

# Viking™ M

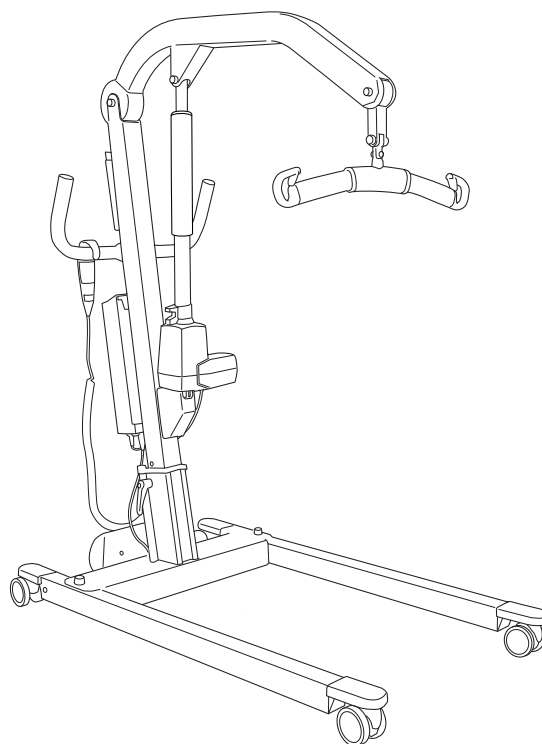
## mobile lift

### Instruction Guide



Viking M

Prod. No. 2040045



## Product Description

Viking M mobile lift is a general-purpose lift with the intended use in; health care, intensive care and rehabilitation.

Viking M mobile lift is an excellent aid in daily transfers of both adults and children. With 3 various lifting height positions Viking M mobile lift gives a flexibility for most lifting situations such as lifting to and from wheel chair, bed, toilet and floor. Horizontal lifting can also be performed in combination with the Liko™ OctoStretch™ accessory.

With the Viking™ Armrest accessory, Viking M mobile lift can be used for gait training.

The control box together with the handcontrol contains a series of features which meet the needs for a safe and comfortable lift. Data is collected in the control box (work counter & intelligent cycle counter) and can be read out from the information display.

Individual fitting of Liko slings and other Liko lifting accessories to fit the patient is of the utmost importance for optimal performance and safety when using the lift.

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

### Important information before use!


















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

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## Symbol description

These symbols can be found in this document and/or on the product.

| Symbol  | Description   |
|---|---|
|    | For indoor use only.  |
|    | The product has extra protection against electric shock (Insulation Class II).  |
|   | Protection level against electric shock Type B.   |
|  | <b>Warning;</b> this situation require extra care and attention   |
|  | Read instruction guide before use   |
|  | This product complies with EC directives.   |
| IP N <sub>1</sub> N <sub>2</sub>  | Protection level against: ingress of solid objects (N1) and ingress of water (N2).  |
|  | Manufacturer  |
|  | Date of manufacture.  |
|  | Caution! consult instructions for use   |
|  | Consult instructions for use for more information   |
|  | Battery   |
|  | All batteries in this product must be recycled separately.<br>- Pb underneath the symbol indicate batteries containing lead<br>- Single Black line underneath the symbol indicate this product have been placed on the market after 2005. |
|  | UL Recognized Component Mark for Canada and the United States   |
|  | EFUP, Environmental Friendly Usage Period (years)   |
|  | Environmentally-friendly product which can be recycled and reused.  |
|  | The Australian Safety/EMC   |
|  | PSE Mark (Japan)  |

# Safety Instructions

## Intended use

This product is not intended to be used by the patient alone. Lifting and transferring a patient shall always be performed with the assistance of at least one caregiver. This product is used as a means to perform the lift but is not in contact with the patient; therefore we do not go into the various patient conditions in this manual. Contact your Hill-Rom representative for support and advice.

### **△ Certain environments and conditions can limit the correct use of the mobile lifts, including:**

Thresholds, unlevel floor surfaces, various obstacles, and extra-thick carpets. These environments and conditions can cause the wheels of the mobile lift not to roll as intended, possible imbalance in the mobile lift, and increased exertion by the caregiver. If you are uncertain that your care environment fulfills the requirements for correct use of the mobile lift, please contact your Hill-Rom representative for further advice and assistance.

### **△ Unbalanced lifting poses a tipping risk and may damage the lift equipment!**

### **△ Never leave a patient unattended during a lifting situation!**

### **△ Do not raise the lift arm manually!**

#### **Before use, make sure that:**

- the lift is assembled in accordance with the assembly instructions;
- the lifting accessory is properly attached to the lift;
- the battery has been charged for at least 6 hours;
- you have read the instruction guides for the lift and lifting accessories;
- personnel using the lift are informed of the correct operation and use of the lift.

#### **Before lifting, always make sure that:**

- the lifting accessories are not damaged;
- the lifting accessory is correctly attached to the lift;
- the lifting accessory hangs vertically and can move freely;
- the lifting accessory is selected appropriately, in terms of type, size, material and design, with regard to the patient's needs;
- the lifting accessory is correctly and safely applied to the patient in order to prevent injuries;
- the 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 stretched up but before the patient is lifted from the underlying surface.



Viking™ M mobile lift have been tested by an accredited testing institute and comply with the requirements specified in the Medical Device Directive 93/42/EEC, for Class I products.

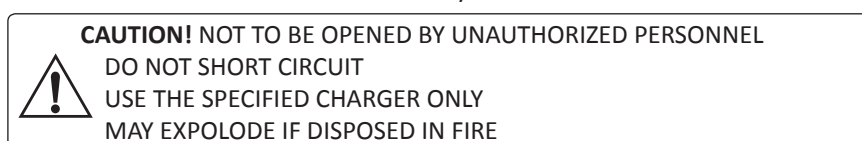
Viking™ M mobile lift comply with the requirements in EN ISO 10535:2006 and CAN/CSA Z10535-03 and applicable parts of IEC 60601-1, EN 60601-1-2, ANSI/AAMI ES60601-1, CAN/CSA C22.2 no 60601-1, and AS/NZS 3200-1-0.

