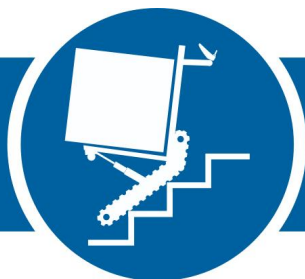


# OPERATION MANUAL



**POWERED STAIR CLIMBER**

**CT420SC**

# **EC DECLARATION OF CONFORMITY FOR MACHINERY**

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

Description of the machine: Powered Stair Climber  
Model: CT420SC  
Signature of the manufacturer: XSTO CO.,LTD



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# 1 Symbols and safety instructions



**WARNING ----- May cause serious injury or death!**



**CAUTION ----- May cause slight injury!**



**NOTE ----- May cause machine damage!**

- Read the user's manual and pay attention to the warning and safety instructions before operation.
- Check the electronic functions, battery capacity and crawler tracks.
- Store the CT420SC in an environment above 0°C for at least one hour before operation.
- Read the technical parameters carefully. Do not exceed the rated weight.
- Only trained person can operate CT420SC. The operator should be in health both physically and mentally.
- When stair climber the machine is going up and down, other personnel shall not stand under the machine .
- Anti-skid shoes are required. It must be operated with two hands. Run the pilot operation without load and at low speed.
- Make sure there are no obstacles on the stairs and the steps are not slippery.
- Only for transport of cargo, not for people. Safety strap must be used to secure the cargo.
- Do not reach under the load plate or touch the rotating part and

track.

- Do not use the CT420SC in rainy, wet, snowy or icy conditions, as side-slip or other potential dangers may be caused.
- Do not use CT420SC if the crawler track is broken.
- Do not use CT420SC on road that is slippery or with barrier.
- Do not use the CT420SC on the escalators or moving belts.
- Turn off the CT420SC immediately if the drive part is stuck.
- Make sure the power is off during transportation and the relative laws and regulations are followed.
- Keep the battery plug-in slot dry. Protect the charger and the charging cable from oils, diluents and items with sharp edges.
- Do not use high-pressure cleaning equipment. Store it in dry condition.
- For repair or maintenance please contact with local agency or distributor authorized by XSTO CO., LTD.
- Outer factor such as sunshine may lead to surface heat. Keep away from the flammables.
- The CT420SC may interfere the induced electromagnetic field of electronic equipment (such as security system of department store).
- Only the accessories provided by XSTO CO., LTD. can be used.

## **2 Description**

## 2.1 The structure



### CT420SC Heavy Load Powered Stair Climber

1: retractable aluminum alloy frame 2: removable battery pack 3: aluminum alloy loading board 4: Front load plate assembly (with universal wheel) 5: Drive unit 6: crawler track 7: Hand-held controller 8: retractable positioning pins 9: Back support wheel push rod 10: Pallet adjusting push rod 11: Back support wheel

## 2.2 Technical data

This user manual is for CT420SC series ONLY.

## 2.3 Application fields

This series of products is a kind of high-level automation new equipment which can pull the load to go up and down stairs realizing the whole process of mechanical transportation. Main application fields: logistics, express delivery, moving, large furniture appliances, large special equipment and other industries, as well as factories, offices, residential buildings, outdoor steps and other places.

## 2.4 Technical Parameters

### Stair Climber CT420SC Technical Parameters

Model	CT420SC
Size	Height: MIN 1150 mm, MAX 1640mm Width: 614 mm Length: 1170 mm
Weight	Main Body: 107 kg Battery pack: 3.1 kg
Rated Capacity	420 kg
Climbing speed (420kg load)	High speed:14.6 steps/min
Downstairs speed (420kg)	High speed:15.4 steps/min
Motherboard type	Type A
Battery capacity	78-100 floors (1400-1600 steps)



<b>Folding form</b>	Handle retracted and rotated
<b>Max. Height of step</b>	210 mm
<b>Min. width of the step</b>	Machine + cargo +100mm
<b>Min platform size</b>	1500mmx1500mm (turning stairs)
<b>Battery type</b>	Lithium battery pack
<b>Battery parameters</b>	25.9V, 17.5AH
<b>Charging parameters</b>	Input: AC100-240V Output: DC29.4V * 4A
<b>Walking motor/set (total two)</b>	DC motor 24V 300W*2
<b>Electronic push rod</b>	24V 300W 12000N 24V 200W 8000N
<b>Noise level</b>	<70dB (1m horizontal distance measurement)
<b>Storing/operating temperature of device</b>	-5°C~35°C/0°C~40°C
<b>Storing/operating temperature of battery</b>	-5°C~35°C/0°C~40°C
<b>Serial number</b>	on nameplate
<b>Protection level</b>	IP54
<b>Lifespan</b>	3years or 50000steps

Note: CT420SC parameters are based on ambient temperature 25°C. In a low-temperature environment, the load and endurance will be reduced. If the low-speed mode is started, the endurance will be reduced accordingly. This product is recommended to be used within 1000 meters above sea level. It is recommended to use under ambient humidity range of 45%-85% (no frost or snow).

