NEATECH™
REHAB SERIES

EVO 1

USER MANUAL

2020-10

PRODUCT	**EVO1**
OTHER NAMES	EVO-1, EVO 1, EVO-1 FWD, EVO-1 RWD, EVO 1 FWD, EVO 1 RWD
PART NUMBER / MODEL	S045
CE CONFORMITY	CE **Regulation EU 2017/745 - Class I medical device - Rule I Annex VIII**
MAIN STANDARDS APPLIED	ISO 14971:2012 UNI EN 12182:2012 UNI EN 12184:2014
MANUFACTURER	**Neatech.it SRL** via A. de Curtis 4/A, 80040, Cercola (NA), Italia Tel. +39 081 555 1946 www.neatech.it – info@neatech.it
INTENDED USE	The product is intended to be used for alleviation or compensation for an injury or disability. Particularly the wheelchair is intended to be used by those groups of users with temporary or permanent mobility difficulties confined to a sitting position who need to move in mostly indoor environments.

Index

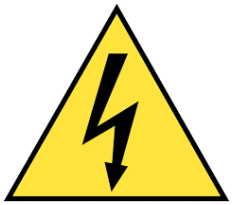
Symbols in this manual

WARNING

This symbol means presence of danger for the user or damage for the product. Always follow instructions when this symbol is present.

PINCH HAZARD

This symbol means presence of pinch hazard.



ELECTRICAL WARNING

This symbol means presence of danger related to the presence of electrical energy. Please pay special attention when this symbol is present.

INFORMATION

This symbol means general information intended to simplify or best explain the use of the product.

CONTACT INFORMATION

This symbol means the need of contacting an authorized service center or the manufacturer.

TEMPERATURE

The temperature of some surfaces may increase when the product is exposed to external heat sources as direct sunlight.

TIPPING HAZARD

Tipping hazard is strongly reduced because of the design of the product according to EN 12182.

In any case, please pay special attention during the adjustments and use of the product to prevent any damage to the user or product itself.

Any transport on a slope greater than the maximum safety slope can be dangerous.

Please don't seat on armrests.

ANTI-TIP DEVICES

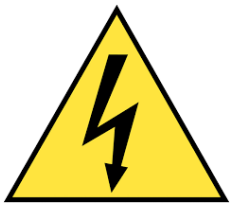
Using anti-tippers substantially reduces your risk of falling over, which can cause serious injury. The Anti-Tippers will keep you from falling over, but they will limit your ability to be pulled up curbs and some other maneuvers. **IT IS NOT POSSIBLE TO HAVE THIS WHEELCHAIR WITHOUT ANTITIP DEVICES**.

Center of balance of the wheelchair and so its stability cab be affected by:

- User position
- Us of a backpack
- Tilting of the seat

PINCH HAZARD

Make sure your feet do not hang up or get caught in the space between the footrests. In general, make sure you have proper space in areas you will travel through to minimize pinching or entrapment of body parts.



ELECTROMAGNETIC RADIATION DANGER

The behavior of the wheelchair while driving may be affected by electromagnetic fields created by transceivers such as: Citizens band (CB) radios, walkie-talkies, fire and police radios, cellular phones, lap-top computers, commercial radio and television broadcast antennas. PLEASE USE CAUTION in the presence of these devices.

Electromagnetic radiation can cause your chair, without warning, to:

- release its brakes
- move by itself
- move in unintended directions

If any of these occur, it could result in severe injury to you or others. Electromagnetic radiation can damage the control system of your chair. There is no way to know the effect on electromagnetic immunity if you add accessories or modify this chair. Any change to your chair may increase the risk related to electromagnetic radiation. Parts from other suppliers have unknown electromagnetic properties. **The wheelchair might disturb the operation of devices in its environment.**

INFORMATION

For information on how to obtain information and instructions in a format appropriate for use by visually impaired people please contact the manufacturer.

Service manual is intended for technical personnel to maintain and repair wheelchairs. It is important to follow the instructions contained in this manual in order to professionally work with the product.

The qualified personnel who works with wheelchairs must comply with all provisions of occupational safety and common sense in order to preserve his own safety.

The manufacturer declines all responsibility for any accidents occurring during the working with the product.

WARNING: It is prohibited to use the product or its parts for any purpose other than that indicated. For a correct use please follow the instructions given in this manual. The manufacturer disclaims any responsibility for damages caused by improper use of the product.

The manufacturer disclaims any responsibility for inappropriate selection of product model and configuration.

Information in this manual may be subject to change without notice. All information, pictures and specifications are based on the product details that were available at the time of preparation of this document. They are representative examples and they are not intended to be exactly as the actual product.

MODIFICATIONS

Any unauthorized modification to the product may increase the risk of personal injury and damage to the product itself. All modifications should be done by an authorized service center.
Do not use any unauthorized accessories or spare parts on the product. Do not use the product in combination with other medical devices without first having considered any risk due to combination of more products.

MANUFACTURER

For any need not expressly explained in this manual, please contact the manufacturer.

Neatech.it SRL

via A. de Curtis 4/A, 80040, Cercola (NA), Italy
www.neatech.it – info@neatech.it - +39 081 555 1946

INCIDENT REPORTING

If an incident occurs, please contact an authorized service center. For a list of authorized service center please contact the manufacturer.

DISPOSING

This product and all its components can not be treated as household waste. For more detailed information on how recycling and disposal this product contact your local waste disposal service.

1 PRODUCT INFORMATION

Evo1 is a strong wheelchair, incredibly steady and made of high-quality components for a comfortable and safe driving performance anywhere you go.
Evo1 has a minimal and well thought design, extremely compact and ideal for both indoor and outdoor use, due to its small dimensions and the turning radius reduced to the minimum.
It is available with front or rear wheel drive and a wide range of options and alternative driving systems.
The chassis is available in 2 sizes: small 49 cm and large 55 cm.
There is a choice of 16 colors, combinable so you can easily add a personal touch to the wheelchair.
The modular seat structure is highly customizable, according to your own specific needs and it can grow and develop together with the young user, with a wide range of interchangeable support and positioning options.

2 PREPARATION FOR FIRST USE

2.1 Checks to be made on delivery

- Check for the integrity of the original packaging.
- Check for any anomalies on shipping documents.
- Check for the functionality and integrity of the device in all its parts, at the time of delivery or immediately thereafter, to ensure that no damage has resulted from a careless transport.
- Make sure the surface of the device is not damaged, scratched, bent, etc.
- Any fault or damage found must be immediately reported on the shipping documents and promptly communicated to the shipper.

2.2 Unpacking

Inside the box there are:

- Evo1 wheelchair
- Documents and manual
- Charger

The wheelchair is delivered already mounted and ready to use. Before starting to use the wheelchair please check if all described components are present. **If not, please contact as soon as possible the vendor.**

PACKAGING DISPOSAL

To properly recycle the packaging materials follow instructions provided by your local waste disposal service.

3 ADJUSTMENTS

3.1 List of adjustments

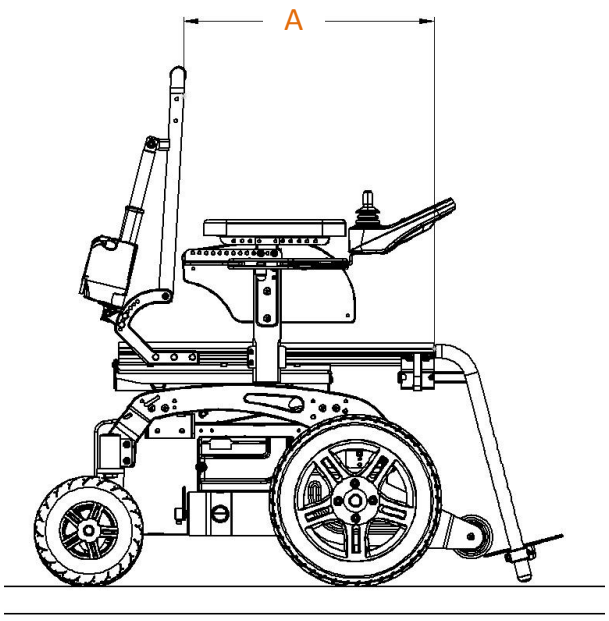
Type of operation	
A	Operation intended to be performed by the user.
B	Operation intended to be performed by an assistant.
C	Operation intended to be performed by an authorized service center.

Table 1

Adjustment	Type of operation
Seat depth	B - Assistant
Backrest angle	B - Assistant
Armrests depth	B - Assistant
Armrests height	B - Assistant
Sidepad height	B - Assistant
Footplates height	B - Assistant
Footplates angle and depth	B - Assistant
Calf support position	B - Assistant
Legrest angle	B - Assistant
Joystick position	B - Assistant

Table 2

3.2 Seat depth



WHEELCHAIR SIZE	(A) MIN VALUE	(A) MAX VALUE
M1 - S045-V067	300 mm	420 mm
M2 - S045-V068	340 mm	460 mm
M3 - S045-V069	380 mm	440 mm
M3 - S045-V070	440 mm	500 mm
M4 – S045-V071	400 mm	460 mm
M4 – S045-V072	460 mm	520 mm
M5 – S045-V073	460 mm	520 mm

Table 3

WARNING

It is needed to set separately left and right seat depth. Always set them at the same manner.

Average needed time:

5 min

Difficulty level:

Easy

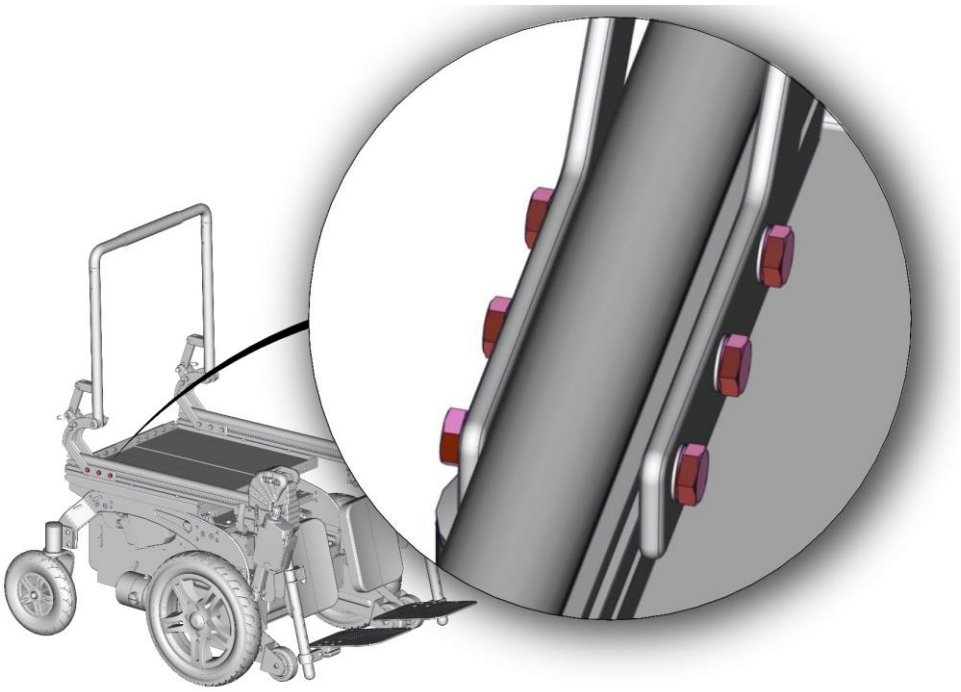
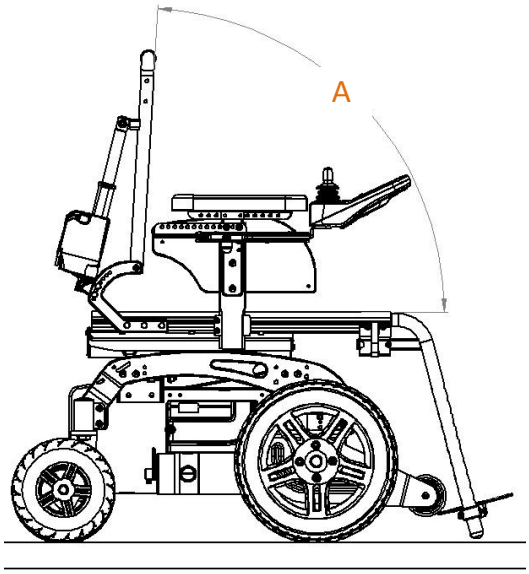


Figure 1

• Remove the backrest. • Loosen the 6 screws shown in figure. • Repeat operations for both left and right side of the wheelchair. • Set the backrest according to the desired seat depth. • Tight again the 6 screws. • Repeat operations for both left and right side of the wheelchair. • Mount again the backrest.	**OPEN-END WRENCH**  10 mm

3.3 Backrest angle



BACKREST CONFIGURATION	(A) POSSIBLE VALUES
Angle adjustable with fixed position	90° or 110° 95° or 115 100° or 120° 105° or 125° 110° or 130° 115° or 135°
Angle adjustable with pistons	90° - 130° 95° : 130° 100° : 135° 105° : 135° 110° - 140° 120° - 145°
Powered backrest	90° - 130°

WARNING

It is needed to set separately left and right backrest angle. Always set two parts of backrest at the same manner.