### **△ No modification of this product is allowed.**

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

This Caution notice is found on the Battery:

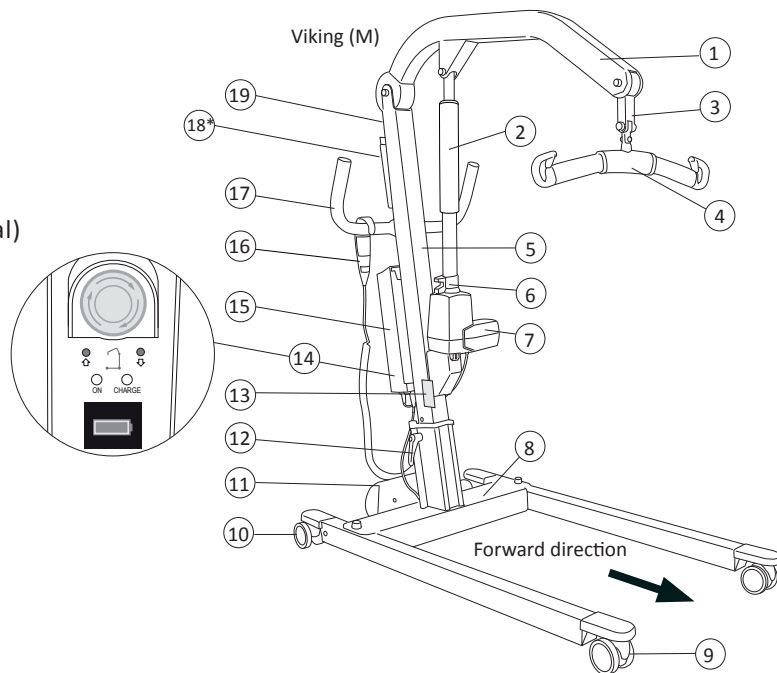


This Caution notice is found on the Control box:



## Definitions

1. Lift arm
2. Outer Tube
3. Flexlink
4. Sling Bar with latches
5. Lift Mast
6. Emergency Lowering Device (mechanical)
7. Lift Motor (Actuator)
8. Base
9. Front wheels
10. Rear wheels with brakes
11. Motor for base-width adjustment
12. Locking handles
13. Product decal
14. Control box with;  
Emergency stop  
Electrical Emergency Lowering  
Electrical Emergency lifting  
Battery charger indicators  
Information display
15. Battery
16. Handcontrol
17. Handles
18. \*Optional accessory: Holder for Quick Reference Guide  
and color code for sling sizes.
19. Color code for sling sizes



## Technical Data

|                                      |   |
|--------------------------------------|---|
| <b>Maximum load:</b>                 | 205 kg (450 lbs.)   |
| <b>Material:</b>                     | Aluminium   |
| <b>Total weight:</b>                 | 33 kg (72.8 lbs.)   |
| <b>Weight of heaviest part:</b>      | 14,8 kg (32.6 lbs.)   |
| <b>Wheels:</b>                       | Front: 75 mm (3 inch) twin wheels<br>Rear: 75 mm (3 inch) twin wheels with brake. |
| <b>Turning diameter:</b>             | 1400 mm (55.2 inch)   |
| <b>Emergency lowering device:</b>    | Mechanical and electrical   |
| <b>Lifting interval:</b>             | 1270 mm (50.0 inch)   |
| <b>Lifting speed (no load)</b>       | 36 mm/s (1.4 inch/s)  |
| <b>Sound level:</b>                  | 46 dB(A)  |
| <b>Protection class:</b>             | IP X4   |
| <b>Operating Forces of Controls:</b> | Handcontrol: 5 N  |

|  |   |
|--|---|
| <b>Electrical data:</b>                    | 24 V  |
| <b>Intermittent power:</b>                 | Int. Op 10/90, active operation max 2 min. Only 10% of a given length of time may be active, but no more than 2 min.                |
| <b>Batteries:</b>                          | 24 V 2.9 Ah valve-regulated lead-acid gel batteries, Prod. No. 2006106.   |
| <b>Battery charger:</b>                    | Internal charger,, 100-240 V AC, 50-60 Hz, max 400 mA.  |
| <b>Lift motor:</b>                         | Permanent magnet motor with mechanical safety mechanism<br>24 V, 10.5 A   |
| <b>Motor for base-width adjustment:</b>    | Permanent magnet motor<br>24 V, 6 A   |
| <b>Surrounding functional environment:</b> | Temperature: +10°C to +40°C,<br>Humidity: 20% to 90% at 30°C non-condensing, Air pressure: 800HPa to 1060HPa, Altitude: max. 2000m. |



The device is intended for use indoors

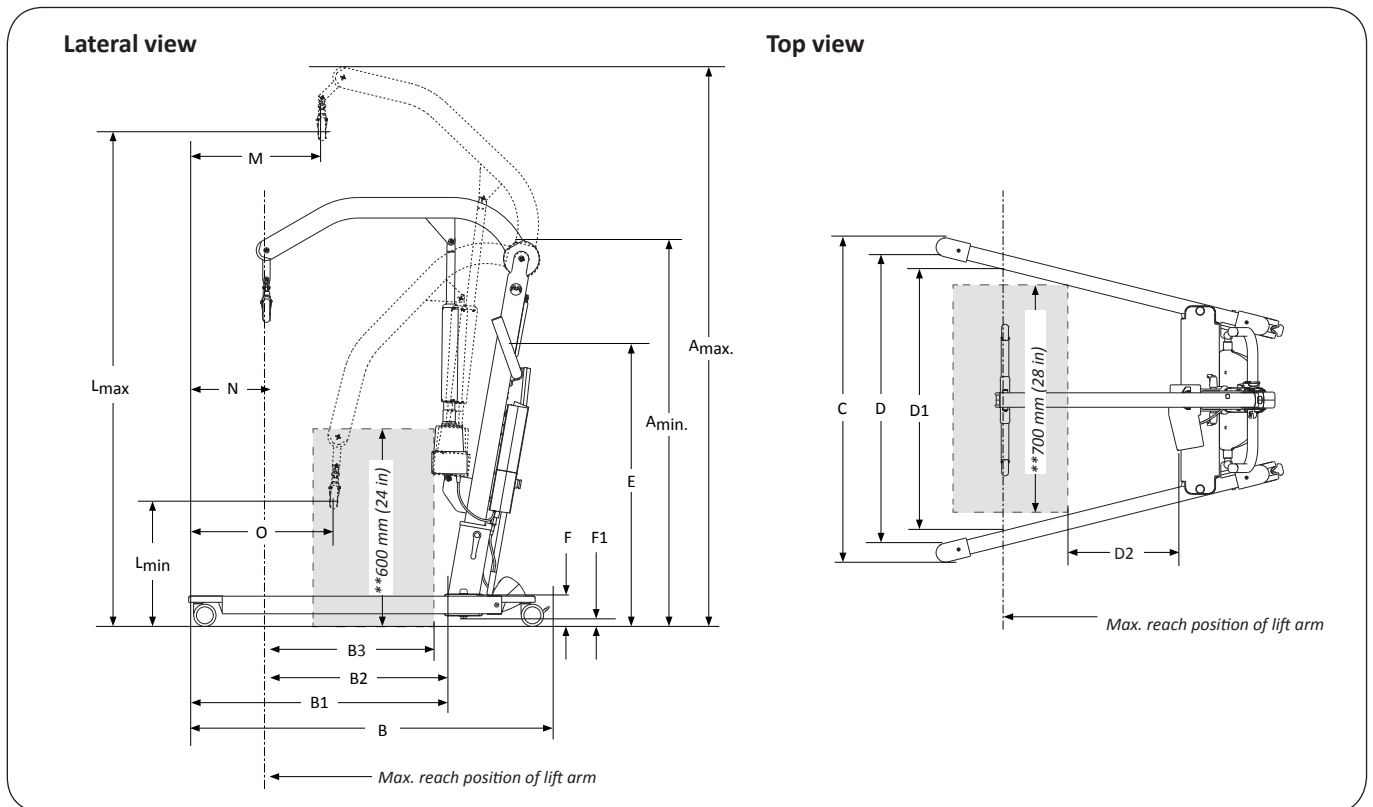


Type B, in accordance with the electrical shock protection class.



