

# Liko™ M220/M230 mobile lift

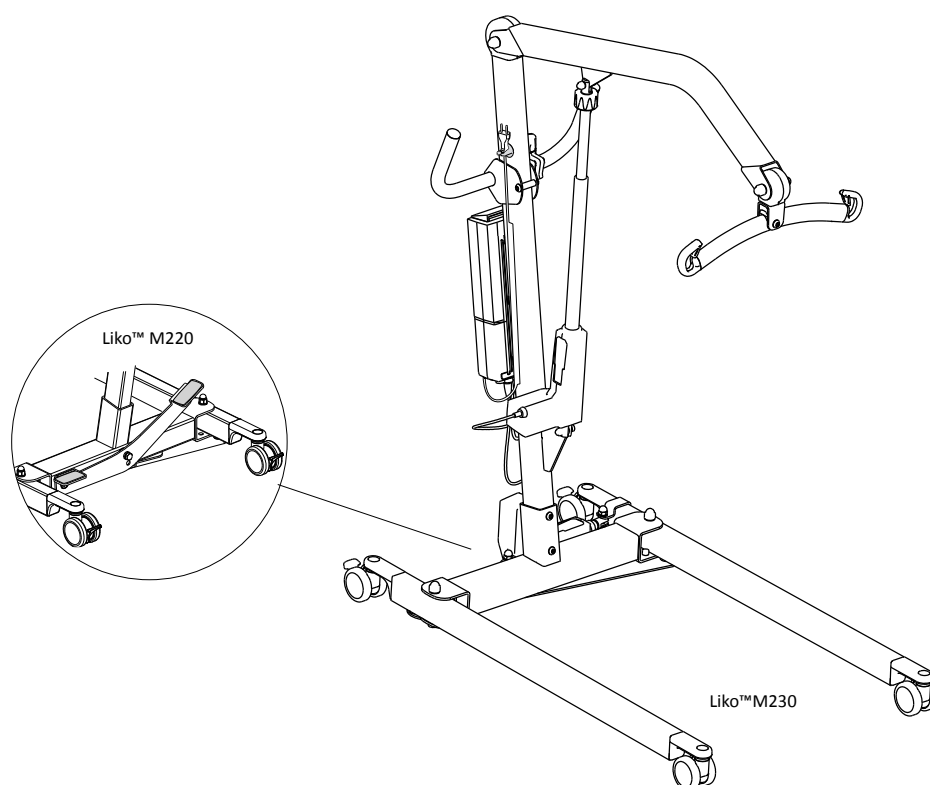



## Service Manual

Prod. No.

2050010 Liko™ M220 mobile lift

2050015 Liko™ M230 mobile lift



 *In this document, this warning symbol indicates that special care should be taken. If instructions are not followed there is a risk of serious injury to patient or caregiver.*

**Spare part statement**

Liko AB will as a manufacturer of overhead & mobile lifts keep spare parts available for 10 years after the last manufacturing date of the product.  
Spare parts are available in the spare parts list or in the Service Manual for each model of lift.  
*Components (manufacturing parts) are not available after last manufacturing date.*

Repairs and maintenance may only be performed by personnel authorized by Hill-Rom and using original Liko™ spare parts.  
For information regarding Service and Maintenance education, contact your Hill-Rom representative.  
For contact information please visit our website: [www.hill-rom.com](http://www.hill-rom.com) | [www.liko.com](http://www.liko.com)

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# 1.0 Technical Data Liko™ M220/M230 mobile lift

**Maximum load:** 182 kg (400 lbs.)

**Material:** Steel

**Weight:** Gross: (Liko M220) 40 kg ( 88 lbs)  
(Liko M230) 40 kg ( 88 lbs)

Heaviest removable part:  
(Liko M220) 21 kg ( 46 lbs)  
(Liko M230) 21 kg ( 46 lbs)

