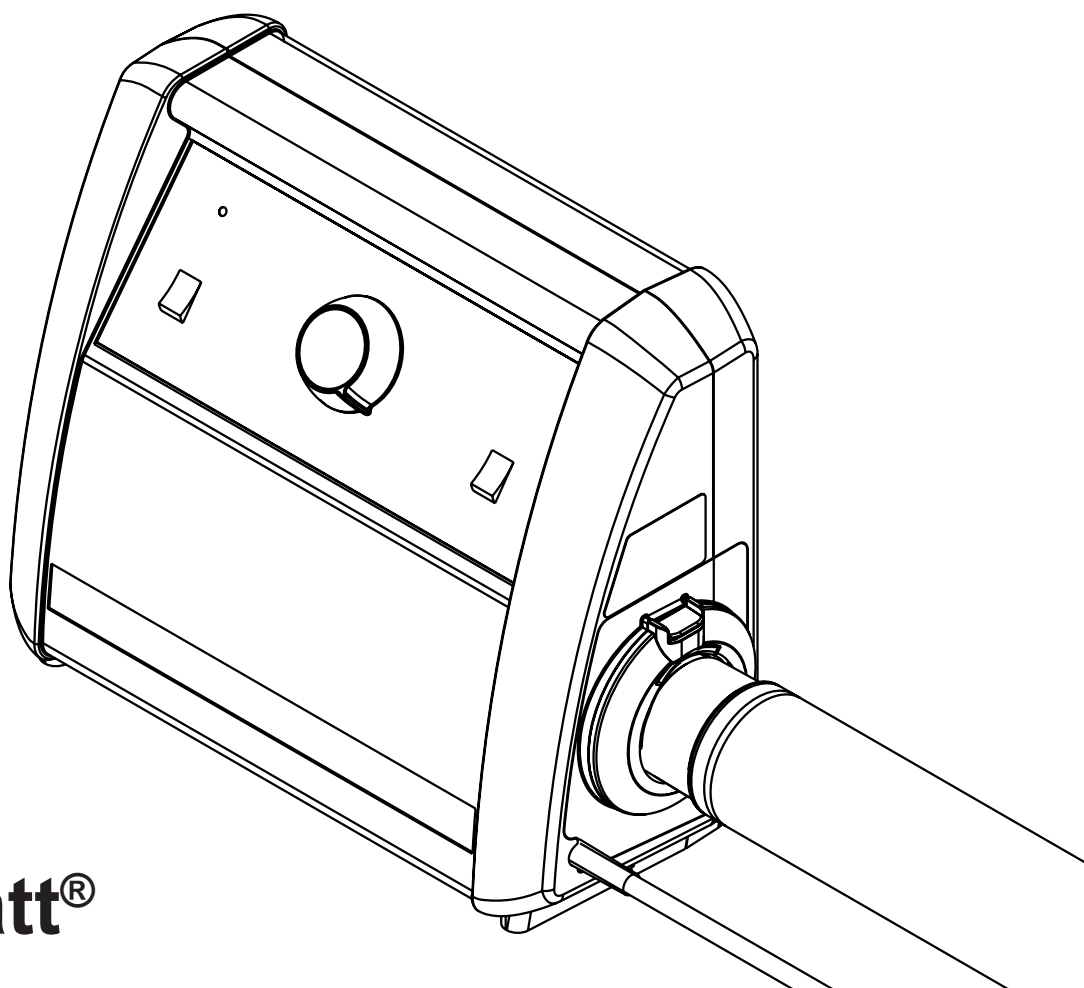


Instructions for Use and Technical Description



HybriMatt[®]

Hybrid Mattress Replacement System



D9U003VHM-0101

Version: 03

Publication Date: 2026-03

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HybriMatt

Hybrid Mattress Replacement System

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1 Symbols and Definitions

1.1 Warning Notices

1.1.1 Types of Warning Notices

Warning notices are differentiated by the type of danger using the following signal 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



DANGER!
Type and source of risk!
▶ Measures to avoid the risk.



DANGER!
Dangerous electricity!
▶ Measures to avoid the risk.



WARNING!
Type and source of risk!
▶ Measures to avoid the risk, if necessary.



CAUTION!
Type and source of risk!
▶ Measures to avoid the risk, if necessary.

1.2 Instructions

Structure of instructions:

- ▶ Perform this step.
- Results, if necessary.

1.3 Lists

Structure of bulleted lists:

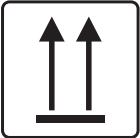
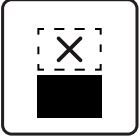
- List level 1
 - List level 2
 - List level 3

1.4 Patents and Trade Marks

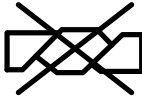
The following Trademarks are registered Trademarks in U.S.A.:
LINET®
LINET® Designed to Help you Care
HybriMatt®

Link to the list of registered Trademarks and Patents:
<https://www.linnet.com/en-US/about/intellectual-property>

1.5 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

1.6 Symbols and Labels on the Product

 	READ INSTRUCTIONS FOR USE.
BS 7175   5 MEDIUM HAZARD	MATTRESS COVER MATERIALS ARE FIRE RETARDENT TO BS7175, SOURCES 0, 1 AND 5.
	DO NOT IRON.
	DO NOT USE A CLEANER CONTAINING PHENOL.
	DO NOT WRING.
	REGULARY INSPECT THE INSIDE OF THE COVER FOR CONTAMINATION.
	MACHINE WASH AT 71 DEG. CENTIGRADE FOR 3 MINUTES.
	TUMBLE DRY ON LOW HEAT SETTING.
	HANDWASH WITH DETERGENT (INITIAL TEMPERATURE OF HOT WATER SHOULD NOT EXCEED 50°C).
 NaClO 10,000 ppm max	DISINFECT USING SOLUTION CONTAINING LESS THAN 10000 PPM OF CHLORINE (REFER TO INSTRUCTIONS FOR USE).
	WIPE WITH WATER.
	DRY.

	ONLY SUITABLE FOR INDOOR USE.
	CE MARKING OF CONFORMITY WITH EU REGULATION FOR THE HYBRIMATT SYSTEM IN THE EU VERSION.
	GENERAL WARNING SIGN.
	APPLIED PARTS TYPE B.
	CLASS II EQUIPMENT.
	ALTERNATING CURRENT.
	WEEE SYMBOL (RECYCLE AS ELECTRONIC WASTE, DO NOT PUT INTO THE HOUSEHOLD WASTE).
	MEDICAL DEVICE (COMPATIBLE WITH MEDICAL DEVICE REGULATION).
	RECYCLING SYMBOL.
	DO NOT POLLUTE THE ENVIRONMENT.

	MANUFACTURER.
	MANUFACTURING DATE.
	MATTRESS FOOT PART.
	CAUTION SIGN.
	DANGER SIGN.
	UNIQUE DEVICE IDENTIFICATION (FOR MEDICAL DEVICES).
	REFERENCE NUMBER (PRODUCT TYPE DEPENDING ON CONFIGURATION).
	SERIAL NUMBER.
	EAC MARKING (EURASIAN CONFORMITY).
	POWER SWITCH I : ON O: OFF.

UK REP	AUTHORIZED REPRESENTATIVE IN GREAT BRITAIN.																		
 SWL MAX	MATTRESS SAFE WORKING LOAD (SWL) / MAXIMUM ALLOWED MATTRESS LOAD / MAXIMUM PATIENT WEIGHT.																		
 <table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td></tr><tr><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td></tr><tr><td>21</td><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td></tr></table>	1	2	3	4	5	6	7	8	9	10	11	12	21	22	23	24	25	26	MATTRESS MANUFACTURING DATE (SELECTED NUMERS MEAN MONTH AND YEAR OF MANUFACTURE (E.G. 24 = 2024).
1	2	3	4	5	6														
7	8	9	10	11	12														
21	22	23	24	25	26														
UK CA	UK CA MARKING OF CONFORMITY WITH UK REGULATION.																		
IP	INGRESS PROTECTION.																		

1.7 Serial Labels with UDI

The serial label of the HybriMatt compressor is located on the back side of the compressor (System Control Unit). The serial label contains information about Address of Manufacturer, Manufacturing Date (Year-Month-Day), Product Reference Number, Product Serial Number, Global Trade Item Number (GTIN), Unique Device Identification (UDI), symbols and electrical specifications. Serial label of the HybriMatt 200 mattress is placed at the mattress foot end. The serial label contains information about Address of Manufacturer, Manufacturing Date (Year-Month-Day), Product Reference Number, Product Serial Number, Global Trade Item Number (GTIN), Unique Device Identification (UDI) and symbols.

1.8 Mattress Wash Label

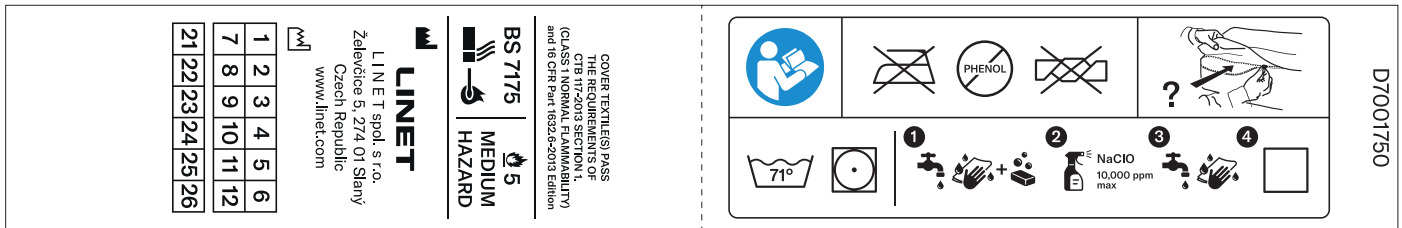


Fig. Wash label of the HybriMatt 200 mattress with ENDURANCE cover or ZONED cover or MICROCLIMATE cover

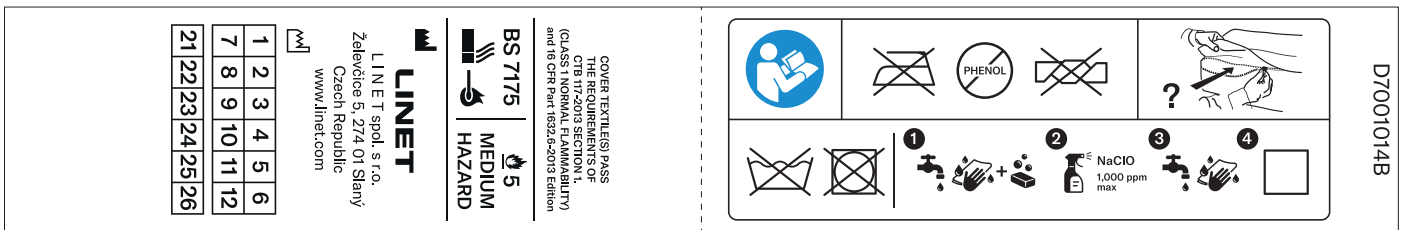


Fig. Wash label of the X-ray Sleeve

1.9 RFID tag of the HybriMatt 200 mattress

RFID tag in mattress cover bears a serial number of the HybriMatt 200 mattress and the manufacturer's name (LINET).
RFID tag is located at the beginning of the mattress cover zipper at mattress foot end on the left.
RFID tag serves for a quick mattress identification.

To identify a mattress serial number:

- Use a compatible RFID reader emitting RF signal.

1.10 Fire Resistance Label



Fig. Fire Resistance Label for HybriMatt 200 mattress in the EU version

1.11 Abbreviations

AC (~)	Alternating Current
APT	Alternating Pressure Therapy (Mode)
CE	European Conformity
CPR	Cardiopulmonary Resuscitation
dB	Sound Intensity Unit
DC (---)	Direct Current
CLP	Constant Low Pressure (Mode)
CUC	Configuration number
EMC	Electromagnetic Compatibility
FET	Field-effect transistor
HF	High Frequency
HPL	High Pressure Laminate
ICU	Intensive Care Unit
INT.	Duty Cycle
IP	Ingress Protection
IV	Intravenous
LED	Light Emitting Diodes
MCM	Micro-Climate Maintenance
ME	Medical Electrical (Equipment)
MET	MET Laboratories testing and certifying for the U.S. market
ON	Activation
OFF	Deactivation
ppm	parts per million, millionth (1000 ppm = 0,1%)
REF	Reference Number (product type depending on configuration)
RF	Radio frequency
SCU	System Control Unit
SN	Serial Number
SW	Software
UDI	Unique Device Identification (for medical devices)
UKCA	UK Conformity Assessed
USB	Universal Serial Bus
WEEE	Waste Electrical and Electronic Equipment

1.12 Definitions

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).
Maximum Load	The highest allowable load on the mattress (patient weight + accessories).

2 Safety Instructions


DANGER!

Risk of injury due to incorrect use!

- ▶ Ensure the mattress is clinically suitable for the patient if it is used without compressor! HybriMatt 200 mattress is necessary for full range of HybriMatt Hybrid Mattress Replacement System functions!


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!

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!

Risk of injury due to incorrect use!

- ▶ Before placing a patient on a HybriMatt mattress, always have a qualified person perform a risk assessment to ensure that the support provided is appropriate and fulfills the applicable local stipulations.
- ▶ Do not use APT mode for patients undergoing cervical traction. CLP mode can be used only under supervision of qualified person.
- ▶ When using mattress replacement or overlay systems, make sure to use safe and appropriate siderail positions and bed height settings. Which positions and settings are safe and appropriate may vary with the type of bed frame and siderails.
- ▶ HybriMatt 200 mattress without compressor is not intended for immobile patients.


WARNING!

Risk of incompatibility with Micro-Climate Maintenance function due to incorrect bed sheet!

- ▶ Use air-permeable bed sheet exclusively!

**CAUTION!**

Risk of material damage due to leakage into the mattress!

