

Product Description

Multirall 200 is a flexible overhead lift with a versatile range of applications. It is easily movable without compromising on safety and functionality. Multirall also works perfectly as a room-to-room lift.

Multirall can be mounted to the rail system in two different ways, depending on intended use. When mounted with the lift strap under the lift unit (left picture) it works as a normal overhead lift and is easily movable between different rail systems, without the need of tools. When mounted with the lift strap above the lift unit (right illustration), Multirall becomes a flexible room-to-room lift that can be used for transfers of patients between different rail systems in different rooms without requiring openings over doorways.

Multirall is appropriate for all common lift and transfer situations, for example, between bed/wheelchair, to/ from floor, toilet visits, gait training, and for horizontal lifts with stretchers.

Accessories

A large and comprehensive range of accessories is available for Multirall. Liko's product range includes several sling models in many sizes and different designs. Also available as an accessory is a practical trolley for transfer and storage of the lift, as well as an Extension Arm, which facilitates the connection of the lift to the rail system.

Multirall is adapted to Liko's Quick Release System for safe and easy changing of lifting accessories.

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 which require 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 guide. The equipment should be used only by trained personnel. Please contact Liko/Hill-Rom in the event of any uncertainties or questions.

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△ NOTE! This instruction guide contains important information for users of the product. All those who use the product should review and fully 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

△ Installation of carriages for Multirall shall be made by personnel authorized by Liko in accordance with the installation instructions and recommendations for the current lift system.

Before using the lift the first time make sure that:

- the lift is assembled in accordance with the assembly instructions
- the lifting accessories are properly attached to the lift
- the batteries have been charged for at least 8 hours
- you have read the instruction guide for the lift and lifting accessories
- personnel using the lift are informed of the correct use of the lift and lifting accessories
- the lifting accessory is selected appropriately, in terms of type, size, material and design with regard to the patient's needs.

Before lifting, always ensure that:

- the lift strap is not twisted or worn and can move in and out of the lift freely
- the lifting accessories are not damaged
- the lifting accessory is correctly and securely applied to the patient in order to prevent injuries
- the lifting accessories are properly attached to the lift
- the lifting accessories hang vertically and can move freely
- the sling bar latches are intact; missing or damaged latches must always be replaced
- the sling's strap loops are correctly connected to the sling bar hooks when the sling straps are extended, but before the patient is lifted from the underlying surface.

△ Never leave a patient unattended during a lifting situation!



Multirall has been tested by an accredited testing institute and fulfils the requirements specified in the Medical Device Directive 93/42/EEC, for Class I products.

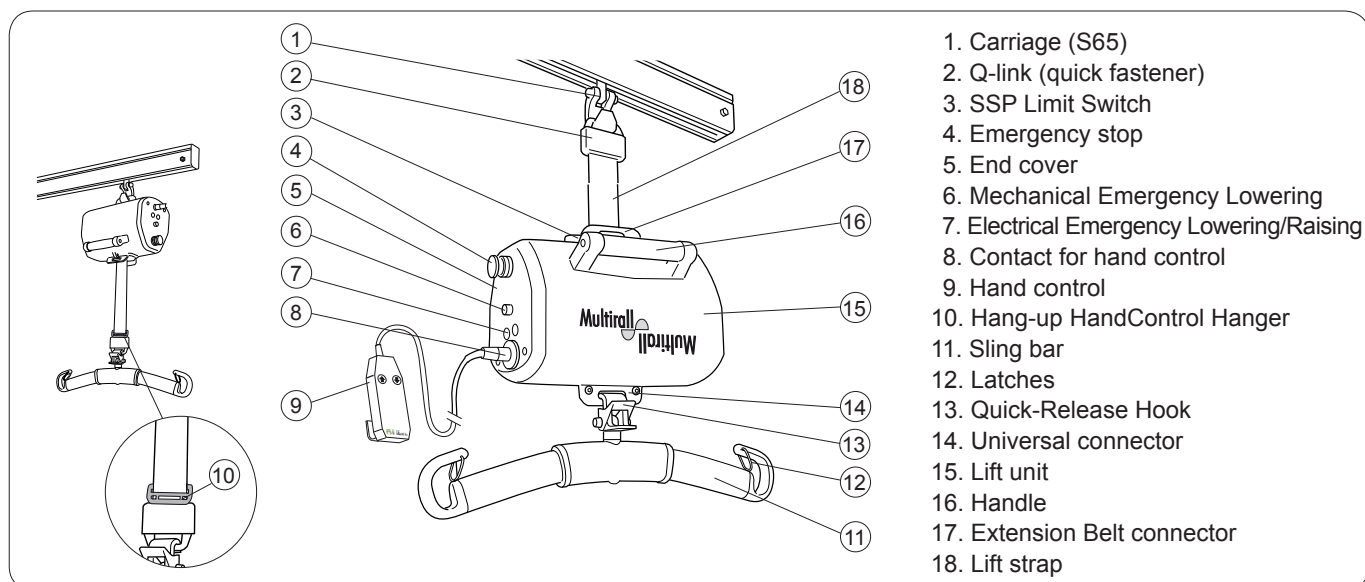
Multirall fulfils the requirements specified under EN ISO 10535:2006, IEC 60601-1, EN 60601-1-2, ANSI/AAMI ES60601-1 and CAN/CSA C22.2 no 60601-1.

△ The lift must not be modified under any circumstances. If you have any questions, please contact Liko/Hill-Rom.

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

The lift is not suitable for use in the presence of flammable mixtures, for example, in areas where flammable goods are stored.

Definitions



Technical Data

Maximum load: 200 kg (440 lbs)

Batteries: 2 X 12 V DC, (2.4 Ah - 2.6 Ah), Valve-regulated lead-acid gel-type batteries. New batteries are provided by Liko.

