

## INSTALLATION AND OPERATIONAL MANUAL



## TILTSMART STANDARD/COMFORT

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# 1. INTRODUCTION

Congratulations on choosing the Elevand TiltSmart patient lift for your design and production needs.

By following the recommendations in the user manual and utilising the provided information, you can ensure this mobile lift's safe, long-lasting, and faultless operation. Please direct any comments or observations about the lift's performance or the contents of this manual to the following address:

## **Distribution and service by:**

CHS Healthcare  
1 Technology Circuit  
Hallam VIC 3803  
TEL. 1300 789 420  
sales@chshealthcare.com.au  
service@chshealthcare.com.au

## **GENERAL REMARKS:**

1. The product should only be operated by qualified, trained personnel who have read these instructions.
2. Using, operating, or servicing the product inconsistently with these instructions is prohibited. Such action may cause damages that create a financial burden for the user, for which the Producer is not responsible.
3. The device manufacturer does not allow any modifications to be made to the product.
4. If the operation and parameters are incompatible with the description in the instructions, the product must not be used. This issue must be reported immediately to the manufacturer or distributor.
5. Each product repair should be conducted by an authorised service centre or the factory and documented in the repair list that comes with the warranty card. Please adhere to this requirement to ensure the product warranty remains valid.
6. Any serious incident involving the Elevand TiltSmart patient lift must be reported immediately to the manufacturer and the relevant authority in the Member State where the user or patient resides.
7. The warranty covers all material and manufacturing defects.
8. A technical description of the device, including a list of spare parts and their replacement methods, is available upon request from the manufacturer.

**Warranty terms will be honoured only if the product is used according to its intended purpose and in compliance with the terms stated in this manual.**

**The manufacturer is not responsible for any consequences resulting from improper use of the Elevand TiltSmart, which includes any use that does not comply with the conditions outlined in this manual.**

## 1.1 Symbols

### CAUTION!



In this manner are indicated activities, which if performed inconsistently with the instruction manual may cause deterioration of conditions or safety hazard to the user and / or personnel operating the device ref.



Indicates the need for the user to consult the instructions for use



Applied part type B



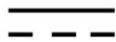
Manufacturer  
XXXX-XX – year and month of production



For indoor use



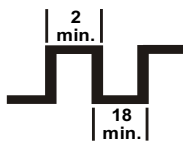
Appliance class II (electrical safety)



Direct current



Alternating current



Actuator operation type



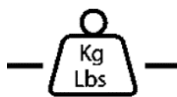
Safe working load (SWL) of the device (230 kg) when lifting – lowering the arm



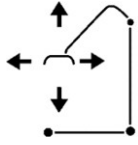
Hand control - Battery level status



Hand control - Service indicator



Hand control - Overload symbol



Hand control:  
Raising / lowering the patient Tilt  
the sling forward / backward



Hand control - Spreading legs of the base the lift



Prohibition of gripping of the actuator



Emergency electric lowering



Charging diodes



Medical device



Catalogue number



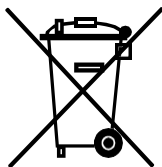
Serial number



Protection level against penetration



Product is manufactured in accordance with Medical Device Regulation 2017/745 (class I, rule 13) and has a CE marking, according to the manufacturer declaration.



All electrical and electronic equipment waste must be disposed of properly at recycling facilities according to the European Union's WEEE directive or equivalent regulations. It is essential that all devices containing substances harmful to the environment or humans are recycled properly in relevant facilities and not disposed of with general or household waste. These regulations ensure the reduction of electronic waste and proper recycling of electronic devices. Proper recycling is crucial as electronic waste may contain substances harmful to the environment and human health.



Recyclable materials

## 2. ELEVAND TILTSMART CHARACTERISTIC

### 2.1 Purpose



The device is designed for moving individuals over short distances within a room or during daily activities, such as transferring to the toilet. It should only be used on horizontal, flat surfaces within a single-floor building. If transportation on flat, sloping surfaces is necessary, an additional person should assist to ensure the patient's safety. The lift is intended for use with individuals whose weight does not exceed the maximum lifting capacity of the lift or lifting belt, whichever is lower. The device should be used only after a thorough evaluation of the patient by the attending physician

#### CAUTION!



This product is not intended for use by the patient alone. Lifting and transferring a patient should always be carried out with the help of at least one caregiver.

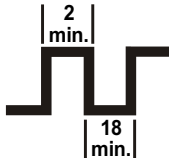



#### CAUTION!

Elevand TiltSmart is an electric mobile lift designed for a caregiver to safely and comfortably lift one patient at a time. It allows for smooth transfers to and from a wheelchair, toilet, bed, stretcher, or the floor.

### 2.2 Technical characteristics

SCALE "Charder Electronic Co., Ltd."		
Model		MHS2500I
Weight Measurement	Capacity	300 kg
		SWL with a device ≤ 230 kg
	Accuracy	± 1.5e
Dimensions	Overall	120(S) x 60(G) x 160(W) mm
Scale weight		1 kg
Power supply		6 x batteries AAA (not included)

Table 1 - Technical parameters of the scale

		<b>Elevand TiltSmart</b>	
Type		<b>Standard</b>	<b>Comfort</b>
Length of frame		1300 mm	
Width of frame		670 mm	
Height		1350 mm	
Height of the push bar.		950 - 1270 mm	
Raising height (min.)		680 mm	
Raising height (max.)		1960 mm	
Minimum legs width (int./ext.)		520 / 670 mm	
Maximum legs width (int./ext.)		1030 / 1180 mm	
Height of device legs (from floor)		115 mm	
Hanger bar width - <b>2P35, 2P45, 2P60</b>		350 mm, 450 mm, 600 mm	-
Hanger bar radius <b>4PSB</b>		max. 660 mm	-
Hanger bar radius <b>4ESB-A</b>		-	max. 790 mm
Hanger bar angle <b>4ESB-A</b>		-	-17° ÷ +42°
Hanger bar radius <b>4MSB</b>		max. 780 mm	-
Hanger bar angle <b>4MSB</b>		13°, 29°, 45°	-
Turning diameter of the product (min)		1440 mm	
Turning diameter of the product (max)		1580 mm	
Lifting speed (raising)		36 s	
Lifting speed (lowering)		34 s	
Diameter of castors with brake		125 mm	
Diameter of castors without brake		100 mm	
Type of work		 <p>Discontinuous, short-term load (10%) max 2 min. work (ON), min. 18 minutes pause (OFF)</p>	
Power supply	Voltage	100-240V ~	
	Frequency	50/60 Hz	
	Consumed current	Max. 400 mA	
Battery		24 V = / 2,9 Ah	
Protection class against electric shock		II, 	
Applied part		type B, 	
Protection level of the control box		IPX4	
Protection level of the battery		IPX5	
Protection level of the main actuator		IPX4	
Protection level of the hand control		IPX6	
Safe working load (SWL)	 <b>SWL</b>	$\leq 230$ kg (symbol indicates the maximum safe load of the device when lifting / lowering the arm)	
Operation force (Finger)		< 5N	
Device weight		61 kg	66 kg
Max. sound level		52 dB	