- ▶ **Ensure the mattress cover is completely zipped to avoid risk of leakage into the mattress!**
- ▶ **Ensure the fabric zip protection covers the zip on all the mattress sides to avoid risk of leakage into the mattress!**

2.1 Before Use

- It is necessary to read the instructions for use before operating the mattress system.
- Follow the instructions carefully.
- Use the mattress system only as specified in this manual.
- LINET shall not assume any responsibility for any damage or injury resulting from incorrect use.
- Position the power supply cable so that there are no loops or kinks in the cable; protect the cable from mechanical wear and tear. Improper handling of power supply cable can cause an electric shock hazard, other serious injuries or damage to the mattress system.
- Position the power supply cable so there is no risk of injuring the patient (e.g. choking hazard).
- Regular inspection of the mattress interior to be carried out on a regular basis. Place power supply cable into the cable loops with toggles on the mattress side.
- In case of any problem please contact manufacturer for help at installation, service or if an unexpected event occurs.
- HybriMatt Hybrid Mattress Replacement System is compatible with a bed whose mattress support platform is in accordance with the HybriMatt 200 mattress and whose foot board can properly support the HybriMatt compressor.

2.2 Installation

- Ensure that installation is performed in accordance with the instructions in this manual.
- Ensure that maintenance is performed only by qualified personnel who have been trained by the manufacturer.

2.3 Usage

- Ensure any user has read and understood the instructions for use completely before operating the product.
- Only use the mattress system if it is in perfect working order.
- Only use the system in clean environment.
- Always hold the compressor with scoop handle when moving.
- Only use the mattress system with the correct power supply.
- Replace any damaged parts immediately with original spare parts only.
- Do not exceed the maximum patient weight.
- Do not use the compressor in near flammable gases. This does not apply to oxygen cylinders.
- Do not cover the compressor while in use.
- Do not place the compressor near extreme heat sources such as radiators.
- Never handle the power plug with wet hands.
- Disconnect the product from the outlet only by pulling the power plug. While pulling the power plug, always hold the actual plug, not the cord.
- Mattress and the compressor must be checked at least once a day. Check that:
 - the mattress is inflated to the required pressure.
 - the Low Pressure indicator is not permanently illuminated.

In case of error refer to the chapter "System Faults".

- The handles located on the both sides of the mattress cover are designed only for manipulation with the mattress without load (without patient).

3 Intended use of HybriMatt

The intended purpose of this pressure air mattress with foam cells is to provide a support surface for patients by pressure redistribution designed for management of tissue loads and microclimate. This mattress is intended to use as mattress replacement. It can improve resting and comfort of the patient.

3.1 Indications

The mattress is recommended for use with patients who have been identified as having from low to very high-risk rating of pressure injuries development, (very high risk includes patients with pressure injuries in the past or patients who currently have a pressure injury of any category) according to EPUAP/NPIAP standards for pressure injury prevention in line with local policy and guidelines.

The use of the mattress does not remove the need for regular repositioning of patients in line with best clinical practice.

NOTE: A full risk assessment of the patient's risk of a pressure injury development must be carried out by an appropriately trained clinician and clinical judgement must be made to identify the suitability of the product for use with the patient.

3.2 User population of HybriMatt

- ▶ Adult patients (weight $\geq$ 40 kg, height $\geq$ 146 cm, BMI $\geq$ 17)
- ▶ Application Environment 1 (ICU), 2 (Acute care), 3 (Long-term care) and 5 (Ambulatory), as in IEC 60601-2-52

3.3 Contraindications

Mattress system is contraindicated for patients:

1. exceeding maximum patient weight of the mattress

Mattress system in active mode with compressor is contraindicated for patients:

1. with cervical or skeletal traction
2. with unstable skeletal fractures
3. with unstable spinal fractures

Other contraindications may be identified on an individual patient basis depending on clinical risk assessment.

NOTE: For patients in prone position - before placing the patient into prone position a detailed clinical risk assessment should be carried out by an appropriately trained clinician.

3.4 Operator

- ▶ Caregivers (nurses/doctors) that are fully trained in use of the mattress. Operators must familiarize themselves with all warnings and cautions contained in the instructions for use before use of the mattress. Clinical risk assessment should be carried out by appropriately trained staff and clinical judgement should be made to ascertain that the product is suitable for meeting the care needs of the individual patient.
- ▶ Technical, transport and cleaning personnel should be fully trained in the maintenance and service of the product and must familiarize themselves with all warnings and cautions contained in the instructions for use.

4 Product Description

4.1 Compressor (System Control Unit)

The compressor inflates and deflates the air mattress. It is connected to the air mattress with a custom-designed air connector. The analogue electro-mechanical controlled compressor maintains the set pressure regardless of the patient's weight distribution or position. The compressor is equipped with visual indicators for power failure or mattress low air pressure that may be caused by air hose disconnection or other faults (see System Faults chapter).

