

User Manual
Powerlift 150 Hoist
Powerlift 135 Mini Hoist
Powerlift 175 Hoist





CONTENTS

1.	Features, warranty, technical service and EC mark	page 31
2.	Safety precautions	page 32
3.	Assembly	page 35
4.	Operating instructions	page 39
5.	Using the sling	page 43
6.	Maintenance	page 48
7.	Technical specifications	page 51



1.- FEATURES, WARRANTY, TECHNICAL SERVICE AND EC MARK

This product is intended by the manufacturer to be used on human beings for the purpose of treatment or alleviation of disease, and treatment, alleviation of, or compensation for, an injury or disability, in accordance with current Spanish regulations on medical devices.

Our products have a 2-year warranty against any manufacturing fault (12 months in the case of batteries). This product may only be used for lifting, lowering and moving patients. If the buyer or the end user allows unauthorised personnel to operate the product or fails to observe the cleaning and maintenance recommendations contained in this manual, all warranty rights and liability claims will be forfeited. For reasons of hygiene, used slings may not be returned.

Tecnimoem sells all its products through a network of distributors. In the event of a problem, the end user should contact the DISTRIBUTOR from whom they have purchased the product. Tecnimoem provides distributors with the training and spare parts needed to undertake maintenance work on the products.

TECNIMOEM 97, S.L. operates a policy of continuous improvement of all its products. Hence, device specifications may change without prior notice.

EC DECLARATION OF CONFORMITY

TECNIMOEM 97, S.L.
Ctra. Logroño-Mendavia Km. 5, 31230 Viana (Navarra), Spain


Declares that the product bearing the CE mark label:

Description: Model: Serial number: Date of manufacture:
complies with the requirements of Royal Decree 1591/2009 of 16 October concerning medical devices, which implements Directive 93/42/EEC as amended by Directive 2007/47/EC. The product has been designed and manufactured in accordance with standard UNE-EN ISO 10535 Hoists for the Transfer of Disabled Persons. Requirements and Test Methods, published in October 2007.




2.- SAFETY PRECAUTIONS

Any person using or assembling these items must first read and understand the assembly, operating and cleaning instructions provided.

Read all safety information contained in this manual (highlighted with the symbol ) carefully. Failure to follow these instructions may result in damage to property and/or personal injury.

2.1. Recommendations

 Familiarise yourself with the safety controls and devices before operating the hoist. Tecnicomoem recommends using the sling supplied with the hoist, as it has been previously tested. If you use a different sling, check that it is EC marked and that its size and other characteristics are appropriate to the patient. Do not use a sling that is frayed or worn, and always follow the instructions provided with it.

Check that the combined weight of the patient and the sling does not exceed the maximum working load displayed on the hoist. Preferably, the patient should be as close to the floor as possible prior to transferring him or her.

A loaded hoist should always be used on flat, smooth surfaces that are free of obstacles. If moving a patient along a sloping surface, the gradient must not be greater than 5° and it is recommended to use the assistance of a helper. Never leave a hoist loaded with a patient on a sloping surface. Transfer the patient with the hoist legs in parallel position at a maximum speed of 3 km/h (0.8 m/s).

Keep the hoist away from water, humidity, splashes and corrosive atmospheres (indoor swimming pools, the sea, etc.). Do not use the electric hoist in the shower or recharge the battery in the bathroom.

Do not force the safety controls and devices. Do not push the mast, the boom or the patient to move the hoist. Do not lift or lower the patient with the rear wheel brakes on. Apply the brakes only to transfer a patient from the hoist to a chair or a bed, or the reverse.



BEFORE MOVING A PATIENT

Consider individual hazards, including:

- Risk of crushing/squeezing.
- Potential falls.
- Disturbed patients.
- Patients with learning difficulties.
- Small children and pregnant women.
- Persons without the mental capacity to recognise unsafe behaviour.
- Unauthorised persons.

Anybody who is authorised to use the hoist must be able to do so in a safe and controlled way.



Due to the continuous, smooth lifting action of the moving parts, there is risk of entrapment. When operating these parts, the user and/or the carer must make sure that there are no body parts in the areas where they may become trapped.

2.2. Identifying risk patients

The following recommendations are aimed at care personnel to help reduce the specific risks that may affect certain patients. These hazards are listed in a number of reports drawn up by national government agencies with recommendations to reduce them.