Class II equipment.

## Dimensions



### Viking M

Measurements: mm / inch

| A <sub>max</sub> * | A <sub>min</sub> * | B    | B <sub>1</sub> | B <sub>2</sub> | B <sub>3</sub> ** | C    |      | D    |      | D <sub>2</sub> ** | E*   | F   | F <sub>1</sub> | L <sub>max</sub> * | L <sub>min</sub> * | M    | N   | O    |
|--------------------|--------------------|------|----------------|----------------|-------------------|------|------|------|------|-------------------|------|-----|----------------|--------------------|--------------------|------|-----|------|
|                    |                    |      |                |                |                   | max. | min. | max. | min. |                   |      |     |                |                    |                    |      |     |      |
| 2020               | 1440               |      |                |                | 650               |      |      |      |      |                   | 1100 |     |                | 1790               | 520                |      |     |      |
| 1970               | 1390               | 1230 | 870            | 660            | 650               | 1110 | 690  | 970  | 560  | 195               | 1050 | 105 | 30             | 1740               | 470                | 385  | 220 | 495  |
| 1920               | 1340               |      |                |                | 595               |      |      |      |      |                   | 1000 |     |                | 1690               | 420                |      |     |      |
| 79.5               | 56.7               |      |                |                | 25.6              |      |      |      |      |                   | 43.3 |     |                | 70.5               | 20.5               |      |     |      |
| 77.6               | 54.7               | 48.4 | 34.3           | 26.0           | 25.6              | 43.3 | 27.2 | 38.2 | 22.0 | 7.7               | 41.4 | 4.2 | 1.2            | 68.5               | 18.5               | 15.2 | 8.7 | 19.5 |
| 75.6               | 52.8               |      |                |                | 23.4              |      |      |      |      |                   | 39.4 |     |                | 66.5               | 16.5               |      |     |      |

Note: The measurements are based on the lift being equipped with standard sling bar. When changing to other lifting accessories, check that the lift still achieves desired lifting height.

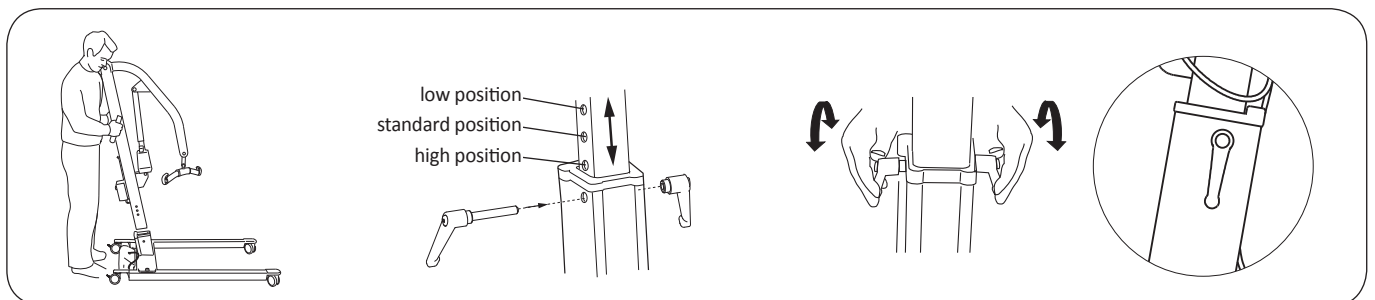
\* Different measurements apply to Viking M depending on the height-setting position, see "Assembly".

\*\* Reference measurement according to Standard EN ISO 10535:2006.

## Assembly

### Before assembly, make sure you have the following parts:

- Lift mast with lift arm, lift motor incl. cable, sling bar and control box with handcontrol
- Base with motor for base-width adjustment, incl. cable
- Locking handles
- Battery
- Instruction guide, charger cable, charger connector cable.

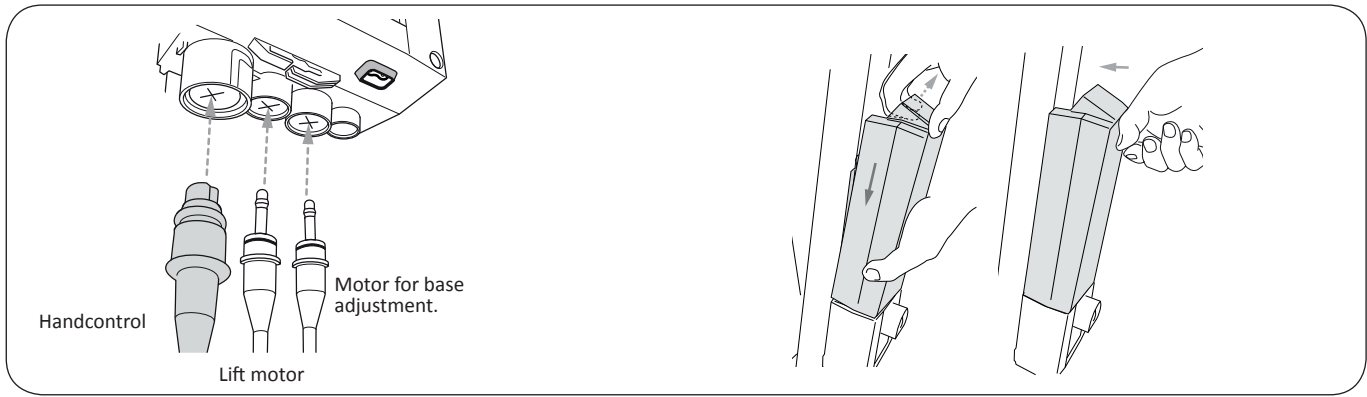


1. Lock both rear wheels.  
Place the lift mast in the foot of the base.

2. The lift mast has three height setting positions;  
- low position for lower lifting heights.  
- standard position recommended in most cases.  
- high position for extra high lifting height.  
The distance between two holes is 50 mm (2 in).  
See chapter "Dimensions" for measurements.