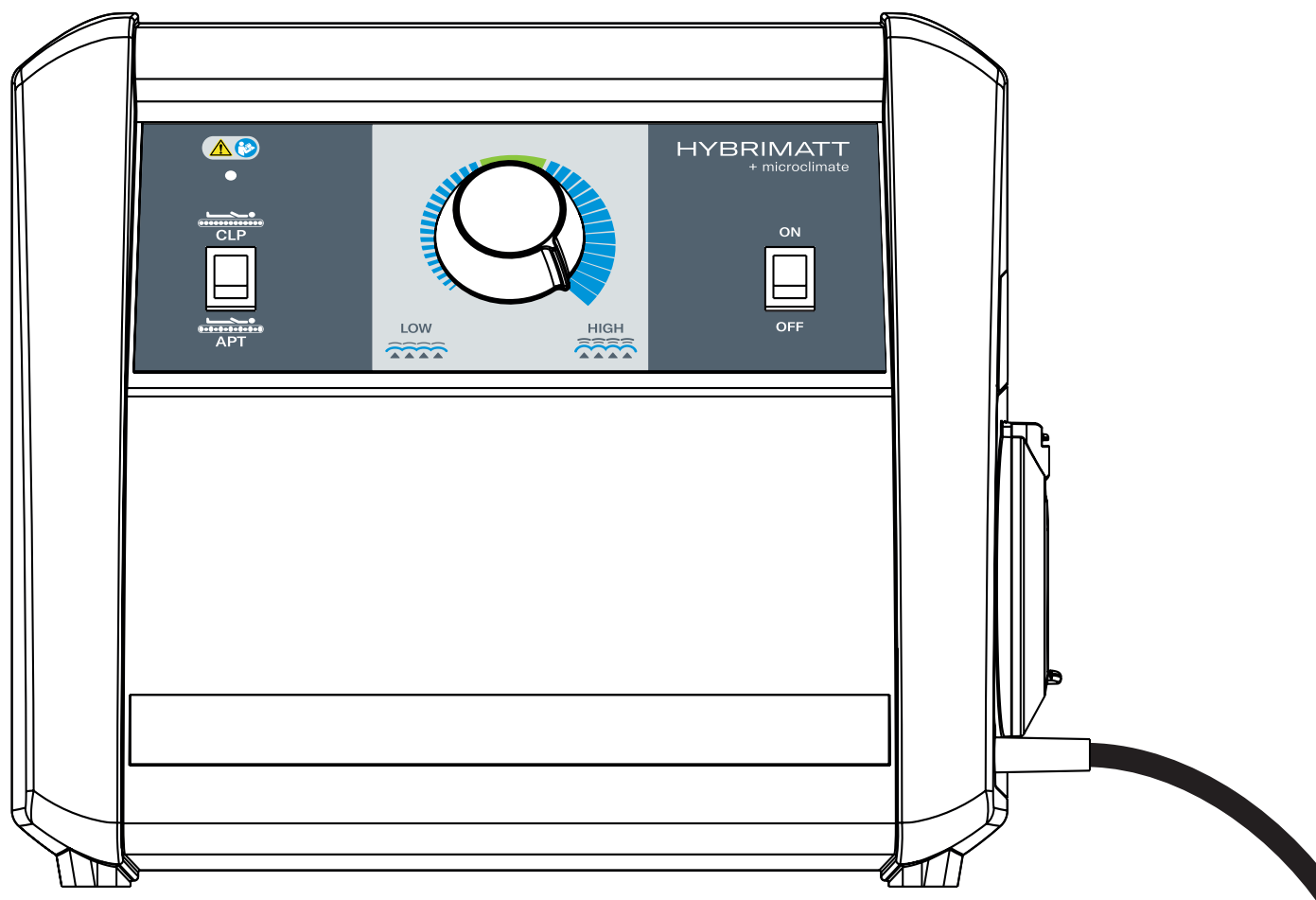


Fig. Front view of the HybriMatt Compressor

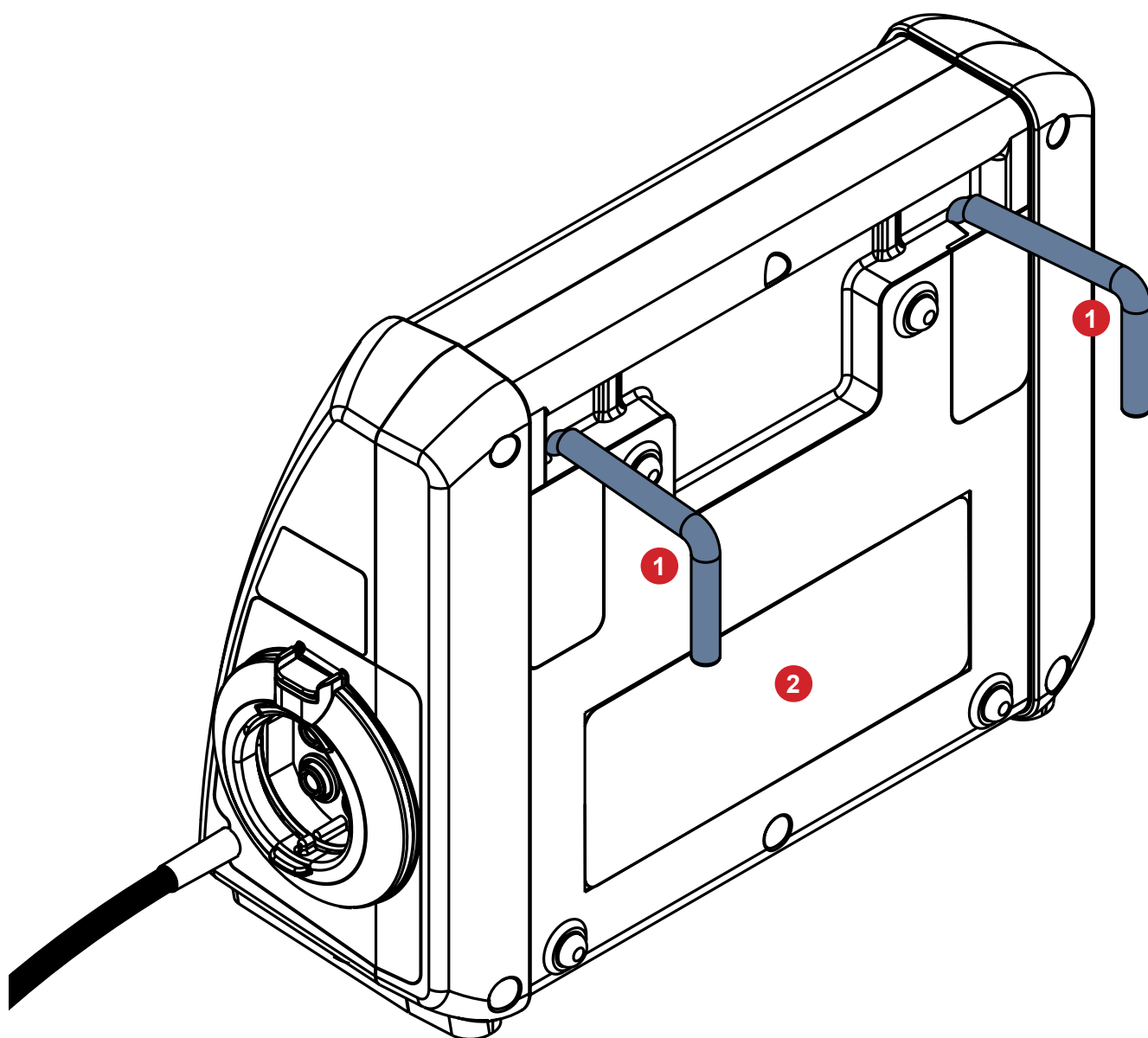


Fig. Back side of the HybriMatt Compressor with unfolded hooks

1. Unfolded hooks for compressor placement
2. Position of the HybriMatt Compressor serial label

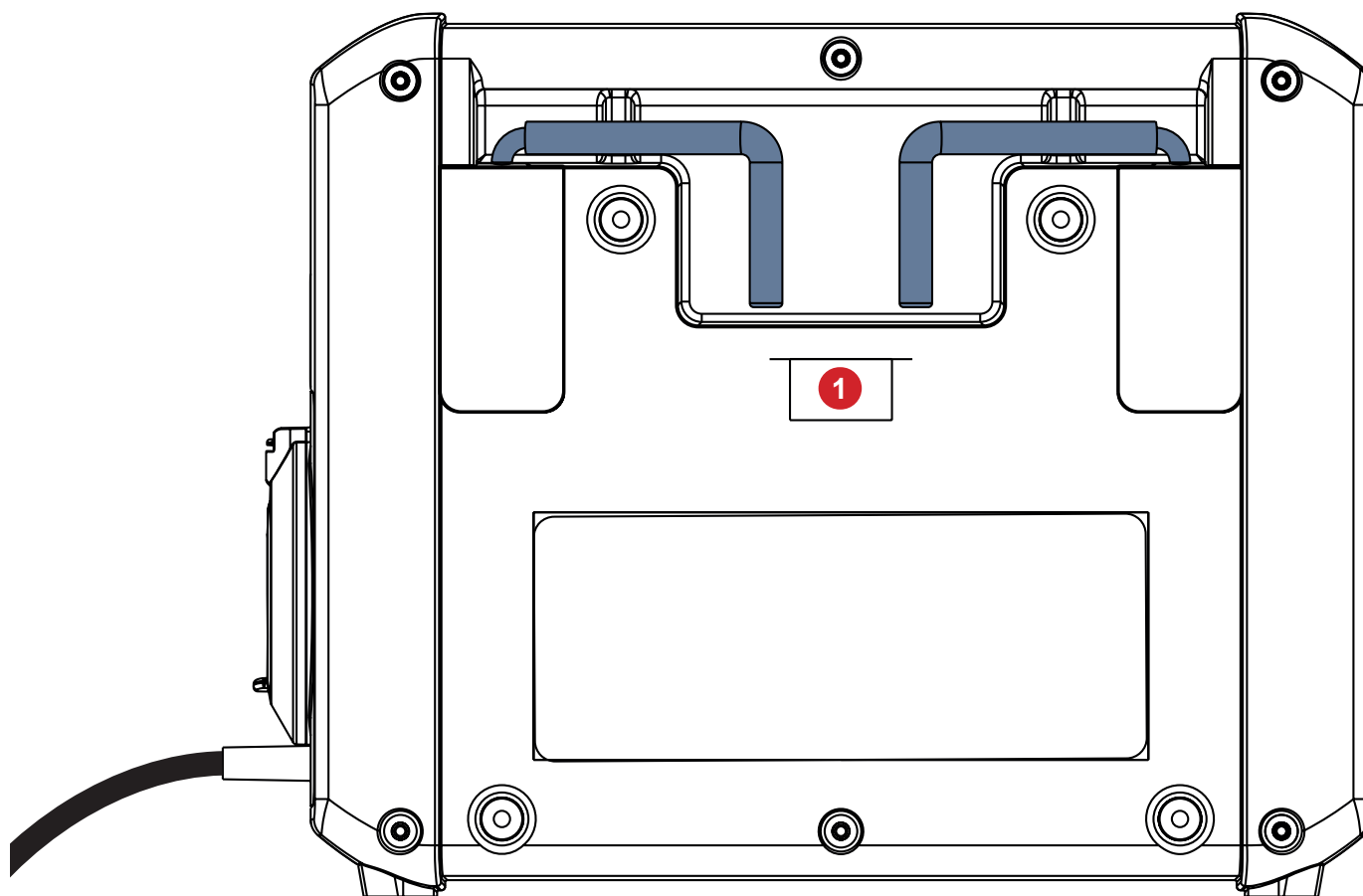


Fig. Folded hooks on the HybriMatt Compressor back side

1. Filter

5 Technical Specification

5.1 Mechanical Specification

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

Parameter	Value
External Mattress Dimensions (length x width) Version 1 Version 2 Version 3 Version 4	200 x 86 cm 200 x 90 cm 208 x 86 cm 208 x 90 cm
Mattress Height	15 cm
External Dimensions of System Control Unit (length x width x height)	11,5 x 27 x 22 cm
Weight of the Inflated HybriMatt 200 Mattress	15 kg
Weight of the HybriMatt System Control Unit	2 kg
Maximum Mattress Load (Maximum Patient Weight)	230 kg
Mattress Cover	MICROCLIMATE cover ENDURANCE cover ZONED cover
Mattress Cover Zip Range	360°
Mattress Heel End Bevel	7°
Mattress Cover Fire Resistance	according to BS7175 - ignition source 0, 1, 5
Mattress Fire Resistance of the EU version	according to BS7177 - ignition source 7
Maximum Washing Temperature of the MICROCLIMATE cover	71°C
Maximum Washing Temperature of the ENDURANCE cover	71°C
Maximum Washing Temperature of the ZONED cover	71°C
Maximum Drying Temperature of the MICROCLIMATE cover	55°C
Maximum Drying Temperature of the ENDURANCE cover	55°C
Maximum Drying Temperature of the ZONED cover	55°C
Top Cover Biocompatibility	according to ISO 10993-5 (cytotoxicity), according to ISO 10993-10 (skin sensation and irritation)
Micro-Climate Maintenance Airflow	5l / min
Sound Pressure Level of System Control Unit	35 dBA

5.2 Electrical Specifications of the Compressor

Parameter	Value
Input Voltage, Frequency: Version 1 Version 2 Version 3	220 — 240 VAC, 50/60 Hz 100 — 127 VAC, 60 Hz 220 VAC, 60 Hz
Maximum Power Input	15VA
Ingress Protection according to EN 60529	IP3X
Fuses	2x T0.2A 250V, type 5x20 mm
Electric Protection Class	Class II with Applied Parts Type B
Electrical Safety	In conformity with IEC 60601-1
Electromagnetic Compatibility	IEC 60601-1-2

5.3 Environment Conditions



WARNING!
Risk of damaging the product due to incorrect environment conditions!
► Do not use the HybriMatt Hybrid Mattress Replacement System under the environmental conditions outside of those specified in the Environment Conditions chapter!



CAUTION!
Risk of damaging the product if its packaging is exposed to environmental conditions outside of those specified in the Environment Conditions chapter!

Parameter	Value
Use Conditions	
Ambient Temperature	10°C — 40°C
Relative Humidity	30% — 75 %
Atmospheric Pressure	795 — 1060 hPa
Storage and Transport Conditions	
Ambient Temperature	-40°C — 70°C
Relative Humidity	10% — 100 % (non-condensing environment)
Atmospheric Pressure	795 — 1060 hPa

5.4 Electromagnetic compatibility

HybriMatt Hybrid Mattress Replacement System 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.

HybriMatt Hybrid Mattress Replacement System 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. (Does not apply for compatible LINET medical bed.)

List of used cables:

- **Mains cable**, maximum length 6 m



WARNING!

Use of the accessories, converters and other cables, than specified and provided by manufacturer of this HybriMatt Hybrid Mattress Replacement System could lead to increase of electromagnetic emission or lower the electromagnetic immunity of this HybriMatt Hybrid Mattress Replacement System 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 HybriMatt Hybrid Mattress Replacement System, including cables specified by manufacturer. Otherwise this could lead to deterioration of functionality of this HybriMatt Hybrid Mattress Replacement System.



WARNING!

Do not overload the HybriMatt Hybrid Mattress Replacement System (SWL) and consider 13 Maintenance chapter in order to maintain the basic safety with regard to electromagnetic disturbances for the expected service life.

5.4.1 Manufacturer Instructions - Electromagnetic Emissions

Emission	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

5.4.2 Manufacturer Instructions - Electromagnetic Emissions

Immunity Tests	Compliance
Electrostatic discharge (ESD) IEC 61000-4-2	± 8 kV for contact discharge ± 15 kV for air 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
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.

6 Use and Storage Conditions



DANGER!

Risk of injury due to using HybriMatt system in the incorrect environments!

- ▶ Never use or store HybriMatt system in environments which contains flammable gases (except oxygen cylinders).

HybriMatt compressor is suitable for continuous operation.

6.1 Storage



CAUTION!

Incorrect storage can damage the mattress!

- ▶ Do not store mattress in compressed state (e.g. underneath other mattresses) or rolled state for long periods of time as this may affect the performance of the air/foam cells.

When the compressor is not in use:

- ▶ Switch off the compressor using power switch on the control panel of the compressor.
- ▶ Unplug power supply cable.
- ▶ Wrap power supply cable around the compressor.
- ▶ Pack in suitable cover.
- ▶ Store in a place suitable for electronic medical devices.

When mattress is not in use:

- ▶ Store flat, unfolded and in dust proof bag.
- ▶ Store in a place suitable for medical devices.
- ▶ The most convenient storage: vertical

7 Scope of Delivery and Product Variants

7.1 Delivery

- Upon receipt, check that the shipment is complete as specified on the delivery note.
- Notify the carrier and supplier about any deficiencies or damages immediately as well as in writing or enter them on the delivery note.

7.2 Contents

HybriMatt Hybrid Mattress Replacement System:

- HybriMatt 200 mattress in the EU version with mattress air hose and with mattress cover
 - MICROCLIMATE cover
 - with X-ray Sleeve
 - without X-ray Sleeve
 - ENDURANCE cover
 - with X-ray Sleeve
 - without X-ray Sleeve
 - ZONED cover
 - with X-ray Sleeve
 - without X-ray Sleeve
- HybriMatt compressor (System Control Unit) – Applied Part Type B
- Instructions for use

8 Putting into Service

8.1 Placing HybriMatt on the Bed



WARNING!

Material damage due to incorrect placement of the mattress!

- ▶ When using mattress replacement or overlay systems, make sure to use safe and appropriate siderail positions and bed height settings. Which positions and settings are safe and appropriate may vary with the type of bed frame and siderails. Before placing a patient on HybriMatt mattress, always have a qualified person perform a risk assessment to ensure that the support provided is appropriate and fulfills the applicable local stipulations.



WARNING!

Malfunction of the system due to incorrect placement of the sheet!

- ▶ Ensure the sheet is not preventing the functions of the mattress and system (e.g. due to overtightening the sheet over the mattress).

8.1.1 Putting the HybriMatt 200 Mattress into Service

Before placing mattress on the bed:

- ▶ Unpack the mattress in area with clear, sufficient space for unfolding and expansion.
- ▶ Inspect the mattress for shipping damage. In case of damage do not use the mattress and contact your distributor.

To secure mattress on the bed:

- ▶ Place the HybriMatt mattress (in good condition and free of any damage or wear) on the mattress platform, with the air pipe at the patients left foot side (foot symbol on the mattress cover determines placement) and position so that the mattress is centred.
- ▶ Check if the mattress, air pipe or the compressor is not colliding with any part of the bed or if the mattress is not preventing siderails in its movement.
- ▶ If the mattress is compressed (e.g. after storage) wait until it returns back to the original state.
- ▶ If the mattress does not appear to have recovered, do not use it and contact your distributor.

The HybriMatt mattress can now be connected to the compressor and inflated.

8.1.2 Putting the compressor into Service



WARNING!

Risk of injury when putting the compressor into service!

- ▶ Make sure that your hands are not trapped between hook and foot board when using spring-loaded compressor hanging hooks.
- ▶ Make sure that the compressor is installed securely so that it cannot slide or be accidentally knocked off.



WARNING!

Risk of injuring the patient or damaging the accessories due to incorrect putting into service!

- ▶ Ensure the compressor does not collide with any accessories placed on the bed.



CAUTION!

Material damage due to incorrect putting the compressor into service!

- ▶ Do not install the compressor on linen rack on bed frame.
- ▶ Make sure that the compressor is installed securely so that it cannot slide or be accidentally knocked off.

If foot board of the bed is suitable for hanging the compressor:

- ▶ Hold the compressor in one hand and unfold hooks on the compressor back side with the other.
- ▶ Hang the compressor on the Foot Board of the bed.

