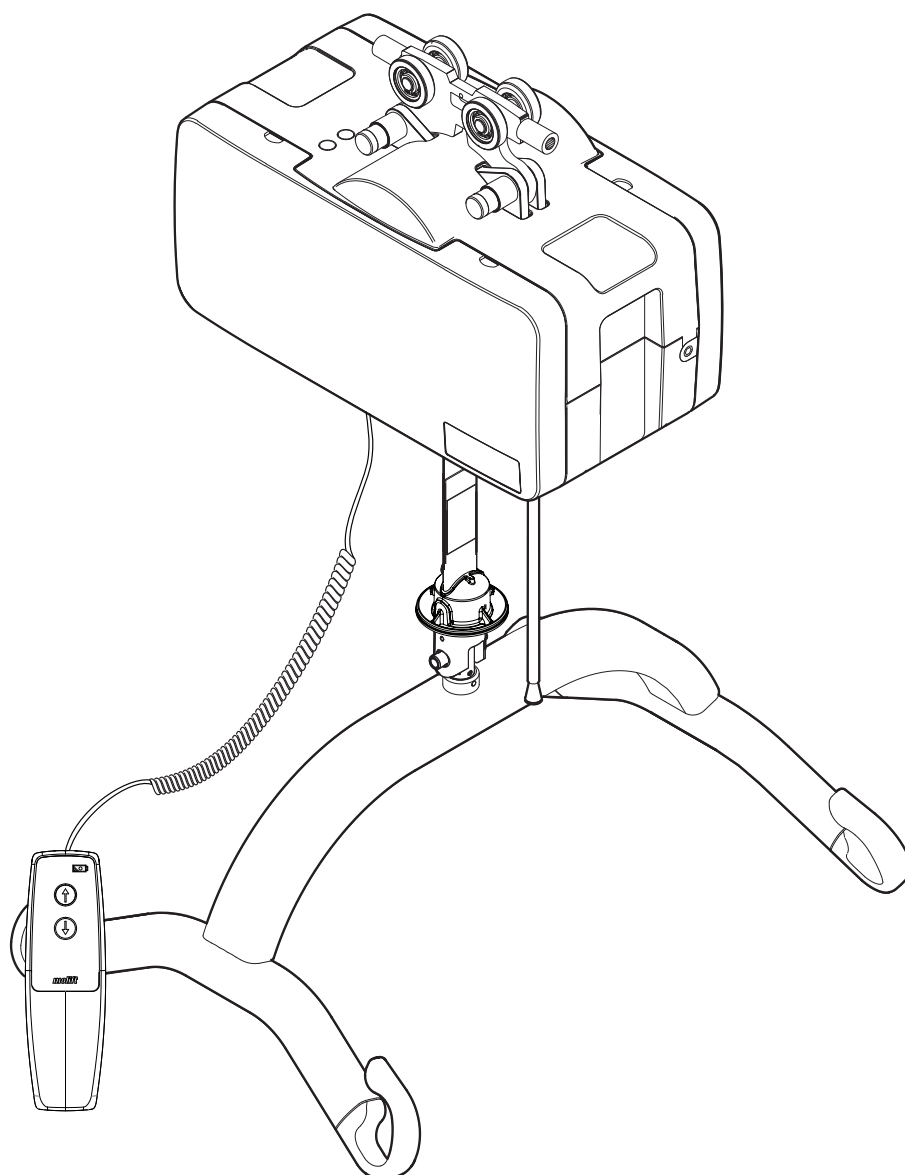


# Molift Air 200 / 350

User manual

**molift**<sup>®</sup>  
a part of Etac

BM16199 Rev. B 2018-01-10



### Important

This User Manual contains important safety instructions and information regarding the use of the sling and accessories. In this manual the client is the person being lifted. The caregiver is the person operating the lifter.



