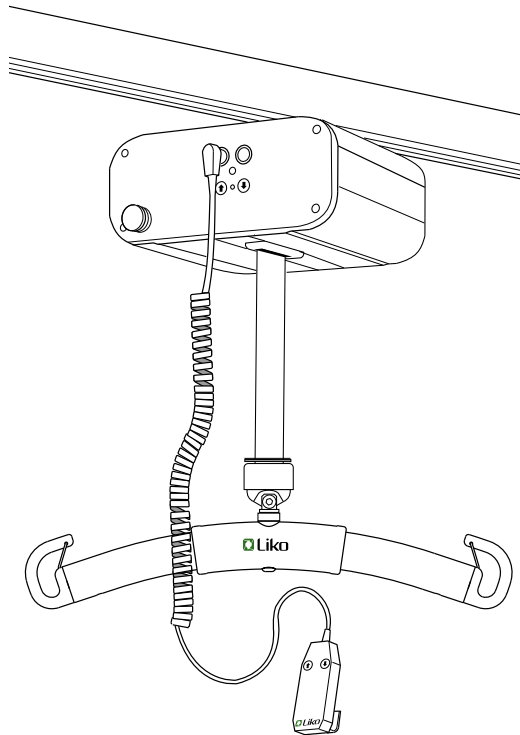


Instruction Guide

English
7EN120109-01
2007-05-11

Applies to the following models:

Likorall 243 ES, natural	Prod. No. 3123001
Likorall 243 ES, white	Prod. No. 3123002



Product Description

Likorall is a stationary lift, often referred to as an "overhead lift". Likorall is mounted on Liko's rail systems, which are adapted to the room(s) they are to be used in. The rail system can be built as a Straight rail, with or without curves, a Traverse system or a Room-to-room system. Liko's rail systems consist of hundreds of components and each part is specifically selected so that every installation is adapted to the room(s) it is to be installed in. The rail system can be either a stationary installation or a freestanding installation, such as Liko FreeSpan and Liko FreeStand.

The installation should be performed by qualified personnel and in accordance with installation instructions provided by Liko.

In this document, the person being lifted is referred to as the "patient" and the person helping is referred to as the "caregiver".

△ is a warning triangle used for situations that demand extra care and attention.

Likorall is intended for lifting and transferring patients; e.g., from the bed to the wheelchair; to and from the floor; for visits to the lavatory and bath; for walking, standing, gait and balance training; for weighing, and for lifting in combination with a stretcher.

Likorall 243 ES is prepared for wireless control (IR).

Likorall 243 ES can also be equipped with a Transfer Motor, which facilitates motorized transfer along the rail.

A large, comprehensive range of accessories including different types of slings in a variety of sizes and models is available for Likorall.

IMPORTANT!

Read instructions for the lift and accessories carefully before use. Lifting and transferring a person always presents a potential risk. A thorough understanding of the contents of instruction guides is essential.

Only trained personnel should use the equipment.

If you have questions, please contact Liko or your local Liko representative.

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△ NOTE! This instruction guide contains important information about the use of the product. All personnel who use this product must be thoroughly familiar with the contents of this instruction guide. Remember to keep the instructions where they are easily accessible for caregivers.

Safety Instructions

Before using for the first time, make certain that:

- the lift is assembled according to the instructions;
- lifting accessories are correctly applied to the lift;
- the batteries have been charged for at least 8 hours;
- you have read and understood the instruction guides for the lift and lifting accessories;
- personnel using the equipment have received appropriate instructions and training;
- you have selected the correct type, size, material and design of slings and accessories to safely meet the patient's needs.

Before lifting always make certain that:

- the lift strap is not twisted or worn, and that it moves easily into the power unit;
- the lifting accessories are not damaged;
- the sling is correctly and securely applied to the patient, so that no personal injury can occur;
- the lifting accessory is correctly applied to the lifting equipment;
- the sling's strap loops are correctly fastened to the slingbar hooks when the sling strap is extended, but before the patient is lifted from the underlying surface.

△ Never leave a patient unattended in a lifting situation!



