# Maxi Sky 2





### WARNING

To avoid injury, always read this Instructions for Use and accompanied documents before using the product.



Mandatory to read the Instructions for Use

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## Foreword

# Thank you for purchasing Arjo Equipment

Your Arjo Maxi Sky<sup>®</sup> 2 is part of a series of quality ceiling lifts designed especially for your health care facility.

We are dedicated to serving your needs and providing the best products available along with training that will bring your staff maximum benefit from every Arjo product.

Contact us if you have any questions about the use or maintenance of your Arjo product.

# Please Read this Manual Thoroughly!

The information in this manual is crucial to the proper operation and maintenance of the Maxi Sky 2. It will help protect your product as well as ensure that the equipment performs to your satisfaction.

Lifting and transferring a person always presents a potential risk. Some of the information in this manual is important for your safety and must be read and understood to help prevent injuries.

**WARNING: Arjo** strongly advises and warns that only parts designated by **Arjo** should be used on products and other devices supplied by **Arjo**. Injuries can be caused by the use of inadequate parts.

**WARNING:** Unauthorized changes on any **Arjo** product may affect its safety. **Arjo** will not be held responsible for any accidents, incidents or deficiencies of performance that occur as a result of any unauthorized changes to its products.

If a serious incident occurs in relation to this medical device, affecting the user, or the patient then the user or patient should report the serious incident to the medical device manufacturer or the distributor. In the European Union, the user should also report the serious incident to the Competent Authority in the member state where they are located.

### Service and Support

A service routine must be performed on your *Maxi Sky* 2 by qualified service personnel. This will ensure the safety and good function of your product. See the "Cleaning the Lift" section in this manual.

Please contact your local Arjo agent if you need more information, notice any changes in the performance of your lift, want to report an unexpected event or need any help in setting up, using or maintaining your *Maxi Sky* 2. The agent can offer comprehensive support and service programs to maximize the long-term reliability, safety and value of the product.

Additional copies of this manual can be provided by your local Arjo agent. When ordering, include the *Instructions for Use* manual product number 001-15698.

### **Manufacturer Information**

This product was manufactured by: ArjoHuntleigh AB Hans Michelsensgatan 10 211 20 Malmö SWEDEN

**密**:+46 (0) 10-335 45 00

: +46 (0) 413-138 76

🕐 : www.arjo.com

# Warning Symbols Used in this Manual

#### WARNING:

Means: Failure to understand and follow these instructions may result in injury to yourself and others.

#### CAUTION:

Means: Failure to follow these instructions may cause damage to the product.

#### NOTE:

Means: This is important information regarding the correct use of the equipment.

## **Safety Instructions**

## **Intended Use**

The Maxi Sky<sup>®</sup> 2 series of ceiling lifts are designed to assist caregivers in hospitals, nursing homes, long-term care and home care environments, including private homes. This device is designed to lift patients with reduced mobility for the following reasons:

- Transferring to or from adjacent location, such as chair, wheelchair, bed, bath, toilet, floor or stretcher;
- Supporting the patient for rehabilitation training;
- Assisting patient with tasks such as, toileting and bed repositioning.

Patient lifting and/or transferring must be done by a trained caregiver as per the instructions found in this manual.

**WARNING:** This product is not intended to be operated by the patient. In the unlikely case of a failure, the patient might get stuck in the unit.

**WARNING:** The *Maxi Sky* 2 must be only used for the reasons stated above. It must be installed by Arjo authorized personnel as per the local codes and Arjo's general guidelines. Do not use the lift for any other purpose. Serious injuries could occur.

## **Operational Life**

The *Maxi Sky* 2 series of ceiling lifts, used with compatible carry bar, have been designed and tested to a useful life of 10 years or 20,000 cycles (with a maximum load of 600 lb/272 kg), whichever comes first.

It is subject to preventive maintenance as specified in the "Care and Maintenance" section.

The following table shows equivalent number of years in relation to cycles per day. One cycle is defined as transferring a 600 lb/272 kg load, which includes a 60 cm (24") raising action, a lateral displacement and a 60 cm (24") descending action.

Average Cycles per Day	Years (20,000 transfers)
5.5	10
8	7
10	5.5

**WARNING:** The manufacturer cannot ensure full safety for a lift or an accessory of which the operational life has been exceeded. Wear may cause the breakage of a part and lead to a patient fall.

The expected life for other consumable products, such as batteries, fuses, slings, straps and cords is dependent upon the care and usage of the product concerned. Consumables must be maintained in accordance with published *Instructions for Use* and the "Preventive Maintenance Schedule".

## **Important Safety Instructions**

**WARNING:** Arjo warns of possible strangulation risks related to the lifting strap, the hand control cable, the accessories' cable, or the emergency pull cord, and advises to take necessary precautions to prevent these.

**NOTE:** Arjo lifts are specifically designed for KWIKtrak<sup>™</sup> ceiling rail systems, Arjo slings and accessories. They can also be compatible with other tracks system specified in the Addendum 001-14250.

**CAUTION:** Keep all components of the lift clean and dry. Have electrical and mechanical safety checks done as instructed in the "Cleaning the Lift" section to avoid malfunction of the device.

Keep this manual at proximity from the lift and refer to it as required. Make sure that all users are regularly trained in the use of the equipment according to the information found therein.

**CAUTION:** Do not drop either the lift or the batteries, since they may have internal damage. If the lift is suspected to be damaged, contact your local Arjo agent.

All controls and safety features are used only as per the rules specified in this manual. Never attempt to force a control or button on the lift.

## **General Instructions**

#### Safe Working Load (SWL)

The *Maxi Sky* 2 series of ceiling lifts have been designed with a maximum lifting capacity of 600 lb/272 kg.

SWL can be lowered to 200 kg (440 lb) or 120 kg (265 lb) to accommodate lower capacity rail systems.

**WARNING:** The *Maxi Sky* **2** is intended to be used for patients whose weight is within a specified safe working load. Do not attempt to lift more than the lowest weight limit indicated on the following:

- the rail system;
- the "maximum load" label on the lift;
- the spreader bar;
- the accessories;
- the sling.

Overload of any of these elements may lead to a patient fall and to injuries.

# Battery and Battery Charger Safety Practices

**CAUTION:** Do not expose the battery connectors or the battery charger to water. The charger is designed for dry areas only and for normal air humidity conditions.

- Only use the charger that has been supplied with the product.
- Do not charge the batteries in an unventilated area.
- The charger must not be covered or exposed to dust.
- Do not crush, puncture, open, dismantle or otherwise mechanically interfere with the batteries.
- Do not store lift at a temperature higher than 70°C (158°F).
- Stop using battery if any damage or deformation is noted. Inform technical service before further use.
- Avoid positioning the charger such that access to the plug is limited, making disconnection difficult.

#### **Shock Prevention**

• Do not touch or use a lift with bare conductors or a damaged power cord. If this is the case, contact your local Arjo agent immediately.

 Do not attempt to expose, service or repair the lift, battery or charger. If the unit is malfunctioning, contact your local Arjo agent.

#### **Fire and Explosion Prevention**

**CAUTION:** Do not place or store the battery under direct sunlight or near a heat source.

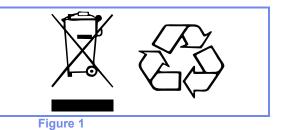
**CAUTION:** Do not expose the batteries or battery charger to flames. They might open, causing a chemical leak.

**CAUTION:** Do not use the charger in the presence of flammable anaesthetic gases. These are inflammables. The charger might generate a spark, which could cause an implosion.

- Do not short circuit the battery terminals.
- Do not incinerate the battery.

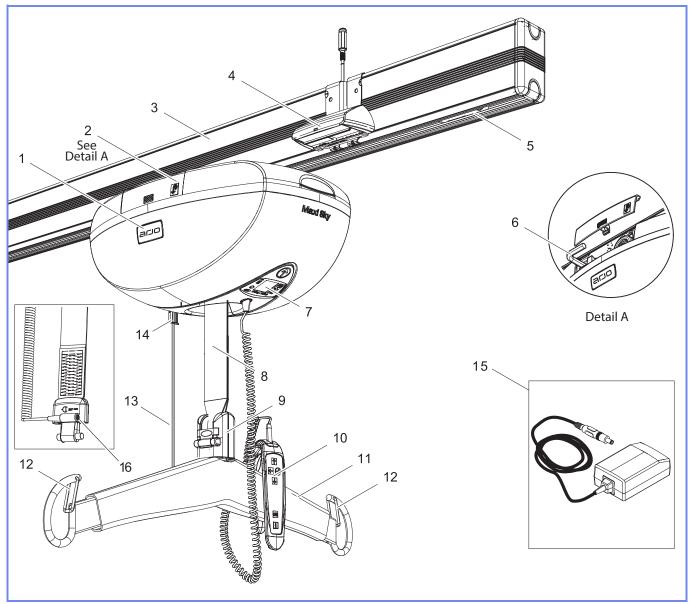
# Human and Environmental Safety Practices

- Should the battery casing crack, allowing its contents to come into contact with skin or clothing, rinse immediately with water. If the contents comes in contact with the eyes, rinse immediately with plenty of water and seek medical attention.
- Inhalation of the contents can cause respiratory irritation. Sensitivity to nickel can cause allergic asthma to result. Seek out fresh air and medical attention.
- For recycling and disposal of batteries, the rules according to the WEEE directive (Waste of Electronic and Electrical Equipment) as well as local laws and regulations must be followed. If not, they may explode, leak and cause personal injury. When returning batteries, insulate their terminals with adhesive tape. Otherwise, the residual electricity in used batteries may cause fire or explosion. Figure 1 below shows the symbols for disposal and recycling.



## **Product Description**

## Maxi Sky 2



#### Figure 2

- 1) Lift
- Access door for manual emergency lowering mechanism
- 3) *KWIKtrak*™ rail
- 4) Charging station\*
- 5) Rail end stopper
- 6) Hex key
- Control panel & Auxiliary up/down buttons
- 8) Strap

- 9) Spreader Bar attachment
  - Quick-Connect™ (*Ceiling* Lifter and Infection Control Ceiling Lifter models pictured above)
  - Clevis pin (*Basic Ceiling Lifter* model, show below)



- 10) Hand control
- 11) Spreader bar
- 12) Latches
- 13) Red emergency stop cord
- 14) Power on switch PUSH Emergency off switch - PULL
- 15) Universal charger
- 16) WCS connector\*\*
- \* Does not apply to lifts equipped with ECS or WCS.
- \*\*Applicable to lifts equipped with WCS system only.

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## Labels & Symbols

#### General



This symbol is accompanied by the date of manufacture and the address of the manufacturer.

CE marking indicating conformity with European Community harmonised legislation



C F

This symbol indicates the approval of the Canadian Standards Association.



This symbol indicates the approval of the Technischer Überwachungs-Verein.



This symbol is accompanied by the manufacturer's catalogue number.



This symbol is accompanied by the manufacturer's serial number.



Waste Electrical and Electronic Equipment (WEEE) - do not dispose of this product in general household or commercial waste.





SWL





Alternating current.

Degree of protection

provided by enclosure.

N1: Ingress of particles,

N2: Ingress of water.

These symbols refer to

the Instructions for Use.

Safe Working Load represents the

maximum load the lifter is rated for

safe operation.

This symbol locates the

manual emergency lowering

mechanism on the lift.

These symbols refer to the hand control lateral

displacement button.

Direct current.



Wall Charging System (WCS) Charging port.



can be recycled.

### **Battery charger related**



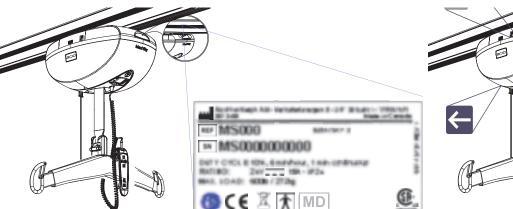
This symbol indicates a class II electrical equipment: term referring to electrical equipment in which protection against electric shock does not rely on basic insulation only.

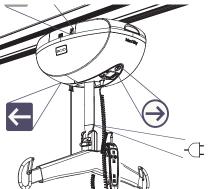


This symbol indicates a type BF protection against electrical shock in accordance with IEC60601-1 standard.



Indicates the product is a Medical Device according to EU Medical Device Regulation 2017/745









This symbol identifies material that

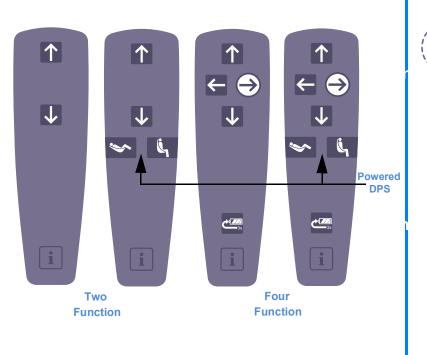
This symbol indicates a risk of

pinching.

## **Hand Control**

#### **Wired Hand Controls**

## **Infra-Red Hand Control**





lcon	Button Description	2-Function	4-Function	Infra-Red
	Up Button	$\checkmark$	V	√
$\checkmark$	Down Button	$\checkmark$	4	$\checkmark$
$\bigcirc$	Right Button		√	√
←	Left button		√	√
\$	Reclined Button	√*	√*	
لأم	Sit Button	√*	√*	-
	RTC (Return to Charge) RTH (Return to Home) Button		4	V
i	Programming / Information Button	√	4	✓ (No Label)
* With	Powered DPS Option		•	

See "Controls and Features" section on page 18 for additional details.

**WARNING:** Never let go of the hand control while the cord is extended as this could cause injuries to others. When not used, put the hand control on the spreader bar.

## **Control Panel**



#### **Control Panel**

The control panel regroups several elements intended to provide information to the user related to:

- Command acknowledgment
- Maintenance requirement
- Customizing menus •
- Status LED
- USB access port •
- Auxiliary Up-Down button





The 🕋 and 🕔 buttons are used to complete a transfer if a problem • occurs with the hand control during the operation.

#### Status LED

- The LED is a complement to the display to draw user's attention that a • message is being displayed on the screen.
- The LED will flash Green to confirm charging is in progress or light up solid Green when batteries are charged.
- The LED will light up Red when an abnormal situation occurs. •
- Refer to "Customizing" section to set enable/disable parameters.



#### Display

This is the message centre that informs the user of the different statuses • of the lift by means of intuitive lcons (see "Display Symbols" for details).



#### SWL Rating

- This label indicates the maximum lifting capacity of the lift. •
- The Maxi Sky 2 is built to operate in three different maximum weight settings.
  - 120 kg / 265 lb
  - 200 kg / 440 lb
  - 272 kg / 600 lb



#### **USB Access Port**

The USB port is intended for MAXISMART users only. It allows to access certain functions such as query history data.

#### Beeper

The Control Panel is also equipped with a component that provides beeping sounds for acknowledging commands or to draw user's attention that a message is being displayed on the screen.