Battery charger: SMP CC-10-43-24; 100-240 V AC, 40-60 Hz, max 600 mA

Lifting speed: 60 mm/s (2.3 in/s)

Lifting interval: 1600 mm (63 in)

Electrical data: 24 V DC, 8.5 A

Lift motor weight: 8.7 kg (19 lbs)

Emergency lowering device: Mechanical and electrical

Intermittent power: Int. Op 10/90, active operation max 6 min.

Sound level: 62.2 dB(A)

Protection class: IP 30 (lift unit)
IP 43 (hand control)

Operating forces of controls: Button on hand control: 4.5 N
Button on end cover: 4 N

Ambient temperature: Min. + 10°C - Max. + 40°C
(Min. 50° F - Max. 104° F)

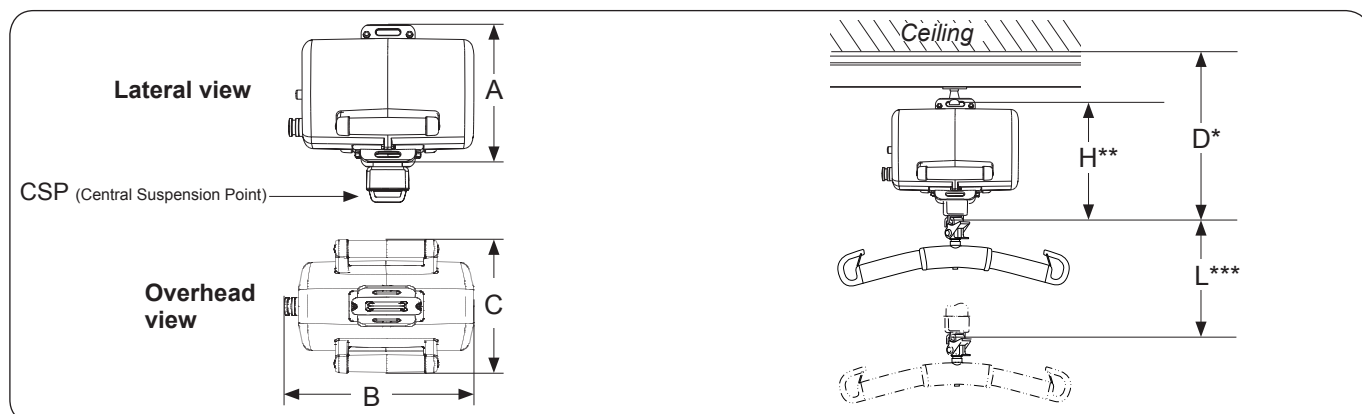
Intended for indoor use.

Type B, in accordance with the electrical shock protection class.

Class II equipment.

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

Dimensions



Measurements in mm.

A	B	C	D*	H**	L***
230	295	210	387	263	1600

Measurements in inch.

A	B	C	D*	H**	L***
9	12	8	15	10.4	63

* Min. distance from ceiling to CSP at max. lifting height.

** Installation dimensions: the distance between the attachment point for the lift unit on the carriage and the CSP at max. lifting height.

*** Lifting interval: the distance between max. lifting height and min. lifting height measured in CSP.

Assembly

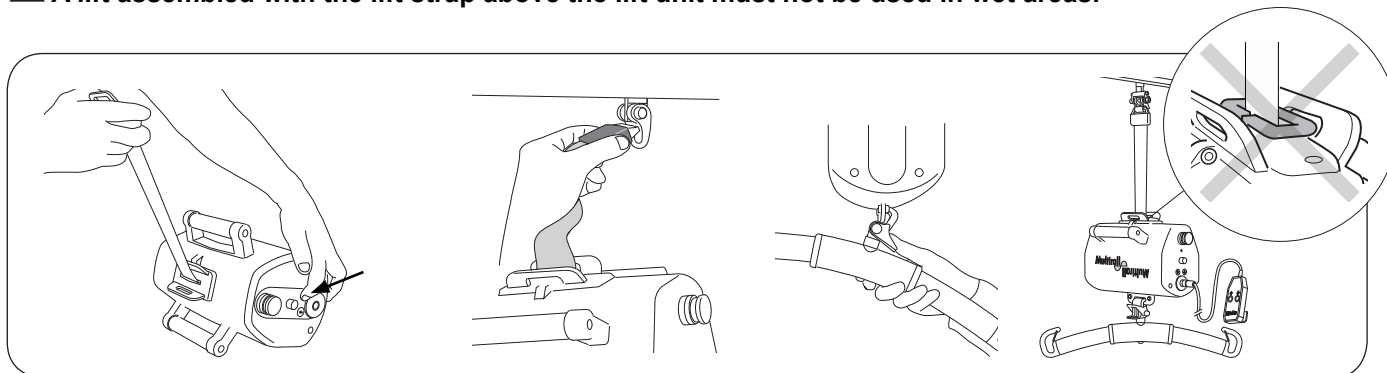
Before the first use, the lift's battery should be charged for at least 8 hours. For detailed instructions, see "Charging the Batteries", p. 6.

Multirall can be mounted to a carriage in two different ways. See alternatives below.

Alt. A, with the lift strap above the lift unit

This alternative is recommended in cases where the lift is to be moved frequently between different rail systems, or when the lift is to be used for room-to-room transfers.

△ A lift assembled with the lift strap above the lift unit must not be used in wet areas.



1. Feed out desired length of lift strap by applying tension to the lift strap and simultaneously pressing the electrical emergency lowering button.

△ Operate the lift only when tension is applied to the lift strap!

