

Pushing and Braking Aid

V-max

Translation of the original user's Manual

GB



Ideen bewegen mehr



CE Declaration of conformity

The company AAT Alber Antriebstechnik GmbH herewith declares that the products of the power system **v-max** are developed and manufactured according to the general guidelines 2007/47/EG and 2006/42/EG of the European Union.

This declaration loses all validity, if the above mentioned devices have been tampered with or changed in any way without the knowledge and agreement of the company AAT Alber Antriebstechnik.



Signature of the manufacturer:

Markus Alber
Managing partner
AAT Alber Antriebstechnik GmbH



The power system **v-max** is being tested according to the norm DIN EN 12184:C11/99 at the institution for certification of medical products GmbH, Technical University Berlin.



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1 Introduction

v-max is a newly developed pushing and braking aid operated by an assistant. The device directly propels the back wheels of a wheelchair.

Compared to common power systems the v-max possesses considerable advantages such as e.g. a permanent and efficient power transmission.



1.1 Product description

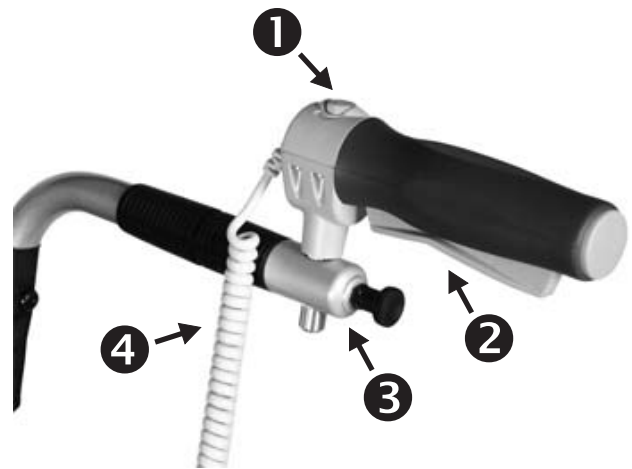
1.1.1 Main features

- ❶ = Control grip
- ❷ = Driving unit
- ❸ = Wheels plus handrim and toothed ring
- ❹ = Brackets on the wheelchair
- ❺ = Anti-tilt support
- ❻ = Battery pack plus bag and velcro strip
- ❼ = pushing grip



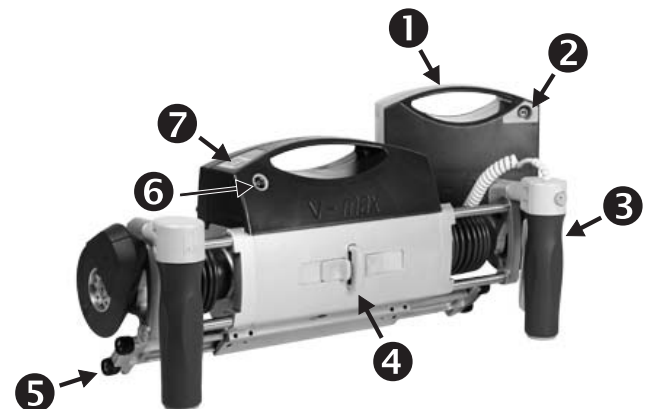
1.1.2 Control grip

- ❶ = Speed control
- ❷ = Rocker switch backwards/forwards
- ❸ = Link to hold grips
- ❹ = Helix cable



1.1.3 Driving unit

- ❶ = Battery pack
- ❷ = Socket for power cable (out) and charging cable (in)
- ❸ = Control grip
- ❹ = Power switch
- ❺ = Driving unit's link to the wheelchair
- ❻ = Socket for power cable on the v-max
- ❼ = Control panel



