



OPERATION MANUAL



POWERED STAIR CLIMBER

EC DECLARATION OF CONFORMITY FOR MACHINERY

The company XSTO CO.,LTD. Hereby declares that the powered stair climber merchandises 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 Model:
ZW4/7series: 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 stair climber 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 the machine 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 toe plate or touch rotating or moving parts.
- Do not use it in rain, wet condition, snow or ice.
- Do not use it if the tires are found broken or leakage.
- Make sure there are no obstacles on the stairs and the steps are

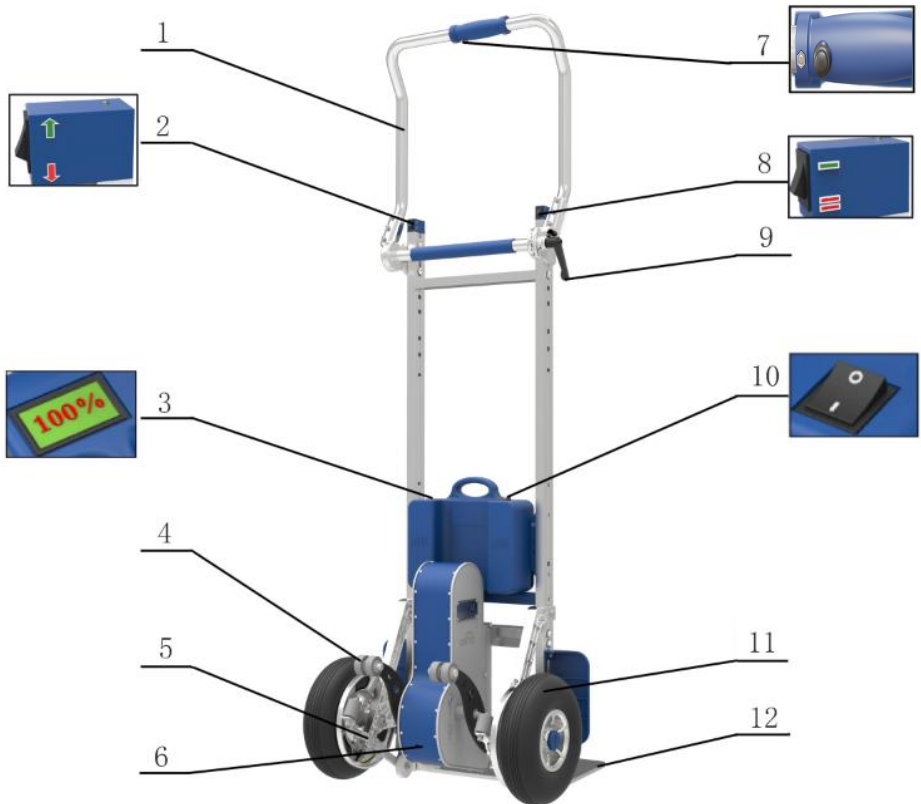
not slippery.

- 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 battery port dry. Keep the charger and its cable away from car oil, grease, aggressive cleaning agents and thinners. otherwise they will be damaged.
- Do not use a high-pressure cleaning. Store it in dry environment.
- 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 to use the accessories provided by XSTO factory.
- Please do not operate this machine if you are color blind
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge.
- Children should be supervised to ensure that they do not play with the appliance.
- This appliance incorporating a battery that contains materials that are hazardous to the environment, the following action should be followed:
 - - the battery must be removed from the appliance before it is scrapped;
 - - the appliance must be disconnected from the supply mains when removing the battery;
 - - the battery is to be disposed of safely base on the local laws and regulations.
-

2 Description

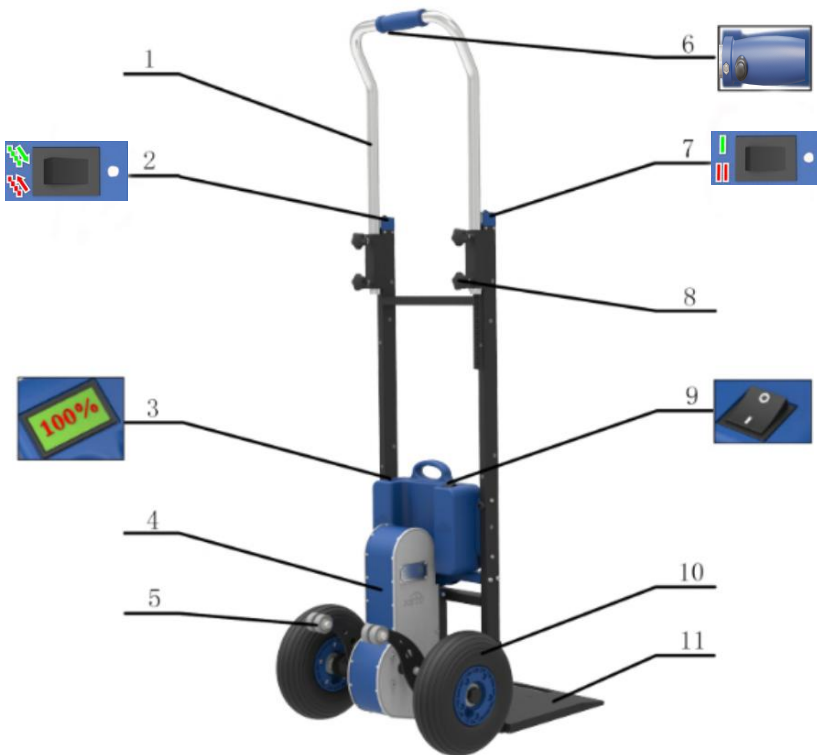
2.1 The features

2.1.1 EC/GC series



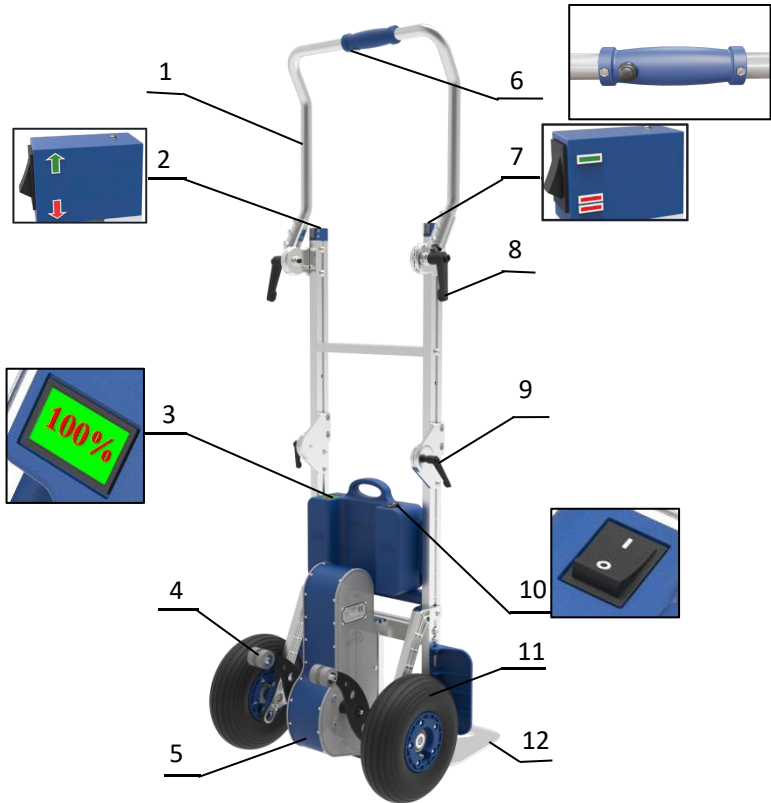
- 1.Fold-down handle 2.Up/down switch 3.Battery status 4.Climbing wheel 5.Brake bar (For some models) 6.Cover 7.Operating button 8.Speed switch 9.Clamp 10.ON/OFF switch 11.Main wheel 12.Toe plate

