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CargoMaster C120

Translation of the original user manual



CargoMaster C120 S
Standard handle, height-adjustable



CargoMaster C120 F
Standard handle, swivelling

CE

2021-03 (4.1)

EN

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The CargoMaster C120 has been tested for state-of-the-art technology, as well as for electrical and mechanical safety by TÜV SÜD Product Service GmbH.

People with visual, reading, or intellectual impairments should print out the user manual available on the website in larger characters or have this manual read to them, if necessary. On our homepage, you will also find all safety-related changes which have been made to the user manual.

The current edition of the user manual is available at:

<https://www.aat-online.de/bda/c120>

Manufacturer's signature:



Martin Kober
(Managing Director)



WARNING

Failure to observe this user manual, in particular the safety instructions, can lead to defects in the CargoMaster C120 and endanger the operator and the cargo, as well as affect it in its proper function! There is an increased risk of accidents! In the event of an infringement, claims for warranty and liability are excluded!

The product is state of the art and complies with the associated safety-related requirements. Nevertheless, a low level of residual risks cannot be ruled out. Please observe the safety instructions to this end.

Please note that the colours of the 3D images shown in this document may differ from those of the original product.



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1 SYMBOLS AND SAFETY INSTRUCTIONS



DANGER - Imminent DANGER

If this hazardous situation is not avoided, it will result in severe or possibly fatal injuries!



WARNING - Possibly imminent DANGER

If this hazardous situation is not avoided, it might result in severe or possibly fatal injuries!



CAUTION - Possibly imminent danger or potentially harmful situation

If this hazardous situation is not avoided, it may result in minor injuries or damage to property!



NOTE - Information by the manufacturer

IMPORTANT SAFETY INSTRUCTIONS



NOTE

READ THE USER MANUAL PRIOR TO START-UP AND OBSERVE THE WARNING NOTICES AND SAFETY INSTRUCTIONS.

SAVE THE USER MANUAL AND KEEP IT IN A SAFE PLACE.

The C120 may only be operated by persons who have obtained appropriate training and are physically and mentally able to operate the C120 safely. This also includes adequate eyesight.

Training may only be carried out by the manufacturer, the AAT field service staff or by certified partners.

In the event of reading disabilities, cover training content in more depth verbally.

Minors below the age of 16 are not allowed to operate the C120!

Minors of at least 16 years are allowed to operate the C120, but only under supervision!

Stability tests were performed under laboratory conditions. C120 may behave differently under real conditions compared to laboratory tests.

The C120 should not be parked blocking escape routes, doors, access to stairs or in front of fire fighting equipment.



CAUTION

External heat sources may cause the surface temperature to rise (e.g. sunlight)! Do not touch the affected surfaces. There is a risk of burns!

The C120 must not be used in continuous operation for more than 12 minutes.

Do not exceed the permitted lifting capacity. When overloaded, the C120 may be damaged!

The C120 is not made exclusively out of flame retardant materials. Keep the C120 away from sources of ignition.



WARNING

Never touch rotating/moving parts. There is a risk of crushing!

Only operate the C120 wearing safety shoes. There is a risk of crushing between C120 and foot!



DANGER

Do not use the C120 in rain, wet conditions, snow or black ice. There is a risk of accidents due to the reduced braking effect!

Only use the C120 if both safety brakes are operational. There is a risk of accidents!

Do not use the C120 on escalators or travelators. There is a risk of falling! The cargo may fall out!

The operability of the C120 may be influenced by electromagnetic fields (e.g. by mobile phones, electric generators, or high-voltage sources)!

The C120 may interfere with highly sensitive electromagnetic fields of other electronic devices (e.g. anti-theft devices). Do not operate the C120 in the proximity of medical devices with e.g. a life support function, nor close to diagnostic devices.

Never transport persons with the C120!

2 Explanation of the symbols on the device (applicable for USA/Canada)



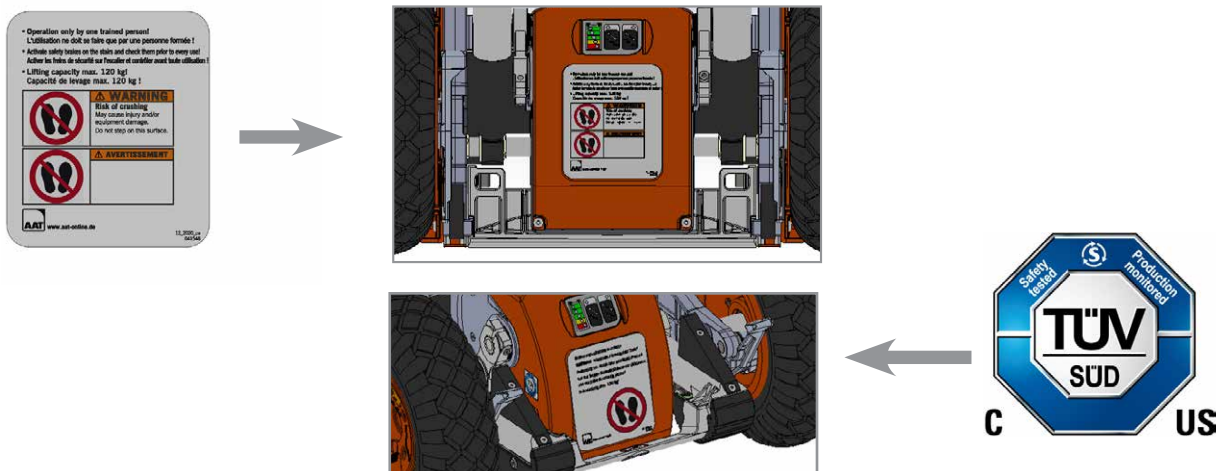
NOTE - All symbols and adhesive labels listed in this chapter can be found on the CargoMaster C120 in the respective national language! The exact position on the device is listed in the description of the adhesive labels as well as in the following labelling plan.

Symbol	Explanation
	CE marking Position: Type plate The product complies with the relevant provisions of the EC Machinery Directive 2006/42/EC.
	SN Position: Type plate Serial number of the product (e.g. C120XXXXXXX)
	Manufacturer Position: Type plate Indicates the manufacturer of the product (AAT Alber Antriebstechnik GmbH)
	Barcode Position: Type plate Contains the AAT serial number
	Date of manufacture Position: Type plate Indicates the year the product was manufactured.

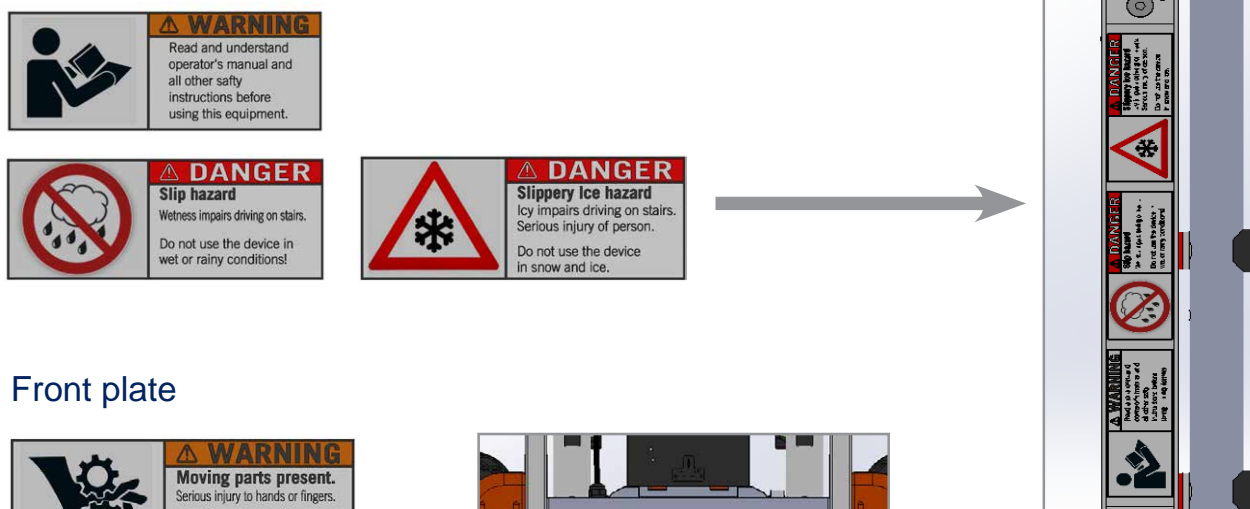
	<p>TÜV SÜD NRTL test mark Position: Drive unit, left side Refers to the fact that the product has been tested for state-of-the-art technology, as well as for electrical and mechanical safety by TÜV SÜD Product Service GmbH. The NRTL certification provides clear evidence that the product meets the requirements of the North American market.</p>
	<p>Adhesive label on the drive unit (below the membrane keypad) Operation only by a trained person! Activate and check the safety brakes before each use. Lifting capacity max. 120 kg (265 lbs)</p> <p>WARNING: Risk of crushing! May cause injury and/or damage to the device. Do not step on this surface.</p>
	<p>Adhesive label on the stanchion tube (close to the handle unit) Read/understand the user manual and all other safety information before using the CargoMaster!</p>
	<p>Adhesive label on battery pack CAUTION: Fire hazard! Serious injuries possible. Keep away from sources of ignition.</p>
	<p>Adhesive label on battery pack WARNING: Do not reach in. Serious injuries to hands or fingers possible. Keep hands away from the climbing leg.</p>
	<p>Adhesive label on the stanchion tube (close to the handle unit) DANGER: Risk of slipping! Wetness affects riding on stairs. The CargoMaster must not be used in wet or rainy conditions!</p>
	<p>Adhesive label on front plate (close to toe plate mount) CAUTION: No passenger transport! Serious injuries possible. The CargoMaster has been designed exclusively for the transport of loads.</p>
	<p>Adhesive label on front plate (close to toe plate mount) WARNING: Moving parts! Serious injuries to hands or fingers possible. Keep hands away from moving parts. Switch off the CargoMaster and disconnect it from the power supply before carrying out maintenance work.</p>
	<p>Adhesive label on the stanchion tube (close to the handle unit) DANGER: Risk of slipping due to ice! Slippery ice makes it difficult to climb stairs. Serious injury to persons possible. Do not use the CargoMaster in snow and ice.</p>