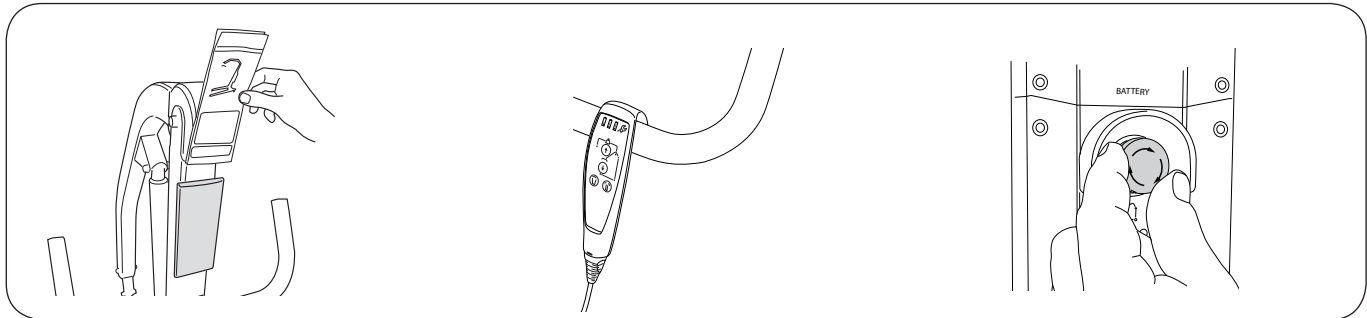
3. Secure the lift mast with the locking handles provided. Adjust the position of the locking handles so that they point downwards.





4. Connect cables to the control box, see illustration. Make sure plugs are fully seated.

5. Connect the battery and secure it to the control box bracket. A click sound can be heard when the battery is installed correctly.

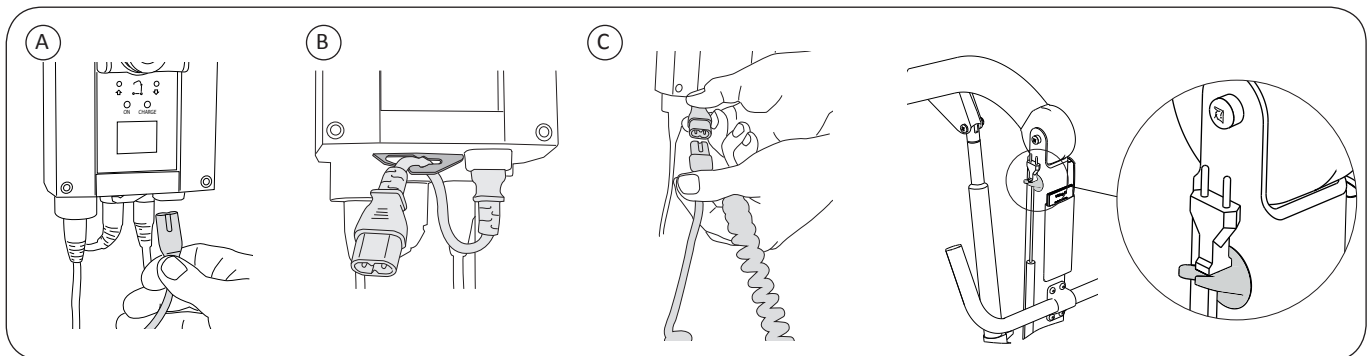


6. **Optional accessories:**

- Quick reference guide
- Holder for Quick reference guide.

7. Hang the handcontrol on the handle.

8. Reset the emergency stop by turning the button clockwise.



9. A) Connect the extension cable for the charging cable to the control box.  
 B) Insert the extension cable in the tension clip underneath the control box.  
 C) Connect the charging cable to the extension cable.

10. Place the charger cable on the hook provided on the mast after completed charging.

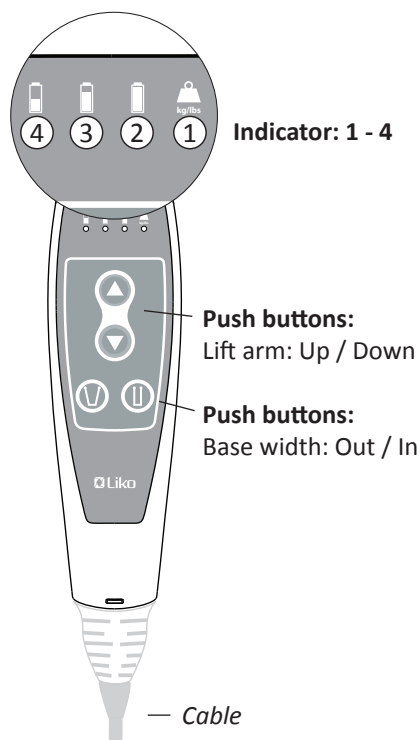
**NOTE!** Always charge the battery before using the lift the first time, See chapter "Charging the Battery".

**After assembly and charging, ensure that:**

- the battery has been fully charged
- lift arm motions correspond with the buttons on the handcontrol
- base width adjustment correspond with the buttons on the handcontrol
- emergency lowering works properly (mechanical and electrical)
- Rear wheel brakes, functions properly.

The lifting height can be affected when lifting maximum load during in-run of actuator (up to 10 lifts).

# Operation



## Handcontrol operation and indicators

Operate the lift using the push buttons on the handcontrol. For raising and lowering: Directional arrows show the direction of movement (up/down) The lifting and base movement stops as soon as the push button is released.

### Indicator: 1 - 4

1 - Overload (Kg/lbs) light "flashes yellow", too much load is applied to the lift.

2 - Green light, battery power (100 - 50 %), Ok!

- will constantly light up green when charger is connected to mains.

3 - Yellow light, battery power (50 - 25 %), battery needs charging

4 - Yellow light, battery power (Less than 25 %), battery needs charging.

A buzzer will sound when pressing a push button.

Note! If the buzzer sound starts during an ongoing lift complete the lift and charge the lift afterwards!

4 - Light "flashes yellow" and a buzzer will sound when pressing a push button. Charge the lift immediately! The remaining battery power can only make the lift arm go down.

**Note!** Please see chapter "Charging the Battery" for more information.

## Control Box operation and information

1. Emergency Stop button

- Activate: Push the red button

- Reset: Turn the red button clockwise.

2. UP (Arrow), Electrical emergency lifting.

3. DOWN (Arrow), Electrical emergency lowering.

Operation of the push buttons 2 and 3 are done by pressing with a narrow object into the circle mark above each (Arrow). The Actuator movement stops as soon as the push button is released.

4. "ON" - lights up green when the charger is connected to mains.\*

5. "CHARGE" - lights up yellow constantly during charging and will turn off when charging is completed.

6. Display Pop-up information:

Battery power (100 - 50 %) Ok!

Battery power (50 - 25 %) Battery needs charging.

Battery power (Less than 25 %) battery needs charging.

A buzzer will sound when pressing a push button.

Note! If the buzzer sound starts during an ongoing lift complete the lift and charge the lift afterwards!

