



xstoclimbers.com

OPERATION MANUAL



POWERED STAIR CLIMBER

EC DECLARATION OF CONFORMITY FOR MACHINERY

The company XSTO CO.,LTD. herewith declares that the products of the powered stair climbers are conform to the current regulations of the European Union, EC Guidelines 2006/42/EC. This declaration becomes void if the

climbers have been altered without the consent of XSTO CO.,LTD.



Description of the machine: Powered Stair Climber Type:

Signature of the manufacturer: XSTO CO.,LTD.

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1 Symbols and safety instructions



WARNING__Can lead to serious injuries and fatalities



CAUTION__Can lead to light injuries



NOTICE__Can lead to material or premises damage

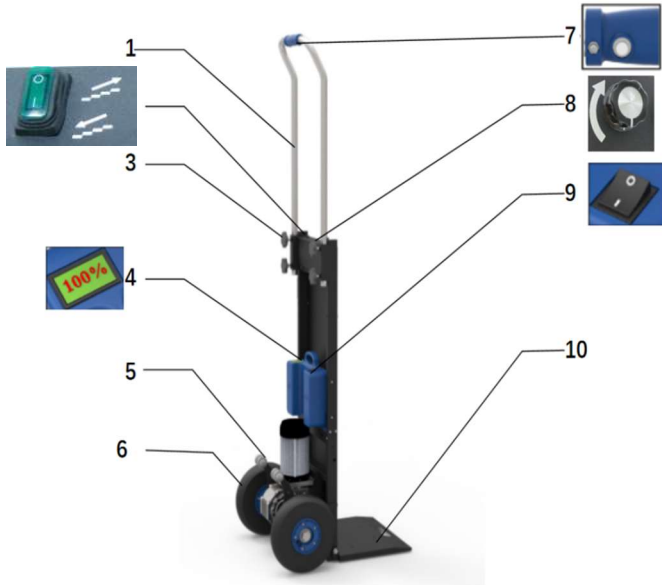
- Before initial operation, read the user manual and take note of the warning and safety instructions.
- Before initial operation, check the electronic functions, the safety brakes and the position of the climbing wheels
- Before initial operation, store the rated load at least one hour in a nonfreezing environment
- Take note of the technical data as the lifting capacity cannot be exceeded
- Stair climber operator should be trained. The person should be physically and experienced to handle it.
- When stair climber is going up and down, other personnel shall not stand under the machine .
- Wear non-slip footwear and always operate with both hands. Practice operating without a load and at a low speed to start with.
- For transportation of cargo, not people. Ensure loads are secured

with attached Safety strap.

- Never put your hand under the loading board or touch rotating or moving parts.
- Do not use it in rain, wet condition, snow or ice.
- Do not use it if the wheels broken.
- Make sure there are no obstacles on the stairs and the steps are not slippery.
- Do not use it on escalators or moving belts.
- If the drive elements blocked, turn off the machine immediately.
- Turn off machine when transporting to different locations.
- Keep the plug-in elements dry. Protect the battery and charging cable by avoiding car oil, grease, aggressive cleaning agents and thinners. otherwise they will be damaged.
- Do not use a high-pressure cleaning. Store it in dry condition.
- Repairs may only be done by certified and experienced engineer
Keep it away from ignition source.
- It may interfere with other electronic devices' sensitive electro-magnetic fields (e.g. anti-theft systems in department stores).
- Only the accessories provided by XSTO CO.LTD. are provided.

2 Description

2.1 The features



1. Telescope handle 2. Up/down switch 3. Locking bolt 4. Battery status 5. Support wheel 6. Solid wheel 7. Operating button 8. Speed control switch 9. ON/OFF switch 10. Loading board

2.2 Technical data

This user manual is for ZW4250.

2.3 Application fields

The climbing machine is a new type of climbing equipment that can pull heavy loads up and down the stairs. Main applications: logistics, express delivery, water delivery, moving, furniture and home appliances, as well as factories, offices, residential buildings, outdoor steps and other places.