Labelling plan, adhesive labels (applicable for USA/Canada)

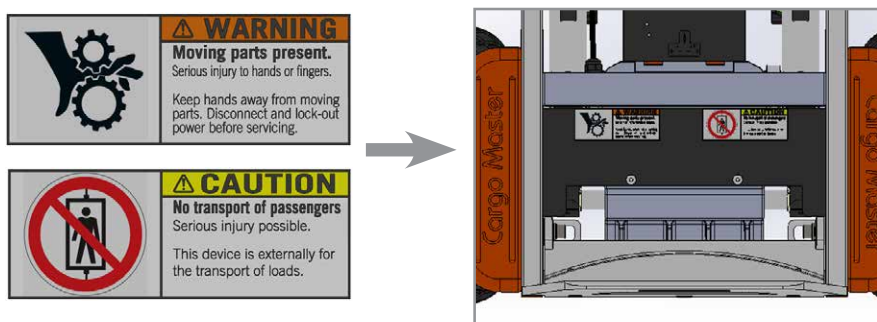
Drive housing



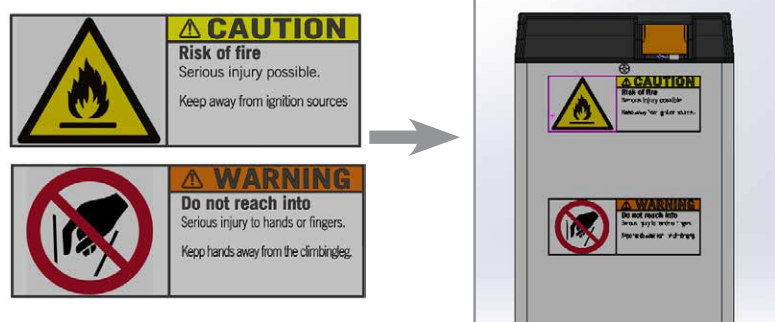
Stanchion tube



Front plate



Battery pack



3 Explanation of the symbols on the device (applicable for the EU)

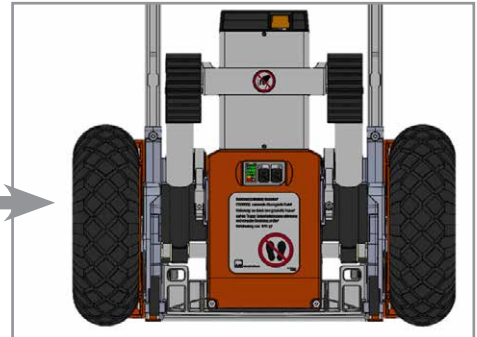


NOTE - All symbols and adhesive labels listed in this chapter can be found on the CargoMaster C120 in the respective national language! The exact position on the device is listed in the description of the adhesive labels as well as in the following labelling plan.

Symbol	Explanation
	CE marking Position: Type plate The product complies with the relevant provisions of the EC Machinery Directive 2006/42/EC.
	SN Position: Type plate Serial number of the product (e.g. C120XXXXXXX)
	Manufacturer Position: Type plate Indicates the manufacturer of the product (AAT Alber Antriebstechnik GmbH)
	Barcode Position: Type plate Contains the AAT serial number
	Date of manufacture Position: Type plate Indicates the year the medical device was manufactured.
	TÜV SÜD NRTL test mark Position: Drive unit, left side Refers to the fact that the product has been tested for state-of-the-art technology, as well as for electrical and mechanical safety by TÜV SÜD Product Service GmbH. The NRTL certification provides clear evidence that the product meets the requirements of the North American market.
	Adhesive label on the drive unit (below the membrane keypad) Observe the user manual! WARNING: rotating / moving parts! Operation only by one trained person! Activate the safety brakes on the stairs and check them before each use. Lifting capacity max. 120 kg (265 lbs)! WARNING: Risk of crushing! May cause injury and/or damage to the device. Do not step on this surface.
	Adhesive label on climbing leg WARNING: Do not reach in. Serious injuries to hands or fingers possible. Keep hands away from the climbing leg.
	Adhesive label Note - No handle Position: Front part, back of drive unit DANGER Parts in movement

Labelling plan, adhesive labels (applicable for the EU)

Drive housing



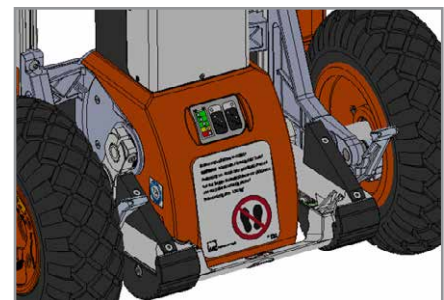
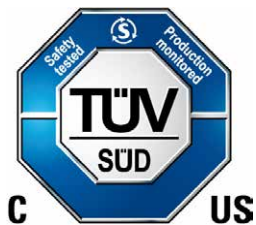
Stanchion tube



Front plate



Drive unit



4 Product description

4.1 Device overview C120 S



Information by the manufacturer:
For a simplified assignment of the individual components, the numbers listed here are cited in full the first time they appear in the following chapters.

- | | |
|---|---|
| ① Control panel | ⑩ Battery pack |
| ② Standard handle, height-adjustable | ⑪ Locking screw for height adjustment standard handle |
| ③ Wheel (standard pneumatic tyre) | ⑫ Spiral cable |
| ④ Toe plate | ⑬ Speed buttons |
| ⑤ Safety brake with brake wheel | ⑭ UP button |
| ⑥ Brake lever | ⑮ DOWN button |
| ⑦ Battery indicator | ⑯ ON/OFF button |
| ⑧ Continuous climbing mode / single-step mode indicator | ⑰ Climbing leg |
| ⑨ Lashing strap | ⑱ RUN button |

4.2 Intended use

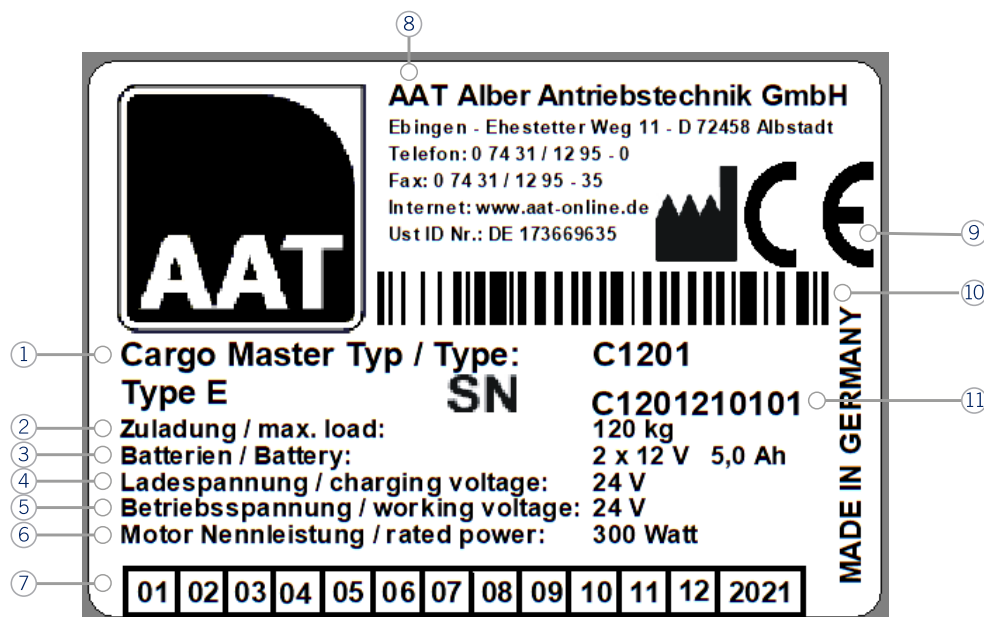
The stair climber C120 is used to transport cargoes safely over stairs (upwards and downwards). In doing so, both straight and spiral stairs can be travelled. Driving on slopes is possible, too.