Note: Product processing error leads to different weight of each product,  $\pm 2\text{kg}$  of each.



**WARNING** : The center of gravity for the cargo should be located in the center of the loading board. If the center of gravity of the cargo exceeds the loading board, it should not be transported by using the CT420SC.

## 2.5 Dimension



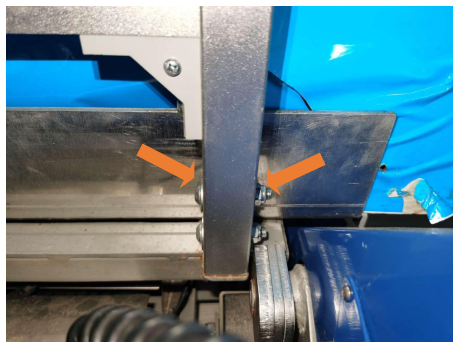
## 2.6 Standard Supply Accessories

		
<p>① <b>Main Body</b></p>	<p>② <b>Battery Pack</b></p>	<p>③ <b>Charger, 24V (for Lithium battery Only)</b></p>
		
<p>④ <b>Safety Strap</b></p>	<p>5 <b>Strap Holder</b></p>	

## 2.7 Installation instructions



Insert the aluminum alloy vertical beam of CT420SC into the corresponding slot on the machine base.



Install the aluminum alloy vertical beam in the installation position using the screws, gaskets and lock nuts.  
Note: There is a gasket on each side of the screw and nut for installation.

## 3 Operation



**Note**—Please put the machine in the environment without freezing (above 0 °C) before initial operation!



**Warning**—Only trained person can operate CT420SC.



**Warning**—Pilot operation must be carried out with no

load and in low speed mode!



**Warning**—The goods must be fastened with straps!



**Warning**—Practice operating the machine with cargo of 50-100 kg until you are fully skilled in controlling the machine.



**Warning**—When going up and down the stairs, under the non-automatic adjustment mode of loading board, pay attention to the center of gravity for the goods to ensure the load balance!



**Warning**— Operate it with two hands! Especially when approaching the last step upward and the first step downward.



**Warning**—When the slope of the ground is bigger than 5°, it is forbidden to use the flat ground model by using the caster to move!



**Warning**—When the machine is in operation, do not place your body parts close to the mechanical positions such as the track, the loading board and the cover, otherwise personal injury may occur!



**Warning**—Different goods have different centers of gravity. For special goods (such as oversize, the center of gravity is biased to the outside of the loading board, etc.), manually adjust the tilt angle of the loading board to ensure safe operation!

### 3.1 Check Before Using CT420SC



#### **Warning**

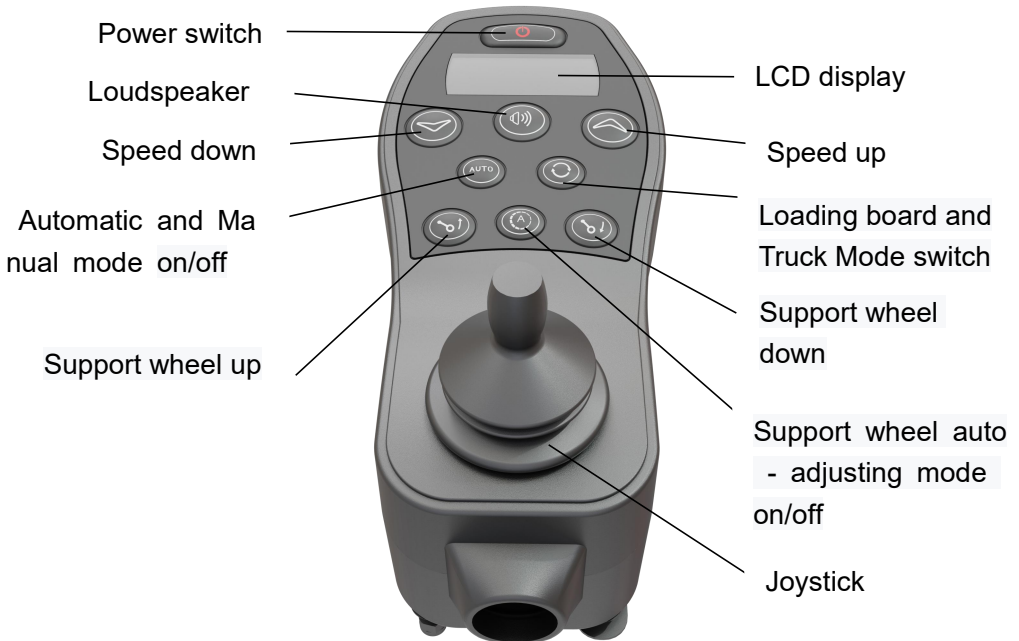
Stop operation when the following issues occur and contact manufacturer or local dealer for CT420SC repair.