**Table 2 - Technical parameters of the mobile lift**

## 2.3 Elevand TiltSmart

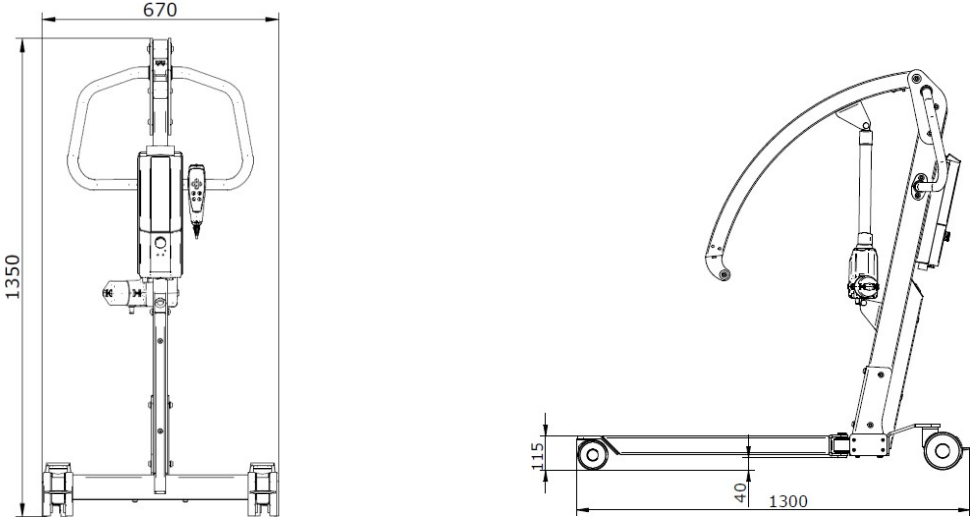


Figure 1a – The main dimensions of the device

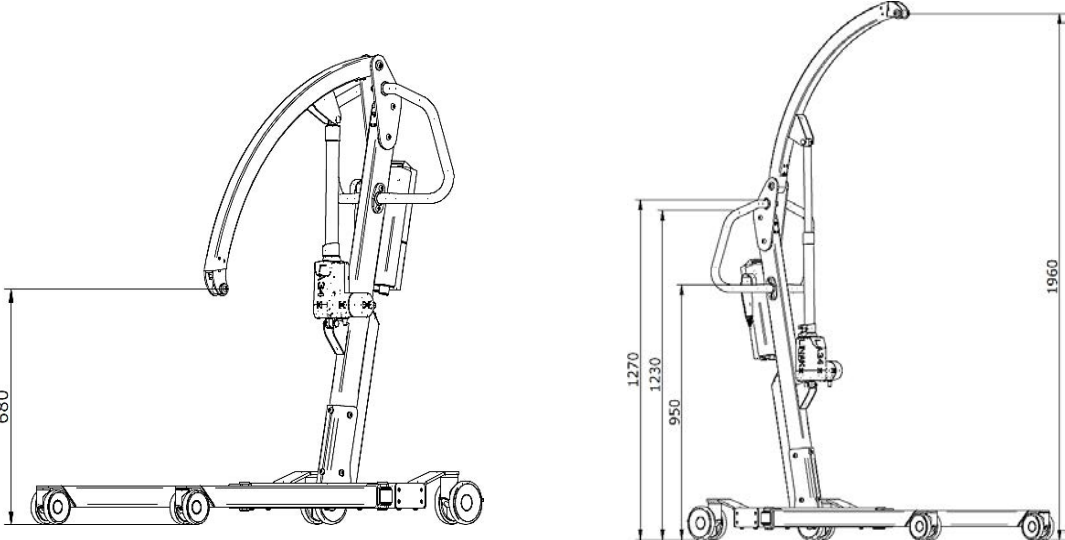


Figure 1b – Lifting range and height of the Elevand TiltSmart

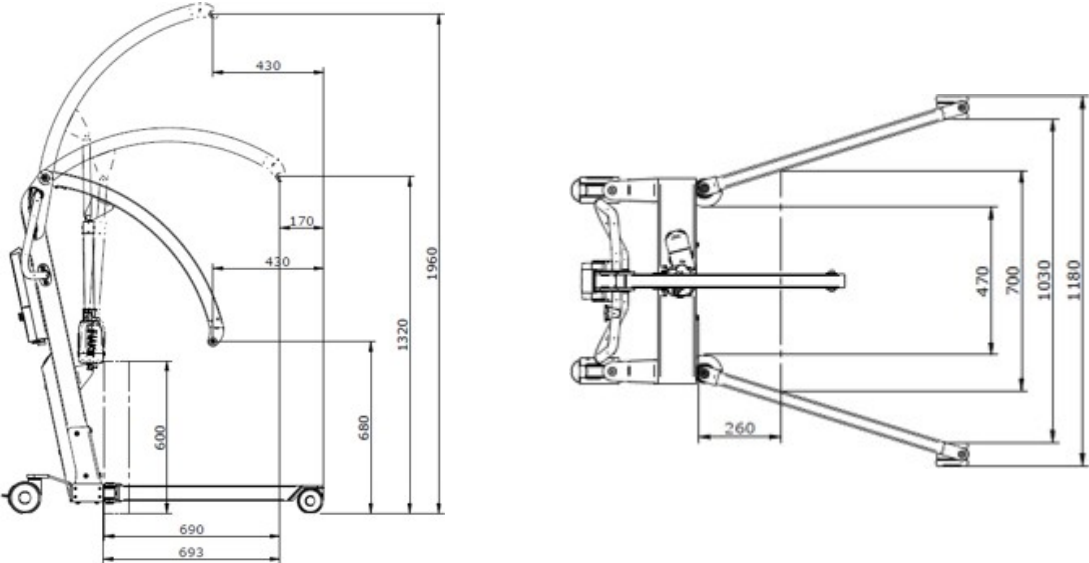


Figure 2 – Additional dimensions of the Elevand TiltSmart



### 3. CONSTRUCTION AND OPERATION OF ELEVAND TILTSMART

#### 3.1 Construction components

The design of the Elevand TiltSmart is made of welded powder-coated steel sections and consists of the following components:



**Figure 3 – Elevand TiltSmart Standard construction components**

- 1 Steering handle**  
handle, with which the operator controls the device
- 2 Hand control**  
enables control of patient lifting
- 3 Control box + battery**  
Manages the operation of the actuator.
- 4 Rear castors**  
Twin castors with brake
- 5 Spreading legs of the base**  
allow you to drive under chairs, wheelchairs, etc.
- 6 Front castors**  
Twin castors without brake
- 7 Hanger bar** – allows the sling to be attached for  
A list of available slings is included in section 3.2
- 8 Main actuator**  
electric actuator for raising the lifting arm
- 9 Lifting arm**  
allows raising/lowering sling
- 10 Base**  
Lift base, equipped with four wheels

Elevand TiltSmart Standard Hanger bar 2P45 (option: 2P35, 2P60)	Elevand TiltSmart Standard Hanger bar 4PSB	Elevand TiltSmart Standard Hanger bar 4MSB
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**Figure 4 – Elevand TiltSmart Comfort construction components**

- 1 Steering handle**  
handle, with which the operator controls the device
- 2 Hand control**  
enables control of patient lifting
- 3 Control box + battery**  
Manages the operation of the actuator
- 4 Cable protection**  
longitudinal cover covering the actuator cables
- 5 Rear castors**  
Twin castors with brake
- 6 Spreading legs of the base**  
allow you to drive under chairs, wheelchairs, etc.
- 7 Front castors**  
Twin castors without brake
- 8 Electrical four-point hanger bar - 4ESB-A**
- 9 Turnover lock**  
Sling rotation blockade (360°)
- 10 Main actuator**  
electric actuator for raising the lifting arm
- 11 Lifting arm**  
Allows for raising and lowering the sling
- 12 Base**  
Lift base, equipped with four wheels







## 3.2 Accessories and additional equipment



### CAUTION!

The device must be used with a sling certified in accordance with EN ISO 10535:2012.

To use the device, choose the appropriate clip sling from the lift with the right size (available in the online store).

Name and description of the hanger bar	Picture	Elevand TiltSmart Standard	Elevand TiltSmart Comfort
2P35 regular 2-point		X	-
2P45 regular 2-point		X	-
2P60 regular 2-point		X	-
4PSB regular 2-point		X	-
4MSB manual 4-point		X	-
4ESB-A electrical 4-point		-	X

## 3.3 Device set

Elevand TiltSmart	1 pc.
User Manual	1 pc.
Charging cable	1 pc.
Battery	1 pc.
Accessories and additional equipment	as per order

## 3.4 Transport

The device is transported in a cardboard box placed on a pallet, and stacking of devices is not permitted. The outer edges are protected with foam profiles, bubble wrap, and stretch foil.

When moving the lift indoors, ensure its outer edges are not exposed to impacts or abrasions.

### 3.5 Storage

- 4 Store the device in a cool and dry room. The ambient conditions should ideally be within the following ranges:
- Ambient temperature: 10 ÷ 40°C (recommended 20 °C or less).
  - Air humidity: 30 ÷ 75%;
  - Air pressure: 700 ÷ 1060 hPa.

## 4. GENERAL WARNINGS AND SAFETY MEANS



### CAUTION!

Any modification of the device without the written authorization of the Manufacturer is prohibited.



### CAUTION!

The manufacturer reserves the right to make changes to the design that do not violate the basic requirements of functionality and security.

While using the Elevand TiltSmart, the following points should be abided firstly:

1. The Mobile lift should only be used for its intended purpose.
2. Keep a safe distance from the lifting mechanisms during operation, as moving parts pose a crushing risk.
3. The lift should only be operated by medical personnel who have been properly instructed and have the appropriate expertise.
4. Before using the device, read the entire instruction manual to avoid damage from incorrect operation and to understand all necessary instructions and important information.
5. Ensure the lift is in good condition before each use. (see sections 8.1 and 8.2).
6. Repairs should be performed by authorised service personnel.
7. Before using the lift, assess whether the patient can safely use the device (e.g., consider the risk of swooning).
8. If the maximum load capacities of the lift and sling differ, always adhere to the lower maximum load.
9. Ensure no moisture enters the electrical system. IPX4 protection is only valid when the battery is connected (see section 6.8).
10. Charge the battery in a well-ventilated area.
11. Do not leave children unattended near the device. If necessary, remove the battery. The lift is not a toy.
12. Do not leave a patient using the device unattended, as an unconscious patient may fall out.
13. If you hear unusual noises, stop using the device, remove the battery, and contact an authorised dealer

## 5. PREPARATION FOR USE



### CAUTION!

Do not stand on the device's legs of the base when using the device. During their movement injuries could occur. Also keep adequate distances for the application of the device's leg spreading system.



