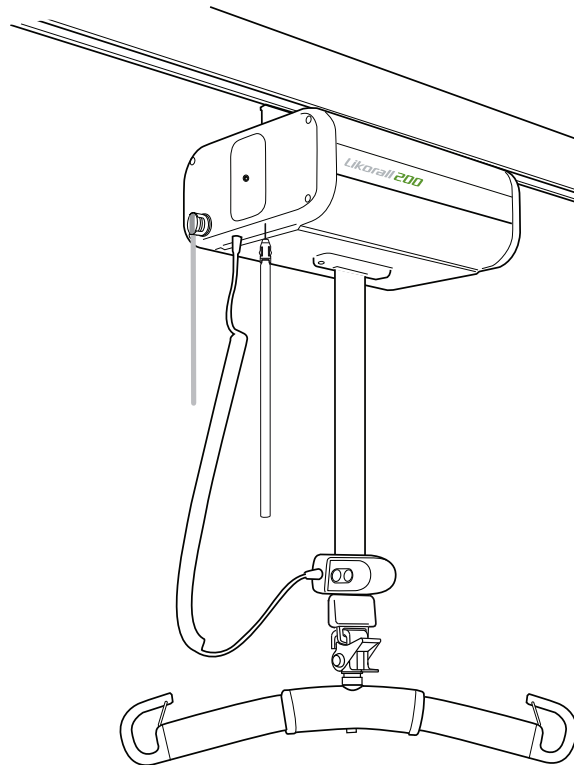


Instruction Guide

English
7EN120114-03
2012-02-01

Applies to the following models:
Likorall 200 Product No. 3121001



Product Description

Likorall is a stationary lift unit often called an “overhead lift”. Likorall is mounted in Liko’s rail system, which is adapted to suit the room/rooms it will be operated in. The rail system can be built straight, with or without curves, as a traverse system and also as a room-to-room system. Liko’s rail system is comprised of several hundred different components, we select the specific components needed to customize each system to suit the room it will be mounted in. The rail system can either be fixed or freestanding, such as Liko FreeSpan and Liko FreeStand. The system must be installed by authorized personnel and in accordance with Liko’s installation instructions.

Likorall is intended for use in lifting and transferring patients, for example, from bed to a wheelchair, to or

from the floor, for visits to the toilet, for gait, standing and balance training, when weighing the patient and when lifting the patient with a stretcher.

Likorall 200 is adapted to Liko’s Quick-release Hook System for safe and easy changing of lifting accessories.

Liko’s Room-to-Room system (R2R), enables the patient to be moved between two rail systems in separate rooms, without connecting rails and without making holes over doors.

A large range of accessories are available for Likorall, including different sling models in a range of types and sizes.

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

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

IMPORTANT!

Read the instruction guide for both the patient lift and lifting accessories before use. Lifting and transferring a person always involves a certain level of risk. It is important to completely understand the contents of the instruction guides. The equipment should only be used by trained personnel. Please contact Liko in the event of any uncertainties or questions.

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△ NOTE! This instruction guide contains important information for product users. All who use the product should review and completely understand the contents of the instruction guide. Remember to keep the instruction guide in a place where it is always available to those using the product.

Safety Instructions

Before using the first time make sure that:

- the lift is assembled in accordance with the assembly instruction
- the lifting equipment is thoroughly attached to the lift
- the batteries are charged for at least 8 hours
- you have read the instruction guides for the lift and lifting accessories
- personnel using the lift are informed of the correct use of the lift and lifting accessories.

Before lifting always ensure that:

- the lift strap is not twisted or worn and can move in and out of the lift unit freely
- the lifting accessories are not damaged
- the sling is correctly and securely applied to the patient in order to prevent injuries from occurring
- the lifting accessory is correctly applied to the lifting equipment
- the sling strap loops are correctly connected to the sling bar hooks when the sling's strap is extended, but before the patient is lifted from the underlying surface
- the emergency lowering device is freely suspended (not interfering with surrounding parts)
- the correct lifting accessory has been chosen, with respect to type, size, material and version in relation to the needs of the patient.



Likorall 200 has been tested by accredited testing institutes and complies with the requirements for MDD Class I products (MDD 93/42/EEC).

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



△ No modification of this product is allowed. Contact Liko for further information.

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

The lift may not be used in areas where flammable mixtures may occur, for example in areas where flammable goods are stored.

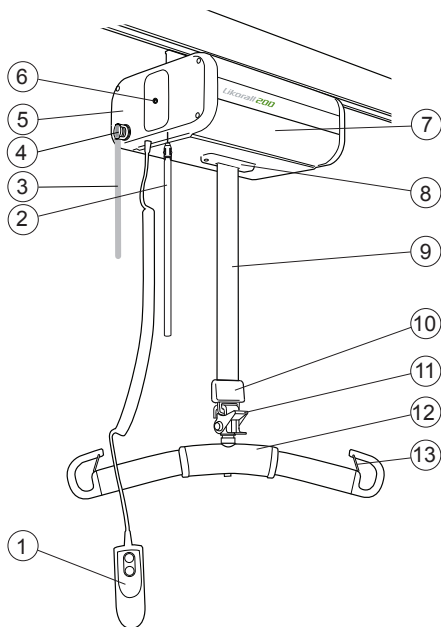
Max. load: 200 kg / 440 lbs.

