

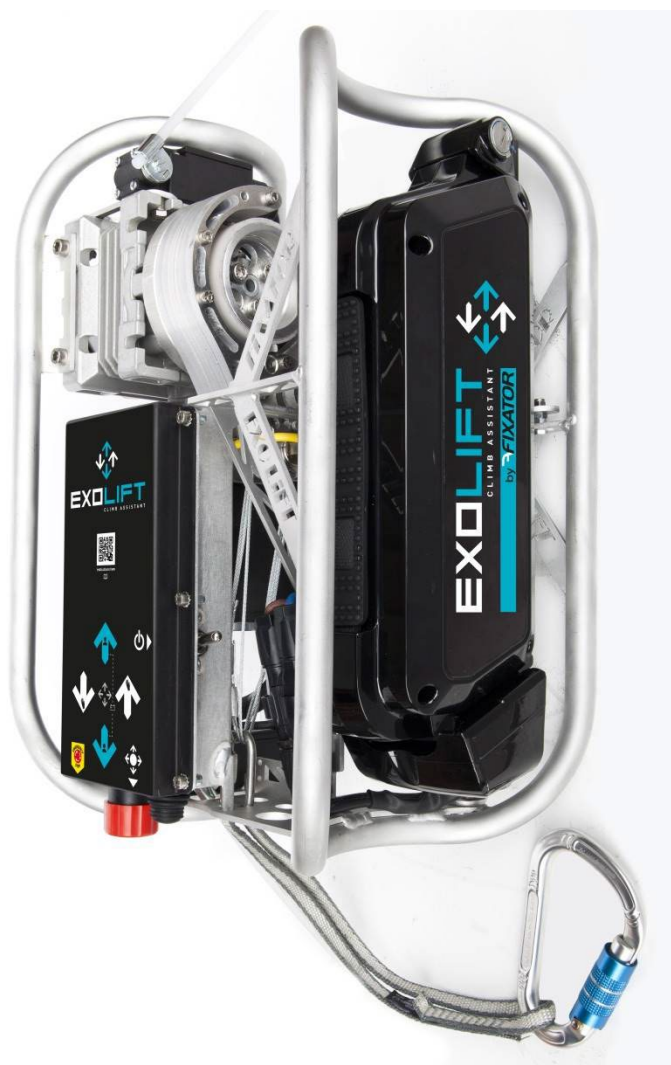
INSTRUCTIONS

EXOLIFT

Climb assistance system

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Page: 1/24
Version: 15/26

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Monitoring of updates	
Date	Description
05/11/2014	Creation
12/06/2015	Adding the unlocking function, updates ad corrections
14/12/2015	Add automatic return function, details §1.3; 2.2.2; EC certificate; list of LED states
04/05/2016	Contraindications, maintenance precisions
13/12/2016	Corrections, details
21 st May 2021	Battery type VL
22 nd Mar 2022	Corrections, refs, max 130m, guiding options
14 th Feb. 2023	Precisions
8 th Apr. 2026	Battery type OZ2

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INSTRUCTIONS

EXOLIFT

Climb assistance system

The original of these instructions is in French. No translation may be used to supersede it.

We thank you for acquiring a Fixator product. In the following pages, we specify the instructions that will enable you to use it safely and maintain it in good operating condition. We request you to read these instructions before any commissioning: no installation, operation or maintenance operation must be carried out before assimilating these instructions. These operations must, in addition, be carried out by persons clearly designated and trained by the owner or the manufacturer.

If the device is used in a manner not specified by the manufacturer, the protection of the equipment may be impaired.

The following pictogram will inform you about the hazards to be monitored: .



1 General information

These instructions concern the use of the Exolift, type 100 and Type 100-A climb assistance systems. Instructions associated with Exolift:

- Strap installation ref. 1813000185
- Quick introduction ref. 1813000193

1.1 Machine description

Exolift is a portable electrical device with strap passage, providing an unlimited stroke along it. Exolift enables to assist a person when climbing up and down a ladder as well as to reduce the physical effort.

Exolift does not perform hoisting.
Exolift is not a fall-arrest system.

The Exolift is designed to assist a person when ascending or descending a ladder and so reduce physical exertion.

The Exolift adapts to the weight of each user.

Thus, the assistance force is optimally adjusted without the risk of lifting the person.

The Exolift adjusts its speed to the user's speed of ascent, up to a limit.

The standard equipment includes:

On/with Exolift:

- Load monitor,
- Variable speed during ascent and descent,
- 1 rechargeable battery (pre-installed on Exolift)
- 1 battery charger
- 1 carrier bag

On each ladder:

- Strap attachment kit on the ladder (not delivered with Exolift) (part no. 100015)
- Flat textile strap (not delivered with Exolift)



The instructions concerning the Personal Protection Equipment (PPE) must be read to use Exolift.

Exolift must be used with a fall-arrest system complying with the EN 353 or similar standard (normally already installed on your ladder), and a harness complying with the EN 361 or similar standard.

The ladder must comply with the EN ISO 14122-4 or similar standard.

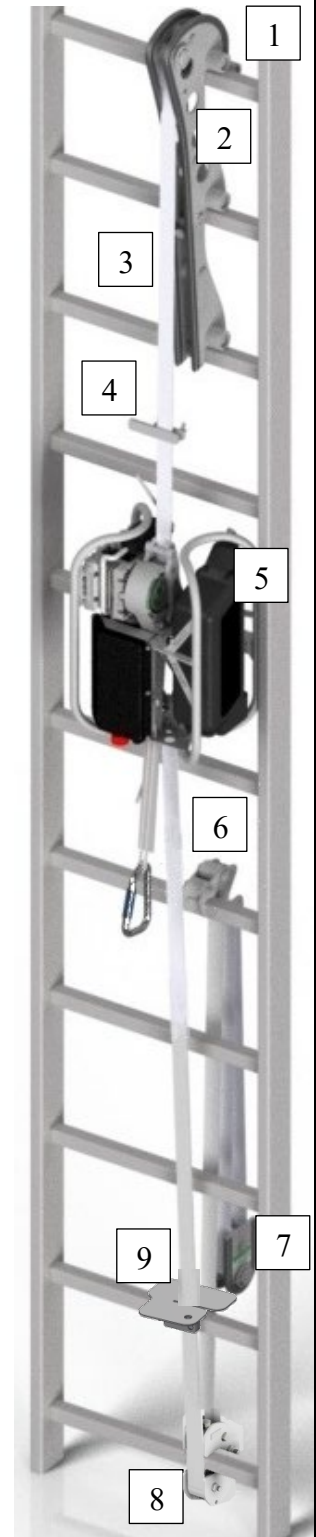
1.2 General description.

Exolift is designed to reduce the physical exertion of professionals who need to use ladders of great height during their interventions.

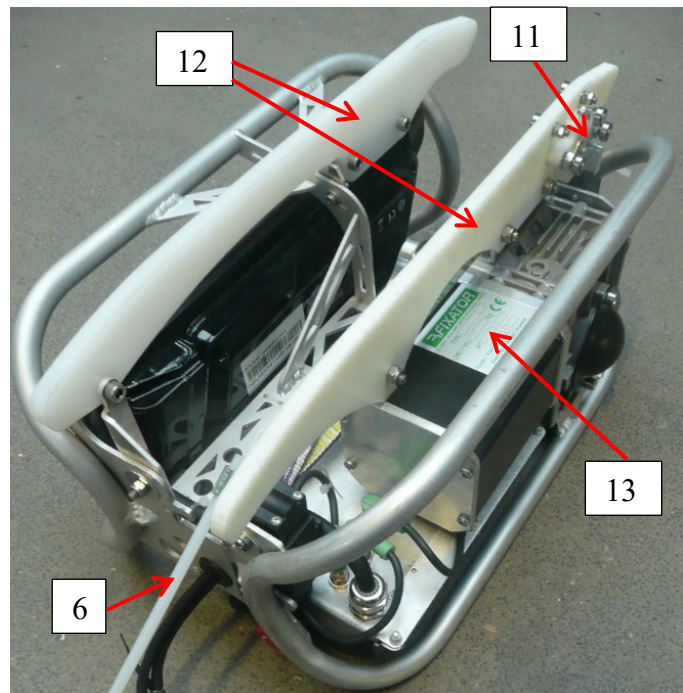
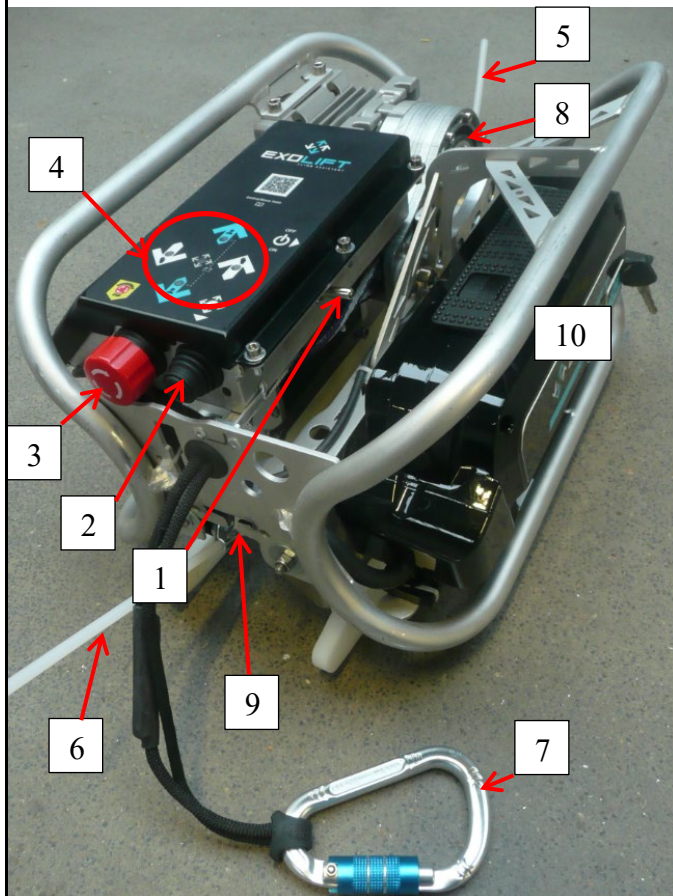
It is intended for professionals involved in interior work, for example in wind turbines. Exolift uses 1 special textile strap. Exolift is fitted with an electronic sensor that prevents the complete lifting of the user.