- (1) The battery has been fully charged, but the hand-held controller still shows low power.
- (2) After the power is turned on, press the hand-held controller switch and there is no response.
- (3) Press the hand-held controller button, and find the function is inconsistent with the manual function, or the function is missing.
- (4) The rotating positioning body at the handle cannot be adjusted or cracks and damages are identified.
- (5) The height of handle cannot be adjusted or locked.
- (6) Cracks and crevasses are identified on the crawler track, or the track deviates the gear during functioning.
- (7) CT420SC makes abnormal sound during functioning.
- (8) Switch on the battery and the universal wheel touches the ground, press the "M " for the first time to make CT420SC in the automatic adjustment mode of the loading board, however the loading board cannot be adjusted to 9 ~ 11° from the horizontal level.

**Please stop the CT420SC if there is any damage to the remaining parts or abnormal vibration of the machine which difficult to determine whether the machine can be used safely during functioning.**

## 3.2 Usage of hand-held Controller

### 3.2.1 Button function of hand-held controller



**Joystick:** control the CT420SC to move forwards and backwards or to flip the loading board.

**Loudspeaker:** Press loud, press again to stop loud, warning function.

**Speed down/up :** there are five speed level, and the speed gradually increases from level 1 to 5.

**Aviation socket:** used for line connection with the controller.

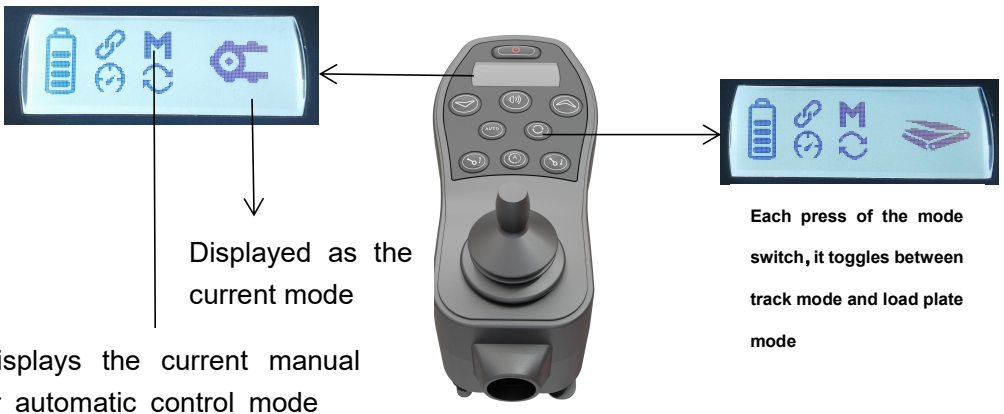
Automatic and Manual mode on/off: **this is Automatic mode and Manual adjustment mode.**

**Mode switch :** used for switching operation modes, this model has track mode and load plate adjustment mode.

**Support wheel down/up:** Switch to manually adjust the position of the support wheel

**Support wheel auto - adjusting mode on/off:** In the load plate automatic adjustment mode, double-click to open the support wheel automatic adjustment function, single click to close.

### 3.2.2 Track running mode and loading board manual adjustment mode



**track mode:** Used to enable track movement on the ground and up and down stairs



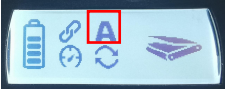
**loading board adjustment mode:** Used to enable manual control the open/close of the load plate



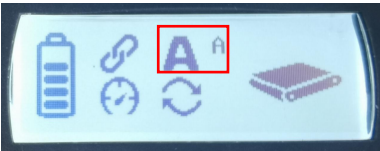


**Loading board manual adjustment mode :**

**Loading board angle will not be adjusted automatically**



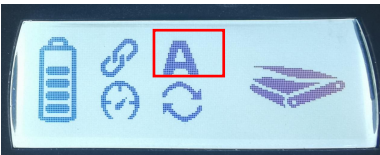
**Loading plate automatic adjustment mode : The loading board will remain at the original tilt angle automatically**



**Automatic adjustment mode of support wheel is on**



**Note: when the loading plate is in manual adjustment mode, pressing the "support wheel automatic adjustment mode key" does not work.**



**Automatic adjustment mode of support wheel is off**

### 3.3 Adjustment of Handle and Strap Holder



The CT420SC handle has a rotating positioning body, which can be adjusted by loosening the L-type handle.

After adjusting the handle to a suitable position, the L-type handle is locked to complete the angle adjustment of the handle.

At the same time, by pulling the positioning pin cable, the back panel can be extended and retracted, and the height of the armrest can be adjusted.



The strap holder can be removed and installed at any height, suitable to fix goods of different heights.

### 3.4 Operate on Flat Ground

#### 3.4.1 Operate on flat ground



At the bottom of CT420SC has catser for moving on flat ground. Adjust the loading board to the smallest angle, which will enable the casters touch the ground.

At the same time, press the rear supporting wheel button to extend the rear supporting wheel till the wheel touch the ground and be horizontal with the loading board.