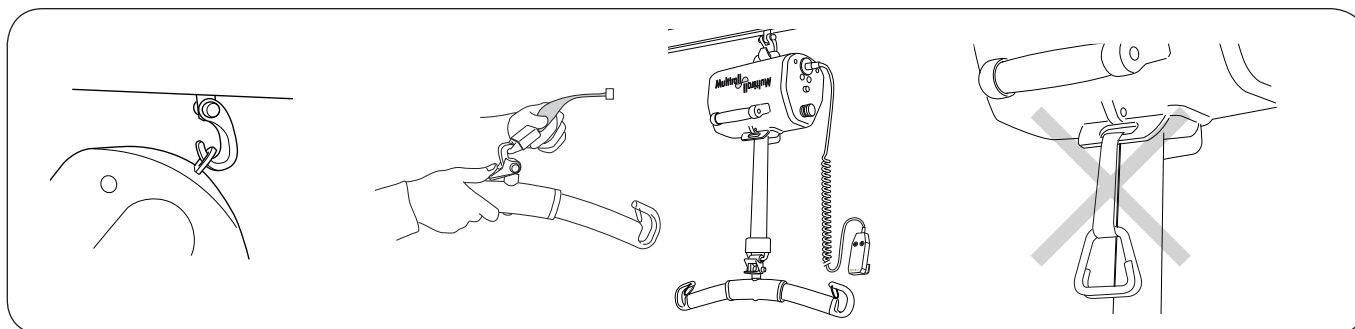
2. Connect the Q-link to the rail carriage and raise the lift to an appropriate height.

3. Connect the desired lifting accessory to the universal connector of the lift unit, see "Operation", p. 5.

NOTE! Remove the Hang-Up HandControl Hanger when the lift is installed with the lift strap above the lift unit.

Alt. B, with the lift strap under the lift unit

This alternative is recommended in cases where the lift is to be installed in the same rail system for a longer period of time without being moved.



1. Install Multirall with the universal connector directly into the carriage hook.

2. Connect the desired lifting accessory to the Q-link, see "Operation", p. 5. The lift strap and lifting accessory are then suspended under the lift unit.

△ Multirall must not be equipped with a Strap Gripper when the lift strap is mounted under the lift unit. This may result in the Strap Gripper getting caught in the lift strap.

After assembly, make sure that:

- the lift's functions correspond to the markings of the hand control
- the mechanical and electrical emergency lowering both work
- the battery charger works properly and the indicator lamps are illuminated during charging
- the batteries are charged.

Operation



Operating

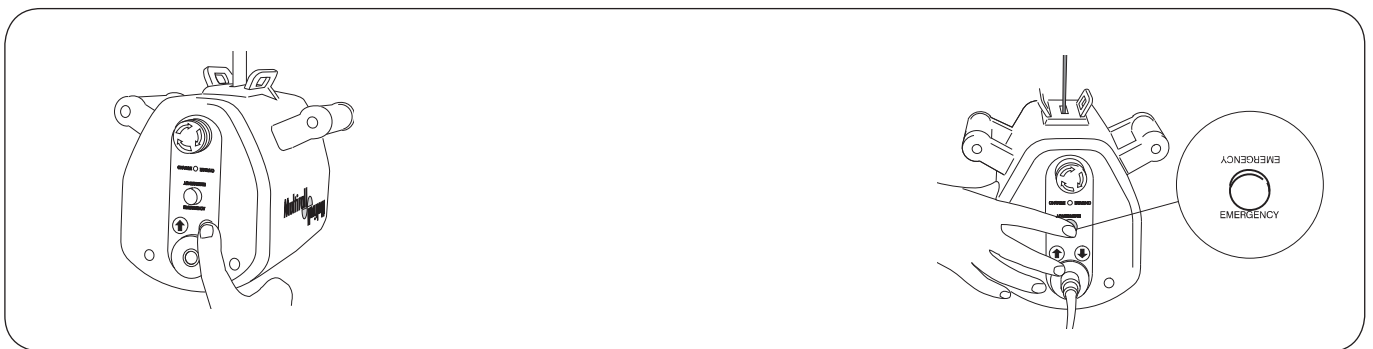
Multirall is operated by lightly pressing the buttons on the hand control. The arrows indicate the direction of movement. The movement stops when the buttons are released. Multirall can also be operated with the corresponding buttons on the end cover of the lift unit.

△ The arrow corresponds to the direction of travel when the lift is mounted with the lift strap above the lift unit.

△ Operate the lift only when tension is applied to the lift strap!

Hang-up HandControl Hanger

When not in use, the hand control can be hung on the Hang-up HandControl Hanger.



Electrical Emergency Lowering

In the event that the hand control or electronics malfunction, the lift can be lowered by pressing the button on the end cover of the lift unit.

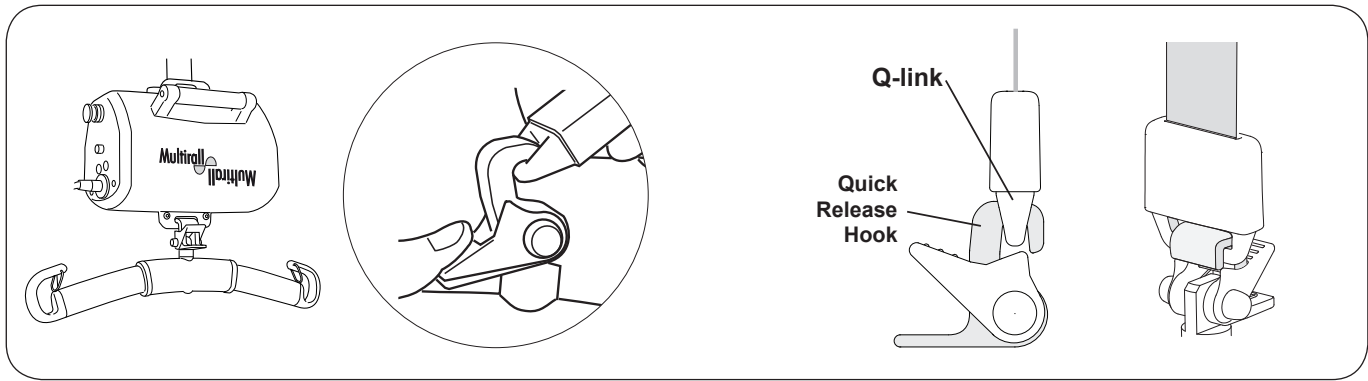
△ The arrow corresponds to the direction of travel when the lift is mounted with the lift strap above the lift unit.