Average needed time:

5 min

Difficulty level:

Easy

Powered legrest

- Act on the joystick as described in section 4.1.

Angle adjustable with pistons

Use the lever located on the push bar to move the backrest.

Angle adjustable with fixed position

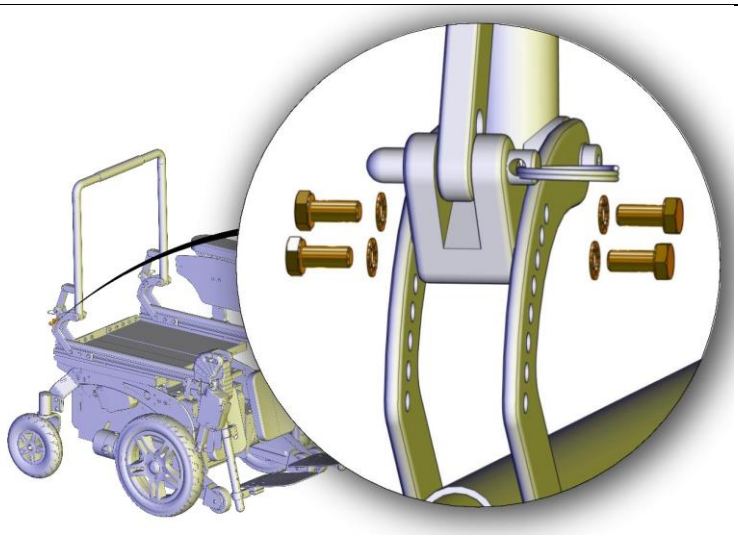


Figure 2

- Unscrew the 4 screws shown in figure.
- Repeat operations for both left and right side of the wheelchair.
- Set the position of the hardware highlighted in figure according to the desired backrest angle.
- Screw again screws.
- Repeat operations for both left and right side of the wheelchair.

OPEN-END WRENCH

10 mm

ADDITIONAL ADJUSTMENT

After adjusted the angle of backrest as described above it is possible to adjust of more 20° simply acting on the axis shown in figure.

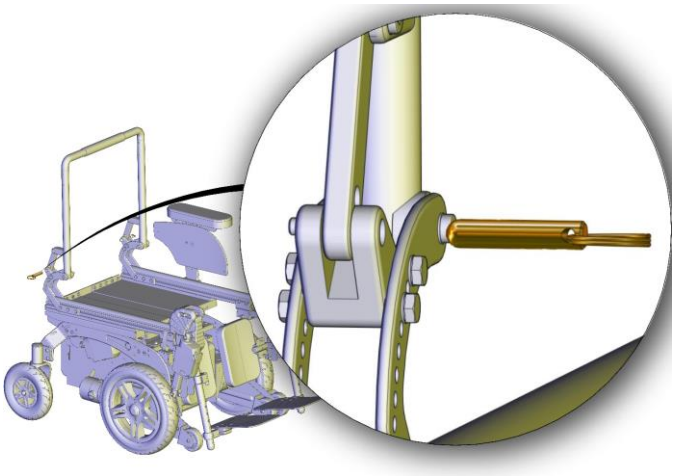


Figure 3

3.4 Armrest depth

RANGE

It is not easy to provide a range for adjustment of armrests depth because there are too many configuration and possibilities.

RIGHT AND LEFT SIDE

It is possible to adjust separately left and right side.

Average needed time: <5 min	**Difficulty level:** Easy

RANGE

Please be sure that the chosen position doesn't represent an obstacle.

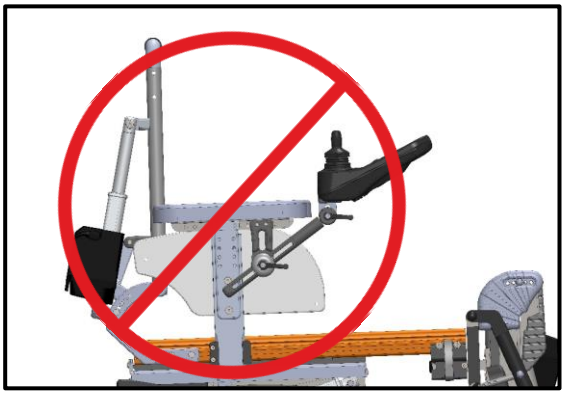


Figure 4

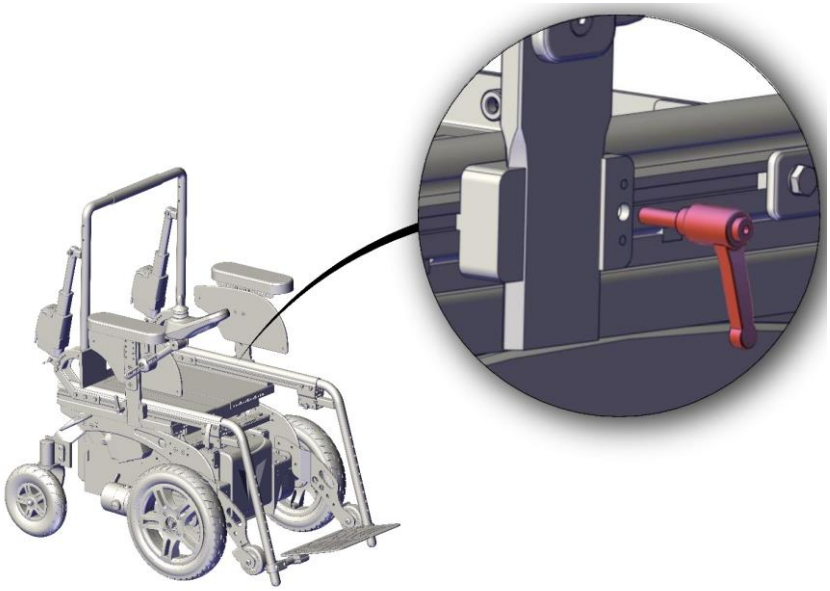


Figure 5

• Loosen the lever shown in figure and remove the armrest.	

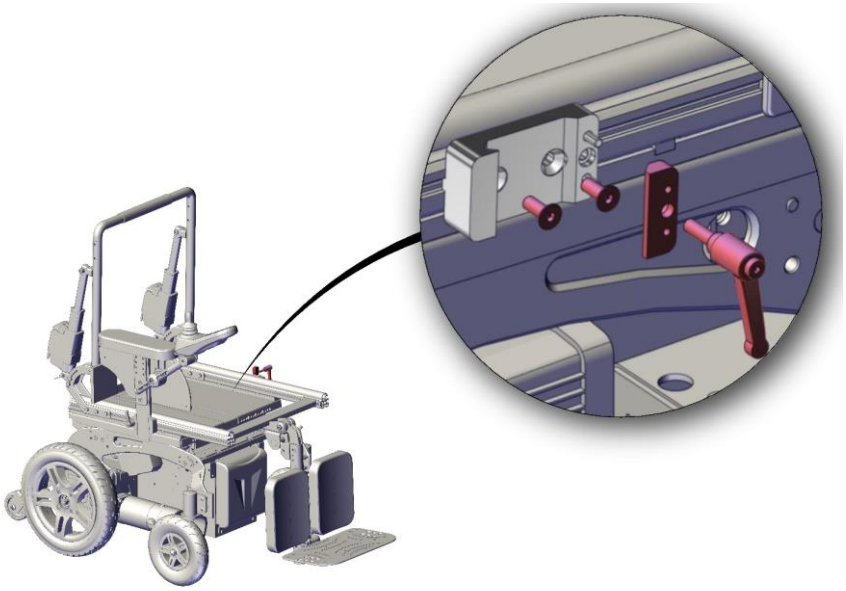


Figure 6

• Unscrew the lever shown in figure. • Loosen the 2 screws shown in figure and set the depth of armrest clamp as desired. • Tighten again the 2 screws and put back the armrest.	**ALLEN WRENCH**  4 mm

ADDITIONA ADJUSTMENT

Moreover it is possible to adjust armrest depth unscrewing the 2 screws shown in figure with a 4 mm allen wrench.

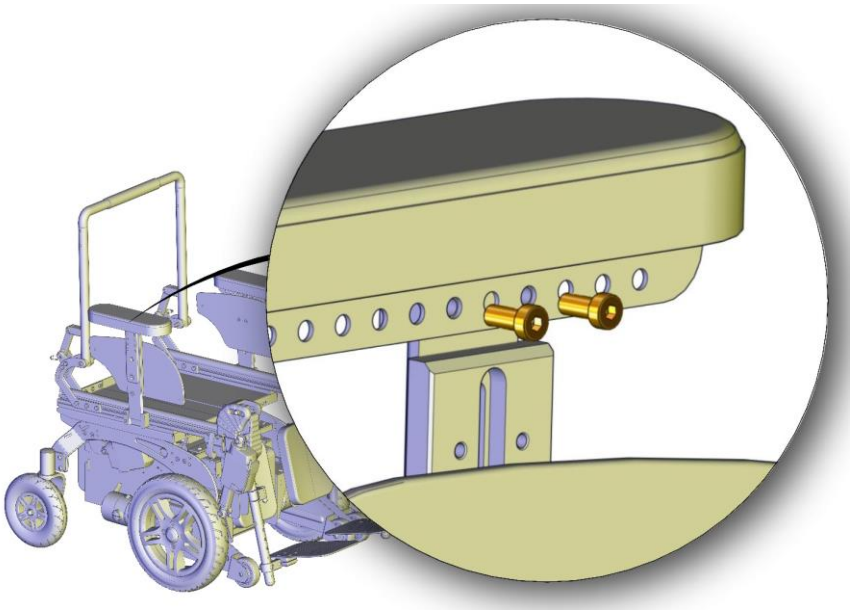
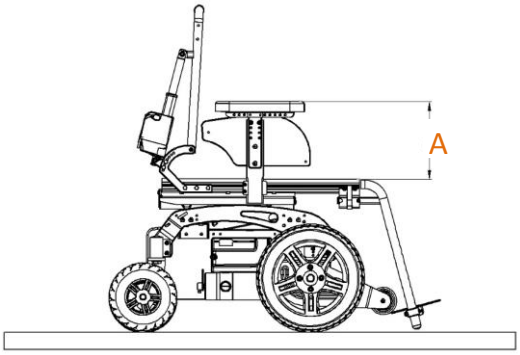


Figure 7

3.5 Armrest height



WHEELCHAIR SIZE	(A) MIN VALUE	(A) MAX VALUE
S045-V401	200 mm	270 mm
S045-V402	260 mm	340 mm

RIGHT AND LEFT SIDE

It is possible to adjust separately left and right armrest.

Average needed time:

<5 min

Difficulty level:

Easy

SIDEPAD, JOYSTICK AND ARMREST HEIGHT

It is better to adjust first armrest height, then joystick and finally the sidepad.