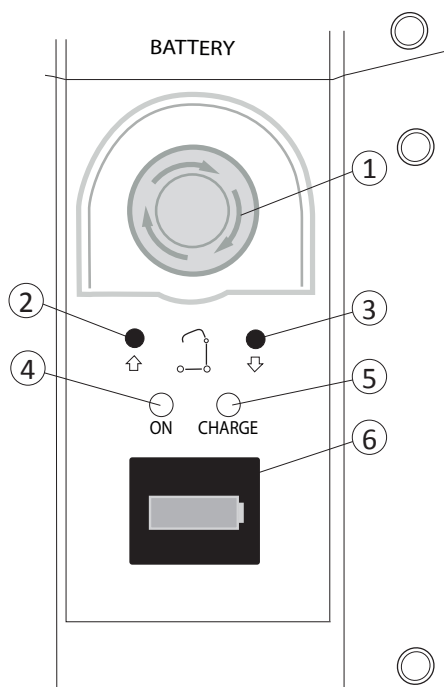
Charge the lift immediately! A buzzer will sound when pressing a push button. The remaining battery power can only make the lift arm go down.

The lift is connected to the mains.

Short circuit warning!  
check cables and connections.  
Warning is shown until repaired!

Overload!  
Too much load is applied to the lift.

Service needed; contact Hill-Rom.

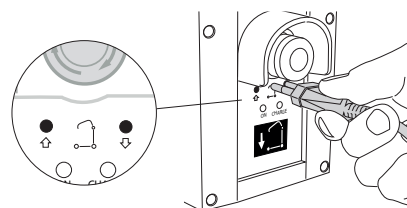
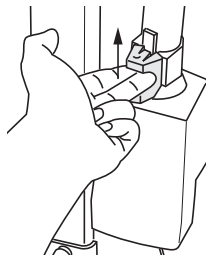
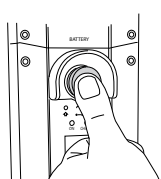


## 6. Information display:

Activate information display by a "quick press" at a UP, push button.



- xxxxx —→ Total number of lift cycles with load
- xxxxxx —→ Work done by actuator; Amp. x Sec.
- xxx —→ Number of overload indications
- xx/xxx —→ Days since last service/Days between services.



### To activate the emergency stop:

Push the red Emergency Stop button on the control box.

### To reset the emergency stop:

Turn the button clockwise.

### Mechanical Emergency Lowering

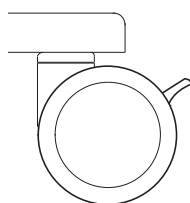
Enabling the emergency lowering

- Lift the emergency lowering control straight up, lift until the patient being lifted is on a firm surface, and the strap loops of the sling can be unhooked. (the function requires a load applied to the lift arm).

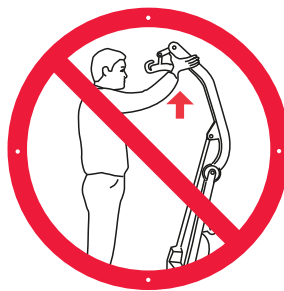
### Electrical emergency lowering / lifting

Use a narrow object to press into the circle mark above each (Arrow), See chapter "Operation" for more information.

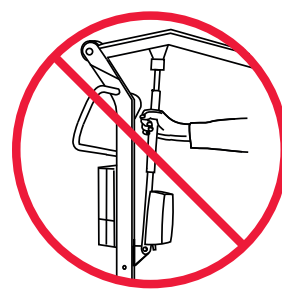
**Do not use sharp objects, since this may cause damage on the control box!**



Unlock  
Lock



**⚠ Do not raise the lift arm manually!**



**⚠ Never move the lift by pulling on the actuator!**

### Locking the Wheels

The rear wheels can be locked to prevent rotating and turning. The locking/unlocking of the wheels is done with the foot.

**NOTE:** When lifting, the wheels should be unlocked so that the lift can be moved to the patient's centre of gravity. The wheels should be locked, however, if there is a risk of the lift rolling into the patient, for instance, when lifting from the floor.

**⚠ Locked wheels during lifting can increase the risk of tipping.**



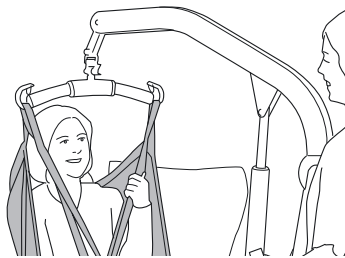
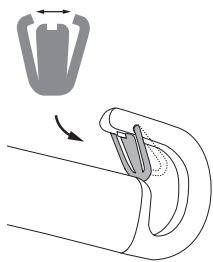


Figure 1.

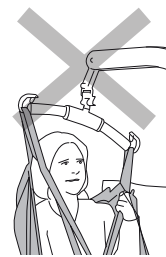


Figure 2.

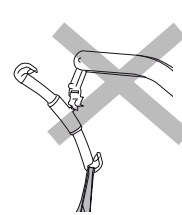


Figure 3.

### Installation of Latches

After installation, ensure that the spring loaded latches is taut against the sling bar and moves freely in the sling bar hook.

### Lift correctly!

Before each lift, make sure that:

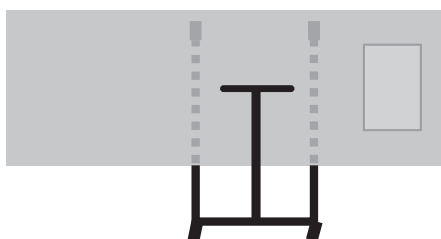
- the Sling loops at opposite sides of the Sling are at the same height
- all the Sling loops are fastened securely in to the Slingbar hooks
- the Slingbar is level during the lift, see Figure 1.

△ If Slingbar is not level (see Figure 2) or if the sling loops is wrongly attached to the slingbar (see Figure 3) lower the user to a firm surface and adjust according to the Instruction Guide of Sling in use.

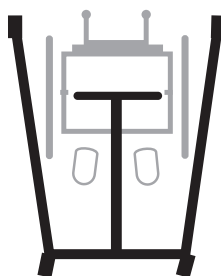
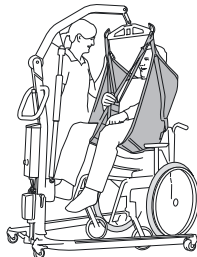
△ An improper lift can be uncomfortable for the user and cause damage to the lift equipment! (see Figure 2 and figure 3).