Technical Data

Maximum load:	200 kg / 440 lbs.	Intermittent power:	Int. Op 10/90, active operation max 0.5 min.
Batteries:	2 x 12 V 2,4 Ah. Valve-regulated lead-acid gel-type batteries. New batteries are provided by the supplier.	Protection class lift motor:	IP 33
Battery charger:	CH01 FW7218M/24; 100-240 V AC, 50-60 Hz, max 500 mA	Sound level:	51 dB
Lifting speed:	50 mm/s / 2 inch./s	Expected life time:	10 years
Lifting interval:	1800 mm / 70.9 inch.	Protection class hand control:	IP 54
Electrical data:	24 V, 12 A	Operating forces hand control:	3N
Lift unit dimensions:	340x250x165 mm (LxWxH) 13.4x9.8x6.5 inch. (LxWxH)	 Intended for indoor use.	
Lift unit weight:	12.5 kg / 27.5 lbs.	 Type B, in accordance with the electrical shock protection class.	
Emergency lowering device:	Electrical		

Likorall is equipped with a SFS (Single Fault Safety) safety drum. This patented safety design provides protection against uncontrolled lowering. The lift strap has a tenfold safety.

Definitions



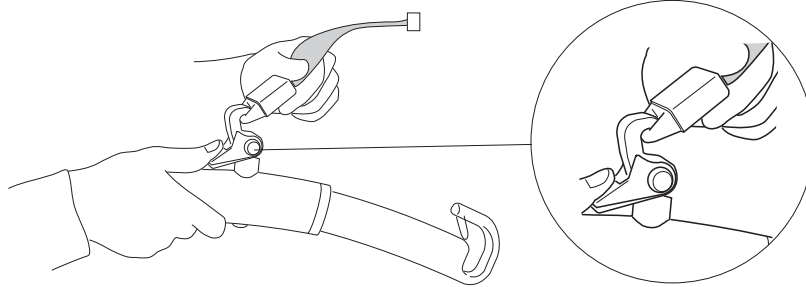
1. Hand control with spring clamp
2. Emergency lowering device (electric)
3. Emergency stop string
4. Emergency stop
5. End cover
6. Charge indicator
7. Lift unit
8. SSP Limit Switch
9. Lift strap
10. Q-link (quick fastener)
11. Quick-release hook
12. Sling bar
13. Safety latches

Assembly

Likorall may only be mounted and installed by authorized staff and in accordance with the installation instructions supplied by Liko.

After assembly, ensure that:

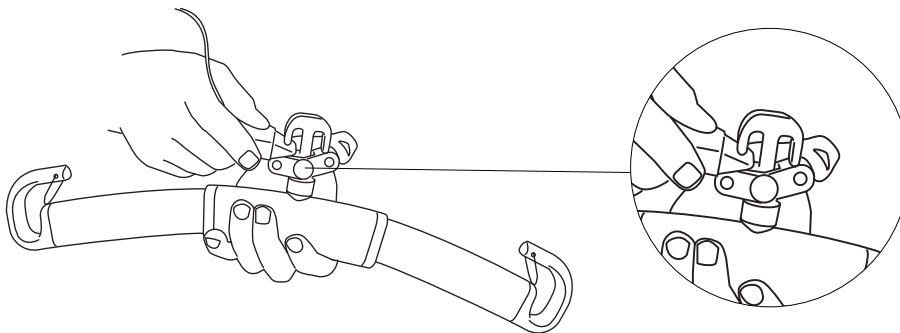
- the lift's functions correspond to the markings of the hand control
- the electrical emergency lowering device functions properly
- the SSP Limit Switch functions properly
- the battery charger functions properly and the indicator lamps are illuminated during charging
- the batteries are charged for at least 8 hours before the lift is used for the first time.



Mounting lifting accessories using Quick-release Hook

Likorall 200 is equipped with Q-link (Quick-fastener), which is combined with Liko's Quick-release Hook's for safe and easy mounting of lifting accessories. Liko's Quick-release Hooks are protected against unintentional detachment.

Find out more about Liko's Quick-release Hook system on page 10.