2.1.2 ZW4/DC series



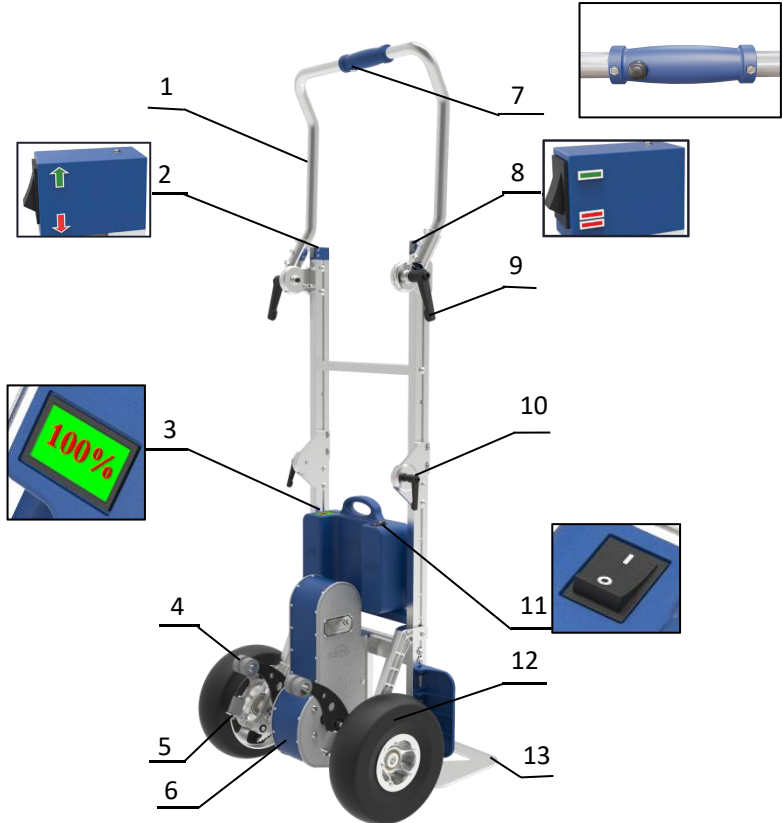
1. Fold-down handle 2. Up/down switch 3. Battery status 4. Cover
5. Climbing wheel 6. Operating button 7. Speed switch 8. Locking bolt
9. ON/OFF switch 10. Main wheel 11. Toe plate

2.1.3 ZWEFC series



- 1. Fold-down handle
- 2. Up/down switch
- 3. Battery status
- 4. Climbing wheel
- 5. Cover
- 6. Operating button
- 7. Speed switch
- 8. Clamp
- 9. Folding mechanism
- 10. ON/OFF switch
- 11. Main wheel
- 12. Toe plate

2.1.4 ZWGFC series



- 1. Fold-down handle
- 2. Up/down switch
- 3. Battery status
- 4. Climbing wheel
- 5. Brake bar (For some models)
- 6. Cover
- 7. Operating button
- 8. Speed switch
- 9. Clamp
- 10. Folding mechanism
- 11. ON/OFF switch
- 12. Main wheel
- 13. Toe plate

2.2 Technical data

This user manual is for EC/GC/DC series.

2.3 Application fields

The stair climber series are innovative stair climbing equipment for carrying heavy cargos up and down stairs. The main application fields: logistics, express service, water delivery, house moving, furniture and home appliance etc. as well as factory, office, house, outdoor applications.

2.4 Technical parameters

2.4.1 ZW7170GC\ZW7170GFC\ZW7200GC

Note: All the following products are recommended to be used below 1000m altitude, and the environmental humidity is required to be within the range of 45%-85% (no coagulated snow).

Type	ZW7170GC	ZW7170GFC	ZW7200GC
Unfold size(mm)	Height: 1590 Width: 545 Depth: 540	Height: 1590 Width: 545 Depth: 540	Height: 1590 Width: 545 Depth: 540
Fold size (mm)	Height: 1195 Width: 545 Depth: 308	Height: 770 Width: 545 Depth: 308	Height: 1195 Width: 545 Depth: 308
Weight (Kg)	Main unit: 26 Charger: 0.3 Battery: 3.2	Main unit: 26.4 Charger: 0.3 Battery: 3.2	Main unit: 29 Charger: 0.3 Battery: 3.2
Capacity (Kg)	170	170	200

Climbing speed (steps/min)	Slow: 24 Fast: 34	Slow: 24 Fast: 34	Slow: 24 Fast: 34
Board type	A	A	A
UP/Down mode display	Yes	Yes	Yes
Step count on one charge	68-153floors (1224-2448 steps)	68-153 floors (1224-2448 steps)	52-117 floors (936-1873 steps)
Fold Type	Handrail Fold	Frame Fold	Handrail Fold
Brake	Yes	Yes	Yes
Tyre size(inch)	10	10	10
Step height limitation(mm)	210	210	210
Required step width (Straight step)	Machine+Goods carried	Machine+Goods carried	Machine+Goods carried
	+100mm	+100mm	+100mm
Minimum Platform size (the turn of stairs)	Depends on the height of the user	Depends on the height of the user	Depends on the height of the user
Battery type	Lithium ion battery	Lithium ion battery	Lithium ion battery
Batteries	48V 10AH	48V 10AH	48V 10AH
Charging voltage(V)	110-230	110-230	110-230
Direct current motor	48V 400W	48V 400W	48V 400W
Noise level (1 m out from actuator)	<70dB	<70dB	<70dB
Storing/operating temperature of	-5°C - +35°C / 0°C - +40°C (With no	-5°C - +35°C / 0°C - +40°C (With no	-5°C - +35°C / 0°C - +40°C (With no

device	icing)	icing)	icing)
Storing/operating temperature of battery	-5°C - +35°C / 0°C - +40°C	-5°C - +35°C / 0°C - +40°C	-5°C - +35°C / 0°C - +40°C
Serial number	On body name plate	On body name plate	On body name plate
Protection Level	IP54	IP54	IP54

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

2.4.2 ZW7170EC and ZW7170EFC

Type	ZW7170EC	ZW7170EFC
Unfold size (mm)	Height: 1590 Width: 525 Depth: 540	Height: 1590 Width: 525 Depth: 540
Fold size (mm)	Height: 1195 Width: 525 Depth: 308	Height: 770 Width: 525 Depth: 308
Weight (Kg)	Main unit: 23.5 Charger: 0.3 Battery pack: 3.2	Main unit: 23.9 Charger: 0.3 Battery pack: 3.2
Capacity (Kg)	170	170
Climbing speed (steps/min)	Slow: 24 Fast: 34	Slow: 24 Fast: 34
Board type	A	A
UP/Down mode display	Yes	Yes

Step count on one charge	68-153floors (1224-2448 steps)	68-153floors (1224-2448 steps)
Fold Type	Handrail Fold	Frame Fold
Brake	no	no
Tyre size(inch)	10	10
Step height limitation(mm)	210	210
Required step width (Straight step)	Machine+Goods carried	Machine+Goods carried
	+100mm	+100mm
Minimum Platform size (the turn of stairs)	Depends on the height of the user	Depends on the height of the user
Battery type	Lithium ion battery	Lithium ion battery
Batteries	48V 10AH	48V 10AH
Charging voltage(V)	110-230	110-230
Direct current motor	48V 400W	48V 400W
Noise level	<70dB	<70dB
Storing/operating temperature of device	-5°C - +35°C / 0°C - +40°C (With no icing)	-5°C - +35°C / 0°C - +40°C (With no icing)
Storing/operating temperature of battery	-5°C - +35°C / 0°C - +40°C	-5°C - +35°C / 0°C - +40°C
Serial number	On body name plate	On body name plate
Protection Level	IP54	IP54