### Position of the Lift when Lifting

From/To: Bed

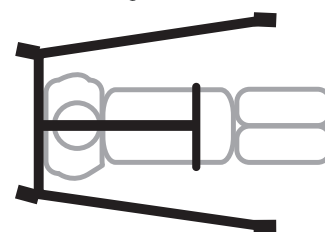
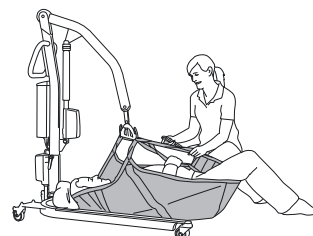


Chair/Toilet Seat



Floor

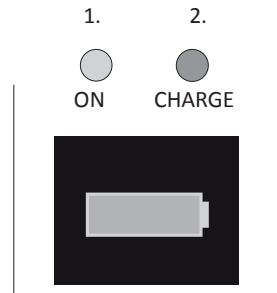
NOTE: Place a pillow under the patient's head for increased performance and comfort. Always have the wheels locked when lifting from the floor.



# Charging the Battery

## Charger information

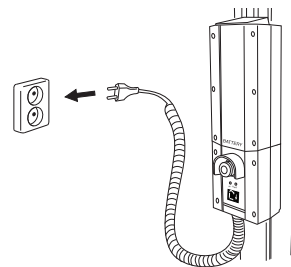
1. "ON" - lights up green when the charger is connected to mains.
2. "CHARGE" - lights up yellow constantly during charging and will turn off when charging is completed.



## Charging with the control box internal charger (standard)

Plug the charger cable into mains (100-240 VAC), see charger information 1 - 2 above. The battery is fully charged after about 6 hours and the charger disconnects automatically, the yellow "CHARGE" diode turn off. For maximum battery life, batteries must be charged regularly. We recommend charging after each use or every night.

Maximum charge is reached after about 6 hours. If the lift is not in daily use, we recommend after use to activate the emergency stop (break the circuit) to reduce loss of the battery power.



## Never charge batteries in a wet area!

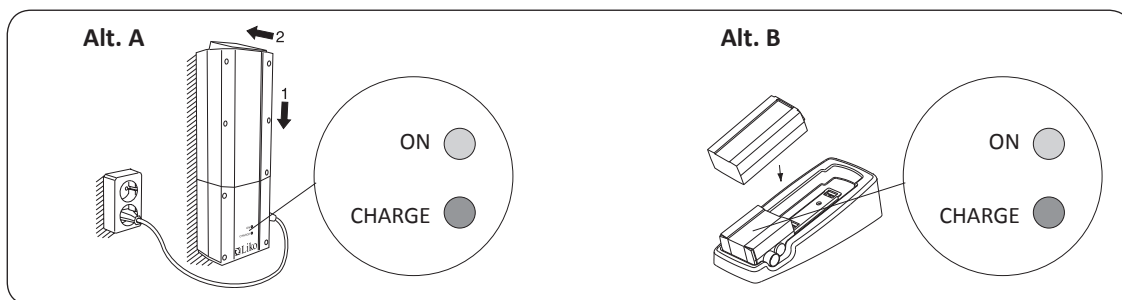
**NOTE!** If the charger cable (coiled cable) is stretched out it should be replaced to avoid the risk of the cable getting caught and tear.

**NOTE!** The lift cannot be used when the charger cable is plugged into a wall socket.

**NOTE!** If the yellow "CHARGE" diode at the control box continues to be lit after 8 hours, discontinue charging and replace the battery with a new one.

**NOTE!** A damaged battery shall be replaced and contact with leaking fluids shall be avoided.

## Alternative charging procedures



## Wallmounted charger accessory or table charger housing accessory:

Loosen the holder for the charger cable. Remove the battery pack from the control box by loosening the locking device on top of the battery pack. See chapter "Assembly".

## Charger information;

"ON" - lights up green when the charger is connected to mains.

"CHARGE" - lights up yellow constantly during charging and will turn off when charging is completed.

**Alt. A.** Place the battery pack on the wallmounted charger. Plug the charger cable into mains (100-240 VAC) check that both "ON" and "CHARGE" on the charger lights up.

**Alt. B.** Place the battery pack on the charger in the table charger housing. Plug the charger cable into mains (100-240 VAC) check that both "ON" and "CHARGE" on the charger lights up.



Old batteries are to be deposited at the nearest recycling station or given to personnel authorized by Hill-Rom.

## Maximum Load

Different maximum loads may apply to different products on the assembled lift unit, sling bar, sling and any other accessories used. For the assembled lift unit, the maximum load is always the lowest maximum load rating for any of the components. For example, a Viking™ M mobile lift which is approved for 205 kg (450 lbs) can be equipped with a lifting accessory which is approved for 200 kg (440 lbs). In this case, the maximum load of 200 kg (440 lbs) applies to the assembled lift unit.

Study the markings on the lift and lifting accessories or contact your Hill-Rom representative if you have any questions.

## Recommended Lifting Accessories

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

Find generally recommended sling bars and accessories for Viking™ M mobile lift described below.

When changing sling bar or other lifting accessories, the highest possible lifting height of the lift is affected. Before changing lifting accessories you should always ensure that the lift, after change, can fulfil the desired lifting height in order to manage the lifting situations for which the lift is to be used. For additional guidance in selecting a sling, study the operating instructions for the respective sling models. There you will also find guidance for combining Liko™ sling bars with Liko slings.

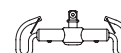
Contact your Hill-Rom representative or visit [www.liko.com](http://www.liko.com) for advice and information on Liko's product range.

**\* this product is also available in a version with Quick-Release Hook.**

### SlingBar Mini 220

Max. 205 kg (450 lbs)

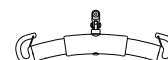
Prod. No. 3156005



### Universal SlingBar 350\*

Max. 300 kg (660 lbs)

Prod. No. 3156074

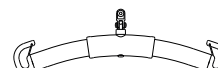


### Universal SlingBar 450\*

(Standard on Viking™ M mobile lift)

Max. 300 kg (660 lbs)

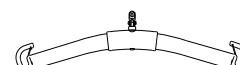
Prod. No. 3156075



### Universal SlingBar 600\*

Max. 300 kg (660 lbs)

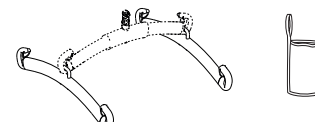
Prod. No. 3156076



### Universal SideBars 450 including bag

Max. 300 kg (660 lbs)

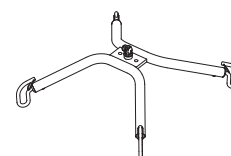
Prod. No. 3156079



### Sling Cross-bar 450\*

Max. 300 kg (660 lbs)

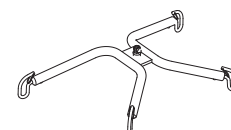
Prod. No. 3156021



### Sling Cross-bar 670\*

Max. 300 kg (660 lbs)

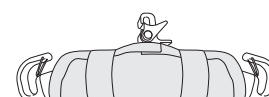
Prod. No. 3156018



### SlingBar Cover Paddy 30

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

Prod. No. 3607001



### Holder for Quick Reference Guide

Prod. No. 2000100



### Quick Reference Guide

Prod. No. 2040400



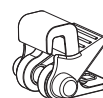
## Quick-Release Hook

Liko™ Quick-Release Hooks is a system for quick change of lifting accessories on Liko's mobile and stationary lifts. Viking™ M mobile lift must be equipped with the Q-link 13 in order to be used with the Quick-release Hook.

