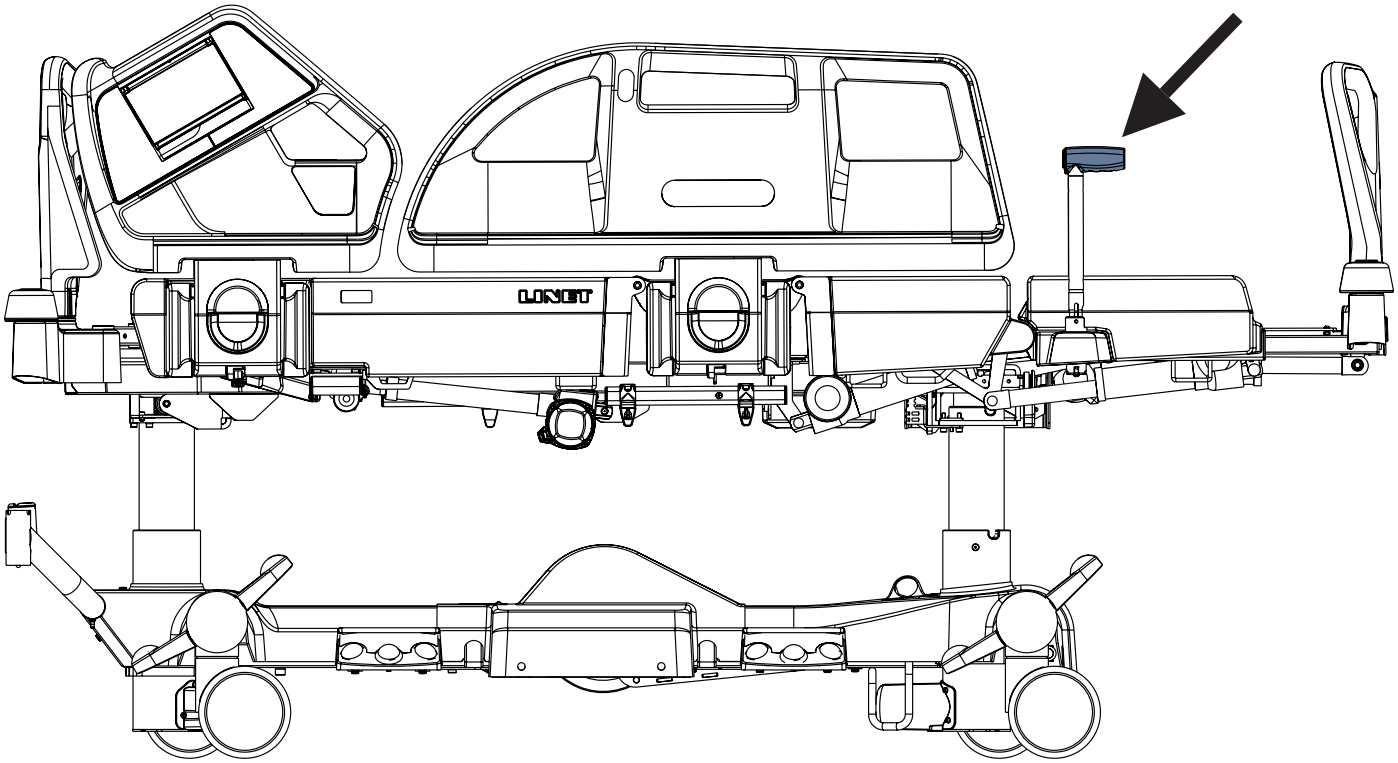


Fig. Mobi-Lift® Support Handle

13.5.1 Using the Support Handles

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.

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 platform:
- ► Press GO button on any control element.
- ► Press the button to adjust the height.

13.6 Safety Night Light

It helps the nursing staff as well as the patient to orientate.

NOTE The night light is turned off during accumulator operation.

13.7 i-Drive Power (optional)

13.7.1 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 accumulator 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.

13.7.2 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 pulled 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 greater than 1 degree unless adequate personnel are available to manage safe bed transport.
- ► Never use the i-Drive Power to drive the bed up or down the slope that exceeds 6 degrees.
- ► 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 accumulator 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 accumulator status indicator and plan your drive using the i-Drive Power accordingly. Insufficient accumulator 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 accumulator and keep your bed ready to go using the i-Drive Power.
- ► The i-Drive Power accumulator must be replaced every 2 years to maintain proper functions of the i-Drive Power.

13.7.3 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 (with 15 cm castors) is 14 cm!
- ► Observe the path for any obstacles and avoid collisions.

Intended use:
- ► bed transport (with or without patient)

Unintended use:
- ► riding the bed
- ► other usage than described in instructions for use

NOTE Each bed can transport only one 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 ®.

13.7.4 Manipulation

CAUTION!
Damage to i-Drive Power main control panel cable due to wrong cable placement!
► Ensure that the main control panel connecting cable (13) is placed exactly as on the following picture.