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

2.4.3 DC Series

Type	ZW4170DC	ZW4200DC
Unfold size (mm)	Height: 1555 Width: 530 Depth: 620	Height: 1555 Width: 530 Depth: 620
Fold size (mm)	Height: 1235 Width: 530 Depth: 320	Height: 1235 Width: 530 Depth: 320
Weight (Kg)	Main unit: 24.5 Charger: 0.3 Battery pack: 3.2	Main unit: 28.5 Charger: 0.3 Battery pack: 3.2
Capacity (Kg)	170	200
Climbing speed(steps/min)	Slow: 24; Fast: 34	Slow: 24; Fast: 34
Board type	A	A
UP/Down mode display	Yes	Yes
Step count on one charge	68-153floors (1224-2448 steps)	52-117floors (936-1873 steps)
Fold Type	Handrail Telescopic	Handrail Telescopic
Brake	no	no
Tyre size(inch)	10	10
Step height limitation(mm)	210	210
Required step width (Straight step)	Machine+Goods carried +100mm	Machine+Goods carried +100mm
Minimum Platform size (the turn of stairs)	Depends on the height of the user	Depends on the height of the user
Battery type	Lithium ion battery	Lithium ion battery
Batteries	48V 10AH	48V 10AH

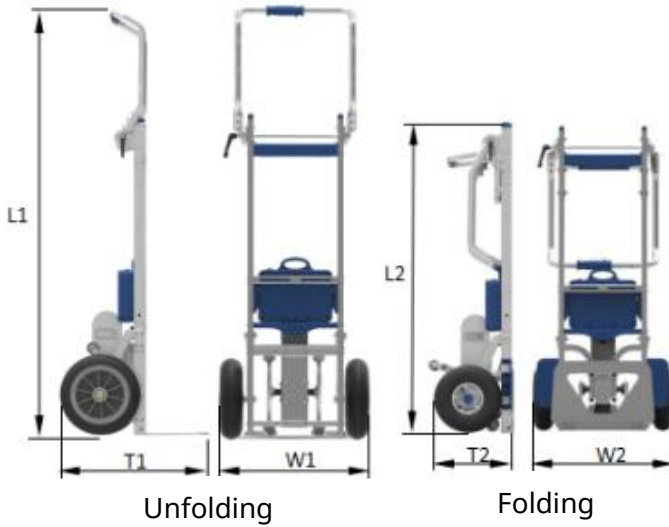
Charging voltage(V)	110-230	110-230
Direct current motor	48V 400W	48V 400W
Noise level (1 m out from actuator)	<70dB	<70dB
Storing/operating temperature of device	-5°C - +35°C / 0°C - +40°C (With no icing)	-5°C - +35°C / 0°C - +40°C (With no icing)
Storing/operating temperature of battery	-5°C - +35°C / 0°C - +40°C	-5°C - +35°C / 0°C - +40°C
Serial number	On body name plate	On body name plate
Protection Level	IP54	IP54

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

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

2.5 Dimensions

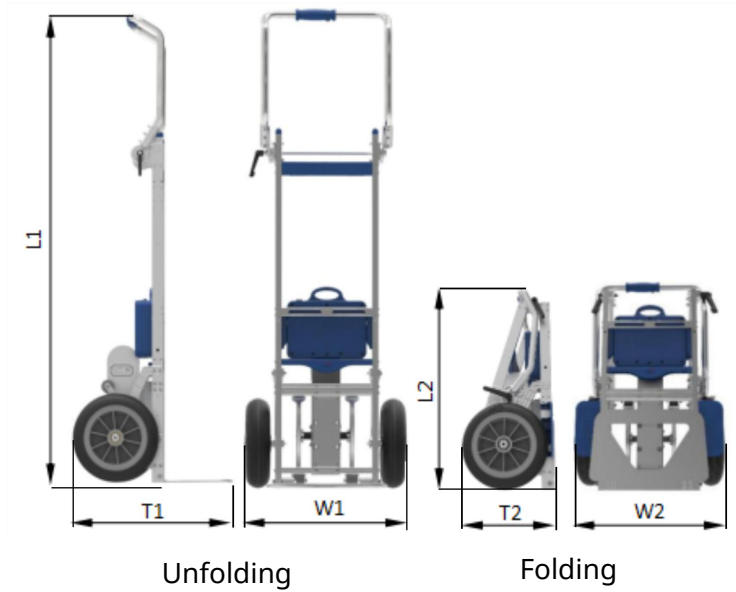
2.5.1 Handrail Fold series



Unit: mm

Type	L1	W1	T1	L2	W2	T2
ZW7170GC	1590	545	540	1195	545	308
ZW7170EC	1590	525	540	1195	525	308
ZW7200GC	1590	545	540	1195	545	308

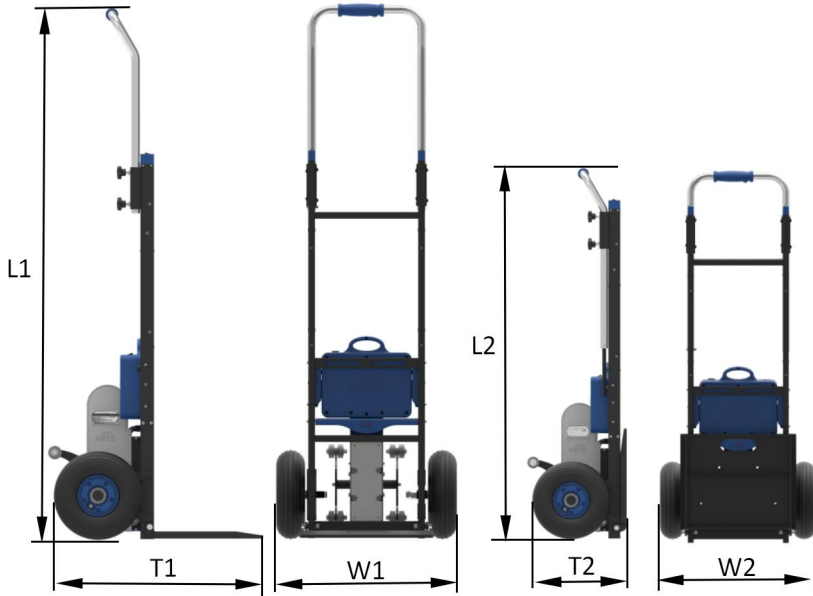
2.5.2 Frame fold series



Unit: mm

Type	L1	W1	T1	L2	W2	T2
ZW7170GFC	1590	545	540	770	545	308
ZW7170EFC	1590	525	540	770	525	308

2.5.3 DC fold series



Unit: mm








Type	L1	W1	T1	L2	W2	T2
ZW4170DC	1555	530	620	1235	530	320
ZW4200DC	1555	530	620	1235	530	320

2.6 Standard Supply Accessories

			
① Main unit	② Safety strap	③ Battery Pack	④ Normal charger

2.7 Optional Accessories

			
① Main wheel	② Battery Pack	③ Speedy Charger	④ Door Delivery
			
⑤ Water-bucke	⑥ Ground Support	⑦ Cylinder	⑧ Frame Extender

t Device	system	Device(single bottle, double bottles)	
			
⑨ Extension Device	⑩ Center of Gravity Adjustment Frame	⑪ End bar	⑫ Transfer device
			
⑬ Foldable Toe Plate	⑭ Storage Box Holder	⑮ Chair Delivery	

Note: Machines and accessories may be upgraded gradually without any further notice.