2.4 Technical parameters

Type	ZW4250
Unfold size (mm)	Height: 1720 Width: 530 Depth: 620
Fold size (mm)	Height: 1190 Width: 530 Depth: 320
Weight	Main unit: 32

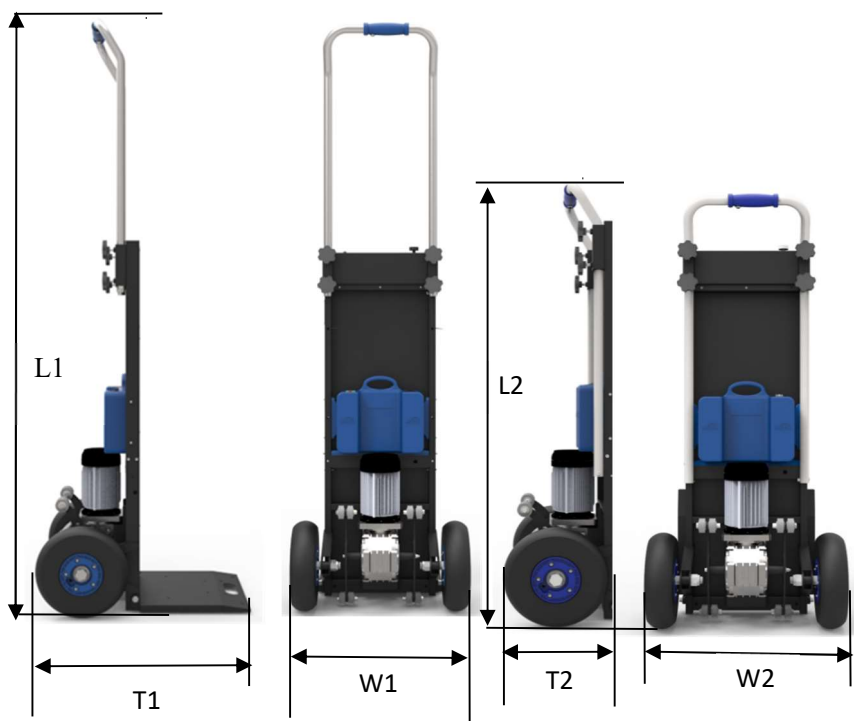
(Kg)	Charger: 0.3 Battery pack: 3.2
Capacity (Kg)	Rated: 170 Max: 250
Climbing speed(steps/min)	Adjustable speed, max: 35
Step count on one charge	38-84floors (674-1348 steps)
Fold Type	Handrail Telescopic
Brake	no
Tyre size(inch)	10
Step height limitation(mm)	210
Required step width (Straight step)	Machine+Goods carried +100mm
Minimum Platform size (the turn of stairs)	Depends on the height of the user
Battery type	Lithium ion battery
Batteries	48V 10AH
Charging voltage(V)	100-240
Direct current motor	48V 500W
Noise level (1 m out from actuator)	<85dB

Storing/operating temperature of device	-5°C - +35°C / 0°C - +40°C (With icing free)
Storing/operating temperature of battery	-5°C - +35°C / 0°C - +40°C
Serial number	On body name plate
Protection Level	IP33

Notice: Step count on one charge will decline under slow speed.

Note: The machine will have machining errors and assembly errors. The actual size will generally be within 5mm of the above table and the weight will be within 0.5kg.