### CAUTION!

The lifting arm assembly should only be raised by an actuator. If the arm assembly is lifted manually, the actuator may be damaged. Proper distance must be kept for the use of the device's legs of the base spread system.



### CAUTION!

Do not use the lift in an environment where other devices that emit radio frequency energy are used. The lift control system during normal operation, like any electronic device, generates, uses and can emit radio frequency energy. If the Elevand TiltSmart is not used in accordance with the instructions, it may cause interference to other equipment in the vicinity. The lift manufacturer does not guarantee that interference will not occur in a particular location. To check if it is causing interference to other devices, change its position or disconnect the battery from the device. You can try to correct the interference by changing the area in which the lift is to be used, increasing the distance from the equipment being disturbed, or consulting service.



### CAUTION!

It is allowed to use the device in wet rooms such as bathroom. Using the device in the shower is not allowed. Environmental conditions should be within the limits:

- Temperature: 10 ÷ 40°C
- Air humidity: 30 ÷ 75%
- Air pressure: 700 ÷ 1060 hPa.



### CAUTION!

Avoid strong sunlight on the lift.

Ensure that the patient lift is positioned in a location where there is ample space on all sides for maneuvering. Refer to Figure 5 for the device's turning diameter.

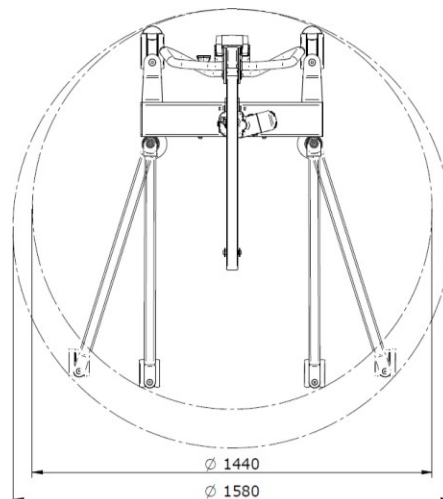


Figure 5 – The device's turning diameter

## 6. PREPARING THE UNIT FOR USE

### 6.1 Patient lifting and transport

To assist a person who requires lifting, follow the steps below:

- If the patient is lying down, gently turn them onto their side with their back towards the caregiver.
- Fold the sling in half and place the lower edge of the back panel under the patient's coccyx, ensuring the upper edge reaches the shoulders.
- Turn the patient onto their side and pull the folded half of the sling through.
- Turn the patient onto their back, ensuring their entire backrest is on the sling.
- Confirm the back loops are positioned on the upper back, and the thigh loops are on the patient's thighs.
- Raise the bed's headboard to a seated position for the patient.
- Position the lift so the hanger bar is at eye level but not too close to the patient's face.
- Before attaching the sling to the hanger bar, ensure the loops at the arms and legs are the same height.
- Attach the shoulder loops to the outer hooks of the hanger bar.
- Attach the thigh loops.
- Raise the lifting arm until the sling loops are taut. Verify that the sling is correctly positioned and that the patient is comfortable.
- Once confirmed, proceed to lift the patient.
- Upon reaching the desired height, engage the stop levers (if necessary, spread the base legs before lifting).
- Press and hold the appropriate button to lower the patient until seated and the sling loops are loose.
- Unfasten all loops securely.
- Release the stop levers.
- Move the device away

## 6.2 Using the stop lever



Always use both brakes.

**CAUTION!**

The stop lever (Fig. 6) is a crucial component of the device. Located on the rear casters, it prevents the device from moving during use. To immobilise the lift, press the locking lever with your foot. To release the brakes, lift the lever.

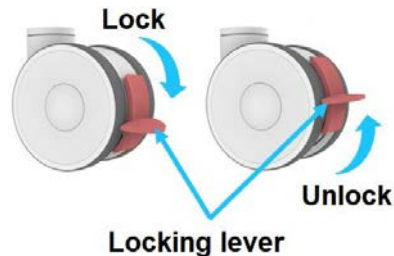


Figure 6 – Stop lever

## 6.3 Hand Control

The Elevand TiltSmart has a hand control that gives you control over the lift's functions. Depending on the version, two types of hand control are available (Fig. 7a and 7b).

1. Battery charge level
2. Service diode
3. Overload
4. Raising lifting arm
5. Lowering lifting arm
6. Forward tilt (sling)
7. Backward tilt (sling)
8. Adjusting legs outside
9. Adjusting legs inside

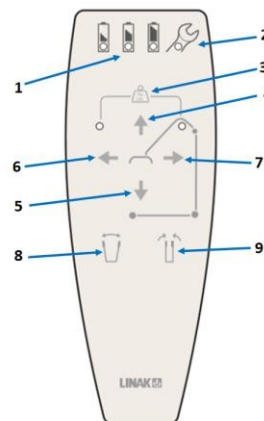


Figure 7a – Buttons on the hand control Elevand TiltSmart Comfort

1. Battery charge level
2. Service diode
3. Overload
4. Raising
5. Lowering
6. Adjusting legs outside
7. Adjusting legs inside

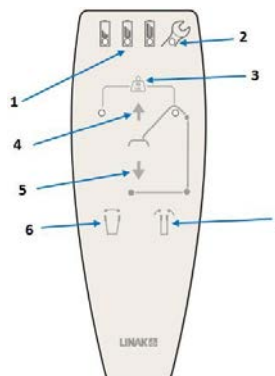
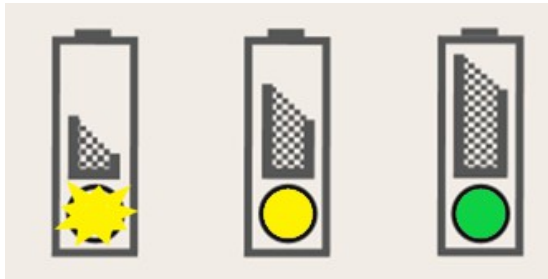


Figure 7b – Buttons on the hand control Elevand TiltSmart Standard

Diodes located on the unit show the battery's status, service information, and overload warnings.  
(Fig. 8).

### Battery Indication

The battery level is indicated in three stages. The LEDs for the battery will display either yellow or green until the device enters standby mode, typically 2 minutes after it has ceased operation

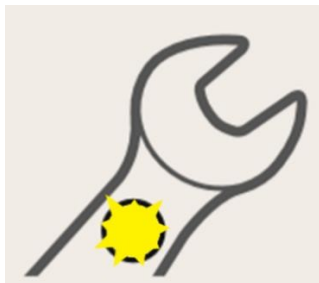


### Battery status

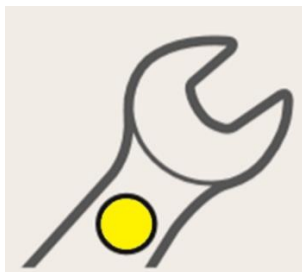
For full description go to section 6.9

### Service Indication

The service indication (yellow diode) will blink when it is time for service. The standard setting is every 12 months (norm EN10535 recommendation) or 8000 cycles, whichever comes first.

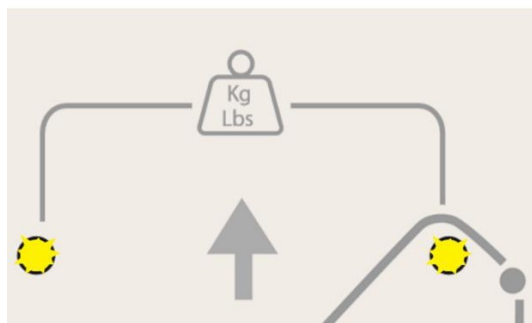


When it's time for service, the service indicator will stay lit for 2 minutes after use before powering down to conserve battery.



When the service indicator is illuminated, the system remains operational.

### Overload Indication



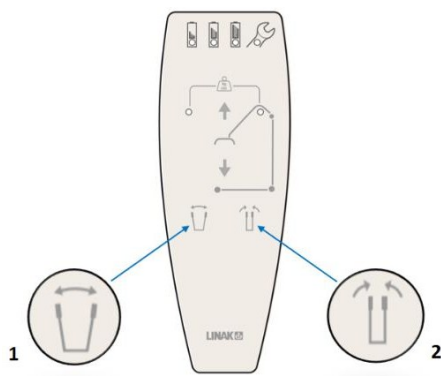
In case of overload exceeding the predefined current cutoff limit, the two LEDs will blink for 10 seconds.