3 Initial Operation

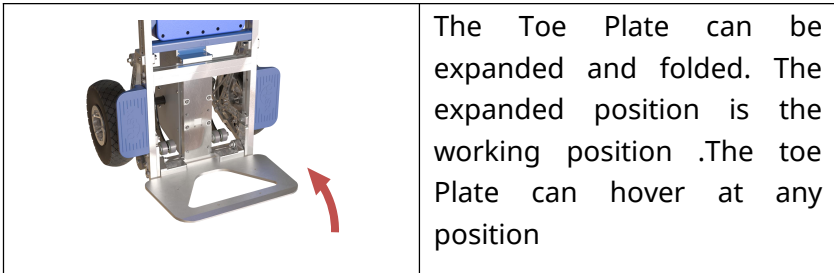


Note - Before initial operation, please ensure the machine is operated in an environment higher than 0 °C



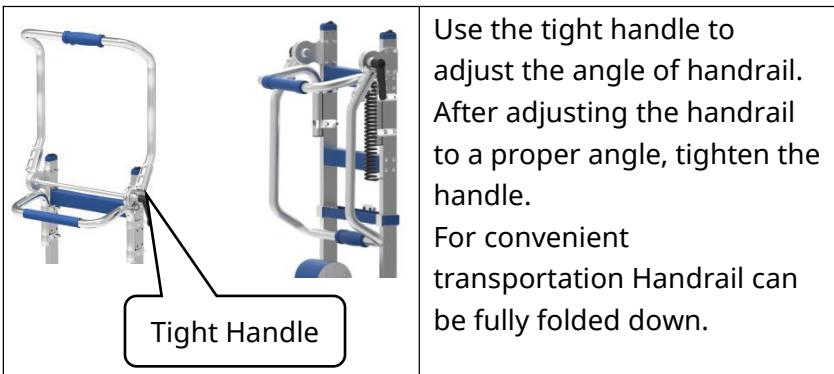
Note - Motor 50% working time[Continuous Operating Hours/(Continuous Operating Hours Continuous rest hours) \leq 50%],Rated load of 70% or above, the maximum continuous running time is less than 10 minutes. Rated load of less than 70% , the maximum continuous running time is less than 30 minutes.

3.1 Foldable Toe Plate

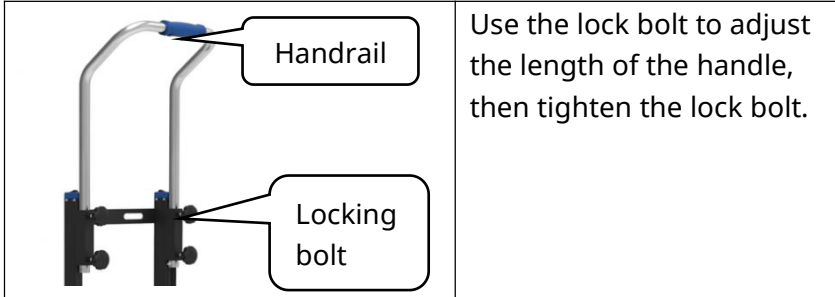


3.2 Adjustable handrail

3.2.1 ZW7/GC/EC



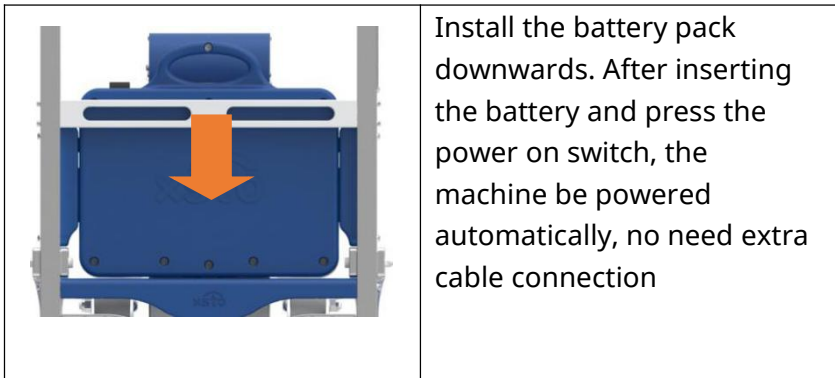
3.2.2 For ZW4/DC



3.3 Battery Pack



Note - Keep the plug-in dry!



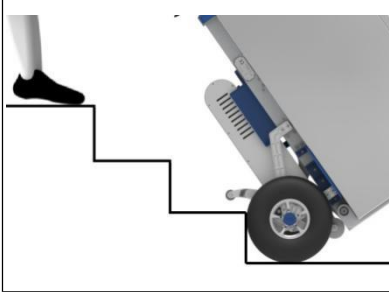
3.4 Turning on the Stair Climber and misoperation prevention system



Turning on the stair climber. the state: "1" means turn on, and "0" means turn off. The screen on the battery box displays the balance capacity of battery.

(after if 10 minutes of no operation, the misoperation prevention system will turn on automatically and the indicator lights on both sides will turn off automatically. At this time, the machine cannot climb the stairs. Turn off the battery and turn it on again, and the misoperation system will turn off.)

3.5 Start Climbing Position



Adjust the climbing arm, make sure 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.

3.6 Check the Brake

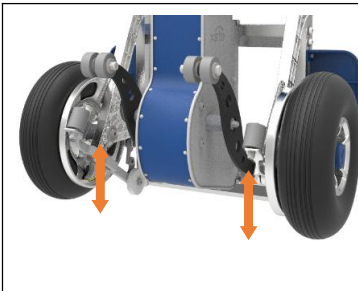
Note: Only apply to ZW7170GC/ZW7170GFC/ZW7200GC.




WARNING - Do not use the machine, if the required brake (on one side or both sides) is defective! Contact manufacturer or authorized distributors !



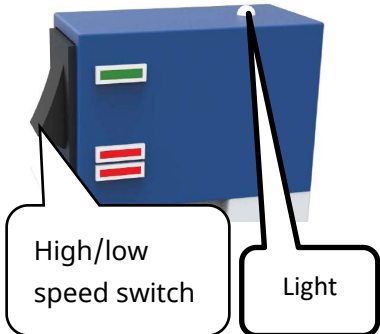
WARNING - Check the safety of brakes when without load !



The edge brake system is a protection device which can be triggered when machine reach the edge of steps. This system can ensure the safety and avoid slipping downwards. Lift the brake bar to enable this

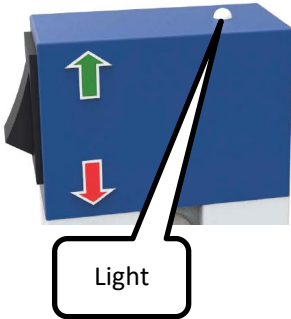
	function and press to disable.
	<p>Test method: Tilt the climber until the brake wheels leave ground. the climber cannot be pushed forward, only backward. Then the brake is working , otherwise it's fail</p>

3.7 Two-Speed Climbing Mode

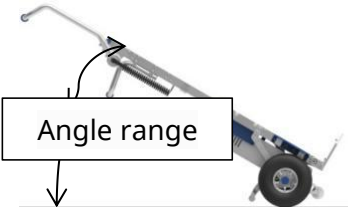
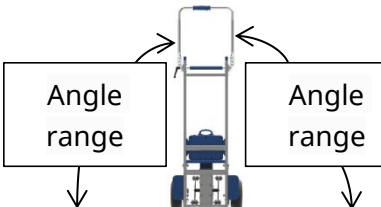
	<p>Each time power on, the initial state is low speed mode, indicator lights green, short press the self-reset switch for 0.2 second to switch modes. The lights will switch colors, gear “—” is low speed mode (flash green), gear “=” is high speed mode (flash red). This machine has angle controlling function. When the stair climbing machine is started at wrong operation angle(too large or too small), the rotate speed of climbing arm will slow down. This is an angle protection feature, not a fault. Press the high/low speed switch about 3 seconds to turn off the LED</p>
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	light and after the light switch colors, angle controlling function will be disable. After repower the machine, the angle controlling function will automatically return to the initial on state.
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3.8 UP/Down Mode Switch




	<p>Each time power on, the initial state is UP stairs mode, indicator lights green , short press the self-reset switch 0.2 seconds to switch modes. Light will change color, green for UP, red for DOWN.</p>
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3.9 Angle control

 <p>Angle range</p>	<p>The machine has angle controlling function, The angle range on the left is 10° to 75°. Within above machine angle, the climbing motor can run normally; When out of above angle range, the climbing motor will slow down.</p> <p>Press the high / low speed switch for 3 seconds, the angle controlling function will be turned off.</p>
 <p>Angle range</p> <p>Angle range</p>	<p>The angle range on the left figure is $0 \sim 16^{\circ}$. If it is out of this range, the rotation of the climbing motor will slow down. When the high and low speed switch are pressed for 3 seconds, the angle control can be turned off.</p>

3.10 Check Battery Capacity

	<p>1. When screen is displayed as 100% (some models are displayed as 8 grids), it is fully charged.</p>
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	<p>2. When the power display is less than 20% (part of the models display 3 grids), it means that the power is low. You should charge or replace the battery;</p>
	<p>3. When the power is displayed as 10% (part of the models display as 1 grid), the power can support the machine to continue to work 40-55 steps.</p>

4 Operation



Warning - Only trained people can operate this machine !