## **Display Symbols**

Following is a description of all the symbols that may appear on the display.

wing is a descrip	and of all the symbols that may appear of the display.
	<ul> <li>Battery Charge Level</li> <li>Several symbols showing a battery at a different charge level. These symbols indicate status regarding the batteries for units equipped of a Regular Charging System or Wall Charging System (see "Battery Information" and "Charging the Batteries" on page 21 for details).</li> </ul>
ECS	<ul> <li>ECS Indicator</li> <li>On units equipped with the Enhanced Charging System (ECS) option, this symbol is shown when the ceiling lift is in charging mode.</li> </ul>
	<ul> <li>RTC (Return to Charge)</li> <li>This symbol indicates that the RTC function was activated by the hand control.</li> </ul>
<u></u>	<ul> <li>RTH (Return to Home)</li> <li>This symbol indicates that the RTH function was activated by the hand control.</li> </ul>
<b>PPP</b>	<ul> <li>PPP (Pre-Programmed Position)</li> <li>This symbol indicates that the PPP function was activated by the hand control.</li> </ul>
	<ul> <li>Over Duty Cycle</li> <li>This symbol flashes when the lift is used for a long period without allowing it to cool down. This security feature disables the function (Up, Sit/Lay or Left/ Right) that is being used beyond recommended duty cycle to prevent damages.</li> <li>When the overheat protection is engaged, the function, which exceeded the duty cycle, is disabled while all other functions remain active.</li> <li>The red light will stay on during a cooling period. In addition, a single beep will be heard.</li> </ul>
08 08	<ul> <li>General Malfunction (Warning symbol accompanied with a numeric character)</li> <li>This symbol flashes when the lift encounters a malfunction.</li> <li>The lift needs to be inspected / repaired by a qualified service technician.</li> <li>The red light will stay on and a single beep will be heard.</li> </ul>
ABC	<ul> <li>Maintenance Required (Wrench symbol accompanied with a letter character)</li> <li>This symbol is shown for 7 seconds (accompanied with 2 beeps) when the lift is waking up from sleep mode and flashes each 5 seconds to draw user's attention.</li> <li>Contact your Arjo service centre for maintenance.</li> </ul>
	Overweight
SWL	<ul> <li>This symbol flashes when a transfer is attempted with a load exceeding the lift's capacity.</li> <li>The red light will stay on (accompanied with 4 rapid beeps) until the patient</li> </ul>

- The red light will stay on (accompanied with 4 rapid beeps) until the patient is lowered.
- The 1 function is disabled while all other functions remain active.

## **Charging System**

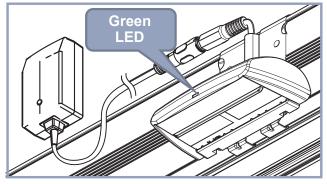
The *Maxi Sky* 2 comes in three different types of charging systems.

To protect the *Maxi Sky* 2 from excessive current draw, an electrical relay automatically disconnects the lift from the charging system when being used and re-establishes connection when charging source is detected.

The *Maxi Sky* 2 series of ceiling lifts are equipped with a universal charger that can be customized to fit the AC voltage outlets where it is sold.

Avoid positioning the charger in a way that access to the plug is limited, making it difficult to disconnect.

Charging Station System (C-Stat)



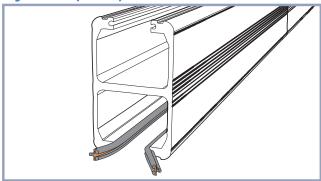
#### Figure 3

The charger is feeding a dedicated charging station (C-Stat), which is side mounted at one particular location, anywhere along the tracking layout, to recharge the batteries of the Maxi Sky series ceiling lift.

The charging station features a small Green LED to indicate when power is present on its contacts.

The RTC (Return to Charge) is disabled by default. See "Customizing" on page 17 for instructions on how to enable this feature.

## *KWIKtrak*<sup>™</sup> Enhanced Charging System (ECS)



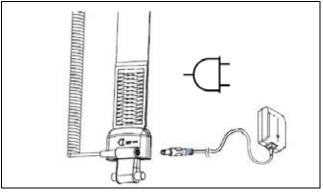
#### Figure 4

The *Maxi Sky* 2 series of ceiling lifts are also compatible for use with the *KWlKtrak*<sup>™</sup> Enhanced Charging System (ECS).

This ECS allows the lift's battery to keep charging anywhere along any powered section of rail. It eliminates the need to send the lift back to the charging station after the patient transfer. With the ECS option, the RTC feature is no longer necessary. However, it may be of interest to park the lift out of the way. In this case the RTH feature could be enabled in combination with the use of PPP (Pre-Programmed-Position) stations added onto the rail at the desired parking (Home) locations.

#### Wall Charging System (WCS)

(Limited to tracking networks other than KWIKtrak™)





**WARNING:** The charger cord must be disconnected from the WCS connector before using the lift.

**NOTE:** The RTC, RTH and PPP functions are no longer possible with the WCS option.

**NOTE:** The use of a PDPS Spreader bar is not possible with the WCS option. It is possible with a manual DPS.

When battery charging is required, the spreader bar is placed on the wall mount bracket. The charger cord must be manually connected to the WCS connector.

The charger is feeding the WCS connector located above the *Quick-Connect* area on the spreader bar, transferring power to the ceiling lift and recharging the batteries.



Wall Charging System (WCS) Charging port

## Preparation

## Verifying the Package Contents

Upon receipt of the equipment, verify the lift and accessories against the packing list to ensure it is complete. Inspect them for possible damage due to shipping. If this is the case, do not use the damaged equipment, and contact your local Arjo agent.

**NOTE:** Batteries need to be charged for a minimum of 8 hours prior to the initial lift use.

### **Initial Start-up**

Push the Power On Switch button in.

**NOTE:** If the *Maxi Sky 2* is used in its transportable version, please refer to MS2 Transportable Instructions for Use.

### Setting Date / Time

When the lift is started-up for the first time, it will go into a mode requesting to set the date and the time. It is important to correctly set the date as the lift will inform the users that maintenance is due based on the recorded date. Refer to "Customizing" section if you need to change these settings.

Press the for J button on the hand control to change the value. Once the parameter is set correctly, press the j button to acknowledge selection and to pass to the next parameter. After the last parameter is set the lift will get into normal mode.

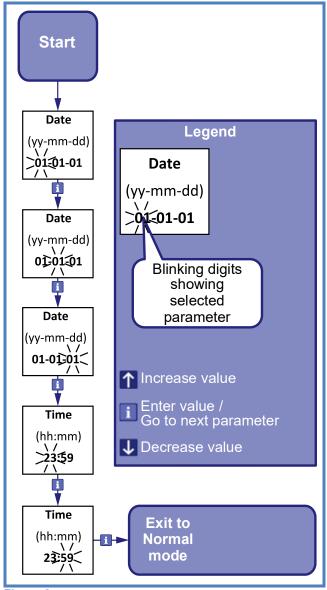


Figure 6

Refer to "Customizing" section on page 17 for settings of other parameters.

## **Actions Before the First Use**

Always ensure that:

- The rail system and the lift are installed by an authorized Arjo agent in accordance with local codes.
- A weight load test has been performed on the rail, as per Arjo's instructions.
- All rails must be closed and secured with end stoppers or connected to other closed rail components.

## **Actions Before Every Use**

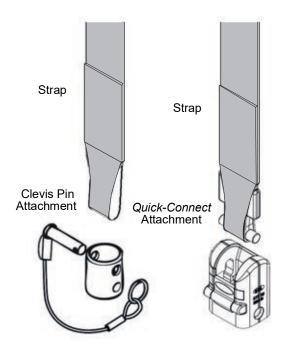
**NOTE:** The need for a second attendant to support the patient must be assessed in each individual case.

**WARNING:** Before an attempt is made to move a patient, a clinical assessment of the patient's suitability for transfer must be carried out by a qualified health professional considering that, among other things, the transfer may induce substantial pressure on the patient's body. A transfer conducted when it should not can degrade the patient's health condition.

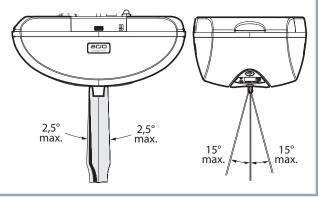
**WARNING:** Before transferring a patient, make sure there are no obstacles in the transfer path. Injuries could occur.

Always ensure that:

- The product is used by trained caregivers.
- Special consideration is taken when transferring a patient who is connected to electrodes, catheters or other medical devices.
- The sling is inspected and the lifting procedures found in this manual are followed.
- If at any time the patient becomes agitated, stop transfer and safely lower them.
- The daily maintenance is carried out before using the lift paying special attention to the following elements:
  - Inspect strap for wear, discoloration or loose threads.
  - Inspect all sling parts (attachments, fabric, stitch areas and strap) for signs of wear, discoloration, deterioration or loose threads.
  - Inspect the spreader bar for damage or cracks. Make sure all attachments are properly secured, and that all the *Quick-Connect* components (cover and latch) are present (or Clevis Pin components, if working with a *Basic Ceiling Lifter* model).



- Inspect for evidence of external damage, missing parts or broken panels.
- Make sure all end stoppers and end caps are present.
- When raising or lowering the patient, always remember to keep the strap as straight as possible for security purposes and to prevent premature wear of the lift's components. Never exceed maximum values as shown in Figure 7.





**WARNING:** Ensure that there are no objects in the running way of the strap. They could damage or cut the strap, causing a patient fall.

## Customizing

With the *Maxi Sky* 2 series of ceiling lifts, a trained user can customize certain parameters to optimize its interaction with the environment in which it is installed.

## **Entering Customizing Mode**

To enter customizing mode, press and hold the **i** button for three seconds.

When the display shows the programming menu,

press the U button to select customizing then

press the 🚺 button to enter customizing mode.

The display will show the first parameter with its actual setting (refer to Figure 8).

Use the  $\bigcup$  and  $\bigwedge$  buttons to navigate through the menu.

When a parameter option needs to be changed,

press the **i** button to enter parameter setting mode, then use the **v** or **n** button to select an option (next/previous) or to set (increase/ decrease) numeric values.

Once the parameter is set to desired option, press the **i** button to accept selection. A short beep is heard and the lift returns to customizing menu.

To exit customizing mode, select "back" and press the **i** button or wait for 60 sec. without pressing any button.

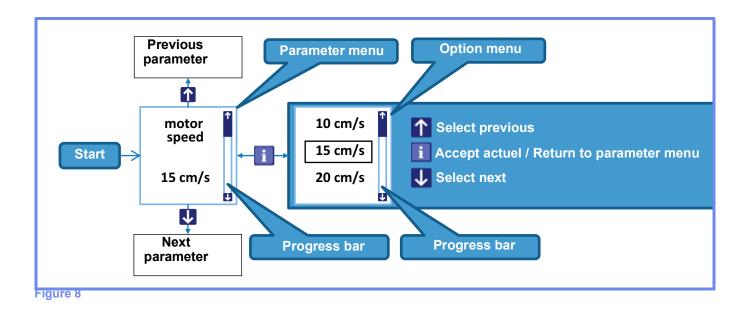
## **Programmable Parameters**

The following table lists parameters that can be set to fit your needs.

Table 1

Parameter	Description	Settings (default in bold character)		
motor speed	Displacement speed along the rail	10 cm/s (4 in/s) 15 cm/s (6 in/s) <b>20 cm/s (8 in/s)</b>		
rtc/rth function	RTC/RTH options	(disable), auto, 🧲, 🍑		
ppp function	Enabling / Disabling PPP	disable, enable		
strap length	RTC/RTH mode strap unwinding duration	<b>13 cm</b> - 152 cm ( <b>5 in</b> - 60 in) Has no effect when both RTC/RTH and PPP functions are disabled		
detection time	Maximum time allowed finding Charger or PPP station	0.5 to 5 min. ( <b>1.5 min.</b> ) Has no effect when both RTC/RTH and PPP functions are disabled		
ready state	Lift resting duration before entering sleep mode	1 to 20 min. ( <b>10.5 min.</b> )		
hoist led	Enabling / Disabling* green LED	disable, <b>enable</b>		
date/time	Actual date/time	Depends on value set at initial start-up (11-01-01 00:00)		
back	Exit Customizing Mode			

<sup>\*</sup>Red signals always remain enabled.



## Using the Maxi Sky 2 series of Ceiling Lifts

### **Controls and Features**

#### Sleep Mode

The lift turns the display off to save energy whenever it is not being used for more than the ready state parameter configured time (refer to "Ready state" parameter in Table 1). Therefore, the *Maxi Sky* 2 must not be powered off after every use.

The LED remains solid green to indicate that the batteries' charge is above 25% or flashing green if the lift is charging. The Status LED turns to red when the batteries' charge drops below 25% of their full charge. The lift will beep twice every 10 seconds when the batteries reach the critical point (less than 5%).

The lift awakens every 15 minutes to display low battery messages and goes into sleep mode again after 30 seconds. Pressing any button on the hand control wakes up the lift.

#### **Movement Controls**

Moving the *Maxi Sky* 2 is achieved with the aid of the hand control which includes all the command buttons to operate the lift.

#### **Vertical Movement**

- The J and h buttons are used to raise or lower the patient. Auxiliary buttons can also be used.
- The raising and lowering functions accelerate gradually to prevent any abrupt movement as soon as the button is pressed, and remain active for as long as the button is pressed.
- The movement decelerates gradually to prevent any abrupt movement when the button is released.

#### Horizontal Movement

- The four-function models are equipped with the and buttons which activate a lateral motor to move the lift along the rail. With the two-function model, the lift must be moved manually.
- The ← and → functions accelerate gradually to prevent any abrupt movement as soon as the button is pressed, and remain active for as long as the button is pressed.
- The displacement decelerates gradually to prevent any abrupt movement when the button is released.

**WARNING:** Do not pull the lift with handset, which may spring back with high speed, and therefore cause injuries.

**WARNING:** Do not push or pull on the patient. Move the lift by pulling or pushing the spreader bar while holding it or use the  $\leftarrow$  or  $\rightarrow$  button.

#### Powered Dynamic Positioning System (PDPS)

#### Models equipped with a PDPS are supplied with a

hand control having the in and buttons which allow positioning the patient in the upright or reclined position according to the transfer starting and / or destination position.

Press and hold to bring patient to sit position.

Press and hold to tilt patient to reclined position.

## Return to Charge / Return to Home (RTC/RTH)

This function is disabled from the factory, see "Customizing" section on page 17 for instructions on how to enable this feature.

When the RTC / RTH function is enabled, the button is intended to automatically send the lift back to a charging station or to a predetermined location along the rail to stand-by for the next use.

**WARNING:** Before using the RTC/RTH verify that nobody is on the path. Contact with the lift or its accessories could cause injuries.

- Press and hold the RTC button for 3 seconds to send the lift back to the charging station.
- On an ECS system or WCS system, as there is no charging station, pressing the RTH button for 3 seconds will send the lift to a PPP station.

**Note:** This feature is not available on an embedded rail system.

The function can be programmed, by a service technician, in three different modes.

- Auto: In this mode, the unit memorizes the location of the charging station and automatically goes in its direction when the function is activated.

The RTC/RTH can be stopped at any time by:

- pressing any button on the hand control
- pulling on the red emergency stop cord
- holding onto the spreader bar.

The *Maxi Sky* 2 series of ceiling lifts are equipped with a load sensor that will stop any motion if a load variation is detected when lifting. Make sure there are no obstacles in the path.

**WARNING:** DO NOT use the RTC/RTH function when a patient is attached to the lift as this could cause injuries to the patient.

**WARNING:** The weight detector, within the lift, that prevents the RTC/RTH from functioning when a patient is attached to the lift, can only detect a minimum load of 20 kg (45 lb). Extra care should be exercised when manipulating the hand control to transfer a patient weighing 20 kg (45 lb) or less.

#### **Usage Monitoring**

The *Maxi Sky* 2 series of ceiling lifts are equipped with a maintenance monitor informing the user that maintenance is necessary based on the number of transfers, usage history, a regular schedule or malfunctions (refer to "Display Symbol" section).

#### **Required maintenance**

The beeper and red LED are used to draw the user's attention indicating that a maintenance or malfunction related message is being presented on the display.

#### **Displaying Usage Data**

The *Maxi Sky* 2 series of ceiling lifts also record the number of times it has been used to assist the technician servicing the lift.

Accessing the usage history data is achieved in 2 different ways depending on the PPP function enabling state.

## Accessing Usage Data when PPP is Disabled

Momentary pressing the **i** button will bring the display into usage history screens.

Scroll through the screens using the **1** button.

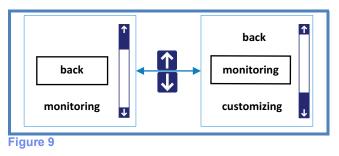
The lift will exit the data screens when pressing the **i** button while the "Average Lifts/Day" is displayed. It is also possible to exit the usage history at any time using the **U** or **f** button.

Following is a list of the information available in this mode.