This way can be applied on flat ground **ONLY**.



**Warning : When the slope of the ground is bigger than 5°, it is forbidden to use the flat ground model by using the caster to move!**

### 3.4.2 Track walks on flat ground

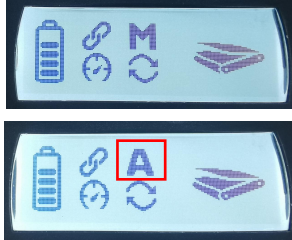


The CT420SC can move on flat ground by crawler tracks. Switch to the loading board manual operation mode, raise the loading board to an angle till the crawler tracks touch the ground, then the operator can move the machine by controlling the joystick.

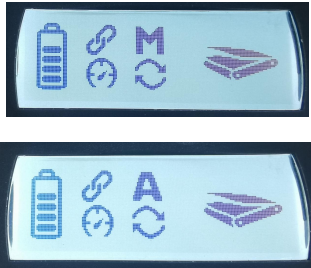
This way is applied to short distance walk or on uneven road surfaces.

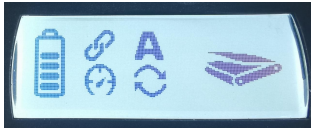
## 3.5 Adjust loading board

### 3.5.1 Loading board manual adjustment mode or automatic adjustment mode.

	<p>Press the mode switch button to switch to the adjusting mode of the loading board. In the changing mode, the opening and closing Angle of the loading board can be adjusted by the joystick.</p> <p>Press the on/off button of loading board automatic adjustment to choose automatic adjustment or manual adjustment.</p> <p>The adjustment mode of the loading plate will be displayed in the middle of the screen</p>
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### 3.5.2 Change the automatic adjustment angle of the loading board

	<p>Mode 1: Switch to the adjusting mode of the loading plate, adjust the load plate to a proper Angle by joystick, and then open the loading plate for automatic adjustment.</p>
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Mode 2: First turn on the automatic adjustment function of the loading board, then switch to manual load plate adjustment mode, adjust the load plate to the appropriate angle by joystick.

### 3.5.3 The notes for angle adjustment of the loading board

#### (1) Effective range of automatic angle adjustment: 7° to 30°

When CT420SC is under automatic adjustment mode, if the horizontal angle of the loading board is adjusted to less than 7° or more than 30°, CT420SC will automatically adjust the angle of the loading board to raise loading board to 7° or lower the loading board to 30°.

When CT420SC is in the manual mode, if the horizontal angle of the loading board is adjusted between 7° and 30° and enters the automatic mode, CT420SC will automatically adjust the angle based on the current angle. If the loading board enters the automatic mode with an angle greater than 30°, the loading board will be depressed to 30° (In case of less than 7°, see the second precautions).

#### (2) Restore the last used auto angle

When the CT420SC switches to manual mode from automatic mode, CT420SC will retain the horizontal included angle of loading board during mode switching (assuming the angle is 15°).

When the CT420SC is under manual adjustment mode and the horizontal included angle of the loading board is less than 7°. Then switch to the automatic adjustment mode, the loading board will be adjusted to the angle when the last automatic adjustment mode is switched to the manual adjustment mode (the angle of the previous

section is restored to 15°).

Note: this angle is not saved after the machine is powered off, and is only valid when the machine is continuously used after power on.

**(3) When the machine (lithium battery switch) is powered on, the automatic adjustment default angle is : 10 °**

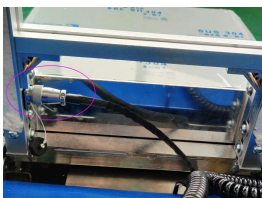
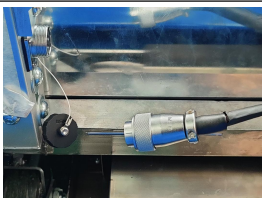
After the CT420SC (lithium battery switch) turns on, it switches to the automatic adjustment mode for the first time with the horizontal angle less than 7°. At this time, The CT420SC will adjust the horizontal angle of loading board to 10°.

Switch to the automatic adjustment mode when it is more than 7°, and the adjustment of the loading board shall be subject to the 3.5.1(1).

(4) If it is found that the hand-held Controller is in the state of speed limit for a long time, or there is a continuous buzzer alarm sound from the CT420SC, please stop using the machine, and refer to the maintenance manual for fault detection.

### 3.6 Go Upstairs

#### 3.6.1 Start the CT420SC stair climber



For the first use, you need to insert the plug under the battery base. In the daily use since then, there is no need to insert or to remove the plug.



Insert the 24V battery pack and turn on the battery switch.



**Note: Before turning on the battery switch, make sure the battery is inserted in the battery holder and the power cord is connected well.**



Turn on the hand-held controller switch; Click once to start the controller screen display; **Press and hold again for 1 second to shut it down.**

### 3.6.2 Initial position



Make sure the goods are fixed securely, move CT420SC to the edge of the stairs and make sure the two tracks lean against the edge of the first stair. Turn on loading board automatic adjustment mode on hand-held controller, set speed at level 1, go upstairs by tracks.