It is recommended to establish a patient admission procedure that enables identifying risk profiles and applying measures suited to the health condition and behaviour of such patients. Risk profiles include:


- Elderly and/or disabled patients.
- Patients with dementia, mental illness, hydrocephaly or disorientation.
- Agitated and/or aggressive patients.



The measures tested and approved include establishing a protocol with the following points:


1. When and for what purpose the hoist may be used, as well as the type of sling, immobilisation equipment and any other specific measures.
2. When and for what purpose the patient should be immobilised or the use of other means to reduce the risk of falls is required (e.g. laying foam on the floor).
3. If special means are used to immobilise a patient, closely following the instructions and advice provided by the manufacturer.
4. How a patient should be monitored or immobilised, including during intervals.

2.3. Electrical safety precautions

 All the hoist's electrical connections must comply with the International Electrotechnical Commission (IEC) standards. The power supply should be equipped with an earth-leakage circuit breaker with a maximum operating current of 30 mA, as prescribed by standard IEC 364-5-53.


This product complies with the standards EN 60601-1 and EN 60601-1-2 on electrical apparatus and the electromagnetic interference of medical devices. Therefore, it does not interfere or is not interfered when combined with other medical devices that also comply with the electromagnetic standards.

Some apparatus, particularly older devices, that do not comply with electromagnetic compatibility standards may, however, cause or be affected by interference when used with this hoist. If using such apparatus, you must make sure that any potential malfunction will not harm the patient or any other person.

 Before moving the hoist, make sure the power supply cable is unplugged from the mains. Any work on electrical parts may only be undertaken by authorised, qualified personnel.



3.- ASSEMBLY

 No tools are necessary to assemble the hoist, although some parts are considerably heavy. It is therefore advisable to use the assistance of a helper when handling such parts. Pay particular attention to avoid being knocked or trapped.

3.1. Components

Carefully remove the packaging and place the two pre-assembled structures supplied in a clear area. (Pictures 1)

BASE STRUCTURE

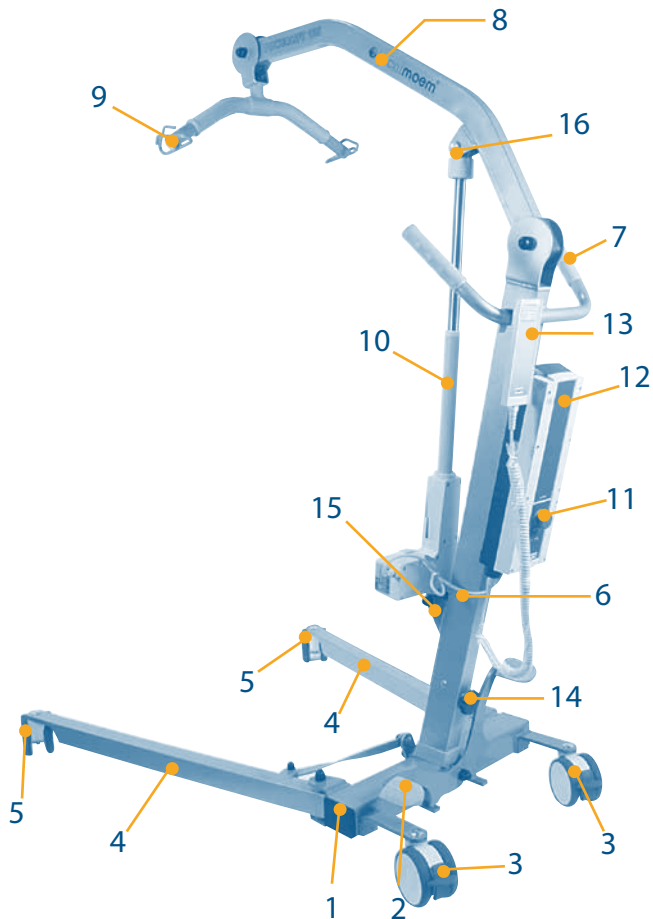
1. Mast base
2. Pedals
3. Rear wheels (with brakes)
4. Legs
5. Front wheels (no brakes)