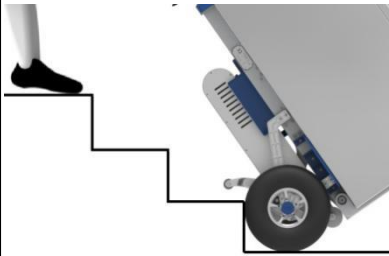



Warning - Practice driving without load and with low speed!

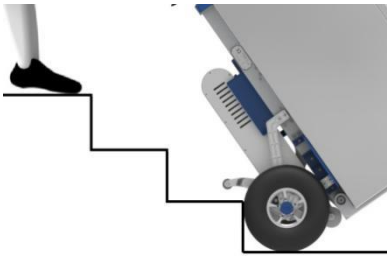
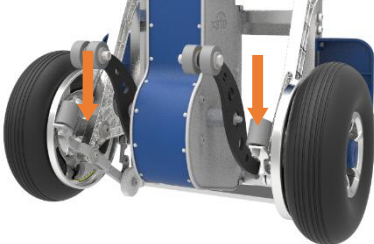




Warning - Always operate with both hands!




4.1 Picking up Load

	<p>1.Adjust the climbing arm, make sure that one side of the arm wheels do not touch the ground and the other side wheels are above the step. as shown position in the picture.</p>
	<p>2.Insert toe plate under the cargo and Secure with safety strap.</p>

4.2 Operating on Flat Ground

	<p>1. Adjust the climbing arm, make sure 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>
	<p>2. Turn off the edge brake.</p>
	<p>3. Tilt the stair climber and keep balance.</p>
	<p>4. Use the machine like a trolley and keep balance</p>
<p>Note: Turn off the power switch during transportation on flat ground to avoid mis-operation</p>	

4.3 Operating on a Slope

	<p>1. Adjust climbing wheels/arms to avoid the climber running on flat ground as shown position in the picture. Tilt the stair climber and ensure it is balanced.</p>
	<p>2. Driving downhill, the operator should stand above the climber. for heavy cargo or dealing with steep scope, more staffs are required to complete the operation.</p>
	<p>3. Driving uphill, the operator should stand above the climber. for heavy cargo or dealing with steep scope, more staffs are required to complete the operation.</p>
<p>Note: For slope operation, turn off the power switch to avoid mis operation.</p>	

4.4 Climbing upstairs




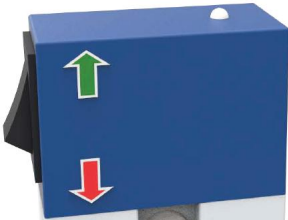
Warning-When climbing upstairs, the operator will feel an initial force. Adjust the angle of the machine keeping the balance of gravity to counteract the force.



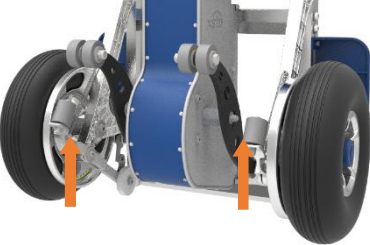




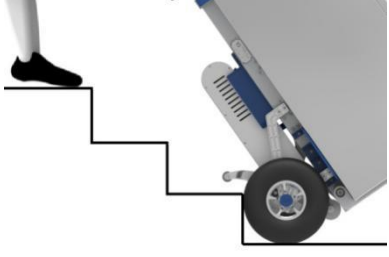


Warning-Always keep the machine balanced.



Warning - Do not allow people to stand below the machine during operation! Prevent the machine from tipping over due to improper operation and cause danger to the operator.

	<p>1. Turn on the switch. The LCD will display the remaining battery capacity</p>
	<p>2. Set the "Up/down switch" to UP mode.</p>

	<p>3. Tilt the machine to Proper angle.</p> <p> Warning-Adjust the climbing arm to avoid the motor shell colliding with the step.</p>
	<p>4. Turn on the edge brake bar. (only for the model of ZW7170GC/ZW7170GFC/ZW7200GFC, other models ignore this step)</p>
	<p>5. Pull the Stair Climber backwards, let both tires always touch the vertical surface of step</p>
	<p>6. The operator hold the handrail standing 2 or 3 steps above the tires.</p>

	<p>7. Adjust the climbing arm, secure that one side of the arm wheels do not touch the ground and the other side wheels are above the steps. as shown position in the picture.</p>
	<p>8. Adjust the operating angle of the machine and hold the operation button to climbing upstairs. The switch is a normally open button, so climber will stop working once release the button.</p>
	<p>9. The climbing arms lift the machine and climbing one step. throughout the entire process, it's no need to pull the climber. Just keep balanced and resist the lifting reaction.</p>



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

4.5 Climbing downstairs



Warning- when climbing stairs, the operator will feel an initial force. Adjust the angle of the stair climber to keep the balance of gravity to counteract the force






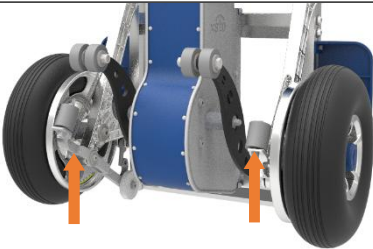
Warning- Always keep the machine balanced


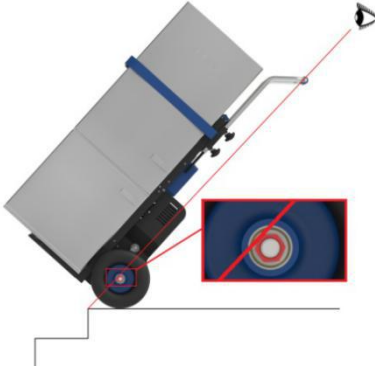




Warning- Do not allow people to obstruct the machine



1. Turn on the switch. The left side of the LED displays the remaining battery capacity

	<p>2. Set the “Up/down switch” to DOWN mode.</p>
	<p>3. Tilt the machine to Proper angle.</p> <p> Warning- Do not tilt too low to avoid the cover hitting the steps</p>
	<p>4. Lift the bar of edge brake . (only available for the models of ZW7170GC/ZW7170GFC/ZW7200GC)</p>

	<p>5.1. (Only apply to ZW7170GC/ZW7170GFC/ZW7200GC)</p> <p>Push the machine forward until the brakes locks the stair climber on step edge.</p>
	<p>5.2. (Only apply to ZW7170EC/ZW7170EFC/ZW4170DC)/ZW4200DC</p> <p>(1) Operation for the first step is as follows: push the handrails making 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.</p> <p>(2) Operation after the first step is as follows: Pull the Stair Climber backwards, make sure the tires touch step facade.</p>

 A close-up photograph of the handrail assembly. The handrail is silver metal with a blue grip. A black circular operating switch button is mounted on the front of the handrail. A white callout box with a black border highlights the button, with a line pointing to it from the text.	<p>6. Adjust the operating angle of the machine and hold the operating switch button to start climbing downstairs.</p>
 A photograph of the silver machine on a set of brown stairs. The machine is tilted downwards, and an orange arrow points downwards from the front of the machine, indicating the direction of travel.	<p>7. Repeat the climbing action. Operator should hold the climber handrails during this process.</p>

4.6 Pausing machine on stairs

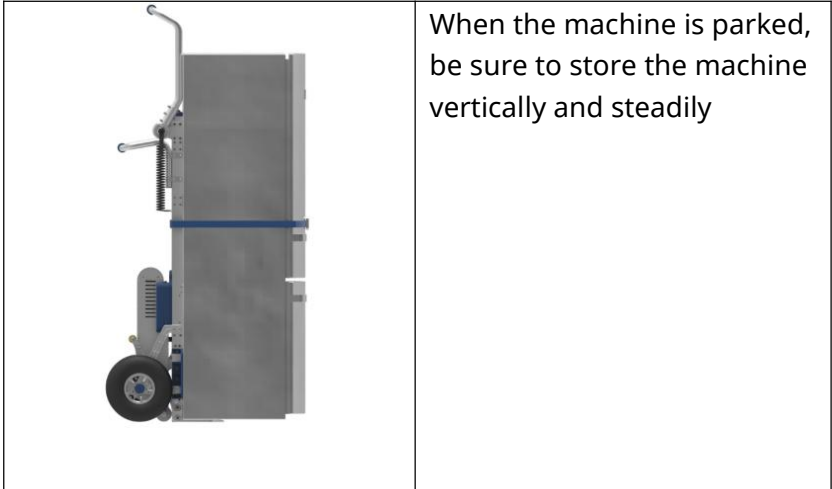


The stair climber can be laid on the stairs. Its safety brakes and handrails prevent it from sliding down the stairs.