### 3.6.3 At the beginning of going upstairs



**CT420SC will walk slowly before it finally gets off the ground. Under loading board automatic adjustment mode, the process will slow down the move.**

**Under the manual control mode, shift between “track walk” mode and “loading board manual adjustment” mode, make sure the machine going up slowly, while maintaining the balance of the loading board.**

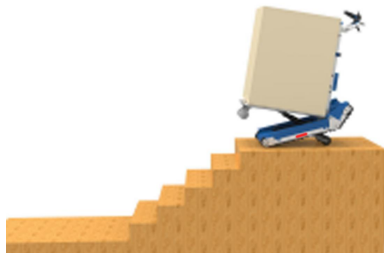
### **3.6.4 Going upstairs smoothly**



**When CT420SC is completely off the ground or turntable, the stair climbing machine can go up the stairs smoothly, and the automatic adjustment mode of loading plate can be cancelled. If CT420SC is found to have a large sway back and forth in the process of going upstairs. Please switch to "load plate mode" by mode switch button in the automatic adjustment mode of the load plate and manually adjust the turning Angle of the load plate to make CT420SC stop stably on the stairs without obvious shaking, and then switch back to the running mode of the track to carry out the upstairs operation. Speed up when CT420SC can climb smoothly.**



### 3.6.5 Climb the last *THREE* steps



When the crawler reaches the edge of the last step, the speed must be set to 1. Set CT420SC to the automatic adjustment mode of the loading plate through the hand-held controller. When moving to 1/3 position of the nylon block below, press the button of automatic adjustment mode of the supporting wheel, and the screen will show that the automatic adjustment mode of the supporting wheel is on **A**. The rear support wheel will automatically extend until it touches the step and stops extending. Continue by controlling the rocker until CT420SC fully enters the stair platform. Press the support wheel automatic debugging mode button again after the handle. The screen will show that the support wheel automatic adjustment mode is on and the buzzer will keep ringing. When CT420SC fully enters the platform, the automatic adjustment mode of the support wheel will be turned off, and the mode will be switched to the support wheel control mode, and the rear support will be fully placed

into the base of the stair climber to complete the ascending process.



**Warning:** There is potential risk when CT420SC moves up to the highest stair on every floor. CT420SC may roll over forward or backward. Keep people and goods far away the machine. When a rollover is inevitable, loosen the armrest and dodge in time.

**Note:** When the loading board automatically adjusts the angle, the speed of going up and down the stairs will be automatically reduced to ensure safety. When the automatic balance adjustment is completed, the original speed will be restored. And under the automatic adjustment mode of the loading board, in the initial position of going upstairs, only the joystick needs to be controlled, and no other operation is needed.



**Note:** There are 2 red long strip signs on both sides of CT420SC for recognizing the center gravity of goods, which are used as a reference for general goods when climbing stairs. However, this red sign is not applicable to all goods and is only for reference and judgment using. The specific center of gravity should be subject to the actual handled goods!

## 3.7 Downstairs


### 3.7.1 Start the CT420SC stair climber




Insert the 24V battery pack and turn on the battery switch



**Note:** Before turning on the battery switch, make sure the


	<p><b>battery is inserted in the battery holder and the power cord is connected well.</b></p>
	<p>Turn on the hand-held controller switch</p>

### 3.7.2 Initial position

	<p>Move CT420SC stair climbing machine to the edge of the upper platform, use the hand-held controller to set CT420SC to the automatic adjustment mode of the loading plate, set the speed to gear 1, and use the crawler running mode to go downstairs. Press the button of support wheel automatic adjustment mode on controller, the screen will show that the automatic adjustment mode of the support wheel is on, and the rear support wheel will automatically extend to the preset Angle.</p>
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### 3.7.3 At the beginning of going downstairs



Make the CT420SC at the Loading board automatic adjustment mode and Rear support wheel extend automatically mode  (The display will indicate that the support wheel is in automatic mode), use 1 gear speed to move forward slowly. During the process, the crawler will slowly descend. When the crawler completely falls on the stairs, the rear support wheel will automatically retract.



Note: The automatic extension mode of the support wheel is turned off after CT420SC leaves the landing



**Warning: There is potential risk when CT420SC moves on the highest stair. CT420SC may roll over forward or backward. Make sure there is nobody and no goods beneath the stair. When a rollover is inevitable, loosen the armrest and dodge in time. Personnel shall avoid from the side.**

### 3.7.4 Going downstairs smoothly

When CT420SC gets off the edge of the platform totally and goes down stably, cancel automatic mode. If the base of CT420SC is unstable when going downstairs,



adjust to rotating mode by hand-held controller. Adjust manually loading board rotating angle according to different cargo gravity so that CT420SC can go downstairs stably. Then the speed can be increased.