Any other use is considered not in compliance with the intended use.

The C120 was developed to be operated by a single person. However, the use of a stair climber requires a higher level of skill and experience than the use of a manual hand truck.

This user manual applies to the device types CargoMaster C120 S and CargoMaster C120 F. The only difference between these stair climbers is the type of the standard handle. The differences are described at the relevant positions in this user manual. Any further information about handling and operating apply to both device types.

4.3 Type plate incl. serial number



- | | |
|------------------------|--------------------------------------|
| ① Product / Model | ⑦ Date of manufacture |
| ② Max. load | ⑧ Manufacturer address |
| ③ Batteries | ⑨ Symbols (refer to chapter 3) |
| ④ Charging voltage | ⑩ Barcode (refer to chapter 3) |
| ⑤ Operating voltage | ⑪ Serial number (refer to chapter 3) |
| ⑥ Rated power of motor | |

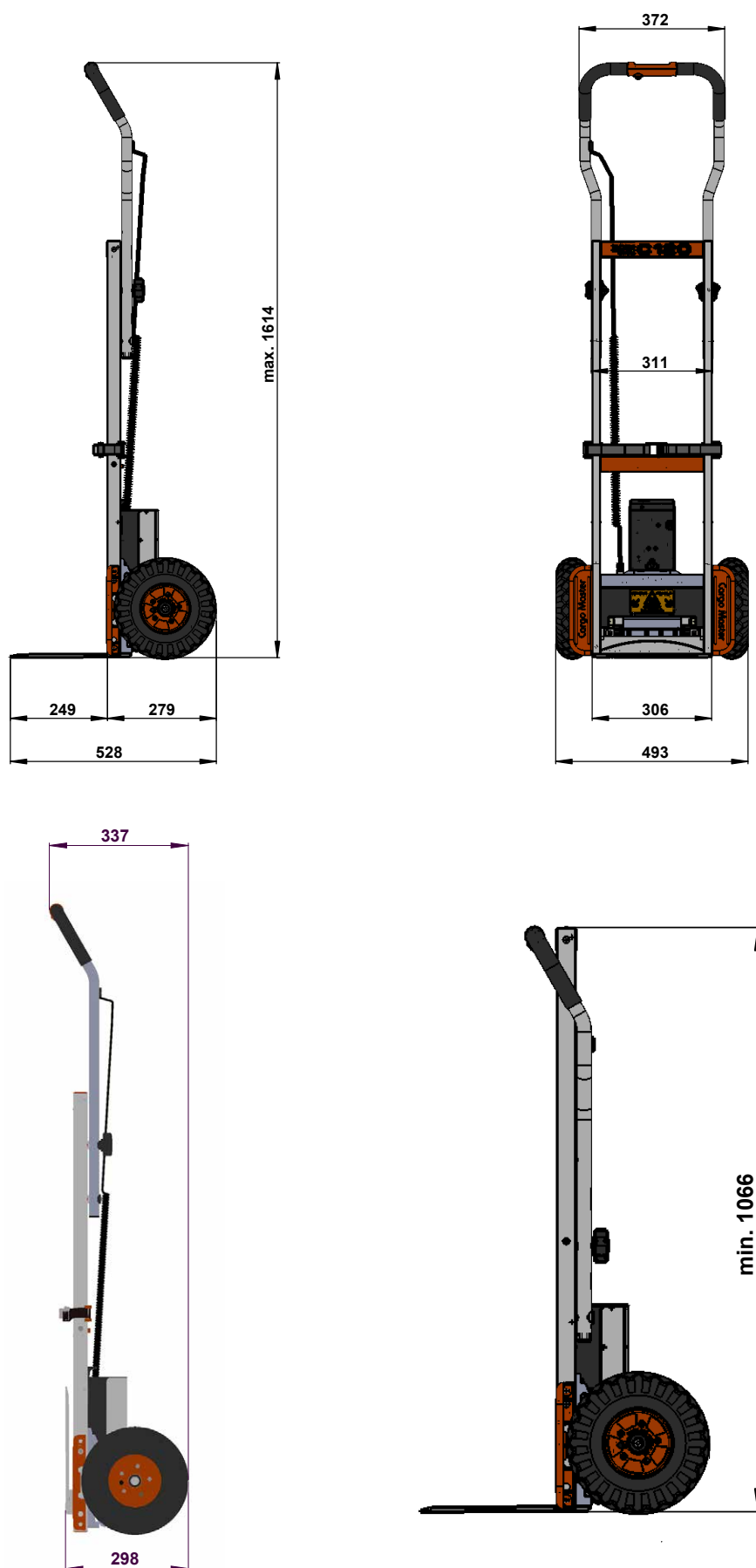
4.4 Technical data

Technology	C120 S	C120 F
Dimensions	Height: min. 1066 mm (42 in) - max. 1614 mm (64 in) Width: 493 mm (19 in) Depth Depth with folded toe plate: 528 mm (21 in) 298 mm (12 in)	Height: min. 1158 mm (46 in) - max. 1631 mm (64 in) Width: 493 mm (19 in) Depth Depth with folded toe plate: 528 mm (21 in) 298 mm (12 in)
Own weight	Battery pack: 4.1 kg (9 lbs) Handle/climbing unit: 21.4 kg (47 lbs) (with battery pack)	Battery pack: 4.1 kg (9 lbs) Handle/climbing unit: 21.9 kg (48 lbs) (with battery pack)
Lifting capacity	120 kg (265 lbs)	
Climbing speed ¹⁾	19 to 50 steps/minute	
Range per battery charge for an average load of approx. 75 kg (165 lbs) ¹⁾	Approx. 25 floors (accounts for approx. 375 steps)	
Range per battery charge for maximum load of 120 kg (265 lbs) ¹⁾	Approx. 17 floors (accounts for approx. 255 steps)	
Maximum height of step	210 mm (8.3 in)	
Minimum depth of step ²⁾	140 mm (5.5 in)	
Required step width (straight stairs)	Width device/cargo + 100 mm (4 in)	
Minimum platform size (U-shaped stairs)	Min. 1350 x 1350 mm (53 x 53 in) + depending on the load	
Batteries	Lead gel batteries 2 x 12 V / 5 Ah	
Direct current motor	24 V / 300 W S2 - 12 min (+55 °C) (+131 °F)	
Sound pressure level	The weighted sound pressure level of the device is typically below 70 dB(A)	
Storing/operating temperature: Device	0 °C to +60 °C / -20 °C to +40 °C (+32 °F to +140 °F / -4 °F to +104 °F)	
Storage/operating/charging temperature: Battery pack	0 °C to +40 °C / -20 °C to +40 °C / 0 °C to +40 °C (+32 °F to +104 °F / -4 °F to +104 °F / +32 °F to +104 °F)	
Altitude range	< 3000 m (9843 ft) above sea level	
Adhesive label with serial number	On the left side of the housing	
IP protection class	IPX4	