2.5 Dimensions



Unfolding

Folding





Unit: mm




Type	L1	W1	T1	L2	W2	T2
ZW4250	1720	530	620	1190	530	320

2.6 Standard Supply Accessories

			
<p style="text-align: center;">①</p> <p style="text-align: center;">Main unit</p>	<p style="text-align: center;">②</p> <p style="text-align: center;">Safety strap</p>	<p style="text-align: center;">③</p> <p style="text-align: center;">Battery Pack</p>	<p style="text-align: center;">④</p> <p style="text-align: center;">Normal charger</p>

2.7 Optional Accessories

			
<p style="text-align: center;">①</p> <p style="text-align: center;">Solid wheel</p>	<p style="text-align: center;">②</p> <p style="text-align: center;">Battery Pack</p>	<p style="text-align: center;">③</p> <p style="text-align: center;">Quick Charger</p>	<p style="text-align: center;">④</p> <p style="text-align: center;">Car Charger Converter</p>

			
<p>⑤ Transfer device</p>	<p>⑥ Center of Gravity Adjustment Frame</p>	<p>⑦ Universal wheel</p>	

Note:For the use of tooling, please refer to relevant tooling instructions.

Note:Machines and accessories will be replaced gradually without further notice.

3 Initial Operation



Note - Before initial operation, please ensure the machine is operated in an environment higher than 0 °C



Note - Motor 50% working time[Continuous Operating Hours/(Continuous Operating Hours Continuous rest hours)≤50%],Rated load of 70% or above,the maximum continuous running time is less than 10 minutes.Rated load of less then 70%

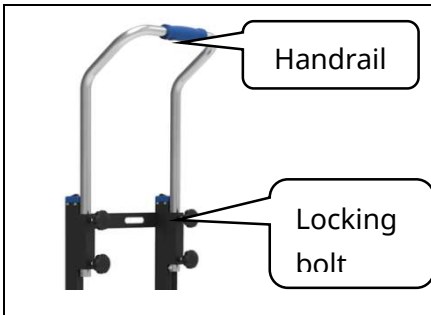
,the maximum continuous running time is less than 30 minutes.

3.1 Folding Loading board



The loading board can be expanded and folded. The expanded position is the working position. The loading board can hover at any position

3.2 Adjustable handrail



Use the lock bolt to adjust the height of the handle, then tighten the locking bolt.

3.3 Battery Pack



Note - Keep the plug-in dry!



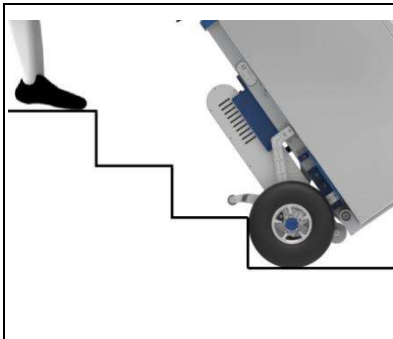
Install the battery pack downwards. After inserting the battery, the machine has power automatically.

3.4 Turning on the Stair Climber



Turning on the stair climber. the state: "1" means turn on, and "0" means turn off. The screen on the battery box shows the battery level.

3.5 Start Climbing Position



Adjust the support wheels, make sure that one side of the support wheels do not touch the ground and the other side wheels are above the stair. as shown position in the picture.

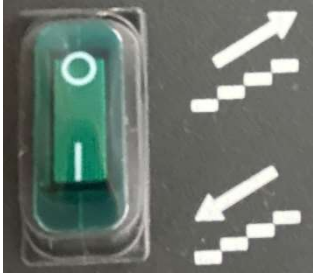
3.6 Speed-Control Climbing Mode






When rotating clockwise, the speed gets faster. The speed gets slower, when rotating counterclockwise.

The climbing machine stops working when it rotates anticlockwise to the end.

3.7 UP/Down Mode Switch

	<p>Switch up or down stair mode according to the sign.</p>
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3.8 Check Battery Capacity

 	<p>1. When screen is displayed as 100% (part of the power is displayed as 8 grids), it is fully charged.</p>
	<p>2. When the power display is less than 20% (part of the power display is 3 grids), it means that the power is low. You should charge or replace the battery;</p>



3. When the power is displayed as 10% (part of the power is displayed as 1 grid), the power can support the machine to continue to work 40-55 steps.

4 Operation



Warning - Only trained people can operate this machine!

