

VERMEIREN

Navix

INSTRUCTION MANUAL





Instructions to the specialist dealer

This instruction manual is part and parcel of the product and must accompany every product sold.

Version: C, April 2012

All rights reserved, including translation.

No part of this manual may be reproduced in any form what so ever (print, photocopy, microfilm or any other process) without written permission of the publisher, or processed, duplicated or distributed by using electronic systems.

© N.V. Vermeiren N.V. 2012



Contents

1	Productdescription	3
1.1	Intended Use	3
1.2	Technical specifications	4
1.3	Components	6
1.4	Accessories	6
1.5	Explanation of symbols	6
1.6	Safety instructions	7
2	Use	8
2.1	Remarks on electromagnetic compatibility (EMC).....	8
2.2	Carrying the electric wheelchair.....	9
2.3	Assembly and disassembly of the electric wheelchair	9
2.4	Mounting or Fold away arm support	11
2.5	Adjusting of the arm supports	11
2.6	Mounting or removing of the footrests.....	12
2.7	Folding the back of the wheelchair.....	12
2.8	Back inclination.....	13
2.9	Mounting or removing the seat frame	13
2.10	Seat cushions	15
2.11	Back rest cushions	15
2.12	Transfer in and out the electric wheelchair.....	15
2.13	Correct position in the electric wheelchair	16
2.14	Driving the electric wheelchair.....	16
2.15	Operating the brakes	16
2.16	Driving the electric wheelchair on ramps.....	19
2.17	Pushing the wheelchair	19
2.18	Transport in the car.....	20
2.19	Transport in an airplane	21
2.20	Batteries	21
2.21	Battery charger.....	22
2.22	Charging the batteries	22
2.23	Thermal fuse	23
3	Installation and adjustment.....	23
3.1	Tools	23
3.2	Manner of delivery	23
3.3	Possible adjustments.....	24
3.4	Changing the batteries	28
3.5	Battery connections	28
3.6	Tyre changing	29
4	Maintenance	30
4.1	Regular Maintenance	30
4.2	Shipping and storage	31
4.3	Care.....	32
4.4	Inspection.....	33
4.5	Troubleshooting	34
4.6	Disinfection	34
5	Warranty	36
6	Disposal.....	36
7	Declaration of conformity	36
8	Maintenance plan	37
9	Disinfection book.....	37



Preface

First of all we want to thank you for putting your trust in us by selecting one of our products.

The expected lifetime of your electric wheelchair is strongly influenced by the care and maintenance of the wheelchair.

This manual will help you get acquainted with the operation of your electric wheelchair.

Following of the user instructions and the maintenance instructions are an essential part of the warranty.

This manual reflects the latest product developments. Vermeiren has the right to introduce changes without the obligation to adapt or replace previously delivered models.

For any further questions, please consult your specialist dealer.

1 Productdescription

1.1 *Intended Use*

The electric wheelchair Navix is equipped with two motors, of 220W.

The electric wheelchair Navix is intended to comfortably transport persons with walking difficulties or no walking abilities. This electric wheelchair is designed to transport 1 person.

The electric wheelchair is designed to transport persons only, no goods.

Neither should it be used by persons obviously suffering from physical or mental limitations (e.g. visual impairment, ...) that render them incapable of safely handling the electric wheelchair.

The different types of fittings and accessories, and the modular construction allow full use by persons disabled by:

- paralysis
- loss of limbs (leg amputation)
- limb defects or deformations
- stiff or damaged joints
- heart insufficiencies and poor blood circulation
- balance disturbances
- cachexia (decrease in muscle)

The electric wheelchair is classified as class A.

The electric wheelchair is a frontwheel drive wheelchair.

The electric wheelchair is suited for indoor and outdoor use by the occupant.

The user can operate the wheelchair by himself or have the wheelchair pushed by an attendant with the push bar.

When providing for individual requirements:

- body size and weight (max. 130 kg)
- physical and psychological condition
- residential circumstances
- environment

should be taken into consideration.

Your electric wheelchair should be used on flat surfaces where all four wheels are touching the ground and where there is sufficient contact to operate the wheelchair safely.

You should practice for use on uneven surfaces (cobblestones, etc.), slopes, curves and to get past obstacles (curbs, etc.). A particular risk is involved when crossing surfaces such as ice, grass, rubble, foliage, etc.

The electric wheelchair should not be used as a ladder, nor is it a transport for heavy or hot objects.

When using your electric wheelchair on streets or footpaths, local laws and regulations apply.

The electric wheelchair can be used on sidewalks, urban road. Under no circumstances the electric wheelchair may be used for driving on larger roads or expressways.

Use only Vermeiren approved accessories.

The manufacturer is not liable for damage caused by the lack of improper service or as a result of not following instructions from this manual.

Visually impaired people can contact the dealer for the instructions for use.

1.2 Technical specifications

Technical terms below are valid for the electric wheelchair in standard settings without seat cushion and optimum environmental conditions. If accessories are used, the tabulated values will change. Changes in outdoor temperatures, humidity, uphill's, downhill's, soils and battery levels can reduce output.

Brand	Vermeiren		
Address	Vermeirenplein 1/15, B-2920 Kalmthout		
Type	Electric wheelchair, Class A		
Model	Navix		
Maximum occupant mass	130 kg		
Description	Dimensions		
Effective seat width	400 mm (Adjustable 0 - 50 mm)	450 mm (Adjustable 0 - 50 mm)	500 mm (Adjustable 0 - 50 mm)
Overall width (depends on the seat width)	580 mm		630 mm
Description	Dimensions Minimum	Dimensions Maximum	
Max. speed	6 km/h		
Continuous driving distance range*	20 km		
Overall length with footrest	945 mm		
Overall height	995 mm		
Folded / dismantled length (without footrest)	Lower frame: 690 mm; Seat frame: 600 mm		
Folded / dismantled width	Lower frame: 570 mm; Seat frame: 560 mm		
Folded / dismantled height	Lower frame: 325 mm; Seat frame: 400 mm		
Total mass	78.80 kg		
Mass of heaviest part (that can be dismantled or removed)	Lower frame + arm support + joystick (without batteries): 31.65 kg		
Masses of parts that can be dismantled or removed.	Arm support: 0.95 kg; Footrests: 1.90 kg; Seat frame: 17.05 kg; Lower frame + arm support + joystick: 31.65 kg; Batteries: 27.15 kg		
Static stability downhill	15°		
Static stability uphill	15°		
Static stability sideways	15°		
Obstacle climbing	50 mm		
Ground clearance	60 mm		
Seat plane angle	5°	10°	
Effective seat depth	380 mm	500 mm	
Thickness seat cushion	40 mm		
Seat surface height at front edge	400 mm	500 mm	
Backrest angle	0°	40°	
Backrest height	580 mm		
Distance between footrest and seat	330 mm	400 mm	
Angle footrest	12°		
Distance between armrest and seat	260 mm	350 mm	





