

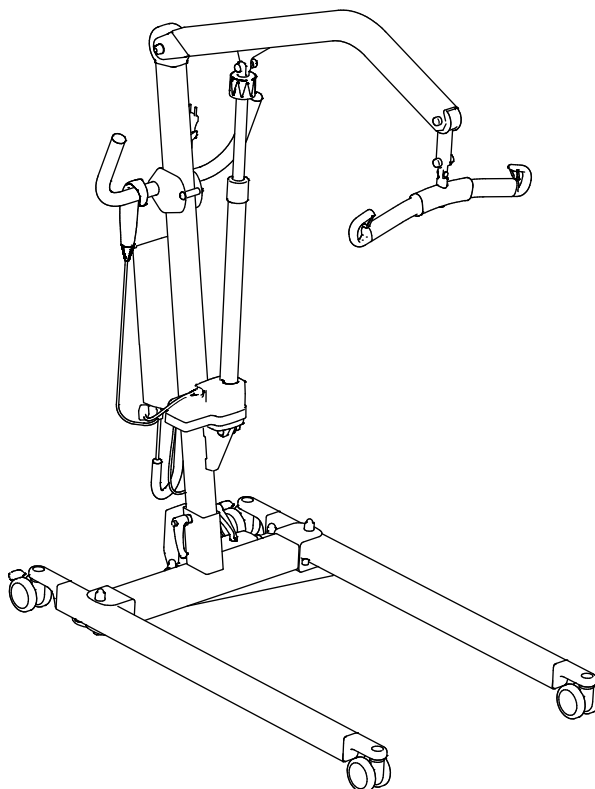
Uno M

mobile lift



Instructions for Use

Uno M mobile lift
Prod. No. 2050020



Product Description

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

Uno M mobile lift is an excellent aid in daily transfers of both adults and children, for instance, lifting to and from wheel chair, bed, toilet, bathtub, and floor.

The control box together with the hand control 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!

Lifting and transferring a patient always involves a certain level of risk. Read the instructions for use for both the patient lift and lifting accessories before use. It is important to completely understand the contents of the instructions for use. The equipment should only be used by a trained caregiver. To be trained, a caregiver needs to read and understand the Instructions for Use. Ensure that the lifting accessories are suitable for the lift used. Exercise care and caution during use. As a caregiver, you are always responsible for the patient's safety. You must be aware of the patient's ability to make it through the lifting situation. If something is unclear, contact the manufacturer or supplier.

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Safety Information

Intended use

Uno M mobile lift is intended for most common patient transfers, for instance,
-transfers between bed and wheelchair,
-to and from toilet and bathtub, or
-for lifting from and to the floor.

Intended for use in following environments: Health care, Intensive care, Emergency ward, Rehabilitation, Habilitation and Home Healthcare environment.

Intended users

The intended users of this product are healthcare professionals and lay operators (caregivers) who have been trained to use the product, and who have the physical strength and cognitive skills to operate and control the product. A lay operator is a person without medical training. In the home environment the lay operator can be a designated family member. 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 discuss or describe various patient conditions in this instruction for use. Contact your Hillrom 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 fulfils the requirements for correct use of the mobile lift, please contact your Hillrom representative for further advice and assistance.

Use the handles to maneuver the lift. Do not apply force to the lift arm or directly to the lift mast to maneuver; this may cause a tilting hazard.

Unbalanced lifting poses a tipping risk that may damage the lift equipment and cause severe injury to the patient!

Never leave a patient unattended during a lifting situation!

Do not raise the lift arm manually!

Never leave children unattended in the vicinity of the lift!

Do not operate, store, or transport the lift in the vicinity of pets, pests, or unattended children!

Do not store the lift or battery where it will be exposed to direct sunlight, or to heat sources, such as a radiator, fireplace, or stove/oven!

Make sure that the patient and caregiver stay clear of pinch points and moving parts during a lifting event. Injury could occur.

Evaluate patients for entrapment risk and monitor patients appropriately. Make sure that the patient's head and limbs are not in or between sling loops during lifting event. Failure to do either of these could cause serious injury or death.

Incorrect attachment of sling to slingbar may cause severe injury to the patient!

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 instructions for use for the lift and lifting accessories.
- Caregivers 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 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 stretched up but before the patient is lifted from the underlying surface.

Uno M mobile lift is tested by an accredited testing institute.

-  **No modification of the product is allowed.**
-  **Use of this equipment adjacent to or stacked with other equipment should be avoided because it could result in improper operation. If such use is necessary, this equipment and the other equipment should be observed to verify that they are operating normally.**
-  **Electromagnetic disturbance may affect the lifting performance of the product. Modification using other parts than original spare parts (cables etc.) may affect the electromagnetic compatibility of the product. 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 product.**
-  **The device has not been tested for use in the Magnetic Resonance Imaging (MRI) setting. Transfer the patient to a compatible surface to do an MRI, and remove the lift from the MRI room.**

If you have questions, please consult the responsible assistive device technician or the supplier.

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

This Caution notice is found on the Battery:



CAUTION! NOT TO BE OPENED BY UNAUTHORIZED PERSONNEL
 DO NOT SHORT CIRCUIT
 USE THE SPECIFIED CHARGER ONLY
 MAY EXPLODE IF DISPOSED IN FIRE

This Caution notice is found on the Control box:

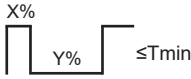


CAUTION! NOT TO BE OPENED BY UNAUTHORIZED PERSONNEL

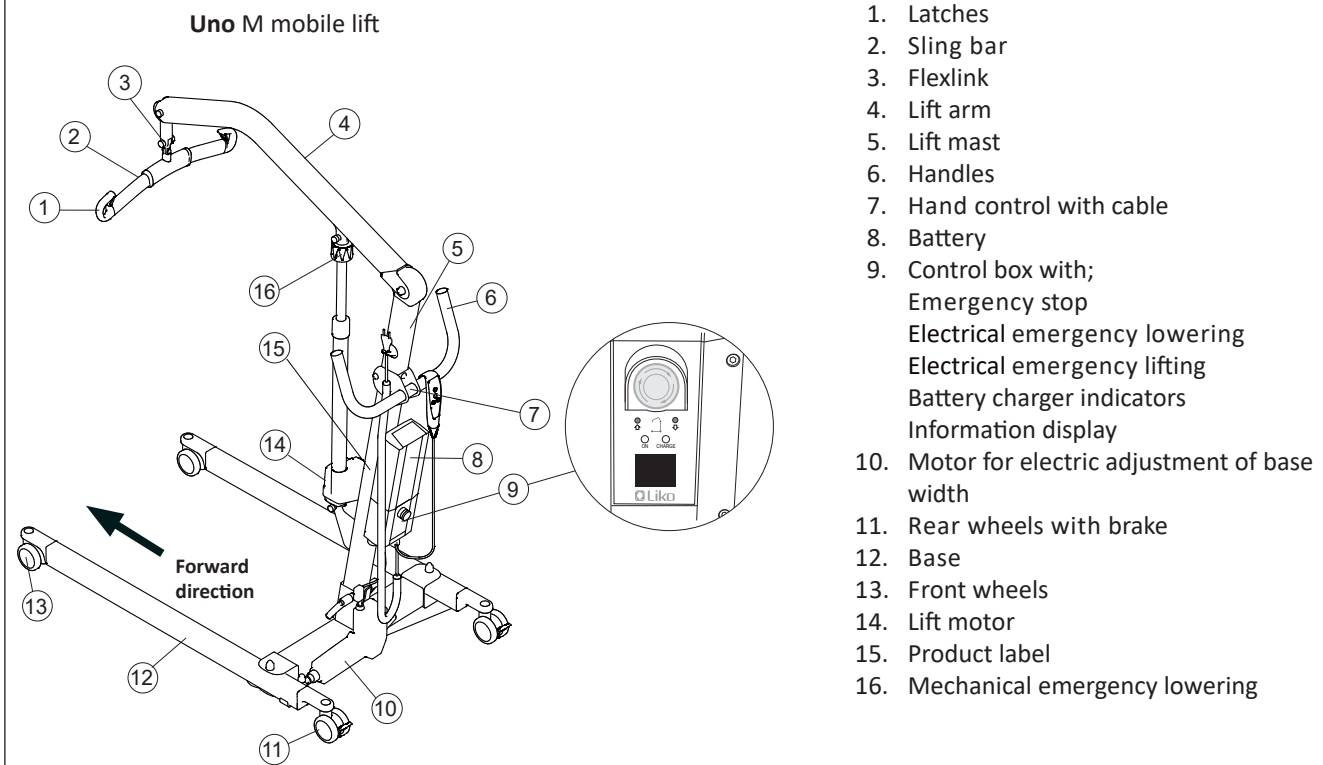
Symbol Description

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

Symbol	Description	Symbol	Description
	The device is intended for use indoors.		
	The product has extra protection against electric shock (Insulation Class II).		
 >10kg	Detachable parts (intended to be detached without the use of tools) of the hoist with a mass of more than 10 kg (22 lbs.).		
 XX kg	Mass (weight of the lift when ready for use).		
	Warning; this situation requires extra care and attention. This symbol is a yellow triangle with a black border, and a black exclamation mark at the center.		
	Never move the lift by pulling on the actuator. This symbol shows a hand grasping the actuator, with a red circle and slash overlaid on the hand and actuator.		
	Read instructions for use before use. This symbol is a blue circle with a white image of a person reading a book.		
	CE-mark. European Union medical device conformity mark, Class I Medical Device.		
	Swiss authorised representative		
IP24	IP (ingress protection) rating indicates how well a device is protected against solid objects and liquids. The IP24 rating indicates that the device is protected against solid objects up to 12.5 mm in diameter, and is protected from splashing water from any direction.		
	Battery.		

Symbol	Description	Symbol	Description
	Manufacturer.		Date of manufacture.
	Caution! consult instructions for use.		Consult instructions for use for more information.
	Product Identifier.		Serial Number.
	Medical Device.		Unique Device Identifier.
	All batteries in this product must be recycled separately. Do not dispose as unsorted municipal waste.		
	All Electrical and Electronic Equipment in this product must be recycled separately. Do not dispose as unsorted municipal waste. Indicate this product have been placed on the market after 2005.		
	All batteries in this product must be recycled separately. Do not dispose as unsorted municipal waste. Batteries containing lead.		
	Recyclable.		
	UL Recognized Component Mark for Canada and the United States.		
	EFUP, Environmental Friendly Usage Period (years). This symbol is orange, and shows two arrows circling around the number 10.		
	Environmentally friendly product which can be recycled and reused. This symbol is green, and shows two arrows circling around a stylized lowercase letter e.		
	Verification of Electromagnetic Compatibility testing.		
	Proof of Product compliance to North American safety standards.		
	The Australian Safety/EMC.		PSE Mark (Japan).
	Non-ionizing electromagnetic radiation.		
	Duty cycle for non-continuous operation. The maximum active operation time X% of any given time unit, followed by a deactivation time, Y%. The active operation time shall not exceed the specified time in minutes, T.		
	GS1 Data Matrix Barcode that may contain following information. (01) Global Trade Item Number. (11) Production Date. (21) Serial Number.		
	Stacking limit.		
	This way up.		Fragile, handle with care.
	Keep dry.		Temperature limit.
	Humidity limitation.		Atmospheric pressure limitation.

Definitions



Technical Data

Maximum load:	182 kg (400 lbs)	Sound pressure level:	- Max load: 52.1 dB(A) - Unloaded: 49.8 dB(A)
Material:	Steel	Sound power level	- Max load: 51.7 dB - Unloaded: 49.7 dB
Weight:	Uno M lift (excl sling bar, battery, charging cable) 36.9 kg (81.2 lbs) Universal SlingBar 450: 0.9 kg (2 lbs) Battery lead-acid gel: 2.8 kg (6.2 lbs) Battery Li-Ion: 1.5 kg (3.3 lbs) Charging Cable: 0.2 kg (0.4 lbs)	Protection class:	IP 24
Weight of heaviest part:	Heaviest detachable part (lift mast with lift arm, lift motor incl. cable, sling bar and control box with hand control): 17.1 kg (37.6 lbs).	Operating forces of controls:	Hand control: 5 N
Mass (weight of the lift when ready for use)	Uno M lift incl lead-acid gel battery, Universal SlingBar 450, charging cable. Total: 40.8 kg (89.8 lbs). Uno M lift incl Li-Ion battery, Universal SlingBar 450, charging cable. Total: 39.5 kg (86.9 lbs).	Electrical data:	24 V
Minimum user mass	No minimum limit.	Intermittent operation:	The lift motor is intended to be operated for only 10% of a given time period. Do not use the lift motor for more than 2 minutes of continuous operation.
Maximum user mass	Maximum load same as maximum patient weight (excluding body-support unit).	Batteries:	Lead-acid gel, valve-regulated battery - 24 V 2.9 Ah Prod. No. 2006106. Li-Ion, Lithium Iron Phosphate (LiFePO ₄) 25.6 V 3.3 Ah Prod. No. 2006110.
Wheels:	Front: 75 mm (3 in) twin wheels Rear: 75 mm (3 in) twin wheels with brakes	Battery charger:	Built-in, 100-240 V AC, 50-60 Hz, max 400 mA.
Turning diameter	1315 mm (52 in)	Lift motor:	Permanent magnet motor with mechanical safety mechanism 24 V, 9.5 A.
Emergency lowering device:	Mechanical and Electrical	Base width adjustment motor:	Permanent magnet motor 24 V, 6 A.
Lifting interval:	1297 mm (51.1 in)	Surrounding functional environment:	Temperature: +10°C to +40°C (50°F to 104°F), relative humidity: 20% to 80% at 30°C non-condensing, atmospheric pressure: 700 hPa to 1060 hPa, altitude: max. 3000m.
Lifting speed (no load):	33 mm/s (1.3 in/s)		

Conforms to ISO 10535 with ANSI/AAMI Std. ES60601-1 and is certified to CSA Std. Z10535.1 with Std. C22.2 No. 60601-1.

Weight and dimension measurements are approximate and subject to change.