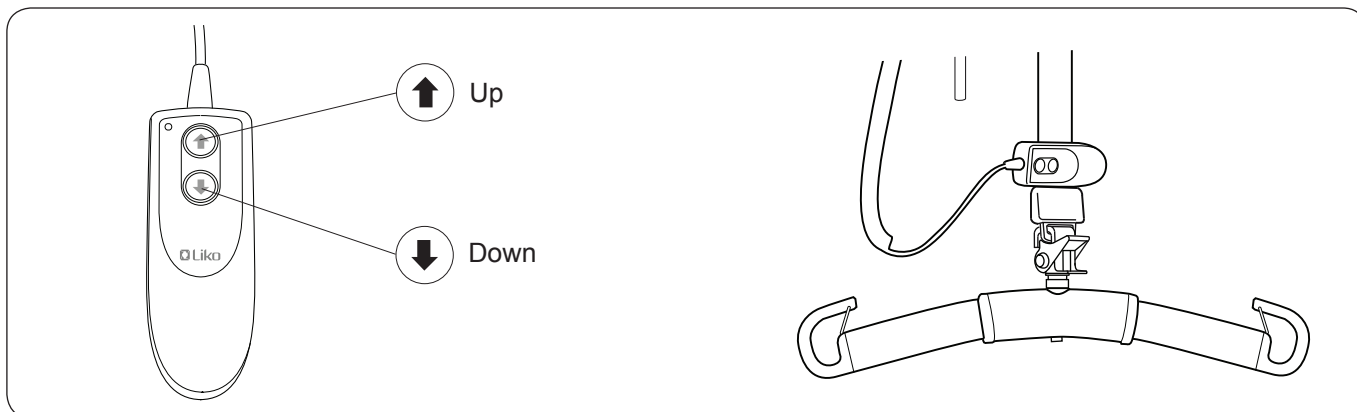


Mounting lifting accessories R2R (Room-to-Room)

The R2R sling bar has a double hook with Quick-release. The double hook is protected against unintentional detachment.

Find out more about transferring from room to room on page 8.

Operation

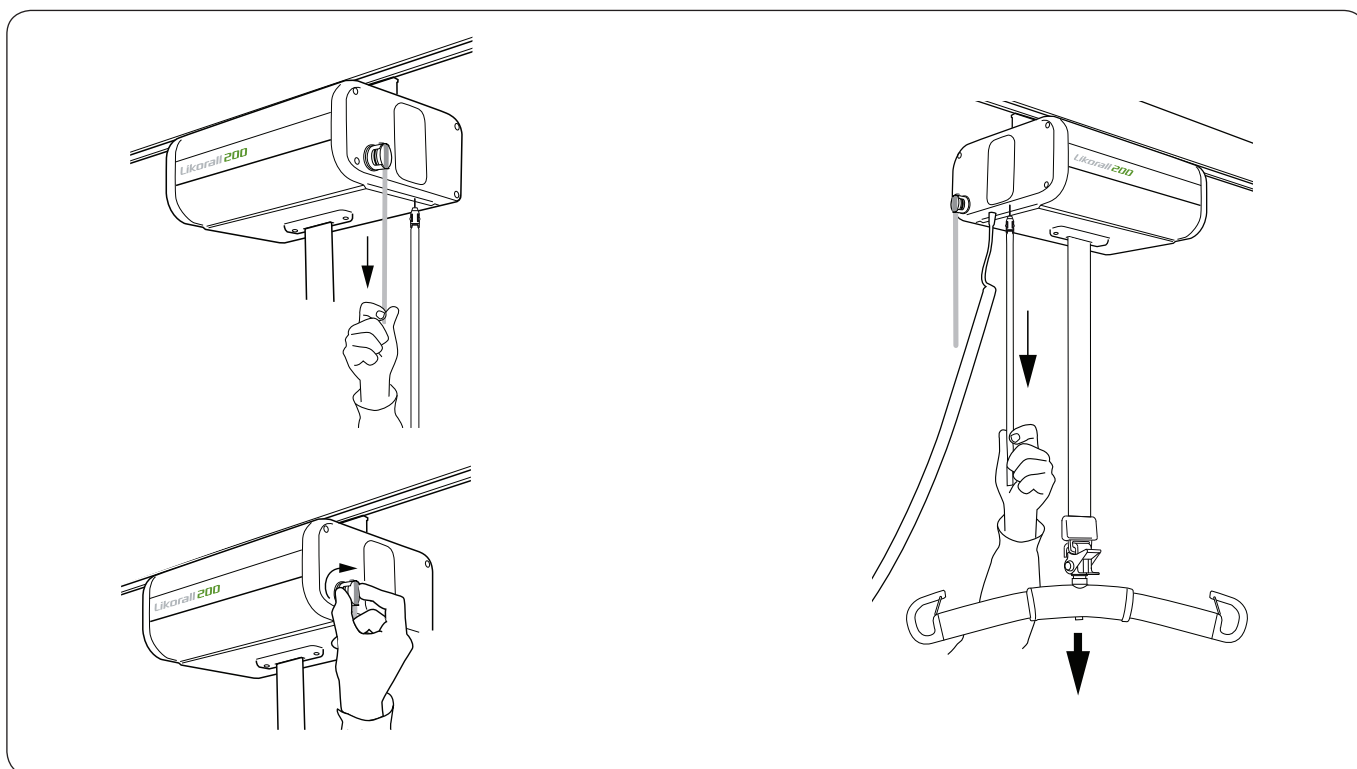


Manoeuvring

The lifting motion in Likorall 200 is controlled using an attached hand control. Likorall 200 is manoeuvred by pressing lightly on the hand control buttons. The arrows indicate the direction. Motion ceases when the button is released.

Hand control with spring clamp

When the lift is not in use, the hand control can be attached to the lift strap using the spring clamp on the back side of the hand control.



Emergency stop

To activate the emergency stop: pull the red emergency stop string.