**Wheels:** Front: 75 mm (3 inch.) twin wheels  
Rear: 75 mm (3 inch.) twin wheels with brakes

**Turning diameter** 1315 mm (52 inch.)

**Emergency lowering:** Mechanical and Electrical

**Lifting interval:** 1155 mm (45.5 inch.)

**Lifting speed (no load):** 18 mm/s (0.7 inch./s)

**Sound level:** 42 dB(A)

**Protection class:** IP X4

**Operating forces of controls:** Buttons on hand control: 4N

**Electrical data:** 24 V

**Intermittent power:** 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.




**Battery:** In series: 2 x 12 V 2.9 Ah valve-regulated lead-acid gel batteries. New batteries provided by the supplier.

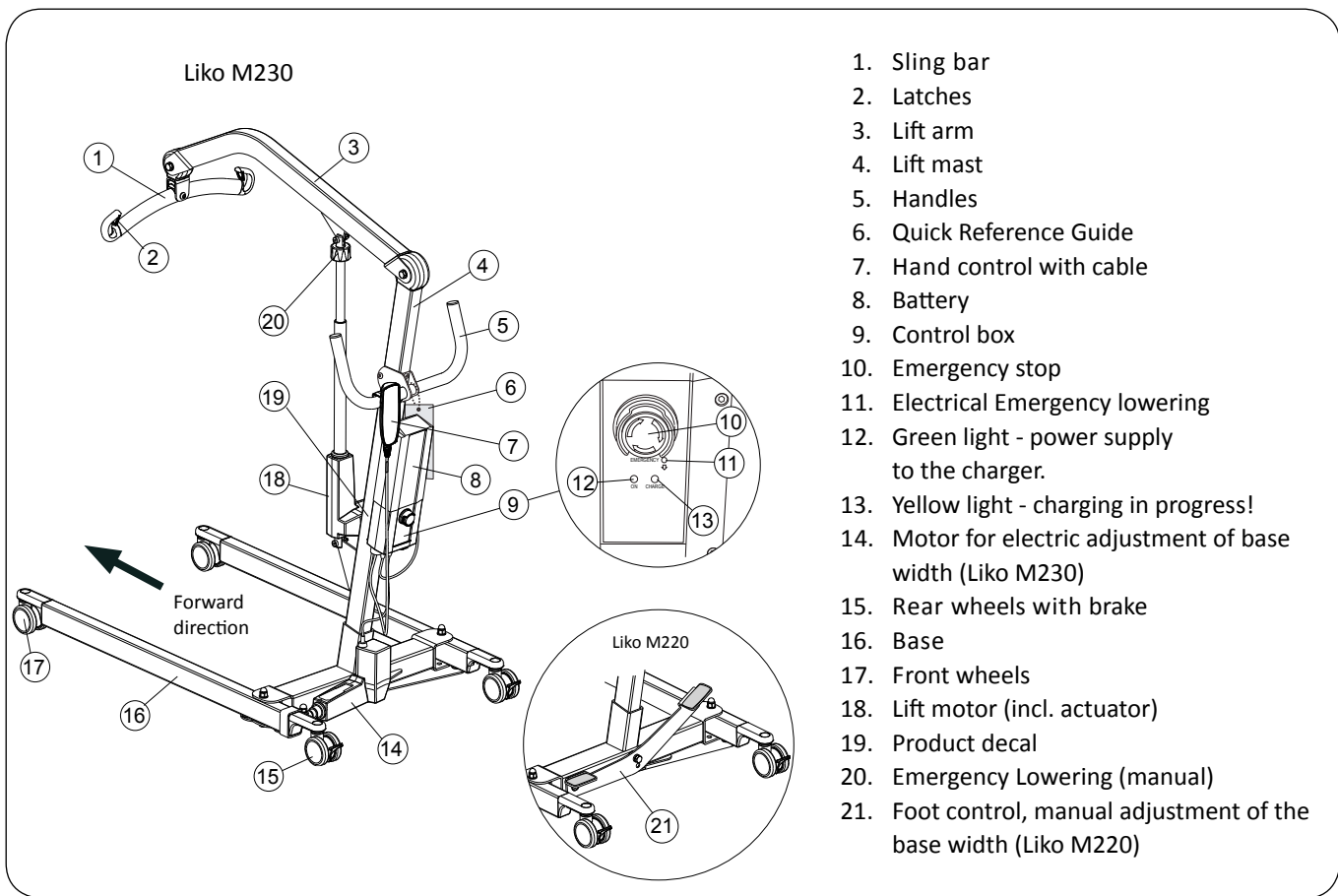
**Battery charger:** Built-in, 100-240 V AC, 50-60 Hz, max 400 mA.