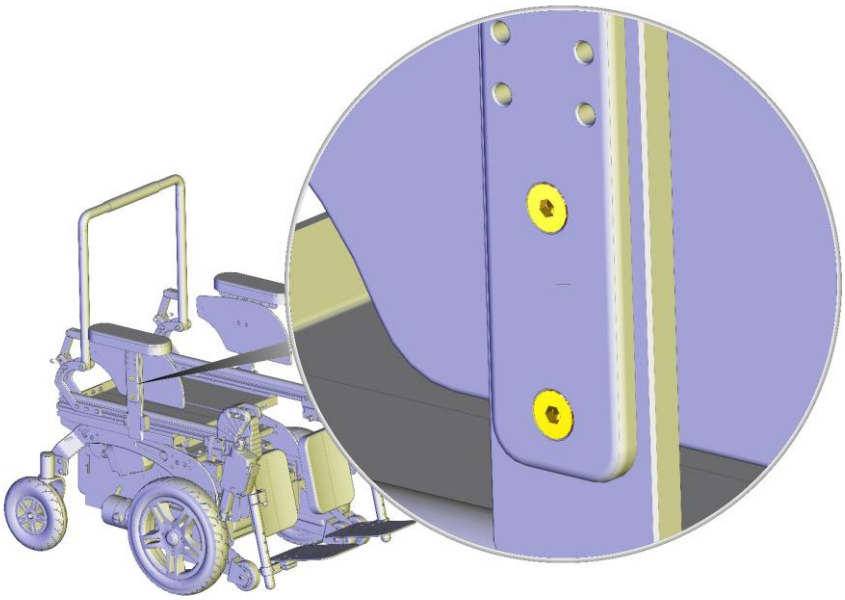


Figure 8

• Loosen the 2 screws shown in figure. • Set the armrest according to the desired height. • Tight again the 2 screws.	**ALLEN WRENCH**  4 mm

3.6 Sidepad height

RANGE

It is not easy to provide a range for adjustment of sidepad because there are too many configuration and possibilities.

RIGHT AND LEFT SIDE

It is possible to adjust separately left and right sidepad.

SIDEPAD, JOYSTICK AND ARMREST HEIGHT

It is better to adjust first armrest height, then joystick and finally the sidepad.

Average needed time:

<5 min

Difficulty level:

Easy

RANGE

Please be sure that the chosen position doesn't represent an obstacle for armrest.

Figure 9

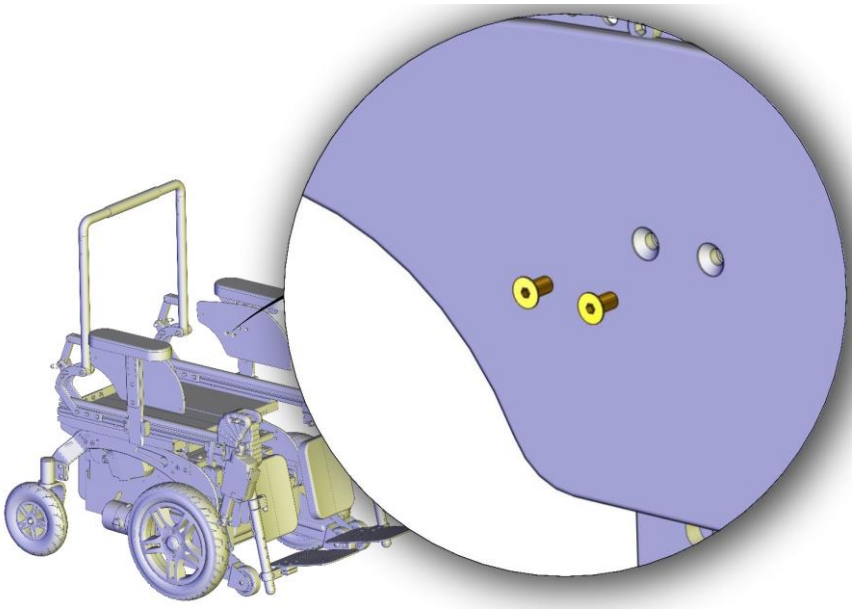
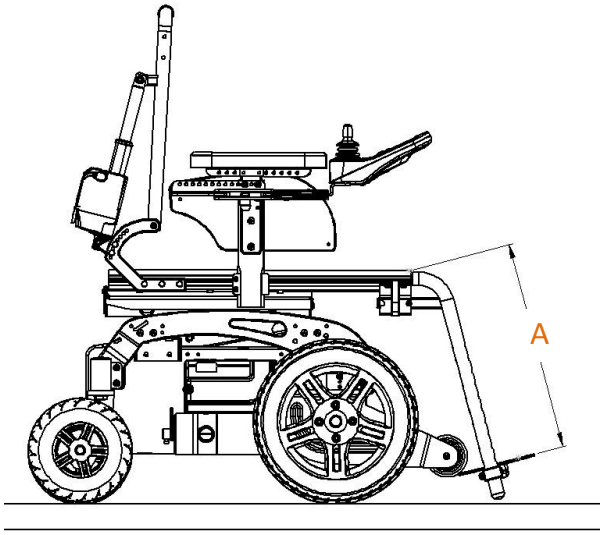


Figure 10

• Unscrew the 2 screws shown in figure and set the position of sidepad as desired. • Screw again the 2 screws.	**ALLEN WRENCH**  3 mm

3.7 Footplates height



LEGREST CONFIGURATION	(A) POSSIBLE VALUES
Fixed angle	150 mm 175 mm 200 mm 225 mm 250 mm 275 mm 300 mm 325 mm 350 mm 375 mm 400 mm
Angle adjustable	150 mm 175 mm 200 mm 225 mm 250 mm 275 mm 300 mm 325 mm 350 mm 375 mm
Powered legrest	255 mm 280 mm 305 mm 330 mm 355 mm 380 mm

RIGHT AND LEFT SIDE

It is possible to adjust separately left and right legrest if you have splitted footrest.

INFORMATION

With calf supports, it is possible that some footplates heights can't be reached.

Average needed time:

<5 min

Difficulty level:

Easy

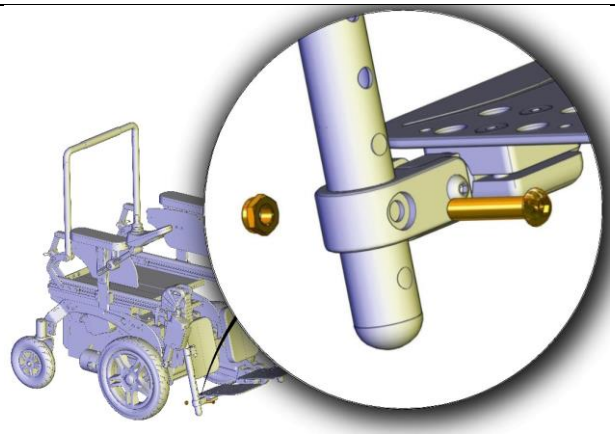


Figure 11

- Unscrew the screw shown in figure with the allen wrench while holding the nut behind with the open-end wrench.
- Repeat the operation for both left and right side of the wheelchair.
- Set the position of the footplate according to desired height.
- Screw again the screws.

ALLEN WRENCH

5 mm

OPEN-END WRENCH

13 mm

3.8 Footplates depth and angle

RANGE

It is not easy to provide a range for adjustment of footrests because there are too many configuration and possibilities. In any case it is always possible to choose between 3 different depth.

RIGHT AND LEFT SIDE

It is possible to adjust separately left and right legrest if you have splitted footrest.

Average needed time:

<5 min

Difficulty level:

Easy

Angle adjustment

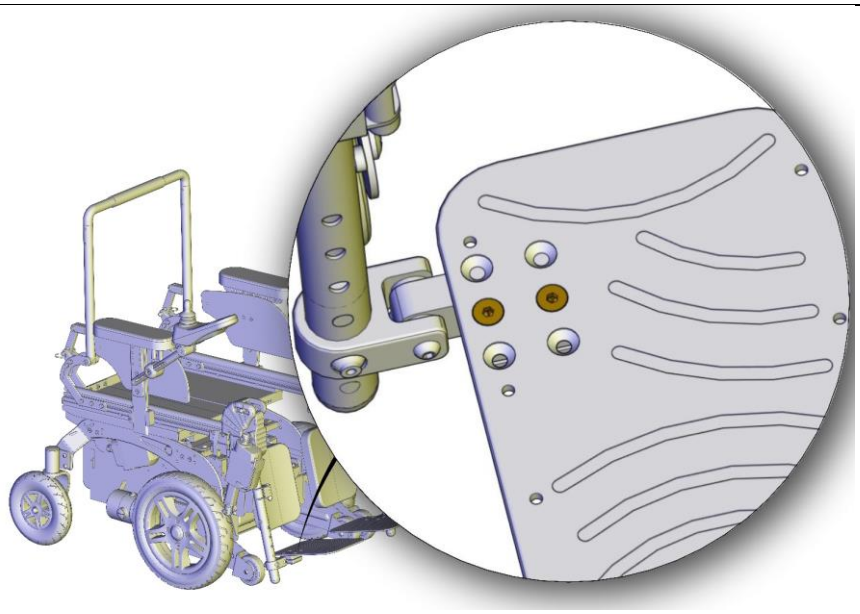


Figure 12

• Loosen the 2 screws shown in figure. • Set the position of the footplate according to desired angle. • Tighten again the screws.	**ALLEN WRENCH**  4 mm

Depth adjustment

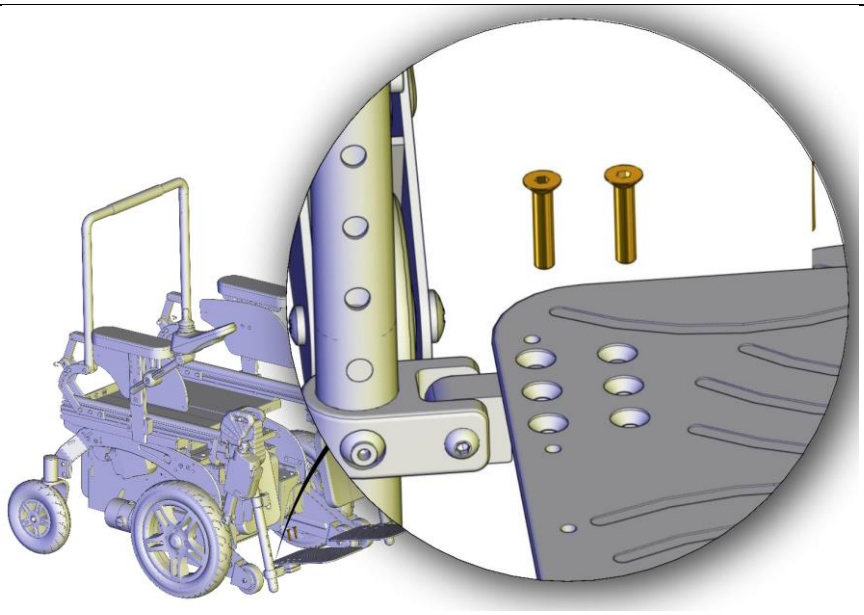


Figure 13

• Unscrew the 2 screws shown in figure. • Set the position of the footplate according to desired depth. • Screw again the screws.	**ALLEN WRENCH**  4 mm

3.9 Calf support position

RANGE

It is not easy to provide a range for adjustment because there are too many configuration and possibilities.

RIGHT AND LEFT SIDE

It is possible to adjust separately left and right side.