Figure 8 - Hand control functionality with diodes

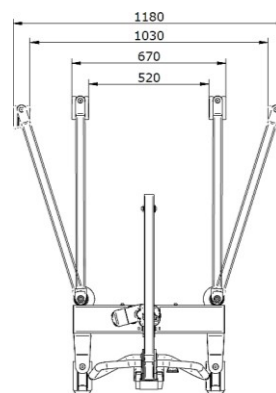


## 6.4 Spreading range of patient lift

This feature is beneficial when maneuvering the lift to a patient seated on a chair or other furniture, requiring the device's width adjustment. To expand the device's legs, press and hold the appropriate button on the hand control until the desired leg spread width is achieved (Figures 9 and 10).



**Figure 9 – Control button spreading range of the device's legs of the base**

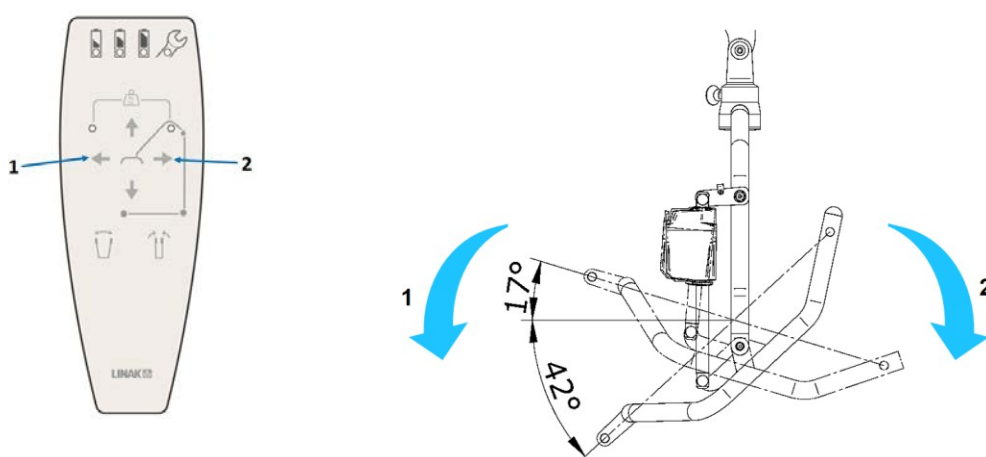


**Figure 10 – Spreading range legs of the base**

## 6.5 Hanger bar adjustment

This feature is advantageous when adjusting the hanger bar's tilt and particularly useful when transferring patients from lying on a bed. Properly positioning the sling enhances the comfort of the individual being lifted.

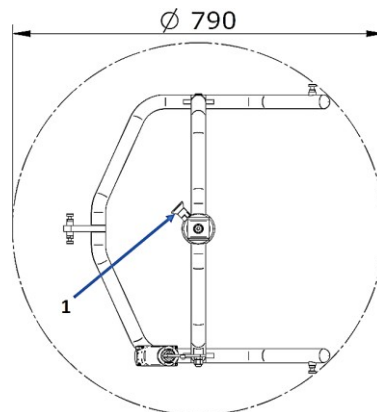
The Elevand TiltSmart Comfort model with the 4ESB-A hanger bar can smoothly adjust the sling tilt during patient transport using the integrated actuator. The sling angle adjustment is facilitated through dedicated buttons on the hand control (Figure 11).



**Figure 11 – Hanger bar 4ESB-A tilt adjustment –**

**Elevand TiltSmart Comfort 1 – forward tilt, 2 – backward tilt**

The hanger bar features a rotation lock (1) with four positions spaced at 90-degree intervals, and it allows for a maximum rotation diameter of approximately 790mm (Fig. 12).



**Figure 12 – Rotation diameter of the hanger bar 4ESB-A – Elevand TiltSmart Comfort**

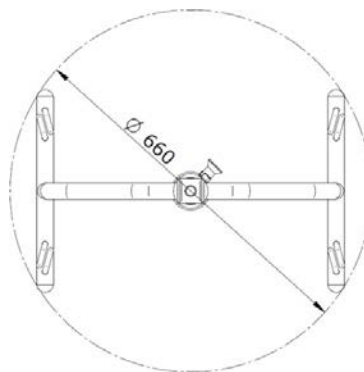
### **Elevand TiltSmart Standard with a hanger bar 4PSB**

The Elevand TiltSmart Standard equipped with a 4PSB hanger bar includes a four-point hanger bar with sling loop hooks and a rotation lock (1) offering four positions at 90° intervals (Fig. 13).



**Figure 13 – Hanger bar 4PSB adjustment – Elevand TiltSmart Standard**

The maximum rotation diameter of the hanger bar is approximately 660 mm (Fig. 14).



**Figure 14 – Rotation diameter of the hanger bar 4PSB - Elevand TiltSmart Standard**

## Elevand TiltSmart Standard with a hanger bar 4MSB

For the 4MSB hanger bar, the sling can be adjusted into three positions (Fig. 15) using the adjustment belt (Fig. 16) as specified.

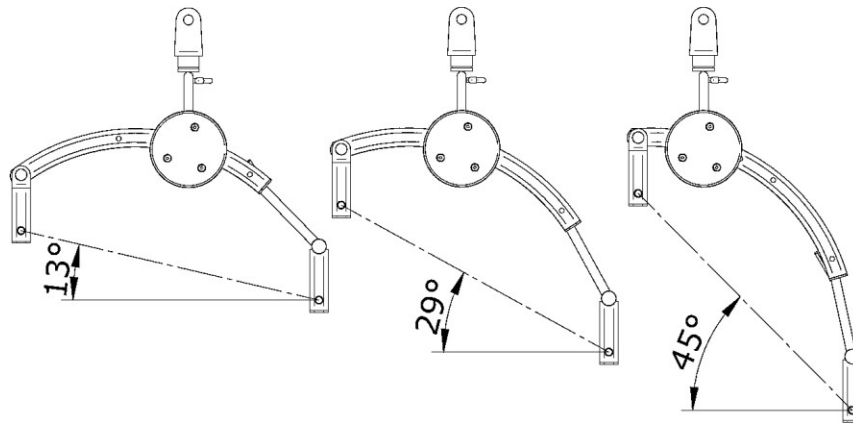


Figure 15 – Hanger bar 4MSB position



Figure 16 – Belt adjustment – hanger bar 4MSB

The maximum rotation diameter of the hanger bar is approximately 780 mm (Fig. 17).

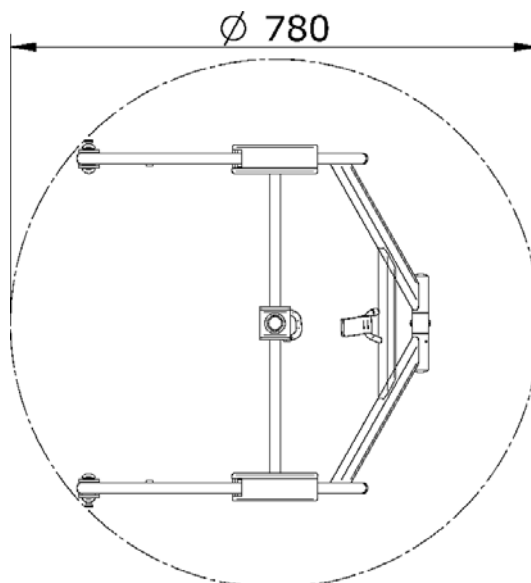


Figure 17 – Rotation diameter of the hanger bar 4MSB – Elevand TiltSmart Standard

## 6.6 Emergency stop

In case of an emergency, immediately press the emergency stop button (Figure 18). To unlock the button, rotate it clockwise.



Figure 18 – Emergency stop

## 6.7 Patient emergency lowering

If there is no response when pressing the lowering or lifting buttons on the hand control, emergency lowering or lifting can be performed by pressing a small button on the control box using a pen or similar tool (Figure 19). If the electric control box's lowering function does not work, manual lowering can be activated using a lever located at the bottom of the main actuator cylinder bar (Figure 20). To activate manual lowering, grip the red part and gently pull upwards.