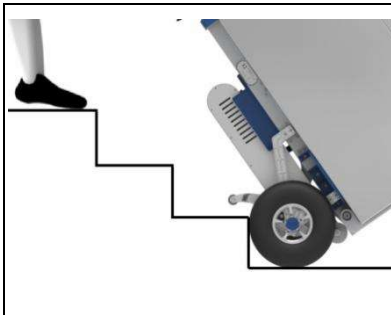


Warning - Practice ZW4250 without a load and with minimum speed!



Warning - Always operate with both hands!

4.1 Loading the cargo

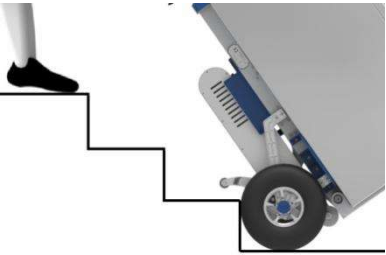




1. Adjust the support wheels, make sure that one side of the support wheels do not touch the ground and the other side wheels are above the stair. as shown position in the picture.





2.Insert loading board under the cargo and secure with safety strap.

4.2 Operating on Flat Ground

	<p>1. Adjust the support wheels, make sure that one side of the support wheels do not touch the ground and the other side wheels are above the stair. as shown position in the picture.</p>
	<p>2. Tilt the stair climber and ensure it is balanced.</p>
	<p>3. Use the machine like a trolley.</p>
<p>Note: Turn off the power switch during transportation on flat ground.</p>	

4.3 Operating on a Slope


	<p>1. Adjust the machine at a suitable angle to avoid crashing the ground when move on flat ground. As the shown picture, tilt the stair climber and ensure it is balanced.</p>
	<p>2. When go downhill, the operator should stand above the climber. If the cargo is very heavy and load on steep slope, please cooperate with people when transport.</p>





3. When go uphill, the operator should stand above the climber. If the cargo is very heavy and load on steep slope, please cooperate with people when transport.

Note: During slope operation, turn off the power switch, to avoid accident.

4.4 Climbing upstairs

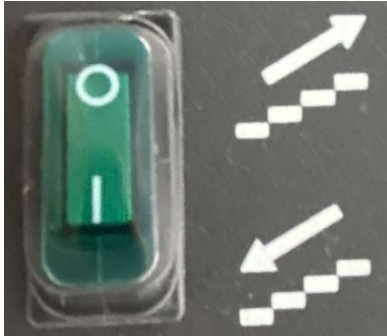



 Warning-When climbing upstairs, the operator will be against by an reverse support force. Adjusting the angle of the machine to keep balance of gravity and counteract the force.



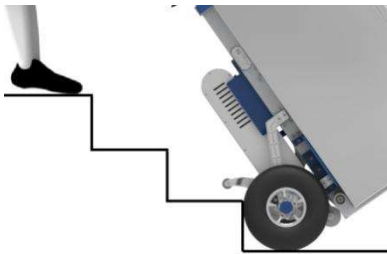
 Warning-Always keep the machine on balance state when operate.

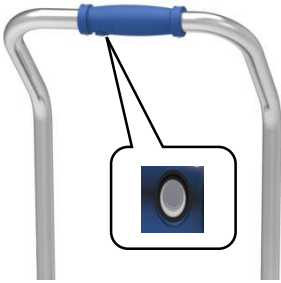
 Warning - Do not allow people to stand below the machine during operation to avoid causing danger to people if the machine tip-over due to improper operation.