Average needed time:

<5 min

Difficulty level:

Easy

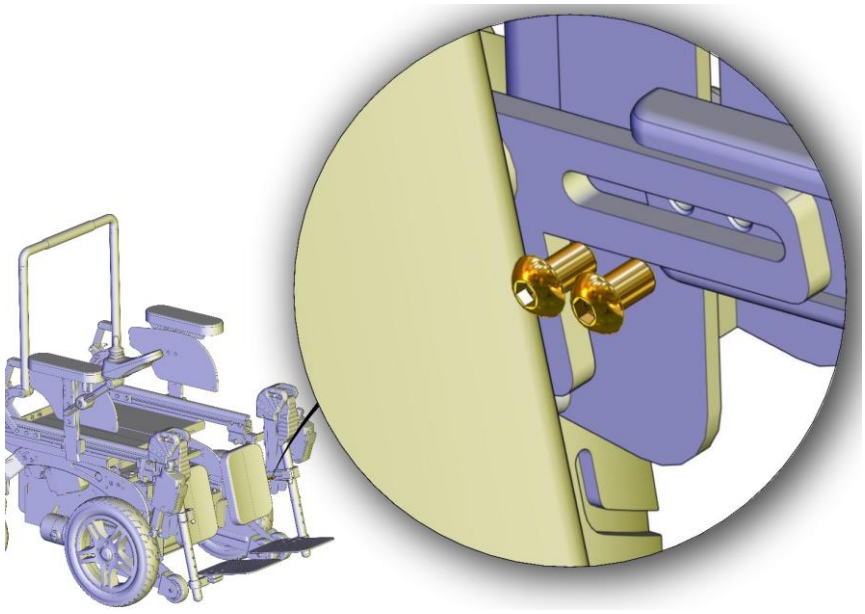


Figure 14

- Unscrew the 2 screws shown in figure and set the position of calf support as desired.
- Screw again the 2 screws.

ALLEN WRENCH

4 mm

ADJUNCTIVE ADJUSTMENT

Moreover it is possible to choose the angle of calf support simply by pulling or pushing it.

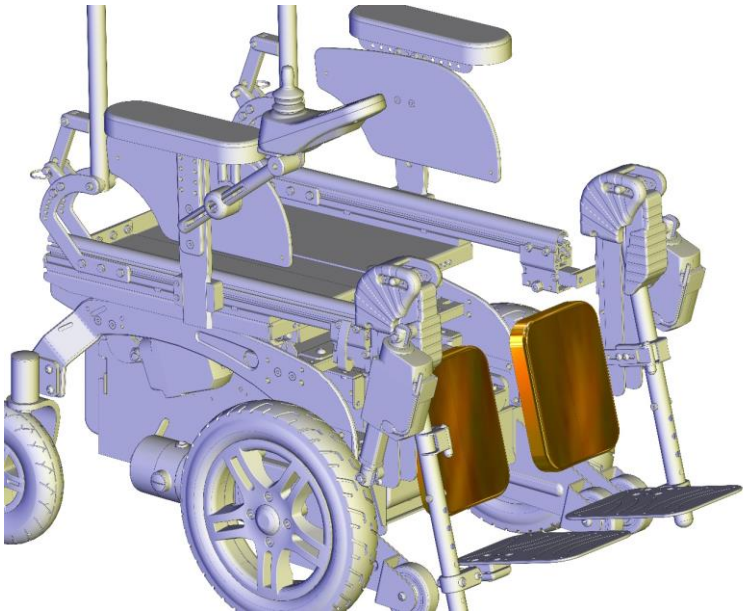
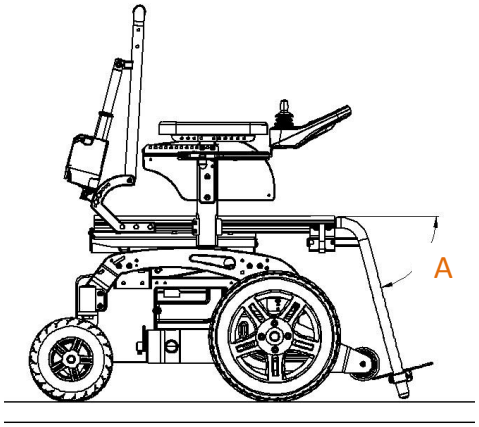


Figure 15

3.10 Legrest angle



LEGREST CONFIGURATION	(A) POSSIBLE VALUES
Fixed angle	70°
Angle adjustable	20° - 90°
Powered legrest	-15° - 80°

Angle adjustable

Average needed time:

<1 min

Difficulty level:

Easy

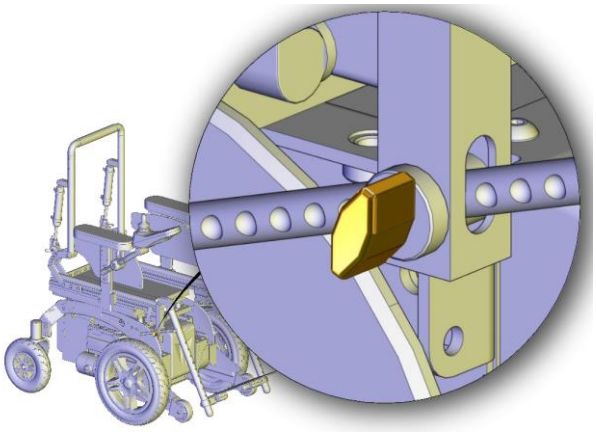


Figure 16

- Loosen the lever shown in figure.
- Set legrest angle as desired.
- Tighten again the lever.

Powered legrest

- Act on the joystick as described in section 4.1.

PINCH HAZARD

Please pay special attention when moving legrest because there is the possibility of trapping your or someone else fingers in legrest mechanism.

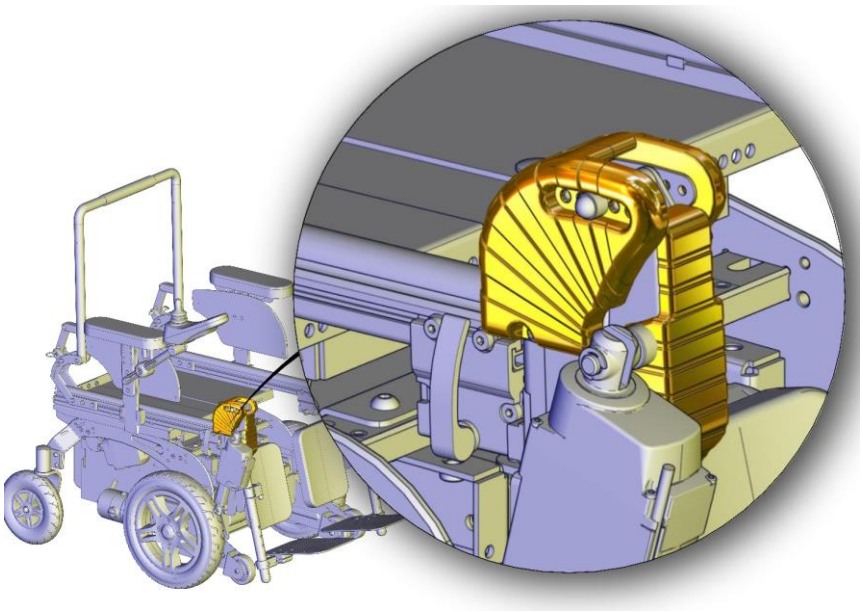


Figure 17

3.11 Joystick position

RANGE

It is not easy to provide a range for this because there are too many configuration and possibilities.

Average needed time:

<5 min

Difficulty level:

Easy

3.11.1 Standard support - Depth

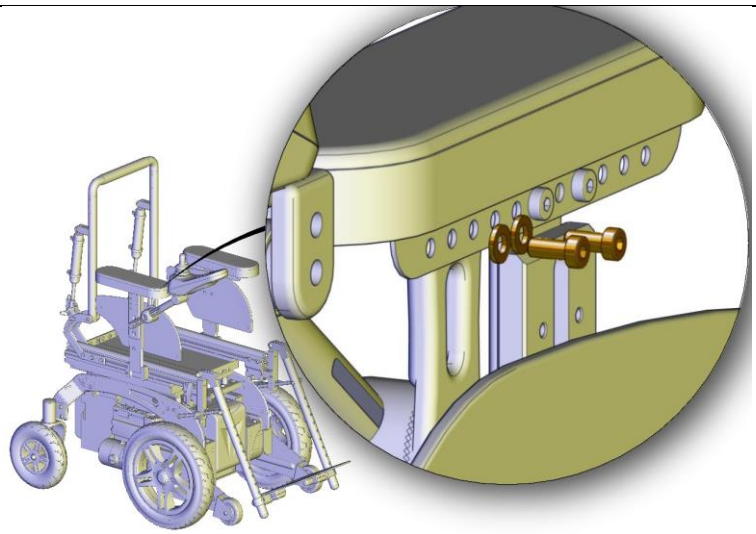


Figure 18

- Unscrew the 2 screws shown in figure.
- Adjust the depth of the joystick as desired.
- Screw again the screws.

ALLEN WRENCH

5 mm

ADJUNCTIVE ADJUSTMENT

Moreover it is possible to adjust the angle of the joystick simply acting on the two levers shown in figure.

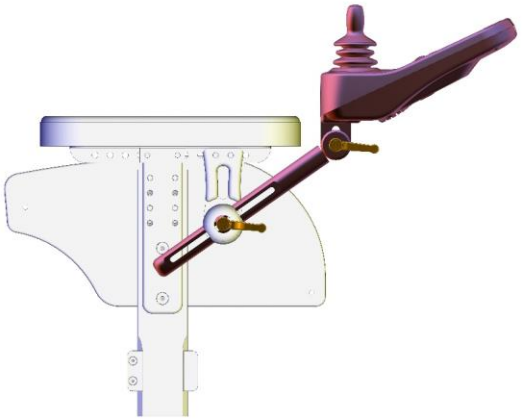


Figure 19

3.11.2 Retractable support - Depth and height

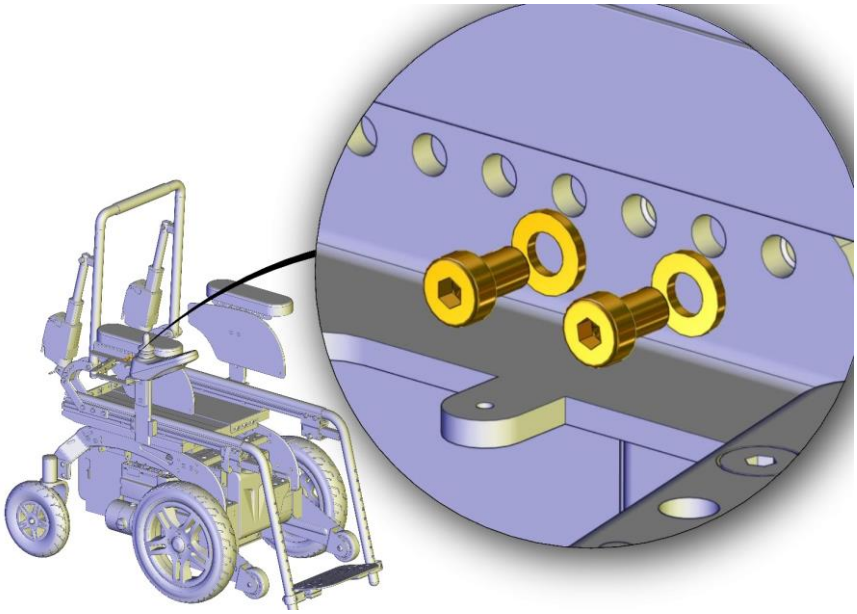


Figure 20

• Unscrew the 2 screws shown in figure. • Adjust the depth and the height of the joystick as desired. • Screw again the screws.	**ALLEN WRENCH**  5 mm

3.12 Default position

Default position means that all adjustable parts of the wheelchair are set in the most stable and safe configuration

ADJUSTABLE PARTS	VALUE	NOTES
Seat angle	0°	
Backrest angle	90°	
Legrest angle	90°	Or minimum
Seat height	0 cm	

Table 4

4 USE OF THE PRODUCT

WARNING

Do not operate the wheelchair if it is behaving abnormally or erratically. The wheelchair may come to a sudden stop at any time during operation.

WARNING

Do not stand on the product. Always use caution when transferring in or out of the seat. Every precaution should be taken to reduce the transfer distance. Also be certain the wheel locks are engaged to prevent the wheels from moving.

Do not let children use the wheelchair without supervision.

INFORMATION

The product is not intended to be dismantled. There are no parts of the product expected to be handled during normal use of it

INFORMATION

Do not install, maintain or operate the product without reading all warnings and this entire manual.

Always keep this manual in connection with the product.

INFORMATION

The wheelchair is designed for use mostly in indoor environments.