Ensure the patient is lowered into a bed, wheelchair or other suitable place.

Mechanical Emergency Lowering

Press the red button marked “Emergency” on the end cover of the lift unit. Note that load must be applied to the lift in order for the mechanical emergency lowering to work.

Ensure the patient is lowered into a bed, wheelchair or other suitable place.

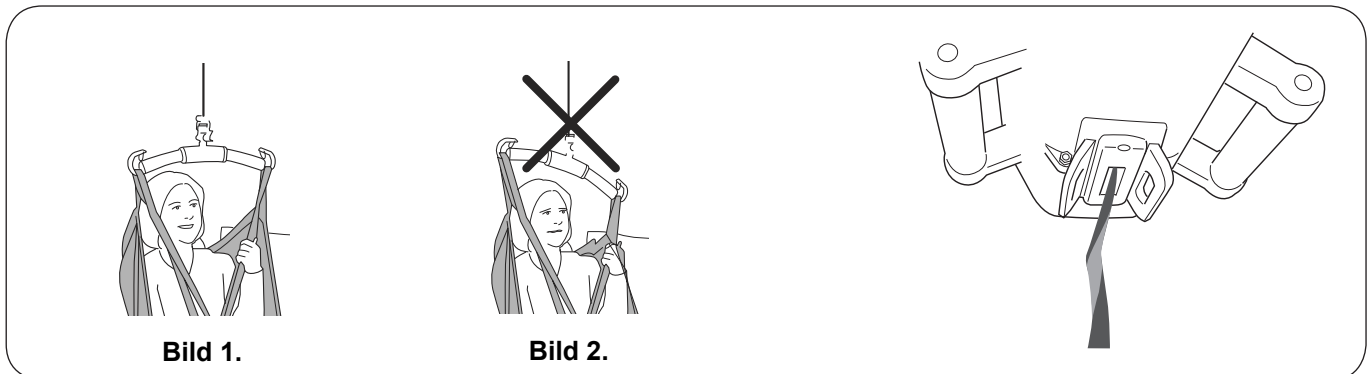


Change of lifting accessories

Multirall is adapted to Liko's Quick Release System for safe and easy changing of lifting accessories.

Lifting accessories that are not equipped with a Quick Release Hook can easily be updated with a Quick Release Hook so that they can be used with Multirall. See "Quick Release Hook", p. 11.

△ Before lifting check that the Quick-release Hook is correctly attached to the Q-link, see illustration above.



Lift correctly!

Before each lift, make sure that:

- the Sling loops at opposite sides of the Sling are at the same height
- all the Sling loops are fastened securely in to the Sling bar hooks
- the Sling bar is level during the lift, see Figure 1.

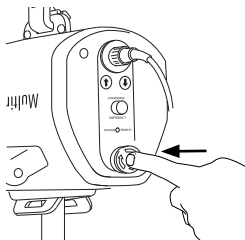
△ If Sling bar is not level (see Figure 2), lower the user to a firm surface and adjust according to the Sling in use Instruction Guide.

△ An improper lift can be uncomfortable for the user and cause damage to the lift equipment! (see Figure 2).

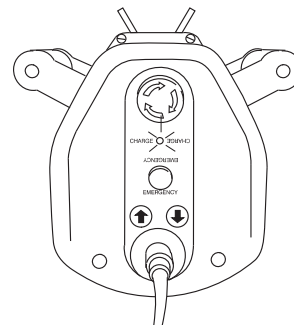
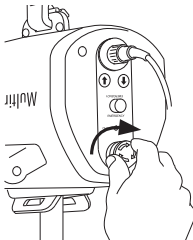
SSP Limit Switch

It is important that the lifting motion of the lift strap is performed as vertically as possible to ensure safe operation. The SSP Limit Switch is intended to stop 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. The SSP Limit Switch also provides protection against pinching. If the SSP Limit Switch has been activated and the lifting motion stopped, the lift strap must first be operated downwards before it can be operated upwards again.

Activate



Reset



Emergency Stop

Enable the emergency stop: press the red button.

Reset the emergency stop: turn the button in the direction indicated by the arrows on the button.

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

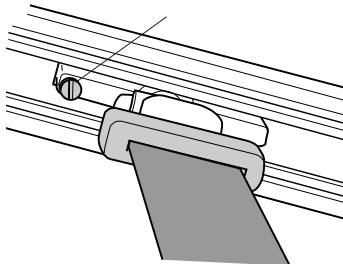
Charge Indicator

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

- buzzer that sounds when lifting
- LED that is lit during lifting.

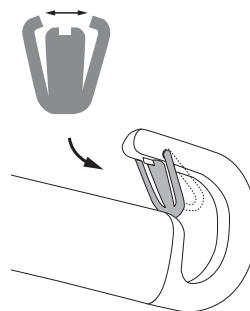
When either of these signals sounds or illuminates, the unit should be charged as soon as possible. See “Charging the Batteries” below.

friction brake



Adjustable Friction Brake

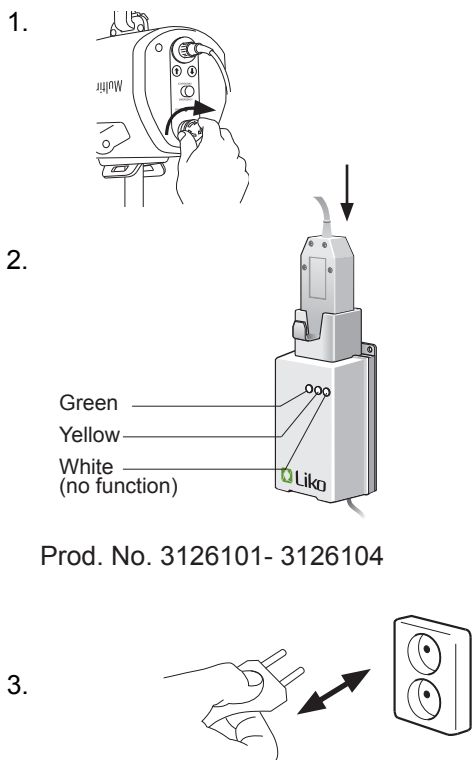
The amount of drag on the lift can be adjusted with the friction brake on the carriage. Turn the brake clockwise for increased resistance and counter clockwise for reduced resistance.