1.1.4 Control panel

- ❶ = Push button ON/OFF
- ❷ = Indicator of battery charge and malfunction



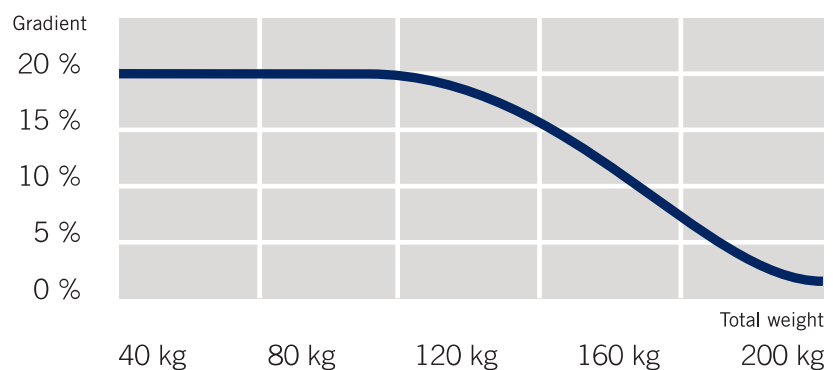
1.2 Technical data

| | |
|--|--|
| Measurements | Height = 24 cm Width = 47.5 cm Depth = 18.5 cm |
| Weight | Driving unit, including grip = 8.2 kg Battery pack = 10.2 kg Power cable = 0.2 kg Battery bag plus velcro straps = 0.2 kg Battery charger = 0.3 kg Total weight = 19,1 kg |
| Margins for mounting the v-max to the wheelchair | seat's width, minimum 36 cm / maximum negative camber: 5 % |
| Maximum permissible total weight | 200 kg (person, wheelchair, v-max)* |
| Speed | continuously adjustable 6 km / per hour forward 3 km / per hour backward |
| Capacity with one battery pack | up to u 15 km** |
| Maximum slope | up to 20 %** |
| Storage temperature / operation temperature | - 20° C to + 60° C / - 10° C to + 50° C |
| Batteries | 2 x 12 V / 16 Ah |
| Direct current motor | 24 V / 130 W |

* Limiting values stipulated by the wheelchair manufacturers must be noted and observed.

** Range and climbing capacity depend on the weight of the person who is transported as well as on the floor surfaces, the ground, the terrain, etc.

Weight and climbing diagram:



In the interest of progress we reserve the right for technical changes.

1.3 Delivery package

The delivery package contains:

- ❶ = Wheelchair wheels including handrim and toothed ring
- ❷ = Battery pack plus bag
- ❸ = Charger plus operator's manual
- ❹ = driving unit plus pushing and control grip

...as well as the components mounted to the wheelchair such as the bracket, power cable and the bag for the battery pack (no picture).

In addition a holding device is necessary, which is attached to the wheelchair beforehand.



1.4 Optional accessories

- ❶ = Anti-tilt support
- ❷ = Voltage transformer for the car



2 Assembly and Operation

The v-max can only be used in connection with a special bracket which must be mounted to your wheelchair.

This bracket may only be mounted by AAT or dealers authorized by AAT.

2.1 Brackets

All brackets are especially developed and adjusted to each individual wheelchair, which means that the bracket, ❶ right, ❷ left, pictured in this operator's manual may differ from the one attached to your wheelchair.

- ☞ Before each use, check whether the bracket is securely fastened to the wheelchair. In case screws have loosened or fallen out you may not use the v-max. Please contact your dealer immediately.
- ☞ Please note that mounting the v-max to a wheelchair (depending on the model) may result in restricting the adjustment of its seat or back rest.
- ☞ Mounting the v-max to a wheelchair (depending on the model) may result in a change of the wheelchair's measurements.

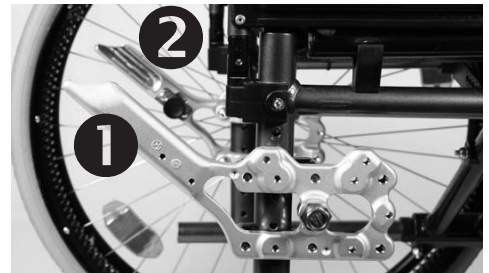
2.1.1 Attach and detach the wheels

There are full-floating axles in the centre of your wheelchair wheels. Press the locking pin in the middle of the axle with your index finger to unlock the system. Now you can take the wheel off. Please remove one after the other. To put the wheels back on proceed in reverse order.

2.2 Battery pack

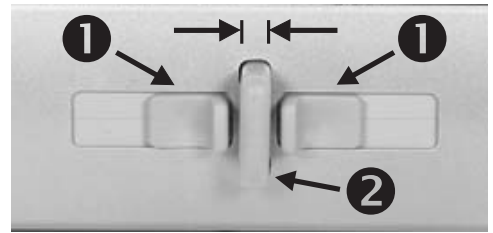
A bag for the battery pack is attached under the seat of the wheelchair. Simply slide the battery pack into its bag...

...and fix it with a Velcro strap.

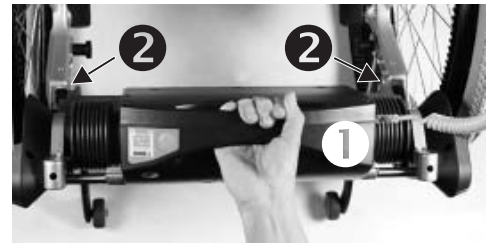


2.3 Hook on the v-max

To mount the v-max the powered axles must be inserted entirely. Press the two slide switch ❶ toward the PRESS button ❷ until they lock. See picture on the right.