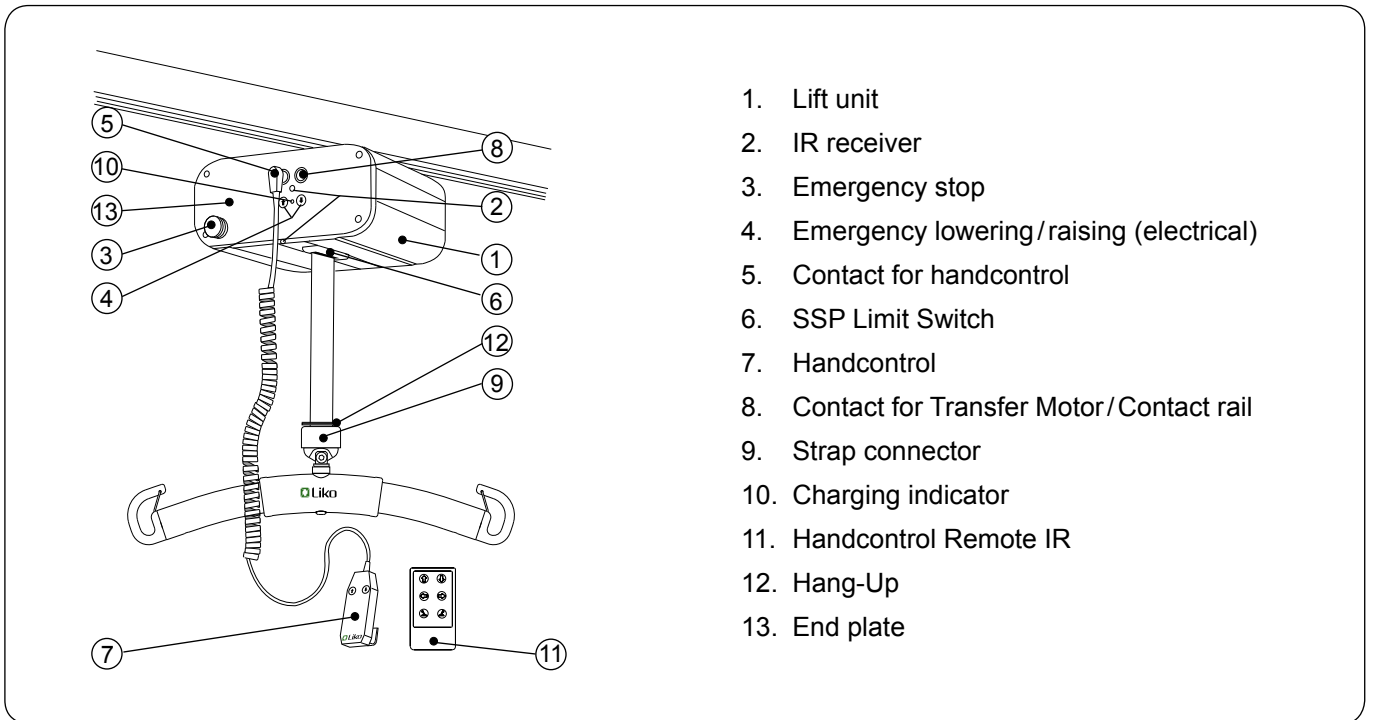
Likorall 243 ES is tested by an accredited testing institute and complies with the requirements of directives for medical-technical Class I products (MDD 93/42/EEC).

Likorall complies with the requirements according to IEC 60601-1, IEC 60601-1-2, EN ISO 10535, UL-60601-1 and CAN/CSA C22.2 No.601.1.

Particular care must be taken when using strong sources of potential disturbance, such as diathermy, etc., so that cables are not positioned on or near the lift. If you have questions, please consult the responsible assistive-device technician or the supplier.

Maximum load: 230 kg/507 lbs.

Definitions



1. Lift unit
2. IR receiver
3. Emergency stop
4. Emergency lowering / raising (electrical)
5. Contact for handcontrol
6. SSP Limit Switch
7. Handcontrol
8. Contact for Transfer Motor / Contact rail
9. Strap connector
10. Charging indicator
11. Handcontrol Remote IR
12. Hang-Up
13. End plate

Likorall has SFS (Single Fault Safety) spool and speed guard. The lift strap has a ten-fold safety margin.