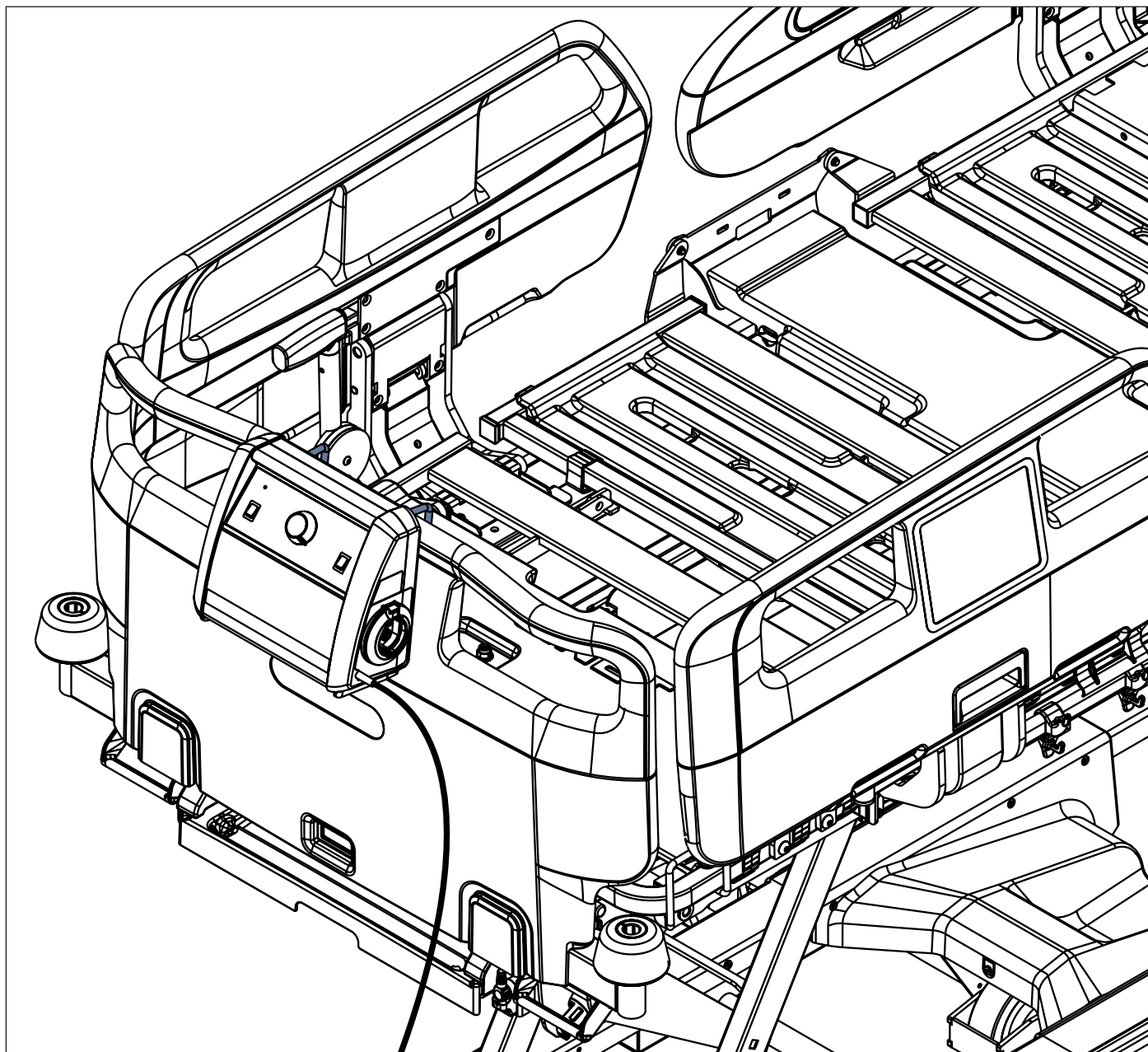


Fig. Compressor on the Foot Board of the Essenza 300 bed in front view

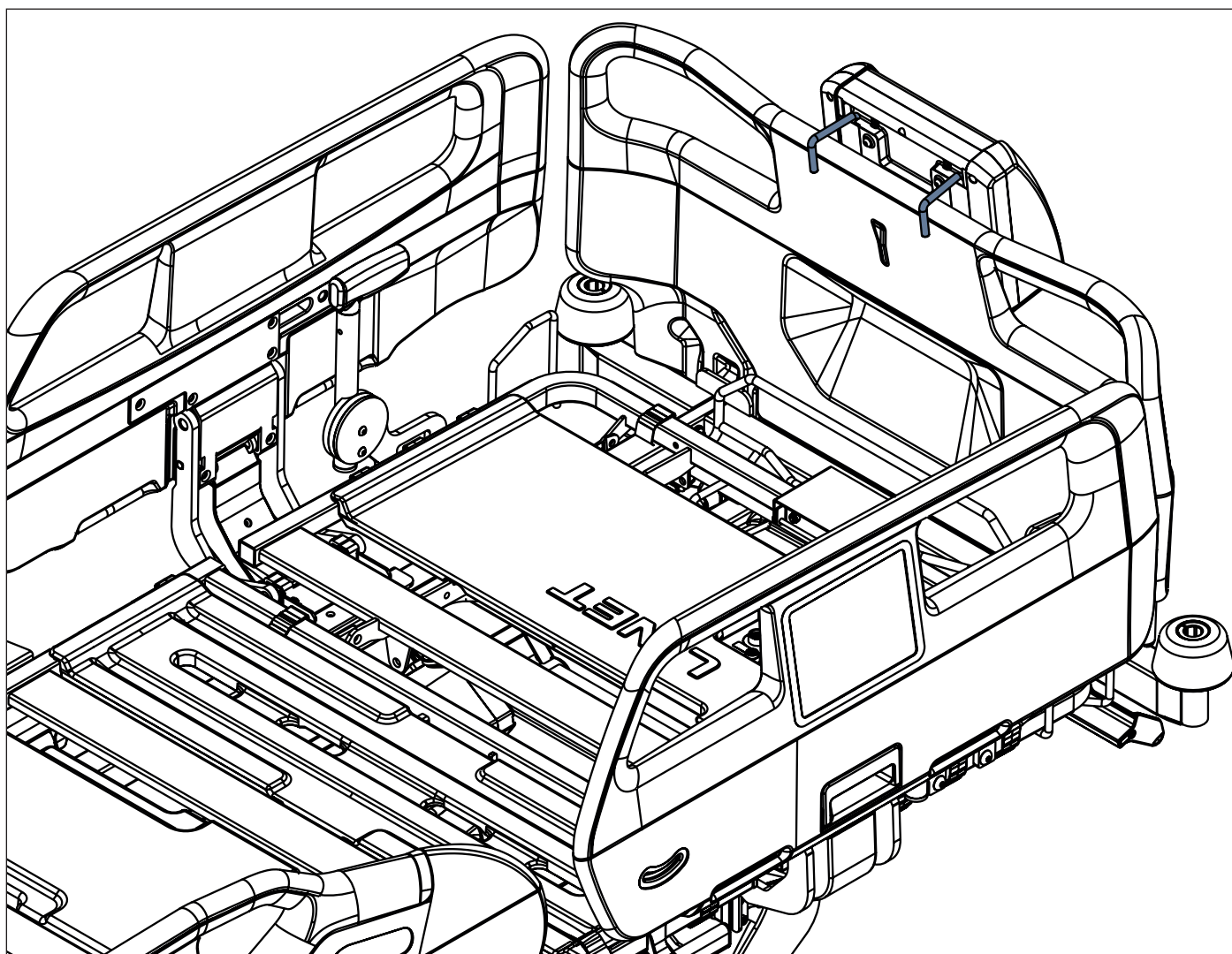


Fig. Compressor on the Foot Board of the Essenza 300 bed in back view

8.2 Connecting Mattress to the compressor

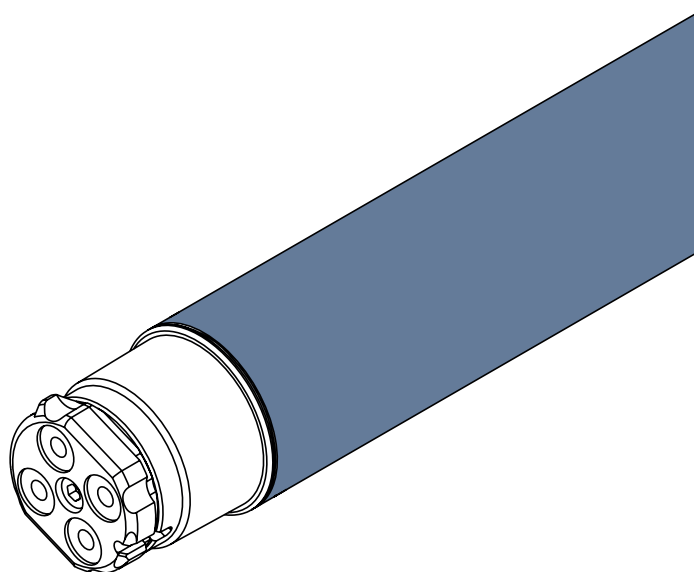
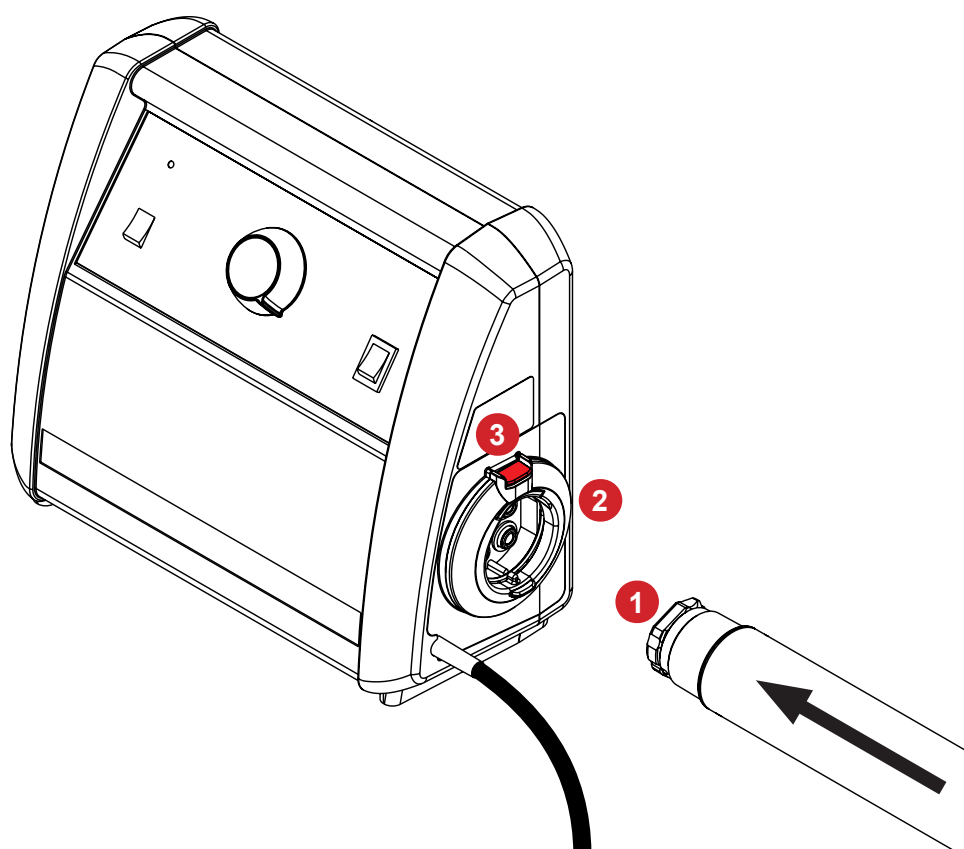


Fig. Air connector at the end of the air hose

Installation:

- Insert air connector **1** in the socket **2** at an angle of approx. 45°.
- Push air connector **1** down until it clicks into place and air connector latch **3** secures the air connector against dropping off.



1. Air connector
2. Compressor air connector socket
3. Air connector latch

Fig. Connecting the mattress air connector to the compressor

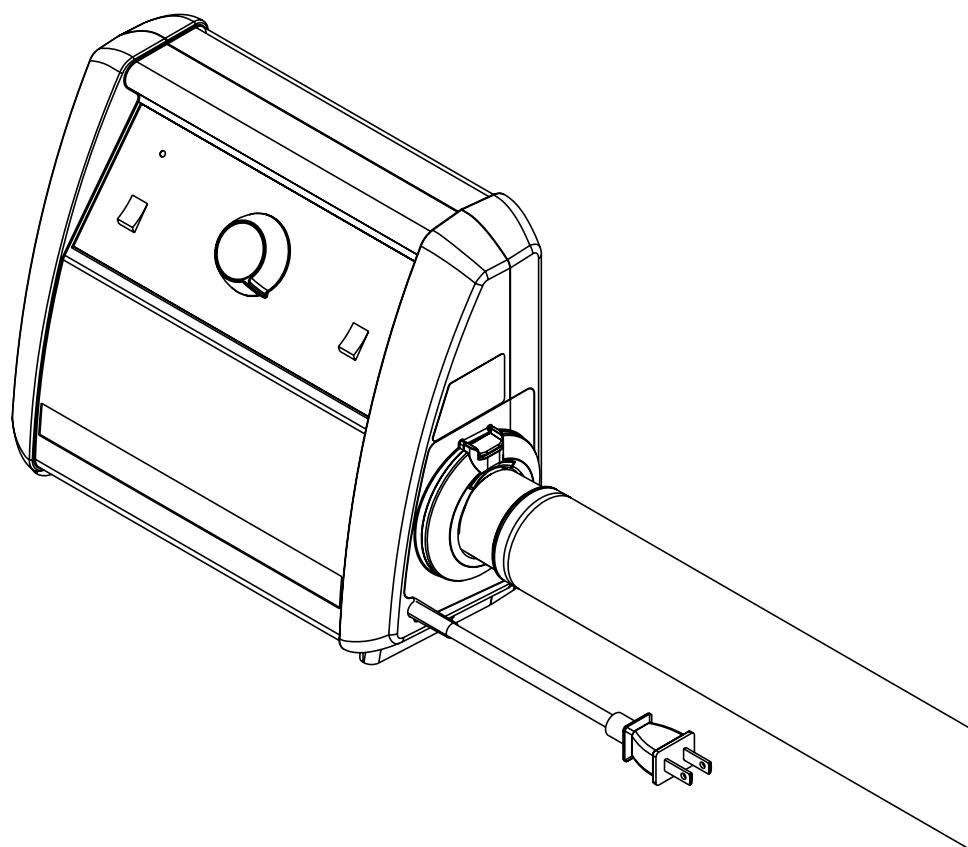


Fig. Air hose connected to the compressor

8.3 Inflation for mattress use in active mode

To prepare the system for mattress inflation:

- ▶ Connect mattress to the compressor using air connector.
- ▶ Ensure that the compressor is not covered and air flow around the compressor is not obstructed in order to avoid overheating.
- ▶ Position the power supply cable so there is no risk of injuring the patient (e.g. choking hazard) or blocking the bed positioning functions. Place power supply cable into the cable loops with toggles on the mattress side.
- ▶ Plug the compressor power supply cable into suitable power socket.

8.3.1 Switching the compressor ON/OFF

To switch ON the compressor:

- ▶ Switch on the compressor using green illuminated power switch on the front of the compressor (see Fig. Switching ON the compressor).

The compressor has been switched ON.

To switch OFF the compressor:

- ▶ Switch off the compressor using green illuminated power switch on the front of the compressor (see Fig. Switching ON the compressor).

- ▶ Disconnect power cable from the power source.

The compressor has been switched OFF.

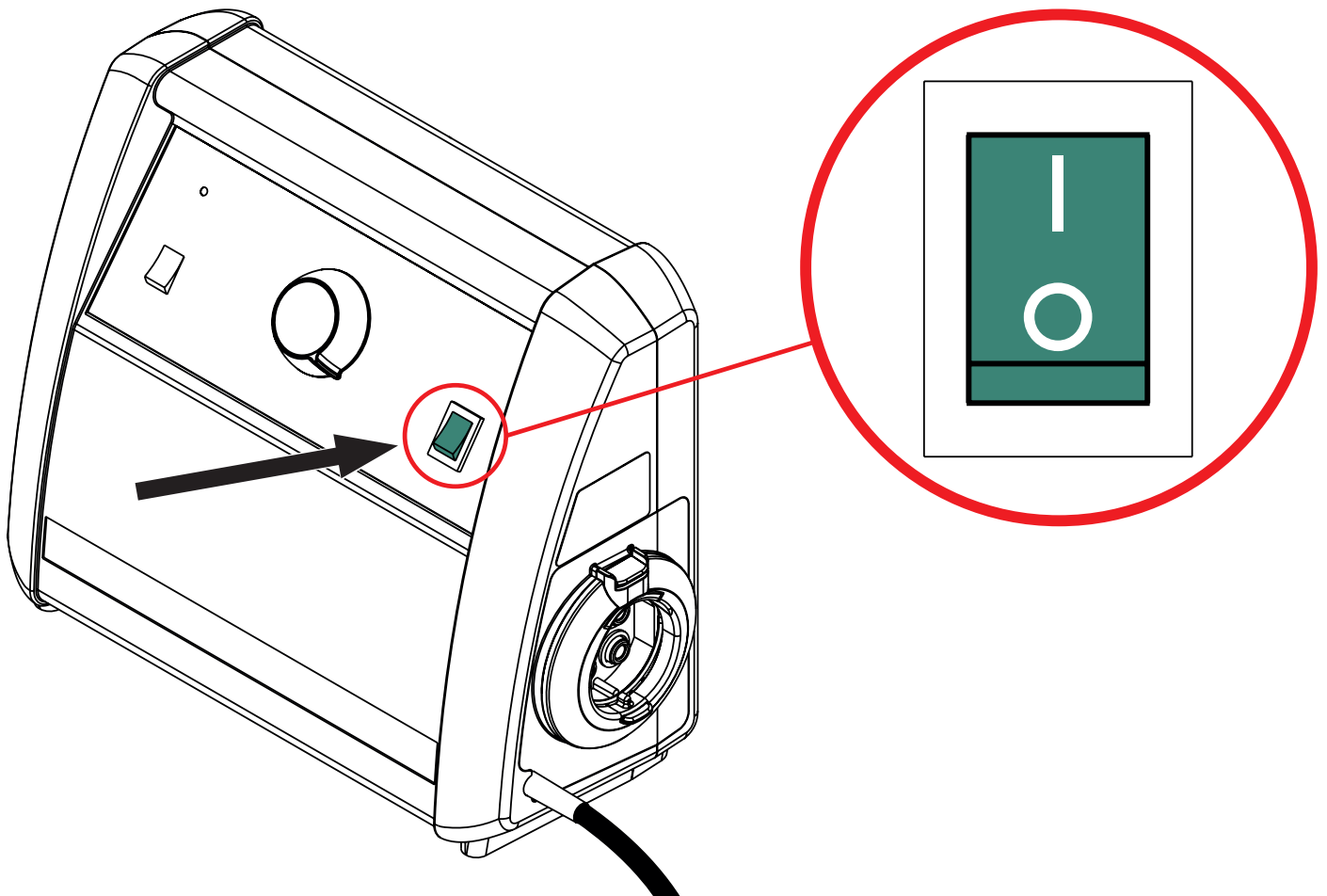


Fig. Switching ON the compressor

8.3.2 Inflation Instructions

Inflation steps:

- ▶ Select required mode (see chapter **Control Panel**).
- ▶ After switching ON the mattress will start to inflate, the  indicator is illuminated during inflation. Set the pressure control dial into middle – green position.
- ▶ Inflation may take up to 10 minutes. When inflation is complete, the  indicator is no longer illuminated.