Standard installation diagram:

1. Ladder
2. Attachment of the strap
3. Special strap
4. Top end of stroke limit switch
5. Exolift
6. Bottom support
7. Counterweight pulley
8. Rung pulley
9. Lower stop



1.3 Description of the device and controls



- 1-OFF/ON switch
- 2-Multi-function control lever
- 3-Emergency stop (stops movements but does not cut off the battery)
- 4- 5 information LEDs (cf. § 4.5):
 - System status
 - Battery charge
- 5-Top limit switch
- 6-Lower limit switch (type 100-A)
- 7- Carabiner
- 8- Motor roller
- 9- Strap guide
- 10- Battery - see § 2.2.6
- Type OZ : Removable with release key and charge indicator button
- Type OZ2 : idem OZ + switch
- Type VL : constant charge indicator
- 11- OPTION Carriage to insert in C-shape fall arrest rails for the automatic return function
- 12 - guide pads for the automatic return function
- 13 - Product Identification CE plate

EN
Read the instructions before use.
This machine is not an antifall device nor a lifting machine.
You must be equipped with a antifall device to use this machine.
Check the belt conformity before each use.

FR
Lire la notice avant utilisation.
Cet appareil n'est pas un système antichute ni un appareil de levage.
Vous devez être équipé d'un système antichute pour utiliser cet appareil.
Vérifier l'état de la sangle avant chaque utilisation.

DE
Lesen Sie die Anleitung vor dem Gebrauch sorgfältig durch.
Dieses Gerät ist weder eine Fallschutzeinrichtung noch eine Hebmachine.
Sie müssen mit einem Absturzsicherungssystem ausgerüstet werden, um dieses Gerät zu verwenden.
Überprüfen Sie den Zustand des Gurtes vor jeder Benutzung.

ES
Leer el manual antes de utilizar.
Este aparato no es un sistema anticaída ni un aparato de elevación.
Usted debe estar equipado con un dispositivo anticaída para usar esta máquina.
Verificar el estado de la cincha antes de cada uso.

activation required

OK NO >

50Kg < < 130Kg

100% 50% 20%

instructions here

OFF ON

Figure1: Control panel

See §4.5 for the meaning of the 5 LEDs

INSTRUCTIONS

EXOLIFT

Climb assistance system

1.4 Compliance with directives and standards; first commissioning

This machine complies with the Machinery Directive 2006/42/CE, with the directive CEM 2004/108/CE, and, with a battery type VL, with FCC part 15 and with OSHA1917.151.

It has been tested according to the standards EN61000-4-2, EN61000-4-3 and EN55016-2-3.

It is manufactured according to a quality process complying with the EN-ISO 9001 standard.

1.5 Technical characteristics

Exolift has a maximum working load (WLL) of 142kg, i.e. one equipped person + the weight of Exolift. This is indicated on Exolift's rating plate.

When Exolift is operating, its tractive force (RL) is variable and defined by the calibration operation (see §2.2.2). Its maximum is 80% of the user's weight, and 96 kg.

The maximum planned ascent is 130m.



Any hoisting operation is prohibited.

Type	100	100 - A (automatic return function)
CMU/WLL (kg)	142	
Maximum weight of the operator (kg)	130	
Tractive force RL (kg)	Variable; from 40 to 96	
Motor P (kW)	0.55	
Voltage (V)	48 - DC	
I starting (A)	12	
Weight (kg)	11.5	12.5
Dimensions (m)	406*266*208mm	406*266*228mm
Operating and storage T° (°C)	0°C* / +50°C	
	<i>*The storage and the use are possible between -10°C and 0°C provided that the temperature of the battery is > 0°C.</i>	
Raising speed (m/s)	Variable, from 0 to 0.4 (24m/min)	
Lowering speed (m/s)	Variable, from 0 to 0.4 (24m/min)	
Returning speed (m/s)	0.25 (15m/min)	
Strap type	Flat polyester strap 30*3.5mm	
Breaking load of the sewn strap (kg)	2500	
Load limiter	Yes	
Top end of stroke	Yes	
Bottom end of stroke	No	Yes
Battery	48V-11.6 to 14Ah-Lithium Ion	

1.6 Machine logbook,

The contents of the logbook of this machine are not provided. It is the owner's responsibility to prepare one or acquire one. The logbook must be conscientiously filled, with, at least, the following information:

- The name of the person in charge of the equipment
- The names of operators and the dates/periods of use
- The number of hours of use
- The replacement dates of straps
- The record of incidents and actions taken to remedy them

- Projected annual overhaul dates and the record of actual dates.

1.7 Instructions for use and general safety instructions

Before first use, charge the battery (see §2.2.6.3). If necessary, reconnect the battery connector.



Before using this equipment, verify that:

- You have read these instructions fully and understood them
- No obstacle will obstruct the desired movement

- The annual overhaul has been correctly completed and has been recorded
- The movements and moving the machine will not confine or trap you
- In order to communicate in case of emergency, take a mobile phone or a radio device with you.
- You have sufficient lighting.



Daily check :

- That the battery is enough charged
- That the mechanisms, emergency stop and the limit switches are operating correctly
- The condition of the strap (see §3.1.6)
- The strap attachment is well locked on the ladder
- That the strap is not jammed or overloaded/over-stretched in the bottom part
- That the strap is not frozen
- That there is no accumulation of snow, ice, debris or materials on the ladder or the strap
- That there are no obstacles along the ladder
- At the end of the work, that the device is shut down ("OFF").
- The proper adjustment of your harness.

Check your Personal Protective Equipment (PPE), following their instructions.

Stop the movements of Exolift to manually work on the fall-arrest system.

Also see the contraindications §2.3.

2 Installation and use

2.1 Instructions concerning the installation, assembly, commissioning and use

The operations of installation and use must be carried out by persons specially trained for this by the manufacturer or his retailers, and authorised by their employer.

2.1.1 Installing the attachment kit and the strap.

See the dedicated instructions ref 1813000185

Except in special cases, after this installation, your equipment must appear as follows (with Exolift installed):

After some return trips on the strap, if necessary, readjust the position of the counterweight and lower stop: see instructions 1813000185.



2.1.2 Removing and installing the battery type OZ or OZ2

To remove the battery, make sure that the OFF/ON switch is on OFF, rotate the key to unlock the latch then remove the battery.

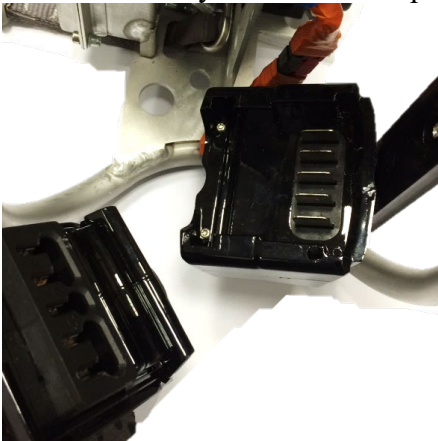
Check the charge state of your battery (according to version). Press here :



Recharge the battery if there remains only one LED (red).

Installing the battery:

Place the battery on the contact pads:



Then push the battery towards the latch; unlock ("CLICK") and remove the key.



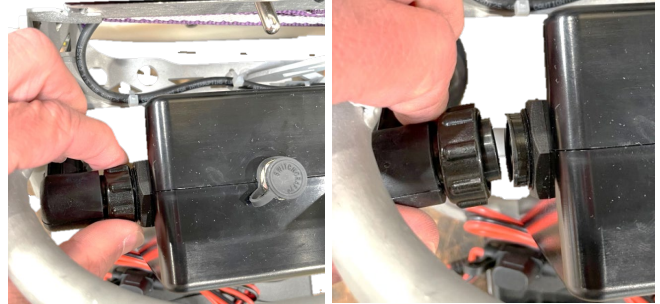
Check the proper locking by attempting to remove the battery.

2.1.3 Removal and installation of the VL battery

This type is not intended to be dismantled frequently.