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

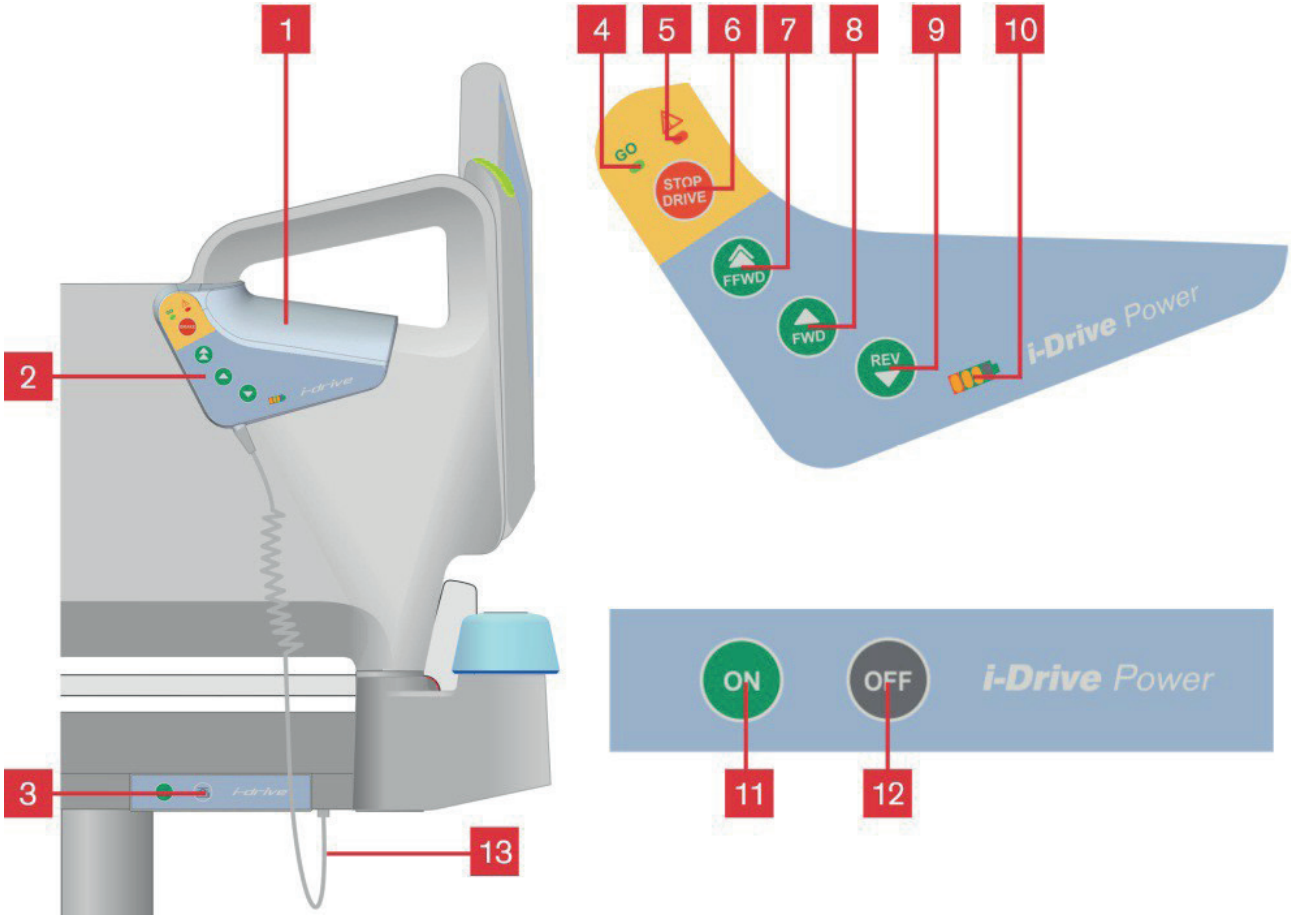


Fig. i-Drive Power controllers

1. Safety Sense (touch sensor)
2. Main control panel
3. Activation panel
4. GO indicator
5. Fault indicator
6. Stop drive button
7. Fast forward button
8. Forward button
9. Reverse button
10. Accumulator status and fault indicator
11. i-Drive wheel Activation button
12. i-Drive wheel Retraction and Deactivation button
13. Main control panel cable – correct cable placement

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.

13.7.5 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 ON (11) button on the Activation panel. The i-Drive wheel will lower and the GO indicator (4) will flash.
3. Place your hand on the Safety Sense touch sensor (1) and push the buttons 7 or 8 for forward motion, or 9 for reverse motion. 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 stop drive button (6) 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 indicator (4) which is extinguished after 3 minutes.

NOTE Your hand must be placed on the Safety Sense panel to use the i-Drive Power.

NOTE i-Drive Power is not designed for ascending or descending a slope greater than 6° or longer than 65 ft. (20 m), especially when loaded. The support of personnel is needed when ascending or descending with a full SWL.

NOTE The i-Drive wheel has an electromagnetic brake for emergency or normal stopping of the bed. When parking it is always necessary, for safety reasons, to use the bed brakes (see chapter: Castor control and bed transport) which will brake all four bed castors.

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

13.7.6 Braking

1. Press and hold the stop drive button (6) to brake immediately.

-or-

2. Press and hold the reverse button (9) to brake slowly (Press the Forward button to brake when reversing)

-or-

3. Release your hand f rom the touch sensor area (1) and i-Drive Power will brake automatically.

NOTE Always brake the bed when not transporting by using the castor control lever. The i-Drive 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 stop drive button and castor control lever).