1. Turn on the switch on the battery and see the power storage.

 A green rectangular switch with a white circle and a vertical line, mounted on a black base. To the right, a white arrow points up and another points down, with a staircase icon between them.	<p>2. Select the “Up/down switch” to upstairs mode.</p>
 A black knob with a white circular face and a radial pattern. A white curved arrow indicates clockwise rotation.	<p>3. Rotating clockwise to increase speed. The speed decreases when rotating counterclockwise.</p> <p>The machine stops working when it rotates anticlockwise to the end.</p>
 A silver metal machine on wheels, tilted at an angle. An orange curved arrow indicates the tilting motion.	<p>4. Tilt the machine to Proper angle and keep balance.</p> <p> Warning-Adjust the support wheels to avoid the motor shell colliding with the step.</p>

	<p>5. Pull the Stair Climber backwards, secure the two tyres are always close to the step facade.</p>
	<p>6. The operator hold the handrail and stand 2 or 3 stairs up the machine.</p>
	<p>7. Adjust the support wheels, secure that one side of the arm wheels do not touch the ground and the other side wheels are above the stair as shown position in the picture.</p>



8. Adjust the operating angle of the machine and press the operating switch button to climbing upstairs and release to stop.



Warning-As the motor stops, there will be a buffer time. So, release the button when the tyre touches the stairs to prevent the situation the casters touch the next step in the buffering process. If the operator does not pay attention to it, it will cause danger.




9. The support wheels lift the machine and climbing one stair. Throughout the entire process, the operator doesn't need to pull the climber. Just keep balance and resist the lifting reaction.




10. Pull the stair climber to next step, then repeat the climbing action. Operator should hold the climber handrails during this process.

4.5 Climbing downstairs

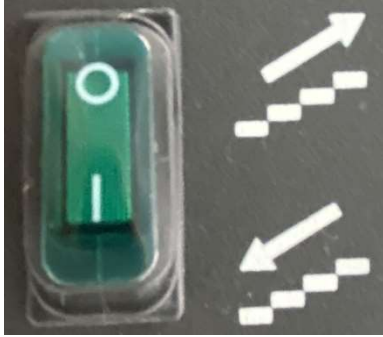
 Warning-when climbing stairs, the operator will against by an reverse support force. Adjusting the angle of the machine to keep balance of gravity and counteract the force.

 Warning- Always keep the machine on balance state when operate.

 Warning- Do not allow people to stand below the machine during operation to avoid causing danger to people if the machine tip-over due to improper operation.



1. Turn on the switch on the battery and see the power storage on the left side.



2. Select the “Up/down switch” to Downstairs mode.



3. Rotating clockwise to increase speed. The speed decreases when rotating counterclockwise.

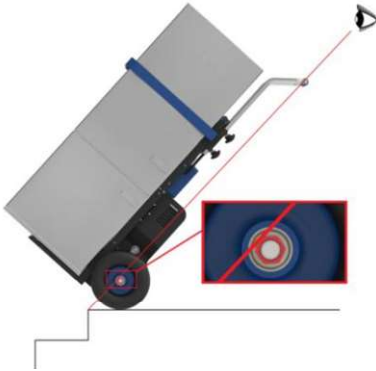
The machine stops working when it rotates anticlockwise to the end.



4. Tilt the machine to Proper angle.



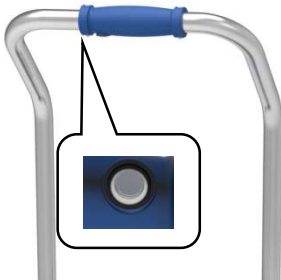
Warning- Do not tilt too low to avoid the cover hitting the steps



5.

(1) Operation for the first step is as follows: push the handrails and make the machine moving slowly, until the end of the wheel axis and the stairs edge are in a straight line, as shown in the picture.


(2) Operation for the first step is as follows: Pull the Stair Climber backwards, make sure the main trays are always close to the step facade.



6. Adjust the operating angle of the machine and hold the operating switch button to climbing downstairs.



Warning-As the motor stops, there will be a buffer time. So, release the button when the tyre touches the stairs to prevent the situation the caster touch the next step

	<p>in the buffering process. If the operator does not pay attention to it, it will cause danger.</p>
	<p>7. Repeat the climbing action. Operator should hold the climber handrails during this process.</p>

4.6 Transport





Warning-Please note the weight specifications



Warning- During transportation in vehicles, secure the climber according to the relevant legal regulations!