Brand	Vermeiren	
Address	Vermeirenplein 1/15, B-2920 Kalmthout	
Type	Electric wheelchair, Class A	
Model	Navix	
Maximum occupant mass	130 kg	
Description	Dimensions Minimum	Dimensions Maximum
Front location of armrest structure	410 mm	
Driving motors	SRG05 / 2 x 220W	
Batteries	2 x 12V --- / 38 Ah / 20 hr	
Battery charger	Exendis Impulse S (6A); IP21; Insulation class II	
Thermal fuse	30 AMP	
Control unit	Shark or DX2 / Electromagnetic braking system	
Minimum turning diameter	1250 mm	
Reversing width	Not applicable	
Diameter Rear wheels (number)	200 x 50 mm Krypton (2)	
Tyre pressure, rear wheels	Not applicable	
Diameter front wheels (number)	317.5 x 57.15 mm air (2)	
Tyre pressure, front wheels	Max. 2.8 bar	
Noise level	< 65 dB (A)	
Storage and use temperature	+5 °C to +41 °C	
Operating temperature of the electronics	-10°C to +40°C	
Storage and use humidity	30%	70%
We reserve the right to introduce technical changes. Measurement tolerance ± 15 mm / 1,5 kg / °.		
* The theoretical driving distance will be reduced if the wheelchair is used frequently on slopes, rough ground or to climb curbs.		

Table 1: Technical specifications

The wheelchair complies to the requirements set up in:

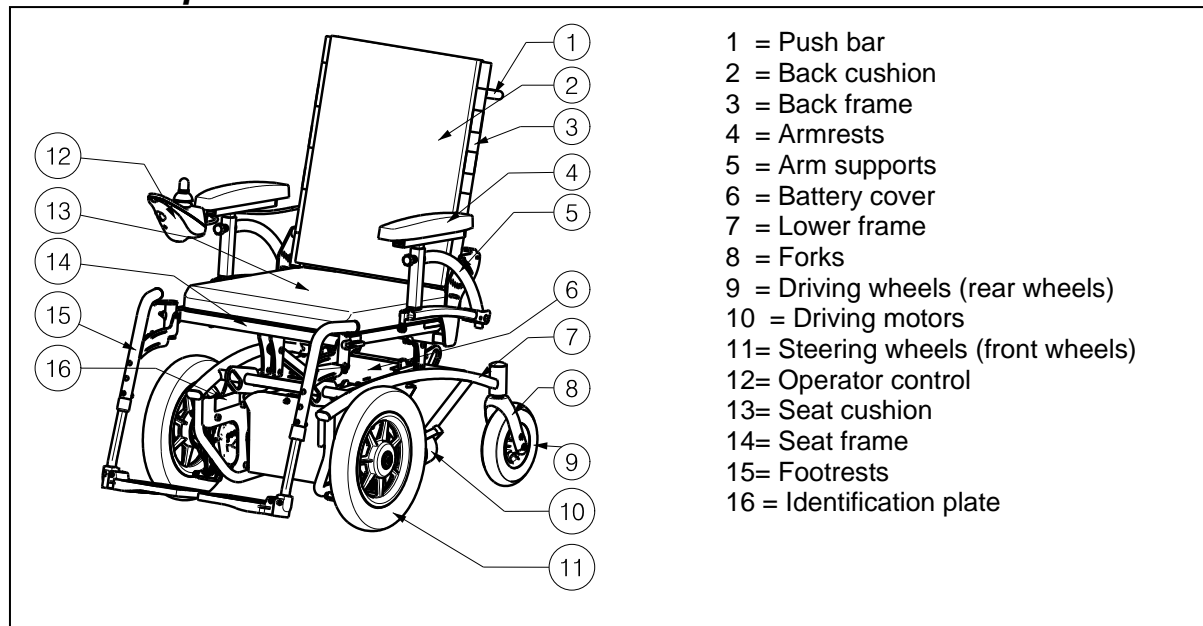
ISO 7176-8: Requirements and test methods for static, impact and fatigue strengths.

ISO 7176-14: Wheelchairs - Part 14: Power and control systems for electrically powered wheelchairs and scooters -- Requirements and test methods

ISO 7176-21: Wheelchairs - Part 21: Requirements and test methods for electromagnetic compatibility of electrically powered wheelchairs and motorized scooters.

ISO 7176-16: Wheelchairs - Part 16: Resistance to ignition of upholstered parts -- Requirements and test methods

1.3 Components











1.4 Accessories

The following accessories are available for the electric wheelchair Navix:

- Table (B13, B15)
- Adjustable leg-rest (BZ7)
- Electronic adjustable leg-rest (BZ7-E)
- Different seat and back cushions; Fixed back/seat (L14/L15), Soft comfort back/seat (L34/L35)
- Head rest (L55) only available with fixed back
- Pelots (side supports) for stability (L04) only available with fixed back
- Pelvic safety belt (B58)
- Anti-tipping device (B78)
- Lighting
- Electrical back inclination, seat inclination, lift

1.5 Explanation of symbols

-  Maximum mass
-  Indoor and outdoor use
-  Indoor use (Only for battery charger)
-  Separate recovery and recycling of electric and electronic devices (Only for Battery charger)
-  Protection class II
-  Down slope
-  Up slope
-  CE conformity



Observe the safety instructions!

Read the instruction manual before use!