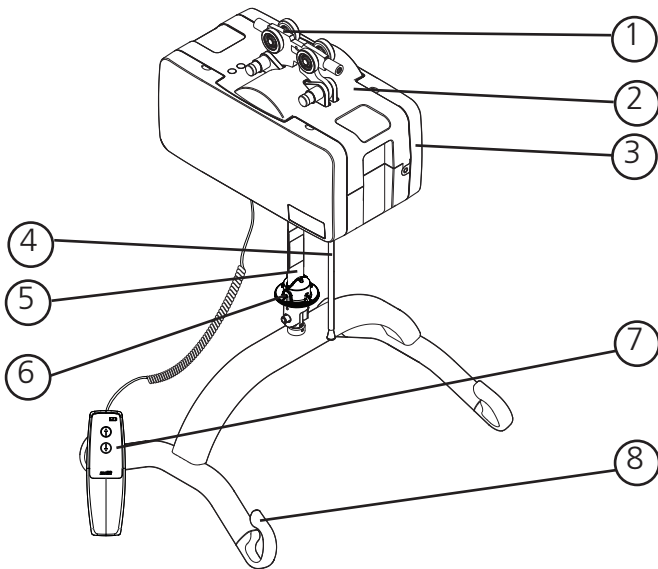
This symbol indicates important information related to safety. Follow these instructions carefully.



**Read User Manual before use!**  
It is important to fully understand the content of the user manual before attempting to use the equipment.

Visit [www.etac.com](http://www.etac.com) for download of documentation to ensure you have the latest version.

### Molift Air 200/350



### Hoist components:

1. Trolley
2. Hoist
3. Side covers
4. Emergency stop/ Emergency lowering
5. Lifting belt
6. Quick release pin
7. Hand control
8. Sling bar

### About Molift Air

Molift AIR is a strong and smooth ceiling lift that enables patients and residences to be transferred in a comfortable and safe way. Suitable for sitting and lateral transfers as well as standing and gait training situations together with the comprehensive accessory program from Molift.

Molift Air is a very light motor which in combination with the quick release coupling system gives an easy handling when mounting and servicing

### General



#### Declaration of conformity:

The Molift Air and related accessories described in this operator manual are CE marked in accordance with EU Council Directive 93/42/EEC concerning medical devices, class 1, and has been tested and approved by a third party according to standards IEC 60601-1, IEC 60601-1-2 and NS-EN ISO 10535:2006.

#### Conditions for Use

Lift and transfer of a client will always pose a certain risk and only trained personnel are allowed to use the equipment and accessories covered by this user manual. The rail system must be installed by certified personnel in accordance with applicable installation instructions.

#### Modifications and use of components made by other manufacturers.

We recommend only using Molift components and spare parts. Declaration of conformity is not valid and Etac is not responsible for warranty if any modifications are made to the product. Etac shall not be liable for faults or accidents that can occur when using components made by other manufacturers.



Only certified personnel are allowed to open hoist or accessories to perform service or repair. Risk of injury from rotating parts and electric shock.

The lifter is not intended to be operated by the client being lifted. If a hoist is to be used by a client living on their own, then some form of communication device shall be installed in the area of use of the hoist so that in the event of an emergency the client is able to summon assistance. This may, for example, be the fitting of an alarm system or the supply of a conveniently placed telephone, etc.

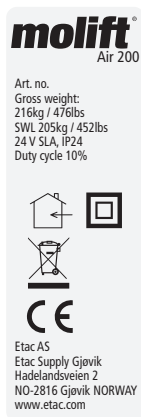


**Warranty:** 2-year warranty against defects in workmanship and materials of our products. 1 year warranty for battery.  
For Terms and conditions, see [www.etac.com](http://www.etac.com)

**Product identification**

**Product label**

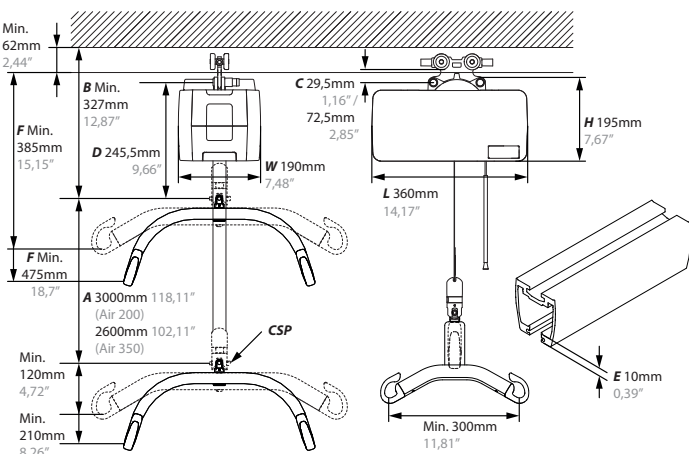
The Product labels barcode contain article number, serial number and production date:



**Warning labels and Symbols**

Symbols used on the product, explained in more detail:

- Class II double insulated
- CE marked
- Refer to user manual
- Indoor Use only
- Max user weight  
max 255 kg / 560 lbs
- Do not dispose in general waste
- Emergency stop/  
Emergency lowering
- Service Light
- Battery Light
- Hex tool symbol for Manual Emergency lowering
- Certification Body mark



**Technical data**

**Safe Working Load (SWL)**

Molift AIR 200: 205 kg (450 lbs)

Molift AIR 350: 350kg (771 lbs)

**Weight of unit:**

Chassis incl. battery, Excl. sling bar:

8,56 kg (18,87 lbs)

4-point Medium Sling bar: 2,2 kg/4.8 lbs

**Battery:**

Art: 2920204 25.6 V LiFePO4 2.4 Ah

Art: 2920007 12 V SLA 2.9 Ah

Battery charger (IRC applies for Molift Air 350 only):

Charger for handcontrol, Mascot - type 3743

Art. no.: 2540100

100-240 V AC, 50-60 Hz max 0.5A

Output 0.9A

IRC Power Supply, Mascot - type 9920

Art. no.: 2510119

Input: 100-240 VAC, 50-60 Hz max 0.9A

Output: 24VDC 1.6A/40W

IRC Charger, Mascot - type 3844

Art. no.: 2540101

In: 20-30VDC 1.3A

Output 0.5A

**Lifting speed**

60mm/second (2,36 inches/second)

with 75kg (165,35 lbs) load

**Propulsion motor speed**

0,2m/second (7,87 inches/second)

**Protection class**

Hand control IP24

Lift motor IP24

**Maximum A-weighted sound power level**

$L_{WA} = 63$  dB

**Operating forces button**

Buttons on handset: 3.4 N

**Material:**

Aluminum, Plastic

**Expected Lifetime:**

The hoist has an expected lifetime of 30 000 cycles SWL or 10 years.

**Dimensions:**

L x W x H (Length, Width, Height without trolley)

36 x 19 x 19,5 cm

(14,2 x 7,5 x 7,7 inches)

A (Hoisting Range)

300 cm (118 Inches)

B (Minimum distance from ceiling to Sling bar

coupling point) 32,7 cm (12.7/8 Inches)

### Installation

The hoist is marked with Safe Working Load (SWL), this should not exceed rail systems max load capacity.

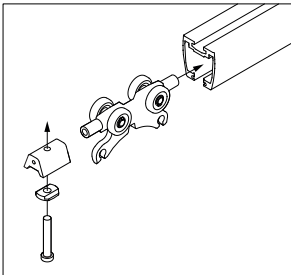


The rail system can only be installed by certified personnel in accordance with applicable installation instructions.



Do not start using hoist before completing control according to checklist after installation.

### Trolley installation



Mounting trolley in rail system. Remove End stop and insert Trolley into rail. Mount end stop, and make sure it is securely fastened. See BM4401 for installation details.

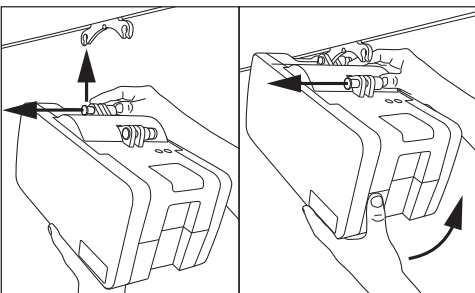


Make sure end stops are mounted in all ends of the Rail system before using the hoist!