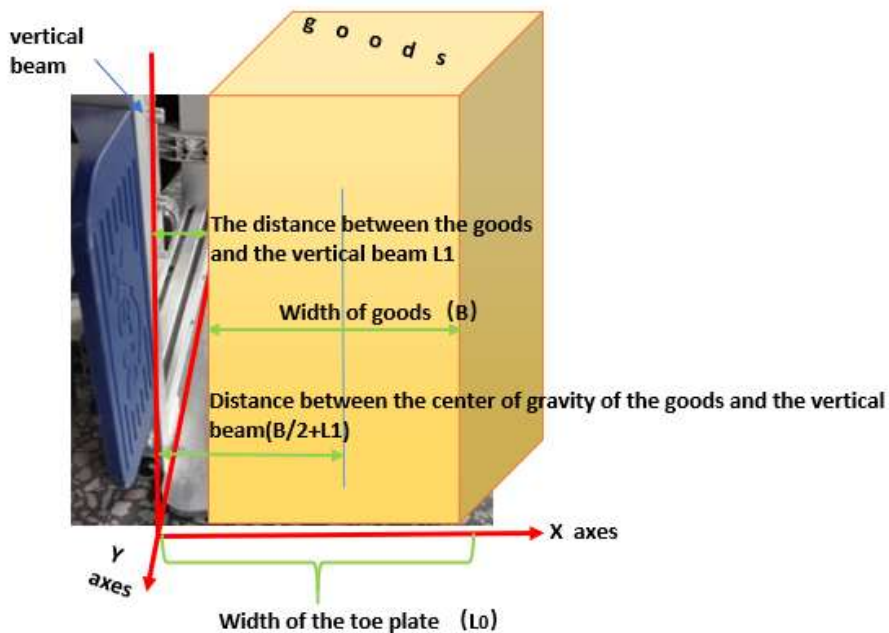
Be careful-Turn off the machine on transportation

	<p>1.Fold up the toe-plate</p>
	<p>2. Fold up the adjustable handrails</p>

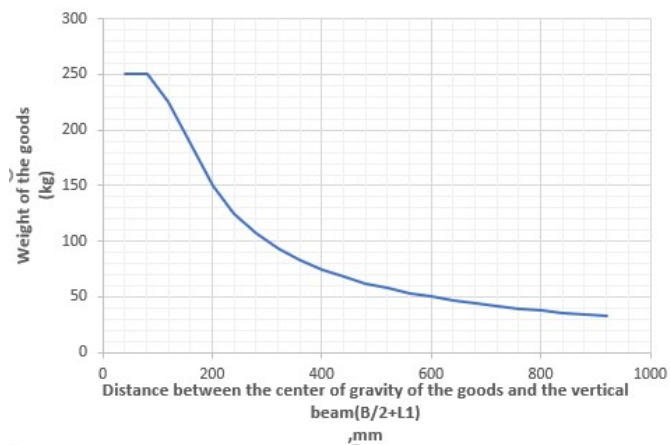
4.7 Cargo loading method and carrier curve

When the goods are putting on the loading board, adjust the position (Y axes) of the goods to keep balance. Keep the goods as close to the vertical beam as possible. Tie the goods to the vertical beam with a strap. Make sure the center of gravity of the goods is within the width of the loading board (X axes). The shapes difference of the goods results in a change in the horizontal distance between the center of gravity for cargo and the vertical beam($B/2+L1$), the weight of the goods should be adjusted to avoid machine damage and safety hazards caused by improper loading.

The relationship between the distance from the center of gravity for cargo to the vertical beam($B/2+L1$) and the weight of the goods refer to the chart below.



Distance-Load curve



5.Maintenance

5.1 Battery pack



CAUTION - Never touch with moist hands!



Notice- Protect the climber against humidity!



Notice- Charge the battery pack after each use!



Notice - Protect the charger and the charging cable from oil, grease, aggressive cleaning agents, thinners or damage.