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

13.7.7 i-Drive Power Activation/Deactivation

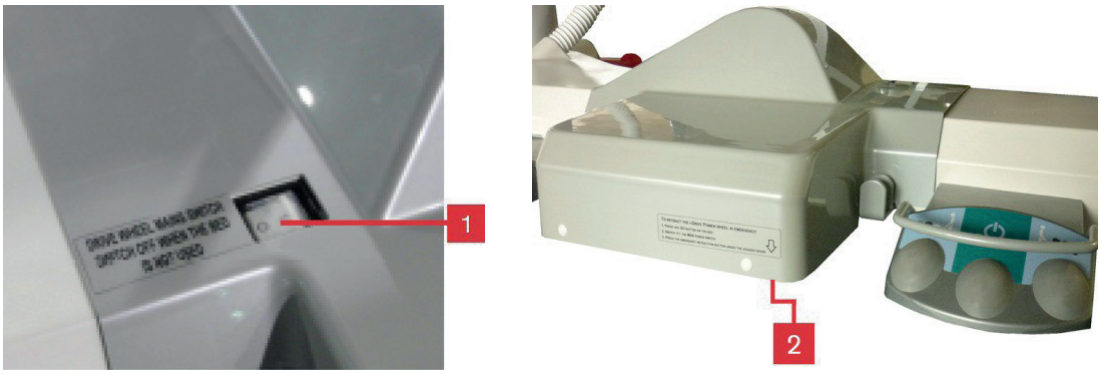


Fig. i-Drive mains switch

To activate the i-Drive Power:
1. Check, if the mains switch of i-Drive Power is activated (1).
2. Press the Activation button ON 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 Retraction button located on the activation panel.
2. Deactivate the i-Drive using the mains switch (1).

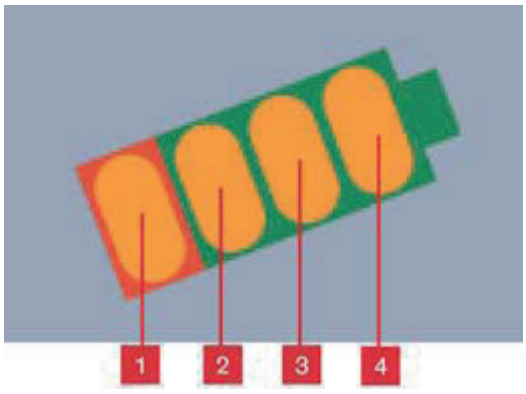
Emergency i-Drive Power wheel retraction:
1. Press any GO button on the bed.
2. Deactivate the i-Drive using the mains switch (1).
3. Press the emergency retraction button (2).

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

13.7.8 Free Drive

The i-Drive motor is equipped with free drive, which is active after pressing the forwards (7 or 8) or backwards (9) 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.

13.7.9 Accumulator



Accumulator charge status:
1. While this indicator is flashing, the accumulator is critically discharged.
2. 50%
3. 75%
4. 100% - the accumulator is charged

Fig. Accumulator indicator levels

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

NOTE Accumulator charge values are just informational. Accumulator life is reduced when the accumulator is allowed to discharge completely.

13.7.10 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 accumulator indicator shows the fault state. Some defects are cleared automatically (e.g.: drive overheating).

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
5V off limits	Off	On	Off	On
FETclosingpenetrated	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
Activebuttonafterstart	On	Off	On	On

* An acoustic signal occurs before the drive is blocked (short acoustic signalization)
NOTE LED indicators are numbered from the left.

13.7.11 Light Indicators

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

13.7.12 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

13.7.13 Electrical specification

Specification	Value
Accumulator 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)

13.7.14 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.

Service technician must check the following:

- ► accumulator status and eventual replacement of accumulator (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

NOTE To continue maintenance please see chapter Maintenance.

13.8 X-Ray Lung Examination

The backrest of the bed consists of HPL and is x-ray translucent. The bed is equipped with an x-ray cassette hol- der with 2 U-profiles under the backrest. This design allows taking x-ray images of the patient's lungs without moving the patient manually.

Fig. X-Ray Lung Examination

13.8.1 Necessary Steps before the Examination

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

- ► Make sure that patient is in centre of bed.
- ► Make sure that backrest is in lowest position and siderails are folded up.
- ► Pull out x-ray cassette holder.
- ► Insert x-ray cassette (format 43×35 cm (16.93 in. x 13.78 in.)).
- ► Push back x-ray cassette holder with x-ray cassette so that the cassette centre indicator is exactly under the edge of the mattress 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.
- ► Adjust parameters of the x-ray device.

13.8.2 Examination with C-arm

Backrest and seat of the bed are x-ray translucent. The bed is equipped with a column construction. This design allows C-arm--assisted operations (mainly cardiological operations such as temporary external cardiostimulation) without moving the patient. The x-ray tube of the C-arm is located between the undercarriage and the mattress platform.

Necessary Steps before the Operation

- ► Make sure that backrest is in highest position and siderails are folded up.
- ► Position upper part of C-arm (sensor and indicator) above the patient's chest.