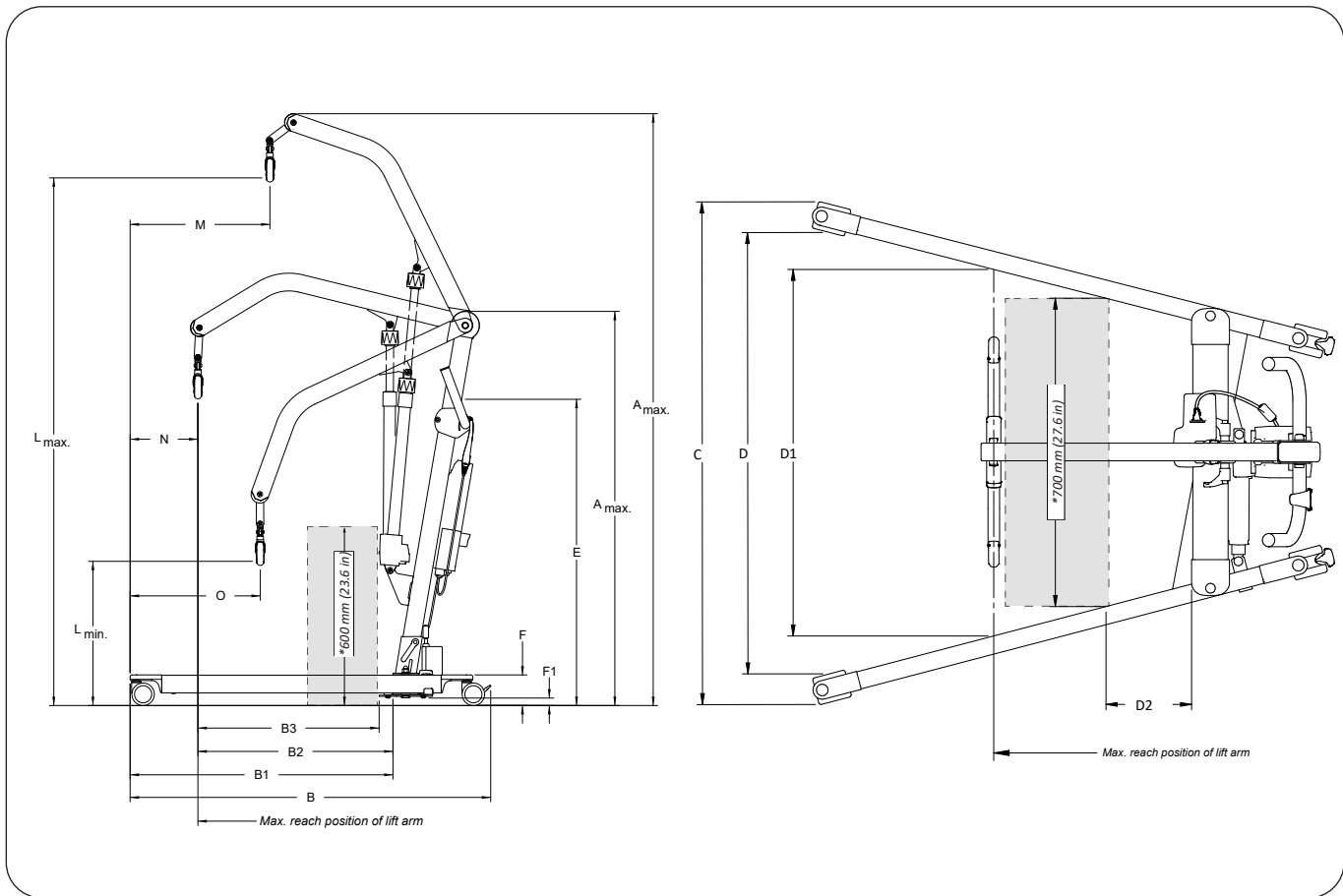


The device is intended for use indoors



Class II equipment.

Dimensions



UNO M mobile lift

	A _{max.}	A _{min.}	B	B1	B2	B3*	C		D		D1	D2*	E	F	F1	L _{max}	L _{min}	M	N	O
	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.
mm	2002	1333	1220	889	660	613	1141	681	1002	554	833	197	1030	104	25	1783	486	473	229	440
in.	78.8	52.5	48	35	26	24.1	44.9	26.8	39.5	21.8	32.8	7.8	40.6	4.7	1	70.2	19.1	18.6	9	17.3

NOTE! When changing to other lifting accessories check that the lift still achieves desired lifting height.

* Reference measurement according to Standard ISO 10535

EMC Table

Guidance and manufacturer's declaration – electromagnetic emissions		
The product is intended for use in the electromagnetic environment specified below. The customer or the user of the product should ensure that it is used in such an environment.		
Emissions test	Compliance	Electromagnetic environment - guidance
RF emissions CISPR 11	Group 1	The product uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class B	The product is suitable for use in all establishments including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic emissions IEC 61000-3-2	Complies	
Voltage fluctuations/ flicker emissions IEC 61000-3-3	Complies	

Guidance and manufacturer's declaration – electromagnetic immunity

The product is intended for use in the electromagnetic environment specified below. The customer or the user of the product should ensure that it is used in such an environment. The product shall not move unintentionally while being submitted to disturbances.

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment - guidance
Electrostatic discharge (ESD) IEC 61000-4-2	+/- 8 kV contact +/- 2, 4, 8 and 15 kV air	+/- 8 kV contact +/- 2, 4, 8 and 15 kV air	+/- 8 kV contact +/- 2, 4, 8 and 15 kV air Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30 %.
Electrical fast transient / Burst IEC 61000-4-4	+/- 2 kV for power supply lines	+/- 2 kV for power supply lines	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	+/- 0,5 and 1 kV differential mode +/- 2 kV common mode	+/- 0,5 and 1 kV differential mode n/a. for common mode	Mains power quality should be that of a typical commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	0 % U_T for 0,5 cycle, at 0, 45, 90, 135, 180, 225, 270 and 315 degrees 0 % U_T for 1 cycle, at 0 degrees 70 % U_T for 25 cycles at 50 Hz and 30 cycles at 60 Hz, at 0 degrees 0 % U_T for 250 cycles at 50 Hz and 300 cycles at 60 Hz.	0 % U_T for 0,5 cycle, at 0, 45, 90, 135, 180, 225, 270 and 315 degrees 0 % U_T for 1 cycle, at 0 degrees 70 % U_T for 25 cycles at 50 Hz and 30 cycles at 60 Hz, at 0 degrees 0 % U_T for 250 cycles at 50 Hz and 300 cycles at 60 Hz.	Mains power quality should be that of a typical commercial or hospital environment. If the user of the product requires continued operation during power mains interruptions, it is recommended that the product be powered from an uninterrupted power supply or battery.
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	30 A/m	Complies	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment
Proximity Magnetic Fields IEC 61000-4-39	8 A/m with CW modulation at 30kHz 65 A/m with 2.1kHz pulse modulation at 134.2kHz 7.5A/m with 50kHz pulse modulation at 13.56MHz	8 A/m with CW modulation at 30kHz 65 A/m with 2.1kHz pulse modulation at 134.2kHz 7.5A/m with 50kHz pulse modulation at 13.56MHz	Proximity magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.

NOTE U_T is the AC mains voltage prior to application of the test level.

Guidance and manufacturer's declaration – electromagnetic immunity

The product is intended for use in the electromagnetic environment specified below. The customer or the user of the product should ensure that it is used in such an environment. The product shall not move unintentionally while being submitted to disturbances.

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment - guidance
Conducted RF IEC 61000-4-6	3 V 0,15 MHz – 80 MHz with increased test level to 6 V in ISM and amateur radio bands between 0,15 MHz and 80 MHz.	6 V 0,15 MHz – 80 MHz Including ISM and amateur radio bands.	Portable and mobile RF communications equipment should be used no closer to any part of the product, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. Recommended separation distance $d = (0.58)\sqrt{P}$ $d = (1.17)\sqrt{P}$ 80 MHz to 800 MHz $d = (2.33)\sqrt{P}$ 800 MHz to 2,7 GHz where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in meters (m). Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey, ^a should be less than the compliance level in each frequency range. ^b Interference may occur in the vicinity of equipment marked with the following symbol. 
Radiated RF IEC 61000-4-3	10 V/m 80MHz to 2,7GHz	10 V/m 80MHz to 2,7GHz	

NOTE 1 At 80MHz and 800MHz, the higher frequency range applies.

NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflected from structures, objects and people.

^a Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the product is used exceeds the applicable RF compliance level above, the product should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the product.

^b Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 10 V/m.

Recommended separation distances between portable and mobile RF communications equipment and the products listed above

⚠ Portable RF communications equipment (including peripherals such as antenna cables and external antennas) should be used no closer than 30 cm (12 inches) to any part of the product, including cables specified by the manufacturer. Otherwise, degradation of the performance of this equipment could result.

The product is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the product can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the product as recommended below, according to the maximum output power of the communications equipment.

Rated maximum output power of transmitter (W)	Separation distance according to frequency of transmitter (m)		
	150 kHz to 80 MHz $d = (0.58)\sqrt{P}$	80 MHz to 800 MHz $d = (1.17)\sqrt{P}$	800 MHz to 2.7 GHz $d = (2.33)\sqrt{P}$
0.01	0.06	0.12	0.23
0.1	0.18	0.37	0.74
1	0.58	1.17	2.33
10	1.84	3.69	7.38
100	5.83	11.67	23.33

For transmitters rated at a maximum output power not listed above, the recommended separation distance d in meters (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.

Note 1: At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.

Note 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

For Radiated RF immunity test level:

$$E = \frac{6}{d} \sqrt{P}$$

Where P is the maximum power in W, d is the minimum separation distance in m, and E is the immunity test level in V/m. The factor of 6 is a compromise for a range of antenna factors, to simplify the test.