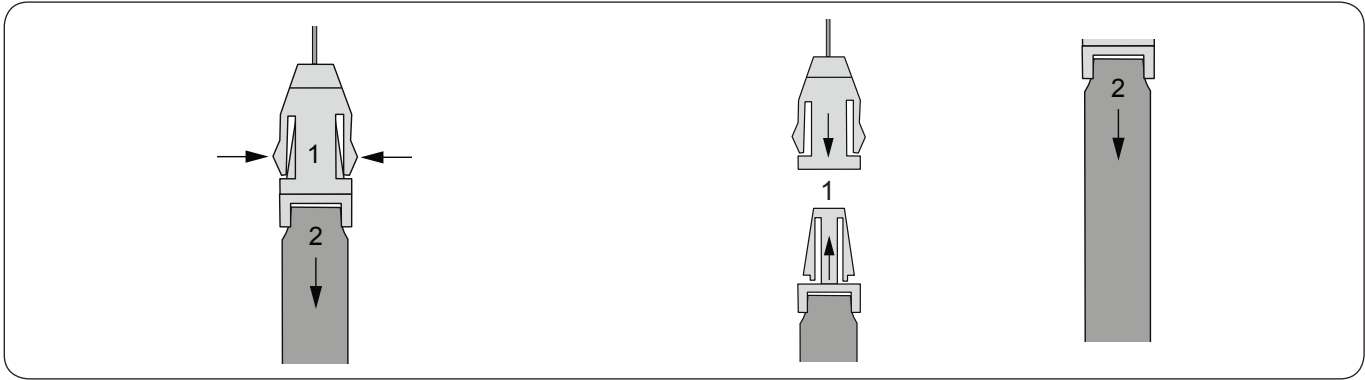
To reset the emergency stop: turn the red emergency stop button in the direction shown by the arrows.

The red button on the lift unit end cover is intended for use if an emergency situation occurs. When the button is pressed, contact between the motor and power source is broken, which stops the lifting motion.

Electrical Emergency lowering

In the event that the hand control or electronics malfunction, the lift can be lowered by pulling on the emergency lowering device.

In the event of emergency lowering, always ensure the patient is lowered into a bed, wheelchair or other suitable place.



Loosen the emergency lowering device strap

1. Press in, see illustration.
2. Pull simultaneously the strap (during 1.) see illustration.

Fasten the emergency lowering device strap

1. Push together the parts until you hear a "click" sound, see illustration.
2. Check if the strap is correctly fastened, by pulling the strap, see illustration.

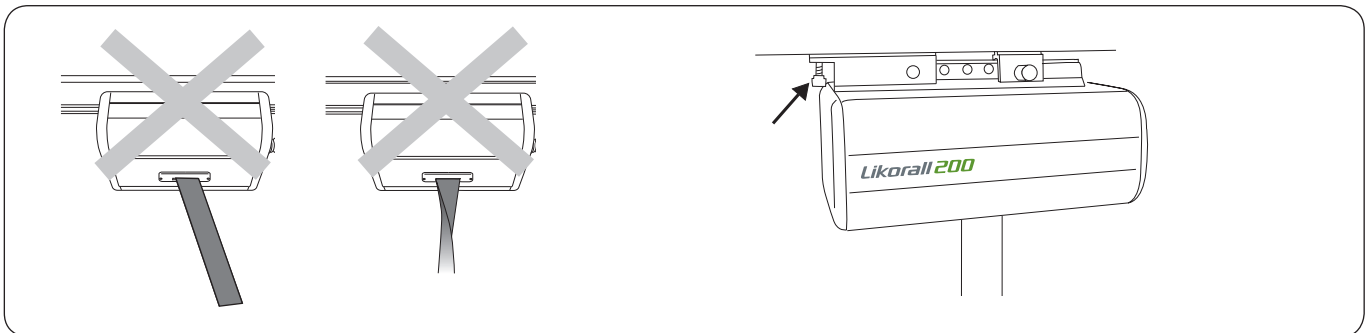


SSP Limit Switch

The lifting motion is broken by lightly pressing on the SSP Limit Switch on the underside of the lift unit (see the illustration).

SSP Limit Switch activated by the Q-link

When Likorall's lift strap reaches its highest position and physical contact occurs between the SSP Limit Switch and Q-link, the SSP Limit Switch is activated. Its function breaks the lifting motion electrically and protects the lift unit against mechanical load. The SSP Limit Switch also provides squeeze protection.



SSP Limit Switch activated by the Lift strap

It is important that the lift strap's lifting motion is performed as vertically as possible to ensure safe operation. The SSP Limit Switch is intended to break the lifting motion if the lift strap is subjected to harmful strain, for example if it is pulled sideways or folded over during the lifting motion. If the SSP Limit Switch is activated so that the lifting motion stops, the lift can once again be operated after the lift strap is straight again (a short delay may occur when re-starting the lifting motion is normal in these cases).