Label	Detail
Total Lifts	Cumulate lifts since initial start-up
Lifts Last Day	Updates at 00:00
Lifts Last Week	Sunday to Saturday
Average Lifts/Day	Based on last 7 days

## Accessing Usage Data when PPP is enabled

Pressing and holding the **i** button for 3 seconds will bring the user into a menu screen which requires a confirmation to view the data info (see Figure 9).



Navigate through the menu using the U or 1 button and select "monitoring", press the i button to accept selection.

Following is a list of the information available in this mode. Use the  $\bigcirc$  or  $\uparrow$  button to navigate into the menu.

- Total LiftsLifts Last Day
- Hours of UseOverweight Lifts
- Over Weight Lifts
  Over Duty Cycles
- Lifts Last WeekAverage Lifts/Day

Version / Serial №

To exit any data screens, select "back" then press to accept.

#### Emergency Stop (Red cord)

This device is an easily and rapidly accessible feature allowing the user to disable the lift completely in the event that an uncontrolled situation would happen.

**CAUTION:** Do not move the lift by pulling the red emergency stop cord. This could cause malfunction or damage.

**CAUTION:** Damage to the lift may occur if the cord is pulled with excessive force.

When pulling the cord:

- The lift stops all activities, the display and all indicators shut off.
- A small red plastic insert comes out of the casing.

Note that a patient weighing more than 55 kg (120 lb) might descend slowly when the emergency stop is activated.

#### To Reactivate the Lift

Push up on the red plastic insert.

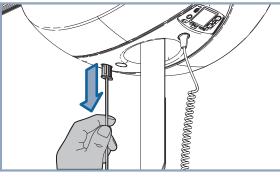
 The lift is ready to use when the battery symbol or (ESS) icon appears on the display.

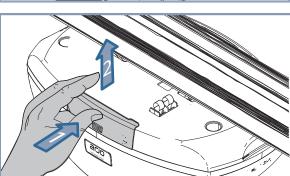
### **Emergency Lowering Mechanism**

In the unlikely event of an abnormal situation, as example an electrical failure, the emergency lowering mechanism provides a safe way of getting the patient down onto a chair, bed or wheelchair.

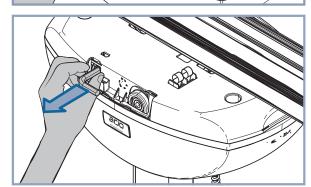
The emergency lowering mechanism is to be used only in case of an emergency.

Pull the red emergency stop cord.

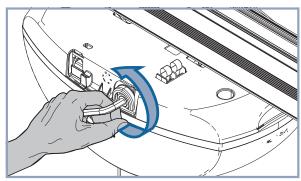




Open the small side door to access the lowering mechanism.



Pull the 8 mm hex key from its storage compartment.



Insert the hex key deep into the axle. Turn the hex key counter-clockwise to slowly lower the patient.

Once the patient is lowered and secured within a chair, bed or wheelchair, call a qualified technician to inspect the lift.

#### **Emergency Brake**

In the unlikely event of an abnormal situation, as example a mechanical failure, the lift is equipped with a brake system that automatically engages to block the descent. In this situation, the emergency lowering mechanism will not be functional.

**WARNING:** If the emergency brake activates, turn the unit off, apply a warning sign on the lift to prevent any further usage and call your local Arjo agent for an inspection.

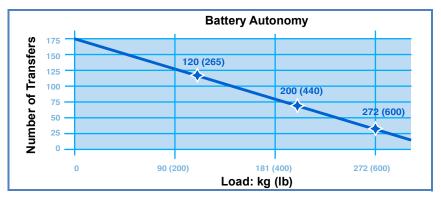
## **Battery Information**

Display	Battery Charge	Remarks			
¢ZZZ	100%				
	75%	Normal operating range			
	50%				
	25%	Low Accompanied with a short beep when one of the following button is pressed			
	< 5%	Critical lcons alternate accompanied with a two short beep every 10 seconds			

The batteries for this device are rechargeable leadacid batteries. For safe handling and to extend the battery lifetime, please follow and remember these instructions. Not following these instructions can cause short battery life and may, in extreme cases, put user at risk.

Battery life depends on many factors. These are: frequency of use, frequency of charging, temperature of operation, storage and storage time.

Using lead-acid batteries below 5% charge can damage the battery resulting in shorter battery life. The 5% charge is indicated by the critical battery level symbol flashing on the display. At this time, the lift will allow only the down function. Make sure to recharge the batteries as soon as possible.



This graph illustrates the relationship between the number of lifts that can be performed before reaching battery critical level, versus the load being lifted.

## Charging the Batteries

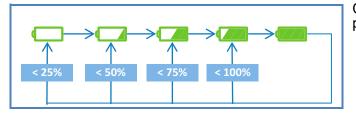
**WARNING:** Do not operate the charging station with a damaged cord or if the station has been dropped or damaged. Do not bend the power cord by force, or place a heavy object on it, since it could damage the cord and may cause fire or electrical shock.

**NOTE:** The lift can be operated at any time during the battery charge, which will stop automatically.

#### Charging Station System (C-Stat)

2-function model: Move the lift under the charging station.

**4-function model:** Press the 🧲 and  $\ominus$  buttons or the 🚾 button to bring the lift to the charging station.

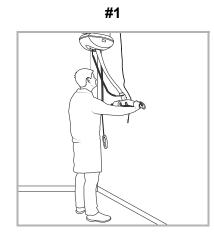


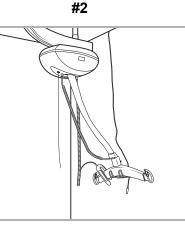
Check the LED to confirm that batteries are charging properly.

- The LED will flash green until batteries are fully charged.
- The display will cycle through charge level icons according to actual battery charge level to show the charging progress.

If the batteries are completely drained, it will take up to 8 hours to complete the recharge.

#### Wall Charging System (WCS) - Connecting Procedure



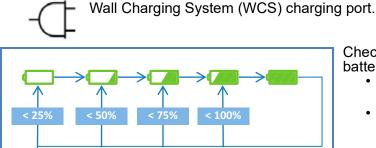


#3

Manually place spreader bar on the wall hook attached to the wall.

Attach the remote control to spreader bar so that there is no tension in its cord, which could cause a sudden ejection. Wind up the excess strap.

Connect or Plug the cord of the charger to the Wall Charging System (WCS) connector.



Check the LED on the *Maxi Sky 2* to confirm that batteries are charging properly.

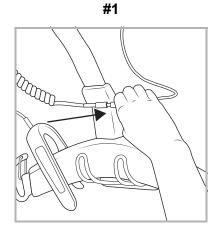
- The LED will flash green until batteries are fully charged.
- The display will cycle through charge level icons according to actual battery charge level to show the charging progress.

If the batteries are completely drained, it will take up to 8 hours to complete the recharge.

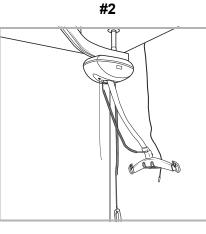
**NOTE:** When the remote control is hooked to the spreader bar, the cord should hang loosely, so as not to have any tension, to avoid sudden ejection.

WARNING: Before using the lift, the charger cord must be disconnected from the WCS connector.

#### Wall Charging System (WCS) - Disconnecting Procedure



Unplug the charger cord from the WCS connector.

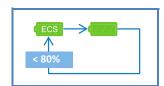


Remove the remote control from the spreader bar and let it hang freely to prevent an unexpected recoil.

#3

Manually remove spreader bar from the wall hook. Place under the lift and allow strap to gradually resume tension.

Systems equipped with ECS will display the **ECS** icon while the ceiling lift is in charging mode.



• The LED will flash green for a fixed period of 8 hours. After that period, the device will launch another 8 hour charging period if the batteries are still below 80%. Otherwise, the LED will become solid.

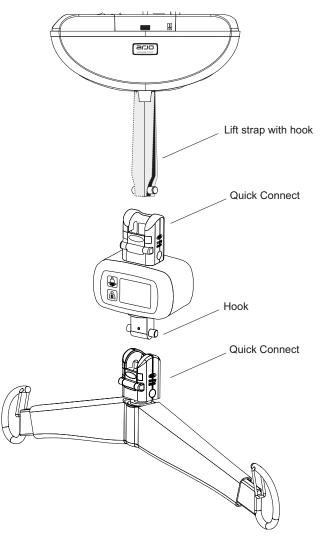
If a function is activated during the charging process, the ECS icon will disappear and the green LED will become solid. After the function button is released, the device will attempt to reconnect to the ECS system after approximately 20 seconds only if the battery charge level is still below 80%.

If the ECS system is not supplying voltage due to a system fault or power failure, the display will show actual battery level as for a non ECS system. The device will attempt to reconnect to the ECS system every 15 minutes after the fault being detected. The device will attempt to reconnect to the ECS system only if the battery charge level is below 80%.

## **Spreader Bar and Scale Attachment/Removal**

(see page 25 for Basic Ceiling Lifter model's Spreader Bar and Scale attachment)

#### **Quick-Connect Overview (Maxi Sky 2 Ceiling Lifter and Infection Control models)**

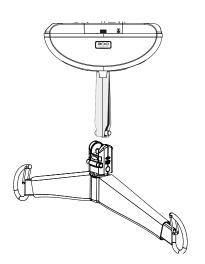


The spreader bar and scale features an attachment which allows the caregiver to change it in a few steps without using any tools.

**WARNING:** Spreader bars and scale must only be installed by a trained person. To prevent the patient from falling, before every use, always ensure that the hook is secured with the attachment and that the attachment latch is closed.

To use the scale, if available, refer to the *Scale IFU*.

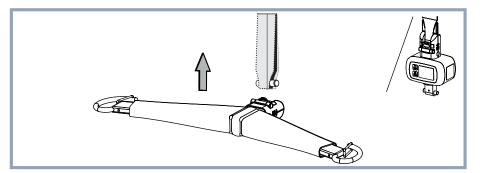
Quick-Connect Lift/Spreader Bar/Scale



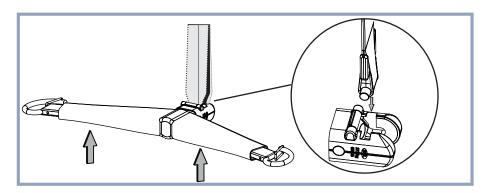
In the steps below the illustrations show an attachment of lift to scale, scale to spreader bar and lift to spreader bar.

**NOTE:** The same *Quick-Connect/* hook attachment steps apply to all, see illustrations.

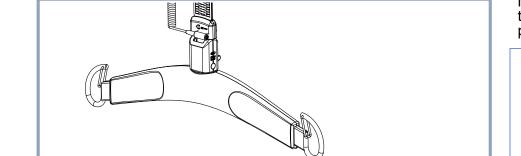
#### Attach to Quick-Connect

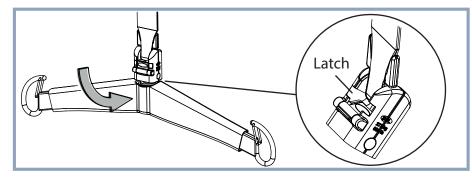


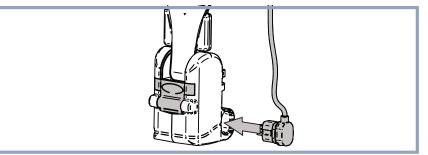
Align the spreader bar/scale *Quick-Connect* latch to the hook.



Insert the hook into the *Quick-Connect*.







Move the spreader bar/scale to engage the hook into the pivot.

**NOTE:** WCS equipped *Quick-Connect* orientation; to facilitate attachment/ detachment.

Rotate the spreader bar into position.

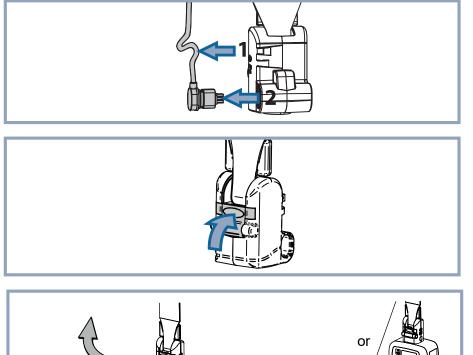
Make sure that the *Quick-Connect* latch is closed.

Do not operate the lift if the latch remains open.

If using a PDPS, connect the cable. The cable is connected between the lift and the spreader bar. There is no connection for the cable on the scale.

If using a PDPS, secure the cables on the back of the *Quick-Connect* housing as shown.

#### **Remove from Quick-Connect**

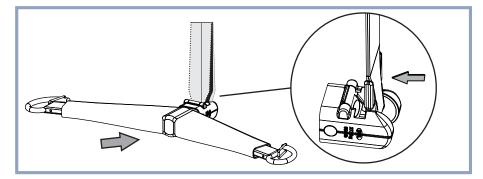


If using a PDPS, detach the cable from the back of the *Quick-Connect* housing and then disconnect the cable.

Open the latch that locks the hook in place by pressing it.

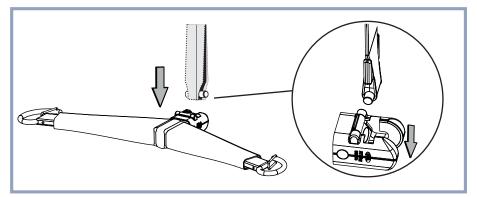
or line or lin

Rotate the spreader bar/scale up towards the latch, depending on which one you want to remove.



Move the spreader bar/ scale, to disengage the hook away from the pivot.

Pull the spreader bar/scale downward, out of the *Quick-Connect*.



26

## **Spreader Bar and Scale Attachment/Removal**

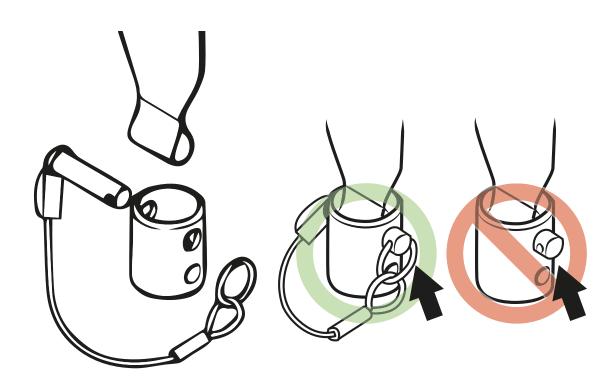
#### (Basic Ceiling Lifter model only)

(see page 22 for *Maxi Sky 2 Ceiling Lifter* and *Maxi Sky 2 Infection Control Ceiling Lifter* model Spreader Bar & Scale attachment)

The spreader bar features an attachment which allows the caregiver to change it in a few steps without using any tools. Attaching the Spreader bar to the lift:

- 1) Insert the strap end onto the spreader bar attachment.
- 2) Insert the clevis pin through the attachment and the loop at the end of the strap.
- 3) Secure the clevis pin with the split ring.

**WARNING:** Spreader bars and scale must only be installed by a trained person. To prevent the patient from falling, before every use, always ensure that the clevis pin is secured with the strap loop and spreader bar attachment. Ensure that the clevis pin is locked by the split ring.



## **Clip Sling Applications**

## **Clip Sling Compatibility**

Following is a list of typical Arjo clip slings that are compatible with the Maxi Sky 2 series of ceiling lifts.

Application for Sling	Sling Layout
General Transfer	
Hygienic	

## **Sling Selection**

The spreader bar that is attached to the lift determines what slings can be used to transfer a patient.

Most slings are colour coded for size by having a different colour edge binding or attachment strap colouring:

- Teal Extra Extra Small XXS
- Brown Extra Small XS
- Red Small S
- Yellow Medium M
- Green Large L
- Purple Large Large LL
- Blue Extra Large XL
- Terracotta Extra Extra Large XXL

Note that not every sling is available in all sizes.

A wide variety of slings are available for each application. Please contact your local Arjo agent for more information.