DRIVE WITH SEATING SYSTEM NOT IN DEFAULT POSITION

Seat tilt, backrest recline or legrest elevation may varies the center of gravity of the system wheelchair + user and increase tipping risk.

Always drive at low speed when the seating system is not in the standard position and use powered seating functions only on a flat horizontal surface.

WARNING

Do not carry passengers on the wheelchair independently of the age of the passenger. The wheelchair is not designed for weight training and is unsafe for use as a seat while weight training. Do not lean over the top of the back upholstery to reach objects from behind as this may cause the wheelchair to tip over. Do not shift your weight or sitting position toward the direction you are reaching as the wheelchair may tip over. Do not stand on the frame of the wheelchair.

Some pathologies may limit your ability to use your wheelchair safely. Be sure to consult with a doctor about your physical limitations.

Please practice your drive ability under the supervision of an assistant.

Dealing with uphill

When facing an uphill road it is recommended to set the seating system to default position. It is better to use a drive profile with low speed.

Figure 21

Dealing with downhill

When facing a downhill road it is recommended to set the seating system to default position. It is better to use a drive profile with low speed

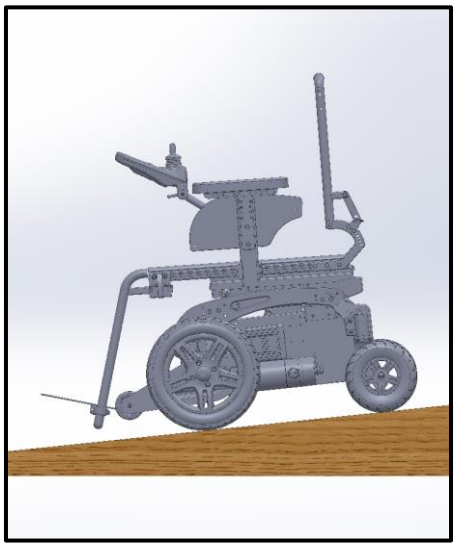


Figure 22

WARNING

Don’t use the wheelchair up or down slopes with a gradient than indicated in specifications of this manual.
Don’t use the wheelchair up or down ramps that are not equipped with proper edge protection to prevent the wheelchair from falling down.
Don’t use the wheelchair down or up a hazardous incline if the surface is covered with snow, ice or the surface is uneven.

WARNING

The stopping distance on slopes can be significantly greater than on level ground

Dealing with side slopes

When facing with side slopes, always use the wheelchair with great caution and make sure the seating system is in the default position.

Figure 23

Turning with the wheelchair

When turning with the wheelchair, always use great caution.

Obstacle climbing

When facing with an obstacle, always use great caution and make sure the seating system is in the default position. The wheelchair is able to climb an obstacle of 50 mm with a run up of minimum 500 mm.

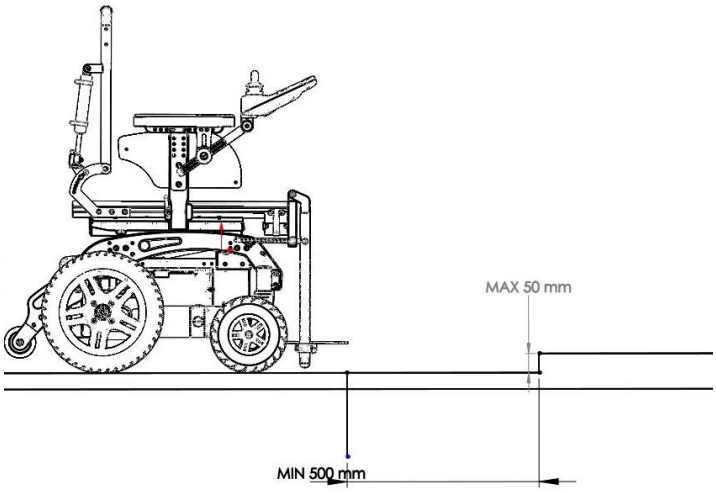


Figure 24

Driving in dark environments

Don't use the wheelchair in dark environments without lights turned on.

Pelvic belt

The wheelchair has the predisposition for a pelvic belt. **Pelvic belt is only design to position the user and not for any protection in case of accident.**

Transfer into and out the wheelchair

Users transfer is recommended with the presence of an assistant. Don’t use footrests or armrests as support. Always turn off the wheelchair before transfer.

Lift of the wheelchair

Do not lift the wheelchair with a user on board. Do not lift the wheelchair grabbing the legrests. If you really need to lift the wheelchair, it is suggested to grab it with the help of at least one other people. Grab the wheelchair using the tie down shown in figure.

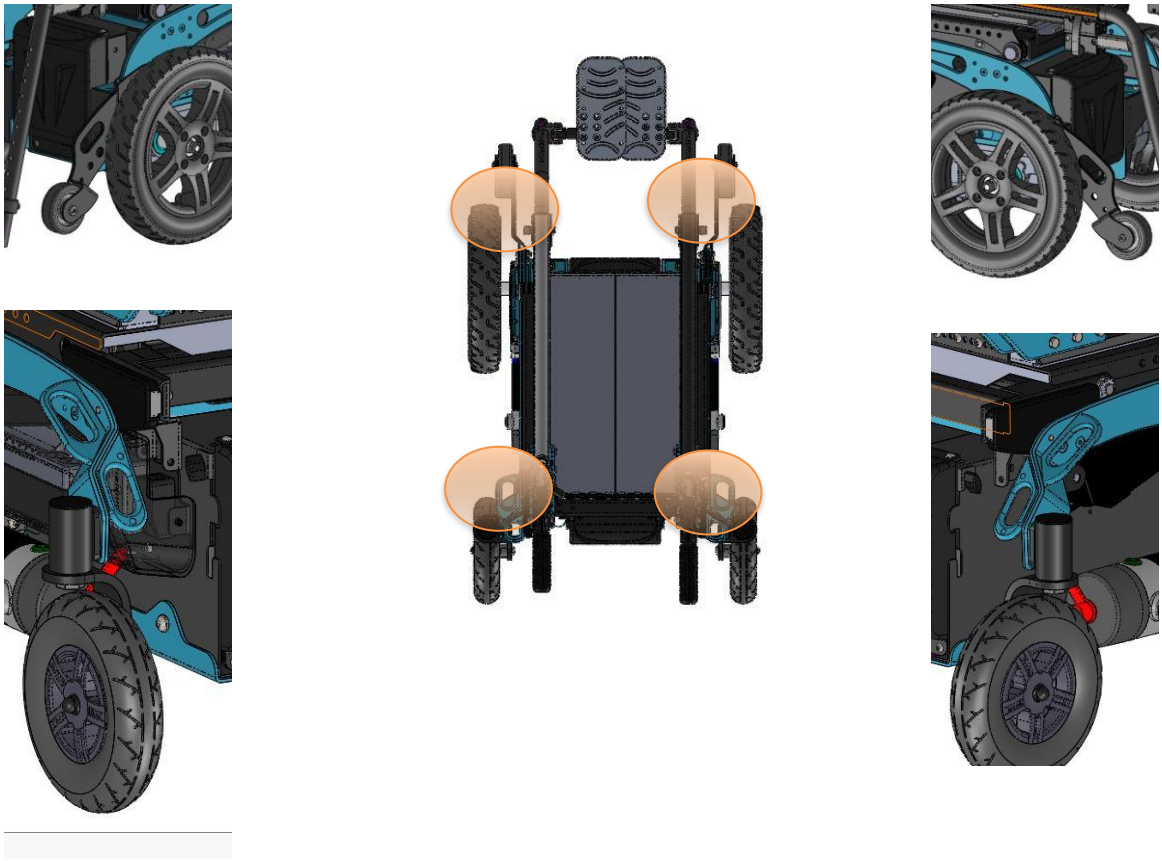


Figure 25

4.1 Control system of the wheelchair

It is possible to have the wheelchair with VR2 60 A control system or Rnet 80 A control system.

4.1.1 VR2 60 A control system

Figure 26

FUNCTION	DESCRIPTION
On-Off	Use this function to turn on and off the wheelchair. Don't use this function to stop the wheelchair unless it is an emergency.
Horn	
MODE	Use this function to navigate between drive and seat function.
Speed increase/decrease	

4.1.2 Rnet 80 A control system

Figure 27

FUNCTION	DESCRIPTION
On-Off	Use this function to turn on and off the wheelchair. Don't use this function to stop the wheelchair unless it is an emergency.
Horn	
MODE	Use this function to navigate all working mode of the wheelchair. For example it is possible to choose between drive and seat function.
PROFILE	As default in the wheelchair they are saved some different drive profile for the use indoor and outdoor. Use the function PROFILE to change different types of profiles: they are sorted from the more indoor ones to the more outdoor ones. For each profile it is possible to change the speed.
Speed increase/decrease	

Activate at the same time the functions to increase and decrease speed to enter a configuration menu.

FUNCTION	DESCRIPTION
Set time	Use this function to set the time shown on the display.
Distance	Use this function to see total and partial distance made with the wheelchair. It is also possible to reset partial distance.
Backlight	It is possible to adjust backlights of the screen.
Background	Use this function to choose the color of background of the display.

4.2 Manual brake release lever

In case of necessity it is possible to manually move the wheelchair.
First of all, you have to turn off the wheelchair.
Then you can act on the release lever shown in Figure.
When the brakes are released. it is not possible to drive the wheelchair.

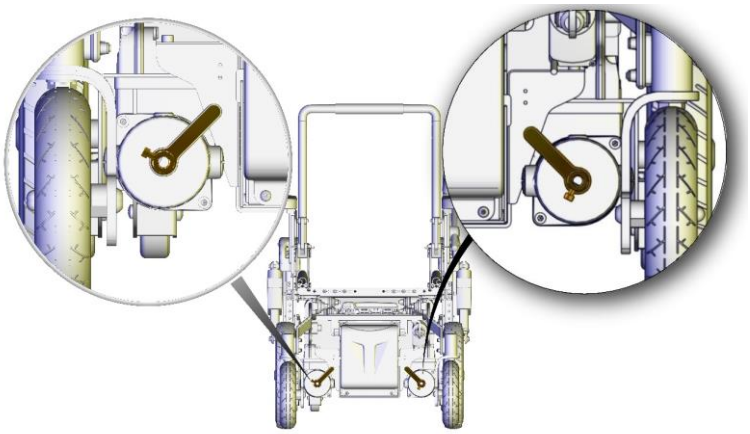
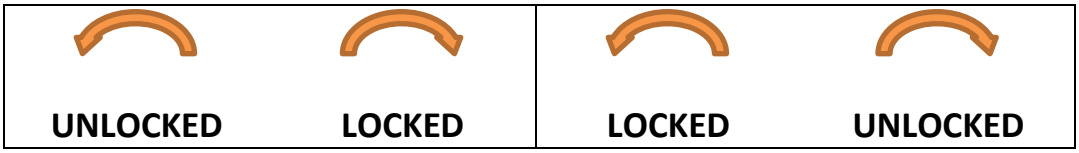


Figure 28



WARNING

When the brakes are released never use the wheelchair on a slope or a wet surface.
Don’t operate the brake release without the presence of an assistant.

WARNING

The drive system should be re-engaged before an occupant is left unattended or attempts to operate the wheelchair.

WARNING

Always act on both left and right manual release levers.

4.3 Use as seat in a motor vehicle

The wheelchair is designed to be secured facing forward when used as a seat in a motor vehicle and it complies with the requirements of ISO 7176-19:2008.

It is possible to use four-point strap systems or the DAHL docking station.

Ease of access to, and maneuverability in, motor vehicle can be significantly affected by wheelchair size and turning radius. Smaller wheelchairs or with a shorter turning radius will generally provide greater ease of vehicle access and maneuverability to a forward- facing position.

Always use ISO 10542-1 approved Wheelchair Tiedown and Occupant Restraint Systems, which are suitable for the weight of the wheelchair or Dahl docking.

Wheelchair users should transfer to the vehicle seat and use the vehicle-manufacturer-installed restraint systems whenever it is feasible and the unoccupied wheelchair should be stored in a cargo area or secured in the vehicle during the travel.

For the correct positioning of occupant belt restraints on the user, please consider following.