Guidance and manufacturer's declaration – electromagnetic immunity

The product is intended for use in the electromagnetic environment specified below. The customer or the user of the product should assure that it is used in such an environment.

"Essential performance according to the manufacturer: The product shall not move unintentionally while being submitted to disturbances."

Test frequency (MHz)	Band ^{a)} (MHz)	Service ^{a)}	Modulation ^{b)}	IMMUNITY TEST Level (V/m)
385	380 - 390	TETRA 400	Pulse modulation ^{b)} 18 Hz	27
450	430 - 470	GMRS 460, FRS 460	FM ^{c)} +/- 5 kHz deviation 1 kHz sine	28
710	704 - 787	LTE Band 13, 17	Pulse modulation ^{b)} 217 Hz	9
745				
780				
810	800 - 960	GSM 800/900, TETRA 800, IDEN 820, CDMA 850, LTE Band 5	Pulse modulation ^{b)} 18 Hz	28
870				
930				
1720	1700 - 1990	GSM 1800, CDMA 1900, GSM 1900, DECT, LTE Band 1, 3, 4, 25 UMTS	Pulse modulation ^{b)} 217 Hz	28
1845				
1970				
2450	2400 - 2570	Bluetooth, WLAN, 802.11 b/g/n, RFID 2450 LTE Band 7	Pulse modulation ^{b)} 217 Hz	28
5240	5100 - 5800	WLAN 802.11 a/n	Pulse modulation ^{b)} 217 Hz	9
5500				
5785				

NOTE If necessary to achieve the IMMUNITY TEST LEVEL, the distance between the transmitting antenna and the ME EQUIPMENT or ME SYSTEM may be reduced to 1 m. The 1 m test distance is permitted by IEC 61000-4-3.

a) For some services, only the uplink frequencies are included.

b) The carrier shall be modulated using a 50 % duty cycle square wave signal.

c) As an alternative to FM modulation, the carrier may be pulse modulated using a 50% duty cycle square wave signal at 18 Hz. While it does not represent actual modulation, it would be worst case.

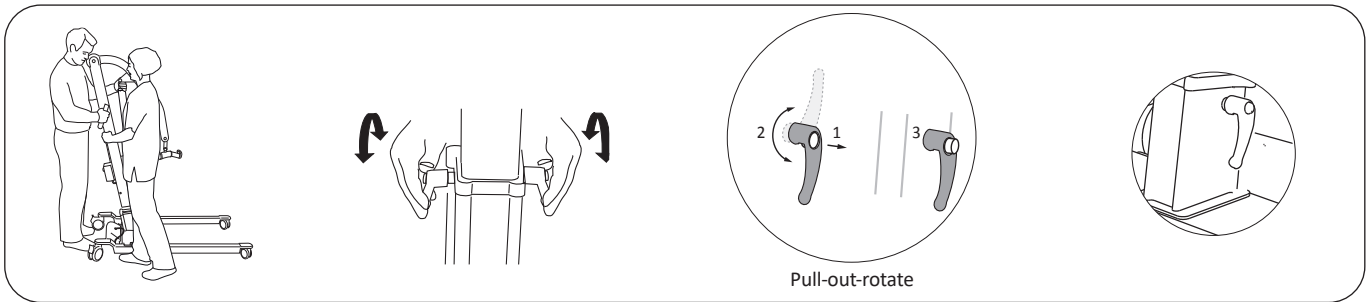
Assembly and Setup

Remove the two transport safety straps, on the sling bar and on the lift mast.

Before assembly, make sure you have the following parts:

- Lift mast with lift arm, lift motor incl. cable, and sling bar.
- Control box with hand control.
- Base with motor for base-width adjustment, incl. cable.
- Locking handles, pair.
- Battery.
- Handle.
- Instructions for use, charger cable, charger connector cable.
- 2 screw M10x25.
- 1 screw M5.
- 2 screw M10x16.
- 1 casing (M10).
- 1 Allen wrench 3 mm.
- 2 Allen wrench 6 mm.





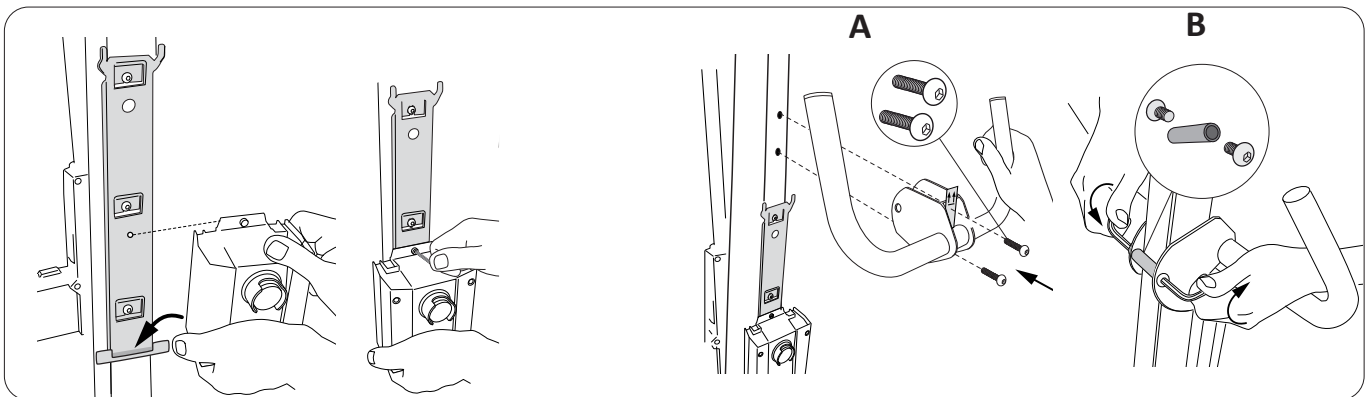
1. Lock both rear wheels.
Place the lift mast in the foot of the base.
NOTE! 2-person lifting is recommended to install the lift mast in the base.

2. Install the bolt portion of the locking handle through the holes in the base and the mast. Rotate the nut portion of the locking handle onto the bolt portion. To release the handle from the bolt or nut portion of the locking handle, pull out on the handle.

You may need to release the handle and reposition it to tighten the locking handle. The nut and bolt portions have texture that allows you to rotate them with the handle released.

3. After you tighten the locking handle, pull out and rotate the handle so that it points down, see illustration.

⚠️ Incorrectly attached mast may result in the mast separating from lift e.g. during transport, which may result in injury.

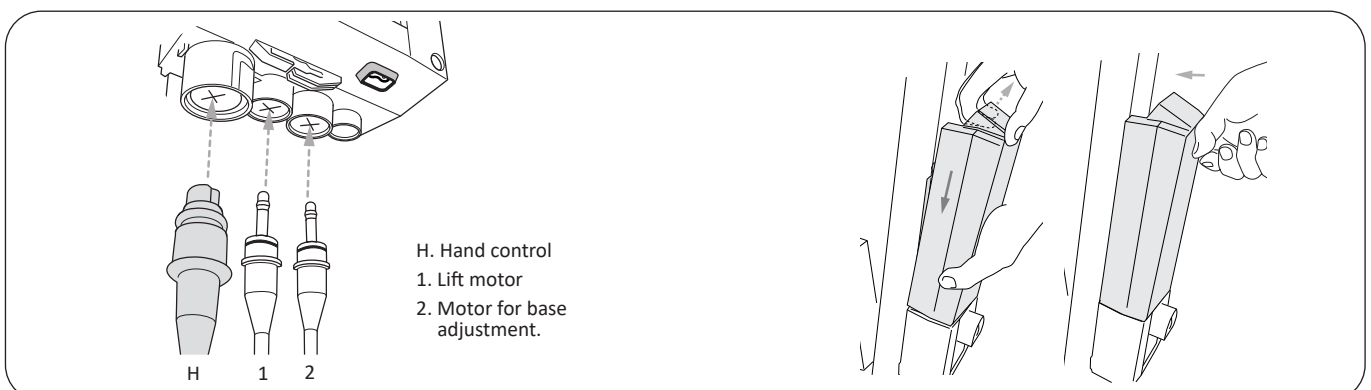


4. Place the control box in the bracket on the lift mast.
Lock the control box in place using the M5 screw and Allen key 3 mm provided. Do not over tighten the screw.