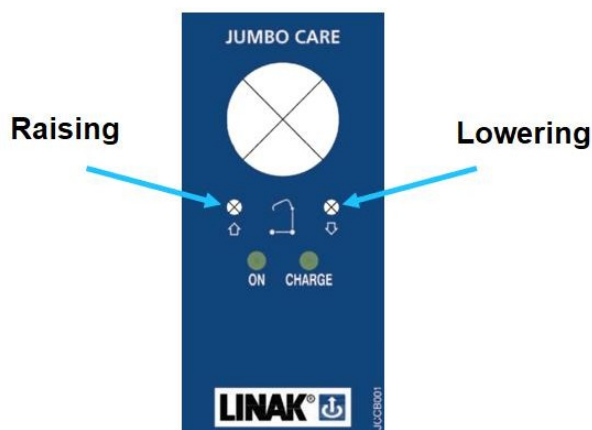


Figure 19- Elevation of the controller - emergency patient raising/lowering

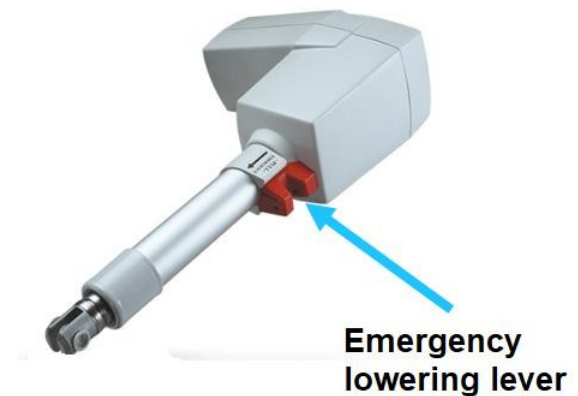
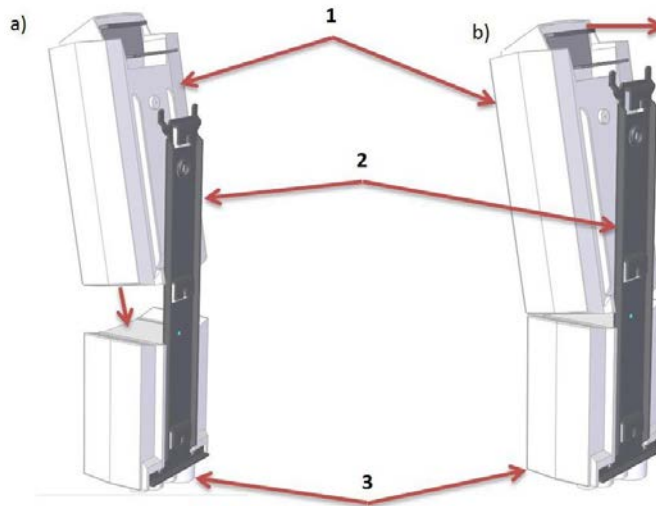


Figure 20 - Main actuator – emergency patient lowering

## 6.8 Installation and removing the battery

To install the battery in the device, follow these steps:

- Align the bottom of the battery with the top of the controller (Figure 21a).
- Push the top of the battery forward until you hear a click indicating it is securely attached (Figure 21b).
- Gently push the top of the battery forward to ensure it is properly secured on the rail.



**Figure 21 – Battery mounting**  
(1 – battery, 2 – mounting rail, 3 – control box)

To remove the battery, follow these steps:

- Position the lift in the starting position.
- Activate the emergency stop button (refer to point 6.6).
- Grasp the battery by the handle (1) and depress the release lever (Figure 21a)
- Fold back the battery (Fig 21b) and pull it out (Fig 21c).



**Figure 22 – Battery removing (1 – release lever)**

## 6.9 Battery level status and charging



### CAUTION!

The device cannot be used while charging.



### CAUTION!

During charging, the lifting function is blocked.



### CAUTION!

After fully charging, do not use the device for 1 hour, this will extend the life of the battery



### CAUTION!

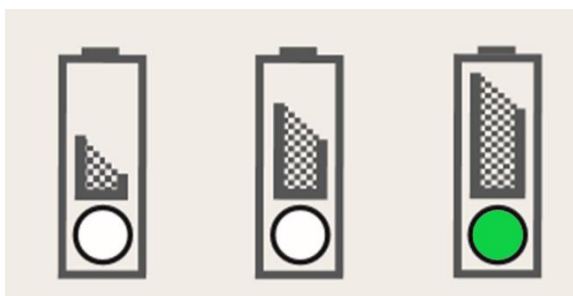
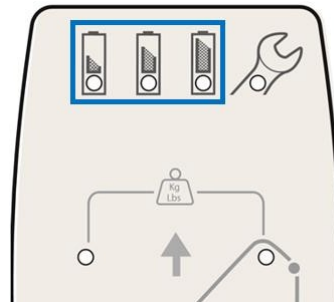
The battery should be charged continuously for at least 24 hours in the following cases:

- before using the lift for the first time,
- before storage period (up to 3 months) without power supply connected,
- as the first activity after the storage period.

The battery charge level is indicated on the hand control (Fig. 23).

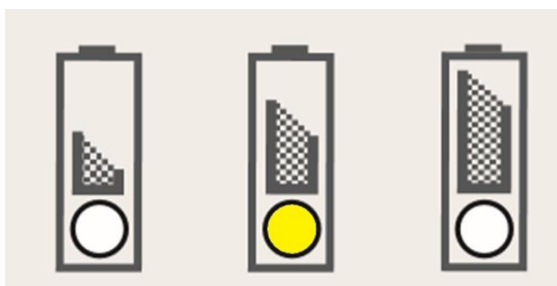
### Battery Indication

The battery level is indicated in three stages. The LEDs for the battery will display either yellow or green until the device enters standby mode, typically 2 minutes after it has ceased operation



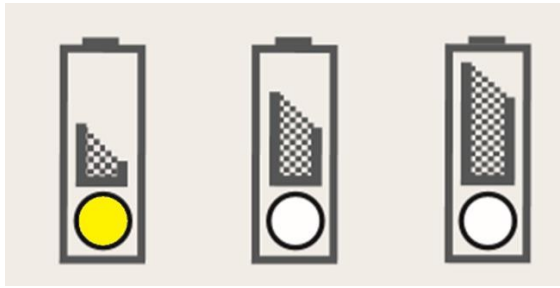
### Battery state 1:

The battery is in good condition and does not require charging (100-50% capacity); indicated by the third green LED.



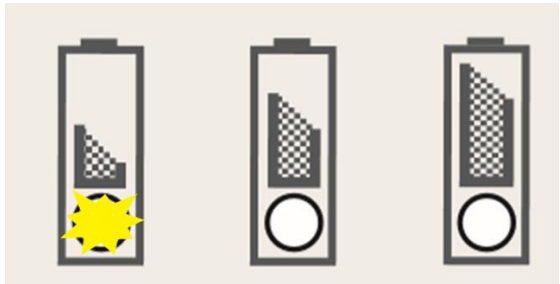
### Battery state 2:

The battery requires charging (50-25% capacity); indicated by the second yellow LED.



### Battery state 3:

The battery requires charging (less than 25%); indicated by the first yellow LED and a buzzer sound when a button is pressed.



### Battery state 4:

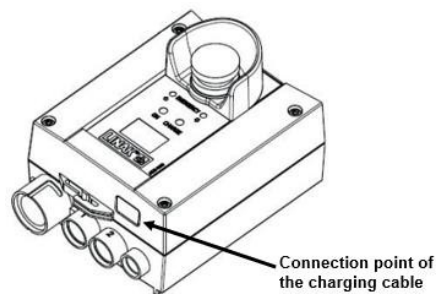
The battery urgently needs charging. Some functions of the lift are disabled, allowing only the lowering of the lifting arm.

The LED blinks continuously and emits an audible signal due to prolonged use.

**Figure 23 – Indication of the battery charge level on the hand control**

- To recharge the battery, follow these steps:

- Activate the emergency stop.
- Connect the power cord to the control box (Figure 24).
- Plug the power cord into the electrical outlet.



**Figure 24 – Connecting the charging cable**

When the battery is charging, the LEDs on the control box illuminate (Figure 25). The green LED confirms the connection of the battery charger to the mains, while the yellow LED indicates the ongoing charging process. A full charge typically takes around 5 hours.



**Figure 25 – LED location on the control box**

## 6.10 Sling

An additional component of the lift is the sling, which ensures the patient's safety during transfer. The sling should be positioned on the patient following the provided instructions.

For the Elevand TiltSmart Comfort with hanger bar 4ESB-A and Elevand TiltSmart Standard with hanger bar 4MSB, the sling is secured by attaching the clips to the hanger bar pins (Fig. 26).



**Figure 26 – Attaching the clip to the hanger bar pins – 4ESB-A and 4MSB**

When removing the sling, push in the levers and lift the fastening (Fig. 27).







**Figure 27 – Detaching the clip from the hanger bar pins – 4ESB-A and 4MSB**

### **Hanger bar 2P35, 2P45, 2P60 and 4PSB**

For the Elevand TiltSmart Standard with hanger bars 2P35, 2P45, 2P60, and 4PSB, the sling is fastened by placing a suitable loop on the hanger bar hook (Fig. 28).