### Lifter installation

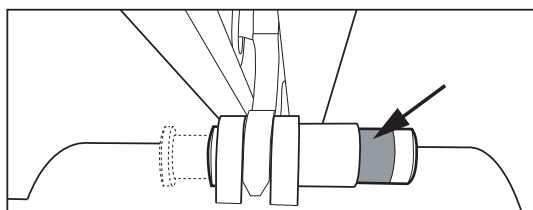


Be careful during elevated work situations. We recommend two or more installers, to prevent losing balance and injury during installation!



Mounting of Lifter on trolley. No tools required. The lifter has two connection points.

Connect one point first. Push button all the way in, and place lifter in connection point on trolley. Release button and make sure it is clearly showing green before connecting the next point.



Make sure both connection point buttons completely return and clearly show green after installation. Emergency lowering cord and tube can be adjusted to the correct length (height) by cutting tube and cord.

### Installation

Use this checklist to verify that the hoist is properly installed and can operate correctly and safely before use.

- End stops on rail are installed after mounting of trolley as described in BM4401
- Make sure that the hoist is properly fastened to the rail and that the lift does not have any loose parts.
- Perform one lift with load (60-80 kg)
- Make sure battery is fully charged.

### How to use Molift Air

#### General Safety Precautions

Only use accessories and slings that are adjusted to fit the client, type of disability, size, weight and type of transfer.

#### Working pause ratio/Duty Cycle.

Duty Cycle 10%. (Intermittence according to standard ISO-EN 10535)



If maximum load (SWL) differs between hoist sling bar and body support unit, then the lowest maximum load shall always be used



Molift lifters shall only be used to lift clients. Never use the lifter to lift or move objects of any kind.

### Before use / Daily check

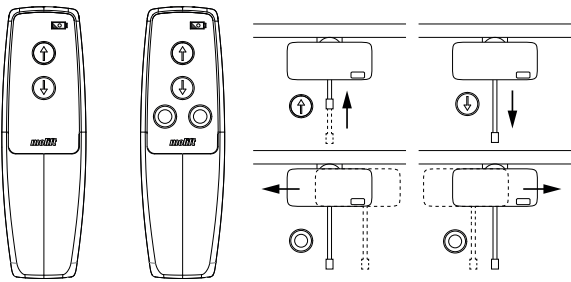
Inspection to be performed by caregiver daily or before use:

- Inspect lifter and rail system has no visible damage, defects or deformations
- Make sure sling bar connection and all detachable parts are properly connected and secured
- Test emergency stop button and emergency lowering
- Make sure battery indicator or service light is not illuminated
- Make sure lifting strap does not have visible damage or frays.
- Test run lifters operation functions and make sure lifter does not make any abnormal sounds

If there are any faults or defects, the lift needs to be taken out of operation and marked "out of order"

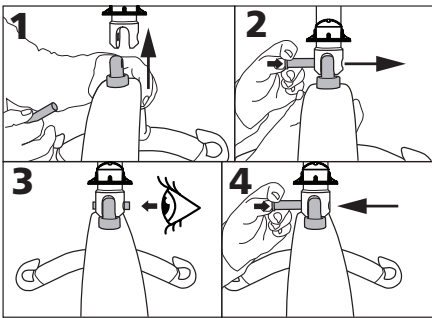
**Hand control**

The Hand control has 2 buttons for lifting and lowering, or 4 buttons if the hoist is equipped with propulsion. The Hand control has an indicator light that will illuminate when battery level is low and the lifter requires charging



Do not pull Hand control to move the hoist along the rail

**Mounting sling bar**

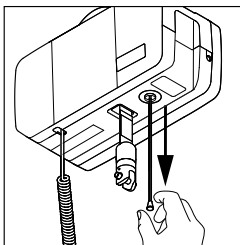


1. Align sling bar in connection point.
2. Push button on locking pin and insert all the way through.
3. Make sure locking pin is properly fastened
4. Push and hold down the button on the locking pin, and pull to remove locking pin.