Technical Data


Maximum load: 230 kg / 507 lbs.
Batteries: Two 12 V, 2.6 Ah, valve-regulated lead-acid gel-type batteries. New batteries are available from Liko.
Battery charger: 100-240 VAC, 40-60 Hz, max 600 mA
Lifting speed: 5 cm/s
Lifting range: 200 cm / 78.7 inch. (height adjustable)
Electrical data: 24 V, 12 A
Lift unit dimensions: 320x250x125 mm. LxWxH
 12.6x9.8x4.9 inch. LxWxH


Lift unit weight: 12.6 kg / 28 lbs.

Emergency lowering: Electrical

Intermittent operation: Int. Op 10/90, active operation max 6 min. Out of a time of 100, active must be less than 10, though not more than 6 min.

Degree of protection: IP 43

 Intended for indoor use.

 Type B, according to the degree of protection against electric shock.

Assembly

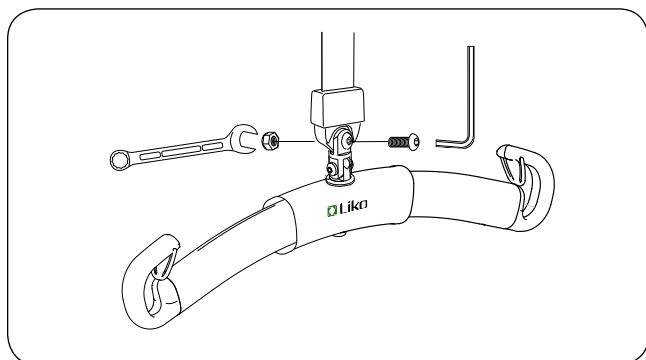
Likorall must be assembled and installed by qualified personnel and in accordance with installation instructions provided by Liko.

After assembly, check to ensure that:

- lift functions correspond to markings on hand-control;
- the electrical emergency lowering is functioning;
- the SSP Limit Switch is functioning;
- the battery charger is functioning and the indicator lamps light during charging;
- the batteries have been charged for 8 hours before the lift is used for the first time;

NOTE! The lifting equipment must always be tested with maximum load after installation.

Mounting lifting accessories

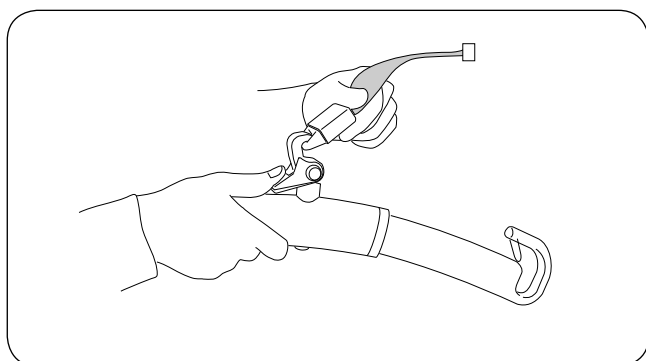


Lift strap with Locking Plate (standard)

Most of Liko's lifting accessories can be used with Likorall.

Use fitted bolt $\varnothing 10 \times 12$ and locking nut M8 (special). These are included with the lifting accessory.

Check that the bolt passes the locking function of the locking nut with 2 mm.



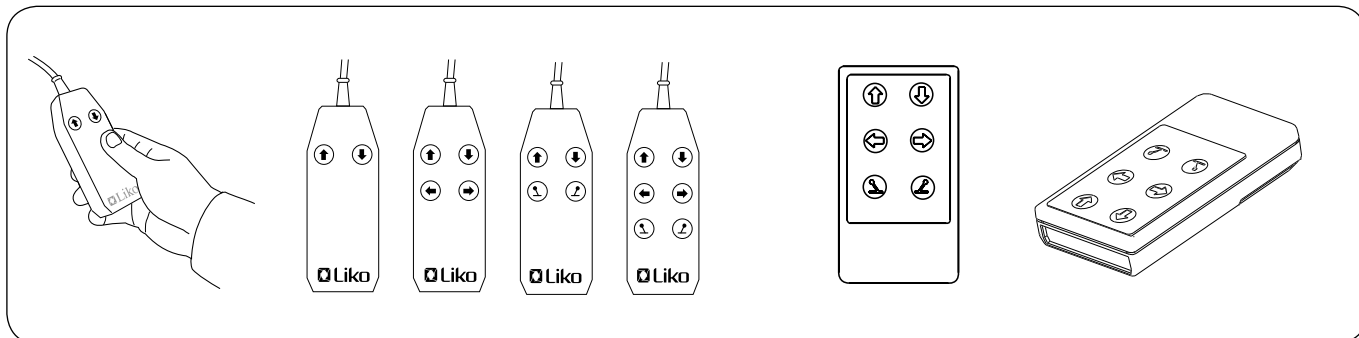
Lift strap with Q-link (accessory)

If the lift strap is equipped with Q-link, Liko's Quick Release Hook system can be used to facilitate exchange of lifting accessories. Read more on page 9.