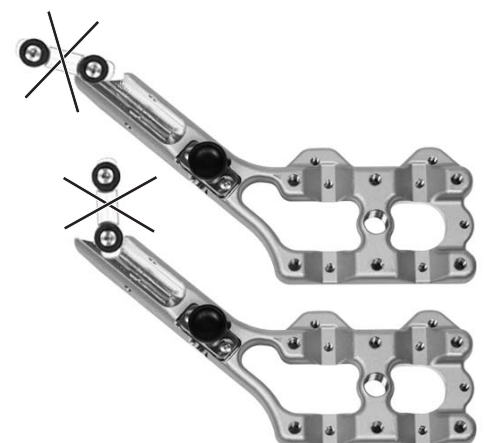
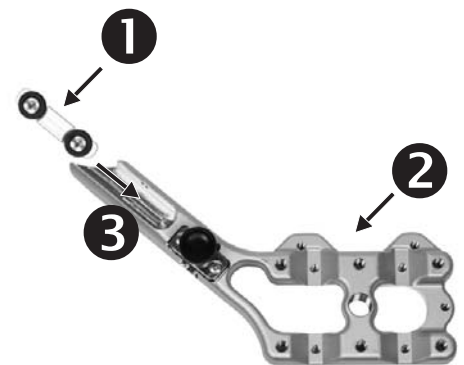


Now slide the v-max ❶ evenly, on both sides, into the brackets ❷.



☞ Make sure the v-max with its wheelchair links ❶ is in a straight line when you insert it into the brackets ❷.

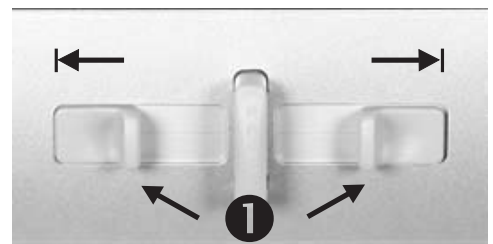
Then the machine slides automatically ❸ into the appropriate place in the brackets.



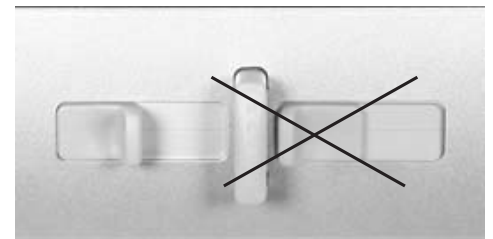
Now you press the PRESS button to unlock the levers and the powered axles come out..



☞ The power unit is activated, if both slide switch ❶ have reached their outer position.



☞ The driving unit locked properly, if the wheelchair cannot be moved manually any more.



Now you can insert the plug ❶ of the power cable into its socket ❷ on the v-max.



Then you put the other plug **1** of the power cable into its socket **2** on the battery pack.



2.4 Pushing and control grip

The wheelchair driver's attendant controls all functions of the v-max by means of the control grip. Since the control grip **1** and the pushing grip **2** can be installed either on the right or the left side, the v-max is ideal for both right-handed or left-handed users.



At the ends of the regular wheelchair grips links are attached into which you can stick both grips of the **V-max** on either side. These particular grip holders allow the user to insert either one of the grips in various positions on the right or the left side, so an individual and comfortable adjustments of the grips is possible.



2.4.1 Attaching the grips

Due to the special toothting ❶ it is possible to insert the grips into the grip holders ❷ in the most comfortable position for each individual users.



See picture on the right indicating the grip positions which have proven most comfortable for frequent use.

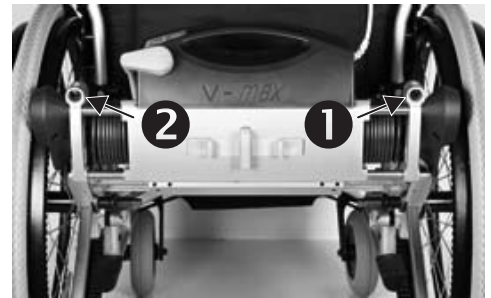


2.4.2 Removal of the grip

Pull the locating pin ❶. The grip ❷ unlocks and you can lift it out of the link.



In case you do not need the device for some time, simply remove the grips and put them back into their respective holders ① + ② on the v-max.



If you like, remove the v-max entirely from the wheelchair and set the device on its grips, which function as sturdy legs in such case.