- The pelvic belt should be worn low across the front of the pelvis, so that the angle of the pelvic belt is within the preferred zone of 30° to 75° to the horizontal, similar to that shown in figure.

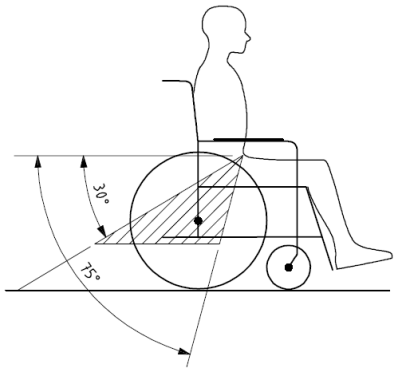
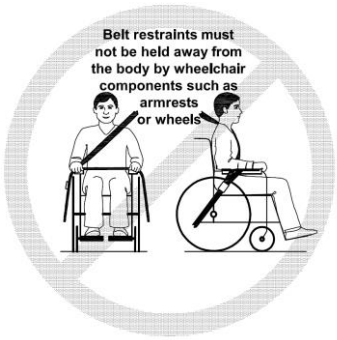
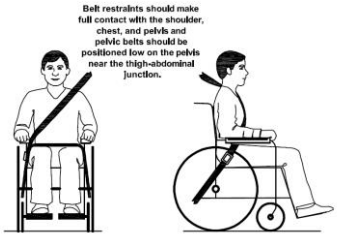


Figure 29

- Belt restraints should be adjusted as tightly as possible, consistent with user comfort.
- Belt should not be twisted during the use.

IMPROPER BELT RESTRAINT FIT	PROPER BELT RESTRAINT FIT
	
BELT RESTRAINTS MUST NOT BE HELD AWAY FROM THE BODY BY WHEELCHAIR COMPONENTS SUCH AS ARMRESTS OR WHEELS	BELT RESTRAINTS SHOULD MAKE FULL CONTACT WITH THE SHOULDER, CHEST AND PELVIS AND PELVIC BELTS SHOULD BE POSITIONED LOW ON THE PELVIS NEAR THE THIGH ABDOMINAL JUNCTION

WARNING

The seating system must be set in the DEFAULT POSITION when used in a motor vehicle. Particularly be sure that the seat is horizontal, legrest are completely down and backrest is completely up. For more information see section 3.12.

WARNING

Evo1 wheelchair has lots of configurations and accessories. The wheelchair safety when used as a seat in a motor vehicle is assured by the manufactured if the specific configuration is mentioned in the order form and if all instructions in the manual are followed. Particularly it may exist some options or accessories that are not compatible with the use of the wheelchair as a seat in a motor vehicle, or it may exist some accessories that require some precautions.

WARNING

If the backrest is with gas springs, when using the wheelchair as a seat in a motor vehicle, it is necessary to lock the movement of the gas springs with the locking system shown in the picture. Always repeat the operation for the left and right side of the wheelchair. WARNING: Safety of wheelchair and user can't be assured when the movement of gas springs is not correctly locked while using the wheelchair as a seat in a motor vehicle.

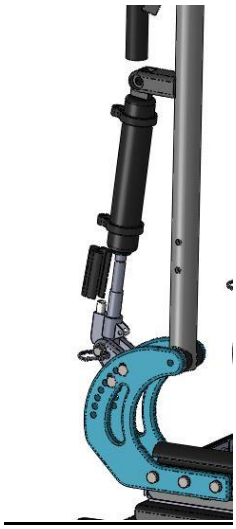


Figure 30

WARNING

The wheelchair complies with the requirements of ISO 7176-19:2008 and has been designed and tested for use only as a forward-facing seat in a motor vehicle.

Compliance with this standard does not preclude using the wheelchair facing rearward in large accessible vehicles such as autobus.

WARNING

The wheelchair has been dynamically tested in a forward facing orientation with the ATD restrained by both pelvic and shoulder belts.

WARNING

Both pelvic and shoulder belt should be used to reduce the possibility of head and chest impacts with vehicle components.

WARNING

In order to reduce the potential of injury to vehicle occupants wheelchair tray should be removed and secured separately in the vehicle.

WARNING

When possible other auxiliary wheelchair equipment should be either secured to the wheelchair or removed from the wheelchair and secured in the vehicle during travel, so that it does not break and cause injury to vehicle occupants in the event of a collision.

WARNING

Postural supports should not be relied on for occupant restraint in a moving vehicle unless they are labelled as being in accordance with the requirements specified in ISO 7176-19:2008.

WARNING

The wheelchair should be inspected by a manufacturer's representative before reuse following involvement in any type of vehicle collision.

WARNING

Alterations or substitutions should not be made to the wheelchair securement points or to structural and frame parts or components without consulting the wheelchair manufacturer.

WARNING

Wheelchair has sealed type batteries. Never use different battery type when used in a motor vehicle.

WARNING

Care should be taken when applying the occupant restraint to position the seatbelt buckle so that the release button will not be contacted by wheelchair components during a crash.

4.3.1 Four points tie-down

Use the tie down points marked with the symbol shown in figure.

Figure 31

Use the tie down points marked with the symbol shown in figure. Hook the wheelchair in 4 points: two in the front part and two in the rear part.

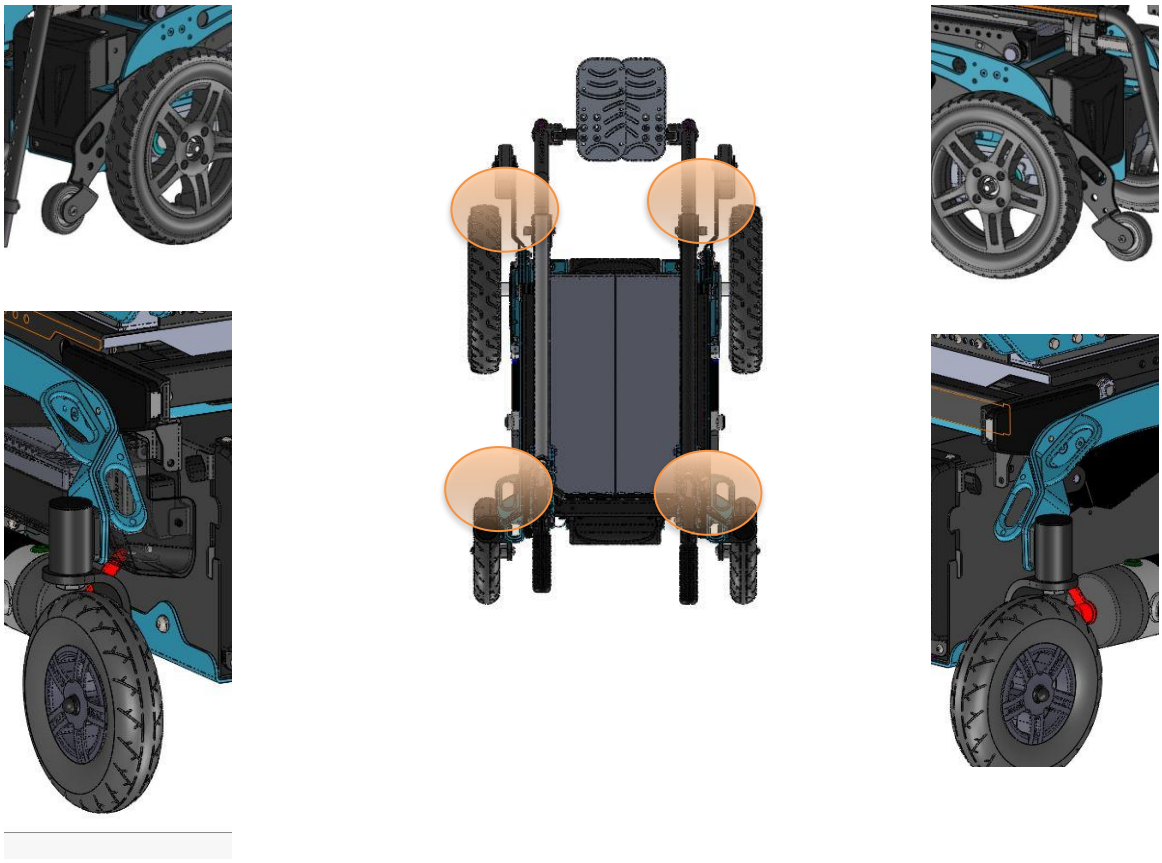


Figure 32

Tie down straps should form angles shown below.

PREFERRED ANGLES OF FRONT WHEELCHAIR TIE DOWN STRAPS

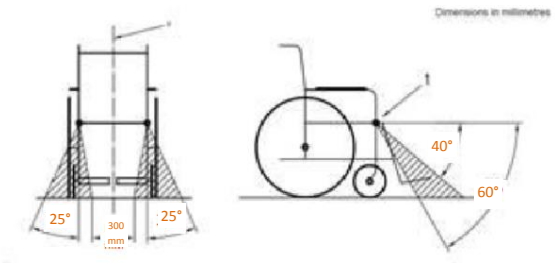


Figure 33

PREFERRED ANGLES OF REAR WHEELCHAIR TIE DOWN STRAPS

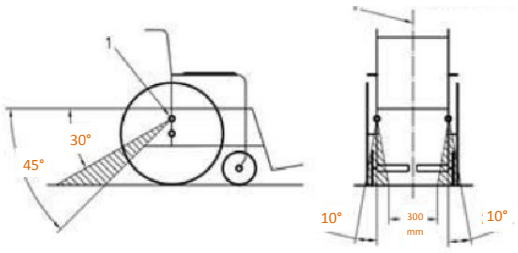


Figure 34

WARNING

Always use four tie down straps.

4.3.2 Dahl engineering docking station

WARNING

Please be sure that the vehicle is equipped with a fully working and compatible Dahl docking system.

Figure 35

- To use the system, maneuver the wheelchair slowly and in a uniform direction over the docking station. The lock plate under the wheelchair helps to guide the wheelchair into place in the docking station. When the lock plate is fully engaged in the docking station, a spring-action locking pin automatically secures the lock plate.
- The docking station is equipped with a control switch that indicates whether the lock plate is correctly secured in the docking station. As soon as the lock plate comes into contact with the locking pin, a warning tone will sound and the red led in the control panel will light up until the lock plate is either fully engaged or else the wheelchair is removed from the docking station. As an indication that the wheelchair is properly secured, the warning tone will cease, the red diode in the control panel will go out and the green led will light up.
- When the wheelchair is correctly secured, the safety belt should be fitted and adjusted so that it fits the user.
- **UNLOCKING PROCEDURE**. When the vehicle has been brought to a halt, remove the safety belt. To unlock commence by driving the wheelchair forward to release pressure on the lock pin and then press the red release button in the control panel. The locking pin will be triggered/released for approx 5 seconds, after which the locking pin is automatically locked/activated again. Do not attempt to reverse out the docking station until the red LED on the control module, which indicates the unlock position, has been illuminated. Move the wheelchair away from the docking station within this 5-second period.

WARNING

Attempting to reverse the wheelchair before the red LED has been illuminated will result in blocking the docking station lock mechanism which makes it impossible to reverse. If this happens repeat above unlocking procedure.