14 Mattress

Multicare LE 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 Multicare LE bed:

PASSIVE MATTRESSES

- CliniCare 10
- CliniCare 20
- CliniCare 30

ACTIVE MATTRESSES

- Virtuoso (not integrated)
- Symbioso (integrated)

14.1 Passive Mattress

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

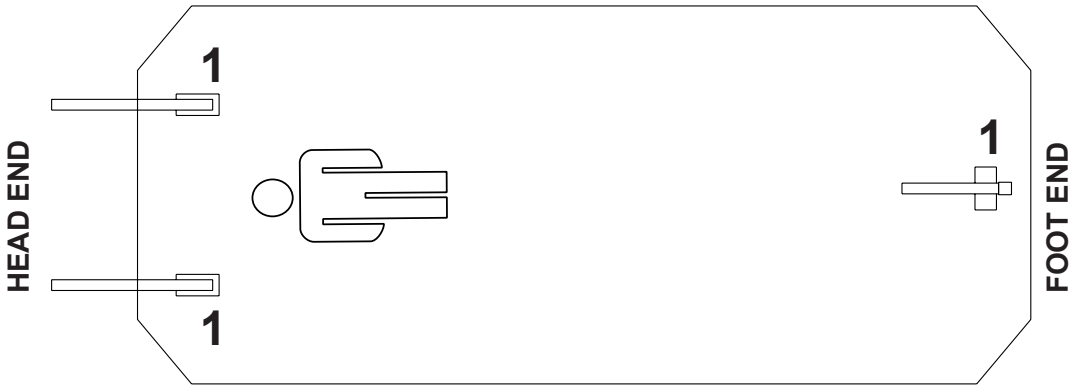


Fig. Bottom of Passive Mattress

14.1.1 Straps with side release buckles

To fix mattress on the Mattress Support Platform:

► Run three straps through the three corresponding holes in the covers of Mattress Support Platform.
► Run these three straps under the bars of the Mattress Support Platform.
► Lock the three side release buckles by connecting their male and female parts together.

To remove mattress from the Mattress Support Platform:

► Release the three buckles by pressing them from both sides and by disconnecting their male and female parts.
► Pull these three straps out of the Mattress Support Platform.
► Remove mattress from the Mattress Support Platform.

14.2 Active Mattress (not integrated)

WARNING!
Follow instructions for use of a compatible active mattress carefully!

CAUTION!
Risk of material damage due to an incorrect fixation of compatible active mattress on the mattress support platform!
► Adjust the bed to maximum Cardiac Chair Position before fixing all the straps of the inflated mattress to the mattress support platform!

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

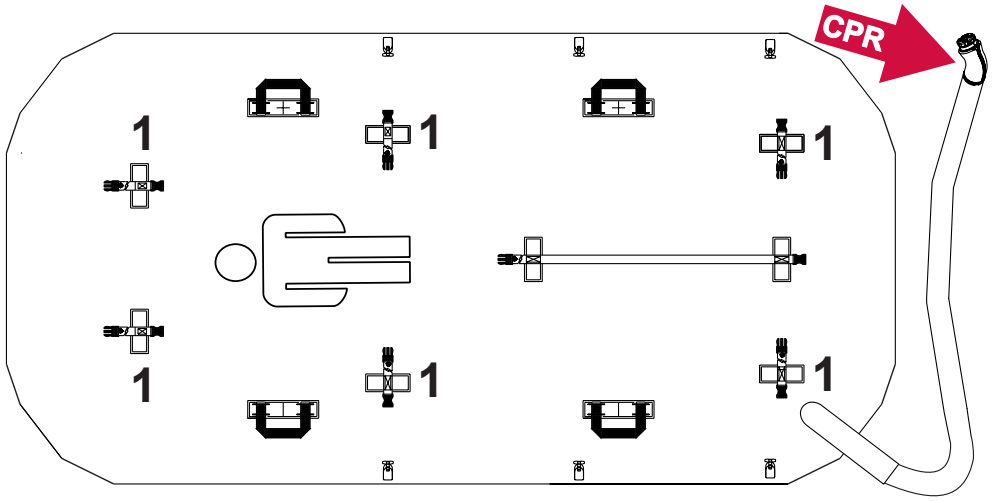


Fig. Bottom of Active Mattress (not integrated)

14.3 Symbioso (integrated mattress)

WARNING!
Follow instructions for use of the Symbioso integrated mattress replacement system carefully!

CAUTION!
Risk of material damage due to an incorrect fixation of compatible integrated mattress on the mattress support platform!
► Adjust the bed to maximum Cardiac Chair Position before fixing all the straps of the inflated mattress to the mattress support platform!

WARNING!
Symbioso mattress are compatible with System Control Units delivered by manufacturer only!
► Do not use any other System Control Units with Symbioso 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 ®.