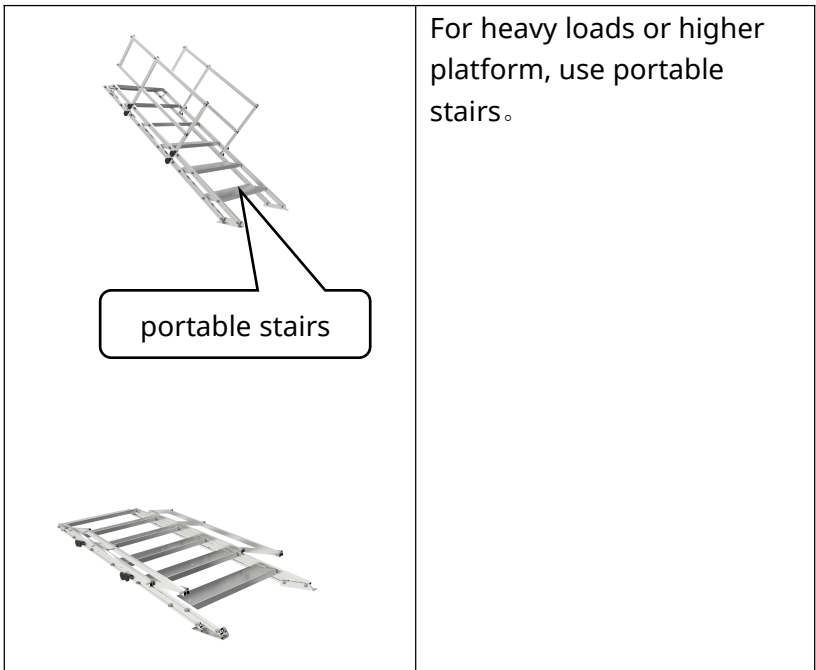
4.7 Parking



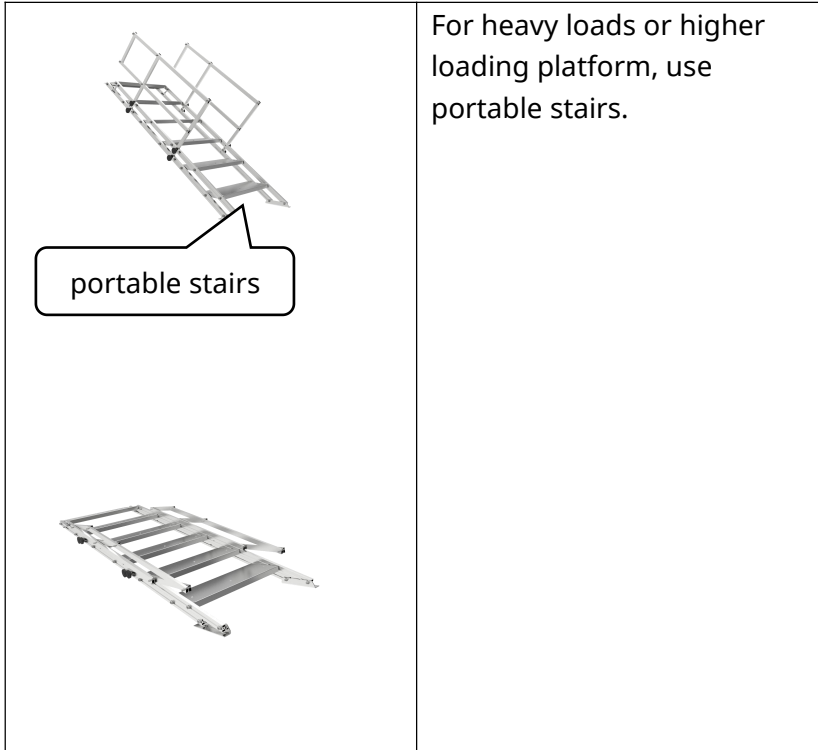
Caution -Be sure to turn off the power after each use.



4.8 Loading to vehicle



4.9 Unloading from vehicle



4.10 Transport



Warning-Please aware the weight and specifications



Warning- During transportation in vehicles, secure the

climber according to the relevant legal regulations!



Avoid to catch the battery support frame or case when transporting.



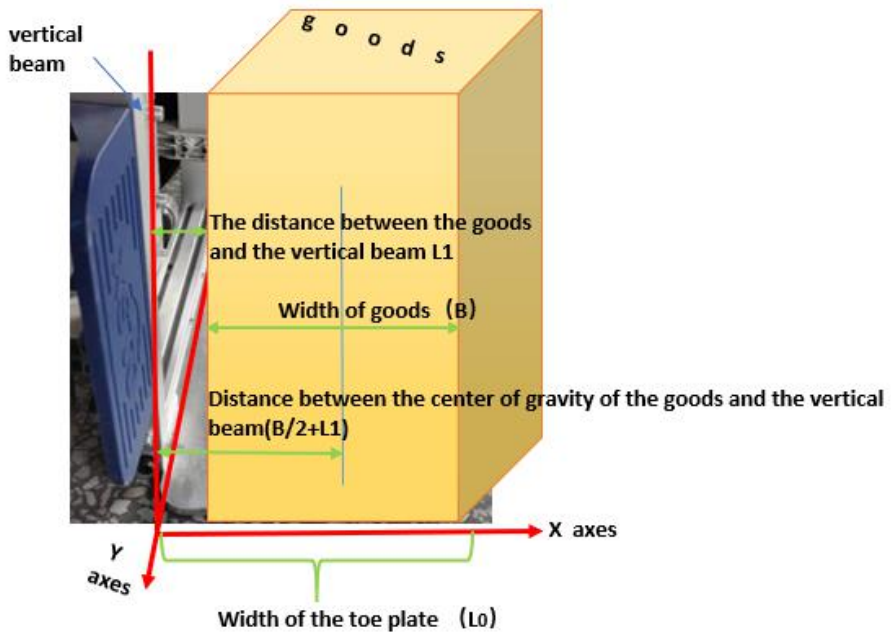
Be careful-Turn off the machine on transportation

	1. Fold up the toe-plate
	2. Fold up the adjustable handrails
	3. Press the brake arm down to close the brake function. This can avoid damage during transportation. (only for ZW7170GC/ZW7170GFC/ZW7200GC)

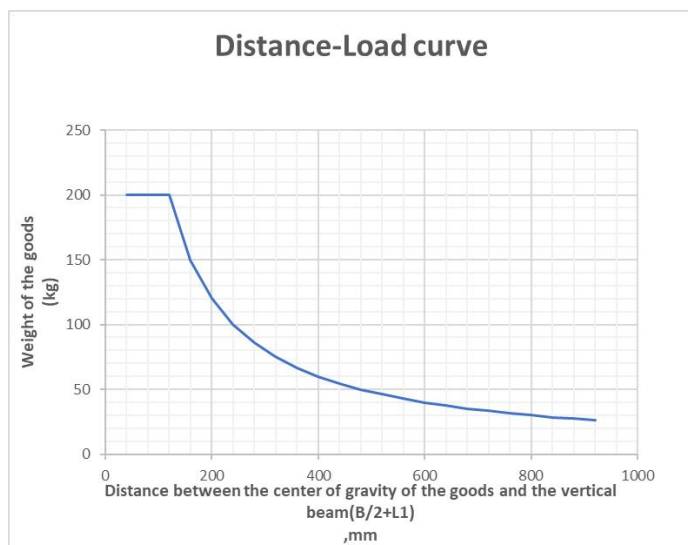
4.11 Cargo loading method and carrier curve

When the goods are putting on the toe plate, 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 toe plate(X axes). the shape 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.