MAST-BOOM STRUCTURE

6. Mast
7. Handle
8. Boom
9. Two-hook spreader bar
10. Electric actuator
11. Battery charging base
12. Removable battery
13. Hand control
14. Locking knob (initially on mast base (1))
15. Mast bracket (actuator lower support)
16. Boom bracket (actuator top support)

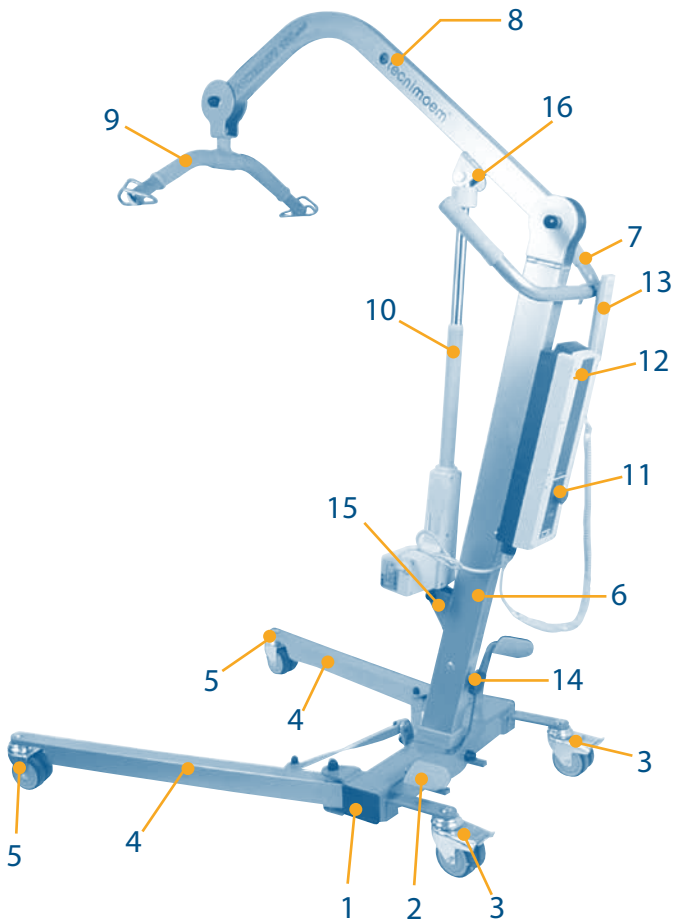


Picture1A: Model Powerlift 150/175





Picture1B: Model Powerlift 135 Mini





3.2. Joining the pre-assembled structures

Place the base structure on the floor with the brakes on the rear wheels (3) on. Remove the locking knob (14), DON'T REMOVE THE GREY PLASTIC PIECES OF THE MAST BASE and insert the mast-boom structure in the mast base (1). Align the holes in the mast (6) and base and put the locking knob (14) back in place, making sure it is tight and secure.

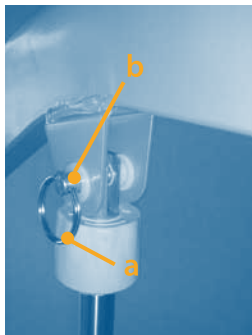


 DON'T REMOVE THE GREY PLASTIC PIECES OF THE MAST BASE



Check that the legs (4) open and close correctly and that the wheels rotate freely.

The actuator (10) is supplied and mounted on the hoist in the factory. If you need to disassemble the actuator, loosen the ring (a) securing the pin (b). To reassemble do the opposite operation. (picture 2)



Picture 2



Connect **FIRMLY** the hand control plug (c) and the actuator jack (d) to the bottom of the charging base (11). (Picture 3)

Make sure that the spreader bar (9) swings and revolves freely and that it is securely attached to the boom (8).



Picture 3

c d

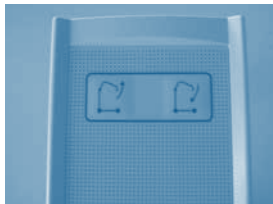
4.- OPERATING INSTRUCTIONS

4.1. Spreading and narrowing the legs

The hoist's legs can be narrowed or spread to allow access to a wheelchair. To spread the legs, step on the left pedal (2). To narrow the legs, step on the right pedal. While transferring patients and to negotiate doors and confined corridors, the legs should preferably be narrowed.