14.3.1 Mattress Control Panel

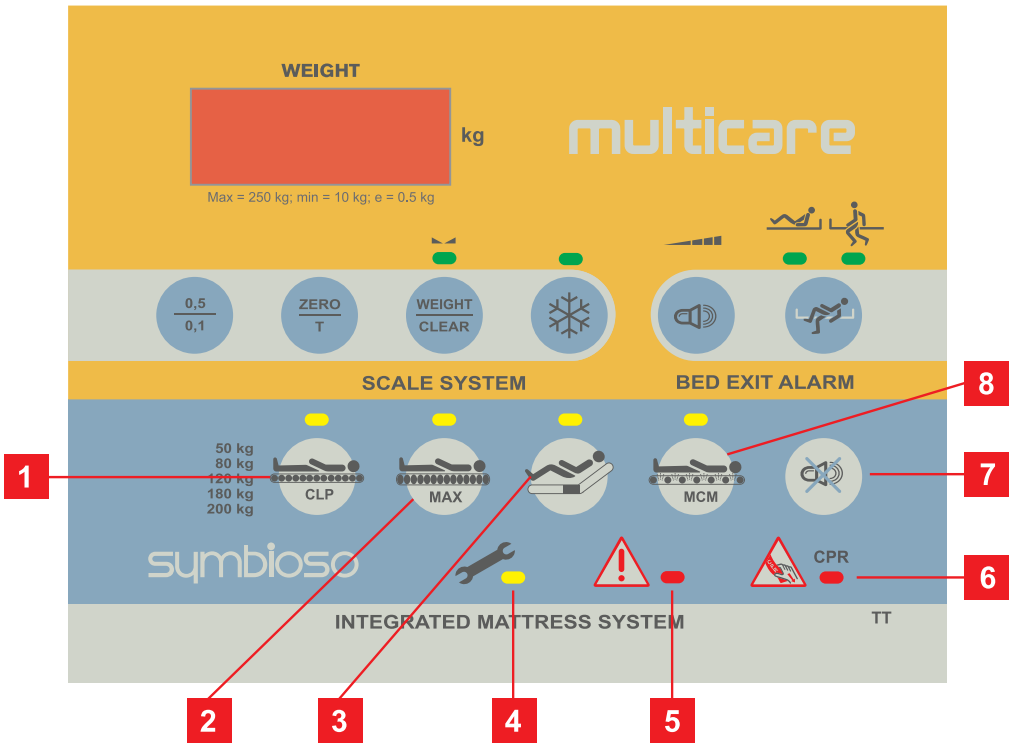


Fig. Mattress Control Panel (Multiboard)

1. **CLP Mode Button (with indicator)**
2. **MAX Mode Button (with indicator)**
3. **Fowler Boost Button (with indicator)**
4. **Service due Indicator**
5. **System Error Indicator**
6. **CPR indicator**
7. **MUTE Button**
8. **MCM mode Button**

15 Accessories

WARNING!
Risk of injury due to incompatible accessories!
► Use exclusively original accessories from the manufacturer.
The manufacturer is not responsible for the use of unapproved accessories.

WARNING!
Risk of injury due to damaged accessories!
► Use exclusively accessories in perfect condition.

15.1 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.

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.

A plastic grab handle with an adjustable strap shall be attached to the lifting pole.

NOTE The lifting pole adapter is optional. It is necessary to specify this feature in the order.

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

15.2 Infusion Stands

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 board/ foot 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 during 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 undercarriage of the bed.
- ► Do not use the infusion stand as driving/pushing device during the bed transport.

Infusion stands can be fitted to the head and foot board by either fitting into the IV/Infusion sockets mounted on the bed or using alternative accesory 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).

Fig. Infusion Stand

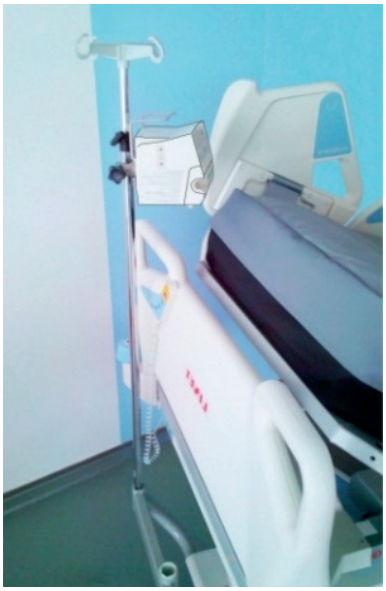


Fig. Infusion Pump – Correct Fitment

15.3 Stabilising Pads

Fig. Stabilising Pads

The stabilising pads ensure a stable position of the patient during lateral tilt in order to prevent extubation or disconnection of IV lines or other equipment.

Stabilising pad set:

- ► 2 lateral arm pads
- ► 2 lateral leg pads
- ► 2 head pads
- ► 1 internal leg pad

Applying pads:

- ► Position the patient in the middle of the bed.
- ► Place lateral pads between patient and siderails.
- ► Attach head pads to arm pads with Velcro.
- ► Place internal pad between the patient's legs.
- ► Tilt mattress platform left and right by 30° to check if the patient's position is stable.
- ► The position is stable if the patient does neither shift nor turn over.

15.4 Ventilation Circuit Holder

The ventilation circuit holder prevents an extubation.

► Always use a LINET® ventilation circuit holder to prevent extubation when the bed is tilted laterally.

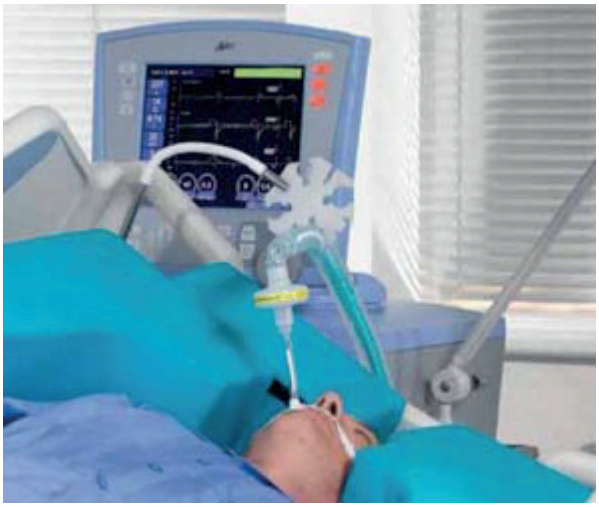


Fig. Ventilation Circuit Holder

Applying ventilation circuit holder:

► Put ventilation circuit holder in hole on right or left of head end.