Installation of Latches

After installation, check that the latch locks and moves freely in the sling bar hook.

Charging the Batteries



Prod. No. 3126101- 3126104

△ The AC connector of the charger unit must be easy accessible to the operator.

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.

The batteries are fully charged after approximately 8 hours. When fully charged, batteries in good condition are sufficient for approximately 60 lift cycles. The connector cable of the battery charger cannot be repaired. If the cable is damaged, it should be replaced by a new one!

Charging

1. Check to ensure that the emergency stops are not pressed in during charging.
2. Place the hand control in its intended place on the charger.
3. Connect the charger to an electrical outlet (100-240 V AC).
The charging starts automatically. The green LED indicates that the charger is connected to a power supply. The yellow LED indicates that the battery is charging. When the battery is fully charged, the charger is switched off automatically and the yellow LED turns off.

NOTE! If the lift is not to be used for a longer period of time, the hand control should be placed in the charger. If the charger is not connected to a power supply, the emergency stop button should be pressed in order to prevent the battery from discharging.



Please read the manual before use.



Battery is charging when yellow led is lit.



AC is connected when green led is lit.



Multirall complies with the requirements in the 2002/96/EC directive for waste electronic and electrical equipment. Used batteries should be deposited at the nearest recycling station, in accordance with local regulations, or given to personnel authorized by Liko/Hill-Rom.

Room-to-Room with Multirall

Liko's R2R (Room-to-Room) system 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.

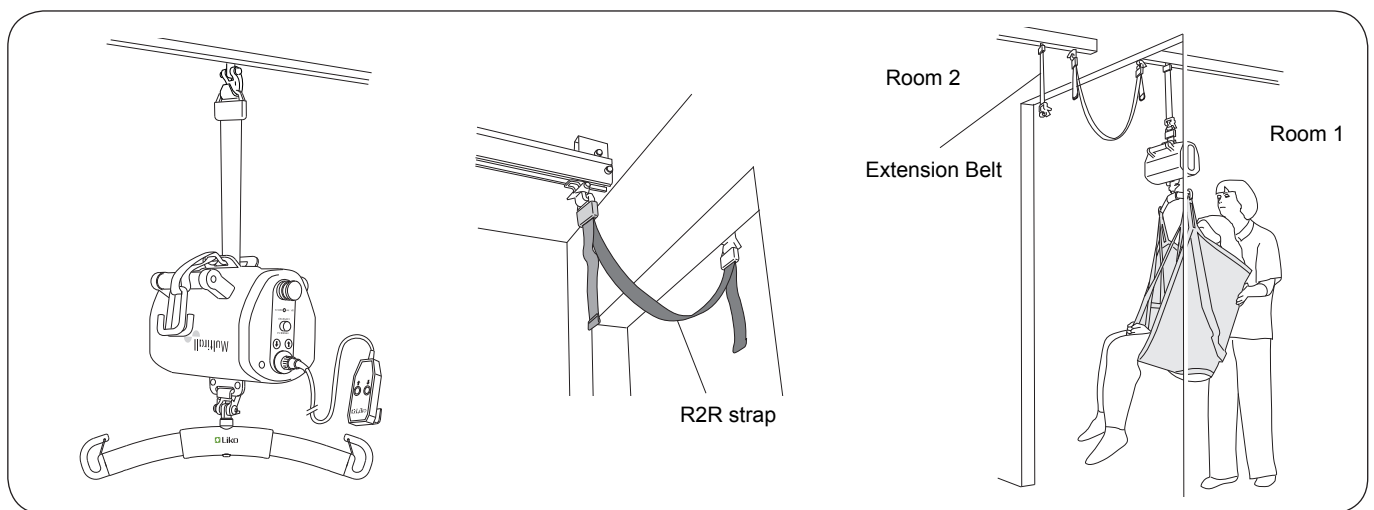
In order to perform room-to-room transfers with Multirall, the following conditions are required:

- Both rooms have separate rail systems, each with a carriage mounted in the rail.
- Between the rooms, suspended under the doorframe, a Room-to-Room Strap is mounted, acting as a bridge between the rooms.
- Multirall is equipped with a Strap Gripper, which is installed to either of the Extension Belt connectors on the lift.
- An adjustable extension belt is mounted to the carriage, in order to obtain an appropriate lifting height. Alternatively, if the lifting height becomes too low when using the Extension Belt, the Extension Arm Multirall/Multirall Helping Hand can be used for connecting Q-link directly to the carriage hook, providing a maximum lifting height.

Room-to-Room Transfer

Below is a description of an R2R transfer with Multirall, Strap Gripper, Room-to-Room Strap and adjustable Extension belt.