Position: Parking brakes activated (electric driving possible)



Position: Parking brakes deactivated (free running and pushing possible, no electric driving)



During free running, be careful with slopes and inclinations



Not crash-tested

1.6 Safety instructions

- ⚠ When getting into and out of the wheelchair, do not stand on the footrests. The footplate should be folded up beforehand.
- ⚠ Investigate the effects of shifting the centre of gravity on the behavior of the wheelchair, for example on up or down gradients, on laterally sloping ground, or when overcoming obstacles. Obtain support from an attendant.
- ⚠ If you want to pick up something (lying in front of, on the side, or to the rear of the wheelchair), you should not lean too far out to avoid tipping over.
- ⚠ When moving through doors, arches, etc. ensure that there is enough room at the sides so that you do not get your hands or arms caught or crushed and that there is no damage to the wheelchair.
- ⚠ Avoid uncontrolled rolling against obstacles (steps, curbs, doorframes, etc) or dropping down from ledges. The manufacturer cannot assume liability for damage caused by overloading, collision or other improper use.
- ⚠ When moving in public places, you are subject to local regulations.
- ⚠ Influence of medicine or alcohol reduces your driving capabilities.
- ⚠ When travelling outdoors, adapt your driving to weather and traffic conditions.
- ⚠ Do not use your electric wheelchair in rainy conditions.
- ⚠ Do not put your electric wheelchair into the free-wheeling position on slopes.
- ⚠ Never reverse uphill.
- ⚠ Reduce speed when you go round corners.
- ⚠ To be better visible when driving in the dark, wear the brightest possible clothing or clothes with reflectors and make sure that the reflectors of the wheelchair are clearly visible and drive with lightning on.
- ⚠ Make sure that the lights and reflectors of your electric wheelchair are free from dirt and/or other objects that could hide them.
- ⚠ When transporting the wheelchair, never pick it up by grasping movable parts (wheels, seat cushion, etc.)
- ⚠ When transporting the electric wheelchair, no persons may be transferred along with it.
- ⚠ No additional passengers may be taken.
- ⚠ When storing or parking your electric wheelchair outside, protect it with a shrouding cover against humidity.
- ⚠ High levels of humidity or very cold conditions can reduce the performance of your electric wheelchair.
- ⚠ Never use your electric wheelchair as a seat in an automobile or other vehicle.

- ⚠ Never exceed the maximum load of 130 kg.
- ⚠ Use only Vermeiren approved accessories.
- ⚠ Before getting on or off, taking apart or transporting your electric wheelchair, put your wheelchair off with "ON/OFF" button.
- ⚠ Check that the profile depth of the tyres is adequate.
- ⚠ If your electric wheelchair has pneumatic tyres, be careful to inflate them to the correct pressure (*see pressure indication on the tyres*).
- ⚠ If devices and furnishings like ramps or lifts are available, use them.

2 Use

This chapter describes the everyday use. **These instructions are for the user and the specialist dealer.**

To find a service facility or specialist dealer near you, contact the nearest Vermeiren facility. A list of Vermeiren facilities can be found on the last page.

The electric wheelchair is delivered fully assembled by your specialist dealer. The instructions intended for the specialist dealer on how to set up the electric wheelchair are given in § 3.

2.1 Remarks on electromagnetic compatibility (EMC)

Your electric wheelchair has been tested according ISO 7176-21 for EMC-compliance. We wish to point out that sources of electromagnetic waves are liable to create interferences. The electronics of the wheelchair itself could affect other electric appliances too.

To reduce the effect of electromagnetic sources of interference, please read the following warnings:

- ⚠ **WARNING: The wheelchair might disturb the operation of devices in its environment that emit electromagnetic field.**
- ⚠ **WARNING: The driving performance of the wheelchair can be influenced by electromagnetic fields (e.g. electricity generators or high power sources).**
- ⚠ **WARNING: Avoid using any portable TV or radio in the immediate environment of your wheelchair for as long as it is turned on.**
- ⚠ **WARNING: Avoid using any transmitter-receiver in the immediate environment of your wheelchair for as long as it is turned on.**
- ⚠ **WARNING: Check the area for transmitter masts and avoid using the wheelchair close to them.**
- ⚠ **WARNING: If involuntary movements or braking occur, turn off the wheelchair as soon as it is safe to do so.**

Interfering electromagnetic fields may have a negative effect on the wheelchair's electronic systems. These can include:

- Disengagement of the engine brake
- Uncontrollable behavior by the wheelchair
- Unintentional steering movements

In the presence of very strong or enduring interfering fields, the electronic systems could even break down entirely or suffer permanent damage.

Possible sources of radiation include:

- Portable receiver and transmitter installations (receiver and transmitter with fixed antenna)
 - Transmitting and receiving sets
 - Portable TV, radio and navigation devices
 - Other personal transmitting devices

- Mobile medium-range transmitting and receiving devices (e.g. car antennas)
 - Fixed transmitting and receiving sets
 - Fixed mobile transmitting and receiving devices
 - Fixed radio, TV and navigation systems

- Long-range transmitting and receiving devices
 - Radio and television towers
 - Amateur radio sets

- Other home devices
 - CD player
 - Notebook
 - Microwave oven
 - Cassette recorder
 - etc.

Devices like electric shavers and hair dryers will have no influence provided that they function perfectly and their cabling be in an excellent condition. Please conform to the operating instructions accompanying such electric instruments to ensure trouble free operating of your wheelchair.

2.2 Carrying the electric wheelchair

The best way to carry the electric wheelchair is to make use of free-wheel mode of the electric wheelchair. Place the wheelchair in free-wheel mode and roll the wheelchair with the push bar to the desired place.

When the wheelchair must be taken up or down stairs, do this with the wheelchair ramps or lift systems. At least two persons are required to move the wheelchair up or down stairs or over single steps.

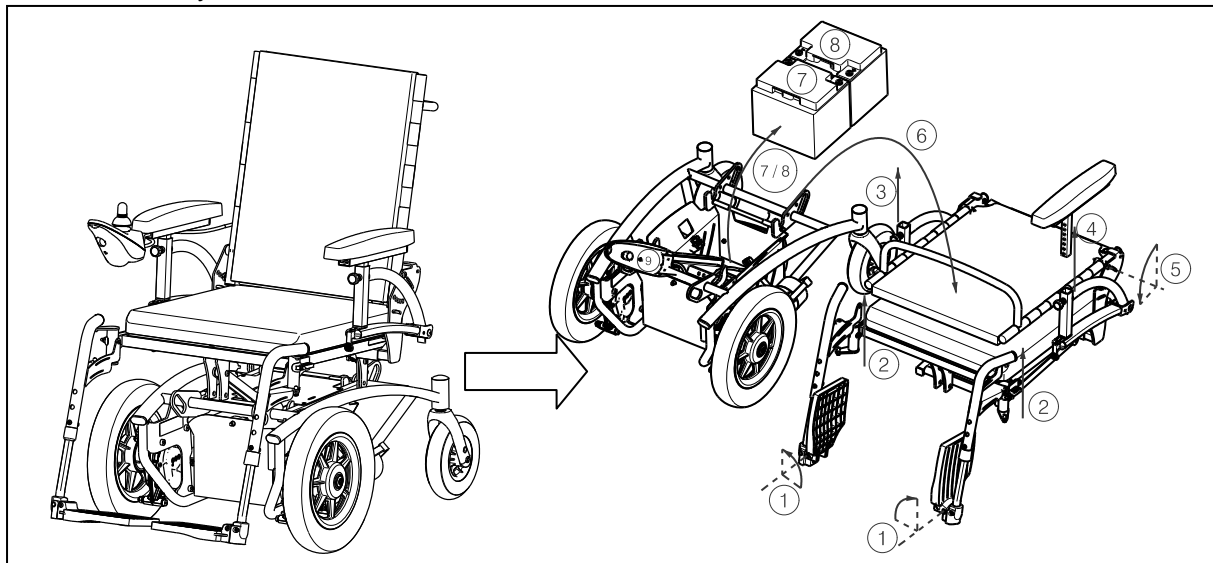
Another way to carry the electric wheelchair is to dismantle the electric wheelchair. Carry the separate parts (seat frame, lower frame, arm supports, footrests, batteries) to the desired place.