	Correct sling loop mounting	Incorrect sling loop mounting
The sling 2P35, 2P45, 2P60		
The sling 4PSB		
<b>Figure 28 – Attaching the sling loop</b>		

## 6.11 Lifting scale operation

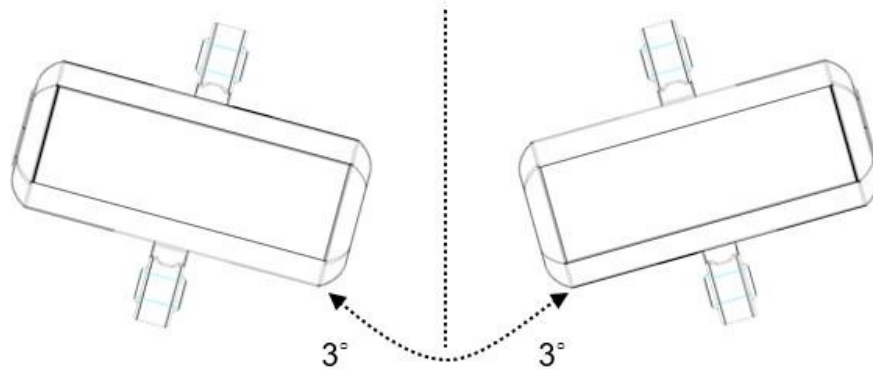


**Figure 29 – Example of scale installation**

## 6.10.01 General warnings

### Tilt angle

A tilt angle exceeding 3 degrees will result in an inaccurate reading.



### Horizontal rotation



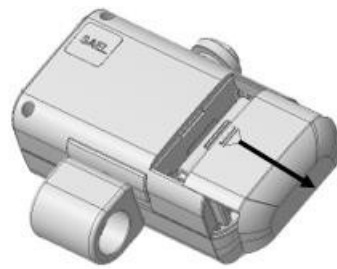
When assembled on the lift, do not rotate the scale horizontally. A lifting system with a 360° swivel bearing should be used solely for rotation.

## 6.10.02 Battery replacement (not included)

1. Locate the battery cover on the back of the appliance



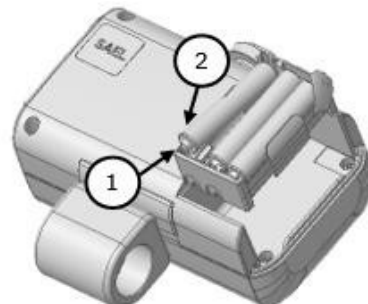
2. Remove the battery cover



3. Remove the battery case



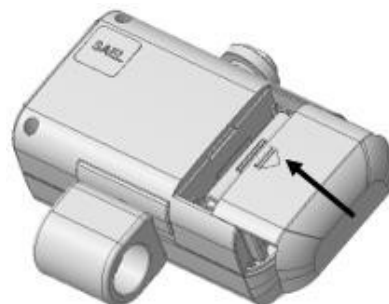
4. Insert the batteries



5. Insert the battery case

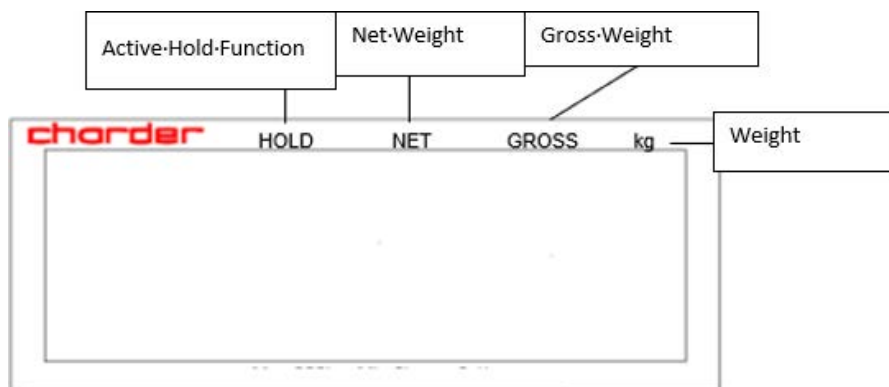


6. Place the battery cover



## 6.10.03 Indicator and buttons

### Scale indicator



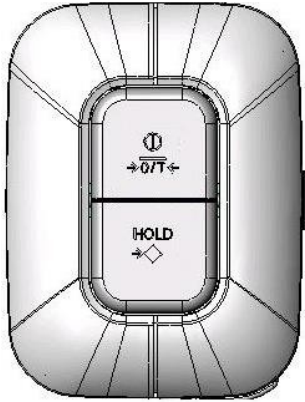
## Display

○: Stable



■: Negative Weight

→○←: Zero

Low : Low Battery



## Buttons

1. : Turns the appliance on or off. Weight tare – only tare with a hooked sling. Press and hold for 3 seconds to switch off the device.
2. : Determines a stable weighing value - used when the weight is unstable. Press and hold for 3 seconds to enter the settings.

### 6.10.04 Using the scale

#### Basic operation

Activate the scale by pressing the button. The scale will self-calibrate automatically and display the software version. When the display shows "0.00kg," the scale is ready for use.

**Note:** Press the button to reset if "0.00kg" does not appear.

Place the patient in the sling. Raise the lift arm until the patient is suspended without support from the bed or chair. Once the weight stabilises, the symbol will appear on the indicator.

**Note:** If the patient's weight exceeds the scale capacity (including tare), "Err" will display due to overload.

The hold function provides an average weight when the patient's weight does not stabilise (e.g., with an active child).

1. Switch on the scale.
2. Press the [HOLD] button; "HOLD" will display.
3. Perform the measurement.
4. After a few seconds, the average weight will appear, and the scale will lock. Unhook the patient from the device.
5. Press the [HOLD] button again to release the locked weight and return to normal mode.

**Note:** The hold function can be activated before or after placing the patient in the sling.

## Tare

The tare function subtracts the weight of objects from the scale's measurement result.

1. Place the tare object in the sling.
2. Press the button when the symbol appears; the display will show "0.00kg."
3. Place the patient in the sling (with the tare object). Raise the lift arm until the patient is suspended freely. Perform the measurement.
4. Remove all items from the sling. Press the button to clear the tare value.

### 6.10.05 The scale configuration

When the device is on, press and hold the [HOLD] button for about 3 seconds until "SETUP" and "A\_OFF" (first setup option) appear. In the setup menu:

- Use [HOLD] to navigate to the next option.
- Use it to confirm the selection or enter the submenu.

**Automatic power-off:** 

Program the scale to turn off automatically after 120 sec, 180 sec, 240 sec, 300 sec, or disable.

Press the [HOLD] to cycle through the options  button to confirm the selection.

**Buzzer/Beep:** 

When enabled, an audible signal sounds when:

- The scale is powered on.
- Buttons are pressed, and the weight stabilises. Press [HOLD] to toggle on/off; use to confirm.

Press the [HOLD] button to switch between on/off and the  button to confirm the selection.

### 6.10.06 Troubleshooting

We recommend considering the following troubleshooting procedures before contacting the service department for repair:

#### Self-monitoring:

1. The device does not switch on:
  - If the batteries are exhausted, replace them with new ones.
2. An indicator showing "0000" ZERO RANGE out of range:

- Interference is caused by factors such as radio interference or ground vibration. Move the lift with scale to a location without interference and try to restart.
- External objects are interfering with the scale's operation. Clear the area of interfering objects and try to restart.
- If the above steps do not resolve the problem, re-calibration may be required to correct the weighing accuracy.

**Distributor support required:**

If the following errors occur, we recommend contacting a service trained by the manufacturer for repair or replacement:


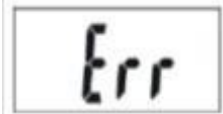



1. The device does not switch on:


- Faulty on/off button.
- Broken or damaged wires cause short-circuit or faulty connections.
- The safety fuse is blown.

2. Damage to the indicator:

- Possible hardware defects include uneven LCD screen brightness, blurred text, a blurred rainbow screen, and an incorrect decimal display.
- Unable to save or read data.
- The indicator shows “ERRL” when the device is switched on.
- The buttons are not responding.
- Buzzer malfunction.

**Error Messages**

Error message	Cause	Activity
	<b>Low battery warning</b> Battery voltage is too low to operate the device	Replace the batteries.
	<b>Overload</b> The total load exceeds the maximum capacity of the device	Reduce the weight on the sling and try again
	<b>Counting error</b> Signal from load cells is too low	Error usually caused by defective load cell or wiring. Contact the distributor.
	Number of zeros in the zero calibration range +10% with power on	Re-calibration required Contact the distributor
	Counting zero in the zero calibration range -10% with power on	Re-calibration required Contact the distributor

	<b>Program Error</b> Fault with device software error	Contact the distributor
--	--	-------------------------

### 6.10.07 Assembly and disassembly of the lifting scale

For information on how to install the scale, please refer to the Meden-Inmed Weight Module Installation Manual, which is included in the weight module packaging together with the Weight Module User Manual.