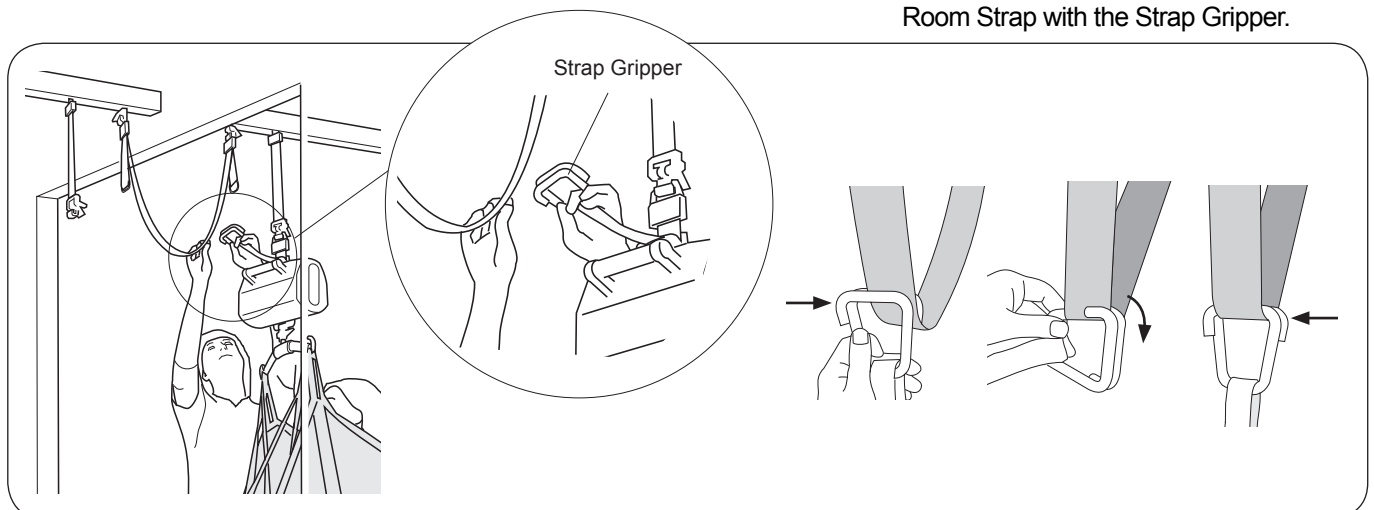
△ Check carefully at each stage that the Q-link is correctly applied to the carriage hook/extension belt!



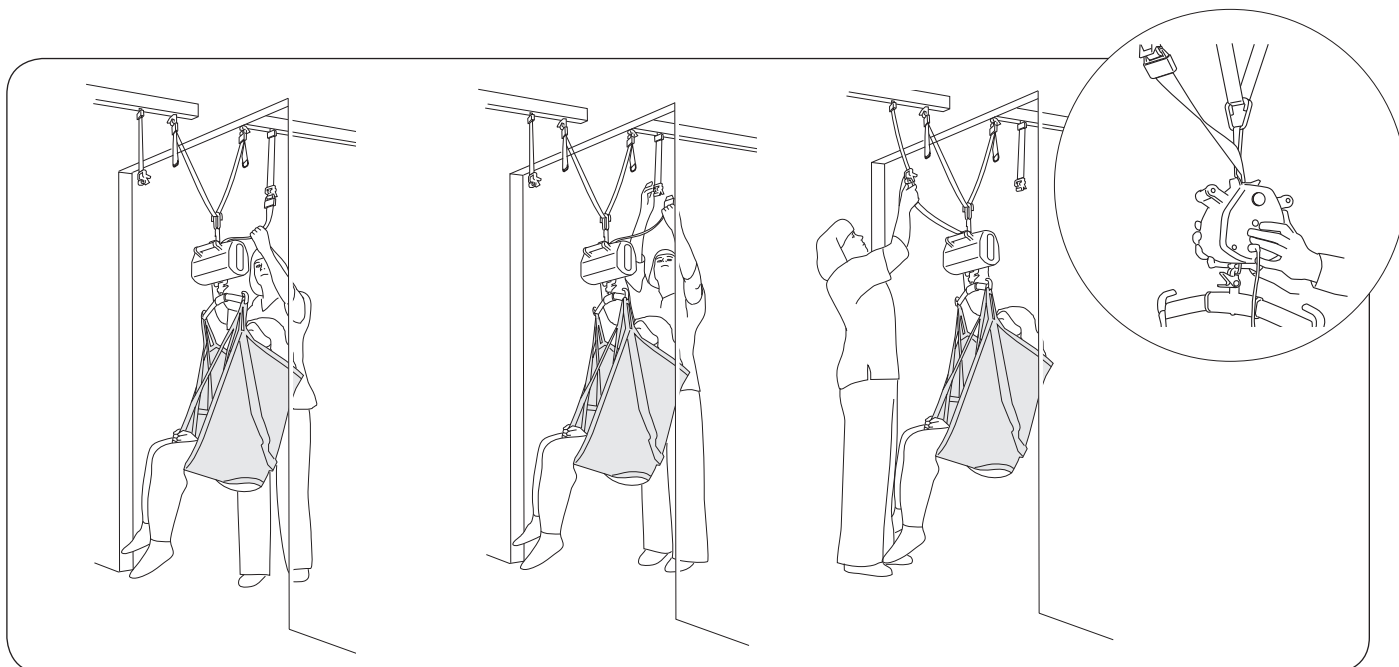
Install the lift according to assembly alternative A, p. 4. Install the Strap Gripper in accordance with applicable assembly instructions.

Install the Room-to-Room Strap between the two rooms. For installation and length adjustment, see applicable assembly instructions.

Multirall is pending in the carriage, alternatively in an extension belt, in room 1. Move the lift with the patient forwards, as close as possible to the doorway. Lower the patient as far down as is comfortably possible, but not so far that the caregiver cannot reach the Room-to-Room Strap with the Strap Gripper.



Connect the Strap Gripper with both hooks to the Room-to-Room Strap, see illustration to the right.