2.5 Anti-tilt support

You may operate the v-max only with installed anti-tilt support.

If your wheelchair does not have a tilt support, which is standard with most wheelchair manufacturers, we can equip your wheelchair with the necessary anti tilt support as an optional accessory of the v-max.

Holding devices for our anti-tilt support are already mounted on the brackets of the v-max.

2.5.1 Attaching and removing the tilt support

2.5.1.1 Universal holding device

Slide the tilt support ② all the way into the holding device ① on the v-max. Lock it with the locking bolt ③. Push the locking bolt into the drilling on the holding device while you press the unlocking button ④ at the top of the locking bolt. When the locking bolt is inserted all the way you release the unlocking button on the locking bolt.

- ☞ Please check whether the locking bolts are tightly secured in the holding devices. If you can remove the locking bolts without pressing the unlocking button, they are not secured properly.
- ☞ Please make sure that the tilt support is not jammed whenever you use the v-max.
- ☞ Please do not drive backwards against a wall with mounted tilt supports.
- ☞ Please note that no tilt support can secure all potentially difficult situations, thus avoid any instable situations even with mounted tilt supports.

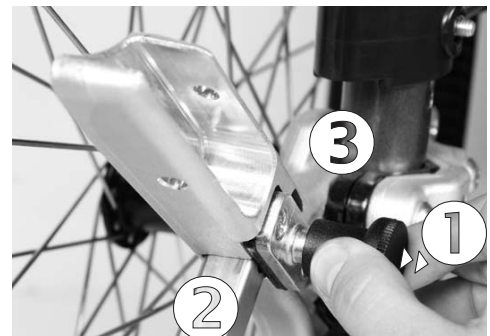
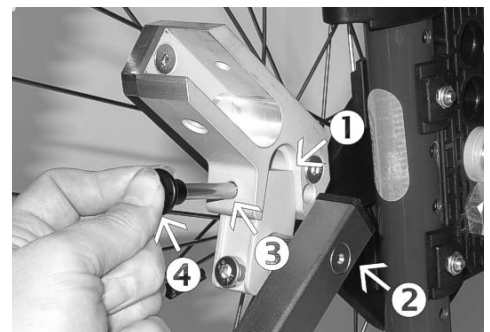
To remove the tilt support you press the unlocking button on the locking bolt while you pull it out. Then take off the tilt support.

2.5.1.2 Multi holding device 1

Pull the locking bolt ① out sidewise and slide the tilt support ② all the way into the holding ③ on the v-max. Please note the instructions written on the tilt supports. The one marked with an "R" is the tilt support for the right side, the one marked with an "L" is the one for the left side, so that the drillings for the locking bolts correspond.

- ☞ Please make sure that the tilt supports are secured in their respective holding devices. If you can pull them out, they are not secured properly.
- ☞ Before you start driving make sure that the tilt supports are not jammed.
- ☞ Please do not drive backwards against a wall with mounted tilt supports.
- ☞ Please note that no tilt support can secure all potentially difficult situations, thus avoid any instable situations even with tilt supports.

To remove them you pull out the locking bolts and take them off.



2.5.1.3 Multi holding device 2

Pull the locking bolt ❶ out sidewise and slide the tilt support ❷ all the way into the holding ❸ on the v-max. Please note the instructions written on the tilt supports. The one marked with an "R" is the tilt support for the right side, the one marked with an "L" is the one for the left side, so that the drillings for the locking bolts correspond.

- ☞ Please make sure that the tilt supports are secured in their respective holding devices. If you can pull them out, they are not secured properly.
- ☞ Before you start driving make sure that the tilt supports are not jammed.
- ☞ Please do not drive backwards against a wall with mounted tilt supports.
- ☞ Please note that no tilt support can secure all potentially difficult situations, thus avoid any instable situations even with tilt supports.

To remove them you pull out the locking bolts and take them off.



3 Safety instructions and awareness of potential hazards

3.1 General information

All general rules for the safe use of a wheelchair apply without reservation while operating the v-max.

To assure the safe use of the v-max, it is indispensable to observe the following directions.

3.2 Technical requirements

Attaching the brackets of the v-max on the wheelchair or making changes on said brackets can only be performed by the company AAT Alber Antriebstechnik or their authorized dealers.

The v-max may only be attached to wheelchairs whose seats measure at least 36 cm. All wheelchairs must be checked according to generally acknowledged technical norms, and their operators' manuals must be applied when using the v-max.

When operating the v-max all stipulations required by the wheelchair manufacturer, such as e.g. maximum gradient or maximum load, as well as all other general guidelines must be observed. Indicated limitations are not to be exceeded under any circumstances.