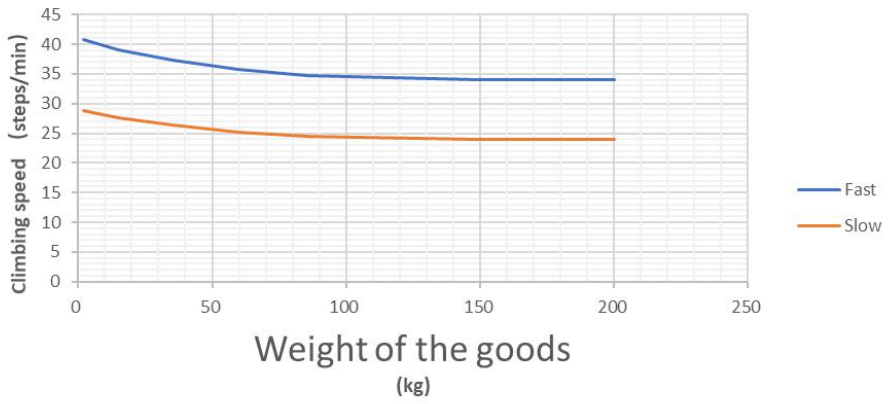


L0 (mm)	L1 (mm)	$\leq B$ (Recommended width of goods,mm)	Notes
240	0	480	Standard toe plate
240	60	360	Standard toe plate+Cylinder Device
280	0	560	Foldable Toe Plate
340	0	680	Foldable Toe Plate
Other custom size			



Due to the difference of cargo weight, the speed of the machine is different. For the relationship between cargo weight and climbing speed, refer to the chart below.

Weight— Climbing Speed 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.




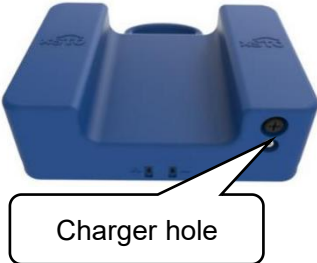

Notice-Always keep plug in contacts dry



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



1. Turn off the main switch.

	<p>2. pull out the battery pack</p>
	<p>3. Connect to 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% of 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, 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 charged and discharged completely one time for every three months, then charge the battery pack to about 50% of 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 dissembling 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 can not be charged	Charger output plug is loosen; Battery pack is fully	Check the charger output plug and battery plug is firm or

	charged	not; Battery pack can be used normally
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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 juice or other liquids, and do not get wet!

*Don't charge, use and store battery near a heat source such as fire and heater! Stay away from flammable and explosive materials. 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 exposure to high temperature and sun, or rainy days!

*Forbid to charge in corridors, evacuation routes, safe entrances and exits, and indoor houses!

*The battery should be charged, used and stored in a place away from static electricity.

*Stop charging if it is not fully charged for too long.

*It should be charged in the daytime under the supervision of someone. When people leave, pay attention to unplug the charging plug. It is forbidden to charge overnight.

*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 Replace of 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!



Fuse position

Remove the fuse cap and the old fuse, Insert the new fuse and put on the cap.
Fuse specification:
 $\phi 6 * 30\text{mm}$, 40A.

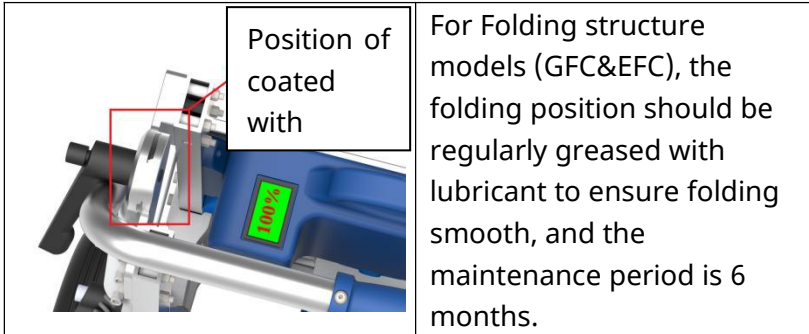
5.3 Check the brake pad and the climbing wheel



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

	<p>1. Check climbing wheels regularly and pay attention to wear limit.</p>
 <p>brake gasket</p>	<p>2. The minimum thickness of the brake gasket is 2 mm. If the brake pad is thinner than 2mm or damaged, contact the authorized professional or manufacturer. (only apply to ZW7170GC / ZW7170GFC / ZW7200GC)</p>

5.4 Folding maintenance (suit for GFC&EFC)



5.5 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 XSTO for recycling.



6 Malfunction and troubleshooting

6.1 Some problems and Solutions

problem	check and potential solution
<p>The climber machine can't start or can't go up or down stairs</p>	<p>Check the battery pack. If it shows low power (<20%), please charge. Check if the fuse is burnt, replace with spare fuse in accessory box if it's burnt. Contact with supplier if problems still exist beyond about situation.</p>
<p>The battery can't be recharged</p>	<ol style="list-style-type: none"> 1. Check if the battery capacity and voltage are normal or not(48V~54.6V) 2. Check the charger indicator light is normal or not. <p>Please contact the supplier if unnormal of above situation.</p>
<p>Failure of High /Low speed switching control</p>	<p>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.</p>
<p>Only move UP, can not move DOWN</p>	<p>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.</p>

6.2 Count the steps of climbing

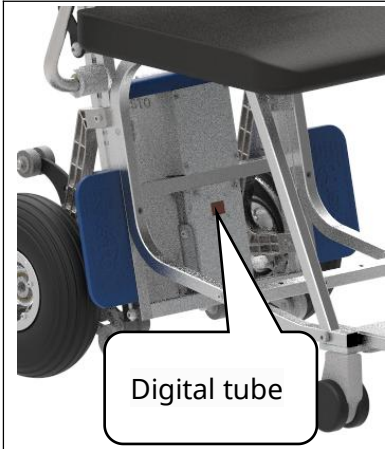


Show two digits, without decimal point. The digits are step counted. If over 100 steps, only unit digits and ten digits are displayed. The number counted will be clear each time power on. When pressing the UP/DOWN switch for about 4 seconds and release, it will display two digits with decimal point. Step number is in ten thousand digits, the decimal point before. The decimal count number is the accumulative without clear. Repeat to press the switch to change into two bits without decimal. After each time the battery is power on, restore the two digits display without decimal.

6.3 diagnostic trouble codes

When the operation angle of the climbing machine is not correct, "E6" will be displayed, and two digit number of steps will be displayed if under normal state.

If there are other fault codes and the machine can not operate normally, please provide the code displayed on the digital tube to your supplier and



describe the machine fault.

The diagnostic trouble code will be displayed on the digital tube.



The nixie tube displays the words in the left figure shows the misoperation protection function is enable.
Turn the battery on again, this function will be turn off.



Fault code: 1 letter + 1 number, is the fault code.
E1: represents abnormal overcurrent;
E2: represents abnormal voltage;
E3: represents abnormal speed;
E4: represents operation button fault;
E5: represents control system fault;
E6: represents abnormal

	angle.(Change to the correct operation Angle, and it can recover by itself.
--	---

7 Warranty and Responsibility

7.1 Warranty

The warranty terms of the motor, decelerator, lithium battery and motor controller as well as main climber structure is 12 months under normal usage; The warranty terms of the switches 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, tires safety 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
Pneumatic outer tires		C-1-00497
Pneumatic inner tires		C-1-00496
Speed switch base and Speed switch		B-1-00495 (DC) /B-1-00597 (GC)
Up/down switch base and Up/down switch		B-1-00494 (DC) /B-1-00596 (GC)
Operating button		B-1-01055

Beyond the scope of maintenance and beyond the warranty period of the product, we still provide warm service and 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 operation 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 capacity.