**Lift motor:** 24 V DC, permanent magnetic motor with mechanical safety mechanism.

**Motor for base-width adjustment:** 24 V DC, permanent magnetic motor.

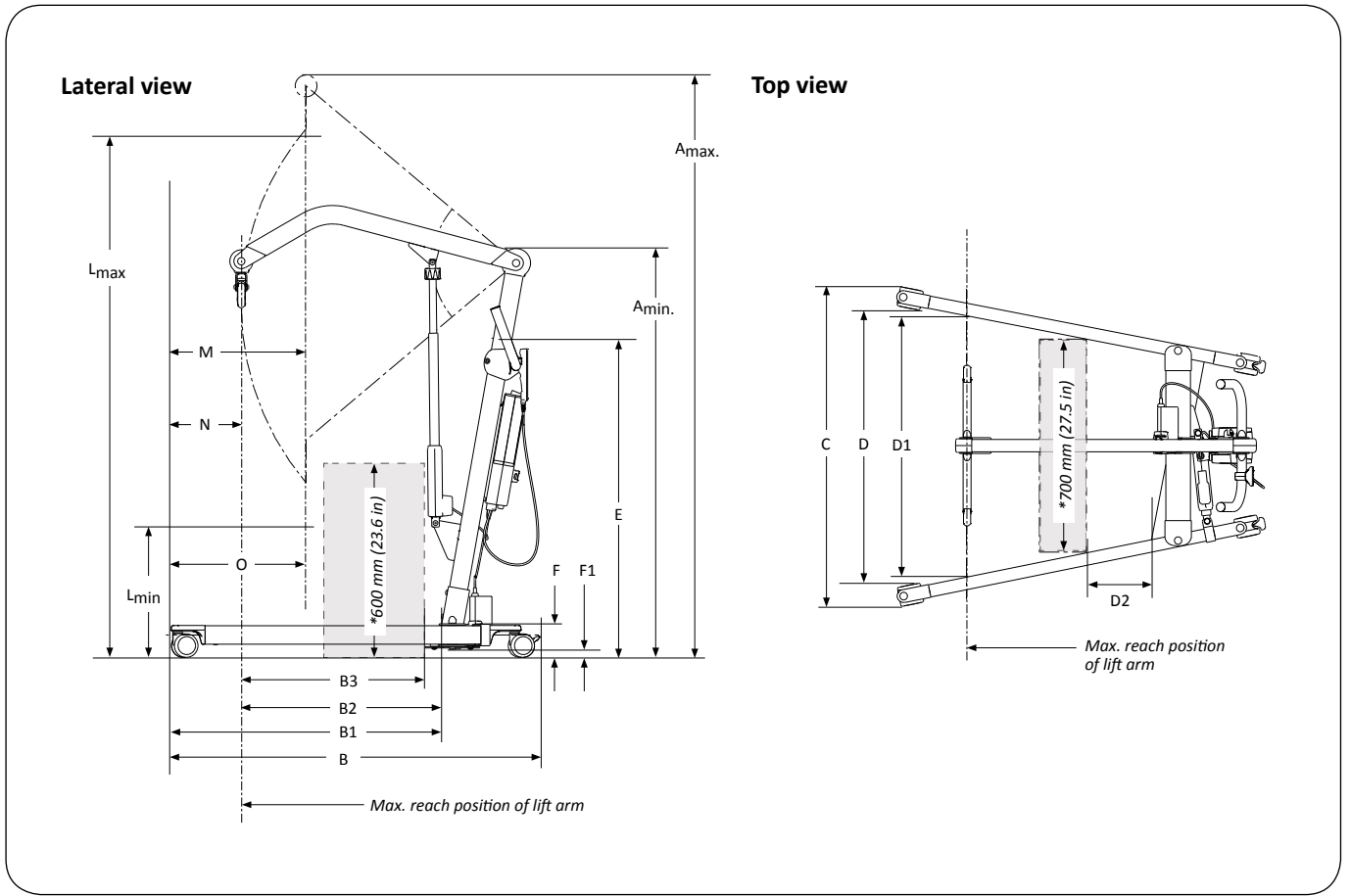
**Climate and environmental conditions during use:** Temp. range: +15 to +40 °C (+ 59 °F to + 104 °F) without reduced performance.  
Humidity: 10% - 95% non-condensing, without reduced performance.  
Air pressure: 70 - 106 kPa without reduced performance.