5. Install handles at the lift mast:

- A: Attach in the lift mast with two M10x25 screws and the 6 mm Allen wrench provided. (Remove decal)
B: Insert the casing (M10) in the forward attachment of the handles, use two M10x16 and the two 6 mm Allen wrenches provided
C: Make sure the handles all four screws are tight!

⚠️ Incorrectly installed handles may lead to bad ergonomics for the caregiver.

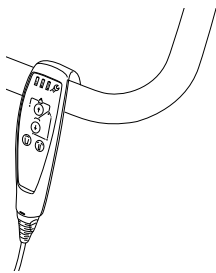


6. Connect the cables as follows (see illustration):
- lift motor cable (1)
- base-width adjustment motor cable (2)
- hand control cable (H).

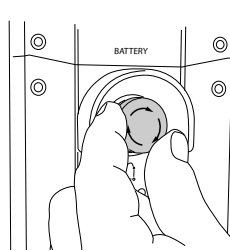
Make sure plugs are fully seated.

⚠️ Incorrectly attached connectors may result in lift not working as intended.

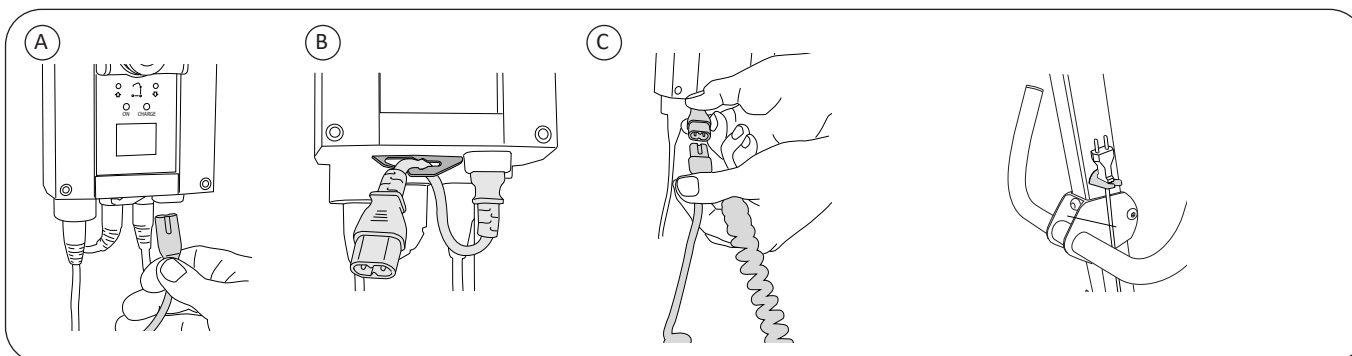
7. Connect the battery and secure it to the control box bracket. A click sound can be heard when the battery is installed correctly.



8. Hang the hand control on the handle.



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



10. 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.

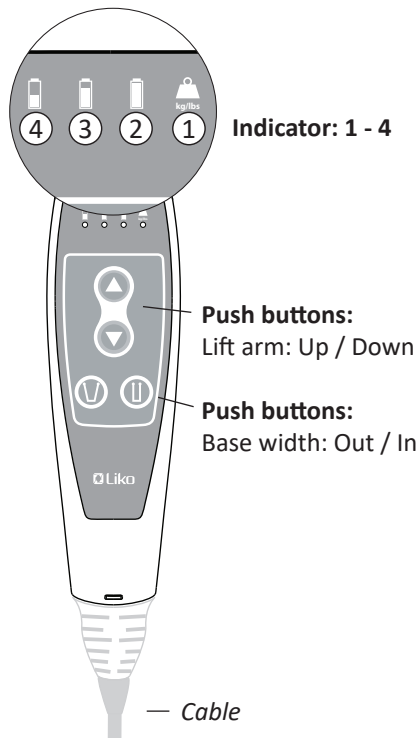
11. Place the charger cable on the hook provided on the mast after completed charging.

NOTE! Always charge the battery before using the lift the first time, see "Charging the Batteries" on page 18.

After assembly and charging, ensure that:

- The battery has been fully charged (approximately 6 hours).
- Lift arm motions correspond with the buttons on the hand control.
- Service interval is activated! Push and hold the following buttons on the hand control simultaneously:
Up ▲ / Down ▼ , until an audio signal (single beep) is heard = service interval activated.
(Alternatively use the push buttons simultaneously for emergency lifting up and down on the control box)
- Base width adjustment corresponds with the buttons on the hand control.
- Emergency lowering works properly (mechanical and electrical).
- Rear wheel brakes function properly.

Operation



Hand control operation and indicators

Operate the lift using the push buttons on the hand control. For raising and lowering: Directional arrows show the direction of movement (up/down). The lift arm movement and base adjustment stop when 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%)
- will constantly light up green when charger is connected to mains (AC power source).
 - 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 "Charging the Batteries" on page 18 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 is 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.
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.



Overload! Too much load is applied to the lift.



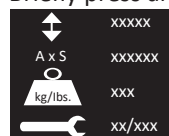
Short circuit warning!
Check cables and connections.
Warning is shown until repaired!



Service needed; contact Hillrom.

6. Information display:

Briefly press and release the UP button to activate the information display.



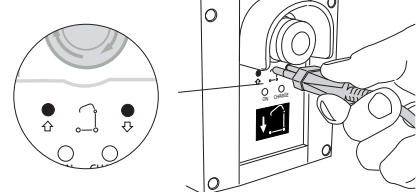
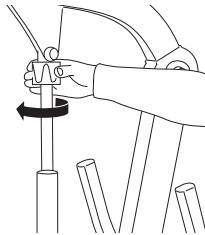
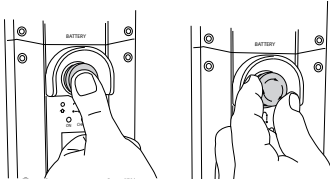
- Total number of lift cycles with load
- Work done by actuator; Amp. x Sec.
- Number of overload indications
- Days since last service/Days between services.

Li-ion battery - specific information

Sleep mode! The sleep mode will be activated in a Li-ion battery if not in use or charged in one week or more. The sleep mode switches off the battery and its electronics to save power. The battery will stay in sleep mode until the battery is set back to operation mode again.

How to set the Li-ion battery back in operation mode; Charge the battery. When the "CHARGE" indicator, ⑤ is lit the battery has been set back in operation mode and ready for use. **NOTE!** We recommend charging the battery until charging is completed, see "Charging the Battery" on page 18 for more information and instructions.

Delay! A delay to indicators for current battery power at the control box and hand control occurs if the emergency stop function is activated and restored, see 1 above.



To activate the emergency stop:

Push the red Emergency Stop button on the control box.

To reset the emergency stop:

Turn the button clockwise.

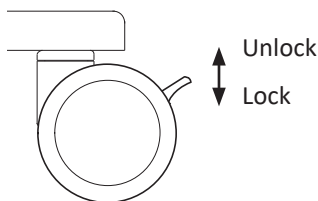
Mechanical Emergency Lowering

Turn the emergency lowering control clockwise, repeat the movements until the patient being lifted is on a firm surface and the strap loops of the sling can be unhooked.

Electrical emergency lowering / lifting

Use a narrow object to press into the circle mark above each (Arrow), see "Operation" on page 15 for more information.