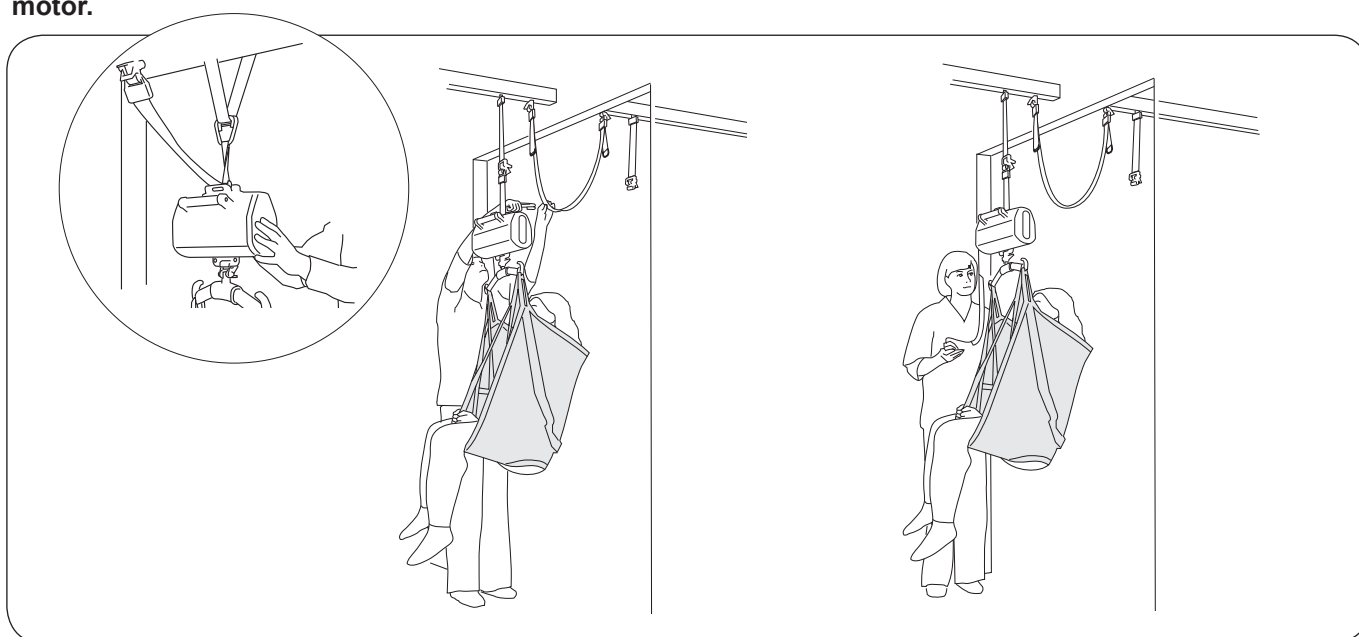


Lower the Multirall until the Room-to-Room Strap carries the full weight of the patient. Then run out an extra 10 cm (4 in) of lift strap to provide enough slack for disconnection.

△ Keep hand tension on the lift strap as you run it out of the lift motor.

Disconnect the lift strap from the carriage/extension belt in room 1 and connect it to the carriage/extension belt in room 2. To prevent the lift strap from twisting, which in turn may cause the SSP limit switch to activate (see p. 6), the lift unit must be turned manually so that the lift strap is straight when it enters the lift unit (see small illustration).

△ Check carefully to ensure that the Q-link is correctly applied to the carriage hook/extension belt!



Only when the lift strap runs straight into the lift unit can the transfer to room 2 proceed (see small illustration). Raise the lift until the weight of the patient has been fully transferred to the carriage in room 2.

△ While the lift is raised, it is very important to ensure that the lift strap is twisted correctly, in order for it not to fold when it enters the lift unit.

Then disconnect the Strap Gripper.

Move the patient further on in room 2.

Maximum Load

Different maximum loads may apply to different products on the assembled lift system: rail, lift, sling bar, sling and any other accessories used. For the assembled lift system, the maximum load is always the lowest maximum load rating of any of the components. For example: a Multirall 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. Check the markings on the lift and lifting accessory or contact your Liko/Hill-Rom representative if you have any questions.

Recommended Lifting Accessories

△ Using lifting accessories other than those approved can entail a risk.

Recommended sling bars and accessories for Multirall are described below.

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/Hill-Rom representative or visit www.liko.com for advice and information on Liko’s product range.

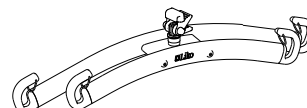
Universal SlingBar 350 with Quick-release Hook Prod. No. 3156084
Max. 300 kg (660 lbs).



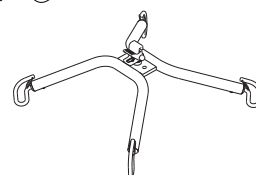
Universal SlingBar 450 with Quick-release Hook Prod. No. 3156085
Max. 300 kg (660 lbs).



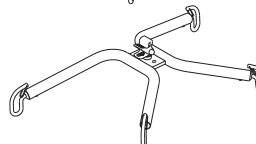
Universal TwinBar 670 with Quick-release Hook Prod. No. 3156087
Max. 300 kg (660 lbs).



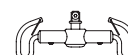
Liko Sling Cross-bar 450 with Quick-release Hook Prod. No. 3156022
Max. 300 kg (660 lbs).



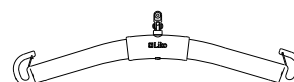
Liko Sling Cross-bar 670 with Quick-release Hook Prod. No. 3156019
Max. 300 kg (660 lbs).



Liko SlingBar Mini 220* Prod. No. 3156005
Max. 205 kg (450 lbs).



Universal SlingBar 600* Prod. No. 3156076
Max. 300 kg (660 lbs).



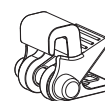
* must be updated with Quick-release Hook to use with Multirall, see “Quick-release Hook” below.

Quick-Release Hook

Quick-release Hooks form a system providing safe and easy changing of lifting accessories. Liko’s Quick-release Hooks protect against unintentional detachment.

Update existing Liko sling bars not equipped with a Quick-release Hook. The Quick-Release Hook Universal fits the Universal Bars 350, 450 and 600 (prod. no. 3156074 - 3156076). The Quick-Release Hook TDM fits the 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/Hill-Rom for more information.



Quick-Release Hook Universal
Prod. No. 3156508

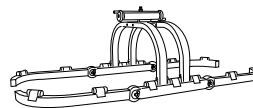


Quick-Release Hook TDM
Prod. No. 3156502



Stretcher

Most of the stretchers in Liko's product range can be used with Multirall.
Contact Liko/Hill-Rom for further information.