- ☞ The maximum total weight of 200 kg is composed of the weight of the person to be transported plus the weight of the wheelchair and the v-max.
- ☞ Please always check the air pressure of pneumatic steering rollers. The v-max driving qualities could be affected negatively, if there is not enough air in the rollers.
- ☞ The v-max plus its power unit is for the most part covered by the housing. Nevertheless, please make sure that while driving you do not put fingers or hands into the rotating area (e.g. chain wheel or driving pinion). Always keep a safe distance.

3.3 Correct use / attendant

Thorough instruction into the use of the v-max by your dealer or a representative of AAT Alber Antriebstechnik is part of the delivery package and takes place at an appointment of your choice. This is a free service at no extra charge.

- ☞ Do not use the v-max without being trained to operate it
- ☞ Only an attendant and not the wheelchair driver him- or herself may use the pushing and braking aid, v-max, because of the danger of tilting the wheelchair, especially when driving on slopes..
- ☞ In the interest of your safety the v-max may only be operated by people instructed in the use of the device and further by people who are physically and mentally capable to manage the v-max in all situations that may occur while using it.

The attendant must be able to catch the wheelchair plus the person sitting in it, if the chair should tilt backwards. Anti-tilt supports are obligatory!



- ☞ Please check the tilt supports before each use. They may never be jammed.
- ☞ Please do not drive backwards towards the wall with mounted tilt supports.
- ☞ Should you feel insecure handling the v-max, please contact your dealer or one of the AAT representatives.

3.4 Environmental influences - electromagnetic compatibility

Electromagnetic compatibility signifies the capacity of an electric device to function satisfactorily in its electromagnetic environment without interfering with other devices that are also in said environment.

The v-max successfully passed all the EMV tests required by law.

3.5 Climatic conditions

In order for the v-max to work properly, please do not expose the device to freezing conditions for a longer period of time. Should this be unavoidable, make sure that the device is in an environment above 0° Celsius for at least one hour.

3.6 Driving

Generally all limits of your wheelchair specified by the manufacturer must be observed and not exceeded.

- ☞ During drive rests activate the locking brakes of the wheelchair.
- ☞ Always put your speed control in the position of its lowest possible speed when you start driving.

Although the **V-max** manages gradients up to 20 % never exceed the maximum gradient stipulated by the manufacturer of your wheelchair.

- ☞ It is obligatory to use anti-tilt supports.
- ☞ Please check the tilt supports before each use. They may never be jammed.
- ☞ Please do not drive backwards towards the wall with mounted tilt supports.
- ☞ During long uphill drive the device can automatically switch off due to the interfere of the temperature controller (see chapter 6 trouble shooting).
- ☞ Please be cautious when you go downhill with full batteries. Going down a slope produces electricity which additionally charges the batteries. This can lead to excess voltage, in which case the device may turn itself off (please see chapter 6 for trouble shooting). To avoid excess voltage during regular operation, the device automatically reduces the speed.

3.7 Special instructions for operation

If the v-max is turned off, the wheelchair cannot be moved manually - the driving unit is blocked-up.

Exception: the v-max is detached when the 2 slide switches to connect the power unit are mechanically locked. In such case the wheelchair may be moved (see chapter 2.3).

In order to achieve the desired braking effect, you must turn on the v-max.

- ☞ The v-max can be stopped at any time - be it during regular operation, an emergency situation or when malfunctioning - by pushing and releasing the panic switch. Please turn to chapter 4.1.3 for further information on the panic switch.
- ☞ In case of malfunction please consult chapter 6 for trouble shooting.
- ☞ Always master ramps backwards since the steering rollers may potentially block when you drive forward. Please pull the wheelchair at its handle not at the ones of the v-max. Also always check the height of your anti-tilt support and keep in mind the wheelchair manufacturer's stipulated maximum height.
- ☞ Please note that the v-max may only be used with a "wheelchair to stand up with" in a seated position, i.e. the wheelchair may not be used in its stand up position!

3.8 Transportation

You may lift the v-max from its brackets for transportation (see chapter 2.3).

- ☞ Before using mass transportation such as buses or subways, etc. or your personal vehicle, please detach the v-max from your wheelchair!
- ☞ Always turn off the v-max before transportation!
- ☞ During drive rests activate the locking brakes of the wheelchair.
- ☞ When driving in a vehicle, please secure your wheelchair and the v-max according to the respective rules regulated by law.