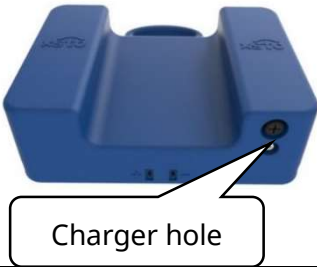

Notice-follow the operating instructions of the charger.



Notice-Always keep plug in contacts dry



Notice-new battery reach its full capacity after several charging.

	<p>1. Turn off the main switch.</p>
	<p>2. pull out the battery pack</p>
 <p>Charger hole</p>	<p>3. Connect the charger</p>
	<p>4. Please follow instructions when charging.</p>



Battery instructions and precautions

(1) Storage

When the battery pack to be long-term stored, charge the battery pack to about 50% capacity, store in dry and ventilated place, charge for every 3 months.

The battery pack and charger should be stored in clean, dry and ventilated place, avoid contacting with corrosive materials and be away from fire and heat.

The charging temperature range is 0-40°C. If the range is exceeded, the battery performance will be reduced and the battery life will be reduced.

(2) Transportation

The battery pack and charger should be packaged for transport to prevent excessive vibration, shock or extrusion in transport process and prevent the sun and rain.

(3) Maintenance

- a) The battery pack should be stored in 40%~60% charged capacity.
- b) If battery pack is not used for a long period, it should be charging completely and discharging completely one time for every three month, then charge the battery pack to about 50% capacity, use the specific charger,.
- c) In the maintenance process, please do not disassemble the battery pack, otherwise battery performance will decline.

d) Forbid to remove any cell in the battery pack. Unauthorized disassembling of batteries is prohibited, and may invalidate your warranty.

e) Problem handling

Symptom	Trouble Reason	Troubleshooting
Battery with no-output	Battery output cable is not connected. Battery pack is out of power	Connect the output line properly in accordance with the specifications. Charging the battery pack
Charger power light is off	Input charger plug is not properly inserted	Enter the charger plug into the mains supply plug according to the operation manual
Battery pack cannot be charged	Charger output plug loose; Battery pack is fully charged	Check the charger output plug and battery plug is firm or not; Battery pack can be used normally

f) Warranty period

Warranty period of this product is 12 months from delivery date.Cycles:500 times, capacity≥80%.

(4) Battery Handling Precautions

- *Forbid to immerse battery in water or get wet!
- *Don't charge, use and store battery near a heat source such as fire and heater! If the battery leaks or releases strange odor, please remove it from near fire place immediately. Fully charge the battery before first-time using.
- *Forbid to reverse the positive and negative pole!
- *Forbid to throw the battery pack into fire or heat it!
- *Forbid to short-circuit battery with wire or other metal objects!
- *Forbid to nail, knock or trample battery!
- *Forbid to disassemble the battery and battery pack in any way!
- *Forbid to put the battery into microwave oven or pressure vessel!
- *Forbid to use batteries on other devices!
- *Forbid charging in outdoor or rainy days!
- *Prohibit the use of series and parallel battery!
- *If the battery pack gives off odor, gets heat, deformation, discoloration or appears any abnormal phenomenon, stop using it; please remove the battery from electrical appliances and stop using it, when the battery is being used or charged!
- *Forbid to use battery pack in a very hot environment, such as under direct sunlight or in car on hot day. Otherwise, the battery pack will overheat, which will affect battery performance and shorten battery life!

*Do not over charged. Unplug the charger as soon as possible after the charger indicates full charge.

*If the battery teaks and electrolyte leakage enter into the eyes, do not rub, rinse with water immediately and seek immediate medical assistance. If not in time, eyes will be hurt!

*Forbid to disassemble by yourself.

5.2 Exchange the fuse



CAUTION - Before exchanging the fuses, disconnect the charger /charging cable for the car!



NOTE - Never mend or bridge defect fuses!