The Quick-release Hook Universal fits the Universal SlingBar 350, 450 and 600 (prod. no. 3156074 - 3156076). 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).

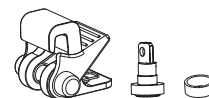
When changing to a sling bar with quick release hook, the lifting height is reduced by 33 mm (1.3 in) in comparison with a fixed sling bar.

Contact Hill-Rom for further information.



**Quick-release Hook Universal**

Prod. No. 3156508



**Quick-release Hook TDM**

Prod. No. 3156502



**Q-link 13**

Prod. No. 3156509

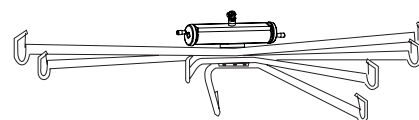
Viking™ M mobile lift can be used in combination with the Liko™ OctoStretch for horizontal lifting.

**Liko™ OctoStretch with Leveller**

Prod. No. 3156056

**Liko™ OctoStretch**

Prod. No. 3156055



Prod. No. 3156056

**Bag for SlingBars**

Prod. No. 2001025

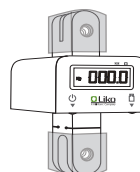


## Scale

For weighing patients in combination with Viking™ M mobile lift, we recommend using LikoScale™ 350 accessory (adapter 12 mm is required). Max 350 kg (770 lbs).

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

Kontakta Hill-Rom för mer information.



**LikoScale 350**

Prod. No. 3156228

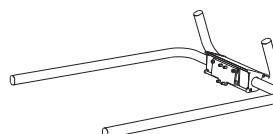


**Adapter 12 mm**

Prod. No. 2016504

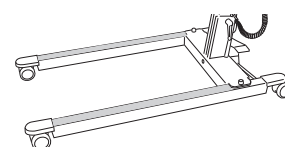
**Viking Armrest M**

Prod. No. 2047011

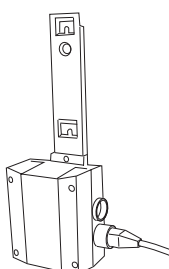


**Leg Protector Viking S, M**

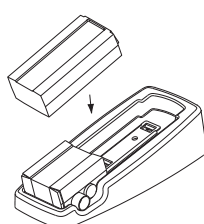
Prod. No. 2046011



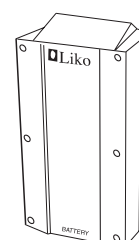
**Battery charger,**  
for wallmounting or to use with the Table  
charger housing  
Prod. No. 2004106



**Table charger housing**  
excl. charger and battery  
Prod. No. 2107103



**Extra battery**  
Prod. No. 2006106



## Troubleshooting

**The lift do not work up/down with Hand Control.**

**The base-width adjustment doesn't work (in/out) with the Hand Control.**



1. Make sure that the emergency stop button has not been activated (shall not be pressed in).
2. Check the battery capacity.
3. Make sure that the battery is properly seated in the control box.
4. Check that the charger cable is not connected to an electric outlet.
5. Check that the handcontrol cable is correctly connected to the control box.
6. Check that the lift arm actuator cable is correctly connected to the control box.
7. Check that the base width actuator cable is correctly connected to the control box.
8. *If the problem persists, please contact Hill-Rom.*

**The charger doesn't work.**



1. Check that the charger cables are connected correctly.
2. Make sure that the battery is properly seated in the control box.
3. Try an alternative mains outlet.
4. *If the problem persists, please contact Hill-Rom.*

**The lift is stuck in the high position.**



1. Make sure that the emergency stop button has not been activated (shall not be pressed in).
2. Make sure that the battery is properly seated in the control box.
3. Check the battery capacity.
4. Check that the handcontrol cable is connected correctly.
5. Electrical emergency lowering, use the operation panel to lower the patient onto a firm surface, see chapter; Operation.
6. Use the mechanical emergency lowering device to lower the patient onto a firm surface, see chapter; Operation.
7. *If the problem persists, please contact Hill-Rom.*

**If you hear unusual sound from the lift.**



Contact Hill-Rom.

## Recycling instructions



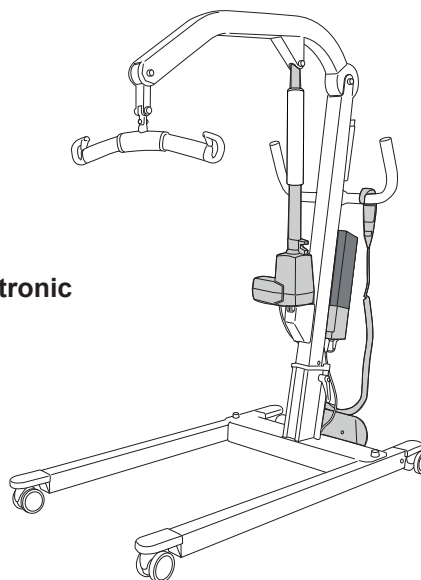
**Pb-batteries**



**Waste of Electrical and Electronic Equipment (WEEE).**



**Metals**



# Cleaning and Disinfection

## Safety recommendations

Cleaning and disinfecting procedures for Liko Mobile lifts. This instructions do not replace the facility's own cleaning and disinfection policies.

- Wear protective equipment according to manufacturer's instruction and per facility protocol throughout the cleaning operations, such as: rubber gloves, goggles, apron, face mask and shoe covers.
- Unplug mains (AC power source) before cleaning and disinfection.
- Never clean the lift by pouring water on it, steam cleaning it, or by using a high-pressure jet.
- Refer to the recommendations made by the cleaning and disinfecting product manufacturer.

## Equipment:

- Protective equipment (such as: rubber gloves, goggles, apron, face mask and shoe covers) as recommended by the facility protocol and manufacturers instructions
- Clean buckets
- Cloths for washing and drying
- Soft brush
- Warm water
- To find Cleaning / Disinfectants compatible or not compatible for use on Liko's products, follow the "Application of commonly used Cleaning / Disinfectants on Liko products" in this document.