2.3 Assembly and disassembly of the electric wheelchair

The electric wheelchair is delivered fully assembled. Your dealer delivers the wheelchair fully assembled and explains the various operating elements and their use. However, for your own safety we provide a further, detailed explanation of the different parts.

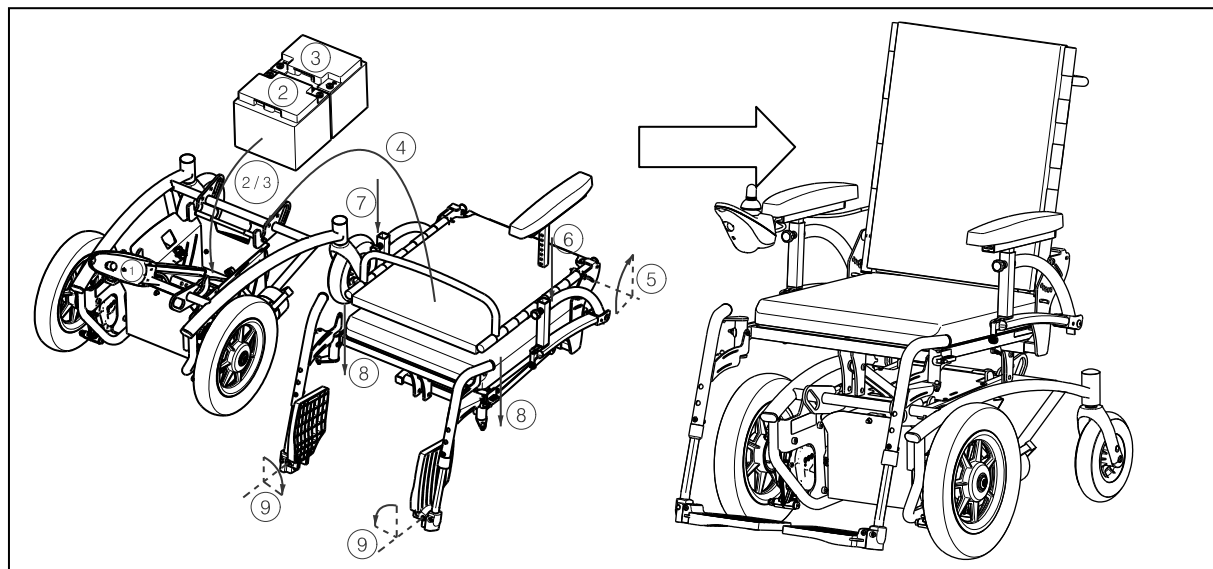
2.3.1 Disassembly of the electric wheelchair

To disassembly the electric wheelchair:



1. Fold up the footplates of the footrests.
2. Remove the footrests (paragraph 2.6).
3. Remove arm support with joystick (paragraph 2.5).
4. Remove other arm support (paragraph 2.5).
5. Fold up the back (paragraph 2.7).
6. Remove the seat frame from the lower frame (paragraph 2.9).
7. Remove the first battery out the battery cover. (paragraph 3.4).
8. Slide the second battery to the front and remove the second battery (paragraph 3.4).
9. Put the arm support with the joystick on the lower frame.
10. Lift the disassembled parts to the desired place.

2.3.2 Assembly of the electric wheelchair



To assembly the electric wheelchair:

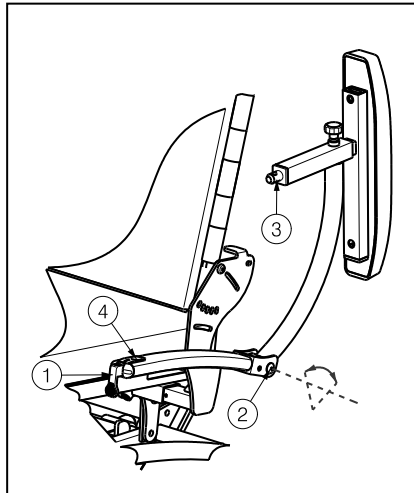
1. Remove the arm support with the joystick out of the lower frame.
2. Place the first battery in the battery cover and slide these to the back (paragraph 3.4).
3. Place the second battery in the battery cover (paragraph 3.4).
4. Place the seat frame on the lower frame (paragraph 2.9).
5. Unfold the back (paragraph 2.7).

6. Mount the arm support (paragraph 2.5).
7. Mount the arm support with joystick (paragraph 2.5).
8. Mount the footrests (paragraph 2.6).
9. Fold the footplates of the footrests down.

2.4 Mounting or Fold away arm support

⚠ CAUTION: Risk of clamping – Keep fingers, buckles and clothes away from the attachment points of the arm support or armrest.

The arm supports can be fold away so the patient can be moved sideways.



To mount the arm supports on the electric wheelchair:

1. Turn the arm support to the front around the pivot point ②.
2. Pull on lever ①.
3. Mount the tube hood ③ in hole ④.

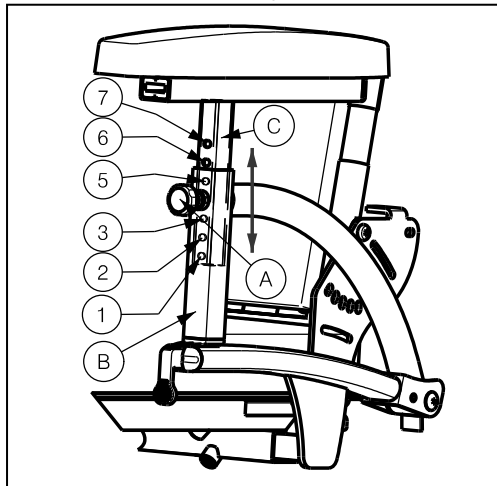
To fold away the arm supports from the electric wheelchair:

1. Pull on lever ①.
2. Turn the arm support backwards around the pivot point ② until it stops.

2.5 Adjusting of the arm supports

⚠ WARNING: Risk of tipping over - Check that the armrests are at the same height on each side.