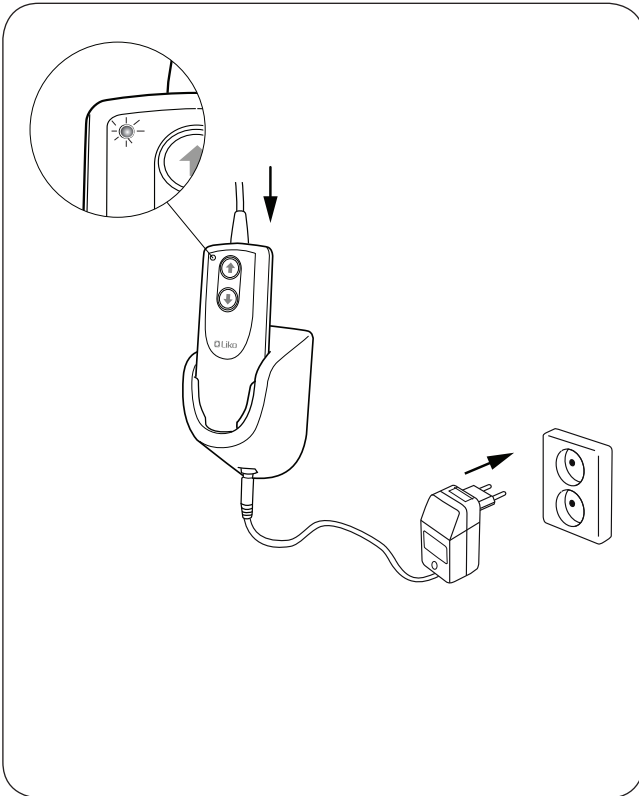
△ Be aware that the lift strap is kept straight and stretched when it runs in and out of the lift unit.

Adjustable friction brake

The amount of drag on the lift unit is adjusted with the friction brake on the carriage. Turn the brake clockwise for increased resistance and counter clockwise to reduce resistance.

The following carriages have a friction brake:
prod. no. 3126011 and 3126015.

Charging the Batteries

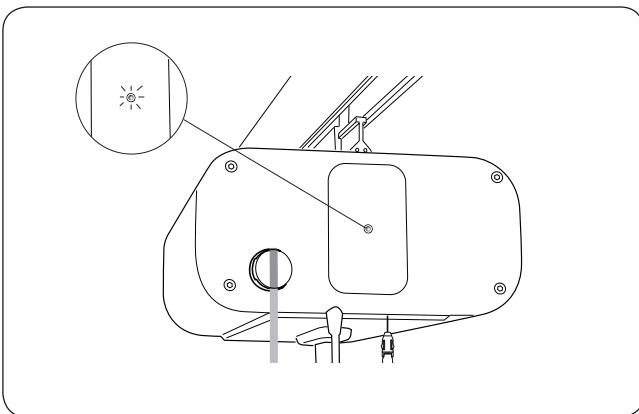


In order to ensure maximum battery life, it is important to charge the batteries regularly. We recommend that you charge the batteries after use or every night.

A full charge is achieved after max. 8 hours. Fully charged batteries will last for approx. 60 lift cycles.

1. Check to ensure that the emergency stop button is not pressed in during charging.
2. Place the hand control in the charging station and connect the charger.
3. Connect the charger to a 100-240 V AC electric socket.
4. A LED on the hand control will illuminate and indicates that the charger is connected to a power source.
5. Charging starts automatically and a yellow LED on the lift unit indicates that the batteries are charging.
6. When the battery is fully charged, the charger will shut off automatically and the yellow LED turns off.

NOTE! When the lift will not be in use for a long period of time, place the hand control in the charger unit in order to charge the battery.



Charge indicator

Likorall has two indicators that warn when the battery has a low charge:

- Buzzer that sounds when lifting
- LED that illuminates during lifting

When either of these warning signals sound or illuminate, the unit should be charged as soon as possible.

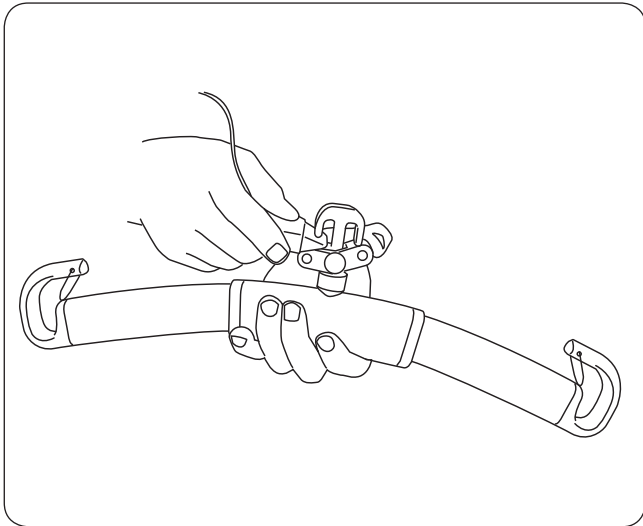


Old batteries are to be left at the nearest recycling station or given to personnel authorized by Liko.

Transferring from Room to Room

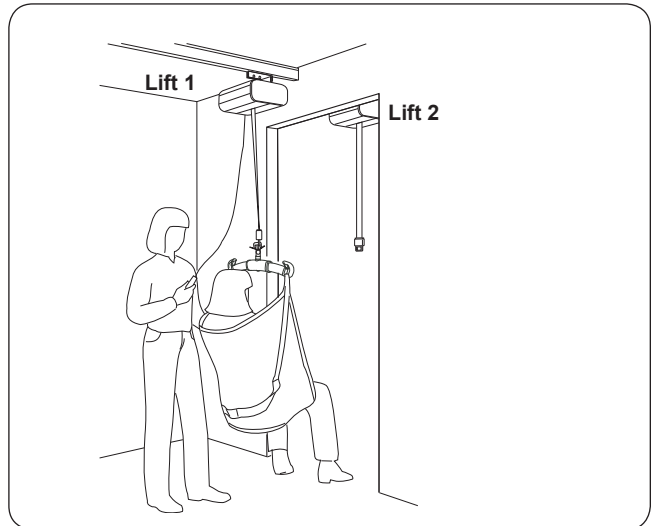
Liko's Room-to-Room system (R2R) is an effective solution for safe and easy transfer of patients between two or more rooms. The R2R system is mounted without making openings in walls over doors and full isolation is therefore retained between the rooms supported by the system.