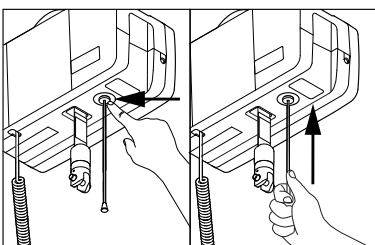
**Emergency stop / emergency lowering**

**Emergency Stop**

Activation and reset of emergency stop:



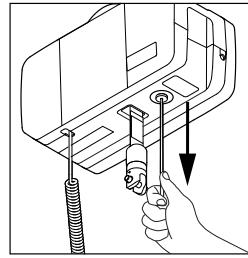
Pull to activate emergency stop. The button will come out, and hoist will stop.



Push with finger or use tube on cord to push button back in to reset emergency stop.

**Electrical Emergency Lowering**

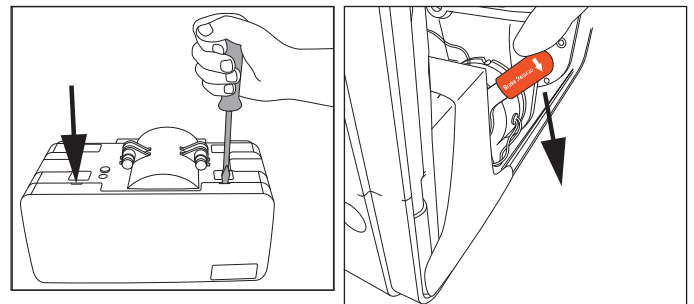
Pull and hold to start lowering. Hold until client is lowered and can be released from sling bar.



Only for emergency use when hand control does not work!

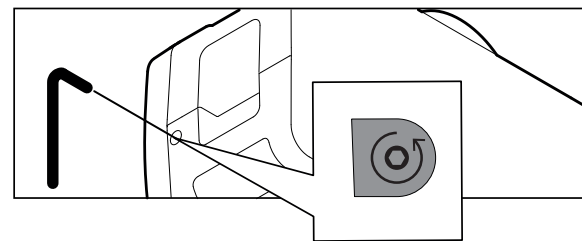
**Manual Emergency lowering**

Allen key or bit for power drill can be found inside the lifter. Remove cover to locate.



Push down and press cover outwards with a flat screwdriver or coin in the two slots to open cover. Turn the "Brake Release" handle down (Only for Air 350).

Locate sticker over the hole for manual emergency lowering. Punch hole or remove sticker and insert tool. Rotate counterclockwise to lower lifting belt. Using a power drill is recommended.



Service is NOT required if:

- 1) the Air manual emergency down is used for a known reason, and
- 2) the belt is undamaged, and
- 3) the unit is operating normally after the manual emergency lowering procedure.

The new brake override will contribute to this by making emergency manual lowering less stressful to lift components.

If the unit have had a malfunction with unknown reason, and manual emergency lowering system has been used, Service is required.

**Electronics**

**Transport and Storage**

For long time storage it is recommended that the emergency stop button is activated (pulled out). The lifter can be stored and transported under temperatures between -25 - 70 °C.

**Operating**

The lifter is designed for use at standard room temperatures (+5 to +40°C).

Air Pressure: 70 - 106 kPa

Relative Humidity: 15 - 93 %

Following storage or transport at other temperatures leave the lifter in a room with a suitable temperature until it reaches a safe operating temperature.



Medical electrical equipment requires special precautions regarding electromagnetic compatibility (EMC). Portable or mobile radio communication equipment may affect the medical electrical equipment, and should be kept minimum 25 cm (10 inches) from the lifters electronics.

**Batteries**

Molift Air 200/350 is available with 2 x 12V SLA battery or a 25.6V LiFePO4 battery.



The SLA battery has a life expectancy of approx. 500 charge cycles.

The LiFePO4 battery has a life expectancy of approx. 2000 charge cycles.



Batteries must be disposed of as special waste according to local rules and regulations. Do not dispose in general waste

**Battery and service indicator on lifter**







	Wrench symbol / Service indicator
	Battery symbol / Battery indicator

The electrical system has a power-save function which will turn off the electrical system five minutes after last operation. All indicators will turn off.

The system is activated when pushing one of the operating buttons on the hand control.

**Battery indicator on hoist**

When the multi level battery indicator is yellow the lifter will have sufficient power available for at least one full lifting cycle with max load. When battery is flashing yellow it is only possible to lower the sling bar.