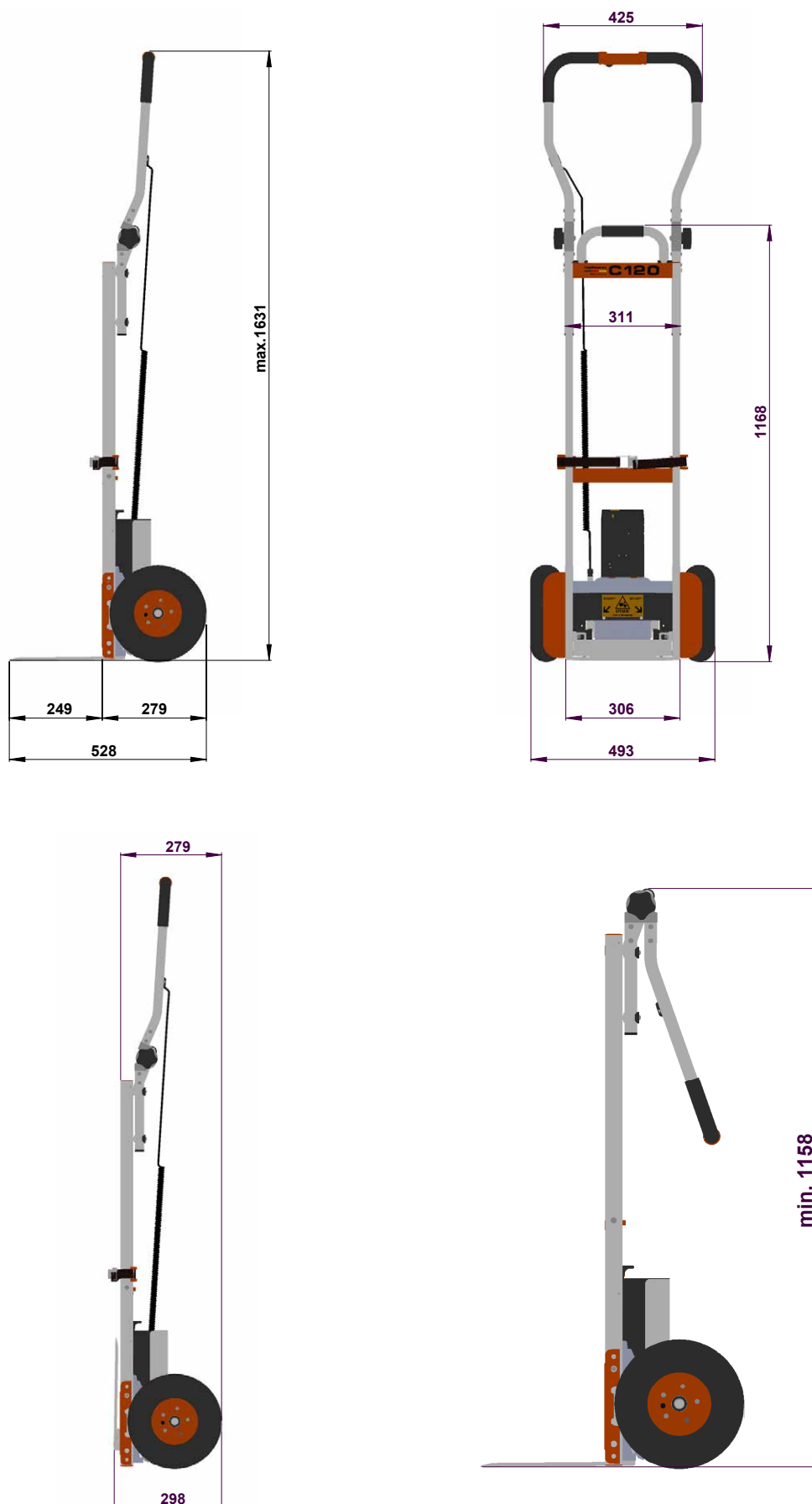
1) The climbing speed and the reach may decrease with an increased weight of the cargo.

2) Any steps of a smaller depth may not be travelled as in this case it is no longer possible for the wheel to be set down safely.

4.5 Dimensional drawing C120 S



4.6 Dimensional drawing C120 F



4.7 Scope of delivery



- ① Charger incl. instructions
- ② Lead gel battery pack with locking device
- ③ CargoMaster C120 incl. lashing strap

4.8 Accessories

i NOTE - Only use accessories from AAT Alber Antriebstechnik GmbH.



- ① Puncture proof tyres (instead of standard tyres)
- ② Charging cable for vehicle
- ③ Additional lead gel battery pack for change
- ④ Additional mega battery pack
- ⑤ Standard handle, swivelling (optionally already included in the scope of delivery)
- ⑥ Vario handles instead of standard handle (incl. their own user manual)

5 STARTING UP



NOTE - Store the C120 in a frost-free environment for at least one hour prior to start-up to avoid malfunctions.

5.1 Adjusting the standard handle

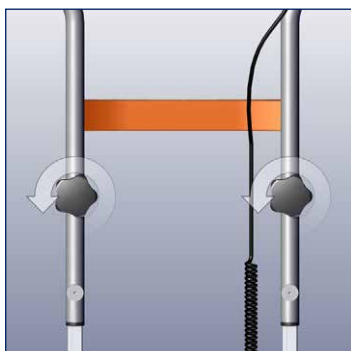


WARNING - Fix the standard handle securely with the locking screws! Otherwise, the standard handle may shift unintentionally!

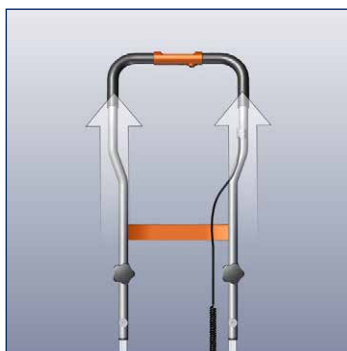


CAUTION - here is a risk of crushing at the slots in the standard handle!

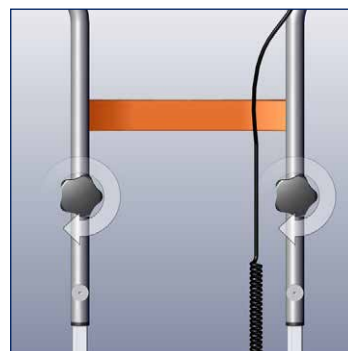
Standard handle, height-adjustable (CargoMaster C120 S)



Loosen the locking screws ⑪ of the standard handle ② counterclockwise.



Pull standard handle out to the desired height.
(AAT recommends: up to shoulder height.)



Tighten the locking screws clockwise.

Standard handle, swivelling (CargoMaster C120 F)



Loosen the locking screws of the swivelling standard handle counterclockwise.



Swivel swivelling standard handle to the desired angle.



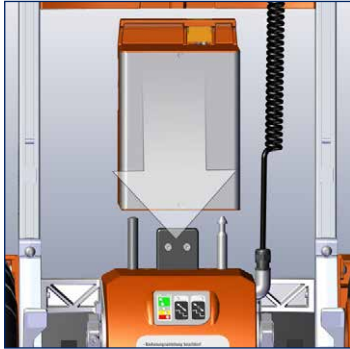
Tighten the locking screws clockwise.

5.2 Inserting the battery pack



WARNING - Fix and lock battery pack so that it cannot become loose.

RISK of burns - Only remove the battery when the C120 has been switched off.



Installation.

Place the battery pack ⑩ on the locating pins on the drive housing.

The battery pack locks in place automatically.



Spiral cable. ⑫

The spiral cable is firmly attached to the stair climber and cannot be released.



Removal.

Press the release button and pull battery pack off.

5.3 Unfolding and folding the toe plate



Unfolding toe plate ⑭.

Fold toe plate out downward to the bottom toe plate end stop.



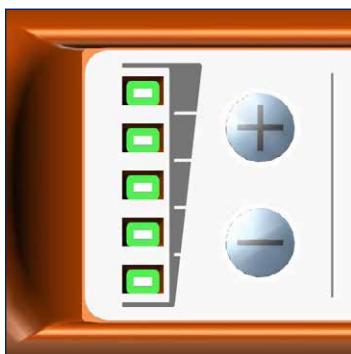
Fold toe plate.

Fold toe plate out upward to the top toe plate end stop.

5.4 Buttons and indicators on the control panel

NOTE - After switching on the C120, the third LED (medium speed) is always set as the starting speed! The speed can also be changed during the climbing procedure.

NOTE - The UP and DOWN buttons cannot be pressed during the climbing procedure (RUN button pressed). If the direction is to be changed, interrupt movement.



Speed buttons. ⑬

Depending on the selected speed level, a different number of LED will be lit.

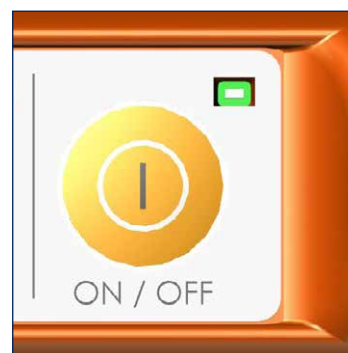
Set the desired speed using the plus and minus buttons.



UP button ⑭ and DOWN button ⑮.

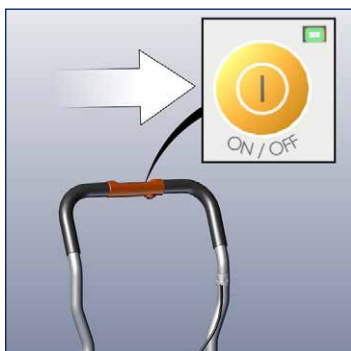
↗ = moving up the stairs (backwards from the operator's perspective)

↘ = moving down the stairs (forwards from the operator's perspective)



ON/OFF button. ⑯

5.5 Turning on the device

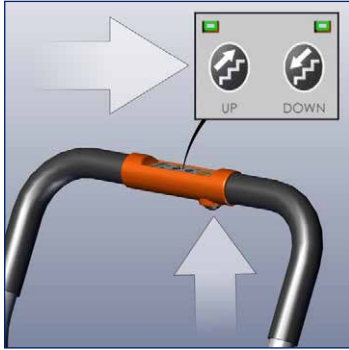


Press ON/OFF button on the control panel ①.

5.6 Neutral position



NOTE - Press the UP button, DOWN button, and RUN button only after a few seconds after turning on.



Moving climbing leg ⑰ to neutral position.

Select climbing direction **UP** or **DOWN**. The associated LED is lit.