Set the switch to OFF.

Unscrew and remove the plug:



Unscrew the 5 nuts under the battery



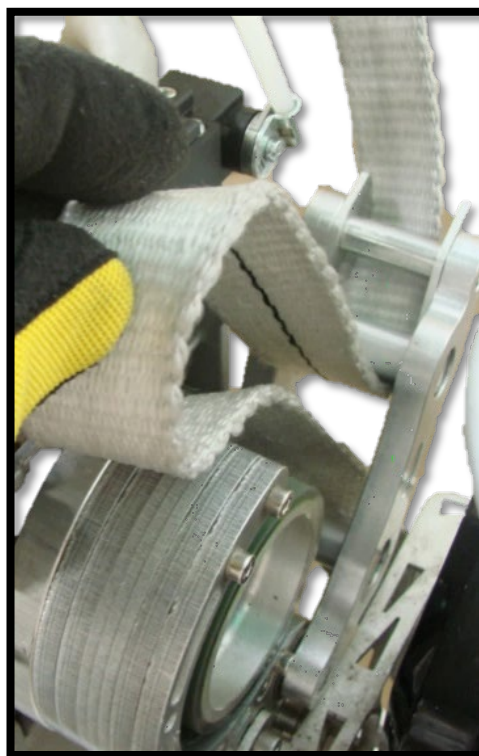
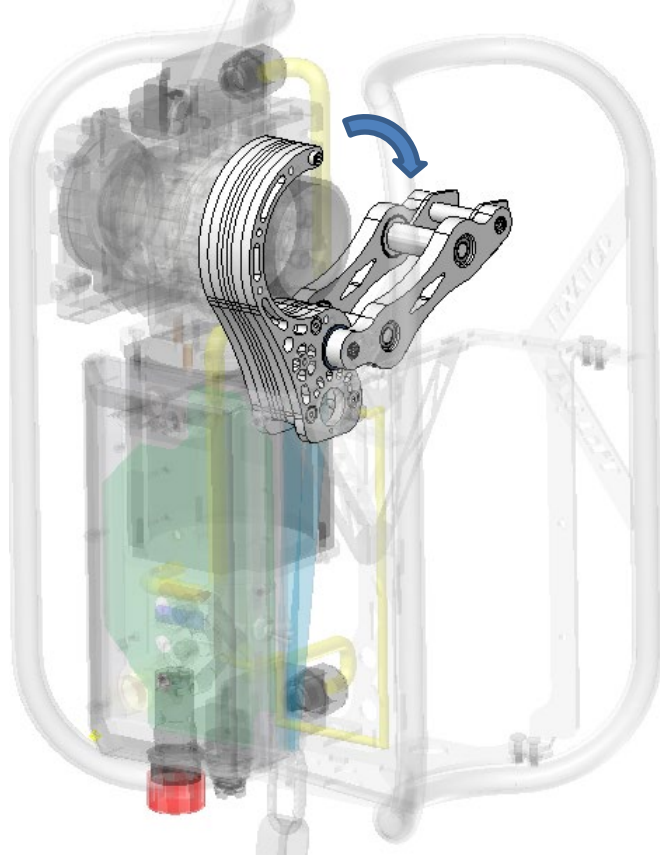
2.1.4 Installing Exolift on the strap

Turn the Exolift OFF if not already done.

Place your foot on a rung, and Exolift on your knee, the control panel against you.

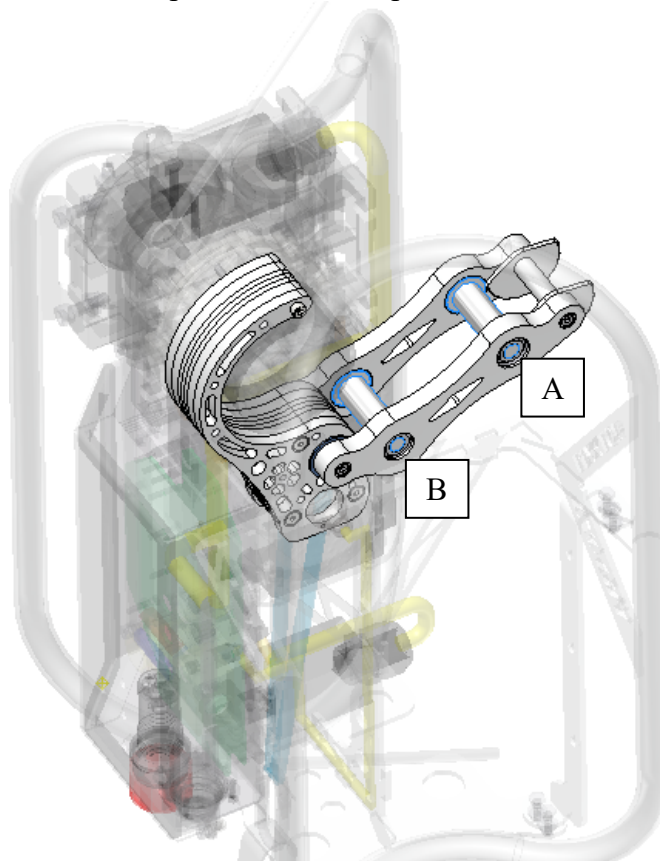


Open the tipping assembly:

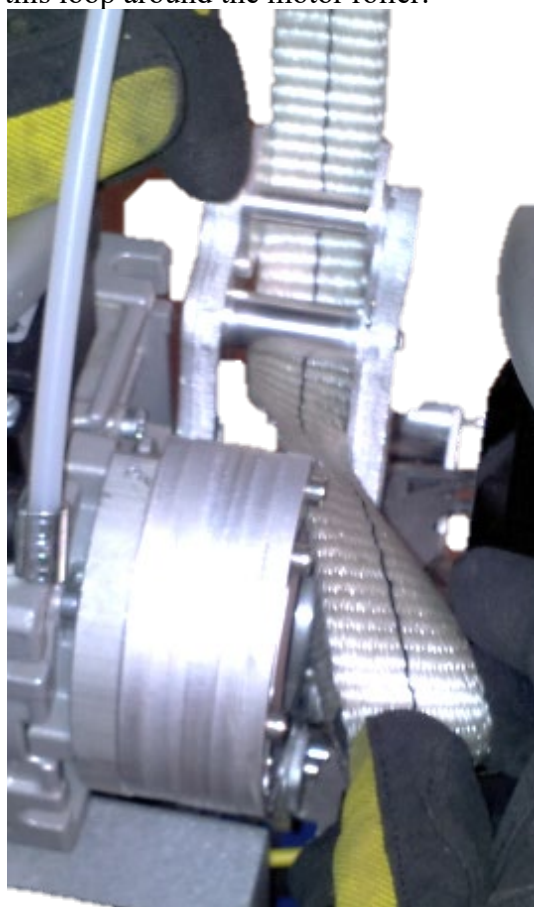


Raise about 15 cm of the strap in order to create a loop.

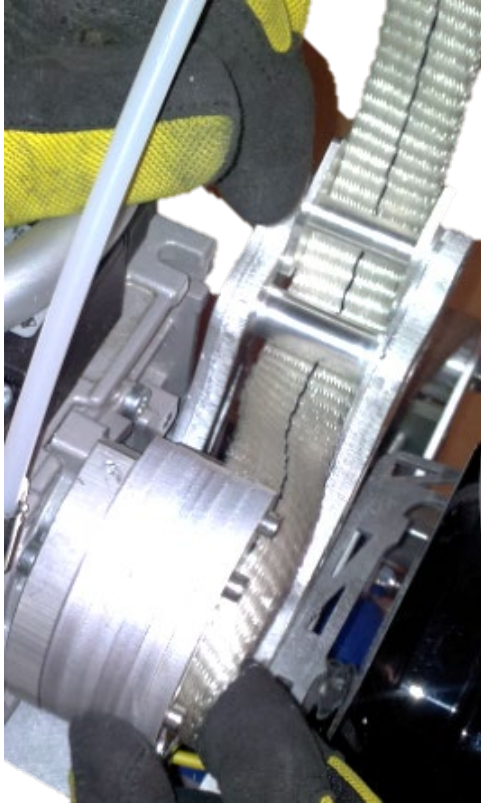
Pass this loop between the 2 spindles A and B:



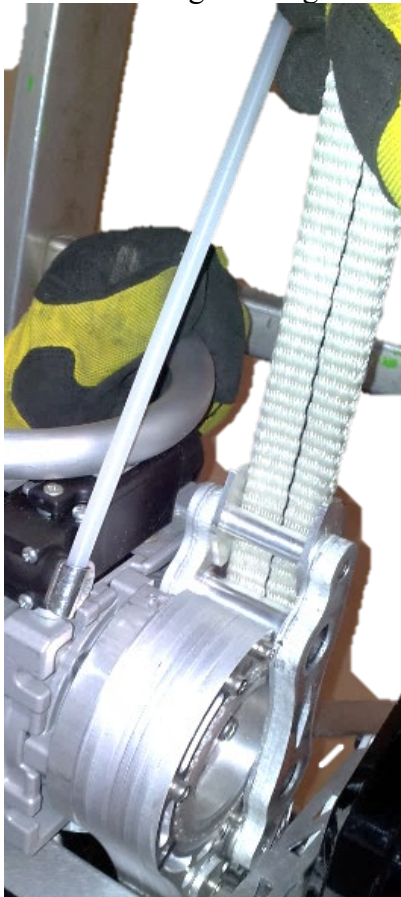
Pass this loop around the motor roller:



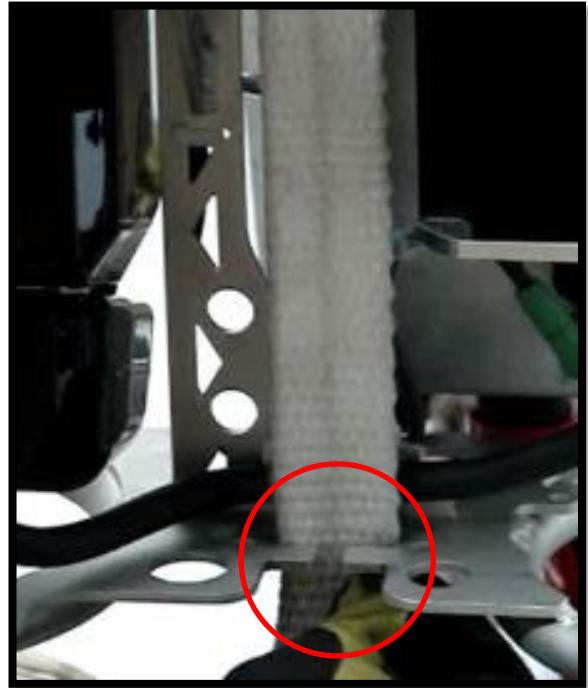
Slide it so that it covers the roller completely.



Let the Exolift descend again to tighten the strap.



Pass the strap through the bottom strap-guide:



The strap is installed.
Check that it is not twisted.

2.1.5 Removing Exolift from the strap

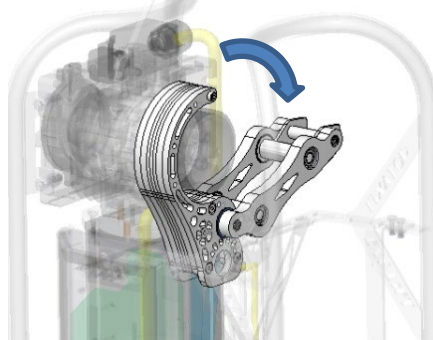
Adjust the position of Exolift using manual controls
(see §2.2.2)

Turn off Exolift.

Remove the strap from the bottom strap-guide.

Place your foot on a rung, and Exolift on your knee.

Open the tipping assembly:



Remove the strap by sliding it around the motor roller.



Your Exolift is no longer maintained by the strap; it can fall.

Place Exolift in the bag, electronic box in front of you, switch in OFF position. Take care, do not twist the limit switch stalks.

2.2 Normal use

(See the list of status codes of the coloured LEDs in the appendix)



Never use Exolift without using a fall-arrest system (cf. 1.2) connected to your harness.



Make sure the carriage is not inserted into the rail (see §2.2.5).

Check that the carabiner and link are not wound in the chassis.

2.2.1 Introduction

Cf. Quick introduction manual (ref. 1813000193).

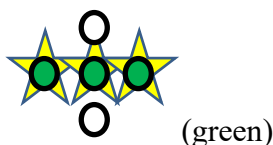
A time for introduction and adaptation to travel speeds and reaction times of the equipment is required. Do not hesitate to restart several times the weighing and raising/lowering assistance functions to get accustomed to them.

2.2.2 Starting and weighing procedure

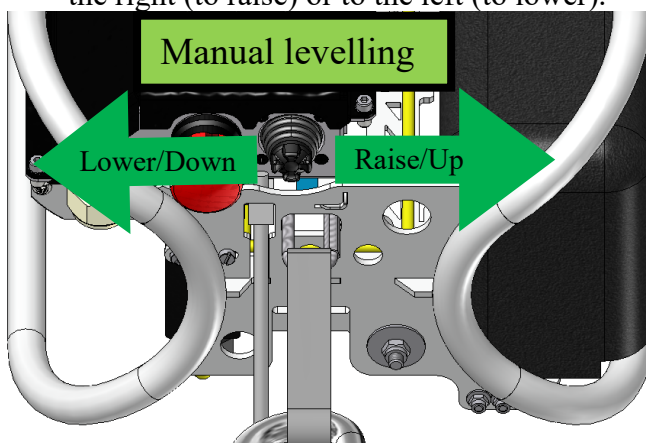
- Install your Exolift on the strap (§2.1.4)
- Connect your fall-arrest system to the rail or the wire-rope.
- If necessary, unlock the emergency stop.
- Press the battery OZ button to turn it on



The LEDs flash regularly:



- Place the Exolift at the proper height by operating the multi-function control lever: to the right (to raise) or to the left (to lower).



Manual mode works only when the tension across the carabiner is less than 5kg.

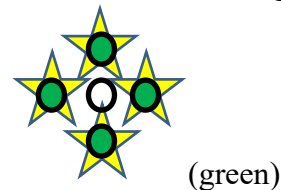
Connect Exolift's carabiner to the sternal or ventral ring of your harness:

Your device must be located above your head during operation, it must not disturb you when climbing up/down the ladder. The controls must remain accessible with the arm.

Weighing:

- Suspend your body completely below Exolift. (check that the fall-arrest system is not engaged). If necessary, climb 2 rungs and use the manual mode to position Exolift above your head
- Push in the control lever for 1 second ("BEEP"), release it, and wait without moving for 3 seconds ("BEEP").

The LEDs now flash in the following manner:



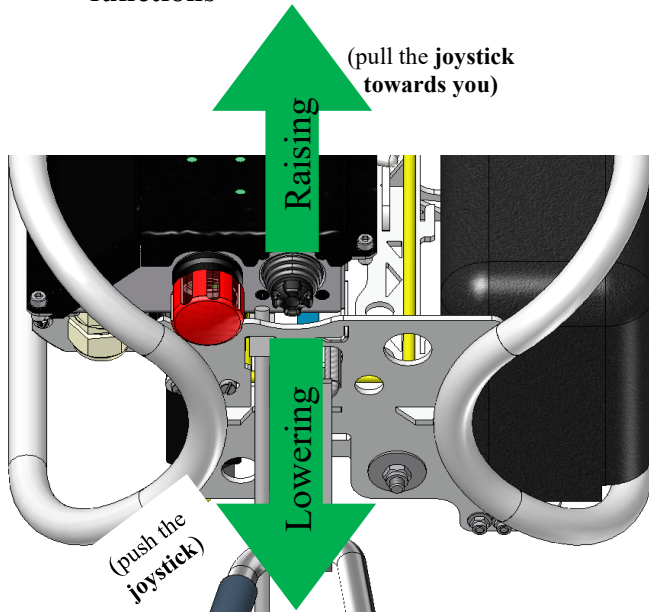
The start-up procedure is complete; you can use the raising/lowering functions.

If the weighing is not compliant (weight too low, too high or too variable for 3 seconds) the display returns to the 3 flashing LEDs; correct the weight and restart.

This weighing operation must be repeated every time Exolift is turned off and after 180s without any movement.

When weighing, if you wear equipment or hang this from your harness, and then unload all or part of this equipment, the weighing step must be redone. Otherwise, you may be completely lifted by Exolift and you will not be able to control the device properly.

2.2.3 Using raising/lowering assistance functions



2.2.3.1 Raising assistance

Check that the carriage is not inserted into the rail.

Position yourself on the ladder, ready to climb. Bend the knees to place a slight tension on the carabiner (the starting weight during raising must be between 5 and 50 kgs.).

Pull briefly the control lever towards you and climb the ladder in the usual way. It is not necessary to keep the button pressed.

During the first uses, the device will swing and rotate on itself. In these cases, do not hold the device. Verify that the link between your harness and Exolift is well aligned, and not twisted. As one goes along, you will adapt naturally your movements to limit this balance.

2.2.3.1.1 Automatic stop

Exolift will stop automatically if:

- You stop
- The tension on the carabiner exceeds 80% of the weight measured during the start-up procedure (§2.2.2): "Overload"
- The top limit switch is activated (item 5).
- The emergency stop (item 3) is engaged
- You climb too fast ($V > 24\text{m/min}$)
- The tension in the carabiner is less than approx. 5kg: "Under load"
- The measurement of the tension on the carabiner does not vary for 10 seconds.
- The battery charge is too low

2.2.3.1.2 Stopping on top of the ladder

Stop at about 1m below the last trapdoor. Turn off Exolift, unhook the carabiner connecting Exolift to your harness, then finish climbing the ladder by gently pushing Exolift to the side, if required. In this way, Exolift will not disturb closing of the trapdoor.

2.2.3.2 Lowering assistance

Position yourself on the ladder, ready to climb down. Apply a slight tension on the carabiner. Push the control lever briefly towards the ladder and start climbing down the ladder in the usual manner. Do not hang from Exolift.