Transfer is performed in a safe and easy manner, with the aid of separate lift units and a rail system for each room. Liko's R2R sling bar makes it possible to link together two lift units when moving a patient from room to room. The movement between two rooms is performed with a comfortable transition for the patient from one lift unit to another.

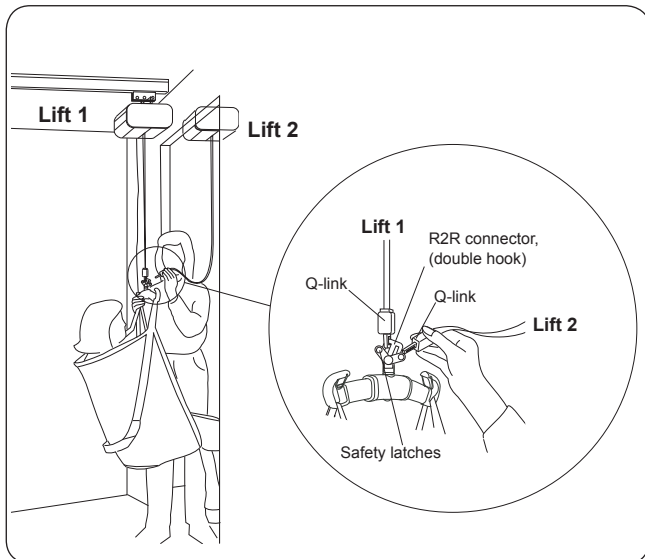


Mounting a sling bar R2R (Room-to-Room)

The R2R sling bar has a double hook with Quick-release. The double hook is protected against unintentional detachment.

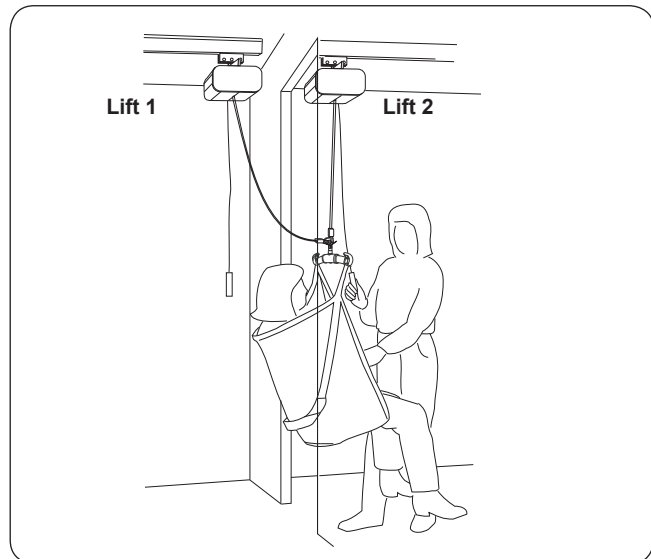


1. Move lift 1 with the patient as close to the door opening as possible. Lower the patient as far down as possible, with regard to patient comfort.



2. Move Lift 2 forward as close to the door opening as possible. Move down the lift strap from Lift 2 to a sufficient length and connect the Q-link to the R2R sling bar.

Check to ensure that the safety latches on the R2R connector function properly.



3. Operate Lift 2. The patient is successively moved to the next room and at the end they are suspended in Lift 2 only. When the pressure is relieved from the lift strap for Lift 1, disconnect the lift strap from the R2R sling bar and the transfer can be carried out in the next room.

NOTE! To free Q-link from the R2R sling bar, it may be necessary to let out additional strap from Lift 1.

Maximum Load

Different maximum loads may apply to different products on the assembled lift system: rail system, lift, sling bar, sling and any other accessories used. For the assembled lift system, including accessories, the maximum load is always the lowest maximum load rating for any of the components. For example: a Likorall that is approved for 200 kg (440 lbs) can be equipped with a sling bar that is approved for 300 kg (660 lbs.). In this case, the maximum load of 200 kg (440 lbs.) applies to the assembled lift system. Study the markings on the lift and lifting accessories or contact your Liko representative if you have any questions.

Recommended Lifting Accessories

△ Using other lifting accessories than those recommended below may induce risk.

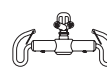
Liko's product range contains a wide assortment of sling bars, slings, stretchers, scales and other accessories to solve most lifting needs. Below is an overview of the lifting accessories available for Likorall 200.

To select suitable slings and other lifting accessories, please see the "Lifting Accessories" brochure. For additional guidance in selecting a sling, study the instruction guide for the respective sling models. Here, you will also find guidance for combining Liko's sling bars with Liko's slings.

Contact your Liko representative or visit www.liko.com for advice and information on Liko's product range.