► 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 30° to check if intubation tube is fastened securely. The fastening is secure if no parts of the ventilation circuit are disconnected.

15.5 Monitor Tray

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

Fig. Monitor Tray

Installing the monitor tray:

► Insert two vertical monitor tray tubes into corner sleeves on foot end.

► Fixate monitor with safety belts in order to avoid any damage during transport.

15.6 Oxygen Bottle Holders

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.

Fig. Oxygen Bottle Holder A

Version A

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

NOTE Using oxygen bottle holder 4MAR2010PC004 is not possible if the bed is equipped with an additional adapter for a lifting pole.

Version B

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

Fig. Oxygen Bottle Holder B – correct fitment

Fig. Oxygen Bottle Holder B – incorrect fitment

Version C

► Put oxygen bottle holder on all 4 accessory adapters on chassis.

Fig. Oxygen Bottle Holder C

15.7 Protector

WARNING!
Risk of injury due to the patient falling off the bed!
► Ensure that the Protector is installed securely.
► Always check that the siderails are properly locked.

The Protector is an optional accessory for the Multicare LE bed. The main purpose of the Protector is to reduce the risk of patients falling off the bed.

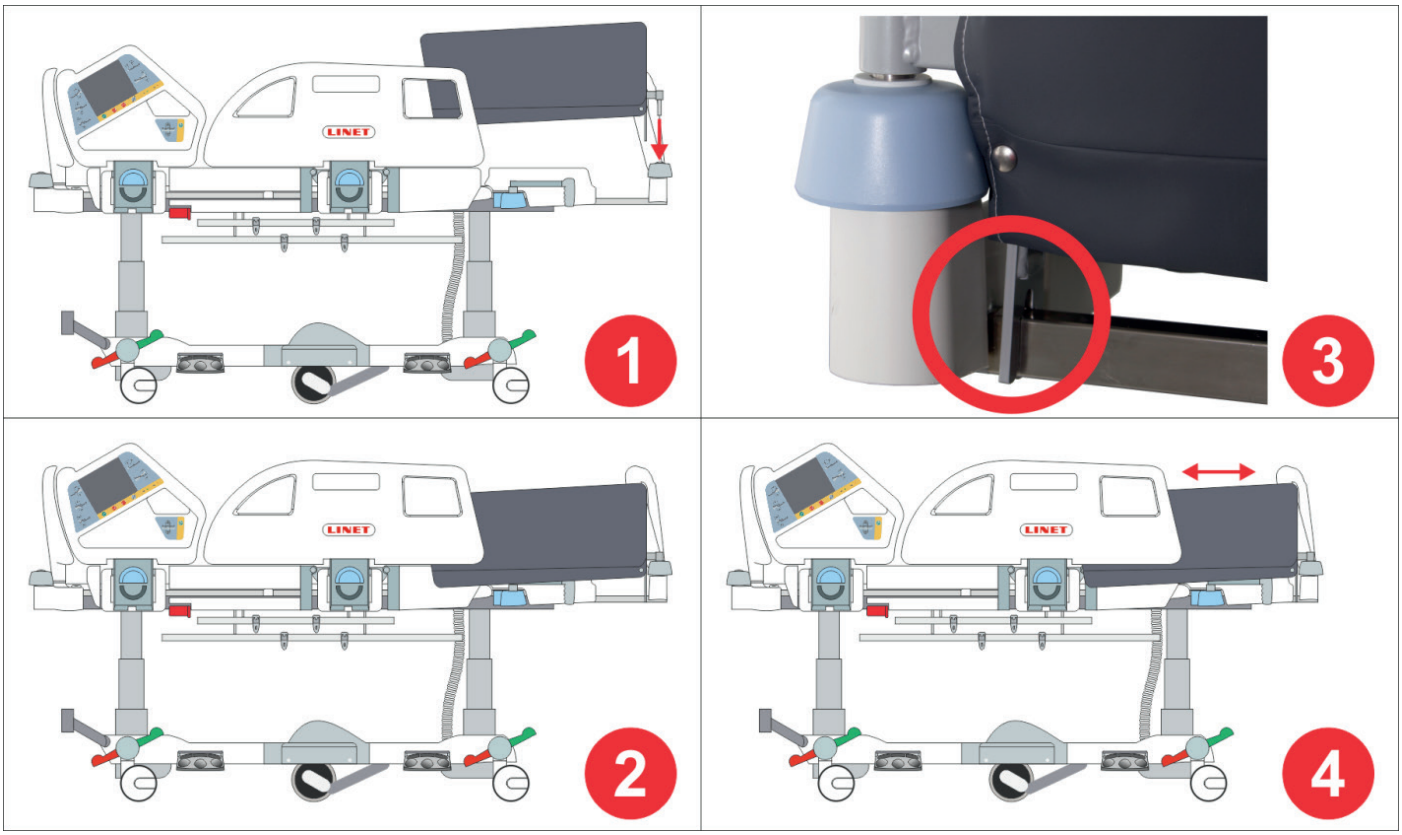


Fig. Multicare LE bed with Protector

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 Multicare LE 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.