When the inflation process is finished:

- ▶ Check the mattress is still securely positioned on the mattress platform.

If indicator is illuminated longer than 20 minutes:

- ▶ Check if air hose is connected correctly.
- ▶ Check the meaning of the system error (see **System Faults**).

9 Manipulation

9.1 Use

9.1.1 Preparing the Bed for the Patient



DANGER!

Risk of injury when putting patient into bed with mattress in active mode!

Before putting patient on the bed:

- ▶ Ensure the mattress is fully inflated and placed correctly.
- ▶ Alignment of the bed frame, side rails and the mattress should leave no gap wide enough to entrap a patient's head or body, or to allow egress to occur in a hazardous manner where entanglement with the power cable or air connector may result. Care should be exercised to prevent occurrence of gaps by compression or movement of the mattress. Death or serious injury may occur.



WARNING!

Danger of suffocation due to vapor permeable mattress cover!

- ▶ Use the mattress cover correctly.
- ▶ The nursing staffs are responsible for the safe nursing of the patient on the mattress cover.



CAUTION!

Risk of infection due to lack of cleaning or cover damage!

- ▶ Ensure that no moisture gets into the mattress.
- ▶ Ensure that no body fluids get into the mattress cover.
- ▶ Mattress must be cleaned thoroughly between patients and decontaminated after patients with known or suspected infections.
- ▶ If moisture gets into the system, notify LINET Service department.

Preparation

- ▶ Inflate mattress.
- ▶ Put a sheet loosely on the mattress if not prescribed otherwise by qualified personnel.

NOTE: The air connector on the compressor must be kept uncovered for visibility and access.

NOTE: It is possible to inflate mattress with patient on the mattress.

Putting patient into bed

- ▶ Lay patient on mattress.

For an ideal lying position:

- ▶ If additional blankets or sheets are used, make sure that ease of movement is sufficient.
- ▶ Ensure that blankets, sheets, clothing etc. do not increase risk of pressure injuries (e.g. due to creases, seams etc.).
- ▶ Do not place any additional sheets, blankets, pads etc. between mattress and patient.

9.2 Correct Use of the HybriMatt 200 mattress

Intension	Intended User	Procedure
Decision if HybriMatt system will be used in active mode or passive mode for patient at risk of pressure injury	Caregiver with education in pressure injury prevention	1. Evaluate patient condition and evaluate risk of developing pressure injury according to hospital pressure injury prevention guideline or EPUAP/NPIAP Practice clinical guideline (2019).
Installation of HybriMatt system in active mode	Caregiver	1. Secure correct mattress position. 2. Secure mattress by straps to mattress support platform. 3. Hang the compressor on bed foot board. 4. Connect mattress air hose into the compressor. 5. Place power supply cable into the cable loops with toggles on the mattress side to avoid the tripping hazard! 6. Plug compressor into the mains.
Start of mattress use in active mode	Caregiver	1. Turn on the compressor. 2. Set up pressure mode on compressor to CLP or APT. 3. Set up mattress pressure level by turning pressure control dial to green zone. 4. Use pressure control dial to adjust mattress pressure for patient comfort.
Installation and start of HybriMatt system in passive mode	Caregiver, technical personnel	1. Secure correct mattress position. 2. Secure mattress by straps to mattress support platform. 3. Fold mattress air hose between the mattress and bed foot board.
Putting patient on mattress	Caregiver	1. Extend the bed if patient is too tall. 2. Place a compatible Mattress Foam Extension in front of the mattress head end on the bed Backrest. 3. Ensure patient is correctly positioned on the mattress.
Change from active mattress mode to passive mattress mode	Caregiver	1. Turn off the compressor. 2. Unplug the compressor from the mains. 3. Unplug the mattress air hose from the compressor. 4. Fold mattress air hose between the mattress and bed foot board. 5. Remove the compressor from the foot board.
Change from passive mattress mode to active mattress mode	Caregiver	1. Hang the compressor on bed foot board. 2. Take mattress air hose out from the space between the mattress and bed foot board. 3. Plug mattress air hose into the compressor. 4. Plug the compressor into the mains. 5. Turn on the compressor. 6. Set up pressure mode on the compressor to CLP or APT. 7. Set up mattress pressure level by turning pressure control dial to green zone. 8. Use pressure control dial to adjust mattress pressure for patient comfort.
Change of mattress pressure mode	Caregiver	If mattress is in active mode and patient is in bed: 1. Change pressure mode to CLP or APT via Mode selection switch on the Compressor Control Panel. and/or 2. Set up mattress pressure level by turning pressure control dial to green zone. 3. Use pressure control dial to adjust mattress pressure for patient comfort.

Intension	Intended User	Procedure
Transport	Caregiver, technical personnel	1. Turn off the compressor. 2. Unplug the compressor from the mains. 3. Unplug the mattress air hose from the compressor. 4. Fold mattress air hose between the mattress and bed foot board. 5. Remove the compressor from the bed foot board.
CPR	Caregiver	1. Unplug the mattress air hose from the compressor to release air from the mattress. Follow your hospital guideline and policy for CPR of patient on hybrid or passive mattress.
Cell exchange	Technical personnel who is trained to service HybriMatt system	1. Turn off the compressor. 2. Lower the bed siderails. 3. Unzip the mattress cover completely. 3a. Unzip the X-ray Sleeve on both mattress sides by 2 opposite zips from base mattress cover if the cell to be exchanged is underneath. 4. Remove foam frame placed around mattress cells. 5. Detach air tubing from the mattress cell via quick release connector. 6. Remove the cell from cell holder and replace it with a new compatible cell. 7. Attach air tubing to the new mattress cell via quick release connector. 8. Place the foam frame around mattress cells. Slope foam should be placed under the patient's feet. 8a. Zip the X-ray Sleeve on both mattress sides by 2 opposite zips. 9. Zip the mattress cover again. 10. Ensure the mattress is secured by straps to mattress support platform. 11. Turn on the compressor.
Mattress Top Cover Replacement	Caregiver, technical personnel	1. Turn off the compressor. 2. Lower the bed siderails. 3. Unzip mattress cover completely. 4. Unplug microclimate connector at the mattress foot end. 5. Unzip mattress viscoelastic foam layer on the both sides of the mattress top cover. 6. Zip the new mattress viscoelastic foam layer to the new mattress top cover. Microclimate layer must be placed on the top of the mattress viscoelastic foam layer. 7. Connect microclimate hose via quick release connector. 8. Zip the mattress cover. 9. Ensure the mattress is secured by straps to mattress support platform. 10. Plug mattress air hose into the compressor. 11. Turn on the compressor.

Intension	Intended User	Procedure
Cleaning	Caregiver, technical personnel	1. Turn off the compressor. 2. Lower the bed siderails. 3. Clean the outside of the mattress. 4. Unzip the mattress top cover and also pocket containing the viscoelastic foam layer and inspect the top cover for staining. If stained or penetrated, replace the top cover. 5. Inspect the viscoelastic foam layer for staining. If stained, replace the viscoelastic foam layer. 6. Check the other components inside the mattress for staining. Clean and replace them as necessary. 7. Access the X-ray Sleeve by unzipping it from the mattress base cover. 8. Check the X-ray Sleeve for staining and clean and disinfect it as required. NOTE: X-ray Sleeve is not washable! 9. Zip the X-ray Sleeve back to mattress base cover or replace it as required. 10. Once all parts have been inspected and cleaned, zip up the layers and top cover and reconnect the mattress to the compressor as required.
Use of the optional X-ray Sleeve	Caregivers, radiologists	1. Unzip the X-ray Sleeve on any side of the mattress. 2. Insert X-ray cassette underneath the patient and capture required image. 3. Remove the X-ray cassette from the X-ray Sleeve after image was taken. 4. Zip up the X-ray Sleeve. NOTE: To obtain a clearer image it is recommended that the compressor is turned off.
Removing or adding the X-ray Sleeve	Caregivers, radiologists	1. Unzip the X-ray Sleeve on both sides of the mattress base cover. 2. Zippers are accessible from the inside of the X-ray Sleeve. 3. Remove the X-ray Sleeve from the mattress. 4. To reinsert the X-ray Sleeve, zip it back into the mattress cover.
Mattress Viscoelastic foam Layer Replacement	Caregiver, technical personnel	1. Turn off the compressor. 2. Lower the bed siderails. 3. Unzip the mattress cover completely. 4. Unplug microclimate connector at the mattress foot end. 5. Unzip mattress viscoelastic foam layer on the both sides of the mattress top cover. 6. Remove the mattress viscoelastic foam layer. 7. Zip the new mattress viscoelastic foam layer on the both sides of the mattress top cover. Microclimate layer must be placed on the top of the mattress viscoelastic foam layer, closer to the mattress head end. 8. Connect microclimate hose via quick release connector. 9. Zip the mattress cover. 10. Ensure the mattress is secured by straps to mattress support platform. 11. Turn on the compressor.

Intension	Intended User	Procedure
Mattress Cover Replacement	Technical personnel who is trained to service HybriMatt system	1. Turn off the compressor. 2. Disconnect the mattress air hose from the compressor. 3. Unstrap mattress from the mattress support platform. 4. Remove the power supply cable from the cable loops with toggles on the mattress side. 5. Unzip mattress cover completely. 6. Unplug microclimate connector at the mattress foot end. 7. Unzip mattress viscoelastic foam layer on the both sides of the mattress top cover. 7a. Unzip the X-ray Sleeve on both mattress sides by 2 opposite zips from base mattress cover. 8. Remove foam frame placed around mattress cells. 9. Detach cells from the base mattress cover by toggles at first cell, fifth cell and eighth cell if the cell order is counted from the mattress head end. Detach cells from the base mattress cover by toggles at first cell, fourth cell and eighth cell if the cell order is counted from the mattress foot end. 10. Pull mattress air hose through the mattress cover. 10a. It is possible to remove mattress cover from mattress air hose by zip. 11. Unzip a new mattress cover completely and put the base mattress cover on the bed mattress support platform. The part of the base mattress cover where the air hose entrance is located must be oriented towards bed foot board. 12. Place cells with air tubing on the base mattress cover. 13. Pull mattress air hose through the mattress cover. 13a. Replace the mattress air hose cover. 14. Attach first cell, fifth cell and eighth cell to the base mattress cover by toggles if the cell order is counted from the mattress head end. Attach first cell, fourth cell and eighth cell to the base mattress cover by toggles if the cell order is counted from the mattress foot end. 15. Place the foam frame around mattress cells. Slope foam should be placed under the patient's feet. 15a. Zip the X-ray Sleeve on both mattress sides by 2 opposite zips. 16. Zip the new mattress viscoelastic foam layer on the both sides of the mattress top cover. Microclimate layer must be placed on the top of the mattress viscoelastic foam layer, closer to the mattress head end. 17. Connect microclimate hose via quick release connector. 18. Zip the mattress cover. 19. Secure mattress by straps to mattress support platform. 20. Connect the mattress air hose to the compressor. 21. Place power supply cable into the cable loops with toggles on the mattress side to avoid the tripping hazard! 22. Fold mattress air hose between the mattress and the bed foot board. 23. Turn on the compressor.

9.3 Control Panel

The control panel of the compressor serves to control the mattress replacement system and shows errors. Warnings are signaled by illumination of the indicator **3**.