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



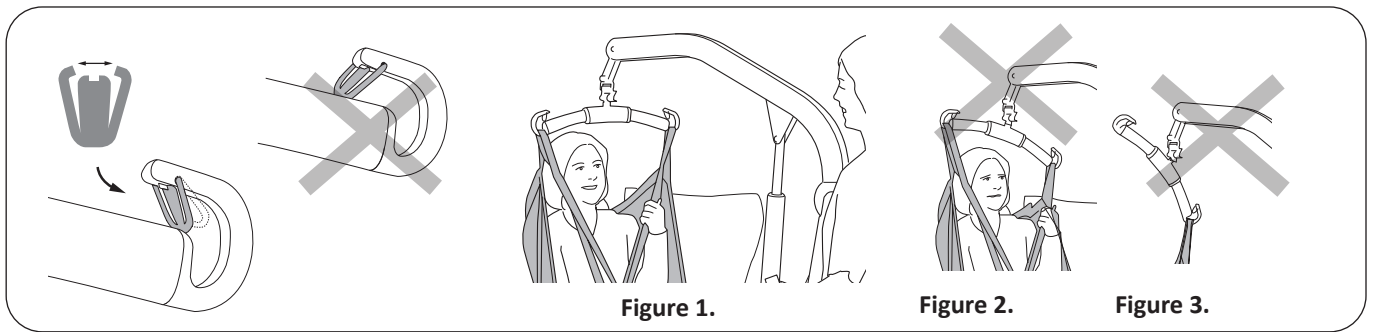
Locking the Wheels

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 center 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.

⚠ Never move the lift by pulling on the actuator!



Installation of Latches

After installation, make sure that the spring-loaded latches are taut against the sling bar and moves freely in the sling bar hook.

Lift correctly!

Before each lift, make sure that:

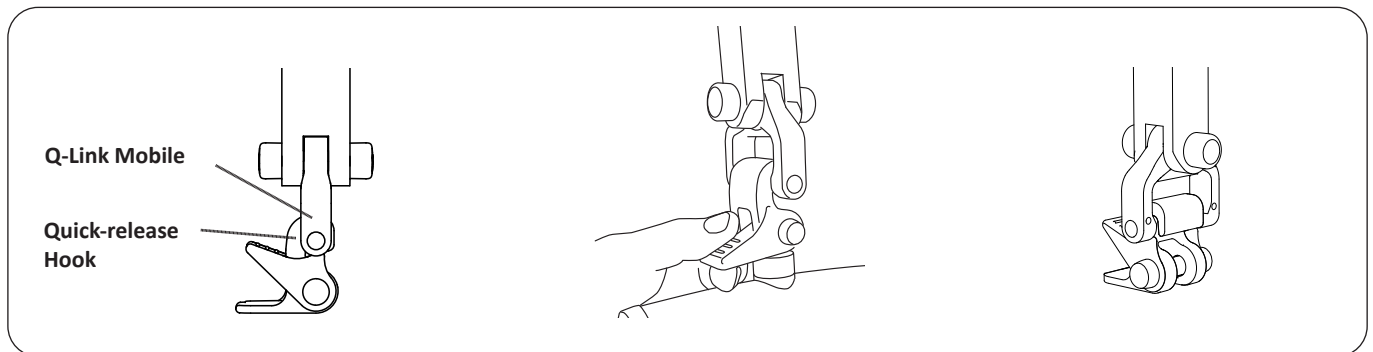
- the Sling loops at opposite sides of the Sling are at the same height
- all the Sling loops are fastened securely in to the Slingbar hooks
- the Slingbar is level during the lift, see Figure 1.

⚠ 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 instructions for use 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).

Lifting Accessory with Quick-release Hook

⚠ Incorrect attachment of accessory to lift may cause serious injury to the patient.

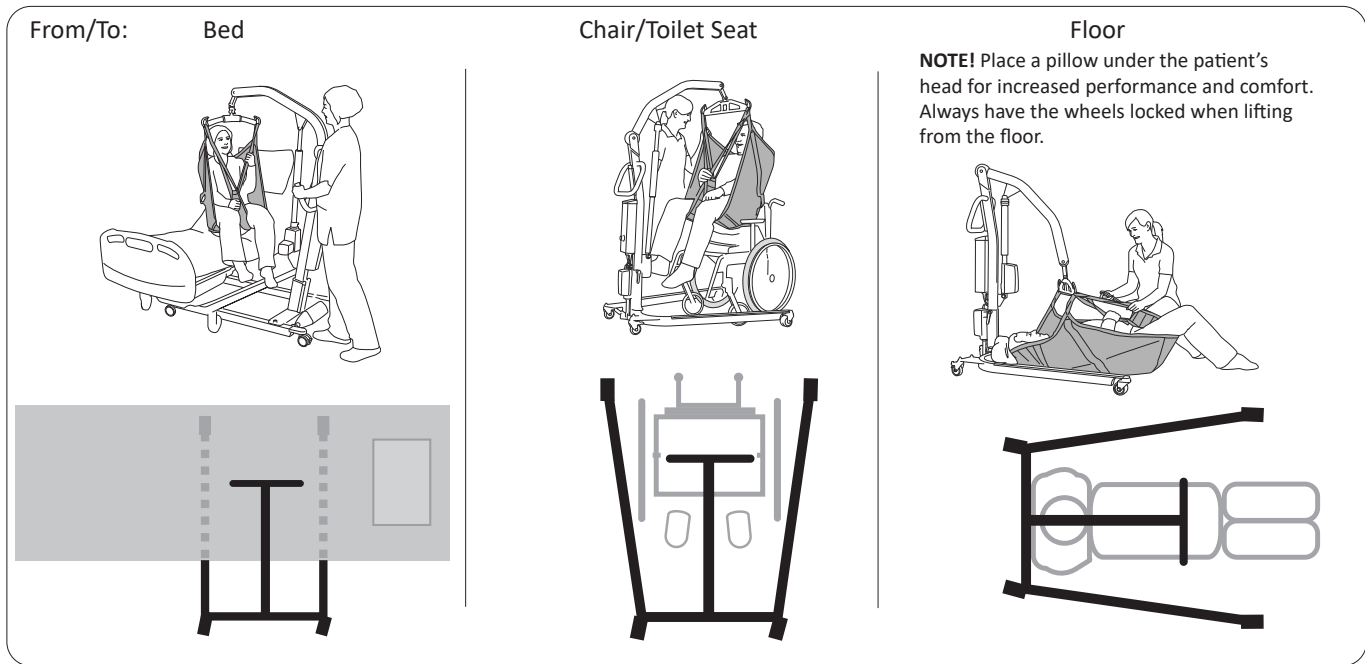


To use accessory with quick-release hook, **Uno M** mobile lift must be equipped with Q-link Mobile (Prod. No. 3156510). See applicable assembly instruction.

Push down the catch and connect the quick-release hook to the Q-Link Mobile. Release and check that the catch locks in order to prevent involuntary unhooking from the Q-Link Mobile.

⚠ Before lifting, check that the Quick-release Hook is correctly attached to the Q-Link Mobile, see illustration above.

Position of the Lift when Lifting



Charging the Batteries

Charger information

1. "ON" - lights up green when the charger is connected to mains (AC wall power).
2. "CHARGE" - lights up yellow constantly during charging.

1.  ON
2.  CHARGE



It is important that the lift battery is charged regularly. Always activate the lift's charging system or place the battery in a charger when the lift is not in use. Full charge is achieved after maximum 6 hours. Regular charging is important to maximize battery life.

With a fully charged battery, approximately 30 normal* lifts with a load of maximum 91 kg (200 lbs) can be carried out.

*A normal lift = 15 cm (6 in.) down with a load, followed by 55 cm (22 in.) up with a load, followed by 55 cm (22 in.) down with a load, followed by 15 cm (6 in.) up with a load.

NOTE! If the control box charger cannot be used, remove the battery, and place it in a wall-mounted charger. If the control box charger is the only charger available and cannot be used, activate the emergency stop function to prevent the battery from draining.

The control box charger will not charge the battery when the emergency stop is activated.

NOTE! Charging a deep discharged Li-Ion battery

When charging a deep discharged Li-Ion battery the charger will start charging at a low charging rate to protect the battery. During the low rate charging the charge indicator will not light up.