### 7.5 Going down to the last *THREE* steps



**When CT420SC goes downstairs to the last three steps, automatic loading board adjustment mode is recommended, set speed to 1.** Turn to loading board automatic adjustment mode by hand-held controller. If the manual adjustment mode is applied please make sure the balance of the loading board, shift between the track walking mode and manual adjustment mode. And when the tracks land on the floor, the floor walk mode can be launched.



**NOTE:** When the loading board angle is automatically adjusted, the speed of going up and down the stairs will be automatically reduced to ensure safe going up and down. When the automatic balance adjustment is completed, the original

speed will be restored. Under the automatic adjustment mode of the loading board, in the initial stage of going upstairs, only the joystick needs to be controlled, and no other operation is needed.

### 3.8 Turning operation on flat ground or platform

Press *Mode switch* key on the hand-held controller to switch the climbing machine to the loading board manual adjustment mode. Operate the joystick to lift and flip the load board, slightly increase the center of cargo's gravity, until the casters completely go off the ground. Then, press *Mode switch* key again to switch to the track walk mode, and use the joystick to turn left or right. When the steering is completed and ready to go up or down the stairs, follow the previous instructions for going up and down stairs.

Flat ground can be carried out by wheels, through the *mode switch* key cut to the load board mode, the load board flat, so that the front wheel landing; Then switch to the support wheel manual mode by *mode switch* key, slightly make the support wheel landing. When all four wheels are on the ground, the tracks are off the ground and you can push the wheels flat.



**Note:** Flat wheels are not suitable for slopes greater than 5 degrees. Otherwise it will cause the danger of landslide. The emergency remedy is to immediately turn on the automatic mode of the pallet and bring the track to the ground.

### 3.9 Parking



**NOTE**—Use the hand-held controller to power off the machine, and then turn off the power switch of the battery pack after each use! Remove the battery if the machine will not be used for a long time.



When parking, ensure that the CT420SC is stored on the horizontal ground stably without shaking. If the storage place is likely to cause CT420SC slide, raise the loading board to an angle so that tracks can land, preventing accidents or losses caused by machine sliding.

## 4 Maintenance





### 4.1 Battery pack



**Notice**—Please keep the stair climber away from the wet environment. After each use, please remember to charge! Please follow the operating instructions to charge! Keep the socket dry!



**Notice**—Please protect the charger and the charging cables away from oil, grease, detergent, thinner or any potentially damaging items!

 <p>The image shows a grey hand-held controller on the left with an orange arrow pointing to a power button. On the right, a blue battery pack is shown with an orange arrow pointing to a power switch on its side.</p>	<p>1、 Make sure the hand-held controller has switched power off to avoid damaging the motherboard. Also turn off the main switch on the battery.</p>
 <p>The image shows a blue battery pack being lifted upwards from a grey metal frame. A large orange arrow points upwards from the battery, indicating the direction of removal.</p>	<p>2、 Remove the battery in the arrow direction as shown in the picture. Note: The fuse holder is located below the battery base. Spec: 40A. The charging socket is located under the battery.</p>
 <p>The image shows a blue battery pack with a callout box pointing to a small hole on its side. The callout box contains the text "Charger hole".</p>	<p>3、 Connect the charger.</p>
 <p>The image shows a black rectangular charger with a power cord on the left and a charging cable on the right.</p>	<p>4、 Please refer to the charger instruction on how to use it. Note: Use a dedicated 24V lithium battery charger, the output voltage is: DC 29.4V.</p>





**NOTE: Don't start CT420SC while the battery is in charging.**



#### **4.1.1 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, 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 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 blown fuse	Connect the output line properly in accordance with the specifications. Charging the battery pack Replace the fuse
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 of battery

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.
- \*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!
- \*When charging the charger, connect the DC output end of the charger to the battery, and then connect the AC power plug of the charger.
- \*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.

## 4.2 Exchange the fuse



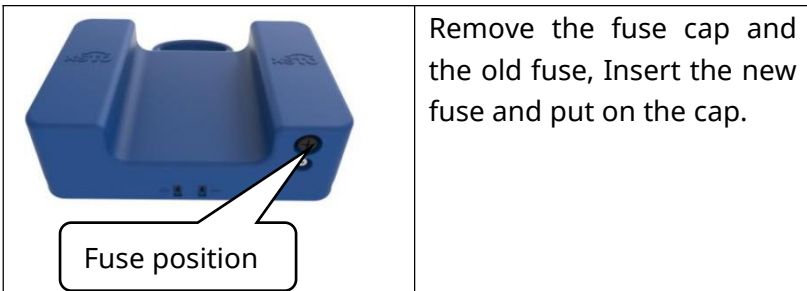
CAUTION - Before exchanging the fuses, disconnect the charger /charging cable for the car!



NOTE - Never mend or bridge defect fuses!



NOTE - Replace them with fuses of the same amperage!



## 4.3 Recycling

CT420SC is one product with long service life. However, if your climbing machine is nearing its limit of use, you can return the parts of the machine to XSTO's local agents for recycling.