Flites<sup>®</sup> (single patient multi-use slings) are also available for most sling models. If Arjo *Flites* slings are to be used with the *Maxi Sky* 2 series of ceiling lifts, refer to the separate Arjo *Flites* slings instruction for use.

NOTE: Only use Arjo slings with the Maxi Sky 2 series of ceiling lifts.

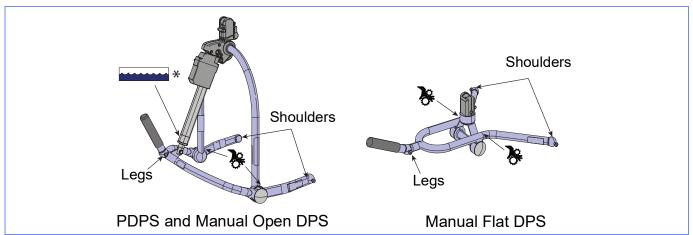
## Spreader Bar Compatibility

Following is a list of all Arjo spreader bars to use with clip slings recommended with the *Maxi Sky* 2 series of ceiling lifts. Other combinations could be suitable based on facility assessment. Clinical judgement must be applied when choosing a size and a combination.

Spreader Bar Description		Basic Clip Sling Sizes					es	S		
Spreauer Dar	Description	model only	XXS	XS	S	Μ	L	LL	XL	XXL
700-19475	Manual Flat DPS (see warning)		✓	✓	1	~	~	~	1	
700-19200	Manual Flat DPS (see warning)	~	1	✓	1	1	~	~	1	
700-19480	Manual Open DPS (see warning)			✓	~	~	~	~	~	
700-19340-BOX	Manual Open DPS (see warning)	√		✓	~	~	~	~	~	
700-19350	Medium PDPS			✓	~	~	~	~	~	
700-19355	Large PDPS						~	~	~	~

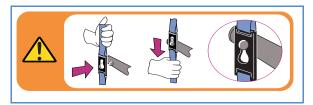
WARNING: Using the flat DPS or open DPS with amputee sling may cause injuries if not used correctly.

## **Attachment Points**



\*This label signifies that anything above its position must not be soaked in water, either when bathing or showering the patient.

## Attaching the Sling to the DPS

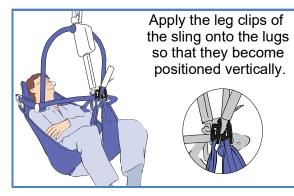


Insert the clip attachment over the lug on the PDPS/DPS.

Secure the clip in place by pulling the sling down so that the lug is in the top portion of the clip hole.

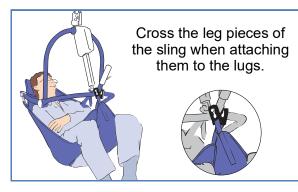
(The graphic on the left represents the label located on the spreader bar that recalls this procedure.)

#### Method 1 - Straight Attachment



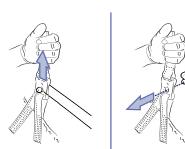
For most patients, the straight attachment of the leg clips is recommended for use.

Method 2 - Crossed Legs Attachment



If the patient is prone to kicking off the leg clip, the crossed attachment of the leg clips shall be applied, which will prohibit the clip from being kicked off.

### **Detaching the Sling from the DPS**



Pull the sling up to release the lock.

Remove the clip attachment from the lug on the PDPS or DPS.

## **Operating the DPS and PDPS**

**WARNING:** To ensure maximum patient comfort and safety, do not allow the patient to hold onto the spreader bar. Arm or finger pinching could occur when operating the DPS/PDPS.



The DPS spreader bar is adjusted by raising or lowering the tilt handle until the patient is in the desired position.

To operate the powered DPS spreader bar, use the said in buttons on the hand control. Press and hold the appropriate positioning button until the patient is in the desired position. Powered movement will continue until the travel limit has been reached, or until the button is released. The spreader bar will remain firmly in position once powered movement has ceased.

## **Transferring Patients Using Clip Slings**

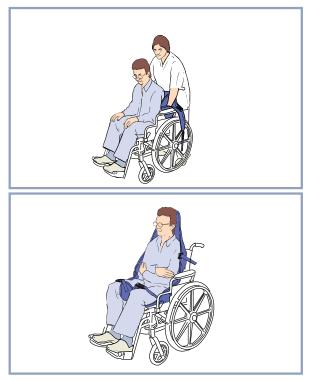
**WARNING:** Always hold the spreader bar when near patients to avoid hitting them with it. This could cause an injury.

**WARNING:** Before moving the lift, ensure there is enough clearance with patients to not hit them. Injuries could occur.

**WARNING**: When raising patients, make sure the sling is not caught on any obstructions (for instance, the wheelchair brakes or armrests). Injuries could occur.

#### **Transferring Patient from a Seated Position**

The techniques described here can be used for transferring patients regardless of where they may be seated (e.g. in a bed, in a chair, wheelchair or similar).



Place the sling around the patient so that the base of the sling sits slightly below the tail bone. A MaxiSlide<sup>®</sup> or MaxiTube<sup>®</sup> positionning aid can be used to assist with placement of the sling.

Ensure that the head support area of the sling is behind the head covering it. Pull each leg strap under the thigh so that it emerges on the inside of the thigh. Approach the patient with the lift, ensure that: • The spreader bar is in reclined position.

• The wide part of the spreader bar is at or just below shoulder level.

• The spreader bar is close enough to be able to connect the shoulder strap clips of the sling to the frame.

Connect the shoulder strap clips, then tilt the frame and attach the leg sections. If necessary, lower the spreader bar a little further, being careful not to lower it onto the patient.

**WARNING:** Make sure that the sling attachment clips are correctly attached and remain in tension as the weight of the patient is gradually taken up. This will prevent a patient fall.

**CAUTION:** Do not attempt to pull the lift along the rail using the hand control cable. This can cause damage to the cable and eventually jeopardize the function of the hand control.

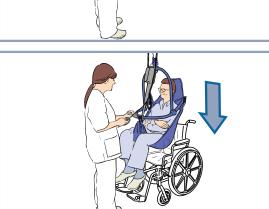
Proceed with the transfer keeping a hand on the spreader bar to stop excessive swinging and to give a feeling of added security.

Once the patient has arrived at destination, reposition the patient according to the destination position.

Lower the patient down onto the new location by making small adjustments during the descent so that the patient is always in the best comfortable position.

**WARNING:** When using the lowering function be careful to not hit the patient with the spreader bar as this could cause an injury.

Once the patient's body weight is fully supported, detach the leg strap clips, then the shoulder strap clips.





Move the lift away from the patient.

Remove the sling from behind the patient.

Charge batteries according to MS2 charging equipped system.

### **Transferring Patient from a Supine Position**

The technique described here can be used for transferring patients regardless of where they may be laying (on the bed or on the floor of the exercise area).

Before you start, make sure the bed is in correct working height.

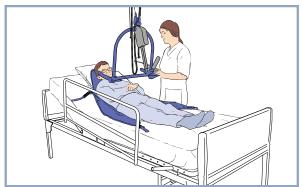


Roll the patient, in caregiver's direction, onto their side. Fold the sling in half and place on the bed or on the floor land marking it, along the back of the patient so that the base of his/her spine is aligned with the base of the sling, making sure the sling extends to the top of the patient's head.

**WARNING:** Make sure that the bed safety side is installed to prevent the patient from falling.



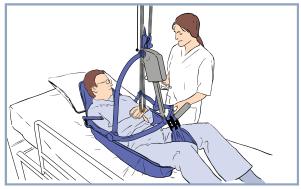
Roll the patient back onto the sling and then slightly further in the opposite direction, so that the folded part of the sling can be unfolded.



If possible, slightly raise the head of the bed.

Approach the patient with the lift, and ensure that:

- The spreader bar is in reclined position.
- The spreader bar is close enough to be able to connect the shoulder strap clips of the sling to the frame.



Using the hand control, lower the spreader bar taking care not to lower the frame onto the patient.

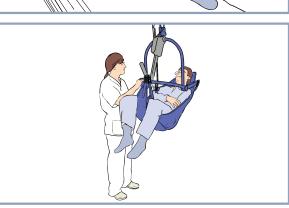
Connect the sling shoulder and leg strap clips to the spreader bar.

**WARNING:** Always confirm that the sling attachment clips are correctly attached and remain in tension as the weight of the patient is gradually taken up. This will prevent a patient fall.

Raise the patient using the hand control, positioning him comfortably to a semi-reclined position for the transfer. The patient should not be lifted above the caregiver's eye-level.



Proceed with the transfer, while using the hand control, keeping a hand on the spreader bar to stop excessive swinging and to give a feeling of added security.

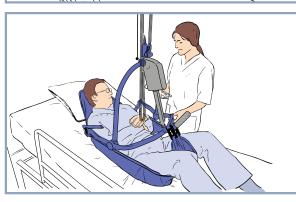




Once the patient has arrived at destination reposition the patient according to the destination position.

Lower the patient down onto the new location by making small adjustments during the descent so that the patient is always in the best comfortable position.

**WARNING:** When using the lowering function be careful to not hit the patient with the spreader bar as this could cause an injury.



When the patient's body weight is fully supported, detach the connection clips.

Move the lift away from the patient.

Remove the sling from under the patient.

Charge batteries according to MS2 charging equipped system.

## Loop Sling Compatibility

Following is a list of all Arjo loop slings compatible with the Maxi Sky 2 series of ceiling lifts.

Application for Sling	Sling Layout				
General Transfer					
Hygienic					
Gait Training					
Bed Repositioning					
Limb					
Supine Position Transfer					

## **Sling Selection**

The spreader bar that is attached to the *Maxi Sky* 2 determines what slings can be used to transfer a patient. Most slings are colour coded for size by having a different colour edge binding or attachment strap colouring:

- Grey or Teal Extra Extra Small XXS
- White or Brown Extra Small XS
- Red Small S
- Yellow Medium M
- Green Large L
- Blue Extra Large XL

Note that not every sling is available in all sizes. A wide variety of slings are available for each application. Please contact your local Arjo agent for more information. *Flites* slings (single patient multi-use slings) are also available for most sling models. If Arjo *Flites* slings are to be used with the *Maxi Sky* 2 series of ceiling lifts, refer to the separate Arjo *Flites* sling *Instructions for Use*.

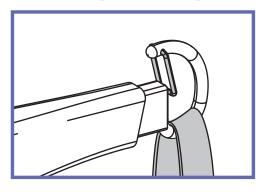
NOTE: Only use Arjo slings with the Maxi Sky 2 series of ceiling lifts.

# **Spreader Bar Compatibility**

Following is a list of all Arjo spreader bars to use with loop slings that are compatible with the *Maxi Sky* 2 series of ceiling lifts. Other combinations could be suitable based on facility assessment. Clinical judgement must be applied when choosing a size and a combination.

Sproodor Bor	Basic Loop Sling Si			ng Siz	zes			
Spreader Bar	model only	Description	XXS	XS	S	Μ	L	XL
700-05461-BOX	~	Medium 2-hook Spreader bar			~	V	~	
700-19420		Small 2-hook spreader bar	~	✓	~	~		
700-19415 700-19435 (US market only) 700-19470 700-19465 (US market only)		Medium 2-hook spreader bar			V	V	V	
700-19430		4-hook spreader bar			✓	~	~	•
700-05443	✓	4-hook spreader bar					~	
700-15695		Stretcher Frame					✓	•
700-19522	✓	Stretcher Frame					~	~

# Attaching the Sling to the Spreader Bar

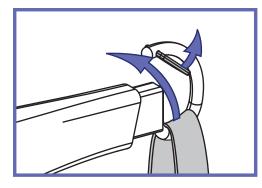


Place the attachment loop onto the hook.

Make sure loop is positioned correctly and that the safety latch is closing the hook.

Repeat same procedure for all loops.

# **Removing the Sling from the Spreader Bar**



Open the latch and remove the loop from the hook. Repeat same procedure for all loops.

# **Transferring Patients Using Loop Slings**

Loop slings are available in many sizes. The correct size sling will be able to support the patient's shoulders during the transferring procedure.

**WARNING:** Always hold the spreader bar when near patients to avoid hitting them with it. This could cause an injury.

**WARNING:** Ensure any obstructions are removed from the intended route of travel. Injuries could occur.

WARNING: Make sure the sling is not caught on any obstructions. Injuries could occur.

**WARNING:** Before moving the lift, ensure there is enough clearance with patients to not hit them. Injuries could occur.

# **Positioning the Patient**

Body position according to loop strap position combinations					
SHOULDERS	SHOULDERS	LEGS	HIPS*		
LEGS					
ĥ	3	1	1		
می	2	1	1		
محک	1	1	1		
\$	1	1	2		

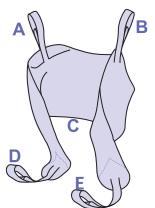
The specific loop sling chosen determines the position of the patient. Different loop combinations can be used to allow the patient to be lifted and transferred in positions ranging from semi-reclined to seated.

Note: Slings with more loops allow additional alternative positions.

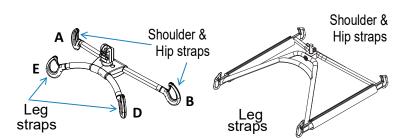
Once the loop sling has been fitted around the patient, it can be configured in three ways. With each of the three methods described on the next page, it is necessary to first connect each shoulder loop of the sling to both sides of the spreader bar.

\*Hip loops only available on THA6i model

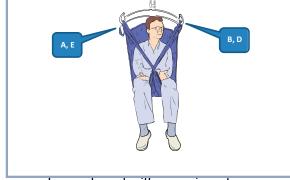
### **Attachment Points**



**NOTE:** On the 4-hook spreader bar, sling straps must be mounted as follows.



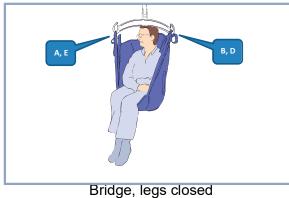
Method 1 - Cross-through



This method is recommended for most general transfers.

Legs closed with crossing straps

Method 2 - Hammock

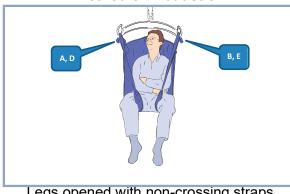


This method can provide a comfortable cradle for amputee patients.

It is also a useful method for patients with muscular contractures, making it difficult to bring a sling strap between the legs.

WARNING: Method 2 might not be suitable for confused, combative or erratic patients as they can fall forward and get injured.

Method 3 - Abduction



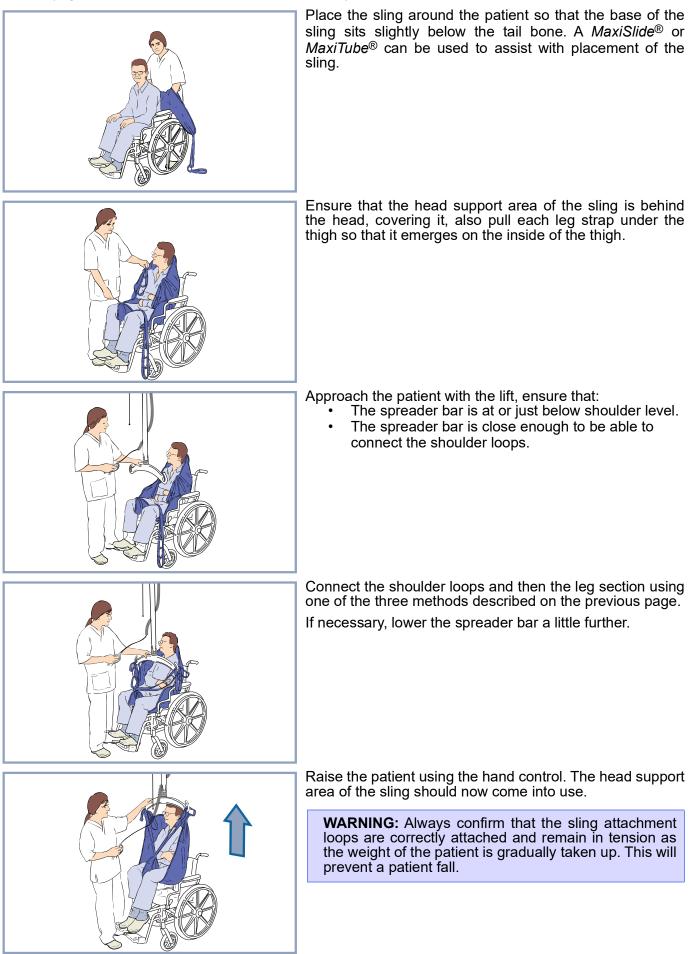
In this method, legs are held in abduction which is convenient for toileting and hygiene care.