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



1. Sling bar
2. Latches
3. Lift arm
4. Lift mast
5. Handles
6. Quick Reference Guide
7. Hand control with cable
8. Battery
9. Control box
10. Emergency stop
11. Electrical Emergency lowering
12. Green light - power supply to the charger.
13. Yellow light - charging in progress!
14. Motor for electric adjustment of base width (Liko M230)
15. Rear wheels with brake
16. Base
17. Front wheels
18. Lift motor (incl. actuator)
19. Product decal
20. Emergency Lowering (manual)
21. Foot control, manual adjustment of the base width (Liko M220)

# 1.0 Technical Data Liko™ M220/M230 mobile lift



**Table of measurements**

**(mm)**

A max	A min	B	B1	B2*	B3	C		D		D1	*D2	E	F	F1	Lmax	Lmin	M	N	O
						max	min	max	min										
1900	1335	1215	890	645	615	1030	670	935	565	855	280	1070	105	25	1725	570	470	250	460

**(inch.)**

A max	A min	B	B1	B2*	B3	C		D		D1	*D2	E	F	F1	Lmax	Lmin	M	N	O
						max.	min.	max.	min.										
74.8	52.6	47.8	35.0	25.4	24.2	40.6	26.4	36.8	22.2	33.7	11.0	42.1	4.1	1.0	67.9	22.4	18.5	9.8	18.1

Note: When changing to other lifting accessories check that the lift still achieves desired lifting height.

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

## 2.0 Trouble Shooting Liko™ M220/M230 mobile lift

**The lift doesn't work up/down.  
Electrical adjustment of the base width  
does not work, in/out  
(Liko M230 only).**



1. Check that the emergency stop has not been engaged.
2. Make sure that the cables to the control box are connected correctly.
3. Make sure that the charging cable is not connected to an electric outlet.
4. Check that the battery is charged.
5. Check that the battery's contact plates are not defective or broken.
6. *If the problem persists, please contact Hill-Rom.*

**The charger doesn't work.**



1. Check that the emergency stop has not been engaged.
2. Check that the battery's contact plates are not defective or broken.
3. *If the problem persists, please contact Hill-Rom.*

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



1. Check that the emergency stop has not been activated.
2. Use the electrical emergency lowering device to lower the patient onto a firm surface.
3. Use the manual emergency lowering device to lower the patient onto a firm surface.
4. Check the battery voltage.
5. *If the problem persists, please contact Hill-Rom.*

**If you hear unusual sounds.**

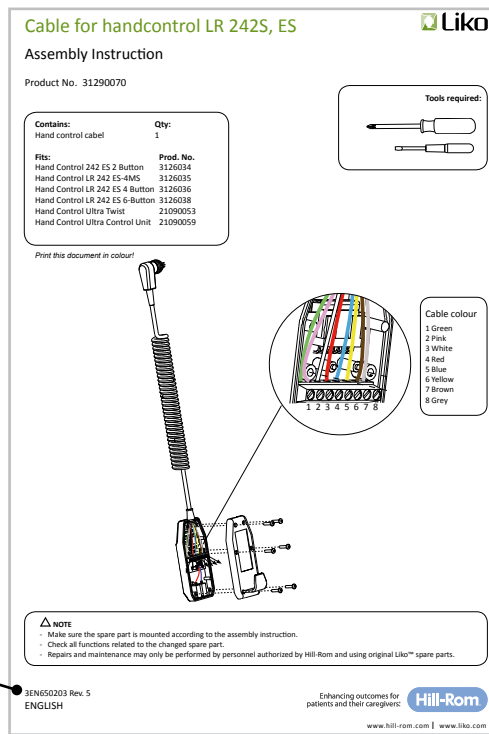


*Contact Hill-Rom.*

## 3.0 Spare Parts Assembly Information

# INFORMATION

Assembly Instructions to Liko™ spare parts are attached with the products. The assembly instructions are also available on the Partner Web and in Agile (internally). Document number to spare parts assembly instructions can be found in the spare parts list.