See applicable assembly instruction for information about how to change strap connector.

Operation

Several different handcontrols can be used with Likorall. Which handcontrol to choose depends on how the Likorall motor and the railsystems are equipped. Special handcontrols are to be used if a transfer motor and/or rail switches are being used or if there is a need for wireless operation of the lift.



Operation

Likorall is operated by lightly pressing the buttons on the handcontrol. Arrows indicate direction. Movement ceases when buttons are released. The handcontrol for Likorall with Transfer Motor has four buttons. Travel along the rail is regulated by pressing the and buttons. Likorall's handcontrol for control of switches has four, alternatively six, buttons. Switch direction is controlled by the and buttons. In the event of malfunction of the handcontrol the lift can be operated by pressing the directional buttons and on the end plate of the lift unit.

Handcontrol Remote IR Prod. No. 3126060

Likorall 243 ES can be equipped with a wireless handcontrol. The handcontrol has six buttons and works exactly like the cable-connected handcontrol (see explanation to the left). The handcontrol normally works within a radius of 2-5 metres from the lift, depending on the angle between the handcontrol and the IR receiver on the end plate of the lift unit. Handcontrol Remote IR is equipped with replaceable batteries (2 pcs. AAA, LR03).

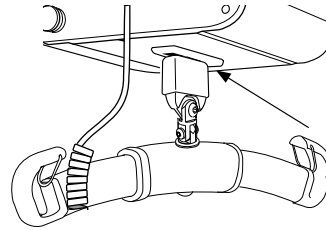
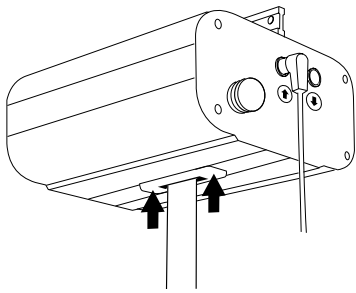


Emergency stop

To stop, in case of emergency: press the red emergency stop button.
To reset: turn the button in the direction of the arrows until it pops out.
 The red button on the end plate of the lift unit is to be used in case of emergency. If the button has been pressed in, the contact between the motor and the source of power supply will disconnect and the lifting movement will stop.

Electrical emergency lowering

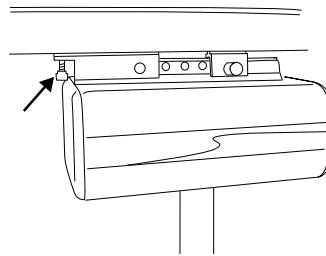
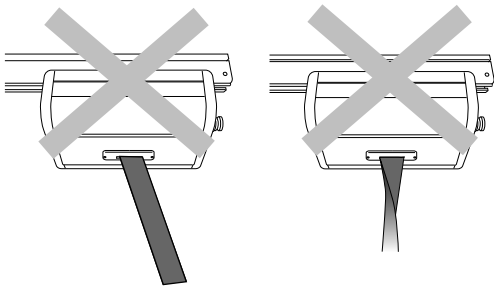
In the event of malfunction of the handcontrol or power supply, the emergency lowering function is activated by pressing the directional button on the lift unit.
 Always ensure that the patient is lowered to a bed, wheelchair or other suitable location.



SSP Limit Switch

The lifting movement stops when the SSP Limit Switch on the underside of the lift unit is touched lightly (see illustration).

If Likorall has been run upward to its highest position, creating a physical contact between the SSP Limit Switch and the strap connector, the SSP Limit Switch will be activated. When the SSP Limit Switch is activated, lifting movement is halted electrically. This protects the lift motor from mechanical strain and also prevents squeeze injuries.