## 4.4 Precautions for care and use

\* Store CT420SC in an environment above 0 ° C for at least one

hour before the initial operation.

- \* Do not exceed the rated weight.
- \* Only trained personnel are allowed to operate the CT420SC.
- \* Wear non-slip shoes. Must be operated with both hands.
- \* Practice with no load, low-speed up and down operations.
- \* For cargo transportation only, not for person transportation.
- \* Cargo must be secured with a safety strap.
- \* Do not touch the bottom of the load plate or rotating parts.
- \* Do not use the CT420SC in rainy, humid, snowy or icy conditions.
- \* Avoid hidden dangers caused by slipping, such as poor braking

effect or side slip.

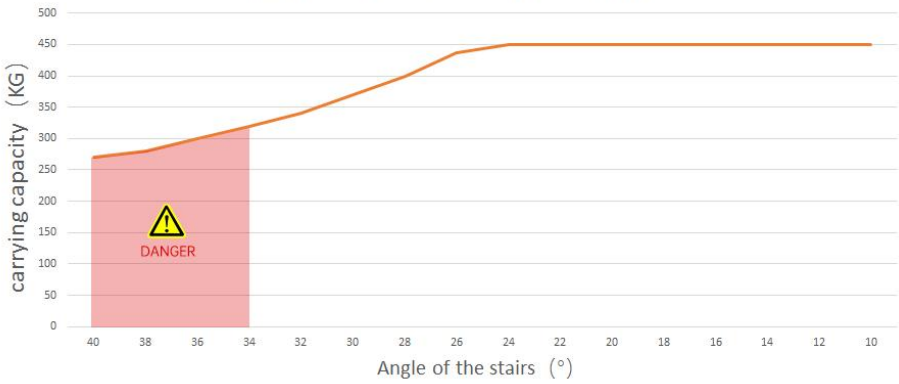


**Note: Motor of crawler, 50% working time [Continuous Operating Hours / (Continuous Operating Hours + Continuous rest hours) ≤ 50%], Rated load of 70% or above, the maximum continuous running time is less than 60 minutes. Rated load of less than 70%, the maximum continuous running time is less than 90 minutes.**

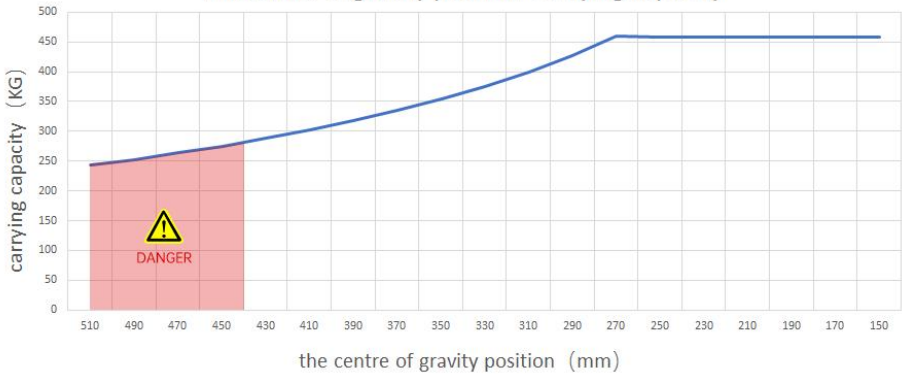


**Note: Electric Push Rod, 20% working time [Continuous Operating Hours / (Continuous Operating Hours + Continuous rest hours) ≤ 20%], Rated load of 70% or above, the maximum continuous running time is less than 2 minutes. Rated load of less than 70%, the maximum continuous running time is less than 4 minutes.**

Angle of the stairs-Carrying capacity



The centre of gravity position-Carrying capacity



## 4.5 FAQ

Q1: Where can the CT420SC be used?

A1: The CT420SC is a versatile all-terrain intelligent handling device, suitable for inside buildings, inside factory, and in some outdoor

environments.



**Note: CT420SC is not allowed to be used on wet roads and on water surface.**

Q2: Can the CT420SC be used on rainy days?

A2: The IP rating of CT420SC is IP54, which has the ability of dust and splash proof, but it cannot be used in rainy days and water.

Q3: Can the CT420SC handle all heavy loads?

A3: The CT420SC has a rated load of 420KG. If the cargo exceeds 420KG, it will cause damage to the CT420SC. In addition, the center of gravity of the cargo (not more than 420KG) must be located within the loading board. When the center of gravity for the cargo is approaching the the edge of loading board, the loading ability will be reduced accordingly; when the center of gravity of the cargo exceeds the load board, the CT420SC cannot be used to transport the cargo.

Q4: How long is the CT420SC lifespan?

A4: The CT420SC has a design life span of 3 years or 50,000 steps, and the warranty is 1 year or 20,000 steps (except for crawler tracks, loading board, casters and other consumable parts).

Q5: How long does the CT420SC last when the battery is fully charged?