Battery indicator	Battery level	
	Green	80% or more
	Green	80 - 60%
	Green	60 - 40%
	Green	40 - 20%
	Yellow	20% - 0%
	Yellow flashing	0%

**Service indicator / Periodic inspection**

The lifters electronics record the weight lifted and number of lifts. After a certain period of operation a signal is given to indicate that service is required.

Service indicator	Mode
No light	No service needed
Yellow	Periodic inspection required
Green flashing	Order service
Red	Perform service

**Service scope**

Service involves replacing the lifting belt and inspection/ replacement of worn parts. This must be carried out by authorized personnel. Service is needed when the service light is red (calculated 5.000 lifts in weight class 2). Contact Etac your local dealer, or see etac.com for a recommendation of an approved service partner.

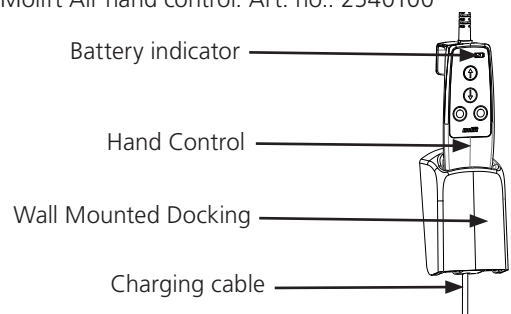
**Charging**

Molift Air can be charged through the hand control with a battery charger, or through the rail with In Rail Charging.

**Hand control charging**

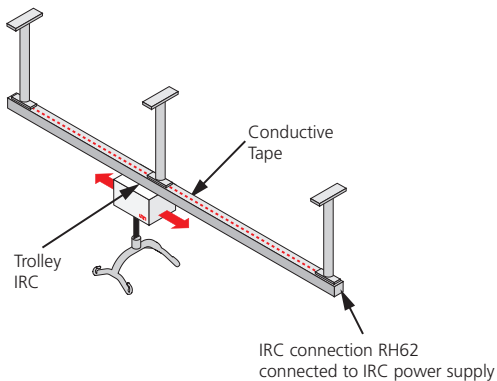
The battery charger is plugged into a power outlet. Wall-mounted docking for hand control is available. Make shure not to damage the cable. The charger can be connected to the power outlet at all times. Use only Molift chargers. The Hand control has an indicator light that will illuminate when battery level is low and the lifter requires charging.

Charger for Molift Air hand control: Art. no.: 2540100

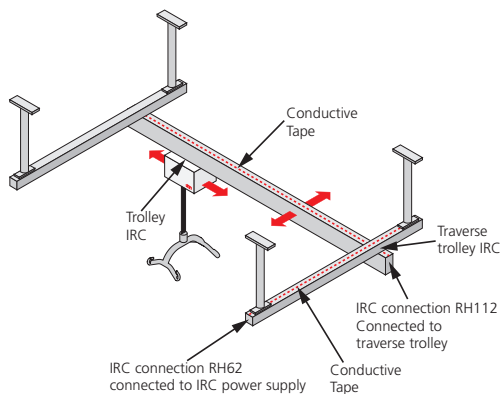


**IRC - In Rail Charging (only for Molift Air 350)**

The lifter is charged through a built in charger in lift motor for continuous charging through the entire rail system length. Molift Air IRC has a built in charger, connected to the battery. It must be installed with IRC Trolley in a rail system with a conductive tape. The IRC trolley is connected to the battery charger inside the Molift Air IRC. The IRC trolley is always in contact with the the conductive tape inside the rail. The IRC power supply is connected to the conductive tape through IRC connection at the end of the rail, and supplies power to the battery charger inside Molift Air IRC.



IRC fits both Single rail and Traverse systems.



**IRC Power Supply**

Art. no.: 2510119

Charger 3844 DC/DC (Part of Molift Air IRC)

Art. no.: 2640101


**Transfer**


Plan the lifting operation in advance to ensure that it is as safe and smooth as possible. Remember to work ergonomically. Assess the risks and take notes. The assistant is responsible for the safety of the user.