Move climbing leg to the uppermost position. To do so, press and hold the RUN button ⑱.



If the single-step mode ⑧ is active, the climbing leg is automatically stopped in neutral position (refer to section 5.8).



Incorrect!

5.7 Checking the safety brakes



DANGER - If the safety brakes only take effect on one side or no effect at all:
Do not use the C120. There is a risk of falling! Contact the manufacturer, the AAT field service or a certified partner.



WARNING - Check safety brakes prior to any run and without cargo.



The chassis has a safety brake ⑤ on each of both sides.



Activate the safety brake on both sides, respectively. To do so, push the brake lever upwards with the foot.



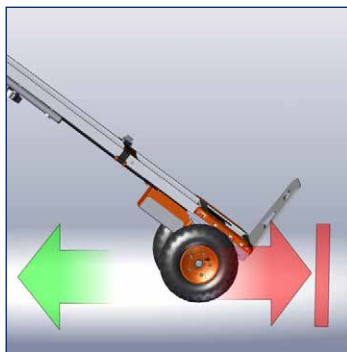
Move climbing leg to neutral position (refer to section 5.6) and tilt the C120 back.



DANGER - Do not support your foot on the housing. There is a risk of crushing!



TEST: Roll the C120 forward and backward.



If it is **not** possible to roll the C120 forward, the safety brakes are active.



Pay attention to the note on the housing.

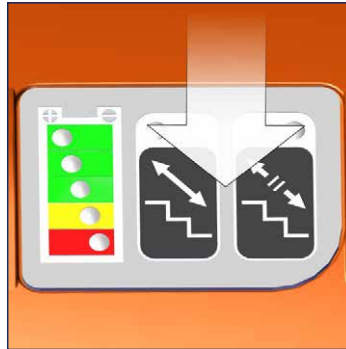
5.8 Single-step mode



DANGER - If the single-step mode has been deactivated (continuous climbing mode), a higher level of experience is required to operate the C120. Refer to sections 6.4 and 6.5.



The C120 must be in the turned-off condition. Press and hold the RUN button. At the same time, press the ON/OFF button for 2 to 3 seconds.

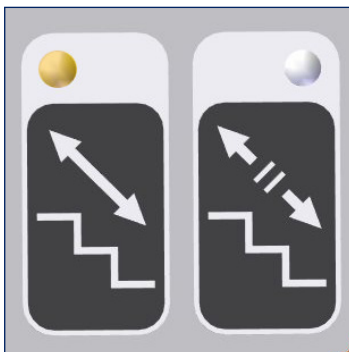


Depending on whether the continuous climbing mode or the single-step mode are active, the associated LED will be lit.

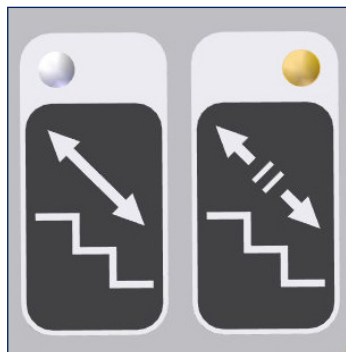


Manufacturer's recommendation:

Only deactivate the single step mode, if the operator is able to handle the C120 safely.

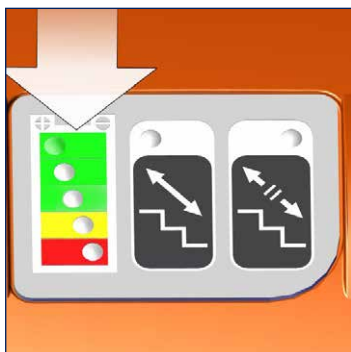


Single step mode deactivated!
= Continuous climbing mode.

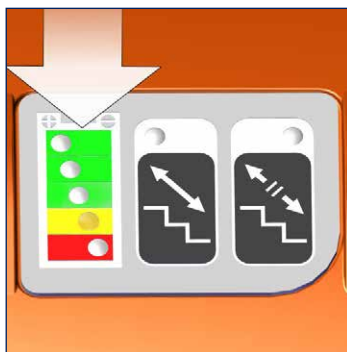


Single step mode active!
= Climbing leg stops after one rotation.

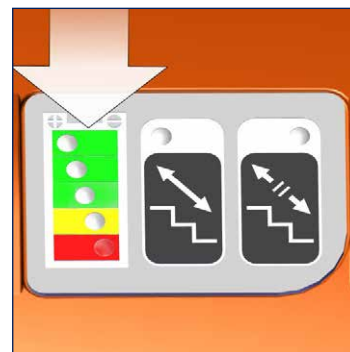
5.9 Checking battery capacity



Battery indicator ⑦
Green = battery fully charged



Yellow = battery is only partially charged
Charge battery.



Red = battery depleted
Charge battery.
An acoustic warning sounds every 12 seconds.
The capacity of the batteries will only last for max. 20 - 30 steps!

6 OPERATION



DANGER - Do not touch the rotating/moving climbing leg. There is a risk of crushing!



DANGER - Do not support your foot on the housing. There is a risk of crushing!



DANGER - Do not allow any persons to stay in the danger zone underneath the C120.



DANGER - Check the safety brakes prior to every use (refer to section 5.7).



WARNING - Wear anti-slip footwear to avoid slipping on the stairs.



WARNING - Always operate the C120 with both hands. This is the only way to perform the climbing procedure safely.



WARNING - Do not travel wet, slippery, or waxed stairs. The steps must be sufficiently deep and stable. Carpet surfaces must be non-slip. There is a risk of falling!



WARNING - Secure the cargo appropriately so that it cannot fall.

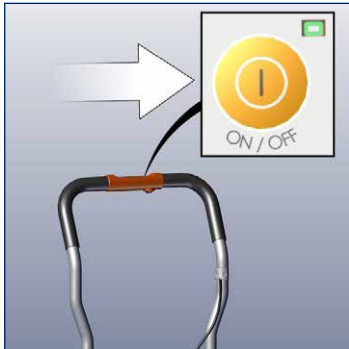


NOTE - Practise operating the C120 without cargo, in single-step mode and at the lowest speed.

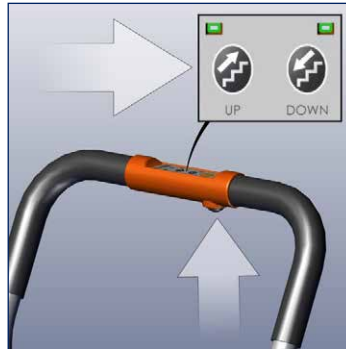


NOTE - Press the UP button and the DOWN button only after a few seconds after turning on.

6.1 Picking up the cargo



Turn the C120 on.
To do so, press the ON/OFF button.



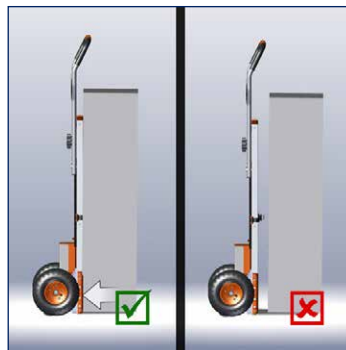
Moving climbing leg to neutral position.
Select climbing direction **UP** or **DOWN**. The associated LED is lit.
Move climbing leg to the uppermost position. To do so, press and hold the RUN button.



Recommendation by the manufacturer:
If the single-step mode is active, the climbing leg is automatically stopped in neutral position (refer to section 5.8).



Move the loading toe plate fully underneath the cargo.

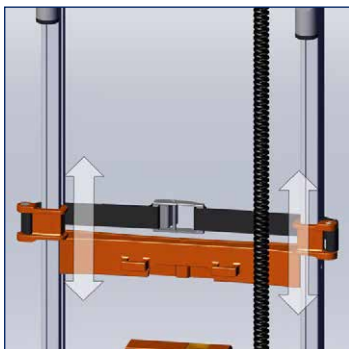


Make sure that the cargo is in tight contact with the C120.

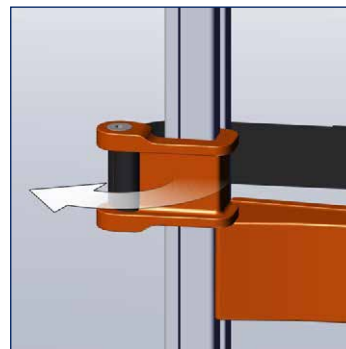


Secure the cargo on the C120 with the lashing strap.

Adjusting the lashing strap



If needed, the position of the lashing strap can be changed.



Release the lashing strap clamps on both sides.
Shift lashing strap to the desired position.
Attach the lashing strap clamps again.

6.2 Moving on level ground / overcoming obstacles



DANGER - Do not support your foot on the gear housing. There is a risk of crushing!



CAUTION - Retract the climbing leg. Otherwise, the climbing leg may be damaged!



CAUTION - Only overcome obstacles backwards. Otherwise, the safety brakes may be damaged!