16 Cleaning/Disinfection

Antibacterial surface finish:
Selected parts of the Multicare LE bed are treated against the spread of bacteria with certified technology by Sanitized®. This technology supplements regular bed disinfection procedures. Regular bed cleaning cannot be omitted relying only on the antibacterial surface finish. Clean the bed according to the following instructions.

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.
► Exclusively use the recommended cleaning agents.
► Follow the instructions and observe the dosages recommended by the manufacturer.
► Ensure that disinfectants are selected and applied exclusively by qualified hygiene experts.
► **Check if used cleaning agents and disinfectants are compatible with materials that the product consists of! For information see the following table.**

BED COMPONENTS THAT ARE INTENDED TO BE CLEANED Do not clean what is not mentioned in this column!	MATERIALS (SURFACES OF THE MENTIONED BED COMPONENTS) Competent user is responsible for check if used cleaning agents and disinfectants are compatible with mentioned materials!
Head board and foot board	Polypropylene with antibacterial surface (PP)
Head siderails and foot siderails	Polypropylene with antibacterial surface (PP)
Decors (head board, foot board, head siderails, foot siderails)	Acrylonitrile butadiene styrene (ABS)
Mattress support platform cover (Backrest)	High Pressure Laminate (HPL)
Mattress support platform covers (Thighrest, Calfrest)	High Pressure Laminate (HPL) + Lacquered steel
Mattress support platform cover (Seat section)	High Pressure Laminate (HPL)
Covers of frame of the mattress support platform	Polypropylene (PP) + Acrylonitrile butadiene styrene (ABS)
Frame of the mattress support platform	Lacquered steel
Castors	Polypropylene (PP)
Columns	Oxidized aluminium alloy
Siderail release mechanisms	Lacquered aluminium (Al)
Undercarriage cover	Acrylonitrile butadiene styrene (ABS)
Corners and corner covers	Polypropylene (PP)
Handles of head board lock and foot board lock	Polyamide (PA)
Corner bumpers	Polypropylene (PP)
Keyboards (Attendant Control Panel, Handset, control elements integrated in the siderails)	Autotex film with antibacterial surface
CPR levers	Polyamide with antibacterial surface (PA)
Mobi-Lift® handles	Polyamide with antibacterial surface (PA)
Accessory rail	Lacquered steel + Polyethylene (PE)
Labels	siliconized paper with lamination or with resin

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 replacement 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 environmental protection agency of the country in which the mattress replacement system is to be used.

LINET ® recommends the following cleaning agents:

Parts to be cleaned	Cleaning agents
Multicare LE hospital bed	■ Mikrozid, Terralin Protect, Thermosept (Schülke & Mayr) ■ Bacillol AF, Bacillol Rasant, Dismozon Pur, Microbac Forte, Neodisher Dekonta (BODE Chemie) ■ Lysoformin 3000, Lysoform Spezial (LYSOFORM) ■ Incidin plus, Incidin rapid (Ecolab) ■ Perform, TPH protect (Schülke)
Mattress cover base, comforter covers, air cells, foam base, SCU	■ standard hospital detergents ■ alcohol or chlor based desinfections
Mattress cover top	■ standard hospital detergents ■ alcohol and quaternary ammonium-based disinfectants

16.1 Cleaning (Multicare LE)

Prepare for cleaning as follows:

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

16.1.1 Daily Cleaning

Clean the following bed parts:

- ► All control elements for adjusting the bed
- ► All handles
  - □ CPR release handle
- ► Head Board and Foot Board
- ► Siderails (in highest position)
- ► Freely accessible mattress surface
- ► Mobi-Lift®
- ► Accessory rails

16.1.2 Cleaning before Changing Patients

Clean the following bed parts:

- ► All control elements for adjusting the bed
- ► All handles
  - □ CPR release handle
- ► Head Board and Foot Board
- ► 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

16.1.3 Complete Cleaning and Disinfection

Clean the following bed parts:

- ► All control elements for adjusting the bed
- ► All handles
  - □ CPR release handle
- ► Head Board and Foot Board
- ► 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)

17 Troubleshooting

DANGER!
Danger to life due to electric shock!

- ► If a fault occurs ensure the electric motor, power box and other electrical parts checked by qualified personnel only.
- ► Do not open protective covers of the electric motor or power box.

Error/Fault	Cause	Solution
Adjusting with position buttons not possible	GO button was not pressed	Press the GO button.
	Function disabled on Attendant Control Panel	Enable disabled function.
	Drive motors have no power, Defective drive motors, Defective battery	Check the mains connection. Notify the service department.
	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	There is an object on the undercarriage cover	Remove the object.
	Function disabled on Attendant Control Panel	Enable disabled function.
	Drive motors have no power, Defective drive motors, Defective battery	Check the mains connection. Notify the service department.
	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	There is an object under the back- rest or in the drive mechanism	Remove the object.
	Locking handle is defective	Notify the service department.
Adjusting siderails not possible	The siderail lock is dirty	Clean the locking mechanism.
	Locking handle is defective	Notify the service department.
Faulty brakes	Dirt blocking brakes mechanically	Clean the brake system.
	The brake mechanism is defective	Notify the service department.
Mattress not inflating	SCU mains switch turned off	Turn switch on. Green mains power switch will illuminate.
	No power to bedframe	Check mains connection.
	Mains plug inserted incorrectly	Insert mains plug correctly.
	Faulty power source	Notify the service department of the manufacturer.
	Faulty SCU	Notify the service department of the manufacturer.
	Air leaking	Check mattress pipe connection.
	CPR valve leaking or open	Check CPR valves closed.
	Air pipes blocked	Check piper are not trapped or kinked.
	Mattress partialy inflated	Check mattress is unfolded and flat.
	Mattress damaged or faulty	Notify the service department of the manufacturer.
Unable to change mode or pressure	Go button was not pressed	Press the GO button.
Fault symbol illuminated & audio alarm	One time exception fault	Switch off SCU & switch back on, reset to see if failt is self--cleared.
	Persistent reoccuring fault	Notify service department, mute audio alarm.
CPR symbol illuminated	In CPR mode	Press CLP or Max to cancel

