Viking M is a versatile mobile lift, intended for the most common lifting situations, for instance, transfers between bed and wheelchair, to and from toilet and bath-tub, or for lifting from and to the floor. Equipped with armrests, Viking is excellent for gait training.

Viking M is equipped with Liko Diagnostic System™, a monitoring system which continually registers operating data and automatically indicates when the lift is in need of service.

The battery of the lift has built-in charge indicator where the charging status of the battery can be read, even when the battery is not attached to the lift. The battery is of environmentally friendly NiMH type.

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

⚠️ is a warning triangle used for situations 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 by trained personnel only. Please contact Liko in the event of any uncertainties or questions.
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△ NOTE!
This instruction guide contains important information for the user of the product.
All those 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 instructions
• the lifting accessory is properly attached to the lift
• the batteries have been charged for at least 5 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 accessories 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 bodily injuries
• the safety latches are intact; missing or damaged safety 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!

Viking M has been tested by an accredited testing institute and meets the requirements specified in the Medical
Device Directive 93/42/EEC, for Class 1 products.
Viking M complies with the requirements in EN ISO 10535, IEC 60601-1, IEC 60601-1-2, ANSI/AAMI ES60601-1,
and CAN/CSA C22.2 no 60601-1.

△ Under no circumstances must the lift be modified. If you have any questions, please contact Liko.

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

Maximum load: 205 kg (450 lbs)
Material: Aluminium
Weight: Total: 34 kg (75 lbs)
Heaviest removable part: 15.3 kg (33.7 lbs)
Wheels: Front: 75 mm (3 inch.) twin wheels
Rear: 75 mm (3 inch.) twin wheels with brakes
Turning diameter: 1400 mm (55 inch.)
Emergency lowering device: Mechanical and electrical
Lifting interval: 1270 mm (50 inch.)
Lifting Speed (without load): 42 mm/s (1.65 inch/s) and 38 mm/s (1.50 inch/s), respectively
Sound level: 46 dB(A)
Protection class: IP 54
Operating forces of controls: Button on hand control: 4 N
HandControl IR: Batteries: 2 AAA LR03 1.5 V, alkaline.
Reach: 2 m (78 inch.)
Electrical data: 24 V

Intermittent operation: Int. Op 10/90, active operation max 2 min. Only 10% of a given length of time may be active, yet no more than 2 min.

Batteries: NiMH cells, 2.2 Ah. New batteries provided by the supplier.

Battery charger: CBL20001, built-in, 100-240 V AC, 50-60 Hz, max 600 mA.

Lift motor: 24 V, 8.5 A, permanent magnetic motor with mechanical safety mechanism.

Motor for base-width adjustment: 24 V, 6 A, permanent magnetic motor.

The device is intended for use indoors.
Type B, in accordance with the electrical shock protection class.
Class II equipment.
**Measurements**

![Diagram of lift arm measurements](image)

**Table of Measurements**

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|          | 79.5    | 77.6    | 75.6| 56.7| 54.7| 52.8 | 43.3| 27.2| 38.2 | 22.0| 7.7  | 1.2 | 1.2   | 15.2   | 8.7 | 19.5 |
|          | (inch.) | (inch.) | (inch.)| (inch.)| (inch.)| (inch.)| (inch.)| (inch.)| (inch.)| (inch.)| (inch.)| (inch.)| (inch.)| (inch.)| (inch.)| (inch.)|

* Different measurements depending on the height-setting position, please see "Assembly", p. 5. Note! The measurements are based on the lift being equipped with standard sling bar and standard wheels. When changing to other accessory or other wheels, check that the lift still achieves desired lifting height.

Assembly

Before assembly, make sure you have the following parts:

- Lift mast with lift arm, holder for quick reference
guide, lift motor incl. cable, sling bar and control box
- Base with motor for base-width adjustment, incl. cable
- Locking handles (1 set)
- Battery
- HandControl IR with belt clip
- Bag containing instruction guide, quick reference
guide, charger cable, charger connector cable,
cable lid with screws (2), Allen wrench, back
cover with alternative suspension clip for the hand
control, 2 adhesive buttons for hanging up the
hand control and a cord for the HandControl IR.

1. A: Lock both rear wheels. Place the lift mast in the
foot of the base.
B: Adjusting the lifting height: The lifting height can
be set to three different levels. The middle hole is
recommended in most cases. The lowest hole of
the lift mast is recommended for extra high lifting
height. The highest hole is recommended for lower
lifting heights. The distance between two holes is
50 mm (2 in). See the measurement table on p. 4.
C: Secure the lift mast in the base with the locking
handles provided.
D: Adjust the position of the locking handles so that
they are facing downwards.