A5: The CT420SC has a range of 1400-1600 steps (about 70-100 floors up and down stairs) after each full charge.



**NOTE: If the CT420SC is parked for more than one week, it should be recharged before use.**

Q6: Can anyone use the CT420SC?

A6: CT420SC is a heavy-duty handling equipment which requires skilled operation skills. People with no qualifications are not allowed to operate the machine.

Q7: hand-held controller Indication status analysis

A7: The fault is usually indicated on the controller screen, and the related signal will flash accordingly. For example, if it is a key lock issue, a key signal will flash; if the temperature is too high/low, a thermometer signal will flash.

Q8: CT420SC lithium battery cannot be charged.

A8: Check if the fuse of the CT420SC lithium battery is broken. If it is broken, replace it with a new one. Check whether the charger and its fuse are normal or not. During normal charging, the charger displays two red lights. If it is fully charged, the charger displays one red light and one green light.

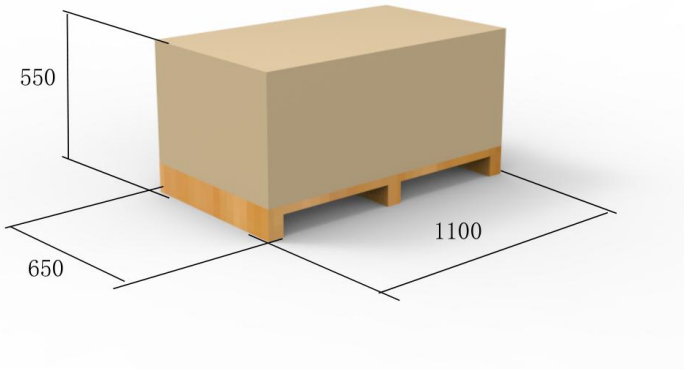


# 5 Packaging box and shipping instructions

## 5.1 Package composition and storage

The packaging of the CT420SC stair climber consists of a carton pack and a wooden pallet. The carton part uses a high-strength carton that can bear a weight of 500KG. The CT420SC can only be stored in a way that the carton is stacked on the pallet. The CT420SC box can bear two layers of stacking. Stacking of CT420SC packaging must be carried out by using forklifts or special stacking equipment. Manual handling is prohibited. When stacking the CT420SC package, please make sure the open side of the pallet face outside, which will make it easy for the forklift loading or unloading. At the same time, after stacking, the two-layer package must be fixed to prevent tipping due to external reasons.

## 5.2 Basic size of packaging box



**Unit: mm**

# 6 Warranty and responsibility

## 6.1 Warranty

The warranty period of the product is 12 months.


Any damage caused by the following reasons is not covered by the warranty:



- Damage caused by overload work;
- Damage caused by incorrect operation
- Damage caused by violence
- Natural wear of casters, safety strap, etc.
- Inappropriate or inadequate maintenance
- Unauthorized structural changes and improper use of equipment and accessories
- Damage caused by overweight
- Battery is not charged appropriately

Any of the following situations is identified during the warranty period, the cost of materials and service fees will be charged accordingly.

- Damage caused by the consumers' improper use and maintenance or poor storage
- Dismantling damage caused by a third- party.
- Damage caused by

The following parts are not covered by the warranty.

Name	Sketch map
Crawler track	

Caster	
wheels	

For products that are not covered by the warranty, we still serve you enthusiastically, and only charge the cost of the parts.

## 6.2 Responsibility

**The manufacturer is not responsible for any damage caused to the CT420SC in the following cases.**

- Inappropriate equipment operation
- Repair, dismantling or other operations of the equipment without authorization
- Operation manual is not followed
- For the installation of special accessories for CT420SC
- Deliberately dismantle the configuration of CT420SC
- Operation under overload conditions
- Operation under low battery capacity

\*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

## **EC Declaration of Conformity**

**We**

(XSTO CO., LTD.)

**Company's address**

(Floor 1, Building C, 555 Plant. Ma'an Cun Rd, Cuiheng New District, Zhongshan City, Guangdong Province, China)

**declares that the product described is in conformity with**

**The MD Directive: 2006/42/EC and The EMC Directive:2014/30/EU**

**Applicable Harmonized standards:**

ANNEX I of 2006/42/EC

EN ISO 12100:2010

EN 60204-1:2018

**Product Name**

Heavy Load Powered Stair Climber

**Product Model**

CT420C.CT420SC.CT420SCN

**Trade Mark**

(XSTO®)

**Name and address of the person authorized to compile the technical file**

Jingbu Xu

Floor 1, Building C, 555 Plant. Ma'an Cun Rd, Cuiheng New District, Zhongshan City, Guangdong Province, China

**Authorized Representative:**

We guarantee that we will provide the authorized representative information before we export the machine to E.U.

**Responsible for making this declaration is the manufacturer**

2022-1-20

Yong Zhao

Guangdong China

General Manager

**Issue date and Place**


**Name and position**



**Signature and company stamp**



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