SlingBar Mini 220 R2R
Max. load 205 kg (440 lbs)

Prod. No. 3156006



Universal SlingBar 350 R2R
Max. load 300 kg (660 lbs)

Prod. No. 3156094



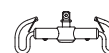
Universal SlingBar 450 R2R
Max. load 300 kg (660 lbs)

Prod. No. 3156095



SlingBar Mini 220
Max. load 205 kg (440 lbs)
(Requires Quick-release Hook TDM)

Prod. No. 3156005



Universal SlingBar 350 with Quick-release Hook
Max. load 300 kg (660 lbs)

Prod. No. 3156084



Universal SlingBar 450 with Quick-release Hook
Max. load 300 kg (660 lbs)

Prod. No. 3156085



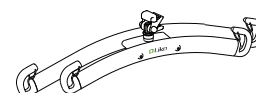
Universal SlingBar 600 with Quick-release Hook
Max. load 300 kg (660 lbs)

Prod. No. 3156086



Universal SlingBar 670 Twin with Quick-release Hook
Max. load 300 kg (660 lbs)

Prod. No. 3156087



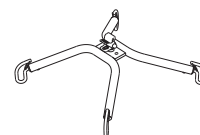
Universal SideBars 450 including bag
Max. load 300 kg (660 lbs)

Prod. No. 3156079



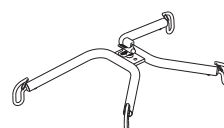
Sling Cross-bar 450 with Quick-release Hook
Max. load 300 kg (660 lbs)

Prod. No. 3156022



Sling Cross-bar 670 with Quick-release Hook
Max. load 300 kg (660 lbs)

Prod. No. 3156019

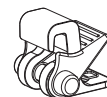


Quick-release Hook

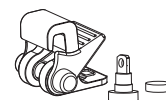
Liko's Quick-release Hooks form a system providing safe and easy changing of lifting accessories. Liko's Quick-release Hooks protect against unintentional detachment. Likorall 200 is used solely with lifting accessories equipped with Quick-release Hooks.

Quick-release Hook Universal fits Universal SlingBar 350, 450 and 600 (Prod. No. 3156074-3156076). Quick-release Hook TDM fits SlingBar Mini 220 (Prod. No. 3156005), Sling Cross-bar 450 and 670 (Prod. No. 3156021 and 3156018) and Universal TwinBar 670 (Prod. No. 3156077).

See the "Guide to Liko's Quick-release Hook System", which can be downloaded from our website www.liko.com, or contact Liko for more information about the advantages and use of the Quick-release Hook system.



Quick-release Hook Universal
Prod. No. 3156508

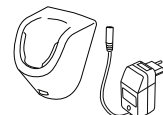


Quick-release Hook TDM
Prod. No. 3156502

Battery Charger Likorall 200

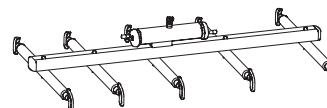
CH01 EU 24V/0.5A
CH01 UK 24V/0.5A
CH01 US/CA 24V/0.5A
CH01 AU/NZ 24V/0.5A

Prod. No. 3126131
Prod. No. 3126132
Prod. No. 3126133
Prod. No. 3126134



Stretcher

All stretchers in Liko's product range can be used with Likorall.
Contact Liko for further information.

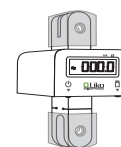


Scale

For weighing persons in combination with the use of Likorall, we recommend LikoScale 350. This can easily be mounted with the LikoScale adapter kit.

LikoScale 350 is certified according to the European Directive NAWI 90/384 (Non Automatic Weighing Instruments).

Contact Liko for further information.



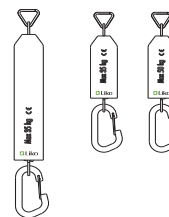
LikoScale 350
Prod. No. 3156228

Liko Support Springs for bounce and gait training

Elastic springs are available as an accessory in order to produce a softer, springy motion, for example, during gait training. The springs are available in three different versions:

Long, 28 cm/11 inch., max 70 kg/154 lbs. patient weight/pair: Prod. No. 3156511
Short, 22 cm/8.7inch., max 70 kg/154 lbs. patient weight/pair: Prod. No. 3156512
Short, 22 cm/8.7 inch., max 100 kg/220 lbs. patient weight/pair: Prod. No. 3156513

Also see the instruction guide for Liko MasterVest, models 60 and 64 or Liko LiftPants model 92, for more information.



SlingBar Cover Paddy 30

(fits Universal SlingBars 350, 450 and 600, as well as SlingBar Slim 350)