18 Maintenance

WARNING!
Risk of injury when working on the bed!
- ► Ensure that the bed is disconnected from the mains power prior to installation, putting into service, maintenance and deinstallation.
- ► Ensure that the castors are locked prior to installation, putting into service, maintenance and deinstallation.

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 by authorised service personnel certified by the manufacturer.
- ► If the defect cannot be repaired, do not use the bed.

LINET ® recommends attaching the maintenance plaque to the bed.

18.1 Regular maintenance

- ► Check regularly movable parts for wear.
- ► Perform regularly visual check of the product (with delivery note if necessary).
- ► Ask service department of the manufacturer for addition of the original spare parts if some product parts are missing.
- ► Ask service department of the manufacturer for replacement of any damaged product parts by the original spare parts.
- ► Check that the accumulator is working properly. Disconnect the bed from the mains power to check signalisation of accumulator indicator according to the instructions for use.
- ► Have the accumulator replaced if it is not working properly.
- ► Check regularly that all accessories are working properly.
- ► Replace damaged accessories immediately.

18.2 Spare Parts

The serial label is located on the frame of the mattress support platform. The serial label contains information for claims and ordering replacement parts.

Information about spare parts is available from:
- ■ Manufacturer´s customer service
- ■ Sales department

18.3 Safety Technical Checks

WARNING!
Risk of injury due to incorrect safety technical checks!
- ► Ensure that safety technical checks are performed exclusively by manufacturer´s customer service or by authorised service personnel certified by the manufacturer.
- ► Ensure that the safety technical checks are recorded in the service and maintenance log.

Safety technical check of the medical bed must be performed at least once every 12 months.

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

NOTE On request, the manufacturer will provide service documentation (e.g. 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.

19 Disposal

19.1 Environment Protection

The company LINET® is aware of the importance of environmental protection for future generations. Within this company the environmental management system is applied in accordance with the internationally agreed standard ISO 14001. The compliance with this standard is annually tested by the external audit executed by an authorised company. Based on the Directive No. 2002/96/EC (Directive **WEEE** - Waste, Electric and Electronic Equipments) the company LINET, s. r. o. is registered in the List of Electric and Electronic Equipment Producers (**Seznam výrobců elektrozařízení**) on the Ministry of the Environment of the Czech Republic (Ministerstvo životního prostředí).

Materials used in this product are not environmentally hazardous. LINET® products meet valid requirements of national and European legislation in the areas of **RoHS** and **REACH**, so they do not contain any prohibited substances in excess quantities.
None of the wooden parts is made of tropical wood (such as mahogany, rosewood, ebony, teak etc.) or made of timber from the Amazon region or from similar rainforests. Product noise (sound pressure level) meets requirements of the regulations for the protection of public health against undesirable effects of noise and vibration in protected interior spaces of buildings (according to standard IEC 60601-2-52). Used packaging materials are in accordance with requirements of the Packaging Act (**Zákon o obalech**).
For disposal of packaging materials after installation of products contact your sales representative or manufacturer´s customer service about the possibility of a free take-back of packaging through an authorized company (more details on **www.LINET.cz**).

19.2 Disposal

The main objective of the obligations arising from the European Directive No. 2012/19/EU on Waste, Electric and Electronic Equipments (nationally regulated in Act No. 185/2001 Coll. as amended. On Waste and in Decree of the Ministry of the Environment No. 352/2005 Coll. as amended), is to increase the re-use, material recovery and recovery of electric and electronic equipment at the required level, thereby avoiding the production of waste and thereby avoiding the possible harmful effects of hazardous substances contained in electric and electronic equipment on human health and the environment. LINET® electric and electronic equipments that have a built-in accumulator or accumulator are designed so that the used accumulator or accumulators can be safely removed by LINET® qualified service technicians. There is an information about its type on the built-in accumulator or accumulator.

19.2.1 Within Europe

To dispose of the electric and electronic equipment:

- ► The electric and electronic equipment must not be disposed of as household waste.
- ► Dispose of this equipment at designated collection points or take-back points.

To dispose of the other equipment:

- ► The equipment must not be disposed of as household waste.
- ► Dispose of this equipment at designated collection points or take-back points.

LINET® participates in a collective system with take-back company REMA System (see **www.remasystem.cz/sberna-mista/**).
By bringing electric and electronic equipment to a take-back point, you participate in recycling and you save primary raw material resources while protecting your environment from effects of unprofessional disposal.

19.2.2 Outside Europe

- ► Dispose of the product or its components in accordance with local laws and regulations!
- ► Hire an approved waste disposal company for disposal!

20 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.

21 Standards and Regulations

Apllied norms are stated on Declaration of Conformity.

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)**