CAUTION - Deactivate the safety brakes! The safety brakes may wear and/or be damaged when moving on level ground!



Move climbing leg to neutral position (refer to section 5.6).



Deactivate the safety brake on both sides, respectively. To do so, push the brake lever downwards with the foot.



Support your foot on a wheel. Tilt the C120 over the wheels.



Pay attention to the note on the housing.

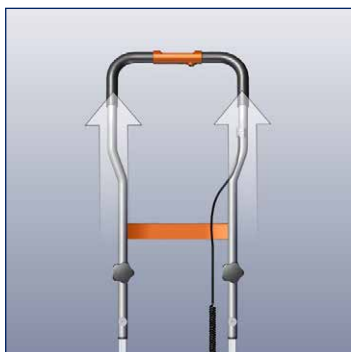


Moving on level ground.
Move/use the C120 as a conventional hand truck. While doing so, keep the balance.



Overcoming obstacles.
Approach the obstacle backwards with the C120 and then pull the C120 over the obstacle.

6.3 Moving on slopes



Adjust the standard handle to a suitable height or a suitable angle (refer to section 5.1).

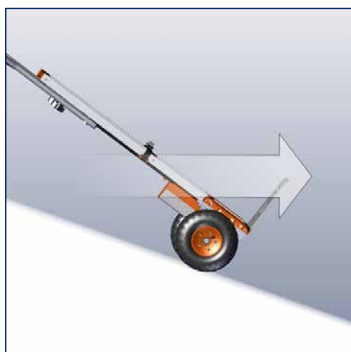


Tilt the C120.

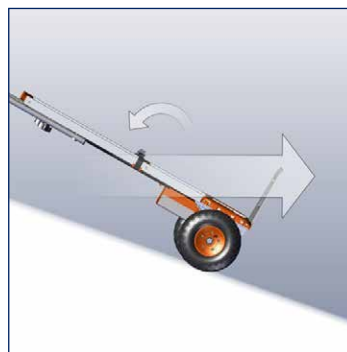


Move climbing leg to neutral position (refer to section 5.6).

Moving down a slope

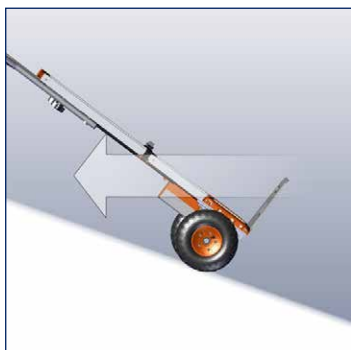


Approach the slope moving forward.

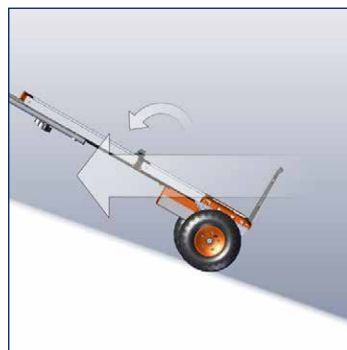


To slow down, tilt the C120 stronger so that the safety brakes can take effect.

Moving up a slope



Move up backwards on the slope.



To slow down, tilt the C120 stronger so that the safety brakes can take effect.

6.4 Climbing stairs - upwards



Move climbing leg to neutral position (refer to section 5.6).



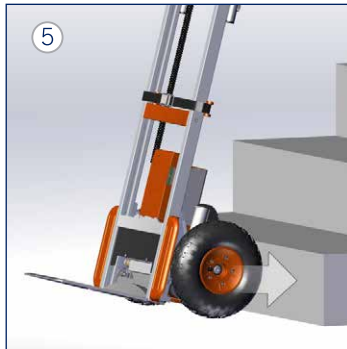
Activate the safety brake on both sides, respectively. To do so, push the brake lever upwards with the foot.



Press the UP button.



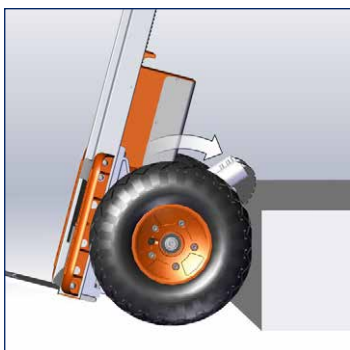
Tilt the C120 and keep it balanced.



Approach the step until wheels are in contact with it.



Walk up 2 to 3 steps.



Press and hold the RUN button.

The C120 climbs up.

If the single-step mode is active, the climbing leg stops automatically after one step.

Repeat procedure starting with image 5.

Climbing stairs upwards - spiral stairs

In principle, spiral stairs are climbed in the same way as straight stairs. However, the C120 must be positioned consistently with the spiral of the stairs after every step. Both wheels must be in contact with the step for every climbing procedure.

Manufacturer's recommendation: Activate single step mode. Practise without cargo and at the lowest speed.

6.5 Climbing stairs - downwards



DANGER - As soon as the climbing leg starts taking the load, you will feel the standard handle pulling.

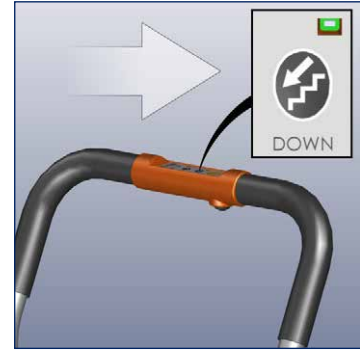
Tilt the C120 closer to the ground to counteract the pull.



Move climbing leg to neutral position (refer to section 5.6)



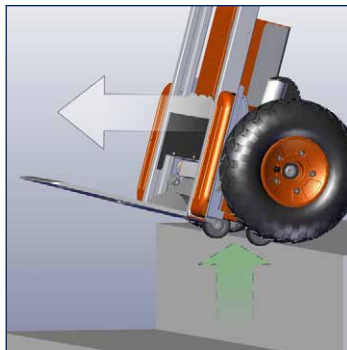
Activate the safety brake on both sides, respectively. To do so, push the brake lever upwards with the foot.



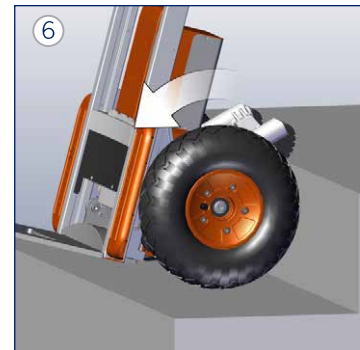
Press the DOWN button.



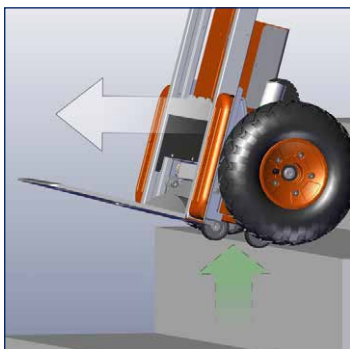
Tilt the C120 and keep it balanced.



Roll the C120 forward until both safety brakes take effect.



Press and hold the RUN button.
The C120 climbs down.
If the single-step mode is active, the climbing leg stops automatically after one step.



Roll the C120 forward until both safety brakes take effect.

Repeat procedure starting with image 6.

Climbing stairs downwards - spiral stairs

In principle, spiral stairs are climbed in the same way as straight stairs. However, the C120 must be positioned consistently with the spiral of the stairs after every step. After every climbing procedure, both wheels must be positioned at the edge of the step.

Manufacturer's recommendation: Activate single step mode. Practise without cargo and at the lowest speed.

6.6 Laying down on stairs / emergency stop function



WARNING - The C120 **must** be lying on the wheels because otherwise the safety brakes do not take effect!



Lay down the C120.

The safety brakes prevent it from slipping away!
Press and hold UP button, DOWN button, and RUN button until the climbing leg has been fully retracted.



Emergency stop function in hazardous situations

Release RUN button. The C120 stops automatically.
Turn the C120 off. To do so, press the ON/OFF button.
Lay down the C120 as described.

Eliminate the hazardous situation and resume operation

Turn the C120 on. To do so, press the ON/OFF button.
Press UP button or DOWN button.
Press RUN button.

6.7 Parking



NOTE - Only park the C120 on level ground.



NOTE - Charge the batteries after each use.

The automatic switch-off turns the C120 off during longer breaks. To start up the C120 again: turn C120 off and on again.



Park the C120 securely and turn it off.
To do so, press the ON/OFF button.

6.8 Transportation



WARNING - Take the weight of the individual components into account (refer to section 5.4)!



WARNING - Secure the C120 for transport in vehicles in accordance with the relevant legal regulations.



CAUTION - Turn the C120 off prior to transport.



Preparing the C120 for transport.

Fold toe plate.

Retract standard handle or (with the swivelling version) fold it completely.

Remove the battery pack to reduce the total weight.



To carry the C120, hold it by the plastic crosspiece or recessed grip of the toe plate.