2. Connect the cables as follows:
   - Charger cable to socket 1
   - Cable from lift motor to socket 2.
   - Cable from motor for base-width
     adjustment to socket 3.
3. Thread the cables through the
   opening in the cable lid. Push the
   lid up and secure with the Allen
   wrench and screws (2) provided.
4. Place the battery in its bracket
   in the control box. Check to see
   that the battery is secured in its
   place.
5. A. Hang the hand control on the green "button" fixed to the lift mast. Two extra adhesive "buttons" are provided for hanging up the hand control. These can be placed anywhere on the lift. 

B. Alternatively, the HandControl IR can be connected to the cord provided.

6. Place the quick reference guide in the holder on the lift mast.

7. Release the emergency stop by turning the button in the direction indicated by the arrows.

8. Before the first use, charge the battery by plugging the charger cable into the connector cable. Then plug the charger cable into an electric outlet (100-240 VAC).

The lamps on the battery flash alternatively (orange/orange/green) during the charging. The battery is charged after approx. 5 hours.

9. Place the charger cable on the intended hook on the lift mast after completed charging.
After assembly, make sure that:
• the motion of the lift arm corresponds to the buttons on the hand control/operating panel;
• the emergency lowering functions are working (mechanical and electrical);
• the wheel brakes are working;
• the base-width adjustment works;
• the batteries are charged.

Operation

Emergency stop
Activate: Press the red button on the control box.
Reset: Turn the button in the direction indicated by the arrows.

Electrical emergency lowering/raising
The lift arm is lowered/raised electrically by pressing one of the markings for "down" and "up", respectively, on the operation panel.

Mechanical emergency lowering
Lift the red emergency lowering control straight up. The mechanical emergency lowering works only when the lift arm is loaded.

Locking the Wheels
The rear wheels can be locked to prevent rotating and turning. To lock the wheels, push down the lock pedal with your foot. To release, press the raised button at the wheel.
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.
Installation of safety latches

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

Never move the lift by pulling on the actuator!

Replacing the batteries in the hand control

When indicator on the hand control flashes (yellow), the batteries in the hand control should be replaced.

Use 2 AAA LR03 1.5 V alkaline-type batteries.

Remove the rear panel with a Phillips screwdriver. Replace the batteries and reinstall the rear panel.

HandControl IR

The hand control has 6 buttons:
- Up
- Down
- Up (lower speed)
- Down (lower speed)
- Base widening
- Base narrowing

If the lift has not been used for more than 24 hours, the system must be enabled by pressing any button on the control box operation panel before the HandControl IR can be used.
A HandControl IR can be used to control several Liko patient lifts (stationary lifts and mobile lifts equipped with the same IR system). If additional hand controls are to be used for the lift, the IR control must be enabled as per operation A.

**Important!** If more than one IR-controlled lift is present in the same room, each lift has to be given a unique communication code in order to avoid manoeuvring several lifts with one hand control. A unique communication code ensures that only the intended lift is controlled.

**Operation Panel**

The lift can be operated directly from the operation panel on top of the control box. On the operation panel there are a number of indicator lights with corresponding symbols; see the description below.

**Operation Panel Indicator Lights:**

- **Hand control enabled** (green light)
  - Illuminates when the control box is receiving signals from the hand control.

- **Overload** (orange light)
  - Illuminates if the lift's recommended max. load is exceeded, and the lift stops. The indicator turns off after 3 secs. and the lift operates again. Read more about maximum load on page 11.

- **Service indication** (orange light)
  - Illuminates when service is needed.
  - Contact the service technician authorized by Liko.

- **ELT, Expected Life Time** (red light)
  - When the light flashes during lifting, the Liko Diagnostic System™ indicates that the expected life time for the lift is approaching its end.
  - Contact the service technician authorized by Liko.

- **If the ELT proceeds to shine continuously when lifting, the lift should be taken out of service.**
  - Contact the service technician authorized by Liko.
Charging the Batteries

Battery Capacity
Check the battery capacity by pressing the i button (1).
The following information can be read:

2 - Green light: More than 50% of the battery capacity remains.
3 - Orange light: 25–50% of the battery capacity remains.
4 - Orange light: 0–25% of the battery capacity remains.

The indicator lights are illuminated for approx. 30 secs. and are then turned off. The battery capacity is shown also when the lift is being used.

To obtain max. service life, it is important to charge the batteries regularly. We recommend charging after use of the lift or every night. Maximum charge is obtained after about 5 hours. When the batteries are fully charged, the charger switches to "trickle charging" automatically.