WARNING: Method 3 might not be suitable for patients with no upper body control as they can slide down and almost out of the sling.

Legs opened with non-crossing straps

# **Transferring Patient from a Seated Position**

The techniques described here can be used for transferring patients regardless of where they may be seated (e.g. in a bed, in a chair, wheelchair or similar).





Proceed with the transfer keeping a hand on the spreader bar to stop excessive swinging and to give a feeling of added security.

**CAUTION:** Do not attempt to pull the lift along the rail using the hand control cable. This will damage the cable and eventually ruin the function of the hand control.

Once the patient has arrived at destination, lower him/her down onto the new location.

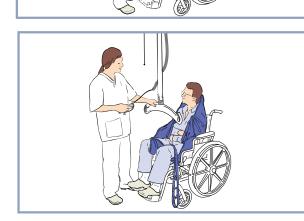
 WARNING: When using the lowering function be careful to not hit the patient with the spreader bar as this could cause an injury.

When needed, use the handles on the back of the sling to position the patient when transferring into a chair. Hold the handle firmly to ensure a proper seated position.

When the patient's body weight is fully supported, detach the leg loops, then the shoulder loops.

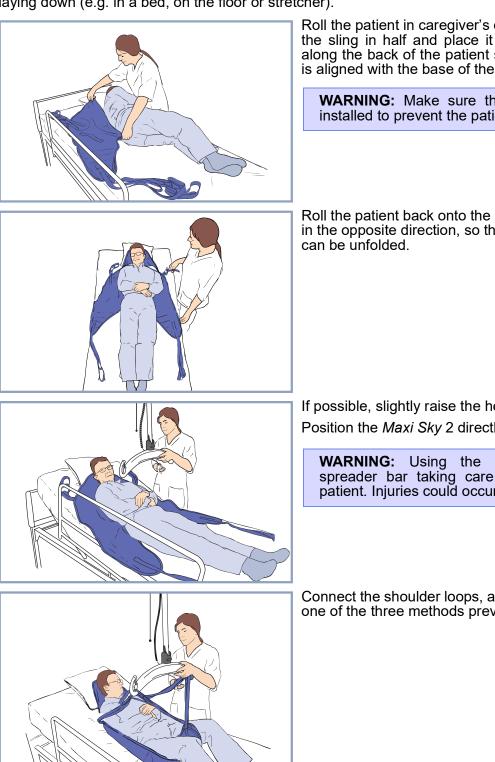
Move the lift away from the patient.

Remove the sling from behind the patient.



# **Transferring Patient from a Supine Position**

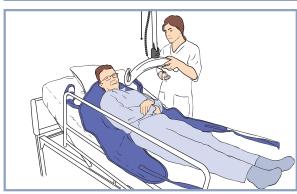
The techniques described here can be used for transferring patients regardless of where they may be laying down (e.g. in a bed, on the floor or stretcher).



Roll the patient in caregiver's direction, onto their side, fold the sling in half and place it on the bed or on the floor, along the back of the patient so that the base of his spine is aligned with the base of the sling.

WARNING: Make sure that the bed safety side is installed to prevent the patient from falling.

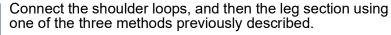
Roll the patient back onto the sling and then slightly further in the opposite direction, so that the folded part of the sling



If possible, slightly raise the head of the bed.

Position the Maxi Sky 2 directly over the patient.

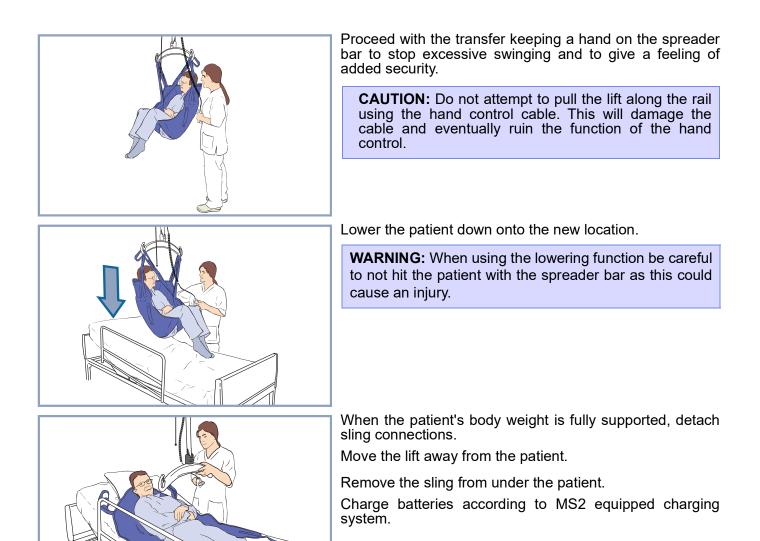
WARNING: Using the hand control, lower the spreader bar taking care not to lower it onto the patient. Injuries could occur.





Raise the patient using the hand control.

WARNING: Always confirm that the loops are correctly attached and remain in tension as the weight of the patient is gradually taken up. This will prevent a patient fall.



# Repositioning

Patients that are completely confined to bed need to be frequently repositioned. For some of those patients, a repositioning sling could be permanently placed under the sheets.

### Move Up in Bed





Position the Maxi Sky 2 directly over the patient.

**WARNING:** Using the hand control, lower the spreader bar **perpendicular or parallel** to the patient taking care not to lower the spreader bar onto the patient, as this could cause injury.

Connect as many loops as possible to the spreader bar. Make sure to distribute loops on both hooks.

Select loop length in order to lift the patient as straight as possible.

Raise the patient using the *Maxi Sky* 2 until patient's hips are supported and until it is possible to move the patient up in the bed. Use a *MaxiTube*<sup>®</sup> sheet if needed.

**NOTE:** Supporting the head may be necessary for some patients depending on their medical condition.



Lower the patient down onto the new location.

**WARNING:** When using the lowering function be careful to not hit the patient with the spreader bar as this could cause injury.



When the patient's body weight is fully supported, detach all loops.

Move the lift away from the patient.

### **Bed Turning**



Position the Maxi Sky 2 directly over the patient.

**WARNING:** Using the hand control, lower the spreader bar **perpendicular or parallel** to the patient taking care not to lower the spreader bar onto the patient, as this could cause injury.



Connect as many loops as possible from one side of the repositioning sling to the spreader bar.

Make sure to distribute loops on both hooks.

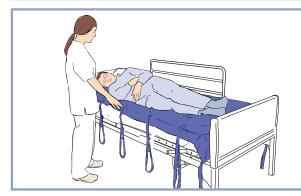
Select loop length in order to roll the patient as straight as possible.

**WARNING:** Make sure that the bed safety side is installed to prevent the patient from falling.



Raise the spreader bar until the patient is rolled into the appropriate position.

**NOTE:** Place some pillows to prevent the patient from rolling back and to maximize comfort.



Lower the spreader bar to release tension on the loops.

**WARNING:** When using the lowering function be careful to not hit the patient with the spreader bar as this could cause injury.

Disconnect all loops.

Move the lift away from the patient.

# **Gait Training**

The *Maxi Sky* 2 series of ceiling lifts can be used to assist patients in rehabilitation training as they remain suspended in the sling preventing them from falling.



Place the rehabilitation sling around the patient.

Approach the *Maxi Sky* 2 so that the spreader bar is close enough to be able to connect the loops.

**WARNING:** When using the lowering function be careful to not hit the patient with the spreader bar as this could cause injury.

Connect the loops to the spreader bar.



Ensure that all loops are securely connected, and then raise the spreader bar to desired weight bearing condition for the patient.

**NOTE:** The patient can only travel in the direction of the rail.

When gait training activities are done, lower the patient to a seated position and remove the sling.

# **Transferring Patient in Supine Position**

**WARNING:** Only use Arjo soft stretcher slings. Do not use any other type of soft stretcher sling with the *Maxi Sky* 2.

**CAUTION:** Before the soft stretcher can be used with the *Maxi Sky* **2**, ensure the stretcher frame has been correctly attached to the strap.



Identify the head section of the soft stretcher. Look for a label sewn to the end of the head section.

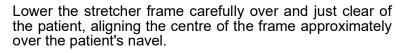
Position the soft stretcher sling by rolling the patient over. Ensure that the top section of the sling is under the patient's head, with the top edge of the sling levelled with the top of the head.

**NOTE:** If the patient is not able to roll on his/her side, use a *MaxiSlide* sheet to apply sling.

With the stretcher frame as high up as possible, move the

lift until the frame is directly over the patient.

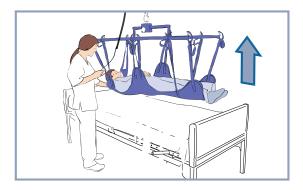
**NOTE:** The frame is symmetrical and can be used from either side.



**WARNING:** When using the lowering function be careful to not hit the patient with the stretcher frame as this could cause injury.

Connect all the sling loops securely.

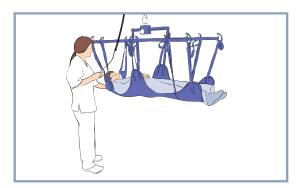
**NOTE:** The attachment straps have several connection loops. Choose whichever loop is considered the best to enable the patient to lie in the most comfortable position.

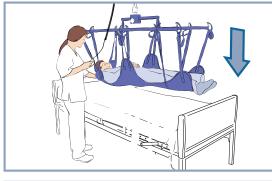


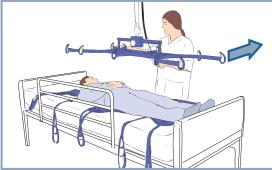
As the patient is raised slightly off the bed, assess if the frame needs to be adjusted to accommodate the patient's centre of gravity so that a level position is maintained.

Lower the patient onto the bed and adjust as needed. Refer to specific stretcher literature for details.

Raise and move the patient away from the bed.







Proceed with the transfer keeping a hand on the spreader bar to stop excessive swinging and to give a feeling of added security.

**CAUTION:** Do not attempt to pull the lift along the rail using the hand control cable. This will damage the cable and eventually ruin the function of the hand control.

Lower the patient down onto the new location.

**WARNING:** When using the lowering function be careful to not hit the patient with the stretcher frame as this could cause injury.

When the patient's body weight is fully supported, detach sling connections.

Move frame away from the patient.

Remove the sling from under the patient.

Charge batteries according to MS2 equipped charging system.

### Lifting and transferring patient with the Strap Stretcher

For instructions on how to lift and transfer patients with the Arjo Strap Stretcher, refer to the Strap Stretcher's Instructions for Use.

### Limb Support

The *Maxi Sky* 2 series of ceiling lifts can be used to assist with procedures when limb needs to be supported in elevated position.

**WARNING:** To prevent a fall risk, do not activate RTC or RTH function while performing the limb support task.



Place the Limb sling around the patient's limb.

**WARNING:** Using the sling is only possible after examination of the limb by a health professional.



Approach the lift so that the spreader bar is close enough to be able to connect the loops.

**WARNING:** When using the lowering function be careful to not hit the patient with the spreader bar as this could cause injury.

Connect the loops to the spreader bar.

**WARNING:** To avoid patient limb from falling, always confirm that the loops are correctly attached and remain in tension as the weight of the limb is gradually taken up. Injury could occur.

Raise the patient's limb using the hand control until patient's limb is at desired height. Be careful to not over stretch the limb.



When supporting the patient's limb is no longer required, lower the spreader bar, put the lift away and remove the sling.

Charge batteries according to MS2 equipped charging system.

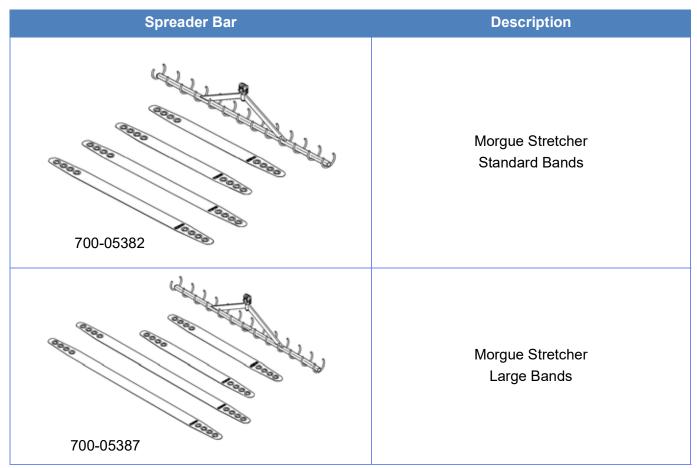
**WARNING:** When using the lowering function be careful to not hit the patient with the spreader bar as this could cause injury.

# **Morgue Stretcher Applications**

# **Spreader Bar Compatibility**

Following is a list of Arjo *Quick-Connect* morgue stretchers that are compatible with the *Maxi Sky 2* series of ceiling lifts.

Other combinations could be suitable, based on facility assessment. Clinical judgment must be applied when choosing a size and a combination.



Use of the morgue stretcher is described in the accessory's accompanying documents.

# **Use of Accessories**

# **Room Assessment**

Following is an assessment example that shows the different accessories to give a general idea of where they can be encountered in a desired environment.

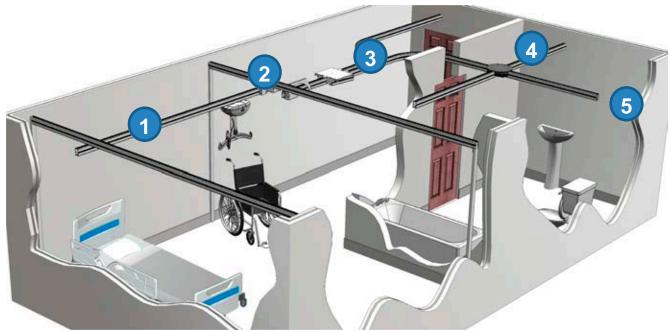
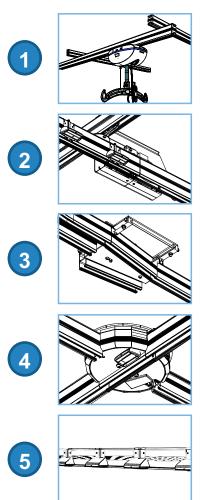


Figure 10

# *KWIKtrak*<sup>™</sup> Accessories



### The X-Y Rail System

The X-Y rail system allows the lift to be moved in any direction over a predetermined area to cover its entire surface.

### The Gate

The Gate is a security device which blocks the access between an X-Y rail system and a fixed rail system to prevent the lift from falling out of the rail when these 2 systems are not aligned.

### The Exchanger

The exchanger allows the lift to change path over to a different rail system which leads to a different care area.

### The Turntable Accessory

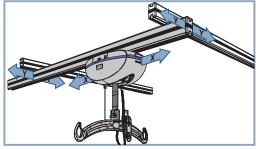
The *Turntable* accessory allows the lift to change route on a multidirectional rail system.

### The PPP (Pre-Programmed-Position)

The PPP is a feature which allows positioning the lift along the tracking layout to predetermined positions in which the PPP activation stations are placed. There may be more than one PPP activation station on the layout, depending on the room configuration.