## 7. CLEANING AND DESINFECTATION

### CAUTION!

#### Before cleaning, make sure that:



- All plugs are properly connected.
- The battery is mounted on the controller.
- No electrical components indicate external damage. Failure to do so may result in the ingress of water or cleaning agents and cause interference with the device or damage to electrical components.
- Electrical parts must not be washed with a water jet or pressure washers, etc. They can only be cleaned with a damp cloth.
- If there is a suspicion that water or liquid agents flew into the electrical parts, stop the lift and immediately report the event to the service centre.
- If the above rules are not observed, serious damage to the device and further unforeseen consequences may occur.

### CAUTION!



Each time the patient changes, the Elevand TiltSmart must be cleaned and disinfected before being used again.

Cleaning is important for the device's successful, long-term, and trouble-free operation. Routine cleaning of the lift is sufficient when the same patient uses it. Disinfection of the lift is only necessary if there is a visible infection of the material or potentially infected material (blood, stool, pus) or when infected with sick patients on a doctor's recommendation.

### 7.1 Cleaning patient contact surfaces

The surface of the handles should be cleaned and maintained as follows:

- Remove all straps and detach any non-lift components
- Clean the surfaces with mild and environmentally friendly cleaning agents.
- The same applies to cleaning the manual switch.
- Avoid wetting the patient lift strap.
- Accessible areas of handle and construction can be disinfected with mild and environmentally friendly cleaning agents.
- Caster disinfection is only necessary if there is visible contact with infected or potentially infected material.

- Do not use:
  - pastes, waxes, sprays,
  - strong detergents, solvents and cleaning agents containing solvents, alcohol and leather cleaning agents.

**Using such agents may lead to stiffness, cracking of the material or change the surface structure, which is not covered under warranty!**

## 7.2 Cleaning and disinfection scale

Clean any dirt on the lifting scale with a damp cloth. Then, wipe the cleaned surface with a dry, soft cloth. Do not use:

- Pastes, waxes, sprays.
- Alcohol.
- Strong detergents, solvents and cleaning agents containing solvents.

## 8. MAINTENANCE



### CAUTION!

If the device is not used for a longer period, it is recommended that all electrical and mechanical parts be checked once a month by performing a test lift without the patient. In addition, the charger cables after each mechanical load or after changing the location of the lift should be manually checked for possible damage.

### 8.1 Maintenance of support structure mechanism

1. Clean metal parts of the structure using a soft, damp cloth, ensuring surfaces are dried thoroughly afterwards. Avoid using cleaning products containing alcohol.
2. Lubricate all movable components every six months or when loud noises occur during operation. These components include casters, actuators, bearing sleeves, and joints of the base legs and lifting arm. Recommended lubricants include commercially available penetrating and lubricating preparations (e.g., Wurth HHS 2000). Any excess lubricant should be promptly removed with a dry cloth.
3. Periodically inspect threaded connections every six months. Address any detected looseness promptly. Report unresolved issues of unavoidable looseness to the manufacturer's Service and discontinue device use until resolved. Notify the manufacturer's service department of any irremovable backlash on connections and cease device operation until the issue is resolved.



## 8.2 Periodic inspection

The lift requires inspection annually as per EN 10535:2012 recommendations or after 8000 cycles, whichever comes first (refer to section 6.3), and after any failure or repair. The inspection must be conducted by authorised service personnel and should include at least the following:

- Visual inspection focuses on the structure of the load-supporting device, the primary actuator and its mounting, the brakes, and the control devices.
- Verify the proper functioning of all device control functions.
- Maintenance of the support structure mechanism (refer to section 8.1).
- Test the load capacity with the maximum load for one lifting cycle.

Maintain a detailed repair register documenting all repair actions, defects, damages, remarks, and safety-related observations, along with the inspection date. Ensure slings are inspected according to the manufacturer's recommendations at least every six months.

## 8.3 Expected service life



### CAUTION!

The Expected service life, in normal use and under normal circumstances, apart from slings and batteries, is 7 years when serviced according to the instructions.

The expected service life, in normal use and under normal circumstances, apart from slings and batteries, is 7 years when serviced according to the instructions.




After seven years from the date of production of the device and its accessories, the manufacturer bears no responsibility for defects in the device and its accessories, nor for any resulting consequences. The manufacturer also disclaims responsibility for any consequences arising from incorrect installation, incorrect diagnosis, improper use of the device and its accessories, misinterpretation of instructions, or repairs performed by unauthorised persons.

## 9. TROUBLESHOOTING

Symptoms of malfunction	Description of the procedure
The unit does not respond to the hand control function activated	<ol style="list-style-type: none"> <li>1. Check if the emergency stop is activated</li> <li>2. Check the status of the battery</li> <li>3. Check if the hand control cable is connected</li> <li>4. Check if the battery is properly connected</li> <li>5. Check if the charging cable is connected</li> <li>6. Check the connection of the other wires</li> <li>7. Check if the service led flashes</li> <li>8. Check if the device reacts to the activation of the raise/lower function on the controller</li> <li>9. Contact service</li> </ol>
The device does not react to the controller function activated	<ol style="list-style-type: none"> <li>1. Check if the emergency stop is activated</li> <li>2. Check the status of the battery</li> <li>3. Check if the battery is properly connected</li> <li>4. Check if the charging cable is connected</li> <li>5. Check the connection of the other wires</li> <li>6. Check if the service led flashes</li> <li>7. Contact service</li> </ol>
The device is not charging	<ol style="list-style-type: none"> <li>1. Check if the emergency stop is activated</li> <li>2. Check the status of the battery</li> <li>3. Check if the battery is properly connected</li> <li>4. Check if the charging cable is connected</li> <li>5. Check if the service led flashes</li> <li>6. Contact service</li> </ol>
Interruption of the device during patient lifting	<ol style="list-style-type: none"> <li>1. Check if the overload indicator flashes</li> <li>2. Check the status of the battery</li> <li>3. Check if the service led flashes</li> <li>4. Check if the device reacts to the activation of the raise/lower function on the controller</li> <li>5. Lower the lift manually</li> <li>6. Contact service</li> </ol>
The device produces abnormal noises (cracking, cross-over, etc.).	<ol style="list-style-type: none"> <li>1. Contact service</li> </ol>
The device cannot be moved	<ol style="list-style-type: none"> <li>1. Check that the brakes on the rear wheels are applied</li> <li>2. Contact service</li> </ol>

If the fault symptoms persist, stop using the lift immediately and contact the Dealer for further instructions.

## 10. RECYCLING INFORMATION

-  Metals
-  Waste of Electrical and Electronic Equipment (WEEE)
-  Lead battery (Pb) or Li-ION battery

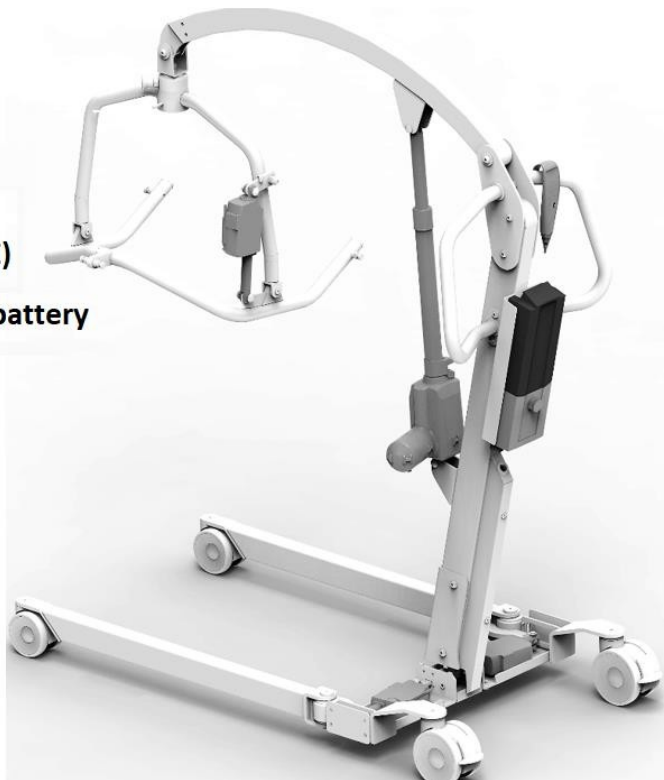


Figure 30 - Elevand TiltSmart Comfort recycling




-  Metals
-  Waste of Electrical and Electronic Equipment (WEEE)
-  Lead battery (Pb) or Li-ION battery



Figure 31 – Elevand TiltSmart Standard recycling

# 11. ELECTROMAGNETIC COMPATIBILITY - GUIDANCE AND MANUFACTURER'S DECLARATION

## CAUTION!



Do not use the lift in the environment where other devices that emit radio frequency energy are used. The device control system, like other electronic devices, generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to other devices in the vicinity. The device manufacturer cannot guarantee that interference will not occur even when the device is placed properly. To check if the lift causes interference to other devices, change its position or disconnect its battery. A user is encouraged to try to eliminate interference by reorienting or relocating the device, increasing separation distance between devices or consulting a service technician.