4.2. Lifting and lowering

Lifting and lowering the patient is achieved by the electric actuator's action on the hoist boom. These movements are easy to control using the two buttons (up and down) provided on the hand control. When the boom reaches the upper or lower limit of its run, it stops automatically. (Picture 4)



Picture4

⚠ When lifting or lowering a patient, it is recommended to press and hold the relevant button. Repeatedly pressing and releasing the buttons will cause the actuator motor to start and stop each time, using more battery and shortening its operating lifetime.



4.3. Emergency stop and safety lowering

The electrical system includes a red emergency stop button. When the red button is in the out position, the battery will operate normally. When the red button is depressed, the power from the battery is cut off.

To reset the button to the out position, turn it clockwise and release. (Picture 5)



Picture 5


The actuator is equipped with a quick-release device that allows lowering the patient manually in the event of battery failure. To do this, rotate the grey collar clockwise. The patient will be lowered slowly.

(Picture 6)



Picture 6


4.4. Braking and moving


 While the hoist is stationary, **the brakes should always be on, except when lifting or lowering a patient.** If the wheels are free to rotate during these operations, the hoist will find the centre of gravity of the hoist-patient unit. On the other hand, if the wheels are locked, the patient will be dragged to the centre of gravity of the hoist-patient unit, which will result in discomfort.


4.5. Recharging the battery

If you only have one removable battery and one charging base, place the hoist near an electric socket, connect the power supply cable to the charging base and plug into the mains (110-220V). **While the battery is charging the actuator fails, the emergency stop should not be pressed and green LEDs “on” and orange “charge” light. When fully charged the orange LED “charge” will turn off. The green light “on” will remain on until you disconnect from the network.**



 If the hoist is used daily, it is recommended to recharge the battery during the night. The charger will not allow the battery to overcharge.

 When not using the hoist, it is recommended to recharge the battery at least once every three months to ensure it is always in good working condition.

 Do not disconnect the black charger jack plug by pulling the cable. When not recharging the battery, it is recommended to keep the mains cable plugged into the charging base to prevent any liquids accidentally entering the socket. (Picture 7)




Picture 7

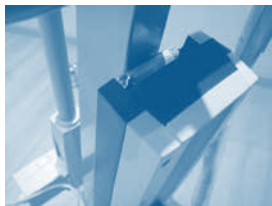


Picture 8

If you have an extra charging base, you can remove the battery from the charging base mounted on the hoist and charge it using the extra charging base, suitably located near a mains electricity socket. (Picture 8)

4.6. Changing the battery

To remove the battery from the charging  base, hold the upper handle, press and remove carefully of its support. To place the battery back in the charging base, slide it on position, join the upper handle on the support until you hear a click. (Picture 9)



Picture 9



4.7. Overload

Control box beeps twice if the actuator is overloaded (above the current limit), it will cut the current and the actuator will stop. The actuator can be started again when the overload is removed.


4.8. Improper use

Improper use of this hoist may result in injury to the users and/or damage to the device, in addition to invalidating the warranty. Examples of improper use are:

- Use by persons who have not read this user manual and/or who have not been trained by a member of the authorised personnel.
- Use of the hoist, functions, accessories or movement by persons not qualified to operate the device safely.
- Use of the electrical functions by more than one person simultaneously.
- Use with a load exceeding the maximum working load displayed on the hoist.
- Faulty connection to the mains when charging the battery.
- Connecting any devices to the hoist that have not been authorised by the manufacturer.
- Pulling the power supply cable to move the hoist.
- Cleaning the hoist with excessive water, pressure jets or in a wash-tunnel.
- Using the hoist outdoors or to move a patient inside a vehicle.
- Using the hoist on soft, unprepared terrain.
- Using the hoist on terrain with a slope gradient greater than 5° (loaded with a patient).
- Extreme, intensive use of the actuator failing to observe the maximum working load displayed on the label.
- Using devices and/or accessories other than those recommended by the manufacturer.
- Any other use of the hoist that is not in accordance with its intended purpose.



5.- USING THE SLING

 Check that the sling is in perfect condition and fits the patient's size and other characteristics. Tecnicmoem recommends using the sling supplied with the hoist, which may be used with patients having a high degree of physical dependency provided that they have good head control. This sling allows easy access by technical and assistant personnel and may be used both on a sitting and a recumbent patient.