Document Number

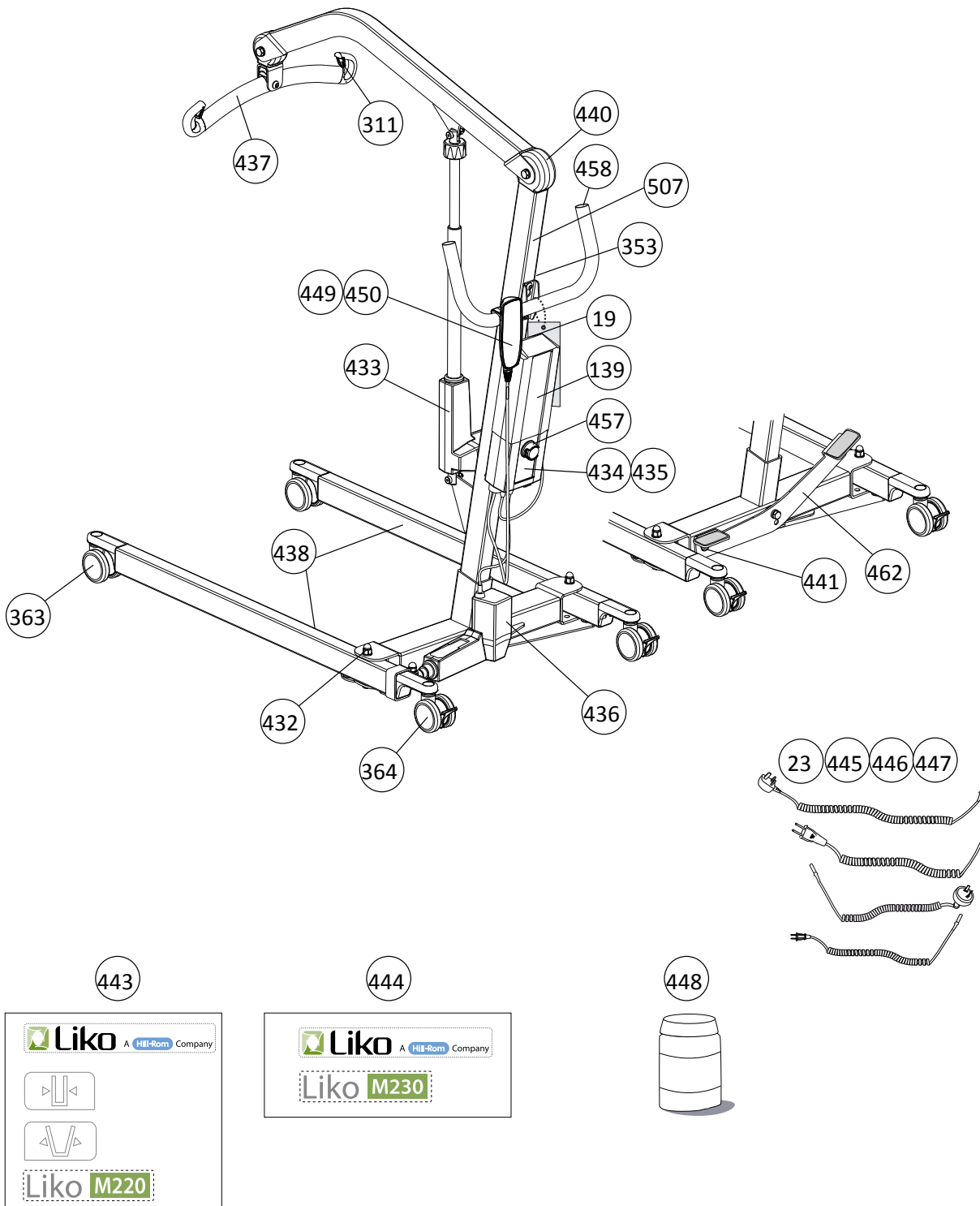
### △ NOTE

- Always make sure the spare part is mounted according to the assembly instruction.
- Check all functions related to the changed spare part.
- Repairs and maintenance may only be performed by personnel authorized by Hill-Rom and using original Liko™ spare parts.