**Essential performance and safety – no unintended movement of any lift component**

WARNING: Avoid placing this equipment adjacent to or stacked with other devices to prevent potential operational issues. If necessary, monitor this equipment closely to ensure proper functionality.

WARNING: Keep portable RF communications equipment, including antenna cables and external antennas, at least 30 cm (12 inches) away from any part of the device\*, including manufacturer-specified wires, to avoid potential degradation of device performance.

WARNING: Using accessories, transducers, or cables not specified or provided by the manufacturer of this equipment may increase electromagnetic emissions or reduce electromagnetic immunity, leading to improper operation

WARNING: The device may be susceptible to electromagnetic disturbances, but such disturbances do not affect its essential performance and safety, ensuring no unintended movement of any lift component.

**Essential performance and safety – no unintended movement of any lift component**

\* Elevand TiltSmart

<b>Guidance and manufacturer's declaration – electromagnetic emissions</b>		
The device* is intended for use in electromagnetic environment specified below. The customer or the user of the device * should assure that it is used in such environment.		
Emissions test	Compliance	Electromagnetic environment – guidance
RF emissions CISPR 11	Group 1	The device* uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class B	The device* is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic emissions IEC 61000-3-2	Class A	
Voltage fluctuations/ flicker emissions IEC 61000-3-3	Complies	
<b>Guidance and manufacturer's declaration – electromagnetic immunity</b>		

The device\* is intended for use in electromagnetic environment specified below. The customer or the user of the device \* should assure that it is used in such environment.

<b>IMMUNITY test</b>	<b>IEC 60601 test level</b>	<b>Compliance level</b>	<b>Electromagnetic environment – guidance</b>
Electrostatic discharge (ESD) IEC 61000-4-2	± 8 kV (contact) ± 2/4/8/15 kV (air)	± 8 kV (contact) ± 2/4/8/15 kV (air)	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30 %.
Electrical fast transient/burst IEC 61000-4-4	±2 kV for power supply lines 100 kHz	±2 kV for power supply lines 100 kHz	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	± 1 kV line(s) to line(s) ± 2 kV line(s) to earth	± 1 kV line(s) to line(s) ± 2 kV line(s) to earth	Mains power quality should be that of a typical commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	0 % U <sub>T</sub> ; 0,5 cycle at 0°, 45°, 90°, 135°, 180°, 225°, 270° and 315°  0 % U <sub>T</sub> ; 1 cycle and 70 % U <sub>T</sub> ; 25/30 cycles (50/60Hz) 1 phase: at 0°  0 % U <sub>T</sub> ; 250/300 cycles (50/60Hz)	0 % U <sub>T</sub> ; 0,5 cycle at 0°, 45°, 90°, 135°, 180°, 225°, 270° and 315°  0 % U <sub>T</sub> ; 1 cycle and 70 % U <sub>T</sub> ; 25/30 cycles (50/60Hz) 1 phase: at 0°  0 % U <sub>T</sub> ; 250/300 cycles (50/60Hz)	Mains power quality should be that of a typical commercial or hospital environment. If the user of the device* requires continued operation during power mains interruptions, it is recommended that the equipment* be powered from an uninterruptible power supply or a battery.
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	30 A/m	30 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.

NOTE U<sub>T</sub> is the ac mains voltage prior to application of the test level.

#### **Guidance and manufacturer's declaration – electromagnetic immunity**

The device\* is intended for use in electromagnetic environment specified below. The customer or the user of the device \* should assure that it is used in such environment.

<b>IMMUNITY test</b>	<b>IEC 60601 TEST LEVEL</b>	<b>Compliance level</b>	<b>Electromagnetic environment – guidance</b>
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	3 V 0,15 MHz – 80 MHz 6 V in ISM bands between 0,15 MHz and 80 MHz 80 % AM at 1 kHz	Portable RF communications equipment (including peripherals such as antenna cables and external antennas) should be used no closer than 30 cm (12 inches) to any part of the device*, including cables specified by the manufacturer. Otherwise, device performance may deteriorate.
Radiated RF IEC 61000-4-3	10 V/m 80MHz to 2,7GHz	10 V/m 80MHz to 2,7GHz	
Proximity fields from RF wireless communications equipment IEC 61000-4-3	EN 60601-1-2:2015, Table 9 (see below)	Complies	These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

Proximity fields from RF wireless communications equipment						
Test frequency (MHz)	Band <sup>a)</sup> (MHz)	Service <sup>a)</sup>	Modulation <sup>b)</sup>	Maximum power (W)	Distance (m)	Immunity test level (V/m)
385	380 – 390	TETRA 400	Pulse modulation <sup>b)</sup> 18 Hz	1,8	0,3	27
450	430 – 470	GMRS 460, FRS 460	FM <sup>c)</sup> ± 5 kHz deviation 1 kHz sine	2	0,3	28
710	704 – 787	LTE Band 13, 17	Pulse modulation <sup>b)</sup> 217 Hz	0,2	0,3	9
745						
780						
810	800 – 960	GSM 800/900, TETRA 800, iDEN 820, CDMA 850, LTE Band 5	Pulse modulation <sup>b)</sup> 18 Hz	2	0,3	28
870						
930						
1720	1700 – 1990	GSM 1800; CDMA 1900; GSM 1900; DECT; LTE Band 1, 3, 4, 25; UMTS	Pulse modulation <sup>b)</sup> 217 Hz	2	0,3	28
1845						
1970						
2450	2400 – 2570	Bluetooth, WLAN 802.11 b/g/n, RFID 2450, LTE Band 7	Pulse modulation <sup>b)</sup> 217 Hz	2	0,3	28
5240	5100 – 5800	WLAN 802.11 a/n	Pulse modulation <sup>b)</sup> 217 Hz	0,2	0,3	9
5500						
5785						
NOTE If necessary to achieve the IMMUNITY TEST LEVEL, the distance between the transmitting antenna and the ME EQUIPMENT or ME SYSTEM may be reduced to 1 m. The 1 m test distance is permitted by IEC 61000-4-3.						
<sup>a)</sup> For some services, only the uplink frequencies are included. <sup>b)</sup> The carrier shall be modulated using a 50 % duty cycle square wave signal. <sup>c)</sup> As an alternative to FM modulation, 50 % pulse modulation at 18 Hz may be used because while it does not represent actual modulation, it would be worst case.						

## 12. WARRANTY CARD

1. The seller (authorised representative, distributor) offers a 24-month warranty, starting from the equipment purchase date, as indicated in a proof of purchase.
2. The seller (authorised representative, distributor) is responsible for any faults, whether in quality or quantity, occurring immediately after unpacking the product from its original shipment packaging only if they are reported in written form within two working days following the delivery.
3. The warranty will be fulfilled only by the seller's authorised service team (authorised representative, distributor) or other technical service authorised by the manufacturer.
4. A repair time exceeding three days will extend the warranty period by a time equivalent to the total time the device was out of order.
5. If a faulty subassembly has been repaired three times, the manufacturer must replace it with a new one.
6. The user must ensure all the maintenance services described in the manual to benefit from the warranty coverage.
7. If the installation and operation instructions are not observed, the manufacturer is not responsible for the user's or patient's safety during the unit's use.
8. The warranty does not cover parts and materials' faults resulting from natural wear and tear, which means faults other than material or workmanship and faults resulting from poor or no maintenance (e.g., valves, bearings, guides, fans, etc.).
9. The seller (authorised representative, distributor) shall bear no responsibility for any consequential or incidental loss, including loss of profits or costs incurred resulting from a failure to follow the instructions in the installation and user manual.
10. The seller (authorised representative, distributor) shall bear no responsibility resulting from this warranty for any loss, whether consequential or incidental, including loss of profits or costs incurred by equipment failure.
11. Faults that occur within the warranty period and are not reported to the authorised service are not covered by the warranty.
12. Costs resulting from an unfounded claim shall be borne by the user.
13. The warranty shall not cover equipment:
  - damaged as a result of fire and lightning or force majeure,
  - with a nameplate and/or serial number or factory seals removed or damaged,
  - damaged due to its use in a manner other than defined in the operation manual,
  - where repairs or modifications have been done by unauthorised personnel,
  - damaged mechanically due to improper handling or transportation.
14. No new document will be issued if the equipment covered by the warranty has been re-sold.
15. The warrantor shall not issue a duplicate of the Warranty Card.
16. This warranty does not exclude, limit or suspend your consumer statutory rights.

<b><i>Elevand TiltSmart</i></b>							<i>Date, signature and stamp Guarantee:</i>		
<b>SN:</b>					-	<b>2</b>	<b>0</b>		