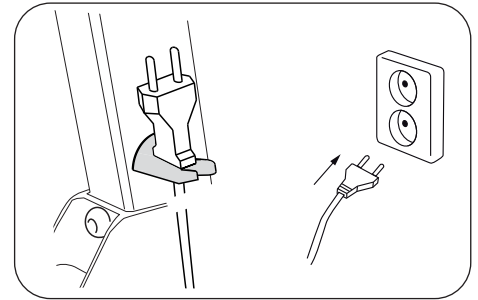
When the low-rate charging is completed, the charger will automatically switch to normal charge rate and the "CHARGE" indicator will light up yellow.

Charging with the control box internal charger (standard)

Plug the charger cable into mains (100-240 VAC), see "Charger information" on page 18. When the battery is fully charged, the charger turns off automatically.

We recommend charging after each use or every night.

Never charge batteries in a wet area!



NOTE! If the charger cable is stretched out it should be replaced to avoid the risk of the cable getting caught and damaged.

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

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

Alternative charging procedure

Wall mounted charger:

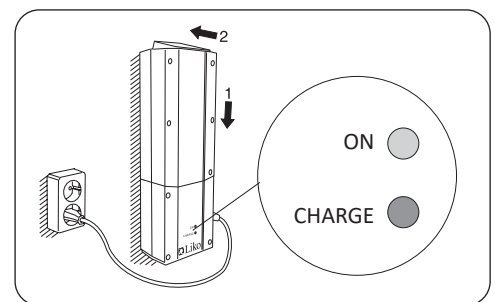
Loosen the holder for the charger cable. Remove the battery pack from the control box by loosening the locking device on top of the battery pack. See "Assembly and Setup" on page 12.

Charger information:

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

"CHARGE" - light up yellow constantly during charging.

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



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, an **Uno M** mobile lift which is approved for 182 kg (400 lbs) can be equipped with a lifting accessory which is approved for 200 kg (440 lbs). In this case, the maximum load of 182 kg (400 lbs) applies to the assembled lift unit.

Study the markings on the lift and lifting accessories or contact your Hillrom 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 **Uno M** mobile lift is 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 make sure 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.

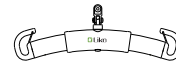
For additional guidance in selecting a sling, study the instructions for use for the respective sling models. There you will also find guidance for combining **Liko** sling bars with **Liko** slings.

Contact your Hillrom representative for advice and information on Liko product range.

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

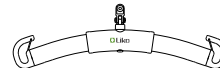
Universal SlingBar 350*
Max. 300 kg (660 lbs)

Prod. No. 3156074



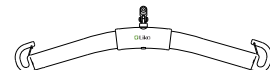
Universal SlingBar 450*
Max. 300 kg (660 lbs)

Prod. No. 3156075



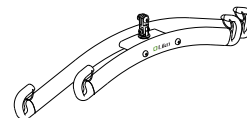
Universal SlingBar 600*
Max. 300 kg (660 lbs)

Prod. No. 3156076



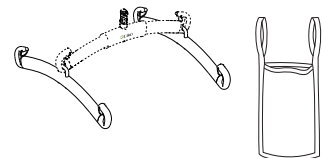
Universal TwinBar 670*
Max. 300 kg (660 lbs)

Prod. No. 3156077



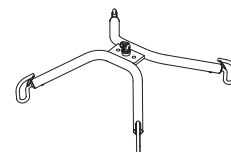
**Universal SideBars 450
including bag**
Max. 300 kg (660 lbs)

Prod. No. 3156079



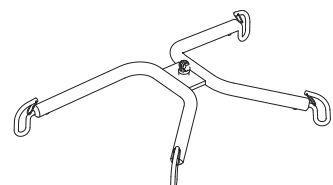
Sling Cross-bar 450*
Max. 300 kg (660 lbs)
(Adapter 12 mm, prod. no. 2016504 required)

Prod. No. 3156021



Sling Cross-bar 670*
Max. 300 kg (660 lbs)
(Adapter 12 mm, prod. no. 2016504 required)

Prod. No. 3156018



Optional Components for Use with Lift

Quick-Release Hook

Liko Quick-Release Hooks is a system for quick change of lifting accessories on **Liko** mobile and stationary lifts. **Uno M** mobile lift must be equipped with the Q-link Mobile 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 37 mm (1.5 in) in comparison with a fixed sling bar.

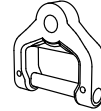
Contact your Hillrom representative for more information.



**Quick-Release Hook
TDM**
Prod. No. 3156502



**Quick-Release Hook
Universal**
Prod. No. 3156508



Q-link Mobile
Prod. No. 3156510

SlingBar Cover Paddy 30

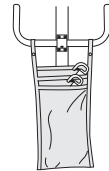
(fits Universal SlingBar 350, 450, and 600 and SlingBar Slim 350).

Prod. No. 3607001



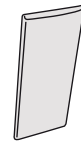
Bag for SlingBars

Prod. No. 2001025



Holder for Quick Reference Guide

Prod. No. 2000100



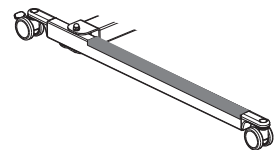
Quick Reference Guide Liko Mobile Lift System

Prod. No. 2000400



Leg Protector

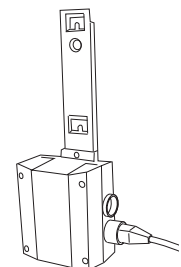
Prod. No. 20190029



Battery charger

For wall mounting

Prod. No. 2004106



Battery

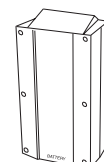
Lead battery (Pb)

Prod. No. 2006106

Battery

Li-ion battery

Prod. No. 2006110



LikoScale device

for weighing a patient in combination with **Uno M** mobile lift.

Adapter 12 mm is required.

LikoScale 350, Max 400 kg (880 lbs)

Prod. No. 3156228

LikoScale device only for use in France:

LikoScale 200, Max 200 kg (440 lbs)

Prod. No. 3156225FR

LikoScale 250, Max 250 kg (550 lbs)

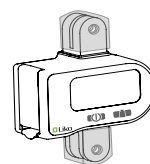
Prod. No. 3156226FR

LikoScale 300, Max 300 kg (660 lbs)

Prod. No. 3156227FR

LikoScale 350, Max 400 kg (880 lbs)

Prod. No. 3156228FR



Adapter 12 mm
Prod. No. 2016504

All LikoScale above are certified according to the European Directive
NAWI 2014/31/EU (Non-Automatic Weighing Instruments).

LikoScale devices only for use in the United States and Canada:

LikoScale 200, Max. 200 kg (440 lbs)

Prod. No. 3156225

LikoScale 400, Max. 400 kg (880 lbs)

Prod. No. 3156226



Contact your Hillrom representative for more information.

Troubleshooting

The lift does not work up/down
with hand control.



The base-width adjustment does
not work (in/out) with the hand
control.

1. Make sure that the emergency stop button is not pressed in.
2. Check the battery capacity.
Check if the Li-ion battery has been set in to sleep mode, see
"Operation" on page 15.
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 hand control 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 Hillrom Technical Support.*

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 Hillrom Technical Support.*

The lift is stuck in the high position.



1. Make sure that the emergency stop button is not pressed in.
2. Make sure that the battery is properly seated in the control box.
3. Check the battery capacity.
Check if the Li-ion battery has been set in to sleep mode, see
"Operation" on page 15.
4. Check that the hand control cable is connected correctly.
5. Electrical emergency lowering, use the operation panel to
lower the patient onto a firm surface, see "Operation" on page
15.
6. Use the mechanical emergency lowering device to lower the
patient onto a firm surface, see "Operation" on page 15.
7. *If the problem persists, please contact Hillrom Technical Support.*

If you hear unusual sounds from the lift.



Contact Hillrom Technical Support.