The air-tight batteries used in the v-max are not considered hazardous goods according to the special regulations A67 and GGVS Rn-Nr. 2801 A, section 2 by IATA, thus they are approved by DOT and IATA for air travel.

3.9 Condition of paths, walkways etc.

You should avoid operating the device on unfortified grounds (sand, mud, loose gravel, ice or snow).

Please avoid using the v-max in the rain, ice, snow or general wet conditions because then the wheels' grip on the ground is reduced. There is an increased danger of slipping and sliding. Please adjust your driving style accordingly.

4 Control and display elements

Your v-max is ready to go when you receive it. Once the v-max is correctly mounted and connected, you can turn it on and use it immediately.

Please practise using it with an empty wheelchair to get a feeling for the machine and its functions. This also applies to the panic switch system.

4.1 Control grip

The wheelchair driver's attendant uses all of the v-max's functions by means of the control grip.

4.1.1 Speed control

The speed control ❶ allows you to pre-select the speed.

☞ Turn the speed control counter-clockwise all the way for minimum speed.

You must begin with minimum speed when you use the v-max for the first time.

4.1.2 Rocker switch

With the rocker switch you determine the direction and speed (up to the pre-selected speed) of the v-max.

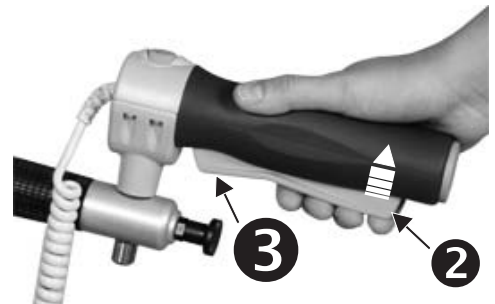
☞ Use the rocker switch carefully.

To drive forward, press the longer, back part ❷ of the rocker switch. To drive backward, press the shorter, front part ❸ of the rocker switch.

The v-max speeds up the more you press the rocker switch until you reach the maximum pressure point. It slows down the more you release the rocker switch.

If the user lets go of the rocking switch altogether and it reaches its neutral position, the power comes to a standstill. To increase the braking effect the power reverses poles.

Two seconds after standstill is reached, an electro-magnetic parking brake becomes active.



4.1.3 Panic switch

If during an emergency you press the rocker switch too hard so that the pressure point is overcome, the so-called panic switch causes the v-max to go from driving mode into coast. As long as you keep the rocker switch pressed, you can drive the patient away from the dangerous situation.

However, as soon as you release the rocker switch the electromagnetic brake is activated.

Depending on particular circumstances the electro-magnetic brakes' strong effect may brake the wheelchair so abruptly that it stops immediately.

The panic switch works both ways going backward and forward as well as during malfunction except when the display is blinking red 7 times (please see chapter 6 for trouble shooting).



4.2 ON/OFF push button

The key is furnished with the symbols "0/1" and located on the power unit. By pressing the key you turn your device on or off.

If you have not used the v-max for longer than 5 minutes, it turns itself off automatically. In such case press the button again to reactivate the device.



4.3 Battery charge

A number of LED's located on the control panel next to the On/Off button inform you about the charge of the battery.

LED's and their meaning:

If the diode lights up in -

- the first green column: the battery pack is 100 % charged
- the second green column: the battery pack is 80 % charged
- the third green column: The abattery pack is 60 % charged
- the yellow column: the battery pack is 40 % charged
- the red column: the battery pack is 20 % charged

☞ If the LED in the red column lights up, you must recharge the battery pack.

Due to the extensive self tests of the electronics, it is possible that the charge indication only shows 80 %, even though the batteries are full. Please wait approximately one minute, then the charge will be indicated correctly.

Due to the batteries and the data recorder, the charge's condition is only then properly indicated if the rocker switch is in a neutral position. So if the rocker switch is not pressed, it may take up to one minute until there is a change in the batteries' display.



5 Battery pack

The battery pack of the **v-max** is maintenance-free and rechargeable. Its durability depends directly on the number of charging/discharging cycles.

5.1 General information

If you take good care of your battery pack by recharging it regularly, you prolong its durability. The v-max's electronics constantly check the battery's charge and thus prevent a total discharge, if used adequately.

- ☞ Avoid a total discharge of the battery pack. Recharge it after each partial discharge, i.e. after each use of the v-max.
- ☞ If the battery pack is totally discharged, it takes a maximum of approximately 10 hours to recharge it.

The battery pack undergoes a so-called self-discharge; therefore, you should connect your battery pack, whenever possible, to a charger. The charging automatism, which switches from charging the battery to retaining the charge when it is full, kicks in and keeps the battery from overcharging.