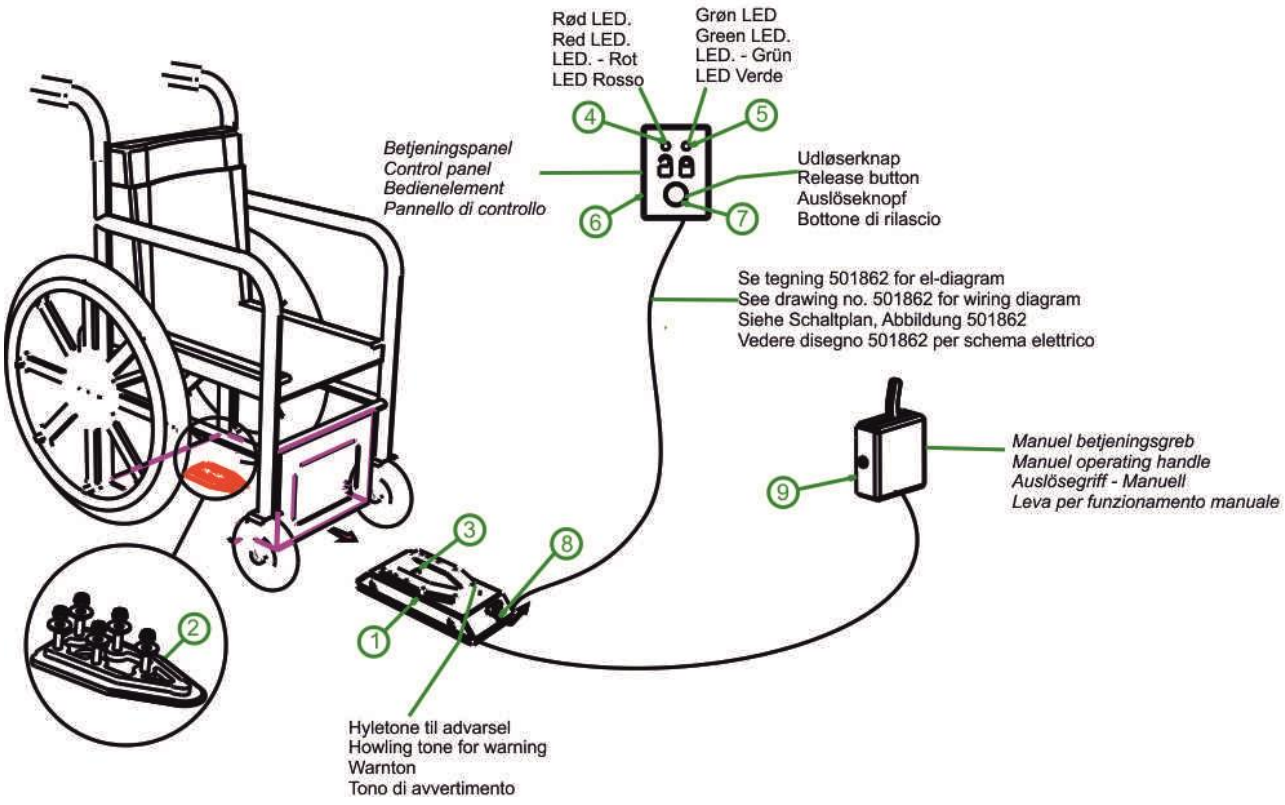


Figure 36

CONTACT INFORMATION

For more information contact the manufacturer of the wheelchair or the manufacturer of the docking station.

Dahl Engineering

Løvevej 3

DK-7700 Thisted

Tel. +45 96 18 00 77

https://dahlengineering.dk

sales@dahlengineering.dk

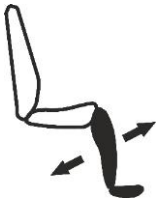
4.4 Powered functions

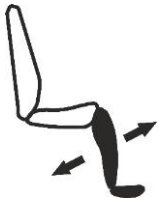
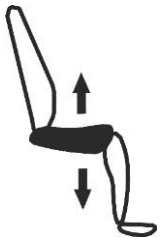
WARNING

Operating these functions changes the center of gravity and increases the risk of tipping over.

Always drive in low speed when the seating system is not in the default position. Use these functions only on horizontal plane.

To enter seating mode use MODE function of the joystick.
With VR2 system a led will turn on to indicate the seat function in use.
With Rnet system a wheelchair will appear on the screen of the joystick.
To select the desired function move the joystick left or right.
The number and the type of available function may change according to the specific customization of each wheelchair.

	MOVE UP Move the joystick forward while you are in seating mode and the desired function is selected	**MOVE DOWN** Move the joystick rearward while you are in seating mode and the desired function is selected
BACKREST 	Move forward the backrest	Recline the backrest
LEFT LEGREST 	Low left legrest	Elevate left legrest

RIGHT LEGREST 	Low right legrest	Elevate right legrest
LEGRESTS BOTH 	Low both legrests	Elevate both legrests
TILT 	Move forward the seat	Tilt the seat
LIFT 	Rise the seat	Lower the seat

4.5 Main switch

Use the main switch to connect and disconnect the batteries from the power module.
The switch also has the function of protecting the wheelchair from overloaded current and short circuit.

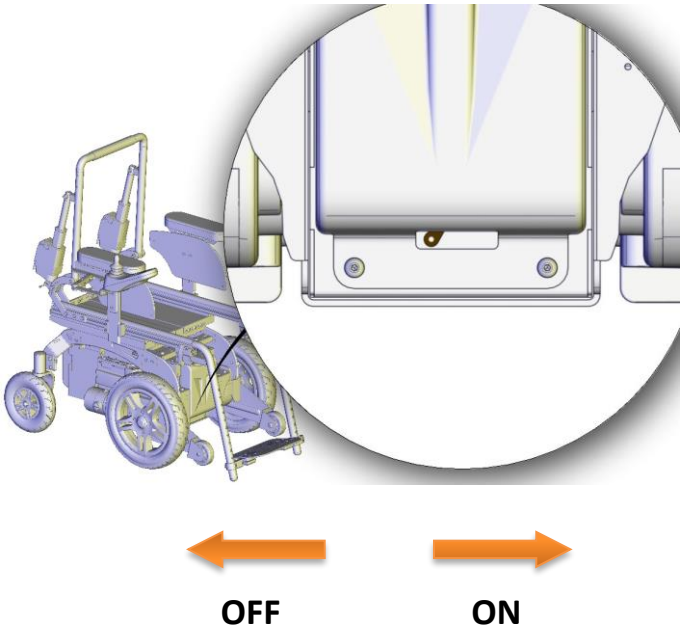
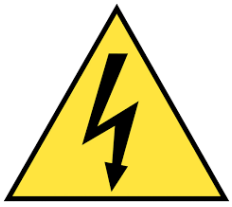


Figure 37

Figure is taken having the wheelchair on the front and shows the position ON and OFF of the switch.
If the power chair suddenly stops, use the switch to connect again batteries to the power module and turn on again the wheelchair. **If the problem still continues, it means that there is some electric fault.**



If the switch operates, often this means that there is a major electrical fault. The cause of fault should be checked carefully.

For more information, please contact the manufacturer.

4.6 Battery charging

In order to recharge batteries, use only the provided charger or one recommended by the manufacturer. The manufacturer is not responsible for any damage to person or objects resulting from the use of non-original product.

CHARGER SPECIFICATION

24 V -MIN 6 A MAX 10 A - Charge profile for AGM batteries

- Connect the power cord to a power supply 230 V.
- Connect the cable to the joystick as shown in Figure.

VR2

RNET

Figure 38

- When batteries are loaded unplug the power cord and the battery cable from the joystick.

RUNNING-IN PERIOD

Typically, batteries are able to offer 100% performance after about 15-20 cycles.

BATTERIES SPECIFICATION

Seat width from 300 mm to 360 mm: 24 V - 35 Ah - about 197x131x180 (h) mm - about 11 kg

Seat width from 380 mm to 460 mm: 24 V - 50 Ah - about 198x166x171 (h) mm - about 15 kg

WHEN AND HOW IT IS NECESSARY TO CHARGE BATTERIES?

It is very important to charge batteries every day, even if they are not completely discharged. Each battery is subject to a normal self-discharge, so batteries that are not used for long time will discharge by itself.

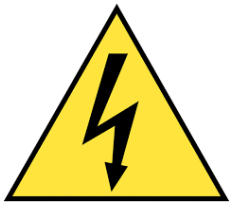
It is very important to don't let batteries uncharged for long time.

It is very important to complete every cycle of charging

Charging time is influenced by multiple factors such as remaining battery power, battery state of aging and temperature. However, the approximate charging time is about 12 hours.

Battery charging should be done in well ventilated environments. Never charge in bathroom or wet room.

When the charger is connected it is not possible to drive the wheelchair. Don't use the wheelchair during the charge.



SHOCK HAZARD

Check if charger requirements data matches with the network power (voltage, frequency)

RELEASE DANGER

Any impact to the batteries could cause a loss of fluids. Please pay special attention.

BATTERIES DISPOSAL

To properly recycle the batteries follow instructions provided by your local waste disposal service.

4.7 Transport and storage

If you are not willing to use the wheelchair for a long period, keep it safe in a clean area and away from heat.
If it is necessary to transport the wheelchair to facilitate operation follow these instructions.
It is possible to store the wheelchair in a place with a temperature between -20 °C and +45 °C.

- Turn off the wheelchair.
- Turn off the main switch. See section 4.5.

WARNING

If you transport the wheelchair with motors disengaged, the wheelchair is free to move. This may result in a hazardous situation.

4.7.1 Batteries removal

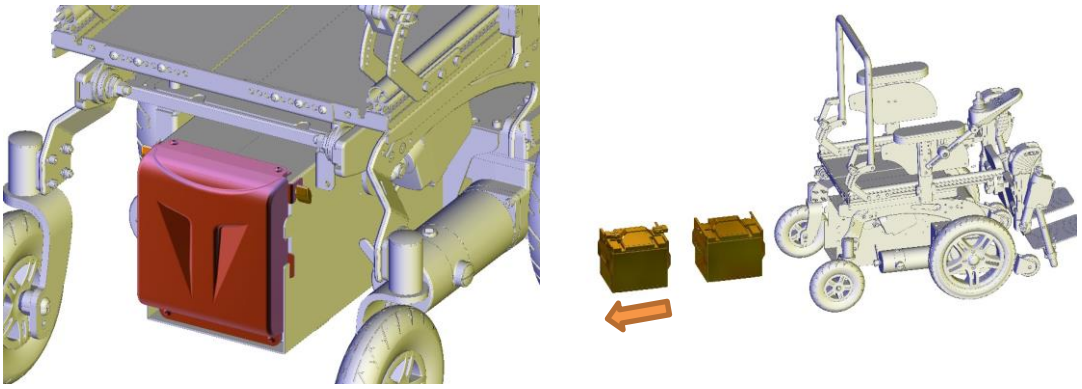


Figure 39

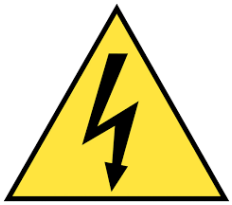
- Loosen the 2 levers shown in figure.
- Remove the cover.
- Pull away batteries.

WARNING

Each battery is mounted in a metal enclosure. Please do not remove the batteries from their enclosure. The weights of each battery together with its enclosure depends on seat width.

Seat width from 300 mm to 360 mm: about 14.0 kg.

Seat width from 380 mm to 440 mm: about 18.0 kg.



WARNING

When replacing batteries, please be sure to correctly connect cables and red connectors.

Each battery pack has an identification red label. When replacing batteries please be sure to put first the pack with label 1 and then the one with label 2.

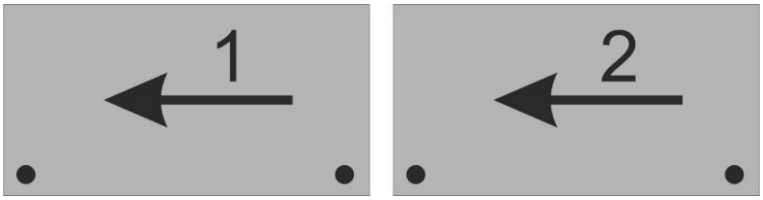


Figure 40

The wheelchair can be transported in the storage compartment of the vehicle even without any package. The unoccupied wheelchair can be also shipped via air. If it is necessary to ship the wheelchair it is very important to protect it with an appropriate package.

It is not possible to provide a universal package, so the user should provide himself for it. The used package must be water and dust resistant and strong enough to protect the wheelchair from any hurts. When inserting the wheelchair into the package protect any protruding parts with some foam or similar.

5 MAINTENANCE

Please remind that the wheelchair is intended exclusively for the carriage of seated people. Below there are some precautions for the use of the wheelchair, which it is recommend to follow, in order to ensure a safe use and a long duration.
Regular maintenance helps to keep intact the functionality and safety of the wheelchair. Inadequate or lack of care and maintenance may cause a limitation of the warranty.