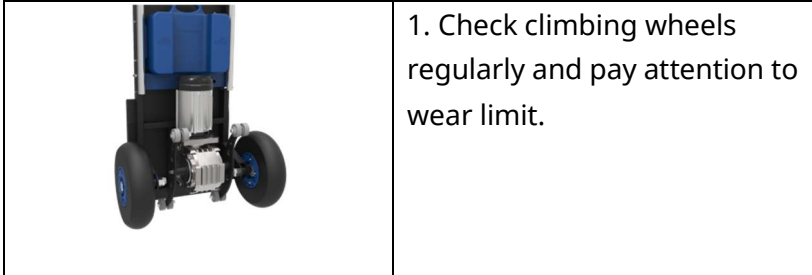
NOTE - Replace them with fuses of the same amperage!



5.3 Check the climbing wheel

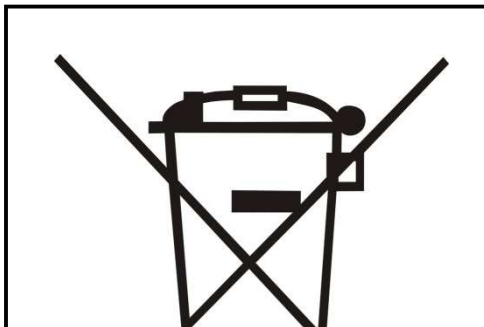


Notice - Check the wear of the climbing casters regularly. If they are damaged or worn seriously, please contact the authorized professional or manufacturer.



5.4 Recycling

The powered stair climber is product of long durability. However, if your machine is old and has reached the end of its lifespan you may return its components to SXTO to be recycled.



6 Malfunction and troubleshooting

problem	check and potential solution
The climber machine can't start or can't go up or down stairs	Check the battery pack. If it shows low power (<20%), please charge. If the above situation is turned out. Please contact the supplier.
The battery can't be recharged	Please contact the supplier.
Failure of high and low speed switching control	Check whether the power is connected. Then remove and check the speed switch. If the switch connection is working, the speed switch is mostly broken, replace it. If the problem remains, please contact your supplier.

Only upstairs, cannot downstairs	Check whether the power is connected. then remove and check the up/down stair switch. If the switch connection is working. the switch is mostly broken. replace it. If the problem remains, please contact your supplier.
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7 Warranty and Responsibility



7.1 Warranty

The warranty of the motor, decelerator, battery and control panel as well as main device is 12 months; The warranty of the switch is 3 months.

Damage caused by the following reasons is not covered by the warranty:

- Damage caused by overwork.
- Damage caused by incorrect operation.
- Damage caused by violence.
- Natural wear of casters, seat belts, etc.
- Inappropriate or inadequate maintenance.
- Unauthorized structural changes and improper use of equipment and accessories.

- Damage caused by overload.
- Battery is not charged appropriately.
- Damage caused by incorrect operation, maintenance or storage.
- Damage caused by dismantling by others (except the warranty party).
- The following table vulnerable parts are not covered by the warranty.

Name	Figure	Code
Operating button		B-1-00030
Up/down switch		<u>C-2-00487</u>

Beyond the scope of maintenance and beyond the warranty period of the product, we still provide perfect service, only charge the cost of spare parts.

7.2 Responsibility

The manufacturer is not responsible for any damage to the POWERED STAIR CLIMBER caused by the following cases.


Inappropriate operation

- Inappropriate operation.
- Repair or dismantle the equipment without authorization.
- Do not follow the operating manual.
- Install parts or accessories that are not exclusive for POWERED STAIR CLIMBER use.
- Deliberately dismantle the configuration of Machine.
- Overwork.
- Operate under low battery.


8 Accessories and method of use

Note: If the contents of this specification are changed because improving product quality or upgrading technical parameters, we will not give notice. For the latest product information, please contact the supplier

8.1 Quick Charger

	<p>It can shorten time in half by using a quick charger. The details are shown on the quick charger manual.</p>
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8.2 Vehicle charging converter

	<p>The battery can be charged on vehicle by using this charger.</p>
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