If your battery pack has not reached its full capacity, it is possible that with a new battery pack it takes a few charging/discharging cycles to build up the full capacity.

The battery pack can be charged in any position. It is considered as safe as dry cells and admitted to air travel by DOT and IATA.

- ☞ Always charge your battery pack with the AAT charger delivered with your v-max. This particular charger automatically turns off when the batteries are fully charged keeping them from being overcharged.

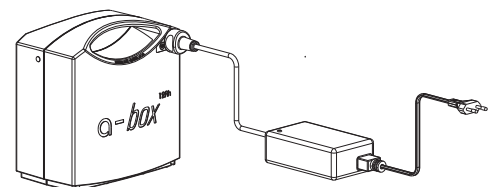
If fully charged batteries empty faster than usual, they are probably used up. In such case have your batteries checked by your local dealer and exchanged, if necessary.

5.1.1 Charging the batteries attached to the wheelchair

To charge the batteries you may leave the battery pack in its bag attached to the wheelchair. First pull the plug of the power cable, then insert the plug of the charger entirely into the charging socket. Finally plug the charger into the wall socket.

- ☞ During the charging process the LED display shows a constant orange light.
- ☞ As soon as the charging process is finished, the LED display shows a constant green light.

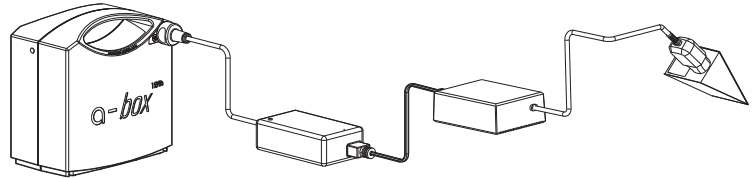
Afterwards you first remove the charger's plug from the wall socket, and then you pull the plug from the charging socket.



5.1.2 Charging the batteries in your vehicle

By means of a voltage transformer you may even charge your battery pack while driving your car.

First remove the power cable. Then fully insert the plug of the charger into the charging socket on the battery pack. Then connect the charger to the voltage transformer. Finally you plug the transformer into the cigarette lighter.



Afterwards you first pull the transformer's plug from the cigarette lighter before you disconnect it from the charger.

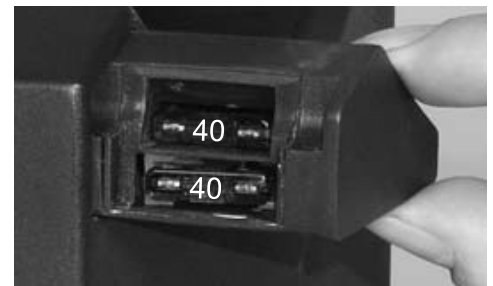
5.2 Change of fuses

The battery pack has two fuses, each 40 A, in a drawer ❶.

Once the lower fuse ❷ is burnt out, replace it by the upper, extra fuse ❸.

If a change of fuses is necessary, put a pin in the opening ❹ on the side of the battery pack. This unlocks the drawer, so you may pull it out.

- ☞ You may not mend or by-pass a defect fuse. Always replace it with an identical one of the same amperage.
- ☞ AAT Alber Antriebstechnik GmbH could offer you replacements of the fuses!
- ☞ Before you exchange the fuses, please remove the charger from the battery pack!
- ☞ Should your fuses burn out frequently, please contact AAT Alber Antriebstechnik GmbH or your authorized dealer.



6 Trouble shooting - malfunction

If there are problems using the **v-max**, please check the following trouble shooting chart and see whether you can fix them yourself.

| Problem | Check and potential solution |
|---------------------------|--|
| v-max cannot be turned on | Is the charger connected to the v-max? If so, disconnect the charging cable and plug in the power cable |
| | Is the battery pack or the control unit empty? If so, charge the batteries and the control unit. |
| | Are the fuses damaged? If so, exchange the fuses |
| | If there is still a problem turning on the v-max, please contact your dealer. |
| Batteries don't charge | Please contact your dealer |

Malfunction is indicated by a blinking red light diode in the control field. Please turn the device OFF and ON again. If the device is still indicating malfunction, charge the batteries in case of low voltage. In all other cases, please contact your dealer.

| Red LED blinks | Type of malfunction |
|----------------|--|
| 1 x | Malfunction of the motor, the motor controller or the battery pack |
| 2 x | Low voltage, batteries empty |
| 3 x | Overvoltage |
| 4 x | Electro-magnetic brake at fault |
| 5 x | Indicator for excess voltage |
| 6 x | Indicator for overstressing |
| 7 x | Temperature controller |

In cases of malfunction such as the blinking of 1 – 4 times we consciously abstained from automatically activating the electro-magnetic brakes as soon as the malfunction is recognized while the device is driving.