Molift Air can be used with both 2-point and 4-point sling bar for different types of transfers; sitting, recumbent or ambulating.

**Using slings**

It is important that the sling has been tested with the individual user and for the intended lifting situation.

 **Read User Manual for the sling prior to use.**

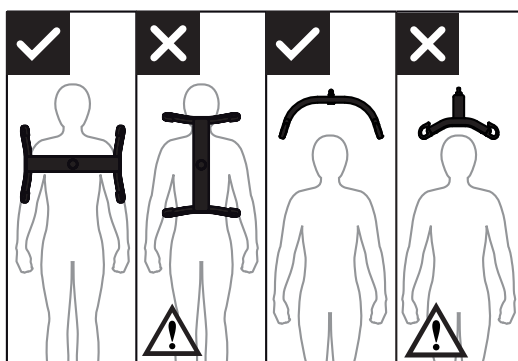
 **Do not to use damaged or badly worn slings.**

**Slings made by other manufacturers**

We recommend only using Etac or Molift slings. Etac shall not be liable for faults or accidents that can occur when using slings made by other manufacturers.

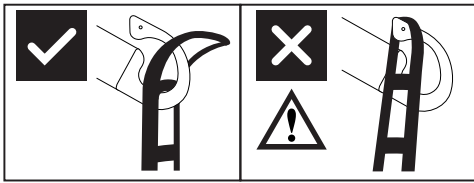
**Lifting and lowering**

When moving the client, stand to the side of the client you are lifting. Make sure that arms and legs do not obstruct the seat, bed, etc. Keep eye contact with the client to help them feel safe.

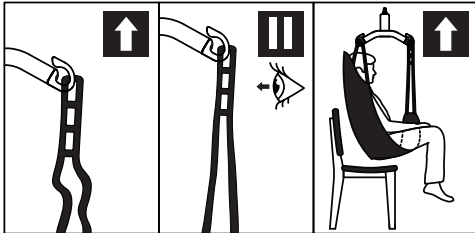


The 4-point sling bar must always be positioned across the client, to prevent the client from unintentionally sliding out of the sling.

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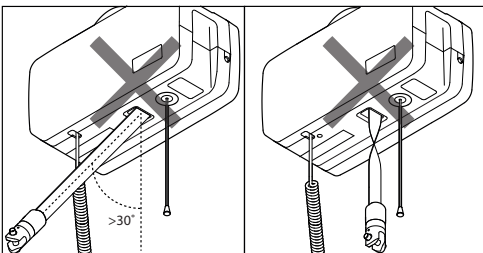
The sling bars hook design prevents sling to be inadvertently detached when mounted correct.



1. Check that the sling is correctly fitted around the client and that the strap loops are correctly fitted to the sling bar hooks.
2. Stretch the sling straps without lifting the client. Ensure that all four loops of the sling are securely fastened to avoid the client slipping or falling.
3. Lift client, and perform transfer.

#### Angle sensor

The hoist has a directional safety feature that prevents lifting if angle on lifting strap is too steep.



If the hoist doesn't respond to Hand control "up" button, it might be because lifting strap angle is too steep, or lifting belt is twisted and sensor is activated.

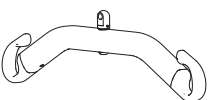
#### Accessories

Recommended optional equipment and accessories for Molift Air.

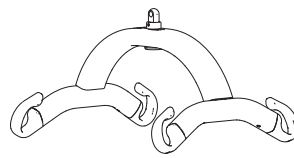
#### Sling bars

Molift Air can be used with 2 or 4 point sling bar.