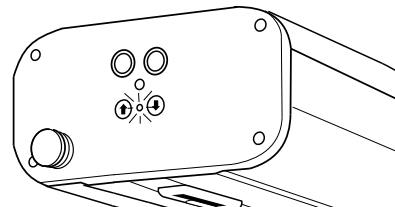
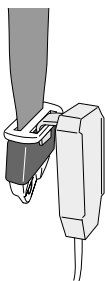
For reliable operation during lifting it is important that the lift strap is as close to vertical as possible (i.e., the lift unit is directly above the centre of gravity). The SSP Limit Switch is intended to halt the lifting motion if the lift strap is subjected to strain that may damage it; e.g., if it pulls at a bias or becomes twisted during lifting. If the SSP Limit Switch is activated, so that lifting is interrupted, upward motion can be resumed when the strap is taut again (a slight delay of motion is normal in this event).

Adjustable Friction Brake

The lift unit's rolling resistance on the rail can be varied by adjusting the friction brake on the carriage. Turn the brake adjustment screw clockwise to increase resistance and counter-clockwise to reduce resistance.

The following carriages are equipped with adjustable friction brakes: Prod. No. 3126011 and 3126015.

⚠ Caution: Operate the lift only when tension is applied to the lift strap!



Hang-Up Handcontrol Hanger

When not in use, the handcontrol can be hung on the Hang-Up.

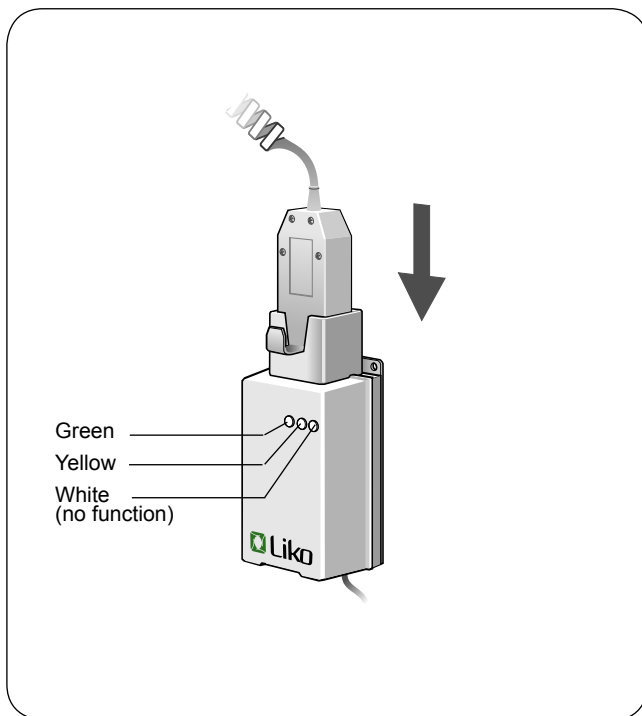
Charging indicator

Likorall has two indicators for low battery charge:

- a buzzer sounds during lifting
- a diode lights up during lifting

The battery should be charged immediately when either of these indicators is activated.

Charging the Batteries



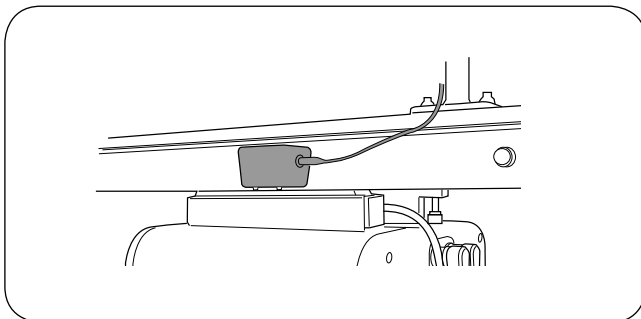
To ensure maximum battery life, it is important that batteries are charged regularly. We recommend charging whenever the lift is not in use.

Maximum charge is reached after maximum 8 hours. Fully charged batteries in perfect condition are good for about 60 normal lifting cycles.

The charger is approved for use in wet areas.

1. Check to ensure that the emergency stop button is not pressed in during charging.
2. Place the handcontrol in the socket on top of the charger.
3. Plug the charger into a 100-240 VAC wall socket.
4. The green lamp lights to indicate that the charger is connected to the power supply.
5. Charging begins automatically and the yellow lamp indicates that charging is in progress.
6. Once the battery is fully charged, the charger shuts off automatically and the yellow light goes out.