- Avoid prolonged contact of the wheelchair with water. It may cause oxidation of the metal parts.
- Avoid long exposure of the wheelchair to direct sunlight.

WARNING

Any work on the wheelchair must be performed by an authorized service center.

INFORMATION

It is not possible to perform any maintenance on batteries. It is only possible to substitute them.

5.1 Maintenance and cleaning

To clean the wheelchair do not use high-pressure water spray devices. For plastic and metal parts use a soft cloth dampened with mild detergent. For the upholstery, linings, seat and back covers use warm water and mild detergent. Do not use stain removers, solvents, acids, etc.

5.2 Controls to be performed on the product

Type of operation	
A	Operation intended to be performed by the user.
B	Operation intended to be performed by an assistant.
C	Operation intended to be performed by an authorized service center.

Operation	Frequency	Type of operation
Check if motors are correctly locked. See section 4.2.	Before each use	B - Assistant
Check that no wires are in the way for the movements of the chair	Before each use	B - Assistant
Check the charge of batteries	Daily	A - User
Clean the wheelchair	Weekly	B - Assistant
Check if the pressure is the one indicated on tires and in section 6 Traction wheels: 280 kPa; Castors: 250 kPa.	Weekly	B - Assistant
Check if the lever of the main switch works correctly	Weekly	B - Assistant
Check tire usury	Monthly	B - Assistant
Check brake release lever	Monthly	B - Assistant
Check aging of batteries	Monthly	C - Service

5.3 Tire puncture

5.3.1 User information

Traction wheel

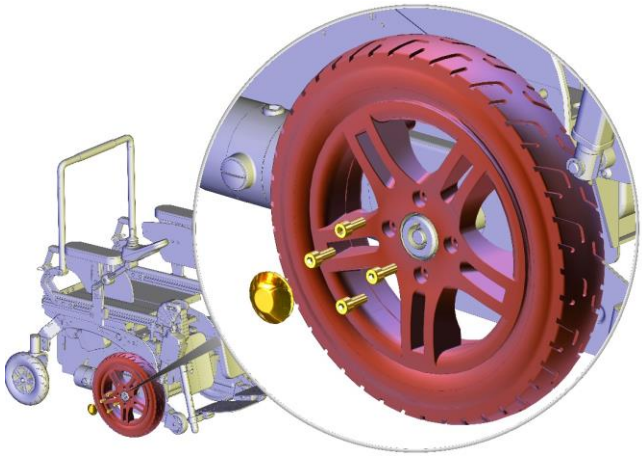


Figure 41

• Lift the wheelchair. • Unscrew the 4 screws shown in figure. • Remove the wheel.	**ALLEN WRENCH**  6 mm

Castors wheel

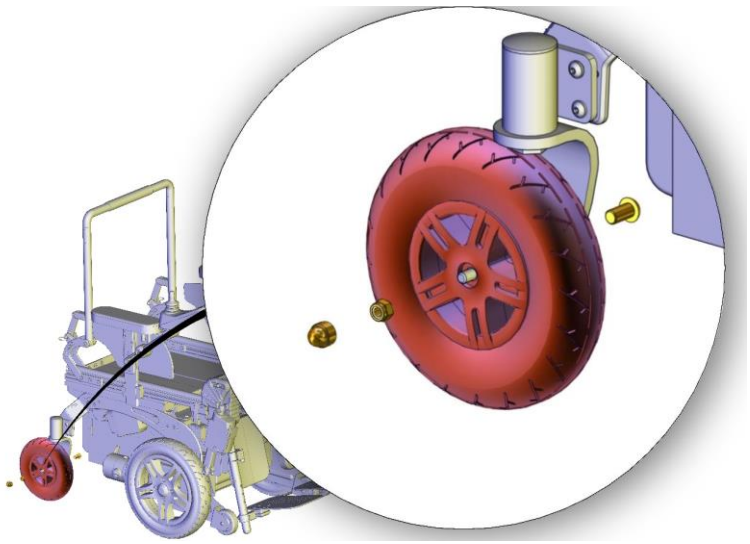


Figure 42

- Lift the wheelchair.
- Unscrew the nut shown in figure.
- Remove the castor.

OPEN-END WRENCH

10 mm

Contact an authorized service center for the repair or the substitution of the damaged wheel. When the authorized service center gives you back the repaired wheel or a new one, mount it following instructions in reverse order.

5.4 Reuse

The product is suitable for reuse. Before dispensing it, the product must be cleaned, and subjected to maintenance. The operating instructions are included in this manual and must also be provided when the product is passed on.

WARNING

<u>This operation must be performed only at an authorized service center.</u>

6 SPECIFICATIONS

Maximum safety slope (uphill, downhill, lateral)	6°
Expected lifetime [years]	10
Class [EN 12184]	B
Range [ISO 7176-4]	>=25 km The distance will be reduced if the wheelchair is used frequently on slopes, rough ground or to climb kerbs.
Recommended tire pressure [kPa]	Traction wheels: 280 kPa; Castors: 250 kPa.
Standard compliance	ISO 14971: 2007 EN 12184 : 2014

Intended use	The EVO 1 wheelchair is intended to be used by those groups of users with temporary or permanent mobility difficulties confined to a sitting position who need to move in mostly internal environments.

WARNING

It is prohibited to use the product or its parts for any purpose other than that indicated. The manufacturer disclaims any responsibility for damages caused by improper use of aids.

It is possible to use the wheelchair when the temperature is between -10 °C and +40 °C.
It is possible to store the wheelchair in a place with a temperature between -20 °C and +45 °C.

6.1 Maximum user weight

Seat width	MAX
30 cm	50 kg
34 cm	75 kg
38 cm	100 kg
42 cm	150 kg
46 cm	150 kg

Table 5

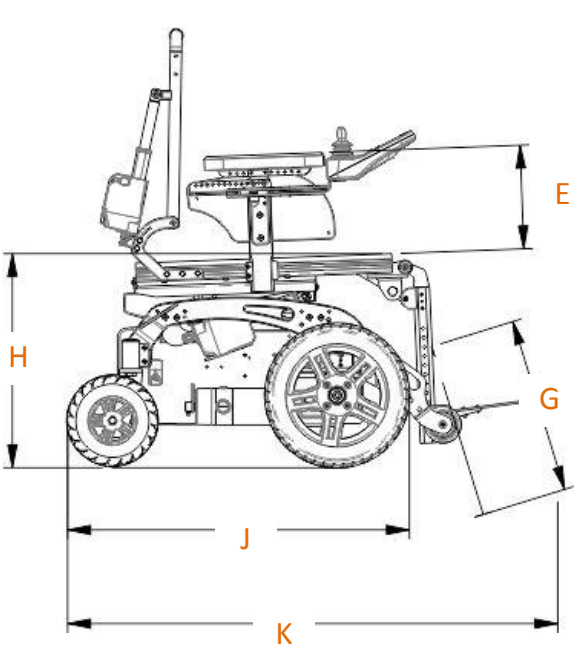
6.2 Other provided information

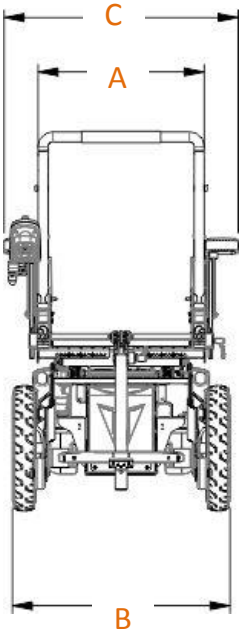
Manufacturer	Neatech.it srl
Address	via A. de Curtis 4/A – 80040 – Cercola (NA) - Italy
Model	S045 – EVO1

Description	Value
Overall length with legrest	110 cm
Overall width	MIN: 50.0 cm MAX: 59.0 cm
Folded length	N.A.
Folded width	N.A.
Folded height	N.A.
Total mass **(the weight may change significantly according to the configuration of the wheelchair)**	MAX 125 kg
Dynamic stability	6°
Static stability downhill	9°
Static stability uphill	9°
Static stability sideways	9°
Seat plane angle	0° 30° 45°
Effective seat depth	MIN: 30.0 cm MAX: 52.0 cm

Effective seat width	MIN: 30.0 cm MAX: 46.0 cm
Seat surface height at front edge	MIN: 45.0 cm MAX: 48.5 cm
Backrest angle	MIN: 90° MAX: 135°
Backrest height	MIN: 45.0 cm MAX: 55.0 cm
Footrest to seat distance	MIN: 15.0 cm MAX: 40.0 cm
Armrest to seat distance	MIN: 22.0 cm MAX: 28.5 cm
Minimum turning radius [ISO 7176-5]	30 cm
Turn around distance [ISO 7176-5]	120 cm

6.3 Dimensions





A	300 mm	340 mm	380 mm	420 mm	460 mm
B	500 mm		560 mm		
C	450 mm	490 mm	530 mm	570 mm	610 mm
E	220 mm – 285 mm				
G	MIN 150 mm – MAX 400 mm see section 3.7				
H	0° TILT: 450 mm 30° TITL: 445 mm 45° TILT 48m5 mm LIFT 490 mm				
J	FWD: 75 cm RWD: 64 cm				
K	110 cm				

7 WARRANTY TERMS

Definitions

- **MANUFACTURER**: Manufacturer means the legal person who manufactures a product. For the scope of the following document, the manufacturer is:

Neatech.it s.r.l.
via Antonio de Curtis 4/A – 80040 – Cercola (NA)
Tel. +39 081 555 1946 – info@neatech.it – neatech@pec.it – www.neatech.it
P.IVA IT04812481218 – REA NA715393

- **CUSTOMER**: Customer means the natural or legal person who buys a product from the manufacturer. For the scope of the following document, the Customer is the holder of the financial document issued by the manufacturer following the supply of the product.
- **PRODUCT**: Product is the good supplied by the manufacturer to the customer in execution of a purchase order

Scope of the guarantee

The manufacturer undertakes to remedy any defect, lack of quality or lack of conformity of the products related to him as a result of design, construction errors or defects in the material that occurred during the warranty period.

Period of application of the guarantee

The warranty period begins with the customer's billing date. The duration of the warranty period varies according to the type of product.

Type of product	Warranty period [months]
Wheelchairs	24
Wheelchair parts and accessories (excluding batteries)	24

Table 6

Any repairs or replacements under warranty do not alter the original period of application of the warranty.

Exclusions

The warranty does not cover wearing parts.
Following there are some examples of parts subject to wear.

- Wheels
- Padded parts (polyurethane foams, viscoelastic)
- Upholstery (including canvas)

- Handles and knobs
- Fuses and bulbs
- Electric motor brushes
- Filters

The warranty is limited to damage related to the product and cannot under any circumstances cover damage caused to third parties as a result of product failure.
The warranty does not cover parts damaged by overload, inappropriate use, alterations and repairs made by unauthorized third parties. The warranty is not valid in the event of tampering, incorrect storage, incorrect or unauthorized maintenance.

7.1 Serial number

For any report or assistance request, please communicate the serial number mentioned on the label in the position shown in figure.

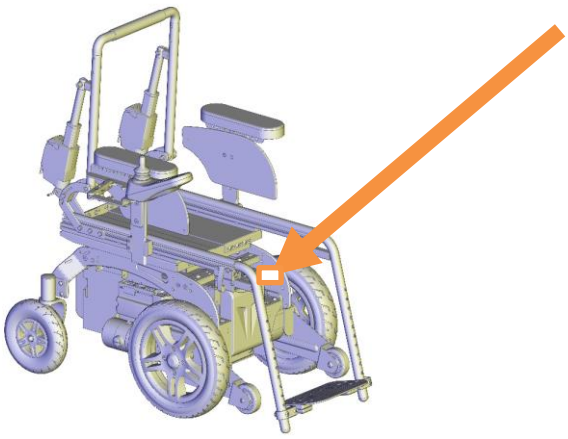


Figure 43

Note

EVO 1

Neatech.it s.r.l.
Via A. De Curtis 4/a
80040 Cercola (Na) Italy
ph. +39 081 5551946
fax +39 081 5552507
e-mail info@neatech.it
www.neatech.it

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