### How to Use the X-Y Rail System

### Moving the Lift in the Lateral Direction



### 2-function models:

Moving the lift in the lateral direction (X axis) is achieved by pushing or pulling on the spreader bar.

### 4-function models:

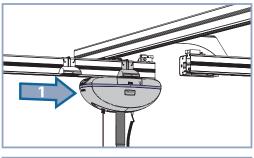
Moving the lift in the lateral direction (X axis) is achieved by using the  $\leftarrow$  or  $\rightarrow$  button on the hand control.

### Moving the Lift in the Facing Direction

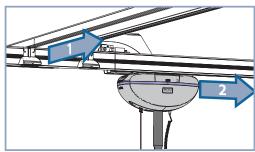
Moving the lift in Y-axis direction requires moving the lift and the traversing rail simultaneously. To achieve this, push or pull on the spreader bar in the Y-axis direction and the traversing rail will follow.

### How to Use the Gate

### Exiting the X-Y System



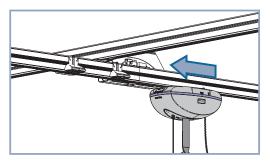
Move the lift in the X-axis to the extremity of the traversing rail in which the Gate is installed on the side of the traversing rail. The lift will be automatically in contact with the activation station.



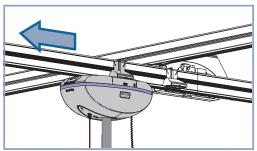
Move both, the lift and the traversing rail in the Y-axis, to align the traversing rail with the oncoming rail. This action will be detected by the Gate, locking the two rails together, permitting the lift to pass through.

**NOTE:** The traversing rail will remain in the locked position, in order to release the traversing rail refer to the "Entering the X-Y System" section.

### Entering the X-Y System



When entering the X-Y system from the oncoming rail, the traversing rail will be in place. Pass the lift through the Gate.



When the lift has passed the deactivation station, the Gate will release, permitting the traversing rail to move in the Y-axis.

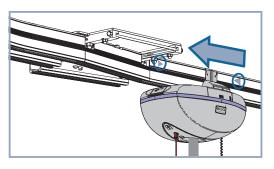
### How to Use the Exchanger

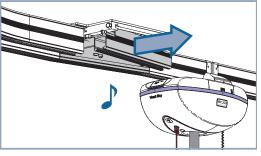
If the exchanger is already positioned in the appropriate path, keep moving the lift through the exchanger without stopping at the activation station.

If the exchanger is not already aligned in the appropriate path proceed as described below.

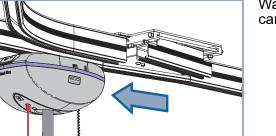
### Changing the Path

Bring the lift to the activation station next to the exchanger. Position the lift between the A marks on the rail.



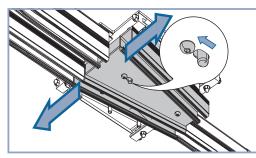


Once the exchanger detects the lift, it acknowledges with a short beep and changes the path.



Wait until the exchanger has stopped completely then the lift can be moved through the exchanger.

### **Quick Release**

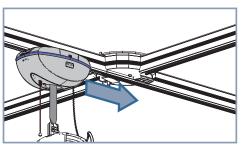


If the exchanger fails to operate automatically, or if there is an emergency situation, engage the quick release located underneath the exchanger and slide the plate manually to change the path completely.

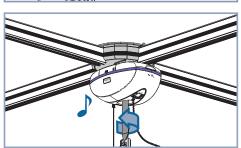
**WARNING:** Be careful not to place your hand or fingers in the path of the sliding plate to prevent pinching.

**WARNING:** Do not activate the quick release if the lift is in the exchanger to prevent the unit from falling.

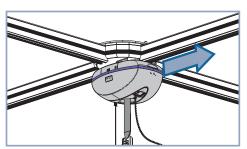
### How to Use the Turntable Accessory



Move the lift to the activation station in the *Turntable* accessory.

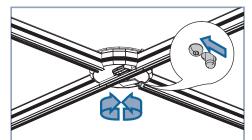


Once the *Turntable* accessory detects the lift, it acknowledges with a beep and starts turning to align with the other rail path.



Wait until the *Turntable* accessory has stopped completely then the lift can be moved out of the *Turntable* accessory.





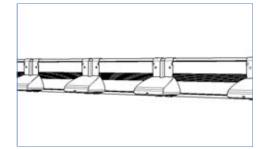
If the *Turntable* accessory fails to operate automatically or if there is an emergency situation, engage the quick release located underneath the *Turntable* accessory and rotate the plate manually to change the path completely.

**WARNING:** Be careful not to place your hand or fingers in the path of the rotating plate.

### How to Use the PPP

WARNING: Do not use the PPP function when a patient is attached to the lift. Injuries could occur.

Using the PPP allows the lift to detect stations (positions) located along the rail.



To send the unit to a specific PPP station, press the **i** button the number of times required corresponding to the desired PPP contact station you wish to send the lift to, then press the **c** or **button** in the direction of that PPP station. The LED will light up Green to acknowledge reception of the command and the display will blink the "PPP" indicator.

The lift will raise the spreader bar and start moving in the direction of the pressed button, until it encounters as many stations as the **i** button was pressed, then stops at the station.

The command can be cancelled at any time by pressing any button on the hand control or by adding weight on the spreader bar.

**WARNING:** The weight detector, within the lift, that prevents the PPP from functioning when a patient is attached to the lift, can only detect a minimum load of 20 kg (45 lb). Extra care should be exercised when manipulating the hand control to transfer a patient weighing 20 kg (45 lb) or less.

**NOTE:** The PPP is available only on four-function lift model. The PPP is a programmable feature which is set to "disabled" at the factory and can only be activated by a qualified technician. Refer to "Customizing" section.

# **Care and Maintenance**

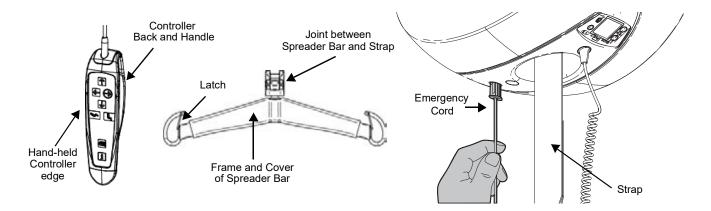
# Cleaning

NOTE: It is recommended to clean the lift and its accessories between each patient use.

### **Cleaning of Lift and Accessories**

- Use a cloth soaked with water to remove excessive residues from the lift and its accessories from top to bottom.
- Use a damp cloth with warm water mixed with a cleaning fluid.
- Scrub the equipment from top to bottom to remove any deposits.
- Use a clean damp cloth with clear water to wipe off all spots of cleaning fluids.
- Then wipe clean with a dry cloth.

Pay special attention to areas listed below that are most likely to contain dirt and microbes.



NOTE: Assure thorough cleaning and disinfection of the Emergency Cord. Make sure lift is ON.

**CAUTION:** To ensure a better rolling surface for the trolley wheels, clean the inside of the rail every 4 months. To do so, insert a damp cloth in the opening and slide it from one end of the rail to the other.

**CAUTION:** Do not drench the product, as this could damage electrical components and cause internal corrosion. If a hot air dryer is used to dry the lift, the temperature must not exceed 80°C (176 °F). Do not use methanol-based or any other type of solvents that may damage the finish or plastic parts.

WARNING: To avoid eye and skin damage, always use protective glasses and gloves. If contact occurs rinse with plenty of water. If eyes or skin becomes irritated, contact a physician. Always read the instructions for use and material safety data sheet of the disinfectant.

# Disinfection

Wipe the *Maxi Sky 2* and accessories using a solution containing one of the compatible disinfectants below. Disinfection methods should comply with the local or national guidelines (Decontamination of Medical Devices), depending on the Healthcare Facility or country of use. If uncertain, consult local Infection Control specialist.

NOTE: It is recommended to clean the lift and its accessories before disinfection.

NOTE: After thorough cleaning and/or disinfection of the Emergency Cord, assure the lift is still "ON".

		Disinfection Agents						
Distriction	Quaternary Ammonium	≤ 0.21% (2,100 ppm)						
Disinfection	Isopropyl Alcohol	≤ 70%						
Agents for Lift and	Phenolic	≤ 1.56% (15,600 ppm)						
Accessories	Sodium Hypochlorite (Ble	each) ≤ 1% (10,000 ppm)						
	Peracetic Acid	≤ 0.25% (2,500 ppm)						
	Hydrogen Peroxide	≤ 1.5%						
Basic Ceiling Lifter (woven nylon strap)	model and <i>Maxi Sky 2 Ceili</i> )	ng Lifter model	Ļ	Ļ	Ļ	Ļ	Ļ	Ļ
						V	V	V
Maxi Sky 2 Infection (non-porous strap)	n Control model		Ļ	Ļ	Ļ	Ļ	Ļ	Ţ
			V	V	V	V	V	V
Other Accessories			Ļ	Ļ	Ļ	Ļ	Ļ	Ļ
	**	**	V	V	$\checkmark$	$\checkmark$	$\checkmark$	V

\* Metal portion of the WCS connector may corrode after repeated exposure to bleach & hydrogen peroxyded

\*\* Handset, WCS and PDPS cables may become slightly grimy after repeated contact with bleach or hydrogen peroxide

	Disi	infection Agents						
Disinfection	Quaternary Ammonium ≤	0.21% (2,100 ppm)						
Disinfection	Isopropyl Alcohol ≤	70%						
Agents for		1.56% (15,600 ppm)						
Accessories	••• • • •	1% (10,000 ppm)						
		0.25% (2,500 ppm)						
	, , , , , , , , , , , , , , , , , , , ,	1.5%						
Medium 2-hook sp _05443)	oreader bar (700-05461-BOX) & 4-hook	spreader bar (700-	Ļ	Ļ	Ļ	Ļ	Ļ	Ļ
G		1				$\checkmark$	$\checkmark$	$\checkmark$
Stretcher Frame (7 Morgue stretchers	700-19522) & : (700.05380, 700.05385, 700-05382 & 7	00-05387)	Ļ	Ļ	Ļ	Ļ	Ļ	Ļ
<u> </u>	A REAL PROPERTY OF THE PROPERT	and and a set of the s					$\checkmark$	$\checkmark$
Manual Open DPS	(700-19340-BOX)		Ļ	Ļ	Ļ	Ļ	Ļ	Ļ
	S				$\checkmark$			
Medium 2-hook sp	oreader bar (700-19415, 700-19435 [US	market only])	Ļ	Ļ	Ļ	Ļ	Ļ	Ļ
	G		√*	√*	√*			1
			N	N.	N.	N	$\checkmark$	V
	ader bar (700-19420) & spreader bar (700-19470, 700-19465 [l	JS market only])	Ļ	Ļ	Ļ	Ļ	Ļ	Ļ
¢-		G		$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$
4-hook spreader b	ar (700-19430) & Stretcher Frame (700	-15695)	Ļ	Ļ	Ļ	Ļ	Ļ	Ļ
G	to it	×			$\checkmark$		$\checkmark$	
Manual Flat DPS (	700-19475 & 700-19200)		Ļ	Ļ	Ļ	Ļ	Ţ	Ļ
_		K.		$\checkmark$	$\checkmark$		$\checkmark$	
Manual Open DPS	(700-19480)		Ļ	Ţ	Ļ	Ļ	Ļ	Ţ
	<ul> <li>A</li> </ul>			$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	
Medium PDPS (70	0-19350) & Large PDPS (700-19355)		Ļ	Ļ	Ļ	Ļ	Ļ	Ļ
		1			$\checkmark$			$\checkmark$

\* The cover for this particular model may be vinyl padding or plastic. If vinyl, do not use these disinfecting agents.

### Handing, Transport and Storage

Avoid violent impacts while transporting the lift. The lift should not remain stored for long periods of time without recharging the batteries.

If you store or ship the *Maxi Sky* 2, ensure that the power is turned off (no green light) beforehand.

### **Battery Replacement**

Arjo uses sealed lead-acid batteries in the *Maxi Sky* 2 series of ceiling lifts. Arjo batteries do not have any memory effect. Therefore, batteries should not be completely discharged before recharging.

Replace the battery when there is a noticeable reduction in the number of transfers that can be performed between charges. If you hear the *Maxi Sky* 2 beeping and notice a red light flashing, see instructions in the "Troubleshooting" section of this manual to determine if it is a battery problem. To replace batteries, contact your local Arjo agent.

**CAUTION:** Do not attempt to use a battery that was not supplied by Arjo. Batteries are specially designed for Arjo charging systems. Attempting to use an unauthorized battery may seriously damage the lift and/or the charger.

### **Annual Inspection**

The *Maxi Sky 2* and accessories must be serviced every 12 months as a minimum requirement. Do not attempt to do the inspection unless you are qualified to do so.

### **Strap Inspection**

If the strap is damaged or shows signs of wear or discoloration, the acceptable load on the strap before rupture can drop rapidly and present a danger for the patient or caregiver. Arjo recommends a thorough inspection of the strap every 4 months as follows:

- Completely unwind the strap.
- Look for any signs of wear or discoloration as shown on Figure 11.

**WARNING:** If there is any sign of wear as indicated above or any other visual defects, the strap must be inspected by qualified personnel and changed if required. Arjo recommends changing the strap as per following, whichever comes first and depending on the model:

- Woven nylon strap two years or every 5,000 cycles
- non-porous strap two years or every 5,000 cycles

By continuing to use the lift without changing a damaged strap, the safety of the caregiver or patient is greatly compromised.

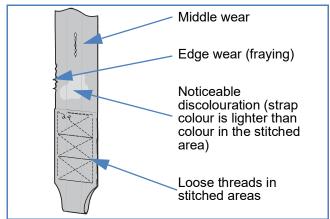


Figure 11

### **Maintenance Requirements**

The *Maxi Sky* 2 series of ceiling lifts are equipped with a maintenance monitor which informs the user that a maintenance inspection is necessary. The screen will display the maintenance required symbol to draw the user's attention indicating that maintenance related message is being displayed on the screen. Arranging for scheduled inspections ensures the durability of the unit and the security of the patient and user.

### **Preventive Maintenance Schedule**

The equipment is subjected to wear and tear, and the following maintenance instructions must be acted upon when specified to ensure that the equipment remains within its original manufacturing specifications.

**WARNING:** The maintenance described in the following checklist is the minimum that the manufacturer recommends. In some cases more frequent inspections should be carried out. Continuing to use this equipment without conducting regular inspections or when a fault is found will seriously compromise the safety of the user and of the patient. Local regulations and standards may be higher than those of the manufacturer. A load test must be performed on the entire system every 12 months. Service and preventive maintenance can be arranged distributor. with the Arjo Preventive maintenance specified in this manual can prevent accidents and reduce repair costs.

**WARNING:** Safety related maintenance and authorized service must be carried out by qualified personnel, fully trained in servicing procedures by Arjo, and equipped with correct tools and proper documentation, including Parts List and Service Manual. Failure to meet these requirements could result in personal injuries and/or unsafe equipment.