Alternative charging procedure



Multi Station

Prod. No. 3126110

As an alternative to charging via the handcontrol, Likorall can be charged with a Multi Station. In this case Likorall needs to be equipped with a Multi-connector or a Transfer Motor. The batteries are then charged by parking the lift unit in the charging position at the Multi Station.

This charging procedure is also suitable when Likorall is operated by Handcontrol Remote IR.



Old batteries are to be left at the nearest recycling station or given to personnel authorized by Liko.

Maximum Load

Different maximum load limits may apply for the different products constituting the compound lift unit: lift, slingbar, sling and other accessories. It's always the product with the lowest maximum load that determines the maximum load for the compound lift unit. For example: A Likoall that is approved for 230 kg/507 lbs. could be equipped with a slingbar that is approved for 300 kg/660 lbs. In this case a maximum load of 230 kg/507 lbs. applies for the compound lift unit.

Study the markings of the lift and accessory or contact your Liko representative if you have any questions.

Recommended Lifting Accessories

Liko's product range includes many slings, stretchers, scales and other accessories to meet most lifting needs. Appropriate slingbars for Likoall are listed below.

Consult the sling instruction guide for advice on combining Liko slingbars and slings, or contact Liko if you are still unsure.

For choice of appropriate lifting accessories, see our accessory brochures and other product information.

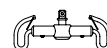
For further guidance in selecting the right sling, study the instruction guide for each sling model. For advice and information about new products in Liko's product range, contact your Liko representative or visit www.liko.com.

Slingbars

Slingbar Mini 220

Max. 205 kg/450 lbs

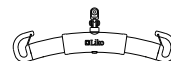
Prod. No. 3156005



Universal Slingbar 350

Max. 300 kg/660 lbs

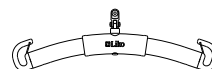
Prod. No. 3156074



Universal Slingbar 450

Max. 300 kg/660 lbs

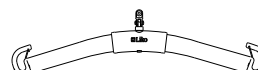
Prod. No. 3156075



Universal Slingbar 600

Max. 300 kg/660 lbs

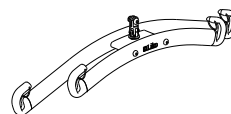
Prod. No. 3156076



Universal Twinbar 670

Max. 300 kg/660 lbs

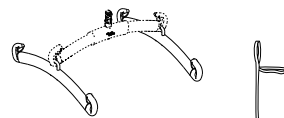
Prod. No. 3156077



Universal Side bars 450 incl. storage bag

Max. 300 kg/660 lbs

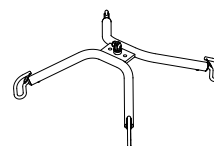
Prod. No. 3156079



Sling Cross-bar 450

Max. 300 kg/660 lbs

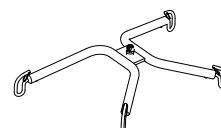
Prod. No. 3156021



Sling Cross-bar 670

Max. 300 kg/660 lbs

Prod. No. 3156018



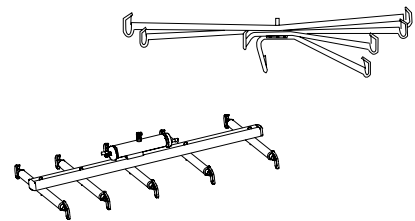
Quick-release Hook

Liko Quick-release Hook system enables quick and easy exchange of lifting accessories on Liko's mobile and overhead lifts. Likorall 243 ES can be equipped with Q-link (Prod. No. 31590005) so that it can be used with Quick-release Hook mounted on the lifting equipment. Quick-release Hook Universal (Prod. No. 3156508) fits Universal Slingbar 350, 450 and 600 (Prod. No. 3156074-3156076). Quick-release Hook TDM (Prod. No. 3156502) fits Slingbar Mini 220 (Prod. No. 3156005) and Sling Cross-bar 450 and 670 (Prod. No. 3156021 and 3156018). See "Guide to Liko's Quick-release Hook system" which can be downloaded at our website www.liko.com. Contact Liko for more information about the use and features of the Quick-release Hook system.



Stretchers

All Liko stretcher models can be used in combination with Likorall. Contact Liko for more information.