☞ If you want to activate the electro-magnetic brake, push the rocker switch hard to overcome the pressure point and the panic switch is activated. Then release the rocker switch.

In all other cases of malfunction the electro-magnetic brake is automatically activated.

Caution: Should the display blink red 7 times (overheating) then one has to wait for approximately 5 minutes, depending on the temperatur.

- ☞ In this condition the device cannot be activated by first switching it off and then on again.
- ☞ Should you have to move the wheelchair and the device is in said condition of malfunction, you may only do so by mechanically locking the slide switches of the power unit (see chapter 2.3).
- ☞ After cooling down the device is automatically in driving mode unless the cooling process took too long and it turned itself off, in which case it would simply have to be turned on again.

In all other cases of malfunction, please see your local dealer.

7 Care, maintenance and recycling

To insure the v-max's safe and proper functioning we recommend a safety check done on the device every two years, even though there might not be any outer damage or malfunction evident.

☞ For safety reasons this safety check or repairs of any sort may only be performed by AAT Alber Antriebstechnik.

The device itself does not call for particular maintenance or care except for the occasional cleaning (see chapter 7.3.2).

7.1 Different user

If the user changes (new user), we recommend to have a safety check performed on the device.

7.2 Care

7.2.1 Battery pack

The v-max's batteries are air-tight, maintenance-free, rechargeable and of excellent quality.

Total discharge leads to loss of capacity as well as a shorter durability.

☞ Therefore avoid a total discharge by recharging the batteries whenever possible!

☞ Charging and taking care of your batteries is the same thing in this case.

If fully charged batteries empty faster than usual, they presumably are used up. Have them checked by your local dealer or an AAT representative, and, if necessary, exchanged.

7.2.2 Cleaning

Please clean your control unit, driving unit, battery pack and brackets with a mild household cleaner.

☞ Please clean the toothed segments and the drive shaft's pinion regularly, since these parts can be outworn more easily due to dirt and debris.

☞ Make sure that no water gets into the v-max; therefore, merely use a damp cloth for cleaning.

☞ In the interest of your safety, do not use a high-pressure cleaning device.

☞ Please make sure that your wheelchair is cleaned according to the manufacturer's specifications.

7.3 Maintenance

The **v-max** is a device particularly low in maintenance. Nevertheless, for safety reasons your v-max needs to be checked once every 2 years, even though there may not be any malfunction or outer damage.

Please contact your dealer or your AAT representative concerning the maintenance work.

7.4 Recycling

The v-max and its battery pack are products of long durability. However, if your v-max is old and has reached the end of its lifespan you may return its components to AAT Alber Antriebstechnik GmbH or your local dealer to be recycled.

A new law concerning electric and electronic devices (ElektroG) has been passed on March 24, 2005 regulating the taking back and recycling of old electric and electronic devices.

According to the Federal Office of Environment Protection (German BDU) the v-max is considered a means of transportation and does not fall under this law concerning the recycling of old electric or electronic devices (ElektroG, §2 paragraph 1 sentence 1 (cross reference, Guideline of the European Parliament 2002/96/EG).



8 Warranty and liability

8.1 Warranty

There is a 24 month warranty (6 months on the battery pack) on the v-max starting from the date of purchase. The warranty covers faulty material and manufacturing defects.

The warranty does not include:

- natural wear and tear (toothed driving belt, toothed segments, wheelchair wheels, driveshaft)
- damage caused by operation beyond set limitations
- damage caused by improper handling
- forced damage
- unauthorized changes made on the device and/or its accessories
- damage done by unlawful use of the v-max exceeding the maximum load indicated by the manufacturer.
- damage done by inexperienced charging of the batteries.

8.2 Liability

The manufacturer AAT Alber Antriebstechnik GmbH is not responsible for the safety of the v-max if:

- the v-max was handled and used inappropriately
- the v-max was not checked every two years by an authorized dealer or AAT GmbH
- the v-max was used not in accordance with all instructions and precautions included in this user's manual
- the v-max was used with insufficient battery charge
- assembly, repairs or other work was done by unauthorized personnel
- parts or accessories other than those recommended by the manufacturer of the v-max were used
- parts of the v-max were changed or removed entirely.



Ideen bewegen mehr

V-max

Notes:



Ideen bewegen mehr

V-max

Notes:



Ideen bewegen mehr

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