Liko™ technical documentation can be found under “My information” - “Documents” on the Partnerweb: <https://partner.liko.com/> If you don't have access, E-mail for registration to: [se.customer.service@hill-rom.com](mailto:se.customer.service@hill-rom.com)

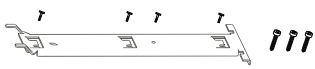

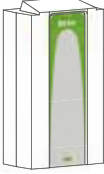


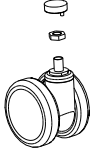
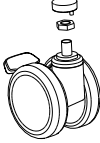
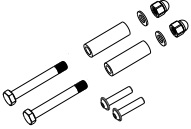
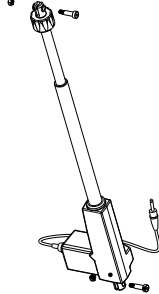
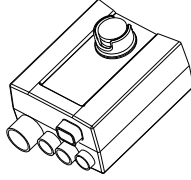
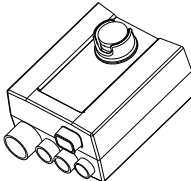
# 4.0 Spare Parts List, Liko™ M220/M230 mobile lift

PROD. NO.	PRODUCT
2050010	Liko M220
2050015	Liko M230

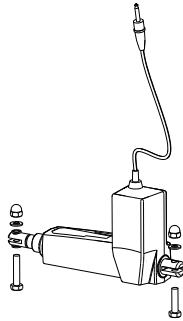
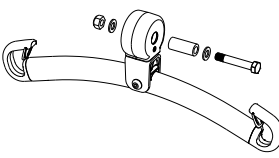
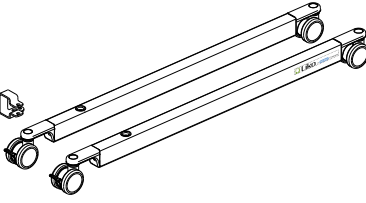
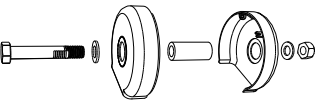
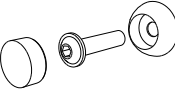






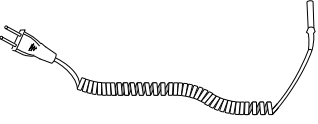
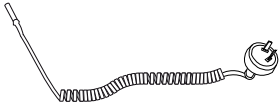
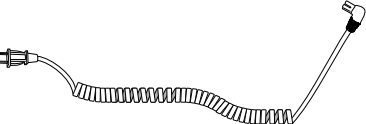




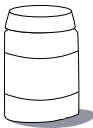



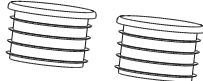
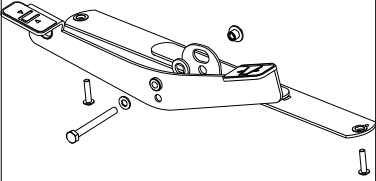
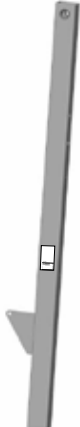
## 4.0 Spare Parts List, Liko™ M220/M230 mobile lift

PROD. NO.	POS. NO.	NAME	UNIT		ASSEMBLY INSTR.
20090023	19	Attachment for Control Box	pce		3EN630238
20090027	23	Cable for charging UK	pce		3EN630237
2006106	139	Battery Lead Acid	pce		3EN630224
31590014	311	Latch, composite <i>Fits Universal SlingBar from S/N 1299511</i>	pair		3SE640242
21090022	353	Charge cable hook , 10 pce	set		3SE650219
20190065	363	Front wheel 75m	pce		3SE650221
20190066	364	Rear wheel 75mm	pce		3SE650222
20590001	432	Base screw assembly	set		3EN650275
20590002	433	Actuator	pce		3SE650276
20590003	434	Control Unit M220	pce		3SE650277
20590004	435	Control Unit M230	pce		3SE650277

## 4.0 Spare Parts List, Liko™ M220/M230 mobile lift

PROD. NO.	POS. NO.	NAME	UNIT		ASSEMBLY INSTR.
20590005	436	Base Motor	pce		3SE650278
20590006	437	SlingBar Liko 450	pce		3EN650279
20590007	438	Liko M220/230 Legs	pair		3SE650280
20590008	440	Lift arm plastic cover	set		3SE650281
20590009	441	Pedal stop, 10 pce (3 parts/pce)	set		3SE650282
20590012	443	Labels Liko M220	set	2 x  1 x  1 x  2 x 	3SE650283
20590013	444	Labels Liko M230	set	2 x  2 x 	3SE650283
20590014	445	Cable for Charging EU	pce		3SE650284
20590015	446	Cable for Charging AU / NZ	pce		
20590016	447	Cable for Charging US	pce		