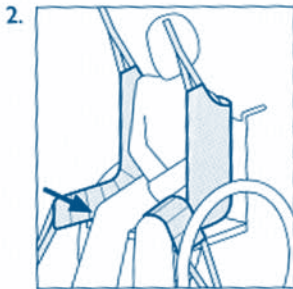
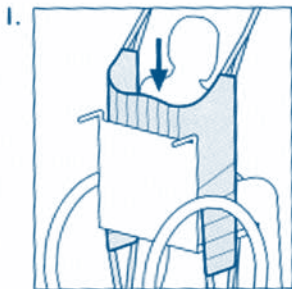
5.1. Inserting the sling in a chair or wheelchair

Lean the patient forward ensuring that they are well supported to reduce risk of falling and to promote feelings of security.

Slide the sling down behind the back of the patient in a central position with the aperture apex aligned with the base of the spine.

Sit the patient back against the sling (Figure 1).

Pass the leg support towards the front of the chair to each side of the thigh and then pass each leg support under each thigh (Figure 2).





5.2. Inserting the sling in bed or on the floor

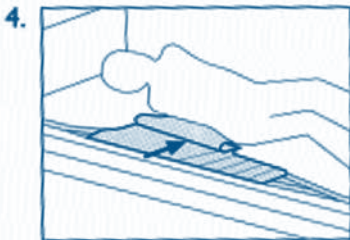
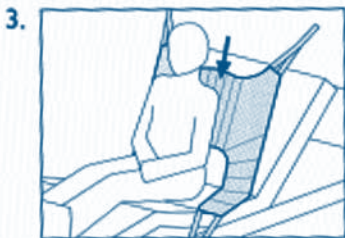
If the patient is able to sit up from the bed or floor, this will ease the operation. Lean the patient forward ensuring that they are well supported to reduce risk of falling and to promote a feeling of security.

Slide the sling down behind the back of the patient in a central position with the aperture apex aligned with the base of the spine.

Sit the patient back against the sling (Figure 3).

Alternatively, if the patient does not have sufficient trunk control, roll the sling to mid-way and roll the patient to one side to position the rolled up sling under the lifted side. Ensure the centre of the sling is placed centrally along the spine. Roll the patient to the other side, unroll the sling and roll the patient back into position on the sling (Figure 4).

Bend the knees one at a time to apply the sling under the legs.





5.3. Using the legs straps

Option 1: Crossed legs straps. For maximum safety, cross the legs straps. This will reduce the risk of forward pitching and also maintain a better alignment of the hips and lower limbs (Figure 5).

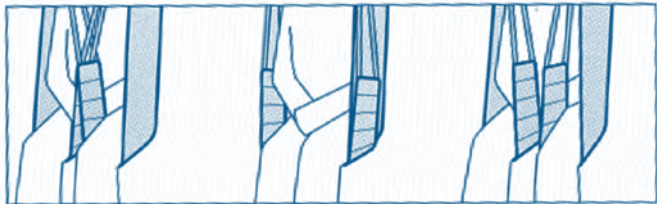
Option 2: Looping the leg straps together. If the patient is an amputee or feels this is more comfortable, place each individual leg strap under both legs. Ensure that the patient is not prone to spasm and that there is no risk of forward pitching (Figure 6).

Option 3: Uncrossed leg straps. Apply each leg support under each leg, but do not cross the straps. This can be recommended when the patient has abdominal sensitivity or requires intimate hygiene (Figure 7).

5.

6.

7.






5.4. Attaching the suspension loops to the lifting system spreader bar

Attach the shoulder and head loops before the leg loops. The sling can be used on spreader bars with 2 or 4 attachment points. For security and comfort reasons, the width of the spreader bar must correspond with the size of the sling.


The position of the patient in the sling can be adjusted by using the different adjustment straps. Using shorter loops at the shoulders and longer loops at the legs will result in a more vertical lift, which will assist with transferring the patient to a chair or wheelchair. By lowering the loops at the shoulders and shortening the loops at the legs, a more reclined position can be achieved, which is more suitable for a chair-to-bed transfer.

 Do not use the end loops – these are safety attachments in case any of the other loops should break (Picture 10).