## Cleaning instructions

### 1. **Unplug mains (AC power source) before cleaning and disinfection.**

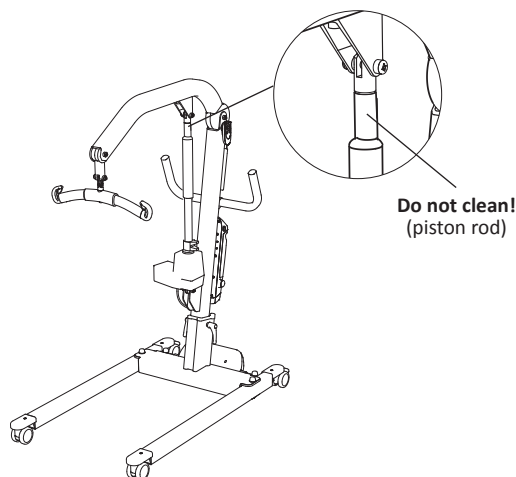
2. Clean the lift with a cloth moistened with warm water and a neutral cleaning agent approved by your organization. A soft brush may be used to remove stains and resistant dirt.

3. Wipe off the entire lift with a cloth moistened with clean water starting from the top and working down. The cloth shall not be so damp that it drips. To have access to all areas run the lift into the highest and lowest positions and extend the base width adjustment entirely in and out. Remove the Battery to have access behind the battery.

### **NOTE! Do not clean the piston rod!**

4. Pay special attention to the following areas:


- Sling bar
- Mechanical emergency lowering
- Handles
- Control box
- Battery
- Hand control
- Emergency stop
- Operation panel/display (where applicable)
- Lever for base width adjustment (where applicable)
- Pedal for base width adjustment (where applicable)
- Locking handles
- Wheels



## Disinfection Instructions

1. For the use of suitable disinfectants see "Application of commonly used Cleaning / Disinfectants on Liko products" in this document.
2. Use the choice of disinfectant according to the manufacturer's instructions and repeat the work step as in "Cleaning instructions"
3. Remove traces of disinfectant after disinfection. Wipe off the lift with a cloth moistened with clean water starting from the top and working down. The cloth shall not be so damp that it drips.

 **The lift may not be cleaned with CSI or equivalent.**

 **The hand control may not be cleaned with Viraguard or equivalent.**

 **The control box may not be cleaned with Anioxy Spray or equivalent.**

## Application of commonly used Cleaning / Disinfectants on Liko products

| Chemical class                                 | Active ingredient  | pH                 | Cleaners / Disinfectant *) | Manufacturer *)        | May not be used on the following items:  |
|--|--|--------------------|----------------------------|------------------------|--|
| Quaternary ammonium chloride                   | Didecyl dimethyl ammonium chloride = 8.704%<br>Alkyl dimethyl benzyl ammonium chloride = 8.19%   | 9.0 – 10.0 in use  | Virex II (256)             | Johnson/Diversey       | Foot rest for Sabina™ and Roll-On™   |
| Quaternary ammonium chloride                   | Alkyl dimethyl benzyl ammonium chloride = 13.238%<br>Alkyl dimethyl ethylbenzyl ammonium chloride = 13.238%                                    | 9.5 in use         | HB Quat 25L                | 3M                     |  |
| Accelerated Hydrogen Peroxide                  | Hydrogen Peroxide 0.1 -1.5%<br>BenzylAlcohol: 1-5%<br>Hydrogen Peroxide 0.1 -1.5%<br>BenzylAlcohol: 1-5%                                       | 3                  | Oxivir Tb                  | Johnson/Diversey       | The lift straps for Golvo™ and ceiling lifts   |
| Phenolic                                       | Ortho-Phenylphenol = 3.40%<br>Ortho-Benzyl-para-Chlorophenol = 3.03  | 3.1 +/- 0.4 in use | Wexicide                   | Wexford Labs           |  |
| Bleach   | Sodium hypochlorite  | 12.2               | Dispatch                   | Caltech                | The lift straps for Golvo™ and ceiling lifts   |
| Alcohol  | Isopropyl alcohol = 70%  | 5.0 – 7.0          | Viraguard                  | Veridien               | Hand controls for all lifts  |
| Quaternary ammonium                            | n-Alkyl dimethyl benzyl ammonium chlorides = 0.105%<br>n-Alkyl dimethyl ethylbenzyl ammonium chlorides = 0.105%                                | 11.5 - 12.5        | CSI                        | Central Solutions Inc. | Viking™, Liko M220™, Liko M230™, Uno™, Sabina™, Golvo™, LikoLight™, Roll-On™, Likoall™, Multirall™ |
| Benzyl-C12-18-alkyldimethylammonium, chlorides | Benzyl-C12-18-alkyldimethylammonium, chlorides (22 %)<br>2-Phenoxyethanol (20 %)<br>Tridecyl/polyethylenglycoether (15 %)<br>Propan-2-ol (8 %) | approx 8.6 in use  | Terralin Protect           | Shülke                 | Foot rest for Sabina™ and Roll-On™   |
| Organic peroxide (type E, solid)               | Magnesium monoperoxyphthalate hexahydrate (50-100%)<br>Anionic surfactant (5-10%)<br>Nonionic surfactant (1-5%)                                | 5.3 in use         | Dismozon Pur               | Bode                   | The lift straps for Golvo™ and ceiling lifts   |
| Ethanol  | Hydrogen peroxide (2.5-10 %)<br>Lauryldimethylamine oxid (0-2.5 %)<br>Ethanol (2.5-10 %)   | 7                  | Anioxy-Spray WS            | Anios                  | Control box for all mobile lifts   |
| Trolosene sodium                               | Adipic acid 10-30%<br>Amorphous silica < 1%<br>Sodium Toluene sulphionate 5-10 %<br>Trolosene sodium 10-30 %                                   | 4-6 in use         | Chlor-Clean                | Guest Medical Ltd      | The lift straps for Golvo™ and ceiling lifts   |

\*) Or equivalent

# Inspection 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 functionality of the latches.
- Check the integrity of the lifting motion and the base-width adjustment.
- Check to make sure that the emergency lowering (both electrical and mechanical) works.
- Charge the batteries each day the lift is used and then check that the charger works.

When necessary, clean the lift with a moist cloth and check that the wheels are free from dirt. Find more detailed information regarding cleaning and disinfection of your Liko product in chapter; *Cleaning and Disinfection*.

△ The lift should not be exposed to running water.

## Service

A periodic inspection of the lift should be carried out at least once per year.

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

## Service Agreement

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

## Expected Life Time

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

Parts listed below are subject to wear and tear and have specific expected life time:

- Handcontrol, expected life time 2 years,
- Battery, expected life time 3 years.

## Transport and Storage

During transport, or if the lift is not to be used for a long time, the Emergency Stop should be activated.

The environment in which the lift is transported and stored should have a temperature of; -10°C to +50°C (14 °F- 122°F) and a relative humidity 20% to 90% at 30°C non-condensing the air pressure should be 800HPa to 1060HPa.

## Product Changes

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

## Design and Quality by Liko in Sweden

The management system for both manufacturing and development of the product is certified in accordance with ISO9001 and its equivalent for the medical device industry, ISO13485. The management system is also certified in accordance with the environmental standard ISO14001.

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