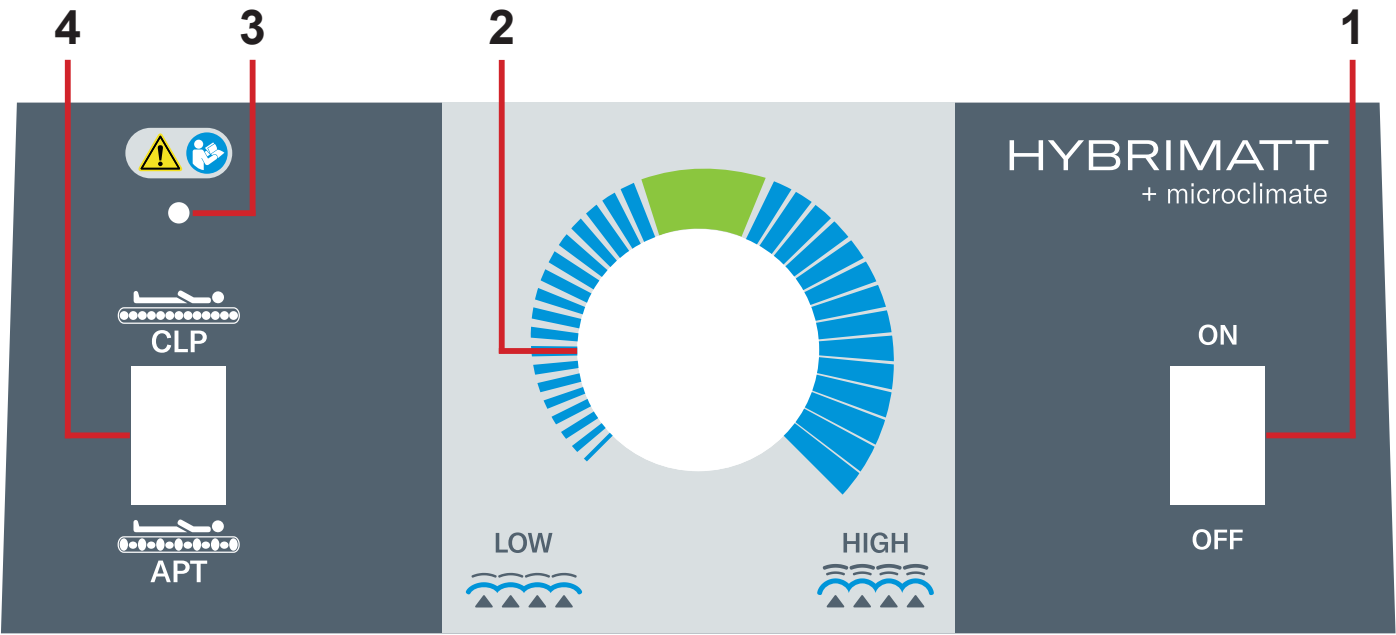


Fig. Compressor Control Panel – HybriMatt with MCM mode

Position	Description	Function
1	Power switch	I : ON O : OFF
2	Pressure control dial	Adjusting the mattress pressure for more comfort or support of the patient HIGH : High pressure LOW : Low pressure
3	Low pressure indicator	Indicates low pressure in the mattress (see System Faults).
4	Mode selection switch	CLP : Fully inflated mattress. CLP mode with Micro-Climate Maintenance. APT : Alternating pressure therapy. Dynamic mode with Micro-Climate Maintenance.

9.4 Pressure Control



WARNING!

Risk of injury due to incorrect pressure setting!

- ▶ Consult qualified hospital staff prior to adjusting pressure.
- ▶ The recommended pressure levels may not be the optimum for all situations but should be used in conjunction with clinical judgement based on the individual patient; e.g. weight, weight distribution, position and comfort needs.
- ▶ Always make sure the patient is not lying directly on the foam base or bed frame.

9.4.1 Mattress Pressure Settings

The pressure control dial allows the nursing staff to adjust the pressure for patient's comfort.

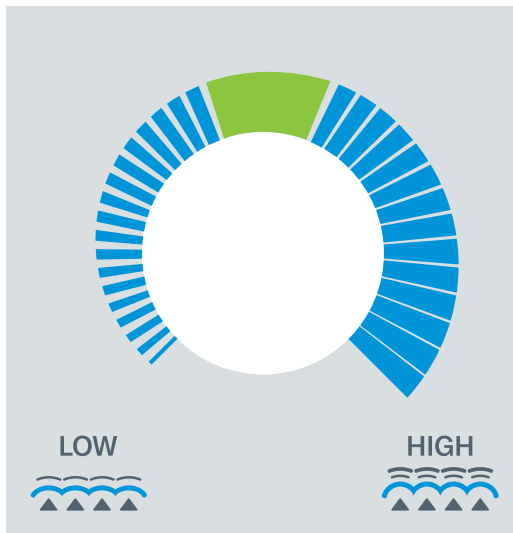


Fig. Pressure levels control

Select pressure with the mattress fully inflated using APT or CLP mode as follows:

- ▶ Select the required operating mode.
- ▶ Set the pressure control dial vertical, pointing into the center of the green section (top non-striped section) of the dial.
- ▶ Lay the patient on the mattress.
- ▶ Wait at least 6 minutes while the pump adjusts the pressures.
- ▶ If the support level is ok but the patient needs greater comfort then the pressure level can be changed by turning the pressure control dial.

9.4.2 Pressure Settings – Changes in Patient's Position in the APT Mode

When a patient is lying down, their body weight is supported over the full length of the mattress. While sitting up the weight is concentrated on a smaller area and they may need more support.

Select pressure as follows:

- ▶ If the patient is in seated position it is recommended, in order to maximize the benefit of the mattress, to repeat select pressure instructions from chapter "Pressure Settings – Mattress".

NOTE: Take note of the pressure setting that was being used when patient was lying so that it can be reset to the same level when patient lies down.

9.5 CLP Mode

CLP mode creates firmer mattress surface and it relates only to patient comfort.

When CLP mode is selected:

The compressor will inflate the 8 air cells under the patients torso to the same pressure.

9.6 APT Mode

The APT mode of the HybriMatt 200 mattress is a 2-cell alternating system with a 12 minute cycle time. This cycle offers periodic pressure relief and reduces peak pressures.

When APT mode is selected:

- 2 mattress cells will inflate and deflate in cycles of 12 minutes.

9.7 CPR Mode (Cardiopulmonary Resuscitation Mode)

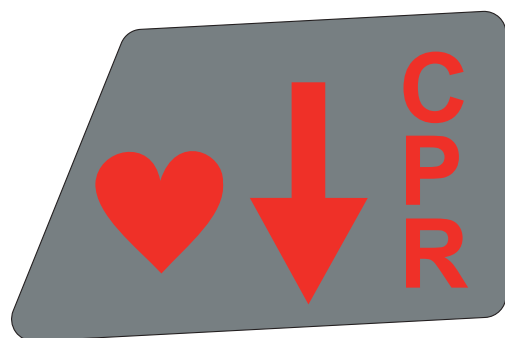


Fig. CPR Function

Before starting CPR with the compressor connected:

- ▶ Remove air connector plug from the compressor.
- ▶ Mattress starts to deflate and resuscitation procedure can commence.

9.8 Power Failure



WARNING!

Risk of injury due to power failure!

- ▶ Seek clinical advice immediately as alternating pressure therapy is not possible during power failures.

In case of power failure the mattress will return to reactive only operation. If the air connectors and the compressor are left attached, the mattress will remain inflated for at least 12 hours. No active modes are available without power.

9.9 System Faults

System faults are indicated by the amber light on the compressor.

NOTE: During initial inflation the low pressure indication will come on until the mattress has achieved its minimum pressure. This does not mean there is a fault unless the indicator has been on for more than 20 minutes after a power cycle.

HybriMatt compressor	
Meaning	Indicator
Low pressure	Low pressure indicator is illuminated.
Power failure	Power switch is not illuminated.

10 HybriMatt 200 Mattress



DANGER!
Risk of injury due to incorrect use!
► **Ensure the mattress is clinically suitable for the patient if it is used without compressor! HybriMatt 200 mattress is necessary for full range of HybriMatt Hybrid Mattress Replacement System functions!**

HybriMatt 200 is a hybrid mattress replacement system consisting of a hybrid mattress and a compressor. The system can be used in a passive configuration without the compressor or in an active configuration when connected to the compressor. HybriMatt 200 mattress is a hybrid foam mattress including a 2-cell alternating system. Cells are connected into two groups for pressure distribution. Air tubes inside the mattress are separate for these two groups. Cells also include pressure valve to gain pressure from atmosphere when needed. The mattress can be connected to compressor thanks to outer valves. Separate mattress without connected compressor redistributes the pressure according to patient's position and movement. When the compressor is connected the mattress provides CLP mode or APT mode. MCM mode accompanies both these active mattress modes. Inside the mattress there is foam with different densities. On the top of mattress there is viscoelastic foam. Inside the cells there is PU foam. The pressure delivered by compressor can be adjusted by controller.

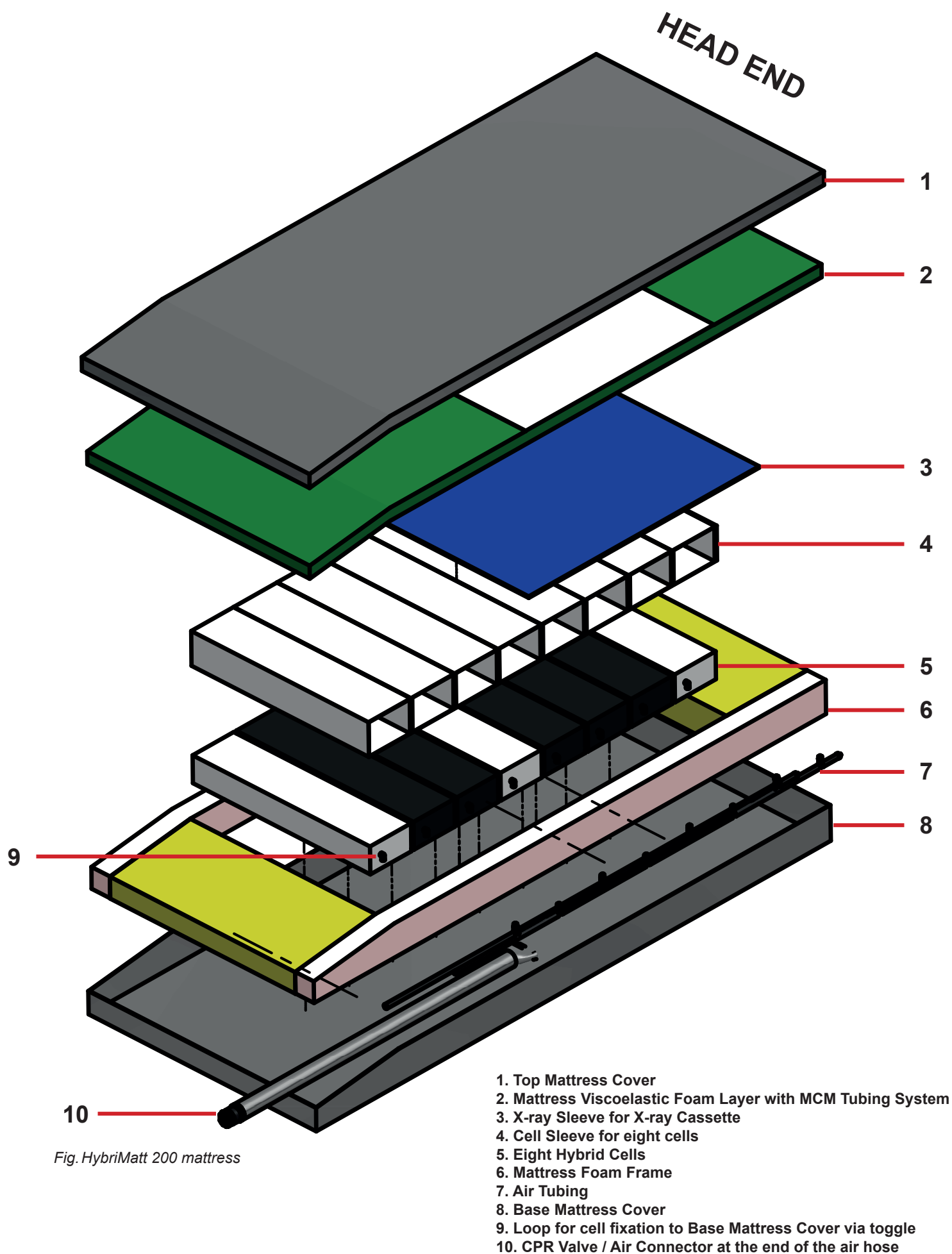


Fig. HybriMatt 200 mattress

Mattress Cover consists of the Top Mattress Cover and the Base Mattress Cover. Both parts of the Mattress Cover are connected by zip. The other zips on both mattress sides are intended for entering the X-ray Sleeve.