Prod. No. 3607001

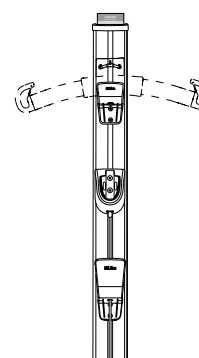


Parking Panel 600, LR/MR Parking Panel 1500, LR/MR

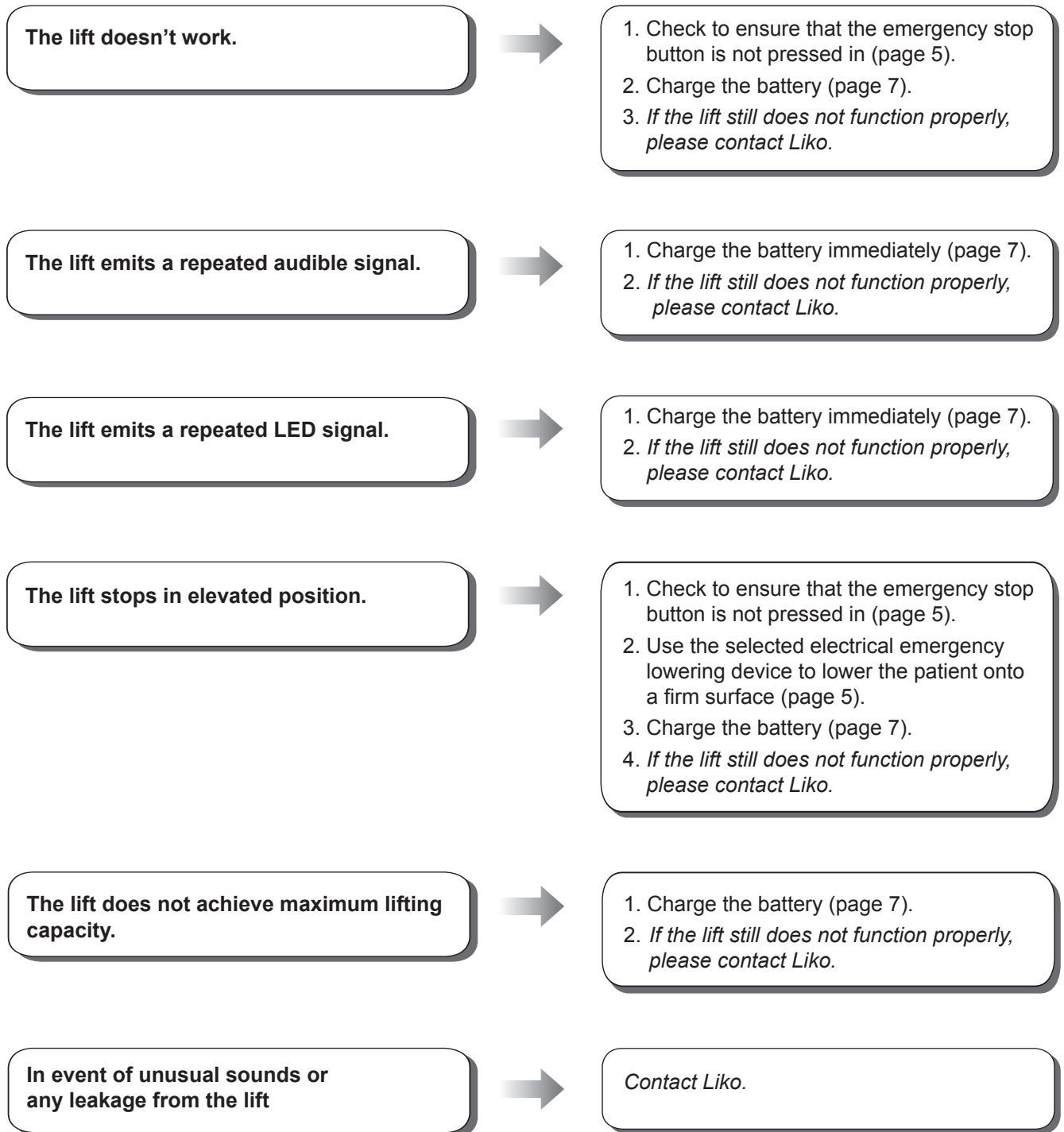
Can be completed with the following accessories:

Hook for SlingBar Prod. no. 3126070
Hook for Accessories Prod. no. 3126071
Quick Reference Guide (see respective product)

Prod. no. 3126075
Prod. no. 3126080



Simple Troubleshooting



Care and Maintenance

Care and Maintenance

For trouble-free use, certain details should be checked each day the lift is used:

- Inspect the lift and check to make sure that there is no external damage.
- Check the sling bar attachment.
- Check the lift strap for wear and to ensure the strap is not twisted.
- Check the functionality of the safety latches.
- Check the control function of the lift movement.
- Check to make sure that the emergency lowering functions.
- Charge the batteries each day the lift is used and check to ensure the charger works.

When necessary, clean the lift with a moist cloth, using warm water or disinfectant.

NOTE! Do not use cleaning agents that contain phenol or chlorine, since these can damage aluminum and plastic materials.

△ **The lift should not be exposed to running water.**

Service

Likorall should be inspected for wear of parts at least once a year.

△ **Repairs and maintenance may only be performed by authorized Liko service personnel using original Liko spare parts.**

Service Agreement

Liko offers the opportunity to enter into service contracts for the maintenance and regular inspection of your Liko products.

Transport and Storage

During transport, or if the lift is not going to be used for a long time, the emergency stop should be engaged. The environment where the patient lift is transported and stored should have a temperature between 10°C and 40°C and a humidity between 30% and 75%. The air pressure should be between 700 and 1060 hPa.

Recycling

For instructions on how to recycle your Liko product, please visit our website: www.liko.com.

Product Changes

Liko's products undergo continuous development, which is why we reserve the right to make product changes without prior notice. Contact your Liko representative for advice and information about product upgrades.

Design and Quality by Liko 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.



A  Company

www.liko.com

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info@liko.se