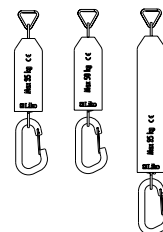
Scale

In need of weighing persons in combination with Likorall, we recommend the use of LikoScale. The scale is preferably used with Adapter kit LikoScale. LikoScale is certified according to the european directive NAWI 90/384 (Non Automatic Weighing Instruments). Contact Liko for more information.



Support Springs

Elastic springs enable a gentler springing motion, which makes activities such as gait training easier and more natural. Springs are available in two sizes: Short (Prod. No. 3166512) and Long (Prod. No. 3166511). Both sizes are intended for lifting less than 70 kg (154 lbs.). For patient weights up to 100 kg (220 lbs.) use Prod. No. 3156513 (short). See Instruction Guide for Liko MasterVest, mod. 60, 64, or Liko Lift Pants, mod. 92, for more information.



Liko Bathing Chair Prod. No. 3156025
Contact Liko for more information.



Slingbar Cover Paddy 30 Prod. No. 3607001
(fits Universal Slingbar 350, 450 and 600 and Slingbar Slim 350)

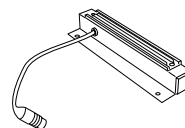


Hang-Up Handcontrol Hanger Prod. No. 3156100
10 pcs/set



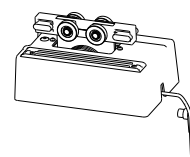
Multi-connector Prod. No. 3126111

The Multi-connector is mounted on Likorall, enabling the lift to operate rail switches and be charged via the rail system. This requires that the rail system also is equipped with a Multi Station (Prod. No. 3126110).



Transfer Motor Prod. No. 3126044

Likorall 243 ES is prepared for use with the Transfer Motor, which enables motorized transfer of the lift unit along the rail.

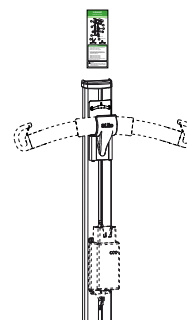


Parking Panel

Parking Panel 600 Prod. No. 3126005

Parking Panel 1500 Prod. No. 3126006

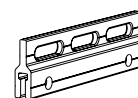
Enclosed with the Parking Panel is a set of short instructions for the most important lift functions, a charger plate on which to fasten the battery charger and a parking bracket for the slingbar. (Charger and slingbar are not included).



Carriage Adapter LR for Quick-release Hook Prod. No. 3126029

The Carriage Adapter makes it possible to, easily and without tools, move a Likorall motor from one rail system to another.

Contact Liko for more information.