Picture 10

5.5. Sling safety and maintenance (Figure 8)

 The sling is 100% polyester. The materials used in its manufacture are hypoallergenic. Preferably, natural fibres have been used for the surfaces that come into direct contact with the skin. No skin reactions have been reported, but if any should appear it is recommended to consult with the prescriber.


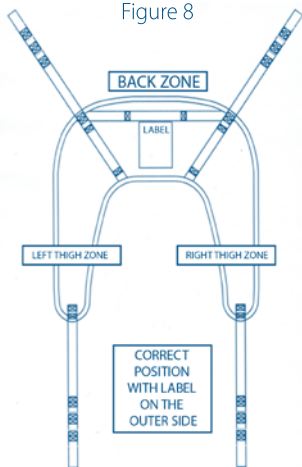
 Choosing the right size of sling and correctly fitting it on the area requiring treatment are crucial to ensure its purpose is fulfilled safely and efficiently, with a satisfactory lifetime. Bear in mind that a loose sling may diminish its therapeutic efficacy and an excessively tight sling may have an adverse effect on blood circulation and/or illnesses other than those you set out to treat.

Figure 8



SAFETY Never use with loads exceeding the maximum working load of the hoist (as displayed on the hoist) or the sling (200kg).

Before using a sling on a patient, check that it is in perfect working condition. It is recommended to use it previously on healthy persons to become familiar with its use.

Do not use the sling if it appears torn, worn, frayed or distorted.

FUNCTIONS AND DIRECTIONS FOR USE

Designed to transfer patients safely and comfortably, both for the patient and for the care personnel.

The sling provided is suitable for patients with sufficient head mobility.

It may be used on a sitting or recumbent patient

and with both legs strapped together or separately, to accommodate to the patient's degree of mobility.

SLING CHARACTERISTICS

Manufactured with ultra-absorbent Thermo-tex treatment to efficiently prevent the growth of bacteria and smells. Breathable, ultra-light, quick-drying and with high tensile strength. 100% polyester. Adjustable at three heights, with safety attachment.

WASHING AND DRYING


Recommended 30° wash using neutral soap. Do not bleach or dry-clean. Do not iron. Dry on a flat surface. Do not expose to direct sunlight or any source of heat. Do not tumble dry.





6.- MAINTENANCE

6.1. Safety rules for cleaning and disinfecting

 The hoist has been designed for easy cleaning and optimal disinfection. Failure to observe any of the following recommendations may result in damage jeopardising the proper operation of the hoist and the warranty of the material.

- Make sure the hoist is immobilised and disconnected from the electricity mains.
- Press the red stop button to shut off the electrical functions.
- Never clean the hoist with copious water, with a high-pressure jet or in a wash-tunnel.
- Do not use water at a temperature above 60° C.
- Avoid any excess water on the connector sockets.
- Dry the hoist thoroughly before using again.

6.2. Recommended products and materials for cleaning and disinfecting


- Clean cloths, disposable or recyclable. Cleaning gloves.
- A diluted solution of detergent or disinfectant, or a spray-on disinfectant.

6.3. Recommended method for cleaning and disinfecting

- Use a cloth to clean from top to bottom and from the cleaner to the dirtier parts.
- Dampen the cloth as often as necessary and wring out excess water.
- Allow the product to dry for the period of time recommended by the manufacturer to ensure maximum efficiency.
- If necessary, rinse following the instructions provided by the disinfectant supplier.
- Change the cloth when cleaning from the less dirty to the medium dirty or very dirty parts.
- Change the cloth to start cleaning another hoist.
- Dry the hoist after cleaning.



6.4. Safety rules for maintenance

 Maintenance operations may only be performed by duly qualified and authorised technical personnel. Contact your local Tecnimoeem 97, S.L. distributor for any specific issue in connection with maintenance and/or servicing.

Before performing any maintenance or repair operation:

- Make sure the hoist is immobilised (if no movement is envisaged) and disconnected from the electricity mains.
- Press the red stop button to shut off the electrical functions.
- Do not under any circumstances open or puncture an electric motor.

6.5. Preventative Maintenance

It is advisable to carry out a yearly maintenance check of the hoist and its accessories to ensure they are kept in good working order. Special attention should be paid to the following aspects:

- Operating controls and mechanisms.
- The hinges where the hoist and accessories move.
- The condition of the electric cables and the water-tightness of the electrical devices.
- The condition of the sling (wear and fraying, tears, distortion, etc.).