The armrests are adjustable in 7 different heights.



Height armrest	Position tube ©
260 mm	Hole 7
275 mm	Hole 6
290 mm	Hole 5
305 mm	Hole 4
320 mm	Hole 3
335 mm	Hole 2
350 mm	Hole 1

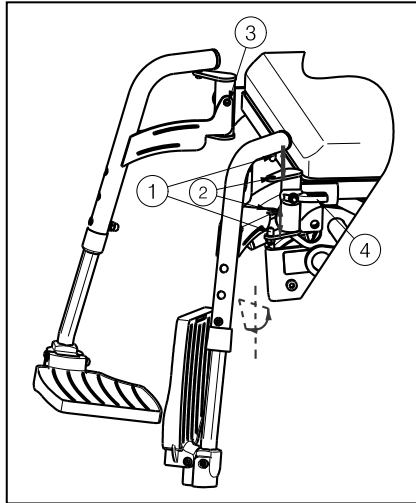
Table 2: Armrest height

1. Loosen the locking mechanism slightly by turning the star knob ① anti-clockwise.
2. Pull on the locking pin ①.
3. Move the square tubes ② and ③ over each other to adjust the armrest height. Do this at the same time when pulling on the locking pin ①.
4. Loosen the locking pin ①.
5. Check that the locking pin ① is securely fixed.
6. Retighten the locking mechanism by turning the star knob ① clockwise to reduce the play of the arm support.

These instructions can also be used for removing the armrests.

2.6 Mounting or removing of the footrests

The wheelchair has two footrests that can be fold away to the "outside" with a 3 point attachment system (①, ②, ③ on the figure below). This system provides a steady, play-free connection of the footrest to the seat frame.



The mounting of the footrests is done as follows:

1. Hold the footrest sideways at the outside of the wheelchairs frame and mount the pins ① into the holes ②.
2. Turn the footrest inwards till the pin click in the hole of the attachment point ③.
3. Turn the foot plates downwards.

To take off the footrests:

1. Fold the foot plates upwards.
2. Pull or push on lever ④.
3. Turn the footrest to the outside of the wheelchair until the hole comes loose of the pin from attachment point ③.
4. Pull the footrest upwards until the pins ① come out of the holes ②.

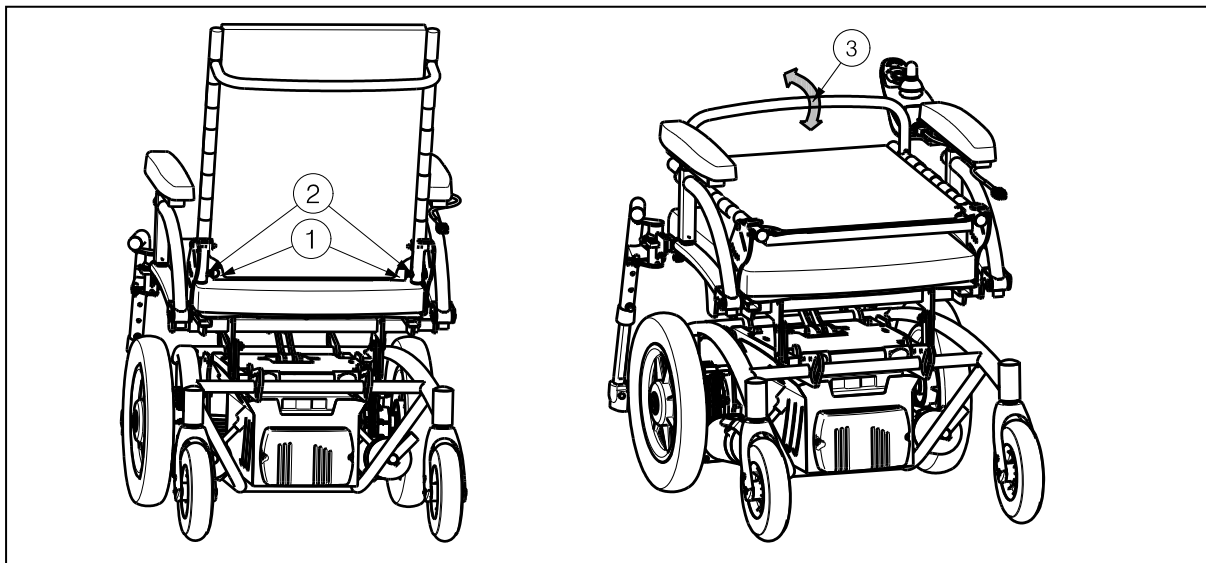
2.7 Folding the back of the wheelchair

⚠ WARNING: Risk of injury – Make sure that both safety pins are engaged.

⚠ CAUTION: Chance of pinching – Do not place fingers between the components of the wheelchair.

For transport the back of the wheelchair can be completely folded to the seat.

1. Pull gently on the back strap. ①
2. The safety pins of the back come loose. ②
3. Fold the backrest forward. ③



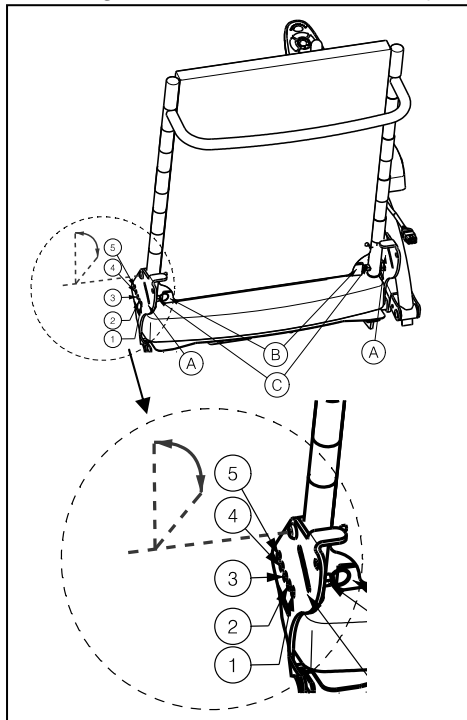
To unfold the backrest:

1. Pull gently on the back strap. ①
2. Pull to the backrest until it clicks into position.
3. Be sure that both safety pins ② click in the holes of the backrest adjustment plate.

2.8 Back inclination

Make sure that the backrest is on both sides placed in the same position for the comfort of the patient.

The angle of the back can be adjusted from 90° - 130°.