Exolift will stop automatically if:

- You stop
- The tension on the carabiner exceeds 60 kgs or 80% of the weight measured during the start-up procedure (§2.2.2): "Overload"
- The bottom limit switch (optional) is activated
- The emergency stop (item 3) is engaged
- You climb down too fast ($V > 24\text{m/min}$)
- The tension in the carabiner is less than approx. 5kg: "Under load"
- The measurement of the tension on the carabiner does not vary for 10 seconds.
- The battery charge is too low

2.2.4 Passage of trapdoors

When passing trapdoors, when climbing up or down, stop before the trapdoor, open the trapdoor by hand, cross the trapdoor then close it again. Be careful regarding the position of the strap. When closing the trapdoor, make sure that the strap is put back along the ladder so that it is not jammed by the trapdoor.

2.2.5 Automatic return function (Exolift type 100-A)

The automatic return function enables to operate the Exolift without a load, downward, and autonomously.

You can thus return it to a colleague at the bottom of the ladder.

To use this feature:

- The strap must be positioned to the right of the rail
- Your weight must not be registered:
- If necessary, turn the unit off and on again (ON / OFF).

- Ensure that there are no obstacles along the ladder or the safety rail.
- Ensure there is nobody on the ladder
- Ensure the strap is not caught between the rungs of the ladder

2.2.5.1 Installing the Exolift on the ladder

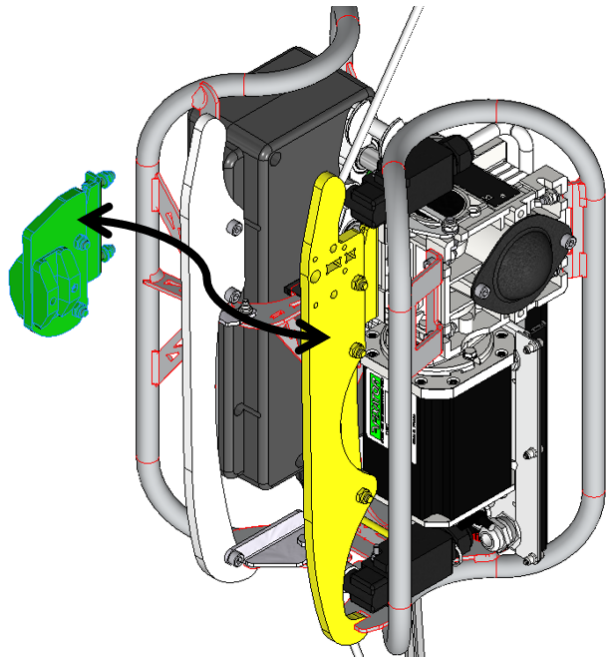
- **Ladder without: C-shaped rail:**

Ladders with two uprights with security rail:

Position the Exolift in its normal position: along the ladder, the pads along the rungs.

Ladders with two uprights with cable :

If there is no obstacle to the descent of Exolift along the ladder, position the Exolift in its normal position: along the ladder, the pads along the rungs

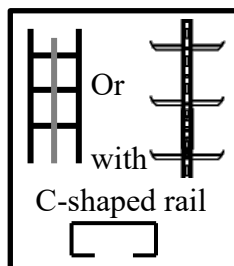


It is not possible to use the automatic return function on **ladders without C-shaped rail and with the following characteristics:**

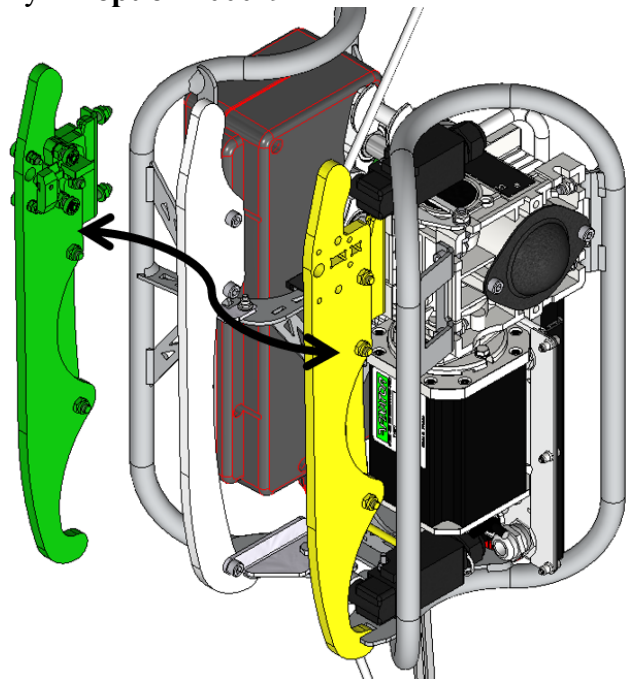
- Ladder with a security cable situated in the center of the ladder. The intermediate cable supports will be obstacles for Exolift.
- Single upright ladder:
- Ladder tilted backwards or forwards

- **Ladder with C-shaped rail:**

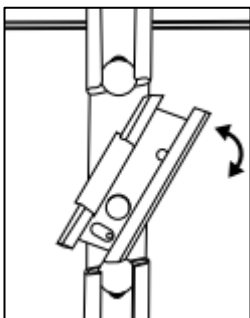
If the ladder has a C-shaped safety rail, you can insert a guide carriage (optional) in the rail.



For a rail without rotary output, replace the left pad by the option 100019 :



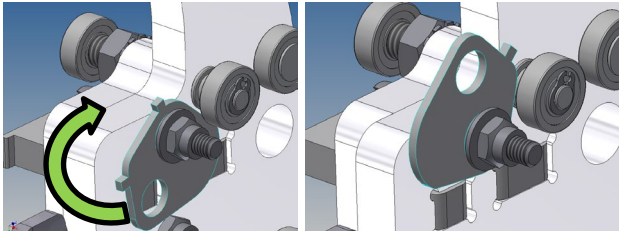
For a rail with a "rotary" output,



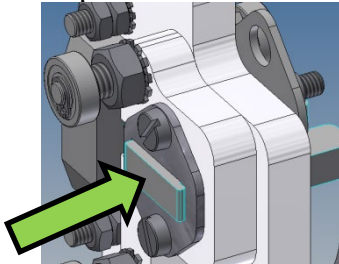
replace the left pad by the option 100162 :

To insert the option 100019 in the C shape rail :

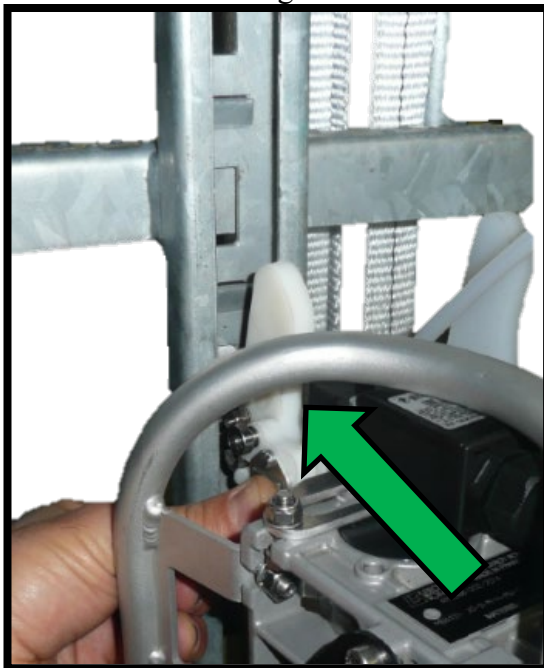
- Raise the latch



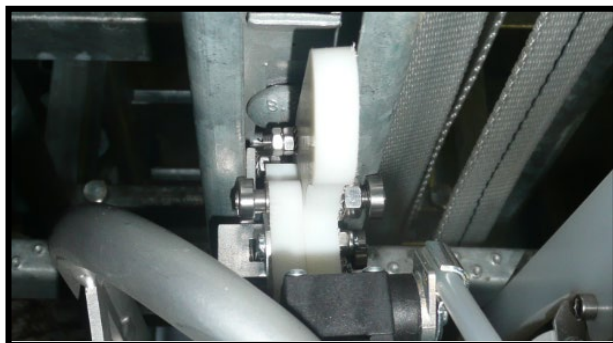
- press on the mechanism :



- insert the carriage into the rail



- and release



The Exolift goes down along the ladder guided by the pads (ladder without C-shaped safety rail) or by the guide carriage.

The Exolift will stop when it reaches the lower stop.



Do not use the ascent or decent assist function with the carriage inserted onto the rail. The carriage is very likely to be damaged.

2.2.6 Battery

There are 3 models of battery and 2 of charger; they are not interchangeable.

Type OZ or OZ2:



Type VL :



Before first use, charge the battery (cf. §2.2.6.3) (type OZ, OZ2 or VL)



or

2.2.5.2 Using the automatic return function

Push the joystick for 5 seconds to send it down.

2.2.6.1 Battery life

The battery has a life of approximately 1000 to 1500m (variable according to the actual assistance level).

When the remaining life is approximately 200m to 500m, the LEDs become orange (§2.1.2 and 4.5);

When the life is less than 100m, the LEDs become red (§2.1.2 and 4.5). If necessary, use the automatic return function of the Exolift (see §2.2.5) to retrieve it at the bottom of the ladder.