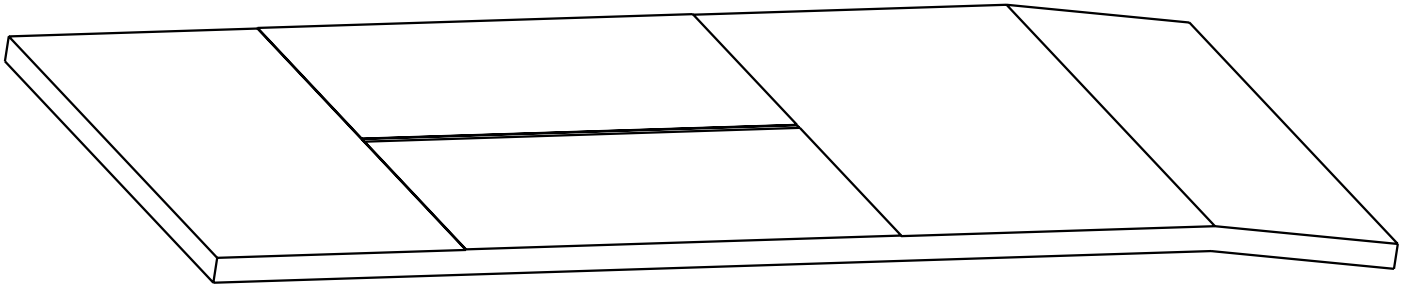


Fig. Mattress Viscoelastic foam Layer

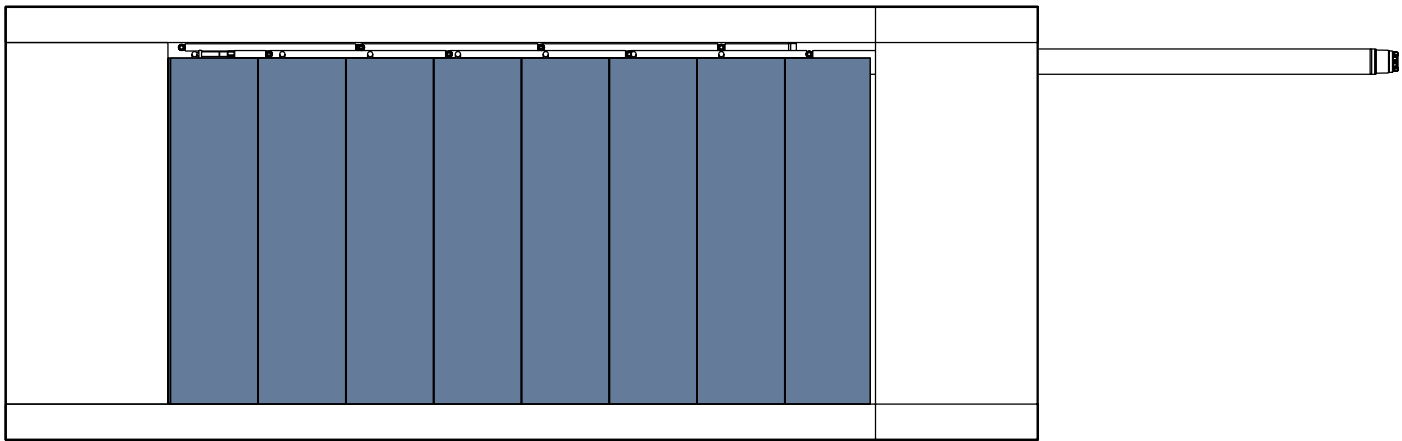


Fig. Mattress Structure with highlighted Cell Sleeve with eight cells

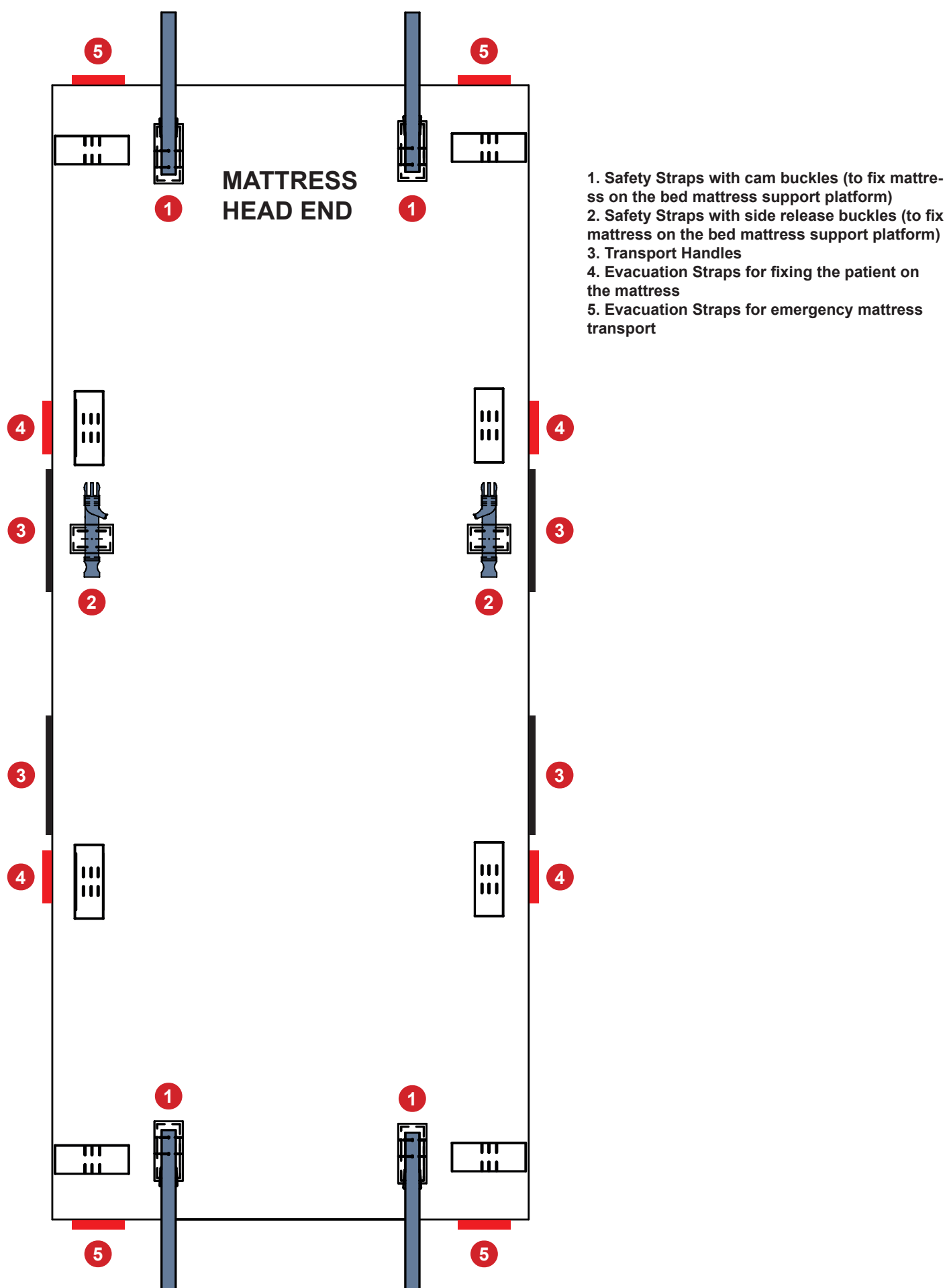


Fig. Description of HybriMatt 200 mattress bottom side

To fix the safety strap with cam buckle:

- ▶ Loop black strap around metal bed frame and feed it back through the plastic clip.

To release the safety strap with cam buckle:

- ▶ Pull loose end of strap upward to release clip.

To fix the safety straps with side release buckles:

- ▶ Lock the side release buckle by connecting its male and female part together.

To release the safety straps with side release buckles:

- ▶ Release the buckle by pressing it from both sides and by disconnecting its male and female part.

To use evacuation straps for fixing patient on the mattress:

- ▶ Get the red evacuation straps out of the mattress sides.
- ▶ Connect the opposite red evacuation straps. Lock the side release buckle by connecting its male and female part together.

To use evacuation straps for emergency mattress transport:

- ▶ Get the red evacuation strap out of the mattress head end or mattress foot end.
- ▶ Hold the red evacuation strap and pull the mattress out of danger.

10.9.1 Micro-Climate Maintenance (MCM)

Micro-Climate Maintenance Mode that supports pressure injury prevention is available for HybriMatt 200 mattress. The HybriMatt Compressor delivers air by hoses that run up the inside of the mattress into a white pocket. This allows the air to flow through the top cover underneath the patient.

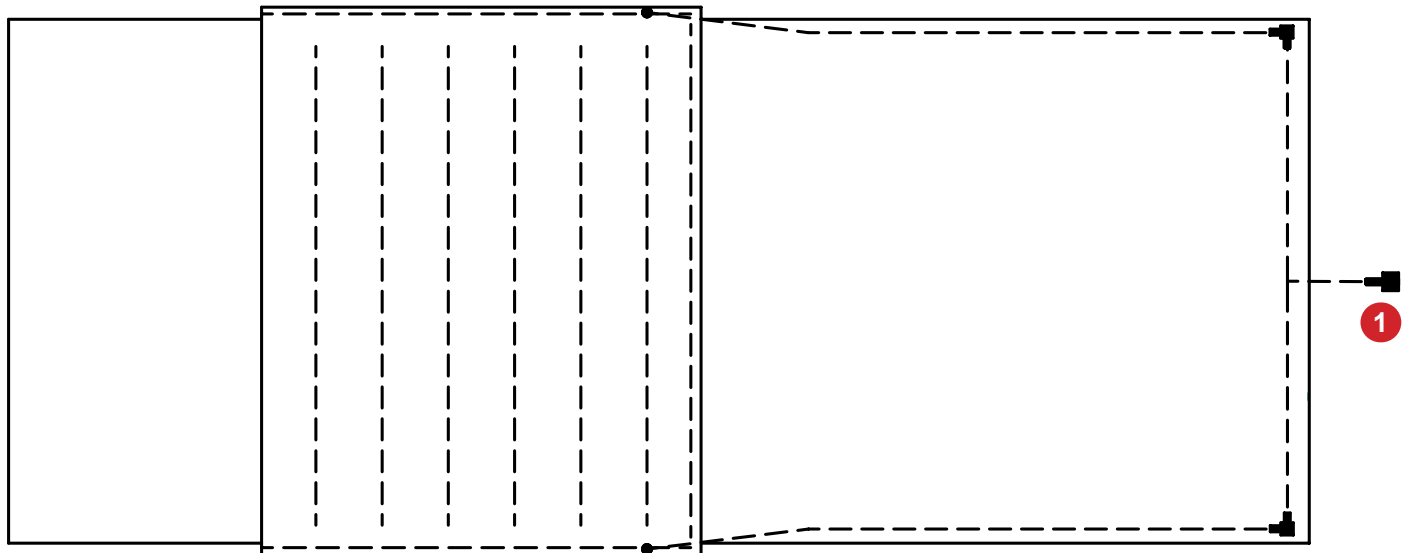


Fig. MCM Tubing

1. MCM quick release connector

10.9.2 X-ray Sleeve (option)



WARNING!

Risk of x-ray image misinterpretation due to its deterioration!

- ▶ Ensure the body part to be x-rayed is accessible via the X-ray Sleeve! See the following picture.
- ▶ Ensure the distance between a lying patient and an inserted compatible x-ray cassette is not increased unnecessarily. A too much thick mattress or a combination of mattresses could cause that undesirable state. Ensure the x-ray cassette is not placed outside the X-ray Sleeve and that there is no bulky bedding or other materials (e.g. pillows) under the patient as this could affect x-ray image quality!
- ▶ Ensure there are no added x-ray contrast materials between patient and the inserted x-ray cassette. There are no x-ray contrast materials in the place of the X-ray Sleeve.
- ▶ Only take x-ray images when the bed is braked and no part of the bed is forced to move or the mattress is not forced to move considerably!



WARNING!

Risk of worsening patient's spinal injury!

- ▶ The use of the X-ray Sleeve must be preceded by an evaluation of the patient's condition by the clinical staff. This evaluation must take into account all risks resulting from the physical and mental state of the patient.



CAUTION!

Risk of damaging a compatible x-ray cassette!

- ▶ Do not leave any x-ray cassette in the X-ray Sleeve if x-ray examination should not be performed immediately!



CAUTION!

Risk of damaging the X-ray Sleeve due to incorrect cleaning!

- ▶ Check regularly whether the X-ray Sleeve is dirty due to liquids flowing inwards.
- ▶ If it is not feasible to clean the X-ray Sleeve correctly, the X-ray Sleeve should be replaced.



CAUTION!

It is forbidden to wash the X-ray Sleeve in the washing machine!

HybriMatt 200 mattress covers could be equipped with the X-ray Sleeve.

The X-ray Sleeve is accessible from the left side and from the right side of the compatible HybriMatt 200 mattress.

The X-ray Sleeve is connected to the mattress cover by zip so it can be removed from the mattress cover when it is completely unzipped.

The X-ray Sleeve is intended for a cassette needed for the x-ray examinations of patients while they are lying on the HybriMatt 200 mattress.

It is not possible to perform the x-ray examinations via the X-ray Sleeve in the extent of the whole mattress support platform.

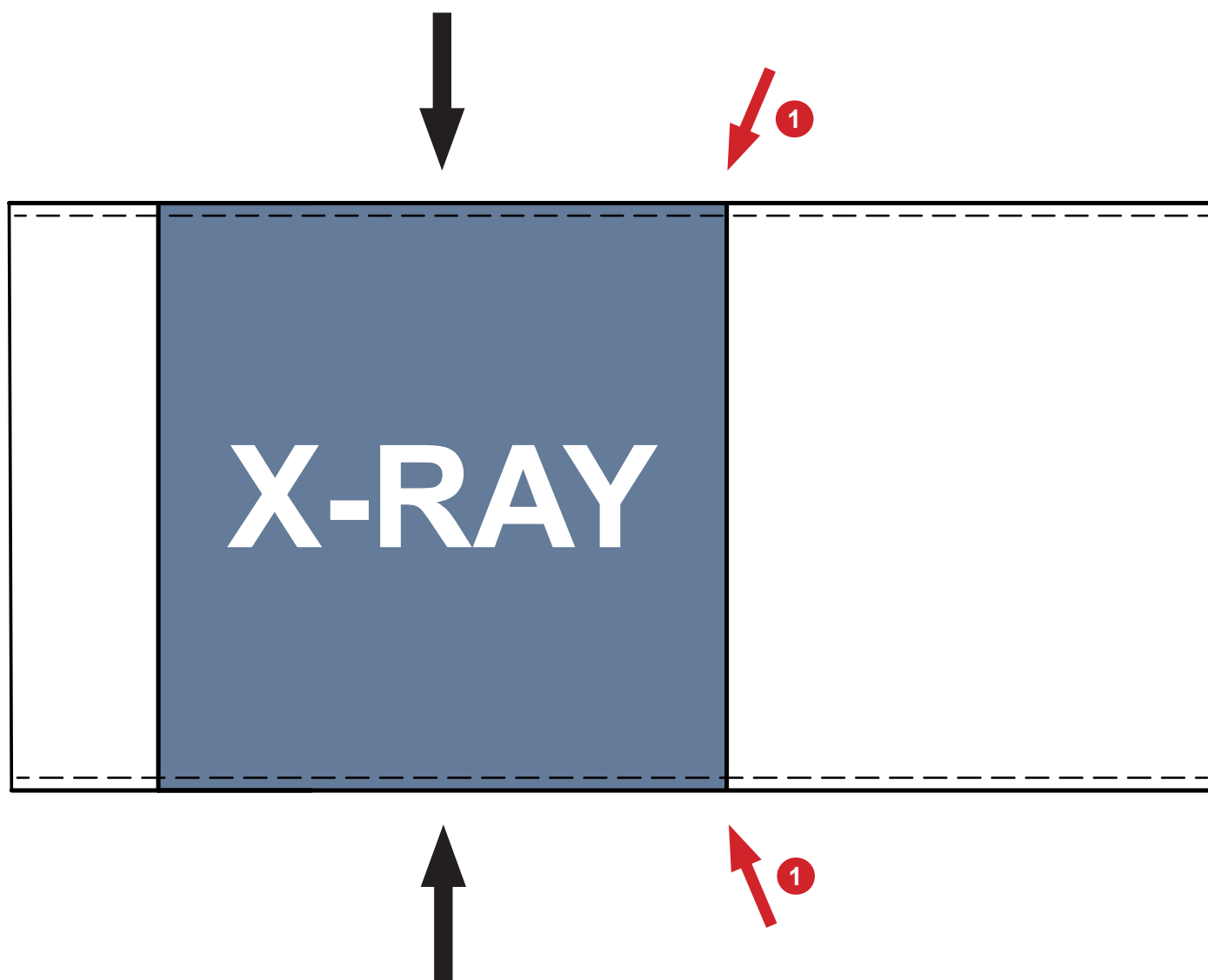


Fig. Access to the X-ray Sleeve



Fig. Red X-ray tag

1. X-ray tag on the zip pull (unzip to open the X-ray Sleeve)

To use the X-ray Sleeve:

1. Unzip the X-ray Sleeve on any side of the mattress.
2. Insert X-ray cassette underneath the patient and capture required image.
3. Remove the X-ray cassette from the X-ray Sleeve after image was taken.
4. Zip up the X-ray Sleeve.