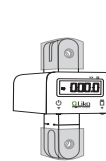


Scale

For weighing patients in combination with Multirall, we recommend LikoScale 350. The LikoScale adapter kit is required.

LikoScale 350 is certified in accordance with the European Directive NAWI 90/384 (Non-Automatic Weighing Instruments).

Contact Liko/Hill-Rom for further information.



LikoScale 350
Prod. No. 3156228



Adapter Kit LikoScale
Prod. No. 3156232

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.

Short, 22 cm (8.6 in), max 70 kg (154 lbs) weight/pair

Prod. No. 3156512

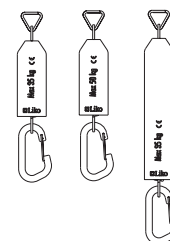
Short, 22 cm (8.6 in), max 100 kg (220 lbs) weight/pair

Prod. No. 3156513

Long, 28 cm (11 in), max 70 kg (154 lbs) weight/pair

Prod. No. 3156511

See the instruction guides for Liko MasterVest, models 60 and 64 or Liko LiftPants model 92, for more information.



Extension Arm Multirall

Facilitates the connection/disconnection of the lift strap to/from the carriage.

Prod. No. 3136004

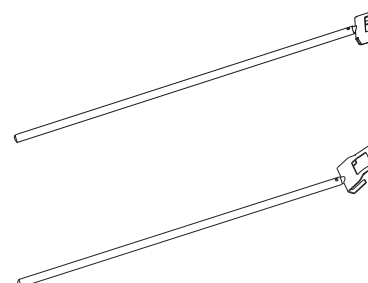
Fits Carriage S65 with single hook (prod. no. 3136011).

Multirall Helping hand

Facilitates the connection/disconnection of the lift strap to/from the carriage.

Prod. No. 3136006

Fits Carriage S50 with single hook (prod. no. 3136010).



Multirall Trolley

Convenient trolley for transfer and storage of Multirall and accessories.

Prod. No. 3136300



Holder for Accessories

For attaching Extension Arm Multirall/ Multirall Helping Hand to the Multirall Trolley.

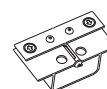
Prod. No. 3136310



Easy Switch

Fits Multirall hand control with membrane key.

Prod. No. 3107010



Hang-Up HandControl Hanger

10 pcs/set.

Prod. No. 3156100



SlingBar Cover Paddy 30

Fits Universal SlingBars 350, 450, and 600, as well as SlingBar Slim 350.

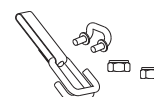
Prod. No. 3607001



Strap Gripper

For room-to-room transfers.

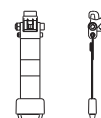
Prod. No. 3136250



Extension Belt, adjustable

(length 30-40 cm/12-16 in, 40-60 cm/16-24 in, 60-100 cm/24-40 in, and 100-140 cm/40-55 in)

Prod. No. 3136226-29



Room-to-Room Strap

(length 117 cm/46 in, 1770 cm/70 in, and 237 cm/93 in)

Prod. No. 3136251-53



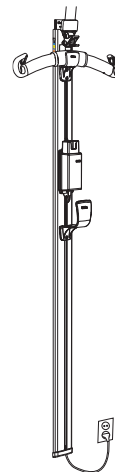
Parking panel

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

Complete the Parking Panel with appropriate Quick Reference Guide, Hook for SlingBar, Hook for Accessories, charger and, if necessary, Bracket for Charger.

Contact Liko/Hill-Rom for further information.

Prod. No. 3126075
Prod. No. 3126080



Simple Troubleshooting

The lift doesn't work.



1. Check that the Emergency Stop button is not activated.
2. Check that the battery is charged.
3. Check that the hand control is correctly connected.
4. *If the lift still does not work satisfactorily, please contact Liko/Hill-Rom.*

The lift emits a repeated sound or light signal.



1. Charge the battery immediately.
2. *If the lift still does not work satisfactorily, please contact Liko/Hill-Rom.*

The lift is stuck in the high position.



1. Check that the Emergency Stop button is not activated.
2. Check that the battery is charged.
3. Check that the hand control is correctly connected.
4. Use indicated electrical or mechanical emergency lowering to lower the patient onto a firm surface.
5. *If the lift still does not work satisfactorily, please contact Liko/Hill-Rom.*

You hear unusual sounds.



Contact Liko/Hill-Rom.

Inspection 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 latches
- Check the control function of the lift movement
- Check to make sure that the emergency lowering works
- 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. Find more detailed information regarding cleaning and disinfection of your Liko/Hill-Rom product in the document *Care and Maintenance* at our website: www.liko.com.

△ The lift should not be exposed to running water.

Service

Multirall should be periodically inspected at least once a year.

△ Periodic inspection, repair and maintenance should be performed only in accordance with the Liko Service Manual and by personnel authorized by Liko and using original Liko spare parts.

Service Agreement

Liko/Hill-Rom offers the opportunity to enter into service contracts for the maintenance and regular inspection of your Liko product. Contact your Liko/Hill-Rom representative for more information.

Expected Life Time

The product has an expected life time of 10 years when correctly handled, serviced and inspected in accordance with Liko's instructions.

Transport and Storage

During transportation, or when the lift is not to be used for a long time, the emergency stops should be engaged. The environment where the lift is transported and stored should have a temperature of 10–40°C (50–104°F) and a relative humidity of 30 to 75%. The air pressure should be 700–1060 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/Hill-Rom representative for advice and information about product upgrades.

Design and Quality by Liko in Sweden

Hill-Rom's Management system are certified in accordance with ISO 9001 and its equivalent for the medical device industry, ISO 13485. Hill-Rom's Management system is also certified in accordance with environmental standard ISO 14001.



A  Company

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