As soon as the LEDs become red, recharge the battery (or replace it with a charged battery).

2.2.6.2 Characteristics

Type	OZ	OZ2	VL
Rated voltage	48V		46,8V
Capacity	11,6 Ah	14Ah	11,8 Ah
Manufacturer	Panasonic		Samsung
Technology	Lithium Ion MnCoO2		
Weight of only the battery	3,3 kg	3,6 kg	3,2 kg
Rated charging current	2A		3A
Max. charging current	4A	5A	4A
Rated discharge current	25A		
Max. discharge current	30A	35A	27,5A
T° of use	0/+40°C		-10/+50°C
Long time Storage T°	-20/+20°C – 70%HR		

2.2.6.3 Using the charger

2.2.6.3.1 Recommendations



Do not place anything on the charger.

Do not let any liquid or metal object enter the charger.

Never dismantle or reassemble the charger.

Never connect or disconnect the charge with wet hands.

Do not touch the charger in stormy weather with thunder and lightning.

Use only the charger provided with the battery. It is strictly prohibited to charge the battery with other unsuitable chargers.

When charging the battery, neither the battery nor the charger must be touched.

Do not use the charger on an unstable surface or a surface with black smoke or dust residues or in a damp area.

Keep the charger away from the sun.

When the charger is operating, ensure that the area is well ventilated.



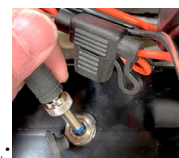
The charger must first be connected to the battery before connecting it to the mains.

2.2.6.3.2 Operating instructions

1 / Place Exolift on OFF.

2 / Disconnect or switch off the battery from Exolift.

3 / Connect the charger to your battery with the connector:



Type OZ/OZ2 : type VL:

4 / Connect the charger to a 220V mains outlet

5 / The red indicator lamp comes on during charging; as soon as the battery is fully charged, this will turn green.

6/ It is recommended to wait for about 30 min after the green indicator lamp comes on, so that the equilibrium phase of cells can be correctly carried out.

7 / Disconnect the charger from the 220V mains outlet.

8 / Disconnect the battery from the charger.

2.2.6.3.3 Recommendations for charging your battery

Carry out complete charging cycles to extend the battery's service life (i.e. avoid disconnecting the charger so long as its indicator lamp has not turned green).

Charge the battery for 12h for the first three times it is used.

Charge the battery in a ventilated and dry room or outdoors at temperatures between +5°C and +35°C. Wait for 10 minutes after extended use before charging the battery.

If you expect your Exolift not to be used for a long period of time (>2 months), and in order to avoid an irreparable deep discharge of the battery, we recommend that you set up an organization that allows you to maintain a charge level between 30

and 60%: for example, check and then charge for approx. 2 hours every 2 months.

After 6 months without use, we recommend charging the battery to 100%, then discharging it to 0% and finally charging it to 60%.

2.3 Warnings concerning the contraindications



- This product is not intended for children or persons with reduced mobility or with disabilities.
- Use the carabiner only to attach your harness; never attach a load to this carabiner;
- Never attach your harness to the Exolift frame.
- Do not attach any load to the Exolift frame.
- Do not hang or hold onto Exolift during raising/lowering.
- Do not operate 2 Exolifts simultaneously on the same strap.

2.3.1 Foreseeable misuses

It is prohibited to use this product:

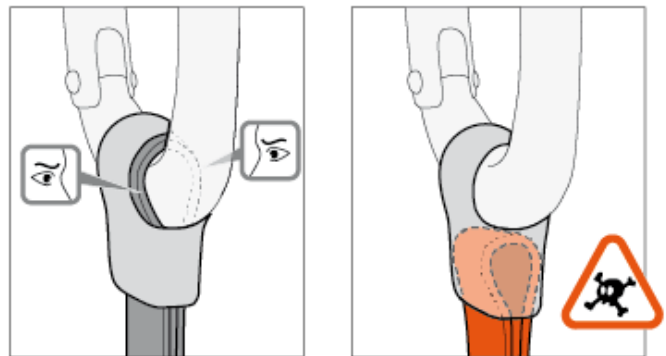
- If the angle of the ladder with vertical is more than 3° (lean back or lean forward), and/or 5° on 5 meters.
- On ladder of more than 150 meters high
- If you didn't do the daily check
- For two or more than two person at the same time on the same Exolift
- Without a communication device
- If you are not a trained professional
- To exert a force or lift a load of more than 130 kgs.
- To help hoist persons if no suitable fall-arrest system is installed
- With another strap than the one delivered or validated by Fixator
- With worn or deformed straps
- On a strap installed outdoors and subject to weather conditions (rain, UV etc.)
- With another battery than the one delivered with the system
- In potentially explosive atmospheres
- To carry out work on energized power lines
- To carry hazardous loads (molten metals, acids, bases, radioactive products, fragile loads, etc.)
- Combined with lifting devices, if this is not described in these instructions

- Without a safe evacuation point for personnel (isolated post, above water, etc.) if this is not described in these instructions
- With a wireless remote control system not described in these instructions
- If meteorological conditions are too bad to climb on the ladder (wind > 14m/s and/or storm for example).
- In case of $T^{\circ} < 0^{\circ}C$ (ok between $-10^{\circ}C$ and $0^{\circ}C$ if battery is $> 0^{\circ}C$) or $> 50^{\circ}C$
- Under drastic conditions (extreme or corrosive environment, strong magnetic fields, etc.),

2.4 Residual risks

Check that your equipment has not been subjected to vandalism, theft or damage.

Check that the carabiner is correctly positioned :



In case of change of user, repeat the start-up and weighing procedure (§2.2.2)

Never unhook your fall-arrest system

Never lockout the safety devices.

Do not lock a control device.

In case of continuous operation for more than 30 min, the temperature of the motor surface can begin to rise significantly.

Do not start an ascension if the LEDs are red and indicate a battery life that is too low. It is possible to return the Exolift to the bottom of the ladder with the automatic return function (see §2.2.5)

Never carry out an intervention at a height alone. Always have the possibility of informing rescuers.

Do not store an Exolift for a long period of time (>2 months) without regularly checking the load.

2.5 Use on single upright ladder

Be attentive to the position of the belt. If this one passed behind a bar, stop and replace the belt before restarting.

It's better to avoid the abrupt movements to avoid that Exolift rocks on sides and that he can jam in the extremities of bar.

2.6 Protective measures to be taken by the users

This equipment is designed to be used with several personal protective equipment items:

- Helmet
- Gloves
- Footwear
- Harness and securing lines
- Fall-arrest system on rail or wire-rope

Regularly check the quality and suitability of your personal protective equipment.

2.6.1 Compatibility with fall arrest system

Compliance tests in accordance with EN 353-1 were carried out on several models of fall arresters.

It is possible to connect Exolift's carabiner to the sternal or ventral ring of your harness. The normal use is with the sternal ring.

Some antifall device with two points of connection will require to connect the carabiner of Exolift on the ventral ring of the harness.

In use, the link between the user and the Exolift is always tense. Whatever happens, the user will always be retained by the Exolift before any fall. If the link is no longer tense, and the user falls, the fall arrest system will trigger normally.

In case the operator falls and the fall-arrest system is engaged:

- If you can, regain support on a rung
- If you can, and if necessary, use the manual controls to level Exolift
- Inform the rescuers.

2.6.2 Locking of the fall-arrest system, Exolift jammed

During raising, if your fall-arrest system gets jammed (in an incorrectly aligned rail, for example), Exolift will continue to climb and will stop with overload.

To release the tension in the attachment, follow the procedure below:

- Press the central joystick button and at the same time push the joystick to the left (by keeping the central button pressed).

- Exolift will descend by 10 cm and will stop.

- Repeat the operation until you can release your fall-arrest system and restart.

2.6.3 Body position in the harness

The assist-strength brought by Exolift is transmitted in your body with the belts of the harness. You can have the sensation to be squeezed by the harness. If an embarrassment appears on certain parts of the body (at the level of thighs for example), reposition your harness. Watch out, never modify the adjustment of your harness.

2.7 Transportation, handling, storage

To transport your machine from one site to another, remove Exolift from its strap.

Use the storage bag.

Place the Exolift in the bag, electronic box in front of you. Take care, do not twist the end of travel stalks.

Store your equipment in a clean and dry area.

2.8 Operating procedure to be respected in case of an accident or failure



In case of a failure during raising or lowering, never unhook your fall-arrest system.

If necessary, connect the securing lines of your harness to the ladder uprights.

2.8.1 Other failures, Exolift out of order

Unhook Exolift's carabiner from your harness, and connect it to a rung of the ladder in order to prevent the equipment from falling.

Remove the strap from Exolift and unload it for maintenance.

3 Maintenance

3.1 Adjustment and maintenance operations

The maintenance operations must be carried out by persons specially trained for this by the manufacturer or his retailers.

Daily check : see § 1.7.

Exolift must be serviced at least once every year. In harsh environments (sand blasting, marine environment, etc.) a shorter frequency may be required.

In some countries, periodic inspections and commissioning tests may be mandatory.