**WARNING:** Never proceed to maintenance or service while lift is in use with a patient.

	FREQUENC	Y				
	Every two years or 5000 c	yclo	es			
Inspections for the Lift	Every year or 2500 cycles					
	Every four months or 100	) cy	/cle	S		
	Before every use					
	Initially					
USER INSPECTION			Ļ	Ļ	Ļ	Ţ
Inspect for evidence of external damage, missing parts or	broken panels.	$\checkmark$	$\checkmark$			
Inspect strap for wear, discolouration, delamination of coa	ating or loose threads.		$\checkmark$	$\checkmark$		
Recharge batteries.		$\checkmark$	$\checkmark$			
Verify emergency stop mechanism.				$\checkmark$		
Verify for damage to the emergency cord.				$\checkmark$		
Verify functionality of the emergency lowering mechanism.					$\checkmark$	
INSPECTION BY AN AUTHORIZED SERVICE TECHNICIAN			Ļ	Ļ	Ļ	Ţ
Replace woven nylon strap.						$\checkmark$
Replace non-porous strap.						$\checkmark$
Inspect frame parts interlock and hardware for malfunction and make sure there are no parts missing.					$\checkmark$	
Inspect wheels in rail for damage, rust or cracks. Replace	if damaged.				$\checkmark$	
Inspect gears for wear and lubricate as necessary.					$\checkmark$	
Inspect connecting joints for proper attachment (trolley and spreader bar).					$\checkmark$	
Verify that the emergency brake's latches are moving freely.					$\checkmark$	
Verify emergency lowering mechanism.					$\checkmark$	
Verify auxiliary up and down buttons on lift.					$\checkmark$	
Load test with the SWL (safe working load).					$\checkmark$	
For models equipped with ECS and compatible Gate system: Clean ECS components.						$\checkmark$

### FREQUENCY

 $\uparrow$   $\downarrow$   $\downarrow$   $\downarrow$ 

 $\sqrt{}$ 

 $\sqrt{}$ 

When

necessary

 $\sqrt{}$ 

### **Inspections for Accessories**

Every year or 2500 cycles

**Every four months or 1000 cycles** 

Before every use

### **USER INSPECTION**

Inspect all sling parts (attachments, fabric, stitch areas and strap) for signs of wear, discoloration, deterioration or loose threads.

Clean sling as indicated on the tag.

Inspect spreader bar for damage or cracks. Assure attachments are properly secured.

FREQUENC							
	Every two years or 5000 cycles						
Inspections for Rails	Every year or 2500 cycles	0 cycles					
Every four months or 1000 Before every use Initially		0 cy	cle	s			
USER INSPECTION		Ļ	Ļ	Ļ	t	Ţ	
Clean the inside of the rail to remove accumulated dust o	n the rolling surface.	$\checkmark$		$\checkmark$			
Clean the charging station contacts with a damp cloth.							
Make sure that end stoppers, charging station and rail caps are in place.							
INSPECTION BY AN AUTHORIZED SERVICE TECHNICIAN			Ť	Ļ	Ļ	Ť	
Torque end stoppers to 20 Nm (15 lbf ft) except those that pass edgeways through the track (bolt end stoppers).					$\checkmark$		
Make sure that the bracket locking device is not visible.					$\checkmark$		
Make sure rail joints are closed and that the spring pins are centred.					$\checkmark$		
Make sure the rail is levelled when it is not loaded.					$\checkmark$		
Make sure the adjusted load setting of the lift is equal or lower than the safe working load of the installation.					$\checkmark$		
Check that the accessories (X-Y system, Gate, Exchanger, <i>Turntable, Receiving module</i> and PPP) are complete and correctly maintained.					$\checkmark$		
Make sure that the attachments (ceiling brackets, wall post, wall brackets) have not been displaced, damaged or removed.					$\checkmark$		
Inspect track end stoppers. Inspect and tighten hardware (if necessary).					$\checkmark$		
Load test with the SWL (safe working load).					$\checkmark$		
For models equipped with ECS and compatible Gate system: Clean contact strips.						$\checkmark$	

**NOTE:** If the product does not work as intended, immediately contact your local Arjo distributor for support.

WARNING: Before each use, make sure all end stoppers are in place to prevent a fall risk.

# Troubleshooting

PROBLEM	ТО СНЕСК
After power ON, the LED does not light and nothing appears on display.	<ul> <li>Bring the unit to the charging station.</li> <li>If the unit is not charging, contact your Arjo agent for maintenance.</li> </ul>
The LED is RED and nothing appears on display.	<ul> <li>The lift may be in "Sleep mode". Press a button on the hand control and see if something appears on the display.</li> <li>If the problem persists, contact your Arjo agent for maintenance.</li> </ul>
The LED is GREEN and nothing appears on display.	<ul> <li>The lift may be in "Sleep mode". Press a button on the hand control and see if something appears on the display.</li> <li>If problem persists, contact your Arjo agent for maintenance.</li> </ul>
If a maintenance code appears on the display after a sleep mode.	<ul> <li>The unit can be used but maintenance shall be done as soon as possible by an Arjo technician.</li> </ul>
The icon 🔺 is displayed on display and flashing.	<ul> <li>The duty cycle has been reached for the motor in use. It could be the left-right, up-down or sit-lay motor. Wait until the "triangle- exclamation point" symbol disappears from display before reusing the motor.</li> </ul>
LED does not light at all. Display is working properly.	<ul> <li>Check in "customize" menu if LED is in ENABLED state.</li> <li>If LED is in ENABLED state and it still does not light up, contact your Arjo agent for maintenance.</li> </ul>
The lift emits a beep during utilization. The unit may stop lifting but the lowering function can still be used.	<ul> <li>Batteries are low (see if display indicates a low battery). Return the lift to the charging station.</li> </ul>
The battery level is not full and the LED does not flash GREEN when the unit is on the charger or charger connected to WCS connector.	<ul> <li>Check that the charger is plugged into a standard outlet and that the outlet has power. The green light on the charging station indicates that it is functioning.</li> <li>Check if the two blades make good contact with charging station.</li> <li>With a mild detergent, clean the lift contact blades and/or the contact plates of the charging station if necessary.</li> <li>If problem persists, contact your Arjo agent for maintenance.</li> <li>MS2 WCS: Check WCS connector if damage or dirty/corroded.</li> <li>Check if charger is plugged into a standard outlet and that the outlet has power, and if the 2.5DC connector has power.</li> </ul>
RTC does not work when pressing the RTC button for 3 seconds.	<ul> <li>Check that the spreader bar is not too close to the highest limit. Lower the spreader bar 6 inches (15 cm) and press the RTC button for 3 seconds.</li> <li>Check if the RTC function is enabled (refer to the "Customizing" section).</li> <li>Turn Off the unit and power it back On, if the display ask to enter the date, the Real Time Clock Battery may be the problem. Contact your local Arjo agent.</li> </ul>
RTC stops at the high limit or before; unit emits a beeping sound.	<ul> <li>Check that the spreader bar is not too close to the highest limit. Lower the spreader bar 6 inches (15 cm) and press the RTC button for 3 seconds.</li> <li>If the parameter is set to "Auto", bring the unit to the charging</li> </ul>
(No malfunction code or symbol on the display).	<ul> <li>station using the  or  button. After the lift starts charging, move it away from the charging station and test the RTC function again. Note: The lift looses track of the charging station location when it is turned OFF. In this event, repeat above procedure to allow the unit to memorise the location of the charging station.</li> <li>If there is no malfunction code on the display, then press "up" to wind the strap to the high limit (with spreader bar weight only).</li> <li>If problem persist, contact you local Arjo agent.</li> </ul>

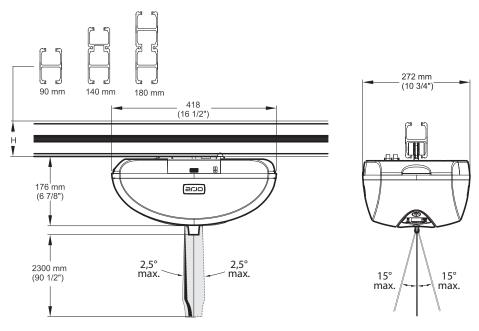
PROBLEM	ТО СНЕСК
When returning to charge, the lift passes the clip on the charging station.	<ul> <li>Check that the charging station is plugged into a standard outlet and that the outlet has power. The green light on the charging station indicates that it is functioning (refer to "Charging System" section).</li> <li>Clean the blades of the charging station with mild detergent.</li> <li>Check if the contact blades of the lift are clean or have good geometry.</li> <li>Pass the lift manually through the charging station and observe if the lift is charging then retry the RTC function.</li> <li>If problem persists, contact your Arjo agent for maintenance.</li> </ul>
Batteries are always discharged after only a few transfers (3 to 5).	<ul> <li>Put the lift at the charging station for a minimum of 8 hours.</li> <li>If the lift does not detect the charging station: <ul> <li>Check that the charging station is plugged into a standard outlet and that the outlet has power. The green light on the charging station indicates that it is functioning (refer to "Charging System" section).</li> <li>Check if contact blades make good contact with charging station. Clean the unit blades and/or the contact plates of the charging station if necessary. If problem persists, contact your Arjo agent for maintenance.</li> <li>MS2 WCS: Check WCS connector if damage or dirty/ corroded.</li> <li>Check if charger is plugged into a standard outlet and that the outlet has power, and if the 2.5DC connector has power.</li> </ul> </li> </ul>
The display indicates good battery charge but when you try to transfer someone, the lift stops.	<ul> <li>Contact your local Arjo agent to have the batteries replaced.</li> </ul>
The lift does not work when pressing buttons on the hand control.	<ul> <li>If the emergency stop is activated, gently push up the Power On Switch to turn the unit back ON.</li> <li>Check if the auxiliary up/down buttons of the lift (located near the display) are working. If so, the problem may be coming from the hand control.</li> <li>Contact your local Arjo agent to have the hand control replaced.</li> </ul>
Only the UP button on the hand control does not work.	<ul> <li>Check if the strap is completely rolled inside the lift.</li> <li>Check if the strap is twisted/folded during lifting. Press down button, untwist/unfold the strap and activate the up function within strap angle specifications.</li> <li>If display indicates a malfunction code (refer to "Display Symbol" section), contact your local Arjo agent.</li> <li>Check if the auxiliary UP button of the lift (located near the display) is working. If so, the problem may be coming from the hand control.</li> <li>Contact your local Arjo agent to have the hand control replaced.</li> </ul>
Only the DOWN button on the hand control does not work.	<ul> <li>Check if the strap is completely rolled outside of lift.</li> <li>Check if there is more than 1.5 kg (3.3 lb) suspended by the lifting strap. The lift needs a minimum tension to operate.</li> <li>If unit display indicates a malfunction code, contact your local Arjo agent.</li> <li>Check if the auxiliary DOWN button of the lift (located near the display) is working. If so, the problem may be coming from the hand control.</li> <li>Contact your local Arjo agent to have the hand control replaced.</li> </ul>
When hanging the hand control on the spreader bar RTC function stops.	<ul> <li>The lift detects a weight variation and cancels the RTC/RTH function.</li> <li>Hang the hand control before activating the RTC/RTH function.</li> </ul>

PROBLEM	ТО СНЕСК
The LED is still flashing GREEN after 24 hours of continuous charging with lift under charging station.	<ul> <li>Batteries might not charge or charging station, or WCS connector may be defective.</li> <li>Contact your local Arjo agent to have the batteries replaced or charging system maintenance.</li> </ul>
ECS: Even with low batteries, lift GREEN LED does not flash 15 minutes after the last activation of the lift.	<ul> <li>Check if wall charger is connected to a standard outlet.</li> <li>Check if wall charger outlet has power.</li> <li>Check if the charger is connected to the ECS cable adaptor on the fixed track.</li> <li>Check if all extensions used are connected properly.</li> <li>Check if there is an interrupted contact strip along both sides of the track.</li> <li>Check if the contact strips on the track section have been equipped to be powered.</li> <li>If all above checks are OK and GREEN LED still not flashing, contact your local Arjo agent.</li> </ul>
ECS: After continuous 8 hour batteries charging sequence, the ECS symbol still appears on display and GREEN LED still flashing.	<ul> <li>Press any button on the handset to wake up the LCD display; battery icon should be full. If not, batteries might not charge or ECS system might be defective.</li> <li>Contact your local Arjo agent to have the batteries replaced or ECS system maintenance.</li> </ul>
ECS: After battery charging sequence is completed, the battery icon is not full.	<ul> <li>If during the charging sequence (ECS icon on LCD display):</li> <li>the lift was moved to a track section where the contact strips are not equipped to be powered: move the lift back to a powered section of track to resume charging.</li> <li>the contact strips have lost power or do not have sufficient voltage: check all ECS components and repair/replace if needed to restore ECS charging capability.</li> <li>Note: Once the charging sequence is initiated and the ECS icon appears on the LCD display, the icon will not disappear if the charging is disrupted by a loss of electrical power.</li> </ul>
Strap does not reach high limit with patient weighing over 150 lb (68 kg).	<ul> <li>Ensure the strap is not twisted/folded while lifting patient.</li> <li>If there is no malfunction code on the display:</li> <li>press "up" to wind the strap to the high limit with the weight of a spreader bar only.</li> <li>If problem persist, contact your local Arjo agent.</li> </ul>
Gate: when trying to exit the X&Y system, the gate does not activate.	<ul> <li>Pull the lift away from the activation station, then back underneath the activation station to activate the gate.</li> <li>If the problem persists, contact your local Arjo agent.</li> </ul>
For <i>Maxi Sky 2</i> IC only. Audible noise in the transmission when the strap slack happens.	<ul> <li>Check if there is a maintenance code on the LCD display:</li> <li>If no, it is a normal sound generated by the non-porous strap.</li> <li>If yes, contact your local Arjo agent.</li> </ul>

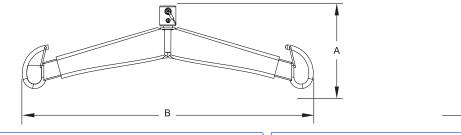
# **Technical Specifications**

# **Overall Dimensions**

# Maxi Sky 2



### Loop Sling Spreader Bars (Basic Ceiling Lifter model only)



700-05461

Two hooks spreader bar used to perform transfer using Arjo loop sling. Intended to be used with Arjo clevis pin attachment system.

		mm	in
	А	206	8 1/8
	В	628	24 3/4
1.5 kg / 3.3 lb	С	45	1 3/4

700-19522							
Stretcher frame used for supine transfer. Intended to be used with Arjo clevis pin attachment system.							
		mm	in				
	А	282	11 1/8				
	В	1443	56				
<b>™</b> 10 kg / 22.2 lb	С	635	25				

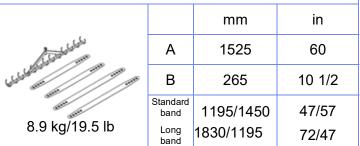
700-05443

Four hooks spreader bar designed for bariatric use. Used to perform transfer using Arjo loop sling. Intended to be used with Arjo clevis pin attachment system.

			-
		mm	in
de de de	А	244	9 5/8
	В	709	27 7/48
6 kg / 13 lb	С	692	27 1/4

### 700.05380 & 700.05385

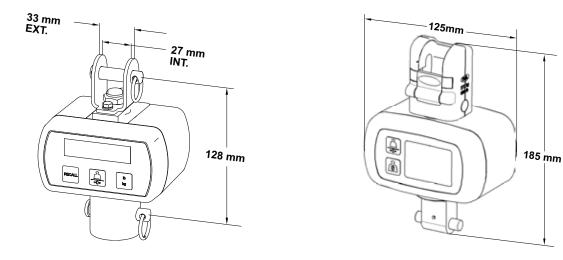
Morgue stretcher for supine transfer. Intended to be used with Arjo clevis pin attachment.



### Scale

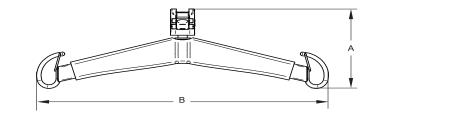
### Basic Ceiling Lifter model

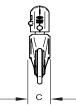
Maxi Sky 2 Ceiling Lifter & Infection Control models



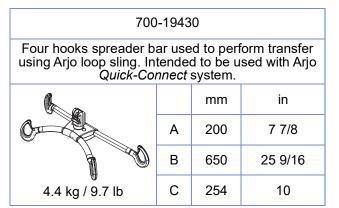
Model	700-19485	700-19490	Model	700-00511	700-00531
Туре	Standard	Class III	Туре	Standard	Class III
Weight	Weight 0.7 kg/1.5 lb		Weight	0.7 kg/	1.5 lb

### Loop Sling Spreader Bars (not for Basic Ceiling Lifter model)





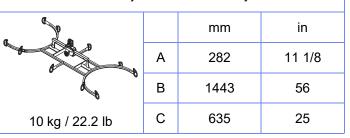
700-19420				
Two hooks spreader bar used to perform transfer using Arjo loop sling. Intended to be used with Arjo <i>Quick-Connect</i> system.				
		mm	in	
	А	187	7 3/8	
	В	474	18 11/16	
2.5 kg / 5.5 lb	С	57	2 1/4	



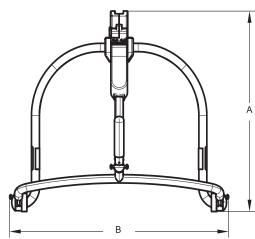
700-19415 (700-19435, US market only) or 700-19470 (700-19465, US market only)					
Two hooks spreader bar used to perform transfer using Arjo loop sling. Intended to be used with Arjo <i>Quick-</i> <i>Connect</i> system.					
	in				
	А	206	8 1/8		
	В	628	24 3/4		
1.5 kg / 3.3 lb C 45 1 3/4					



Stretcher frame used for supine transfer. Intended to be used with Arjo *Quick-Connect* system.