During charging the lights shine alternatively (orange, orange, green). Completed charging is indicated by a flashing green light. When the operation time is noticeably shortened, the batteries probably need changing. Stop charging and switch batteries.

The lift cannot be charged with the emergency stop engaged.

Never charge batteries in a wet area.

NOTE! If the lift is not to be used for a long period, the battery should be connected to charging.

Charging

With built-in charger:
Check that the charger cable is connected to the control box outlet; see p. 6.
Connect the charger cable to an electrical outlet (100-240 V AC).
Completed charging is indicated by a flashing green light on the battery.
If the charger cable is permanently stretched, it should be replaced in order to minimize the risk of the cable getting stuck and breaking.

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

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

Different maximum loads may apply to different products on the assembled lift unit; lift, 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 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.

Check the markings on the lift and lifting accessories or contact your Liko representative if you have any questions.

Recommended Lifting Accessories

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

Generally recommended sling bars and accessories for Viking mobile lifts are 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.

To select suitable slings and other lifting accessories, please see the “Lifting accessories” brochure. For additional guidance in selecting a sling, study the instruction guides 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
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)
Max 300 kg (660 lbs)
Prod. No. 3156075

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

Universal SlingBar 670 Twin*
Max 300 kg (660 lbs)
Prod. No. 3156077

Universal SideBars 450
incl. 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

* also available equipped with Quick-Release Hook
Quick-Release Hook
Liko’s Quick-Release Hooks are a system for quick change of lifting accessories on Liko’s mobile and stationary lifts. Viking 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 Bars 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).

See the “Guide to Liko’s Quick-Release Hook System”, which can be downloaded from our website www.liko.com, or contact your Liko representative for more information on the advantages of the Quick-Release Hook system.

Stretcher
Several stretchers are available in Liko’s range.
Contact Liko for further information.

Bag for SlingBars
Prod. No. 2001025

Scale
For weighing patients in combination with Viking M, we recommend LikoScale 350 (adapter 12 mm required). Max 350 kg (770 lbs).

LikoScale 350 is certified according to the European Directive NAWI 90/384 (Non-Automatic Weighing Instruments).
Contact Liko for further information.

Cord for HandControl IR
Prod. No. 2006030

Viking Armrest M
Prod. No. 2047011

Leg Protector S, M
Prod. No. 2046011

Wall-mounted Battery Charger
Prod. No. 2004108

Battery
Prod. No. 2006107
## Simple Troubleshooting

### The lift cannot be controlled via the HandControl IR.

1. Check that the emergency stop has not been activated.
2. Make sure that the charging cable is not connected to an electric outlet.
3. Check if HandControl IR indicates battery change.
4. If the lift has been inactive for 24 hours, enable the system, press optional button on the operation panel.
5. Make sure that the HandControl IR control is enabled.
6. *If the problem remains, see “The lift cannot be controlled via the operation panel”, below.*

### The lift cannot be controlled via the operation panel.

1. Make sure that the emergency stop has not been activated.
2. Check that the charger cable is not connected to an electric outlet.
3. Check the battery capacity.
4. Make sure that the cables to the control box are connected correctly.
5. Check that the battery’s contact plates are not defective or broken.
6. *If the problem remains, please contact Liko.*

### The charger doesn’t work.

1. Make sure that the emergency stop has not been activated.
2. Make sure that the battery is properly attached.
3. Check that the battery’s contact plates are not defective or broken.
4. *If the problem remains, please contact Liko.*

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

1. Make sure that the emergency stop has not been engaged.
2. Check the battery capacity.
3. Check if HandControl IR indicates battery change.
4. Use the electrical emergency lowering device to lower the patient onto a firm surface.
5. Use the mechanical emergency lowering device to lower the patient onto a firm surface.
6. *If the problem persists, please contact Liko.*

### If you hear unusual sounds.

*Contact Liko.*
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 safety 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, using warm water or disinfectant and check that the wheels are free from dirt. **NOTE! Do not use cleaning agents containing phenol or chlorine, since these can damage aluminium and polyamide material.**

⚠️ The lift should not be exposed to running water.

Service

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

⚠️ Periodic inspection, repair and maintenance may be performed only in accordance with the Liko service manual by personnel authorized by Liko and 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 product.

Expected Life Time

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

Transport and Storage

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

The environment in which the lift is transported and stored should have a temperature of 10–40 °C (50-104 °F) and a relative humidity of 30–75 %. 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 representative for advice and information about product upgrades.

Design and Quality by Liko in Sweden

Liko is quality-certified in accordance with ISO 9001 and its equivalent for the medical device industry, ISO 13485. Liko is also certified in accordance with environmental standard ISO 14001.

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