3.1.1 Protection during these operations

Before any intervention, unplug the battery, then put the switch back ON for 10 seconds in order to discharge the capacitors. Put the switch back OFF.

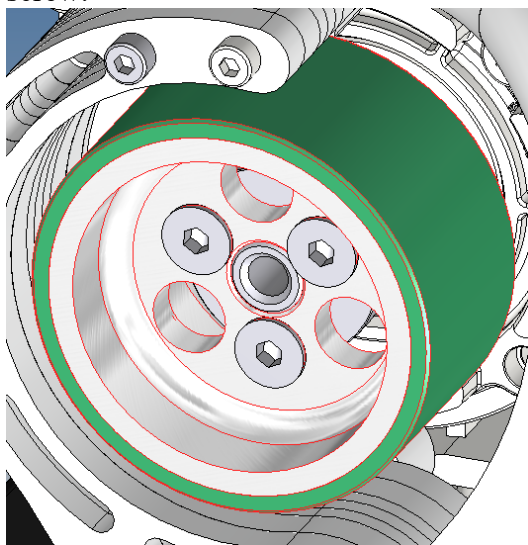
Use suitable tools.

3.1.2 Motor roller

The motor roller must be replaced if its diameter is less than 65.5 mm, or if it shows signs of wear or pull-out of material.

Disassembly: loosen the 3 screw (key BTR 4), remove the motor roller.

Assembly: put the roller on his shaft, screw the 3 screw (key BTR 4, torque 10Nm) with glue for screw.



3.1.3 Operator attachment

Replace the attachments if they show significant signs of wear: pull-outs, cut wires.

3.1.4 Battery charger

It is strictly forbidden to dismantle and reassemble the charger alone. If you do not respect all the instructions and recommendations, you will be solely responsible for any damage caused to these products and will not benefit from any guarantee.

3.1.5 Battery

Do not try and remove your battery. Replace it when its life is no longer sufficient (it will lose 20% of battery life after 1000 charge). If the battery is out of service, bring it to a suitable recycling centre.

3.1.6 Strap

Replace the strap :

- After 5 years of use (see the date on the strap label)
- Or after 400 round trips if it appears before 5 years of use (each round trip on each strap must be noted).

Replace the strap in case of:

- Local deterioration of the strap, different from the general wear
- Important accumulation of small threads (in particular in the zones of frequent stop / starting up)
- Transverse or longitudinal cut of the strap letting appear split or torn away threads
- Cut or deformation of the sewn loop
- Absence of label on the loop sewing
- Damage due to a burn or an excessive heat, indicated by the appearance sheen of fibers
- Presence of at least 5 oily marks on a portion of 1 meter of strap
- Blatant sliding of the roller : check the roller and the strap

3.1.7 Limit switch

If the stalk of the limit switch is twisted with consequences that the limit switch is out of service, change the stalk.

Place the Exolift in the bag, electronic box in front of you. Take care, do not twist the limit switch stalks.

3.1.8 Electronic box

Do not open the electronic box.

If there is an electronic failure, warn the supplier of the equipment.

3.1.9 Troubleshooting table

Faults observed	Potential causes of the fault	Remedies
The motor does not rotate	The battery is empty Battery $T^{\circ} < 0^{\circ}\text{C}$ The motor temperature sensor is activated Load control is activated An end of stroke is activated The motor has a mechanical fault Fault in the control circuit Fault in the power circuit Power supply fault	Recharge the battery Warm up the battery and/or mechanism Wait for a drop in temperature Correct the load Inspect Have a competent person check it
The motor rotates but Exolift does not rise	The motor roller is worn or dirty Fault in the control circuit Fault in the power circuit	Check roller and strap (maintenance) Have a competent person check it
The motor rotates but Exolift does not lower	The motor roller is worn or dirty Fault in the control circuit Fault in the power circuit	Check roller and strap (maintenance) Have a competent person check it
The motor is powered but stalls (chugging)	The motor is blocked Fault in the power circuit	Have a competent person check it

3.2 Spare parts



Use only original FIXATOR spare parts.
Take care to note and communicate the information indicated on the following plate before ordering any spare parts.



FIXATOR
B.P.10041 - 49181 SAINT BARTHELEMY-D'ANJOU - FRANCE

TYPE

CMU / WLL Kg 

N°

Année / Year

Country of origin : France

Main wearing parts or accessories:

Battery type OZ	part no.: 100022
Battery type OZ2	part no.: 100085
Charger type OZ	part no.: 100034
Battery type VL	part no.: 100059
Charger type VL	part no.: 100060
Strap 60m	part no.: 100012
Strap 80m	part no.: 100013
Strap 100m	part no.: 100014
Attachment kit for a ladder 30x30x280:	

Attachment 20cm	part no.: 100015
Attachment 30cm	part no.: 100024
Attachment 50cm	part no.: 100030
Motor roller	part no.: 100031
End of stroke bar	part no.: 100020
Carabiner	part no.: 241773
Carrier Bag	part no.: 100023
	part no.: 100021

3.3 Disposal

The dismantling and disposal of this machine will have to be done in accordance with current regulations. The electrical components, the battery, reduction gear oils, greases, etc. will have to be separated and sent to suitable treatment lines (local regulations may exist).

3.4 Noise emission

The weighted sound pressure level A when Exolift is in "manual" and "raising/lowering assistance" operation is less than or equal to 60 dB (A).

4 Appendices

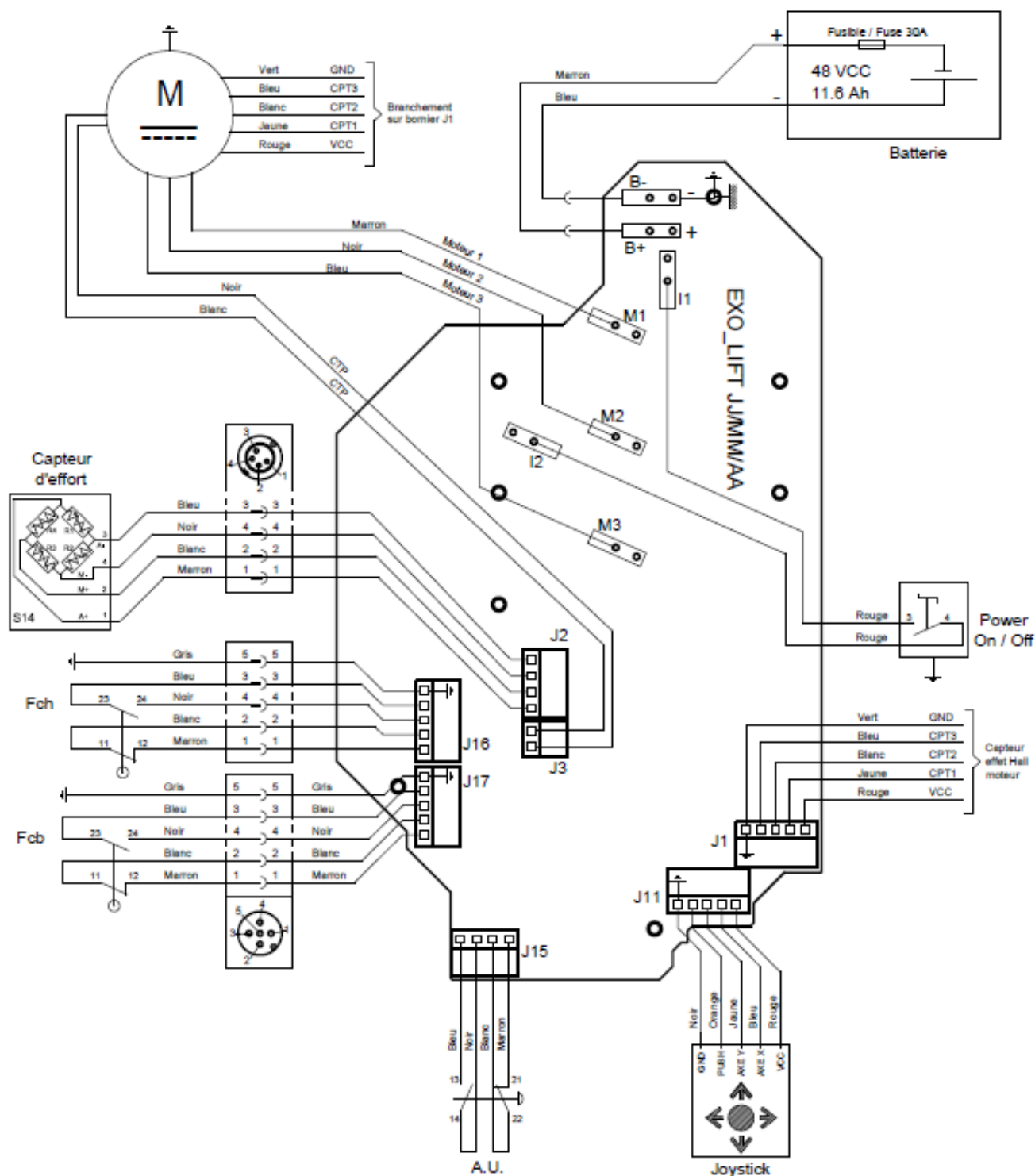
4.1 Meaning of BEEPs

Short beep = action taken into account

Long beep = shut-down, error, fault

2 Beeps close together: max speed reached

4.2 Electrical diagram Exolift type 100 – A (with Automatic return function)



4.3 Copy of the EC certificate of conformity

**DECLARATION « CE » DE CONFORMITE
« EC » DECLARATION OF CONFORMITY
« EG »-KONFORMITÄTSERKLÄRUNG
DECLARACIÓN « CE » DE CONFORMIDAD**
(à remettre avec chaque machine et uniquement pour une « machine »)