NOTE: To obtain a clearer image it is recommended that the compressor is turned off.

11 Cleaning and Disinfection



WARNING!

Risk of infection due to incorrect cleaning and disinfection!

- ▶ Ensure the mattress and compressor are correctly cleaned and correctly disinfected as it is necessary for safe use of the mattress system together with the concrete patient!
- ▶ Ensure the mattress and compressor are used with correctly cleaned and correctly disinfected accessories!



CAUTION!

Incorrect cleaning/disinfection can damage the mattress and the compressor!

- ▶ Do not use pressure or steam cleaners.
- ▶ Follow the instructions and observe the dosages recommended by the manufacturer.
- ▶ Ensure that disinfectants are selected and applied by qualified hygiene experts only.
- ▶ Continued use of high concentration, chlorine-based disinfectants may significantly reduce the performance and the working life of a coated material.
- ▶ The compressor is not sealed against fluid ingress so care must be taken to ensure that no fluid enters the compressor during cleaning.

11.1 General Guidance

For safe and gentle cleaning:

- ▶ Disconnect the compressor from mains.
- ▶ Do not use any strong acids or alkalines, (optimum pH range 6 – 8. Do not exceed pH of 9).
- ▶ Only use detergents that are suitable for cleaning medical equipment non-hard surfaces and textiles.
- ▶ Do not use abrasive powders, steel wool, or other material and cleaning agents that might damage the mattress. Do not scrub mattress surface.
- ▶ Never use any corrosive or caustic detergents.
- ▶ Never use detergents that deposit calcium carbonate.
- ▶ Never use detergents with solvents that might affect the structure and consistency of the plastics (benzene, toluene, acetone, alcohol etc.).
- ▶ Use only hospital-approved cleaners and observe local directives concerning infection control.
- ▶ Always rinse with water (except the compressor) after cleaning and dry thoroughly before use.
- ▶ Clean electrical components carefully and allow them to dry fully. It is recommended to use the cleaning wipes.
- ▶ Neither immerse the compressor in water nor heat or steam-clean it.
- ▶ Observe local directives concerning infection control.

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

As stated above, after application of a suitable cleaner, the surface must be rinsed with water and dried before use. (Even if the cleaner instructions say that this is not required). This prevents a build up of chemicals on the mattress surface which could be reactivated during use and affect biocompatibility.

Type of Cleaning	Parts to be cleaned
Routine Cleaning and Disinfection	■ exposed mattress parts ■ exposed parts of the compressor
Full Cleaning and Disinfection	■ exposed mattress parts ■ exposed parts of the compressor

11.2 Routine Cleaning and Disinfection

Read section “General Guidance” for more details of the recommended cleaning and disinfection processes.

Cleaning the mattress:

► Check mattress cover top for any signs of damage or for liquid ingress. Any fluid contamination inside the mattress means the entire mattress must be replaced.

Replace or repair and completely disinfect mattress cover top if damaged.

- Leave mattress cover on mattress.
- Clean with 50°C warm water and cleaning detergent.
- Rinse mattress with cold water.
- Let mattress air dry or wipe dry.
- Wipe mattress with disinfectant.
- Wipe mattress with cold water.
- Let mattress air dry or wipe dry.

Cleaning the compressor:

- Before cleaning of the compressor, cover the air connector in order to prevent anything from penetrating into the air connector during cleaning.
- Wipe the compressor with disinfectant. Wipe the compressor with cold water. It is recommended to use the cleaning wipes.
- Let the compressor air dry or wipe dry.

11.3 Full Cleaning and Disinfection



CAUTION!

Incorrect cleaning/disinfection can damage the system!

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

11.3.1 Cleaning Top Cover and/or Base Cover

Read section “General Guidance” for more details of the recommended cleaning and disinfection processes.

Use standard hospital detergents, Alcohol-based cleaners or Quaternary Ammonium based disinfectants. Concentrations of 10,000ppm (1%) Chlorine (1:5 dilution of household chlorine bleach) can be used in the case of the ENDURANCE cover, ZONED cover and MICROCLIMATE cover.

After application of a suitable cleaner, the surface should be rinsed with water and dried before use. (Even if the cleaner instructions say that this is not required). This prevents a build up of chemicals on the mattress surface that could reactivate during use and affect biocompatibility.

Cleaning the mattress (exterior):

- Disconnect mattress from the compressor.
- Check mattress cover top and base for any signs of damage.

Replace or repair and completely disinfect mattress cover top and base if damaged. If there are any signs of fluid ingress through a damaged cover then all foam mattress parts must be disposed of as clinical waste and replaced with new original supplier spare parts.

- Rinse mattress with cold water.
- Let mattress air dry or wipe dry.
- Wipe mattress with disinfectant.
- Wipe mattress with cold water.
- Let mattress air dry or wipe dry.

DO NOT ATTEMPT TO DISMANTLE OR CLEAN THE INTERIOR COMPONENTS OF THE MATTRESS!

NOTE: Mattress should not be used for 30 minutes after drying to allow fabric coating to recover before use.

11.3.2 Machine washing of HybriMatt removable mattress cover

- ▶ Remove the mattress top cover.
- ▶ DO NOT ATTEMPT TO DISMANTLE OR CLEAN THE INTERIOR COMPONENTS OF THE MATTRESS.
- ▶ Fully open the zipper in the white fabric to open the air space envelope.
- ▶ To wash the mattress top cover or mattress base cover in the hospital approved washing machine, maintain a maximum temperature of 71°C/160°F for up to 3 minutes during the wash cycle while using hospital approved detergents and rinsing agents. Recommended washing temperature is 60°C/140°F during the whole wash cycle.
- ▶ Dry the mattress cover in tumble dryer at low temperature. Fill only 80% of the dryer capacity. Do not overload the dryer, otherwise covers will not dry.
- ▶ Fully close the zipper in the white fabric.

11.3.3 Cleaning the Air Hose

- ▶ Wipe air pipe cover and exposed pipes with cleaning agent or disinfectant.
- ▶ Let air pipe dry.
- or-
- ▶ Remove the air pipe cover and clean it as stated above (for the top mattress cover see chapter Machine washing of HybriMatt removable top mattress cover), if full disinfection is required.
- ▶ Clean the pipes in general accordance with chapter Cleaning Top and/or Base Cover.
- ▶ Let air pipe dry.

11.3.4 Cleaning the compressor (and filter replacement)

- ▶ Remove filter.
- ▶ Before cleaning of the compressor, cover the air connector in order to prevent anything from penetrating into the air connector during cleaning.
- ▶ Replace the filter with the new one.
- ▶ Wipe the compressor with disinfectant. Wipe the compressor with cold water. It is recommended to use the cleaning wipes.
- ▶ Let the compressor dry.

12 Troubleshooting



DANGER!

Risk of mortal injury due to electric shock!

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

Problem with HybriMatt compressor	Symptom	Action
Power failure (compressor will not turn on) OR Power failure during use	Power switch is not illuminated.	1) Check that the Power switch on the compressor is in the ON (I) position. 2) Check the compressor is connected to an electrical wall socket. 3) Check the wall socket switch is in correct ON position (if present). 4) Check the wall socket is powered from electricity (by different appliance). If fault re-occurs turn off the compressor and immediately call your local approved service provider. Patient must be transferred onto a working system while waiting for the service!
Light in power switch has failed	Power switch is not illuminated but the compressor is running normally.	Power switch needs to be replaced by an authorized service engineer.
Fail to inflate the mattress OR Soft mattress	Low pressure indicator is ON. NOTE: During initial inflation the Low pressure indication will become ON until the mattress has achieved its minimum pressure. This does not mean there is a fault unless the indicator has been ON for more than 20 minutes after a power is ON.	1) Check inflation if the mattress air hose is connected to the compressor. 2) Check that the mattress has been rolled out flat and air hoses are not twisted or trapped in any part of the bed mattress support platform. 3) Open the mattress cover and check that no air hoses are damaged or disconnected. 4) Slightly increase the pressure setting and see if problem stops. If fault re-occurs turn off the compressor and immediately call your local approved service provider. Patient must be transferred onto a working system while waiting for the service!

Problem with HybriMatt compressor	Symptom	Action
No pressure alternating available	Air cells are not alternating in APT mode.	1) Check inflation if the mattress air hose is connected to the compressor. 2) Check that the mattress has been rolled out flat and air hoses are not twisted or trapped in any part of the bed mattress support platform. 3) Open the mattress cover and check that no air hoses are damaged or disconnected. 4) Slightly increase the pressure setting and see if problem stops. If fault re-occurs turn off the compressor and immediately call your local approved service provider. Immediately consult a suitable clinician to confirm if the patient must be transferred onto a working system while waiting for the service!
Hard mattress	Air cells are very hard.	1) Check that the mattress has been rolled out flat and air hoses are not twisted or trapped in any part of the bed mattress support platform. 2) Open the mattress cover and check that no air hoses are damaged or blocked. 3) Slightly decrease the pressure setting and see if problem stops.

13 Maintenance



WARNING!

Risk of injury when working on the mattress replacement system!

- ▶ Ensure that the mattress replacement system is disconnected from the mains power prior to installation, putting into service, maintenance and deinstallation.



WARNING!

Risk of injury due to defective mattress replacement system!

- ▶ Have a defective mattress replacement system repaired immediately.
- ▶ If the defect cannot be repaired, do not use the mattress replacement system.



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 mattress replacement system.

13.1 Regular maintenance

- ▶ 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 inside and outside of mattress and outside of the compressor for mechanical damage and signs of severe wear and tear.
- ▶ Check if mattress and compressor are working properly.
- ▶ Check external air filter in back side of the compressor for dust and dirt. If dust or dirt is visible, replace filter. The filter must be replaced at least once every 6 months.

13.2 Spare Parts

The serial label is located on the compressor and on the mattress. The serial labels contain information for claims and ordering replacement parts.

Information about spare parts is available from:

- Manufacturer's customer service
- Sales department

13.3 Electrical Safety Check and Preventive Maintenance

13.3.1 Electrical Safety Check

**WARNING!****Risk of injury due to incorrect electrical safety checks!**

- ▶ Ensure that electrical safety checks are performed exclusively by manufacturer's customer service or by authorised service personnel certified by the manufacturer.
- ▶ Ensure that the electrical safety checks are recorded in accordance with local regulations and Manufacturer's recommendation.

Electrical safety check of the mattress replacement system must be performed at least once every 12 months.

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

13.3.2 Preventive Maintenance

Preventive maintenance is the routine service operations of equipment to ensure safe use, prevent unexpected failures and extend life span.

To ensure the correct Preventive Maintenance:

- ▶ Ensure that preventive maintenance is performed exclusively by manufacturer's customer service or by authorised service personnel certified by the manufacturer.
- ▶ Ensure that preventive maintenance is performed in strict accordance with the Service Manual and the mandatory process steps described in the Preventive Maintenance – Checklist.
- ▶ Ensure that the electrical safety checks are recorded in accordance with local regulations and Manufacturer's recommendation.

Preventive maintenance of the mattress replacement system must be performed at least once every 12 months.

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.

14 Disposal

14.1 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 **WEEE** - Waste, Electric and Electronic Equipments Directive 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 and in the LINET® accessories are not environmentally hazardous. LINET® products and LINET® accessories 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. 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.linnet.cz**).

14.2 Disposal

Materials used in this product and in the LINET® accessories burden the environment but at the same time the whole range of these materials can be very effectively reused and recycled. Mechanical disassembly of the product and material sorting into the basic waste types (plastic, metal, wooden materials) should be performed after the end of product life. The main objective of the obligations arising from the European Directive on Waste, Electric and Electronic Equipments 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 battery or accumulator and LINET® accessories are designed so that the used batteries or accumulators can be safely removed by LINET® qualified service technicians. There is an information about its type on the built-in battery or accumulator.

14.2.1 Within Europe

To dispose of the electric and electronic equipment including LINET® accessories:

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

To dispose of the other equipment including LINET® accessories:

- ▶ 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. 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.

14.2.2 Outside Europe

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

15 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 included in the instructions for use.

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

- Do not continue to use the HybriMatt Hybrid Mattress Replacement System.

The warranty on this product and its conditions depend on the agreement between the buyer and the seller, in addition to the legal minimum guarantee provided by law.

The warranty covers all material and manufacturing-related failures and errors. Failures and errors caused by incorrect use and external effects are not covered. Normal wear and tear is not covered. Justified complaints will be fixed free of charge during the warranty period. In order to claim under warranty, refer to the serial number printed on the mattress bar code label or accessed via RFID tag. Proof of purchase, with the date of purchase, is required for all warranty service. Our standard terms and conditions apply.

16 Standards and Regulations

16.1 HybriMatt

The HybriMatt mattress system complies with the following standards:

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

For flammability testing standards, refer to the individual product law tags.

16.2 Manufacturer

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

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