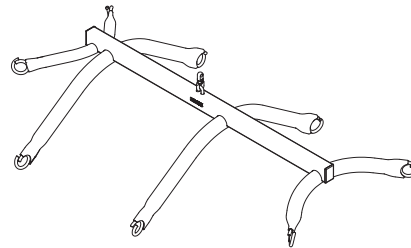
#### Aluminum sling bar



- 2-point Small, aluminum, 350 mm, Art. no.: 2530115
- 2-point Medium, aluminum, 450 mm, Art. no.: 2530120
- 2-point Large, aluminum, 550 mm, Art. no.: 2530125



- 4-point Small, aluminum, 350 mm, Art. no.: 2530210
- 4-point Medium, aluminum, 450 mm, Art. no.: 2530211
- 4-point Large, aluminum, 550 mm, Art. no.: 2530212
- 4-point X-Large, aluminum, 650 mm, Art. no.: 2530213



- 8-point sling bar for fabric stretcher, steel Art. no.: 2140003

#### Scale

- Molift Scale Set (without Sling bar) Art. no.: 1840000

Can be combined with all Molift Air compatible sling bars. Scale is approved Class III. The scale can also calculate BMI (Body Mass Index) with a single touch. Read the manual that comes with the weight scale prior to use.

#### Slings

Molift supplies a wide selection of slings for different types of transfers. The Molift RgoSling sling series is developed to be combined with a 4-point sling bar but the sling also works with a 2-point sling bar. See the combination list in the slings user manual for the correct sling and sling bar combination. The Molift RgoSling sling series is available in sizes XXS – XXL, in polyester and polyester mesh. Complete list of slings and sling bars can be found on etac.com.


- Rgosling Mediumback Padded (XS-XXL)
- Rgosling Highback Padded (XS-XXL)
- Rgosling Mediumback Net (XXS-XXL)
- Rgosling Highback Net (XXS-XXL)
- Rgosling Toilet Lowback (XXS-XXL)
- Rgosling Toilet Highback (XXS-XXL)
- Rgosling Amputee Mediumback (XXS-XXL)
- Rgosling Amputee Highback (XXS-XXL)
- Rgosling Ambulating Vest
- Rgosling Comfort Highback (S-L)
- RgoSling Fabric Stretcher

#### Accessories:

- Rgosling Extension Loops Art. no.: 1721600
- Rgosling Ambulating Vest Groin strap (XXS-XL)

**Cleaning / Disinfection**

Clean on a regular basis. Clean surfaces with a damp cloth using an appropriate pH-neutral detergent. Do not use solvents or strong liquids, this may damage surfaces on the lifter. For disinfection when needed; use isopropyl alcohol. Avoid abrasive cleaning products. Check emergency stop and emergency lowering after cleaning. The lift should not be exposed to running water.



**Make sure not to damage or remove labels when cleaning.**

**Reconditioning**

Follow cleaning and installation procedure, complete periodic inspection and use checklist after installation to recondition the lifter.

**Recycling**

Refer to "Recycling instructions" for how to properly dispose of product. This can be found on [www.etac.com](http://www.etac.com).


**Spare parts**

A list of spare parts is available on request.

**Periodic inspection scope**

Periodic inspection is a visual examination (particularly of the lifter's load bearing structure and lifting mechanism with attachments, brakes, controls, safety devices and person-support devices) according to Periodic Inspection Report for Molift Air 200 and 350.

See [www.etac.com](http://www.etac.com).



**If there is any problems with the lifter that could jeopardize someones safety, the lifter shall immediately be taken out of service and marked "out of order". Do not use the lifter until it is repaired.**

Periodic Inspection shall be performed at least once a year or more frequently if required by local requirements. The inspection must be performed by service personnel authorized by Etac. Contact Etac at [molift@etac.com](mailto:molift@etac.com) for training and authorization or recommendation of an approved service partner.

When performing a periodic inspection, the inspector shall fill out the inspection report for Molift Air. The reports should be retained by the person(s) responsible for servicing the lifter. If the inspection reveals defects and damages, the lifter shall be taken out of operation and marked "out of order" until it is repaired.

**Troubleshooting**

Symptom	Possible Cause/Action
The lifter does not respond to Hand control action	Emergency Stop is activated. Deactivate by pushing button back in.
	The lifters electronics is overheated. Wait for it to cool down.
	Hand control is not plugged in properly. Hand control or plug or cord can be broken an should be replaced.
The lifter does not respond to Hand control up button	Lifting strap angle sensor is activated. Adjust lifting strap or move hoist to reduce lifting strap angle.
When using Electrical Emergency lowering the lifting band goes upwards	Lifting band has gone completely out, and has been winded the wrong way. Use manual emergency lowering. Send lifter to service.