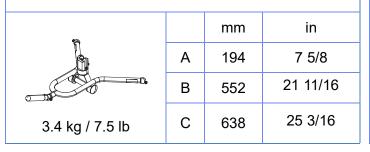


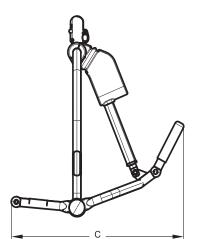
### **Dynamic Positioning Spreader Bars**



700-19475 (not for *Basic Ceiling Lifter* model)

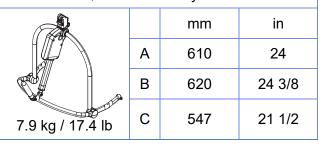
Four points carry bar used to perform a transfer from various positions with an Arjo clip sling. Intended to be used with Arjo *Quick-Connect* system.





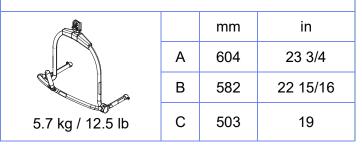
### 700-19350 (not for *Basic Ceiling Lifter* model)

Four points powered carry bar used for lifting a patient from sitting position to laying position with an Arjo clip sling. Intended to be used with Arjo *Quick-Connect* system.



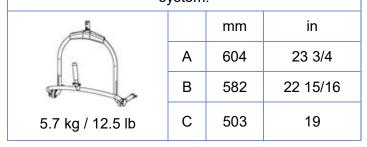
### 700-19480 (not for *Basic Ceiling Lifter* model)

Four points carry bar used for lifting a patient from sitting position to laying position with an Arjo clip sling. Intended to be used with Arjo *Quick-Connect* system.



### 700-19340 (*Basic Ceiling Lifter* model only)

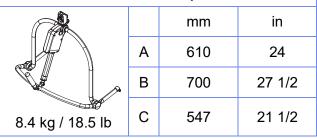
Four points carry bar used for lifting a patient from sitting position to laying position with an Arjo clip sling. Intended to be used with Arjo clevis pin attachment system.



### 700-19355

(not for *Basic Ceiling Lifter* model)

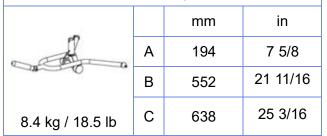
Four points powered carry bar used for lifting a patient from sitting position to laying position with an Arjo clip sling. Intended to be used with Arjo *Quick-Connect* system.



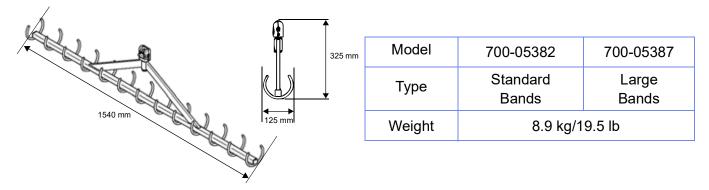
### 700-19200

### (Basic Ceiling Lifter model only)

Four points carry bar used to perform a transfer from various positions with an Arjo clip sling. Intended to be used with Arjo clevis pin attachment system.

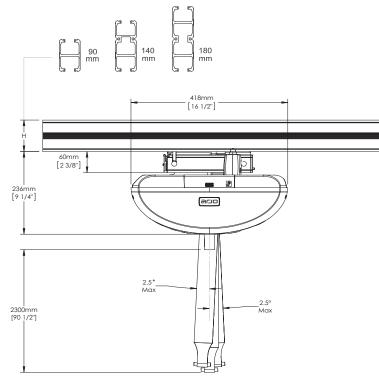


# **Morgue Stretcher**

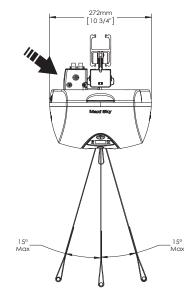


# Maxi Sky 2 Transportable

Receiving module that is intended to allow relocation of a *Maxi Sky* 2 ceiling lift from one KWIKtrak<sup>™</sup> to another without having to remove the track end stopper and without the need of using tools.



Charging Station version shown



# 700-31401 (ECS) mm in A 243 9 5/8 B 72 2 7/8 0.92 kg / 2.03 lb C 102 4

# **Receiving modules**

700-31400 (Charging Station)				
A		mm	in	
	А	243	9 5/8	
	В	72	2 7/8	
0.89 kg / 1.96 lb	С	102	4	

700-31421 (Curtain gap)				
A		mm	in	
	А	243	9 5/8	
	В	72	2 7/8	
0.98 kg / 2.15 lb	С	96	3 3/4	

# **Technical Data**

PRODUCT INFORMATION	Maxi Sky 2				
Weight, complete (Four-function model)	12.3 kg (27 lb)				
Weight, complete (Two-function model)	11.6 kg (26 lb)				
Lifting capacity	120 kg (265 lb), 200 kg (440 lb), 272 kg (600 lb)				
Strap length	2500 mm (98.4 in)				
Lifting speed	5.1 cm/s (2.0 in/s) without load 4.2 cm/s (1.7 in/s) at 120 kg (265 lb) 3.8 cm/s (1.5 in/s) at 200 kg (440 lb) 3.3 cm/s (1.3 in/s) at 272 kg (600 lb)				
Maximum stroke (from ceiling)	2300 mm (90.6 in)				
Horizontal displacement speeds	10, 15 and 20 cm/s (4, 6 and 8 i	n/s)			
Operating force of control	< 5 N				
ELECTRICAL					
Duty cycle	Up/Down Motor: Left/Right Motor: Sit/Reclined Motor:	Max 10%, 2 minute continuously Max 20%, 5 minutes continuously Max 10%, 2 minutes continuously			
Horizontal axis motor	24 VDC, 62 watts				
Vertical axis motor	24 VDC, 360 watts for 2 minutes	s max.			
Rating	24 VDC, 15 A max.				
Noise level for either raising or lowering, with or without load	61 dBA max. (with or without load)				
Medical equipment Type BF protection against electrical shock in accordance with IEC 60601-1					
external antennas) should be used a specified by the manufacturer. Othe	WARNING: Portable RF communications equipment (including peripherals such as antenna cables an external antennas) should be used no closer than 30 cm to any part of the <i>Maxi Sky</i> 2, including cable specified by the manufacturer. Otherwise, performance degradation of this equipment could result. Se "Electromagnetic Compatibility" section for more details.				
Battery type	12 V, 5 Ah, sealed rechargeable	valve regulated lead acid battery			
Battery capacity	Provides up to 120 transfers with transfers with a load of 200 kg (4	h a load of 100 kg (220 lb), up to 70 440 lb)			
Degree of protection - hand control	IPX7				
Degree of protection - Maxi Sky 2	IP24				
Lift - protection class - shock prevention	Internally powered equipment				
Battery charger input	100-240 VAC, 50-60 Hz, 57 - 70	) VA.			
Battery charger output	28.1 VDC, 1 A max, 28.1 VA				
Battery Charger safety protection	Class 2, double insulated				
OPERATION, TRANSPORT AND STO	OPERATION, TRANSPORT AND STORAGE CONDITIONS				
Normal Operation	Ambient temperature range: 5°C Relative humidity range: 15% to Atmospheric pressure range: 70	93%, non-condensing			
Transport / Storage	Ambient temperature range: -40 Relative humidity range: 0% to 9 Atmospheric pressure range: 50	93%, non-condensing			
WARNING: This equipment is not suitable in the presence of flammable anesthetic mixtures with air or oxygen, or with nitrous oxide.					

# **Approvals and list of Standards**

The Maxi Sky 2 series of ceiling lifts are tested according to standards by:

Canadian Standards Association:



- IEC 60601-1 series including applicable collateral standards and national deviations.
- Technischer Überwachungs-Verein:
  ISO 10535 : 2006 standard
- CE Marking:



# Safe Disposal at End of Life

Package	Corrugated cardboard, recyclable Expanded polystyrene (EPS), recyclable
The product and its accessories	Components that are primarily be made up of different kinds of metal (containing more than 90% metal by weight) for example sling bars, rails, upright supports, etc., should be recycled as metals.
Battery	All batteries in the product must be recycled separately. Batteries are to be disposed in accordance with national or local regulations.
Electrical and electronic components	Lift systems having electrical and electronic components or an electrical cord should be disassembled and recycled per Waste of Electrical and Electronic Equipment (WEEE) or in accordance with local or national regulation.
Slings	Slings including stiffeners/ stabilizers, padding material, any other textiles or polymers or plastic materials etc. should be sorted as combustible waste.

# **Electromagnetic Compliance**

*Maxi Sky* 2 has been tested for compliance with current regulatory standards regarding its capacity to block EMI (electromagnetic interference) from external sources. Nonetheless, some procedures can help reduce electromagnetic interferences:

- Ensure that other devices in patient-monitoring and/or life-support areas comply to accepted emissions standards.
- Maximize the distance between electro-medical devices. High-powered devices may produce EMI that can affect the lift.

For more information on how to manage the unit's RF electromagnetic environment, please consult the AAMI TIR 18-1997 - Guidance on Electromagnetic Compatibility of Medical Devices for Clinical/ Biomedical Engineers.

**WARNING:** Use of accessories, cables and spare parts other than those specified or provided by Arjo could result in increased electromagnetic emissions or decreased electromagnetic immunity of this equipment and result in improper operation.

**WARNING:** 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.

**WARNING:** The equipment may cause radio interference or may disrupt the operation of nearby equipment. It may be necessary to take action, such as reorienting, relocating the equipment or shielding the location.

# **Electromagnetic Emissions**

Guidance and Manufacturer's Declaration						
Ele	Electromagnetic Emissions - For all Equipment and Systems					
<i>Maxi Sky</i> 2 is intended for use in the electromagnetic environment indicated below. The customer or the user of the <i>Maxi Sky</i> 2 should assure that it is used in such an environment.						
Emissions test	Emissions test Compliance Electromagnetic environment - guidance					
RF emissions CISPR 11	Group 1	<i>Maxi Sky</i> 2 uses RF energy only for its internal function Therefore, its RF emissions are very low and are no likely to cause any interference in nearby electronic equipment.				
RF emissions CISPR 11	Class B	<i>Maxi Sky</i> 2 is suitable for use in all establishments,				
Harmonic emissions IEC 61000-3-2	Class A	including domestic establishments and those directly connected to the public low-voltage power supply				
Voltage fluctuations/ flicker emissions IEC 61000-3-3	Complies	network that supplies buildings used for domestic purposes.				

# **Electromagnetic Immunity**

### Guidance and Manufacturer's Declaration Electromagnetic Immunity - For all Equipment and Systems

Maxi Sky 2 is intended for use in electromagnetic environment specified below.

The customer or the user of the Maxi Sky 2 should assure that it is used in such an environment.

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment - guidance			
Electrostatic	±8 kV contact	±8 kV contact	Floors should be wood, concrete or ceramic tile. If floors are covered with			
discharge (ESD) IEC 61000-4-2	± 2 kV, ±4 kV, ±8 kV, ±15 kV air	± 2 kV, ±4 kV, ±8 kV, ±15 kV air	synthetic material, the relative humidity should be at least 30%.			
	±2 kV, AC Mains	±2 kV, AC Mains				
Electrical fast transient/burst IEC 61000-4-4	±1 kV, I/O Ports	±1 kV, I/O Ports	Mains power quality should be that of a typical commercial or			
	100 kHz repetition frequency	100 kHz repetition frequency	hospital environment.			
	±2 kV, AC Mains	±2 kV, AC Mains				
Surge	Line to Ground	Line to Ground				
IEC 61000-4-5	±1 kV, AC Mains	±1 kV, AC Mains				
	Line to Line	Line to Line				
Voltage dips, short interruptions and	0% <i>U</i> ⊤; 0,5 cycle At 0°, 45°, 90°, 135°, 180°, 225°, 270° and 315°	0% <i>U</i> ⊤; 0,5 cycle At 0°, 45°, 90°, 135°, 180°, 225°, 270° and 315°				
voltage variations on power supply	0% <i>U</i> ⊤; 1 cycle and	0% <i>U</i> ⊤; 1 cycle and				
input lines IEC 61000-4-11	70% <i>U</i> ⊤; 25/30 cycles Single phase: at 0°	70% <i>U</i> ⊤; 25/30 cycles Single phase: at 0°				
	0% <i>U</i> ⊤; 250/300 cycles	0% <i>U</i> т; 250/300 cycles				
Power frequency (50/60 Hz) IEC 61000-4-8	30 A/m 50/60 Hz	30 A/m 50/60 Hz	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.			
NOTE: <i>U</i> <sup>T</sup> is the AC	NOTE: $U_{T}$ is the AC mains voltage prior to application of the test level.					

### Guidance and Manufacturer's Declaration Electromagnetic Immunity - For all Equipment and Systems

*Maxi Sky* 2 is intended for use in electromagnetic environment specified below. The customer or the user of the *Maxi Sky* 2 should assure that it is used in such an environment.

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment - guidance
Conducted RF IEC 61000-4-6	3 V outside ISM bands between 0.15-80 MHz 6 V inside ISM and amateur radio bands between 0.15-80 MHz	3 V outside ISM bands between 0.15-80 MHz 6 V inside ISM and amateur radio bands between 0.15-80 MHz	N/A
Radiated RF IEC 61000-4-3	10 V/m 80 MHz to 2.7 GHz	20 V/m 80 MHz to 2.7 GHz	N/A
Proximity fields from RF wireless communications equipment IEC 61000-4-3	380 - 390 MHz 27 V/m; PM 50%; 18 Hz 430 - 470 MHz 28 V/m; (FM ±5 kHz, 1 kHz sine) PM; 18 Hz 800 - 960 MHz 28 V/m; PM 50%; 18 Hz 1700 - 1990 MHz 28 V/m; PM 50%; 217 Hz 2400 - 2570 MHz 28 V/m; PM 50%; 217 Hz 5100 - 5800 MHz 9 V/m; PM 50%; 217 Hz 704 - 787 MHz 9 V/m; PM 50%; 217 Hz	380 - 390 MHz 27 V/m; PM 50%; 18 Hz 430 - 470 MHz 28 V/m; (FM ±5 kHz, 1 kHz sine) PM; 18 Hz 800 - 960 MHz 28 V/m; PM 50%; 18 Hz 1700 - 1990 MHz 28 V/m; PM 50%; 217 Hz 2400 - 2570 MHz 28 V/m; PM 50%; 217 Hz 5100 - 5800 MHz 9 V/m; PM 50%; 217 Hz 704 - 787 MHz 9 V/m; PM 50%; 217 Hz	N/A

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At Arjo, we are committed to improving the everyday lives of people affected by reduced mobility and age-related health challenges. With products and solutions that ensure ergonomic patient handling, personal hygiene, disinfection, diagnostics, and the effective prevention of pressure ulcers and venous thromboembolism, we help professionals across care environments to continually raise the standard of safe and dignified care. Everything we do, we do with people in mind.



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