Recycling Instructions



Lead battery (Pb) or Li-Ion battery



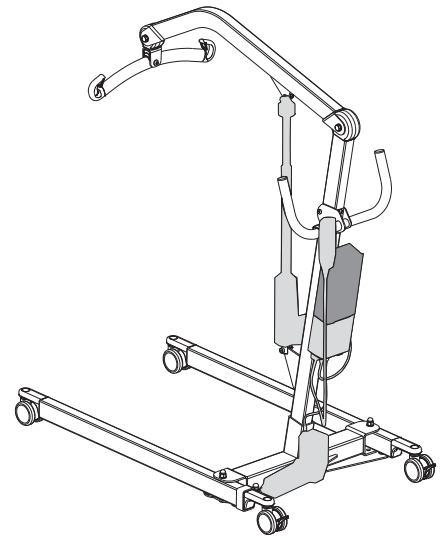
Waste of Electrical and Electronic Equipment (WEEE).



Metals



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



Hillrom evaluates and provides guidance to its users on the safe handling and disposal of its devices to aid in the prevention of injury, including, but not limited to: cuts, punctures of the skin, abrasions, and any required cleaning and disinfection of the medical device after use and prior to its disposal.

Customers should adhere to all federal, state, regional, and/or local laws and regulations as it pertains to the safe disposal of medical devices and accessories.

If in doubt, the user of the device shall contact Hillrom Technical Support for guidance on safe disposal protocols.

Cleaning and Disinfection

To prevent accumulation of lint and dust, clean the lift regularly with a moist cloth and check that the wheels are free from dirt. Cleaning frequency will vary based on use and facility requirements. At a minimum, clean the lift when it is visibly dirty, and disinfect the lift between patients.

⚠ The lift should not be exposed to running water.

Safety recommendations

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

- Wear protective equipment according to manufacturer's instructions and per facility protocol throughout the cleaning operations, such as: rubber gloves, eye protection, 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, eye protection, apron, face mask and shoe covers) as recommended by the facility protocol and manufacturer's instructions.
- Clean buckets.
- Cloths for washing and drying.
- Soft brush.
- Warm water.
- To find Cleaning detergents / Disinfectants compatible or not compatible for use on Liko's products, follow the "Application of commonly used Cleaning detergents/ Disinfectants on Liko products" on page 25.

⚠️ Unplug mains (AC power source) before cleaning and disinfection.

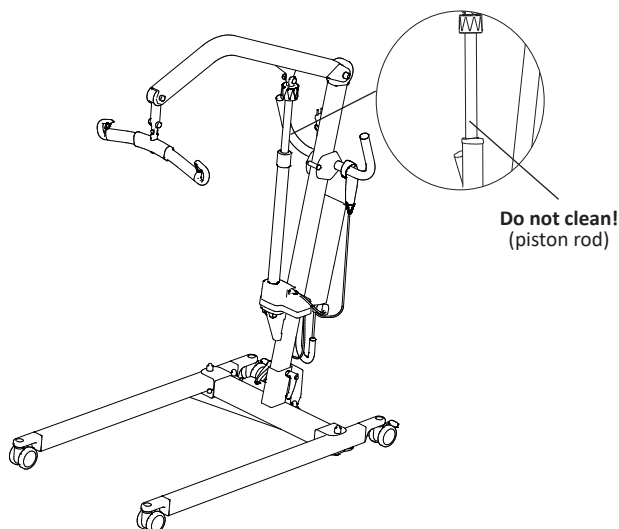
Cleaning instructions

1. 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.
2. Wipe the entire lift, except for the piston rod, with a cloth moistened with clean water starting from the top and working down. Do not use a cloth that is dripping wet. 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!

3. 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 detergents/ Disinfectants on Liko products" on page 25 in this document.
2. Use the disinfectant according to the manufacturer's instructions. Wipe the entire lift, except for the piston rod, starting from the top down and working down. Do not use a cloth that is dripping wet. 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.
3. Remove traces of disinfectant after disinfection. Wipe the lift, except for the piston rod, with a cloth moistened with clean water starting from the top and working down. Do not use a cloth that is dripping wet.

⚠️ The lift must not be cleaned with CSI or equivalent.

⚠️ The hand control must not be cleaned with Viraguard or equivalent.

⚠️ The control box must not be cleaned with Anioxy Spray or equivalent.

Application of commonly used Cleaning detergents / 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% Alkyl dimethyl benzyl ammonium chloride = 8.19%	9.0 – 10.0 in use	Virex II (256)	Johnson/Diversey	Footrest for Sabina lift and Roll-On
Quaternary ammonium chloride	Alkyl dimethyl benzyl ammonium chloride = 13.238% Alkyl dimethyl ethylbenzyl ammonium chloride = 13.238%	9.5 in use	HB Quat 25L	3M	
Accelerated Hydrogen Peroxide	Hydrogen Peroxide 0.1 -1.5% BenzylAlcohol: 1-5% Hydrogen Peroxide 0.1 -1.5% BenzylAlcohol: 1-5%	3	Oxivir Tb	Johnson/Diversey	The lift straps for Golvo lift and overhead lifts
Phenolic	Ortho-Phenylphenol = 3.40% 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 lift and overhead 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% n-Alkyl dimethyl ethylbenzyl ammonium chlorides = 0.105%	11.5 - 12.5	CSI	Central Solutions Inc.	Viking lift, Liko M220 lift, Liko M230 lift, Uno lift, Sabina lift, Golvo lift, LikoLight , Roll-On, Likorail lift, Multirail lift
Benzyl-C12-18-alkyldimethylammonium, chlorides	Benzyl-C12-18-alkyldimethylammonium, chlorides (22 %) 2-Phenoxyethanol (20 %) Tridecylpolyethylenglycolether (15 %) Propan-2-ol (8 %)	approx. 8.6 in use	Terralin Protect	Shülke	Footrest for Sabina lift and Roll-On lift
Organic peroxide (type E, solid)	Magnesium monoperoxyphthalate hexahydrate (50-100%) Anionic surfactant (5-10%) Nonionic surfactant (1-5%)	5.3 in use	Dismozon Pur	Bode	The lift straps for Golvo lift and overhead lifts
Ethanol	Hydrogen peroxide (2.5-10 %) Lauryldimethylamine oxide (0-2.5 %) Ethanol (2.5-10 %)	7	Anioxy-Spray WS	Anios	Control box for all mobile lifts
Troclosene sodium	Adipic acid 10-30% Amorphous silica < 1% Sodium Toluene sulphonate 5-10 % Troclosene sodium 10-30 %	4-6 in use	Chlor-Clean	Guest Medical Ltd	The lift straps for Golvo lift and overhead lifts

*) Or equivalent

Inspection and Maintenance

For trouble-free use, certain details should be checked before each use:

- 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 raising, lowering 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 make sure that the charger works.

Please contact your Hillrom representative in the event of any uncertainties or questions.

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 Hillrom and using original LIKO spare parts.

⚠️ Service activities are not allowed with the patient in the lift.

Service Agreement

Hillrom 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** instructions.

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

- Hand control, expected life time 2 years.
- Battery, expected life time 3 years. The Li-Ion battery can be expected to have longer lifetime than the lead-acid gel battery.

Transport and Storage

The lift can be disassembled for transport and storage. To disassemble the lift, do the steps of "Assembly and Setup" on page 12 in reverse order. Hillrom recommends the disassembled lift to be transported in its original packaging. During transport, or if the lift is not to be used for a long time, the Emergency Stop should be activated. To remain suitable for use, charge the battery at least every 6 months.

The environment where the lift is transported and stored should have a temperature of -10°C to +50°C (14°F to 122°F), 20-90% relative humidity, and atmospheric pressure 700 hPa to 1060 hPa.

The environment where batteries are transported and stored should have a temperature of -10°C to +40°C (14°F to 104°F), 20% to 80% relative humidity, and atmospheric pressure 700 hPa to 1060 hPa.

Notice to Users and/or Patients in EU

Any serious incident that has occurred in relation to the device, should be reported to the manufacturer and the competent authority of the Member State in which the user and/or patient is established.

Product Changes

Liko products undergo continuous development, which is why we reserve the right to make product changes without prior notice. Contact your Hillrom 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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