Angle of back	Position on backrest plate ①
90°	Hole 1
100°	Hole 2
110°	Hole 3
120°	Hole 4
130°	Hole 5

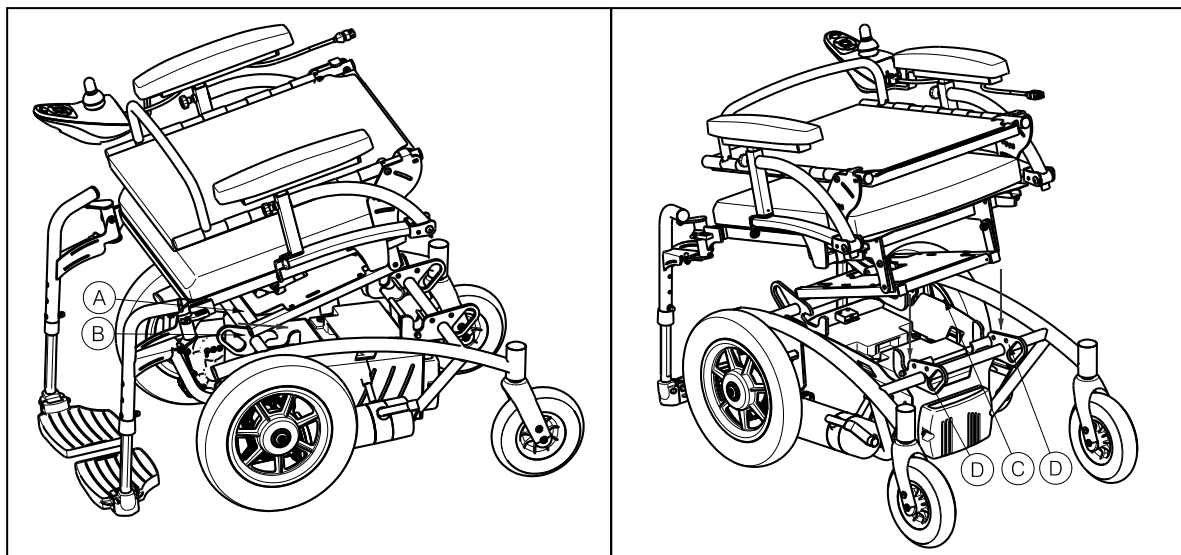
Table 3: Angle of backrest

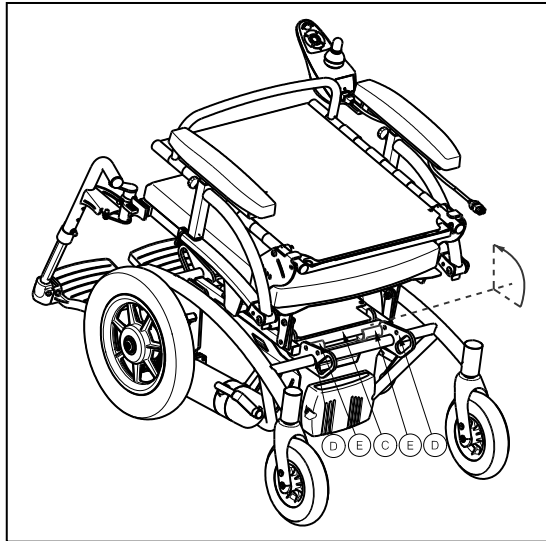
1. Pull on the back strap ① until the locking pins ② on both sides come out the hole of the backrest ③.
2. Push or pull the backrest forward or backwards until the desired angle.
3. Check that the locking pins ② are securely fixed.

2.9 Mounting or removing the seat frame

- ⚠ **WARNING:** Risk of injury – Check that the seat frame clicks in the two front hooks while mounting.
- ⚠ **CAUTION:** Risk of clamping – Keep fingers, buckles and clothes away from the attachment points of the seat frame.

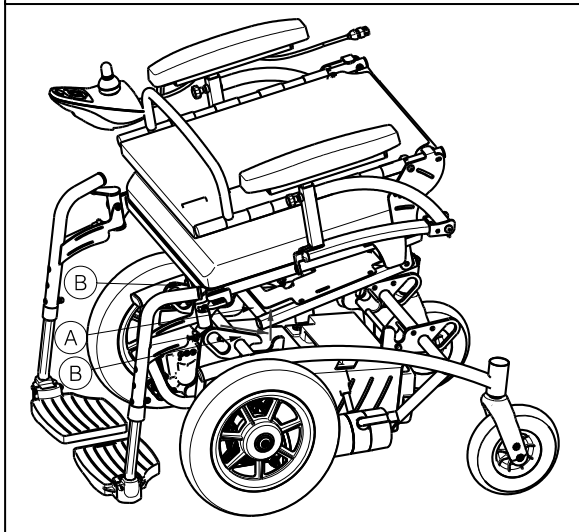
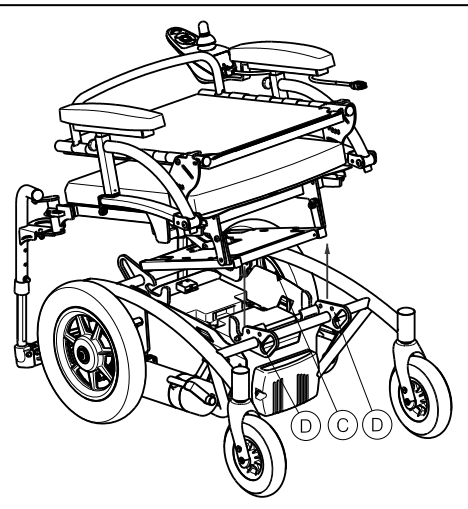
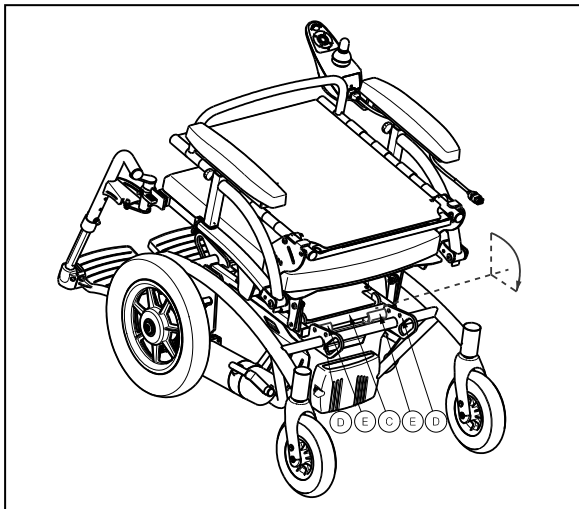
The mounting of the seat frame is done as follows:





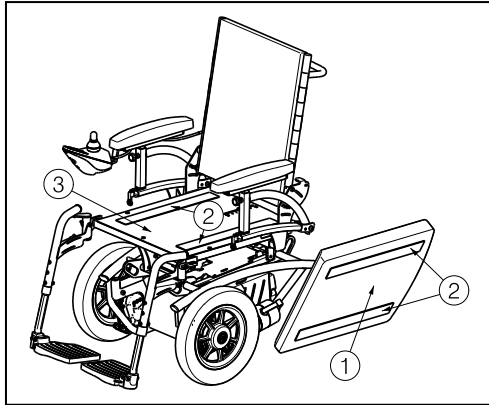
1. Slide the front tube of the seat frame (A) over the front hooks (B) until the front seat tube (A) fall in the groove of the front hooks (B). The seat frame clicks automatically in the correct place.
2. Now place the back tube of the seat frame (C) in the back hooks (D).
3. Click the red buckles (E) upwards until they are mounted around the back tube of the seat frame (C). These red buckles (E) are located on the back of the wheelchair frame.

To take off the seat frame:



1. Click the red buckles (A) downwards until they are removed from the back tube of the seat frame (C).
2. Remove the seat frame from the lower frame by grasping on the fixed parts of the seat frame. Do not use the foot-, arm rests or back rest to grasp the seat frame. Lift the back tube of the seat frame (C) out the hooks (D).
3. Pull the seat frame backwards until the front tube of the seat frame (A) comes out the groove of the front hooks (B).
4. Now lift the front tube of the seat frame (A) out the front hooks (B).

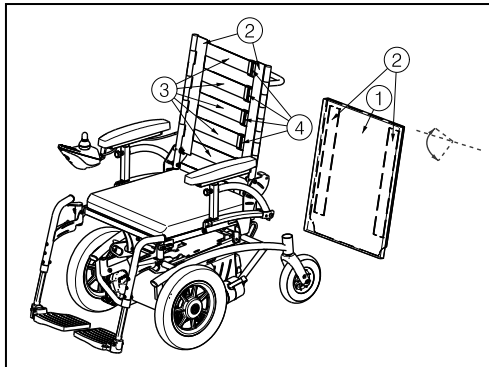
2.10 Seat cushions



The seat cushion ① can be removed or mounted with the velcro strips ② on the seat frame plate ③.

2.11 Back rest cushions

⚠ WARNING: Risk of injury – Check that all straps are secured with Velcro.



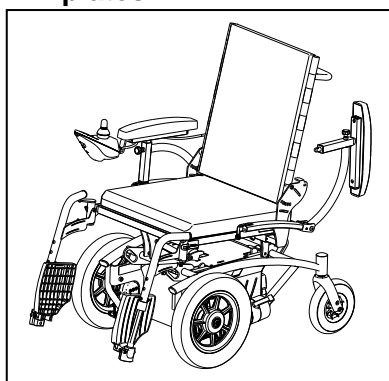
The back rest cushions ① can be removed or mounted with the velcro strips ② on the backrest velcro straps ③.

The back can be adjusted in its flexibility, so the back of the user is supported differently.

1. Remove the back rest cushion ① with the velcro ②. Pull the back rest cushion ① on the frontside to the front, back rest cushion ② comes from the velcro straps ②. Pull the back rest cushion ① on the back side backwards. Now you can see the suspension system with straps ③ that can be adjusted independently.
2. Loosen the velcro closures ④ of the respective straps ③.
3. Pull the respective strap ③ to the desired position, the tension of the individual belts can be varied and the desired support of the back can be set.
4. Replace the back rest cushion ①.

2.12 Transfer in and out the electric wheelchair

- ⚠ CAUTION: In case you cannot perform the transfer in a safe manner, ask someone to assist you.**
- ⚠ CAUTION: Risk of injury – Do not use the joystick, footplates, arm supports as support.**
- ⚠ CAUTION: Risk of tipping over of the wheelchair – Do not stand on the foot plates.**



1. Park the electric wheelchair as close as possible to the place where you want to transfer.
2. Check that the operator control is switched off. Make sure that the wheelchair is NOT in freewheel mode.
3. Fold the foot plates upwards to prevent standing on them.
4. If the transfer is on the side of the wheelchair, fold the arm support on that side away.
5. Transfer to / from the electric wheelchair.

2.13 Correct position in the electric wheelchair

Some recommendations for a comfortable use of the electric wheelchair:

1. Position your backside as close as possible to the back rest.
2. Make sure your upper legs are horizontal – If needed adjust the length of the foot rests.

2.14 Driving the electric wheelchair

⚠ WARNING: Risk of burns – Be careful when driving in hot or cold environments (sunshine, extreme cold, etc.) for a sufficient amount of time and when touching - Surfaces can assume the environment temperatures.

⚠ WARNING: Risk of unsafe settings - Use only the driving characteristics described in this manual.

2.14.1 Preparing the electric wheelchair for use

When you start using your electric wheelchair, make sure that it is standing on level ground. All wheels must be in contact with the ground.

1. Make sure that the freewheel mode is OFF and the operator control is switched off.
2. Adjust the wheelchair best suited for yourself.
3. Set the operator control in the most comfortable position.
4. Sit down on the seat and verify that both armrests have been adjusted so your forearms are folded down.
5. Put your wheelchair on with the "ON/OFF" button from the operator control.

Now put the speed control on the operator control to the minimum position. Your electric wheelchair is now ready for use.

2.14.2 Handling after usage

Before getting off from your electric wheelchair, make sure that all four wheels touch the ground simultaneously.

Push on the "ON/OFF" button from the operator control, the display of the operator control goes out.

2.15 Operating the brakes

Let go of the joystick to stop the electric wheelchair.

2.15.1 Parking the electric wheelchair

Once your electric wheelchair has been turned off, no command can be sent to the driving system. Always park your electric wheelchair on sites that are easy accessible and on horizontal surfaces that the four wheels are touching the ground.

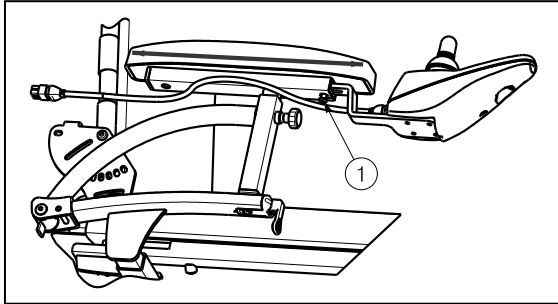
2.15.2 Operator controls

*** DX2 controller or Shark controller**

The instructions for use from the operator controls you can find in the separate user manuals of the operator controls that is included with your wheelchair.