## 4.0 Spare Parts List, Liko™ M220/M230 mobile lift

PROD. NO.	POS. NO.	NAME	UNIT		ASSEMBLY INSTR.
20190048	448	Lacquer Top Coat for Improvement, Grey	pce		-
20590010	449	Hand Control 2-button M220	pce		3SE650285
20590011	450	Hand Control 4-button M230	pce		
20590018	457	Emergency guard, grey. 10 pce	set		3SE650286
20590019	458	End cap	pair		3SE650292
20590020	462	Pedal assembly	set		3SE650296
20590022	507	Mast M220/M230	pce		3SE690213

# 5.0 Periodic Inspection Information, Liko™ M220/M230 mobile lift

INFORMATION

According to ISO 10535:2006 Annex B, Periodic Inspection of medical device Liko™ mobile lift should be performed at least once a year. For Liko™ mobile lifts Periodic Inspection Liko™ mobile lifts 3EN371001 is available on the Partner Web (and internally in Agile)

**NOTE!**  
 ⚠ Periodic Inspection shall be performed at least once per year.

**Periodic inspection**  
 Liko™ mobile lifts  
 Liko™ sit-to-stand lifts  
 3EN371001 Rev. 4

**Lift Information**

Lift:	Agreement No.:
Product Number:	Name:
Serial Number:	Address:
Production year:	Post Code:

**Customer information**

⚠ Liko™ lifts must be thoroughly inspected when the Service Light at the Control Unit illuminates (if applicable) or at least once per year. Inspection and service must be carried out by Hill-Rom authorized personnel.

To track how the lift has been used, write down the values from the control unit (if applicable).

**Control unit data:**

If the Service System (SS) or the Diagnostic System (DS) are available, data can be read from lifts equipped with Control Unit (CU). If none data are available, write down the values (if any) shown below:

JAAT:  AS:

**Control Unit Number Code**

From the display, write down the values in the table below:

**Expected life**

Control Unit (CU):	Control Unit Number Code:
Viking™ M1 mobile lift: 700 Ah	Viking™ M1 mobile lift: 2 100 000 Ah
Viking™ M1 mobile lift: 800 Ah	Viking™ M1 mobile lift: 2 200 000 Ah
Viking™ M1 mobile lift: 1000 Ah	Viking™ M1 mobile lift: 2 300 000 Ah
Viking™ M1 mobile lift: 1500 Ah	Viking™ M1 mobile lift: 2 400 000 Ah
Viking™ M1 mobile lift: 2000 Ah	Viking™ M1 mobile lift: 2 500 000 Ah

**Inspection sign off**

Complete inspection according to instructions for the check points (page 3-9), lift in page 2 and sign below.

Approved to use the mobile lift:  Approved  Not approved

If the mobile lift has one or more inspection points "Not approved" the lift must not be used.

In an emergency Action according to the "INSPECTION ITEMS NOT APPROVED" should be performed immediately. After performed actions sign below. If working in violation of your laws, regulations, please contact Hill-Rom or your local Hill-Rom representative. Contact information is to be found at [www.hill-rom.com](http://www.hill-rom.com).

Inspection performed by:  Date:

Next inspection:

**Inspection performed in accordance with ISO 10535:2006 Annex B. Periodic inspection**

⚠ In this document, the warning symbol indicates the attention that should be taken. If instructions are not followed there is a risk of serious injury.

Hill-Rom

Liko™ technical documentation can be found under “My information” - “Documents” on the Partnerweb: <https://partner.liko.com/> If you don't have access, E-mail for registration to: [se.customer.service@hill-rom.com](mailto:se.customer.service@hill-rom.com)

Periodic Inspection may only be performed by personnel authorized by Hill-Rom and using original Liko™ spare parts.

**Available Liko™ Periodic Inspections:**

- 3EN371001 Periodic Inspection Liko™ Mobile lifts
- 3EN111001 Periodic Inspection Liko™ OH Rail system
- 3EN191001 Periodic Inspection Liko™ Overhead Lifts
- 3EN301001 PI Liko™ Freespan Freestand
- 3EN601001 Periodic Inspection Liko™ accessories


Also available is Periodic Inspection Slings. This inspection should be performed by a person who is suitable, has good experience and sufficient knowledge about design, use and maintenance of the sling.

- 7EN160834 General Periodic Inspection Protocol Liko™ Slings and Sabina SupportVests





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Enhancing outcomes for  
patients and their caregivers: 