It is recommended to grease the hoist's hinges regularly.

Adapt the frequency and intervals of maintenance checks to the condition of the hoist and the specific circumstances of its use.

6.6. List of spare parts

Replacements for the electrical equipment (including the battery) and the sling supplied with the hoist are available on request.

6.7. Transport and storage

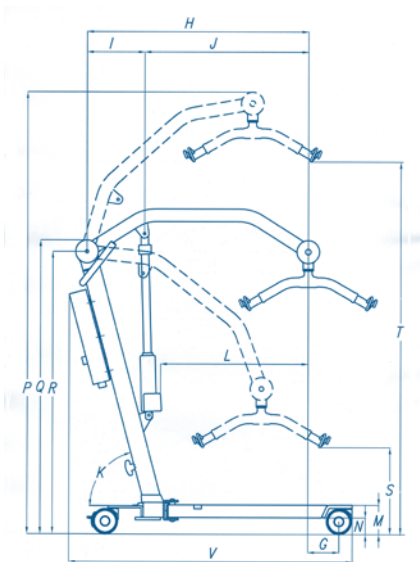
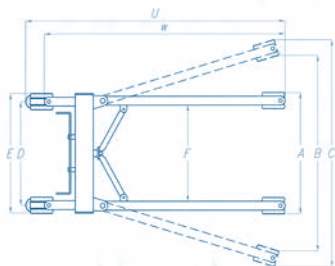
All necessary precautions must be taken to ensure the safe transport of the hoist and its accessories, avoiding knocks and dust.

During transport, the hoist must be in the low position, with its functions disconnected and the brakes on the wheels on. Additionally, it must be secured with straps and protected against water and humidity (75%), at a temperature between -20°C and +50°C.

6.8. Troubleshooting

PROBLEM	CAUSE	REMEDY
The actuator is not working	The red emergency stop is activated	Turn the red button clockwise to deactivate
	The battery is connected to the electricity mains for recharging	Unplug the black power supply cable from the mains
	The battery is low	Recharge the battery
	The battery is not properly connected	Remove the battery and put it back in place
	The hand control or actuator cables are not properly connected	Insert the cables correctly to the bottom
	Hand control and/or actuator failure	Replace the hand control and/or the actuator
The battery will not charge	Mains failure	Check mains supply
	Malfunctioning battery and/or charging base	Replace the battery and/or the charging base
The actuator stops	Hoist overloaded	Reduce the load and wait a few minutes
	The battery is low	Recharge the battery
Noisy hinges	Lubrication is required	Apply lubricant to the hinges
The patient cannot be lowered	Actuator and/or hand control failure while the boom was raised	Lower slowly the patient turning the collar on the actuator (see 4.3. above)
The mast has too much clearance with the mast base	The grey plastic pieces of the mast base are been removed	Put the grey plastic pieces on the mast base again.
The wheels do not rotate or brake properly	Dirt	Clean the wheels

7.- TECHNICAL SPECIFICATIONS

Forward 



POWERLIFT 150 HOIST

Approx. size (cm)	A	B	C	D	E	F	G	H	I	J	K
	54	83	102	46	54	43	23	88	23	65	75°
	L	M	N	P	Q	R	S	T	U	V	W
	57,5	11,5	6,5	174,5	115,5	111	34	147	116	123	108

- **Height:** minimum 115.5 cm (Q) maximum 174.5 cm (P)
- **Width:** minimum 54 cm (A) maximum 102 cm (C)
- **Length:** 123 cm (V)

- **Internal width at maximum reach:** 77 cm
- **Reach from base with legs spread to 700 mm:** 57 cm
- **Maximum reach from base:** 60 cm
- **Maximum reach at 600 mm (benchmark):** 59 cm
- **Turning radius:** 135 cm.