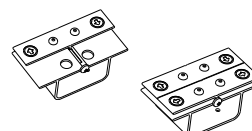


Easy Switch

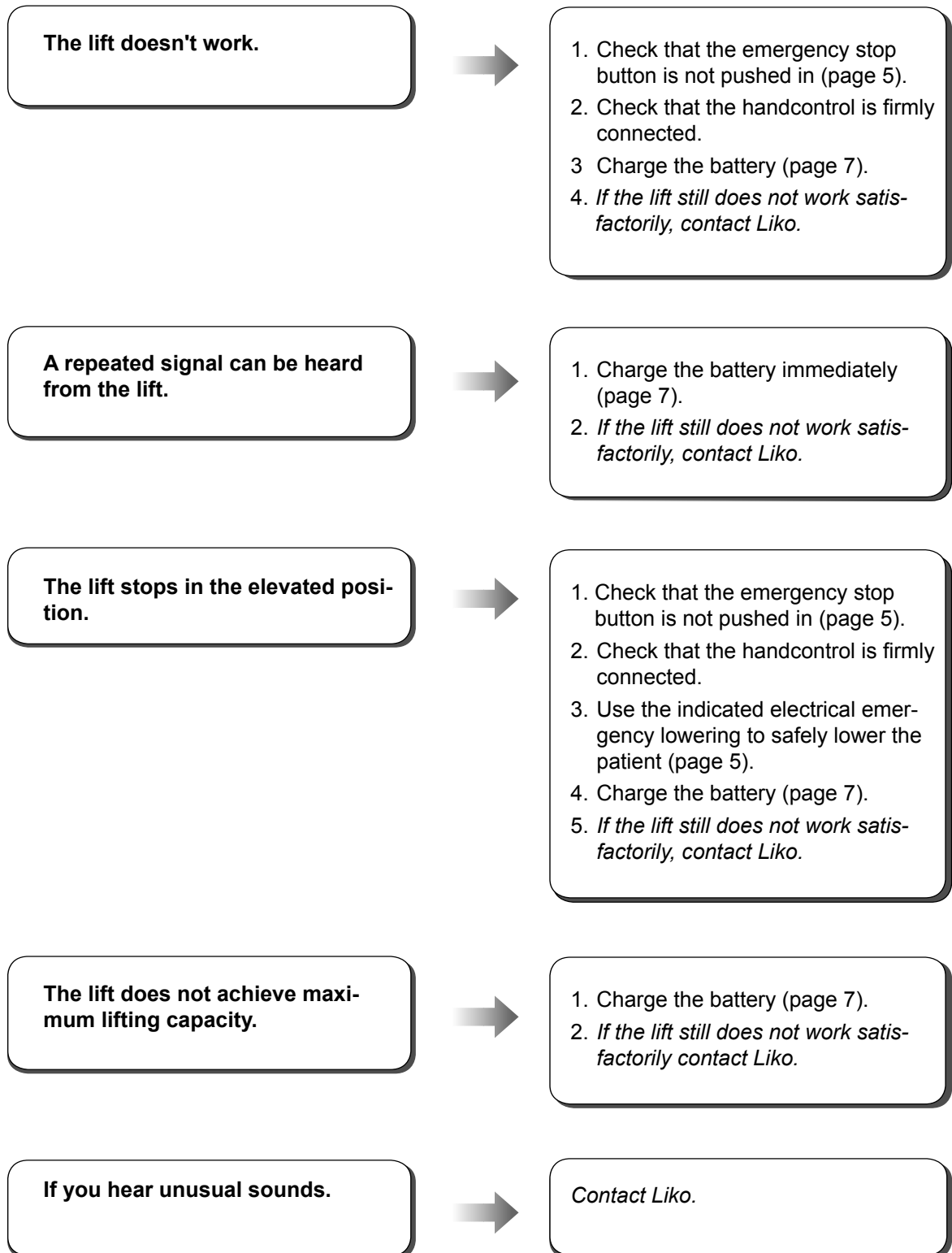
2-button: Prod. No. 3107010

4-button: Prod. No. 3107011

Easy Switch is developed for caregivers/patients who may have a problem operating the lift with the regular buttons on the handcontrol, due to impaired hand functions. Easy Switch can easily be mounted on the handcontrol. Fits with Likorall handcontrols, Prod. No. 3126034, 3126035 and 3126036.



Simple Troubleshooting



Care and Maintenance

For safe and troublefree operation, a few routine procedures should be performed every day the lift is used.

- Visually inspect the lift and check for external damage or wear.
- Check that all screws and lock nuts on the slingbar are tight.
- Check the lift strap for wear and make sure it is not twisted.
- Check that the safety latches work properly.
- Check the operating function for lifting and lowering.
- Check to ensure that the emergency lowering works properly.
- Charge the battery every day the lift has been used, and check the charger function.

When necessary, clean the lift with a moist cloth, using common surface cleaners or disinfectants. **NOTE! Do not use cleaning products that contain phenol or chlorine, since these can eventually damage aluminum and polyamide material.**

Inspection and control

Likorall should be thoroughly inspected for wear of parts at least once per year. Inspection should be in accordance with Liko service manual and conducted by authorized personnel.

△ IMPORTANT!

Repairs and maintenance may only be carried out by personnel authorized by Liko, using original Liko spare parts.

Transport and storage

During transportation, or when the patient lift is not to be used for some time, the emergency stop button should be pushed in. Store the lift at a temperature exceeding freezing point and at normal relative humidity (no more than 60 %).

Service agreements

Liko invites you to sign a service agreement for regular maintenance and testing of your Likorall lift. Contact your local Liko representative for more information.

Liko's products are constantly being updated and refined. Liko reserves the right to change aspects of the products without prior notice. Contact your local Liko representative for updated information and advice.

Recycling

For instructions on how Likorall should be recycled, please visit our website www.liko.com.

Made in Sweden

Liko is quality certified according to ISO 9001 and its equivalence for the medical device industry, ISO 13485. Liko is also certified according to environmental standard ISO 14001.



www.liko.com

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info@liko.se

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info@liko.com

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