Le constructeur / Manufacturer / Der Hersteller / El fabricante :

FIXATOR S.A.S.
P.A. - 8 rue du Bois Rinier - B.P. 10041
49181 St Barthélémy d'Anjou - FRANCE

déclare que la machine (description / nom générique / fonction / type / n° de série) - *Declares that the machinery - erklärt, dass die Maschine - declara que la máquina :*

Description – Bezeichnung – Description	Nom gén. – Name – Nombre	Fonction – Funktion – Funktion – Funcion	Modèle ou Type – Model or Type – Typ – Tipo	N° de série – Serial Number – Seriennummer – Numero
Système d'aide à la montée	EXOLIFT	Assistance sur échelle	100	
Système d'aide à la montée	EXOLIFT	Assistance sur échelle et renvoi automatique	100-A	

est conforme – *complies with* – *ist in Übereinstimmung mit* – *se conforma con* :

- aux exigences des directives européennes suivantes – *the requirements of the followings european directives* – *den Anforderungen der folgenden europäischen Richtlinien* – *las exigencias de las directivas europeas siguientes*:
N° 2006/42/CE - 2004/108/CE

Pour les machines listées à l'annexe IV de la directive uniquement - *for the machinery listed in annex IV only* - *für die Maschine nur in Anlage IV der Richtlinie aufgelistet* - *Para las máquinas listadas en el documento IV adjunto sólo* :
Organisme notifié - *Notified body* - *benannte Stelle* - *organismo notificado* :

n° d'identification – *identification n°* - *Kennnummer* – *número de identificación* :

xxxxxx

n° d'attestation del'examen CE de type - *EC attestation of examination n°* - *EG-Prüfbescheinigung Nr* – *Número de atestado del examen CE de tipo* :

xxxxxxxxxxxxxxxx

- aux normes harmonisées suivantes (datée) (facultatif) – *the following harmonised standards* – *den folgenden harmonisierten Normen* – *a las normas armonizadas siguientes* :

- aux autres normes, recommandations et spécifications suivantes, le cas échéant (indiquer les dates) (facultatif) – *other technical recommendations or standards* – *weiteren technischen Empfehlungen oder Normen* – *a las otras normas, recomendaciones y especificaciones siguientes* :

- Personne autorisée à constituer le dossier technique - *person authorised to compile the relevant technical documentation* - *Bevollmächtigter für die Zusammenstellung der technischen Unterlagen* - *Persona facultada para elaborar la documentación técnica pertinente* :

FIXATOR St Barthélémy d'Anjou – France

Signataire ayant pouvoir pour engager le déclarant – *signatory authorised by declarer* / *bevollmächtigter Unterzeichner* – *Nombre del declarante* :

Nom – *Name* – *Name* - *Nombre*

Myrtil OUVARD

Fonction – *Title* – *Stellung* - *Cargo*

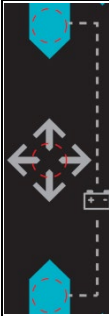
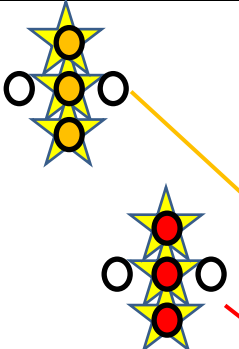
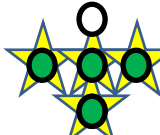
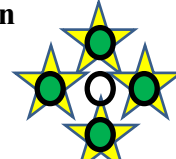
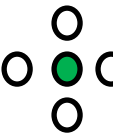
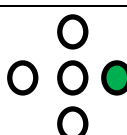
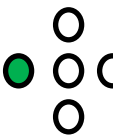
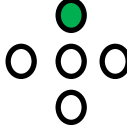
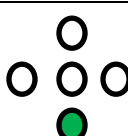
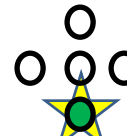
Directeur Industriel

Lieu et date de signature – *place and date* – *Ort und Datum* – *Lugar y fecha de firma* :

St Barthélémy, le 14 janvier 2016

Signature :

4.4 List of status codes of the 5 colored LEDs

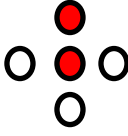
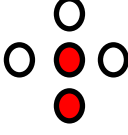
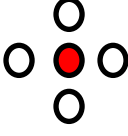
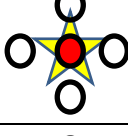
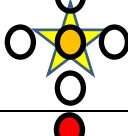
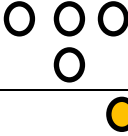
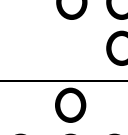
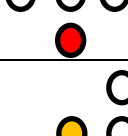
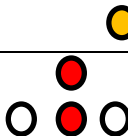
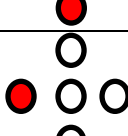
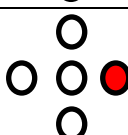
Display	Display of the battery charge
 	Battery charge status symbolized by the colour of 3 vertical LEDs flashing for 1s every 3s: no flashing → 50% - 100% yellow → 25% - 50% red → 10% - 25% Recharge the battery!
Display awaiting an action on the joystick	
green 	Weight of operator not recorded, awaiting choice: ⇒ Manual levelling (raising/lowering) ⇒ Weighing ⇒ Automatic return function
green 	Weight of operator recorded, awaiting choice: ⇒ Operator raising/lowering ⇒ Manual levelling (raising/lowering)
Display with action in progress	
green 	Weighing in progress (Action on weighing button)
green 	Manual levelling in the raising direction in progress
green 	Manual levelling in the lowering direction in progress
green 	Raising assistance in progress
green 	Lowering assistance in progress
green 	Automatic return function in progress

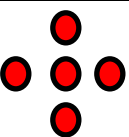
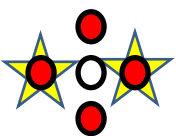
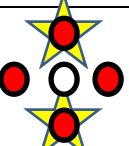
INSTRUCTIONS

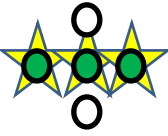
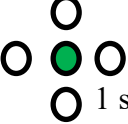
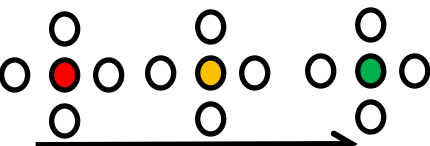
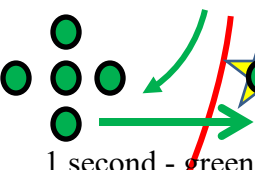
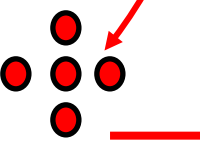
EXOLIFT

Climb assistance system

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Display	Cause of Exolift shut-down
 2 seconds	2 top LEDs red for 2 sec Overload: Stopping of the operator while raising Fall of the operator while lowering or raising
 2 seconds	2 bottom LEDs red for 2 sec Under load: Stopping of the operator while lowering
	Central LED red until unlocking Emergency circuit breakers engaged (Movements prohibited)
	Central LED flashing red until cooling Motor temperature sensor activated (Movements prohibited) Intensive use (motor overheating)
	Central LED flashing orange until cooling Electronic board temperature sensor activated (Movements prohibited) Intensive use (board overheating)
	1 Top LED red until unlocking Top limit switch shut-down engaged (Raising prohibited)
	Top limit switch shut-down engaged (Raising prohibited)
	1 Bottom LED red until unlocking Bottom limit switch shut-down engaged (optional) (Lowering prohibited)
	Bottom limit switch shut-down engaged (optional) (Lowering prohibited)
 2 seconds	3 Central LEDs red for 2 sec Constant load for 10 sec
 2 seconds	1 left LED red for 2 sec Overspeed Abnormal engine speed reading
 2 seconds	1 right LED red for 2 sec Overcurrent Motor current greater than the authorised current

	red	5 LEDs constantly red Battery charge too low Charge status < 10%. (Movements prohibited)
	red	2 LEDs constantly red + 2 LEDs flashing red Communication fault between the two processors of the board
	red	2 LEDs flashing red + 2 LEDs constantly red Measurement fault. Invalid load measurement

Display	During weighing of the operator
green   1 second - green  2 seconds - R/Y/G  1 second - green  1 second - red	Action on joystick: Pressing the central button for 1s → launch of the operator weighing procedure Weighing started then Central LED display red, orange, green over 2s Weighing in progress If Valid measurement, display of 5 LEDs green for 1 second then flashing standby display (weight recorded) → OK If Invalid measurement, display of 5 LEDs red for 1 second then flashing standby display (weight not recorded) → KO restart weighing

This table can also be accessed by the flash-code on the Exolift label.

The original of these instructions is in French; no translation may be used to supersede it.