- **Maximum working load 150 kg** (including sling)

- **Sound pressure** <55 dBA

- **Total weight (unloaded):** 34 kg
(Base structure: 16.5 kg) – Mast-boom structure: 17.5 kg)

- **Duty cycle:** 2' on /18' off
- **Battery charge:** 40 complete cycles
- **Expected operating lifetime:** 11,000 cycles at maximum working load (adhering to the maintenance and storage guidelines set out above)

- **Operating forces**
Finger <5 N Hand/arm <105 N Foot <300 N



POWERLIFT 175 HOIST

Approx. size (cm)	A	B	C	D	E	F	G	H	I	J	K
	64	94,5	114	55,5	63	52	34	94	24	70	75°
	L	M	N	P	Q	R	S	T	U	V	W
	63	11,5	6,5	186	133	128	45	159	128	136	120

- **Height:** minimum 133 cm (Q) maximum 186 cm (P)
- **Width:** minimum 64 cm (A) maximum 114 cm (C)
- **Length:** 136 cm (V)

- **Internal width at maximum reach:** 82 cm
- **Reach from base with legs spread to 700 mm:** 38 cm
- **Maximum reach from base:** 62 cm
- **Maximum reach at 600 mm (benchmark):** 61 cm
- **Turning radius:** 150 cm.

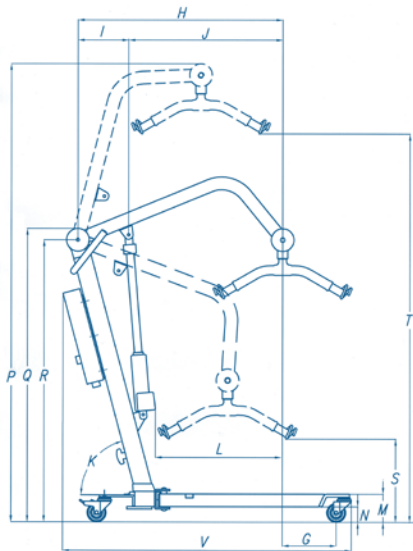
- **Maximum working load 175 kg** (including sling)

- **Sound pressure** <55 dBA

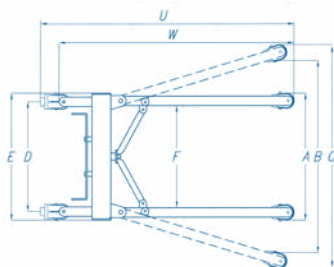
- **Total weight (unloaded):** 36,5 kg
(Base structure: 18.5 kg) – Mast-boom structure: 18 kg)

- **Duty cycle:** 2' on /18' off
- **Battery charge:** 40 complete cycles
- **Expected operating lifetime:** 11,000 cycles at maximum working load (adhering to the maintenance and storage guidelines set out above)

- **Operating forces**
Finger <5 N Hand/arm <105 N Foot <300 N



Forward →





POWERLIFT 135 Mini HOIST

Approx. size (cm)	A	B	C	D	E	F	G	H	I	J	K
	54	84	96	47	53	43	22	81	20	61	75°
	L	M	N	P	Q	R	S	T	U	V	W
	52	11	6	181	116	111,5	33	154	106	113	99

- **Height:** minimum 116 cm (Q) maximum 181 cm (P)
- **Width:** minimum 54 cm (A) maximum 96 cm (C)
- **Length:** 113 cm (V)
- **Internal width at maximum reach:** 77 cm
- **Reach from base with legs spread to 700 mm:** 57 cm
- **Maximum reach from base:** 60 cm
- **Maximum reach at 600 mm (benchmark):** 59 cm
- **Turning radius:** 122 cm.
- **Maximum working load 135 kg** (including sling)
- **Sound pressure** <55 dBA
- **Total weight (unloaded):** 33 kg
(Base structure: 16.5 kg) – Mast-boom structure: 16,5 kg)
- **Duty cycle:** 2' on /18' off
- **Battery charge:** 40 complete cycles
- **Expected operating lifetime:** 11,000 cycles at maximum working load
(adhering to the maintenance and storage guidelines set out above)
- **Operating forces**
Finger <5 N Hand/arm <105 N Foot <300 N



Sistema de
Gestión
ISO 9001:2015
ISO 14001:2015

www.tuv.com
ID 9105054418



ENTIDAD ASOCIADA



TECNIMOEM 97, S.L.

Ctra. Logroño - Mendavia, Km. 5

31230 - Viana - Navarra - Spain

T.: (+34) 948 646 213 - FAX: (+34) 948 646 380

www.tecnimoem.com