8 Accessories and method of use

Note:If the contents of this specification is 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 charging period by half with quick charger. The details are shown on the quick charger manual.</p>
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8.2 Auxiliary handrails

	<p>The auxiliary handrails is bolt connected under the main handrails, as shown in the left picture. It is helpful when pushing the machine on the ground or operating at the corridor corner.</p>
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8.3 Extra Large Toe Plate

	<p>1. For large size cargo, to use extra-large toe plate. The size can be customized.</p>
	<p>2. Installation Extra toe plate and regular toe plate can be bolt connected with climber</p>

8.4 Water and oil bucket tool

	<p>1. This tool can transport 6 bottles of water at one time. Maximum loading capacity is 19L, Maximum diameter of bottle: 320mm, maximum height of bottle: 370mm.</p>
	<p>2. Installation Water bucket tool includes two parts and is bolt connected to climber at three points, as shown in picture.</p>
	<p>3. Loading Loading the water bottles from bottom to top.</p>

8.5 The Ground Support System



1. Introduction
For transporting heavy loads on flat ground, the Ground Support System is convenient and quickly. This tooling can be folded and unfolded easily.


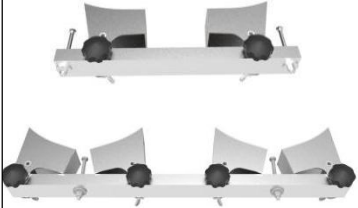




2. Installation
Installed under the guidance of manufacturer.



3. Using the hanger to fold or unfold the tool.

8.6 Cylinder device

	<p>1. Introduction Cylinder devices have two models (single and double cylinder). The maximum diameter is 500mm for single cylinder, and is 310mm for double cylinders.</p>
	<p>2. Installation The cylinder device is bolt connected to the climber.</p>
	<p>3. For single bottle mode, load a single gas cylinder at a time. Put the cylinder in the circular arc groove of the cylinder tool. the arc plate will be adjusted automatically to adapt to the diameter of different cylinders.</p>

	<p>4. For double bottle mode, load two bottles each time, or it will cause instability. Cylinders are also placed directly in the circular groove of the gas cylinder tooling.</p>
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8.7 Extension device

	<p>1. Introduction When carrying wide cargos, install the extension device to improve the cargo's stability.</p>
	<p>Installation The extension device is bolt connected to the climber.</p>


8.8 Gravity center adjusting device



8.9 Frame Extender

	<p>1. Introduction For the high cargo, use this device to improve operability.</p>
	<p>2. Installation The extension device is bolt connected to the climber. The disassembly of the rotating positioning body shall be carried out under the guidance of the manufacturer</p>

8.10 Widened guardrail

	<p>1. The widened guardrail is a kind of tool for the stair-climbing machine, which widens the load-carrying range of the stair-climbing machine, prevents the goods from falling out from the side, and improves the stability of the loading goods.</p>
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2、 Find the mounting hole on the stair climber; unscrew the Bolts and place the stair climber between the bolts and the widened guardrails. Assemble the Stair Climber and the widened fixture by bolting the nuts. Note the large gasket at the nut end.





3、 Place the goods to be transported on the loading board. Use The safety strap to tie the top level cargo to the stair-climbing machine and transport it with the stair-climbing machine.

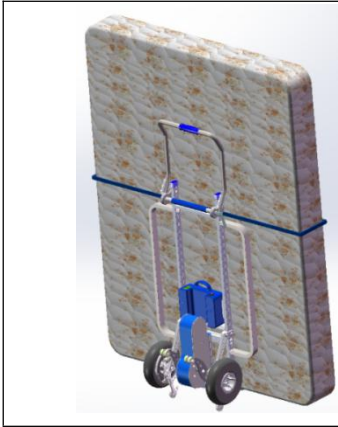
8.11 Telescopic folding widened guardrail

	<p>1、 The telescopic folding and wide guardrail tooling is one of the tools of the stair-climbing machine, which widens the load-bearing range of the stair-climbing machine and improves the stability of the loading goods. Can Be Flexible to accommodate different widths of goods, can be folded to facilitate the transport of tooling.</p>
	<p>2、 Remove the fenders; find the mounting holes on the Stair Climber ; unscrew the bolts and place the stair crawler between the bolts and the Wiper, and assemble the stair crawler and the wiper assembly by the bolts.</p>

	<p>3、Open the welded body of the guardrail. Unscrew the nut bolts and stretch to the appropriate width. Tighten the plum bolts. Load the cargo. The top cargo is bound with a strap. For Transport.</p>
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8.12 Extension device (stainless steel)

	<p>1、Widening fixture is a kind of fixture of stair-climbing machine, which can widen the load-bearing range of stair-climbing machine and enhance the stability of loading goods.</p>
	<p>2、Find the mounting hole on the stair climbing machine; unscrew the bolts, place the stair climbing machine between the bolts and the widening device, and assemble the stair climbing machine and the widening device together by bolts.</p>





3、 Place the goods to be transported on the loading board. The goods are tied together with the vertical beam of the stair-climbing machine body and transported by the stair-climbing machine.

8.13 Aluminum Alloy tool for widening guardrail



1、 Aluminum Alloy widening guardrail is a kind of climbing machine, which widens the carrying range of the climbing machine and improves the stability of loading goods. Can Be Flexible to accommodate different widths of goods, can be folded to facilitate the transport of tooling.

	<p>2、 Remove the fenders; find the mounting holes on the Stair Crawler; unscrew the bolts and place the stair crawler between the bolts and the Wiper, and assemble the stair crawler and the wiper assembly by the bolts.</p>
	<p>3、 Raise the guard rail. Pull the Blue Shrink tube to unlock the expansion lock and stretch to the proper width. Loosen the retractable lock to lock the tool width. Load the cargo. The top cargo is bound with a strap. For Transport.</p>

9 Assembly Instruction for unfinished machine

9.1 ZW7170GC/ZW7200GC/ZW7170EC



Tools



Machine parts



Install the mudguard
Use Hexagon socket head
cap screws M4x12(8 pcs)

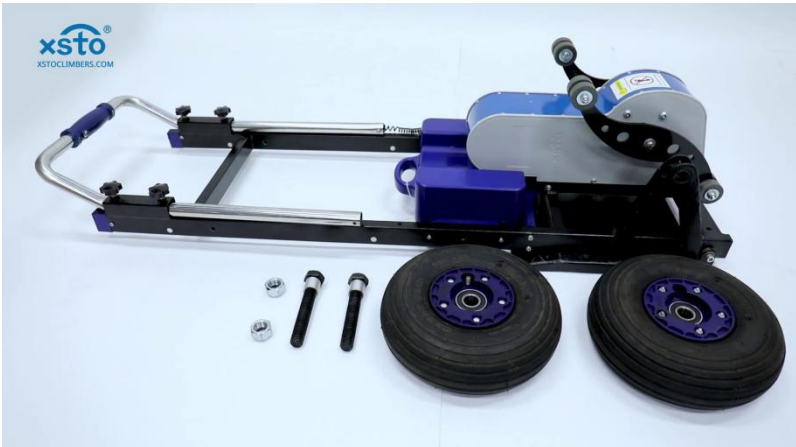


Install v-arm assembly
Use a wrench to tighten the nut bolts
with Hexagon head Bolt M8x45(4 pcs) and nyloc nut M8(4 pcs)

9.2 ZW4170DC/ZW4200DC



Tools



Machine parts



Install the tyre



Use a wrench to tighten the nut bolts
with Hexagon head Bolt
M20x130(2 pcs) and nyloc nut
M20(2 pcs)