Note by the manufacturer:

In accordance with the provisions by ADR and IATA, the lead-gel batteries used are considered dangerous goods (UN2800).

There are no special packaging regulations for the transport or shipment of the batteries on the road or by aircraft. Before setting out on a journey by air, we recommend to contact the airline.

7 INSTRUCTIONS FOR MAINTENANCE AND CARE BY THE USER



WARNING - Repairs may only be carried out by the manufacturer, by the AAT field service, or by an authorised personnel!



WARNING - In the event of any abnormality with regard to the operating behaviour: shut down the C120 and contact the AAT field service.

7.1 Battery and charger



CAUTION - Protect battery and charger from humidity. Do not touch the battery nor the charger with wet hands. There is a risk of electric shock! The battery and the charger may be damaged!



CAUTION - Protect the charger and the voltage transformer from oil, grease, aggressive cleaning agents, thinners, and from damage.



NOTE - Charge the batteries after each use.



NOTE - Observe the user manual of the charger/charging cable for vehicle.



NOTE - Deep discharge results in loss of capacity and a reduced service life of the batteries.



NOTE - Make sure that the battery pack is safely packed for shipment (repair, disposal, etc.). To do this, no special cardboard packaging is needed.



NOTE - Keep the plug-in contacts clean.

New batteries only reach their full capacity after several charging cycles.

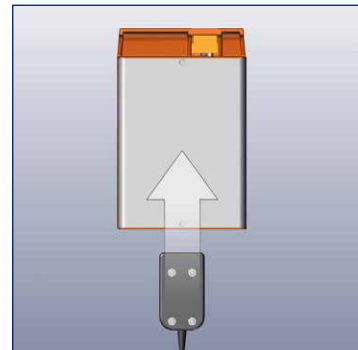
The batteries are maintenance free and rechargeable. Turn the C120 off before charging.



Press the release button and pull battery pack off.



Pull splash guard off.



Connect the charger.



LED is lit red = battery is being charged.



LED is lit green = battery fully charged.

i Note by the manufacturer:

The charger automatically changes over to trickle charge mode once the battery pack is fully charged. The purpose of the trickle charge mode is to maintain the batteries fully charged by compensating the self-discharge. The LED is lit green during the trickle charge mode.

Charging batteries in car



Turn the C120 off.
To do so, press the ON/OFF button.



Connect the charging cable for vehicle in the vehicle. Connect the charging cable for vehicle to the C120 via the charger.



LED is lit red = battery is being charged.



LED is lit green = battery fully charged.

Changing the set of batteries

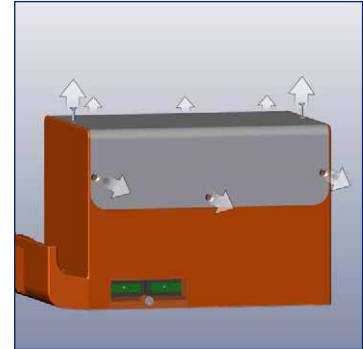
i **NOTE** - Observe correct polarity. Black = negative; red = positive.



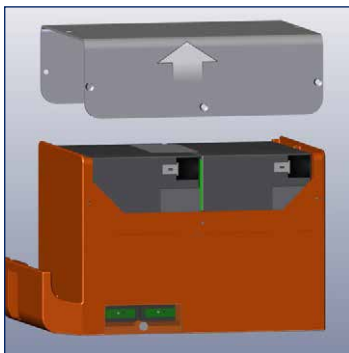
Turn the C120 off.
To do so, press the ON/OFF button.



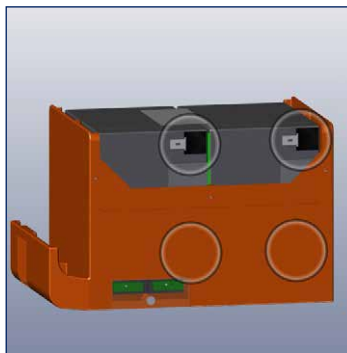
Press the release button and pull battery pack off.



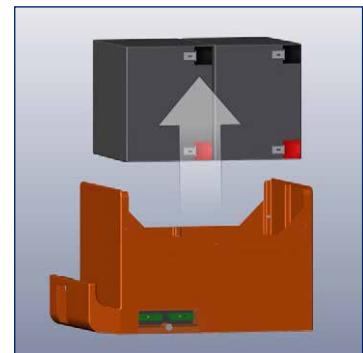
Loosen the screws of the battery cover (8 ea.).



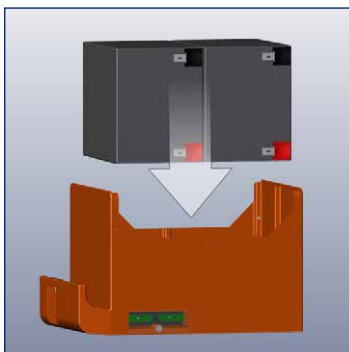
Position the battery pack as shown.
Open the battery pack.



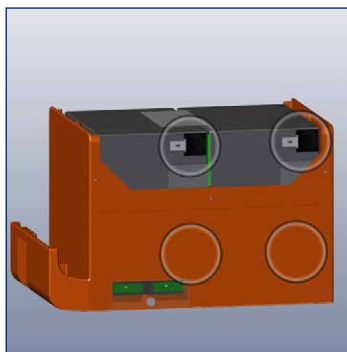
Disconnect the plug-in contacts.



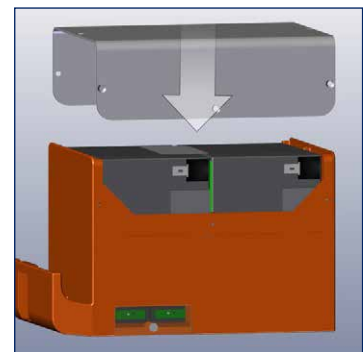
Take the batteries out.



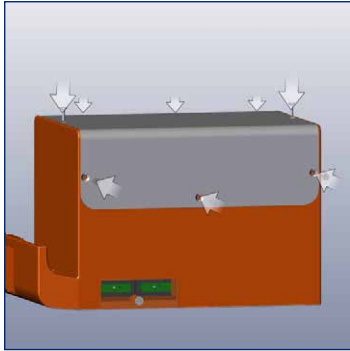
Insert new batteries.



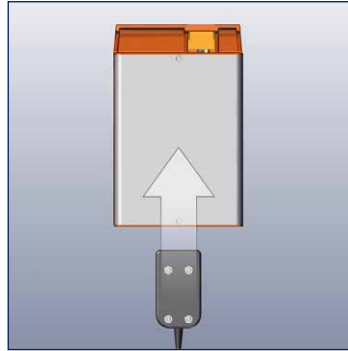
Connect the plug-in contacts.
Route the cable such that it cannot get crushed.



Close the battery pack.



Tighten the screws.



Check function:
Connect the charger.



LED is lit red = battery is being charged.






LED is lit green = battery fully charged.

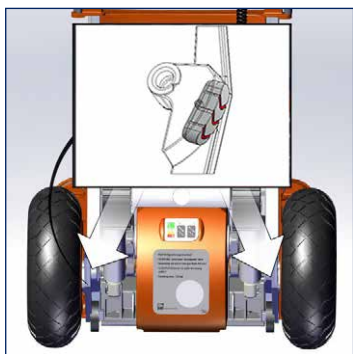


Put the battery pack on.
The battery pack locks in place automatically.

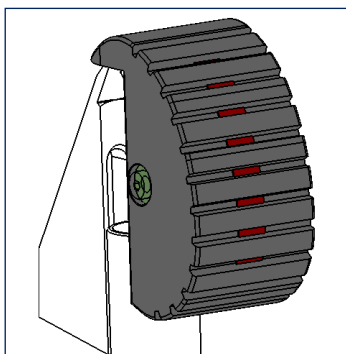
7.2 Checking brake linings / climbing feet linings and air pressure

-  **NOTE** - The minimum thickness of the brake linings (in the centre) is 1 mm. If the lining thickness is less than 1 mm or if the linings are damaged: contact the manufacturer, the AAT field service or a certified partner.
-  **NOTE** - If the linings of the climbing feet are worn or damaged: have both climbing feet replaced by the manufacturer, the AAT field service or a certified partner.
-  **NOTE** - The air pressure in the tyres must be 2.5 bar. Only then will the safety brakes work properly. If the air pressure is too low: inflate the tyres. If the tyres are damaged: contact the manufacturer, the AAT field service or a certified partner.

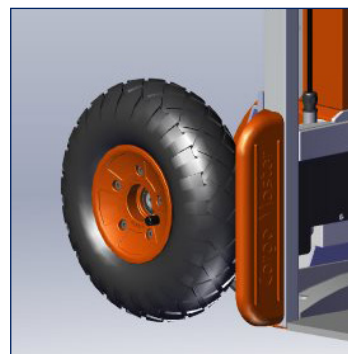
The red markings in figures 1 + 2 serve as an aid for checking the lining thickness.



Check the brake linings of the safety brakes for damages and wear on a regular basis.








Check the climbing feet linings for damages and wear on a regular basis.





Check air pressure on a regular basis.

7.3 Cleaning




-  **WARNING** - Check the safety brakes after cleaning (section 5.7).
-  **WARNING** - Do not smoke while cleaning.
-  **WARNING** - Use only moist cloths for cleaning. The cloths must not be wet. No moisture shall reach the inner parts of the device.

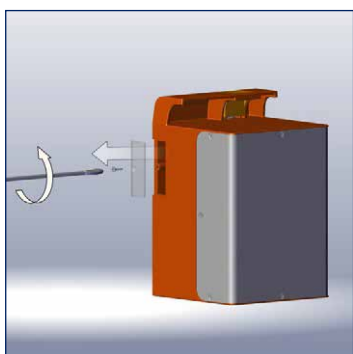
-  **CAUTION** - Keep the C120 away from sources of ignition.
-  **CAUTION** - Do not use a high-pressure cleaner for cleaning.

-  **NOTE** - Clean the safety brakes and brake drums inside the rims with alcohol once a week (more often if soiled). Observe the hazard information for the alcohol.
-  **NOTE** - Observe the instructions of the cleaning agent manufacturer.

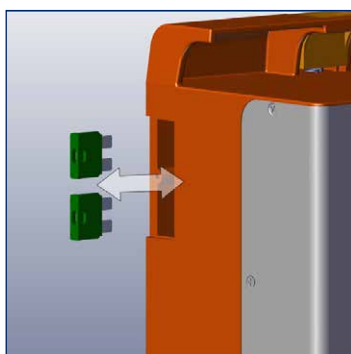
Wipe off any soiling on all components with a mild household cleaner.

7.4 Replacing fuses

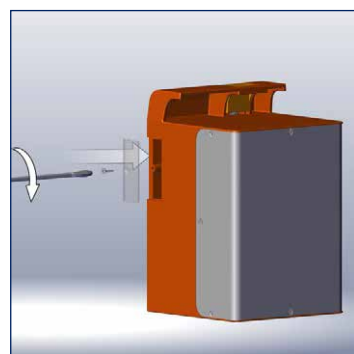
-  **NOTE** - Do not mend nor bridge defective fuses. Replace defective fuses with new **40 A** fuses. Replacement fuses are available from the manufacturer.
-  **NOTE** - If fuses blow frequently: contact the manufacturer or a certified partner.
-  **NOTE** - Before replacing fuses, remove charger / charging cable for vehicle.



Loosen screw and remove fuse cover on the battery pack.

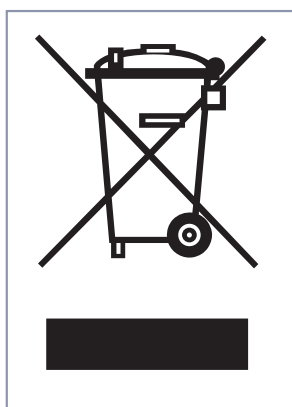


Remove covers and fuses and, then, insert new 40 A fuses.



Position fuse cover and fix with screw.

7.5 Disposal



The product is marked with the crossed out dustbin according to the WEEE Directive. This marking indicates that these products must be brought to a regional recycling facility when they have reached the end of their useful life.

Please check the applicable legislation in your country for the disposal of this product as the implementation of the WEEE Directive differs in the respective countries and/or does not apply outside of the EC.

Alternatively, you can also return these products to AAT or the competent specialized dealers, where they are collected for correct disposal.

7.6 Long-term storage

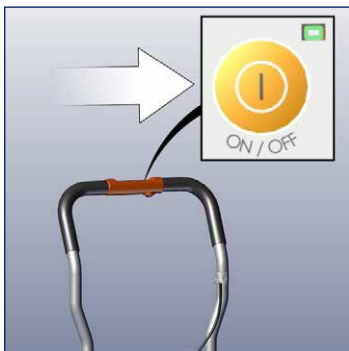
If the C120 is not used for a longer period of time (e.g. several months), observe the following instructions:

- » No moisture shall reach the inner parts of the device.
 - » Store C120 in a dry place with low relative humidity. If necessary, protect with foils.
 - » Store the C120 such that it is protected from solar radiation.
 - » Store the C120 such that it is out of reach for unauthorised persons (children in particular).
 - » Remove the battery pack prior to storage. Observe the notes in section 7.1.
-
- » Clean the C120 prior to use (refer to section 7.3).
 - » It is mandatory to check the electrical functions and the safety brakes before starting up.

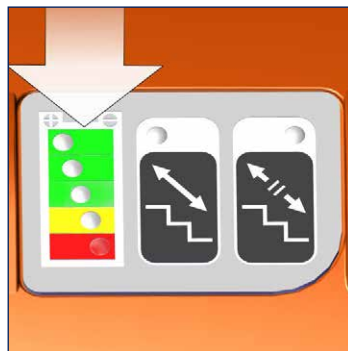
8 Fault conditions and troubleshooting



WARNING - To prevent hazardous situations, do not use the C120 if it shows any abnormal behaviour.



Turn the C120 on.



The red LED is flashing.
Refer to the table "Fault conditions".



Turn the C120 off.

Turn the C120 on again.

If the LED is flashing: contact the manufacturer, the AAT field service, or a certified partner.

Fault conditions

The LED is flashing	Fault condition
1 times	Overload
2 times	Undervoltage, battery pack empty
3 times	Overvoltage
4 times	Speed control, UP button, DOWN button, RUN button, plug-in contacts, or supply cable defective
5 times	Electromagnetic brake defective
6 times	Fault in the electronics

Troubleshooting

Problem	Check and possible remedy
C120 cannot be turned on	Is the spiral cable plug plugged in and screwed tight? No: Plug in and tighten spiral cable plug.
	Is the charger connected? Yes: Disconnect the charging cable.
	Are the batteries empty? Yes: Charge the batteries.
	Does the problem persist? Yes: Contact the manufacturer, the AAT field service, a certified partner.
The C120 does not move	Contact the manufacturer, the AAT field service, a certified partner.
Battery pack isn't charging	Contact the manufacturer, the AAT field service, a certified partner.
The batteries show external damage	Contact the manufacturer, the AAT field service, a certified partner.

9 Warranty and liability

Warranty

AAT Alber Antriebstechnik GmbH grants a warranty of one year for the C120, including all its accessories (with the exception of the lead batteries). The warranty begins at the date of purchase and covers failure of material and errors in manufacturing.

For the lead batteries, always assuming correct care and maintenance, AAT Alber Antriebstechnik GmbH grants a warranty of half a year from the date of purchase.

The warranty for the C120 does not cover faults resulting from one of the following causes:

- » Damage as a result of excessive strain.
- » Any damage resulting from careless handling.
- » Damage by force.
- » Common wear parts (brake linings, climbing feet, pneumatic tyres, etc.).
- » Improper or inadequate maintenance by the customer.
- » Unauthorised structural changes or improper use of the C120 or its accessories.
- » Use of C120 beyond the permitted lifting capacity.
- » Improper charging of the lead batteries.

Liability

The manufacturer of the C120, AAT Alber Antriebstechnik GmbH, cannot be held liable for any possible damage in the following cases:

- » The C120 was handled inappropriately.
- » Any repair, assembly, or other work carried out by unauthorised persons.
- » The C120 was not used in accordance with the user manual.
- » The parts added and/or connected to the C120 were not any original AAT parts.
- » Parts of the C120 were removed.
- » The C120 was loaded beyond the max. lifting capacity (e.g. deformed axles, frames, or handles).
- » Minors operated the C120 without supervision (except for minors older than 16 years under supervision).
- » The C120 was operated with insufficiently charged batteries.

10 Recalls and corrective actions

If new important safety information regarding the handling of your C120 is available, we will inform you. You can always find the current version of this user manual at our website.

Should any subsequent changes be made to the product or any corrective action taken, we and/or our certified partners will inform you in writing about all the affected serial numbers. If your C120 is affected by a product recall, you will be informed about all further steps to be taken.



Translation of the original EC Declaration of Conformity according to EC Machinery Directive 2006/42/EC, Annex II A

We,

AAT Alber Antriebstechnik GmbH
Ehestetter Weg 11
72458 Albstadt/Germany

hereby declare that the electric stair climbers for loads designated below comply with all applicable essential health and safety requirements in accordance with Directive 2006/42/EC.

Article no. 100816/100820	CargoMaster C120 S
Article no. 100816/100821	CargoMaster C120 F
Article no. 100816/100822	CargoMaster C120 V

The products are marked with **CE** to ensure conformity with the Directive.

This declaration is only valid for the products with the article numbers indicated above.

12/01/2021, Albstadt

Date, place

Daniel Mohr
Documentation representative
Ehestetter Weg 11
72458 Albstadt

Martin Kober
Managing Director

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Serial number:



Ideen bewegen mehr