Changing the software is only allowed by Vermeiren. For changes in the software contact Vermeiren.

2.15.3 Adjusting operator control

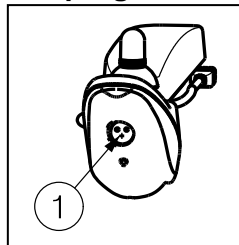


The operator control's horizontal position can be changed:

1. Loosen screw ① just under the arm rest a little bit.
2. Move the operator control to the desired position or remove the operator control.
3. Retighten screw ① properly.

2.15.4 Connections for charger / program unit

⚠ WARNING: Risk of injury - Check that all plugs (battery charger and programming unit) are removed before setting the wheelchair in motion.



The socket ① for connecting the charger supplied is located on the front of the operator control. Here, too, is the connection for the programming unit, which should only be connected and used by authorised persons who have been trained to program it (Vermeiren personnel).

2.15.5 Your first trip

⚠ WARNING: Control your electric wheelchair - Accustom yourself with the driving behavior of your electric wheelchair.

- Driving

Once you are seated on your electric wheelchair and have started it as described above, take the joystick with your hand and push this in the required direction i.e.:

PUSH ACTION FORWARD	=	FORWARD MOVEMENT
PUSH ACTION BACKWARD	=	BACKWARD MOVEMENT

- Braking

To brake, let go of the joystick, which will let it return to the zero position and slow down your electric wheelchair to a gentle stop. Practice pulling away and braking to get accustomed to the electric wheelchair. You need to be able to estimate how your electric wheelchair will react when you drive or brake.

- Driving in corners and bends

⚠ WARNING: Risk of tipping over - Reduce your speed before you enter a curve or corner.

⚠ WARNING: Risk of clamping - Always maintain an adequate distance from corners and obstacles.

⚠ WARNING: Risk of injury - Be careful with the front wheel drive wheelchair, the rear of the wheelchair can swing while turning.

Move the joystick into the position you wish to turn. The back wheels will turn accordingly and steer the electric wheelchair into a new direction. It is very important that you ensure that there is enough space allowing you to go around bends and corners. Narrow passages must preferably be approached in a large curve so as to allow you to enter the narrowest part as straight from the front as possible.



Take care not to enter curves and corners diagonally. By 'cutting the corner', chances are that your rear wheels, back of wheelchair will run into obstacles and destabilize your electric wheelchair.

2.15.6 Backward movement

- ⚠ WARNING: Control your electric wheelchair - Accustom yourself with the driving behavior of your electric wheelchair.**
- ⚠ WARNING: Control your speed - Always go backward in the lowest speed possible.**
- ⚠ WARNING: Risk of collision - Always look to the back when you go backward.**

Rearward driving requires increased concentration and care. This explains why we have greatly reduced the speed of rearward movement in comparison with forward driving. But we still recommend that you put the speed on minimum when you drive backward. Left and right controls act inverse when driving backwards.

2.15.7 Going uphill

- ⚠ WARNING: Control your electric wheelchair - Accustom yourself with the driving behavior of your electric wheelchair.**
- ⚠ WARNING: Control your electric wheelchair - Never put your electric wheelchair in freewheel on slopes.**
- ⚠ WARNING: Control your speed - Move on slopes as slow as possible.**
- ⚠ WARNING: Risk of tipping over - Do not exceed the maximum gradient of static and dynamic stability uphill (see paragraph "Technical specifications")**
- ⚠ WARNING: Never reverse going uphill.**

Always approach slopes directly from the front and, to avoid tipping over, see that all four wheels stay in contact with the ground at all times (ramps, driveways, etc.).

If you come to a stop on a slope by letting go of the joystick, the engine break will prevent your electric wheelchair from rolling backward. As soon as the joystick returns to zero position, the engine break is activated.

To resume your uphill drive, push the joystick as much as possible to the front to ensure the release of a sufficient amount of power. This will allow your electric wheelchair to slowly ascend the slope.

If your wheelchair is unable to drive up, turn the speed control up and try again.

2.15.8 Going downhill

- ⚠ WARNING: Control your electric wheelchair - Accustom yourself with the driving behavior of your wheelchair.**
- ⚠ WARNING: Control your wheelchair - Never put your electric wheelchair in neutral on slopes.**
- ⚠ WARNING: Control your speed - Move on slopes as slow as possible.**
- ⚠ WARNING: Risk of tipping over - Avoid sharp bends.**
- ⚠ WARNING: Risk of tipping over - Do not exceed the maximum gradient of static and dynamic stability downhill (see paragraph "Technical specifications")**

Always approach downhill slopes directly from the front. Slantwise approaches can lead to some of the wheels no longer staying in contact with the ground (danger of tipping over).

The weight of the electric wheelchair will increase your downhill speed. Lower the speed on the operator control.

Avoid sharp bends on downhill slopes. The weight of your electric wheelchair could cause your electric wheelchair to lift up on one side or even fall over around bends.

2.16 Driving the electric wheelchair on ramps

- ⚠ WARNING: Risk of injury - Do not exceed the maximum load of the ramps.**
- ⚠ WARNING: Risk of injury - Choose the correct ramps to prevent injury or damage.**
- ⚠ WARNING: Risk of injury - Be sure that the wheel height is high enough to get over the free height of the ramps. The electric wheelchair frame may not touch the ramps.**
- ⚠ WARNING: Risk of injury - Use a restraining safety belt to secure yourself in your wheelchair.**
- ⚠ WARNING: Risk of tipping over - Put the adjustment functions (seat, back, footrests, ...) so that the wheelchair has the best stability.**

Should you wish to use ramps to drive over an obstacle, please note the following:

1. Find out from the manufacturer what the maximum load is for the ramps.
2. Drive on the ramps at the lowest speed possible.
3. See the instructions in the chapter "your first trip".

If the wheelchair has adjustment functions, ensure that (because these has influence on the stability of the electric wheelchair):

1. The seat is in the lowest position as possible and in the horizontal position.
2. The back is in the upright position.
3. The footrests have been set so that no collision can occur while passing the obstacle.

If another person is pushing you, note that the large weight of the electric wheelchair exerts appreciable reverse forces.

2.17 Pushing the wheelchair

- ⚠ WARNING: Control your electric wheelchair - Never put your electric wheelchair in neutral while you are driving.**
- ⚠ WARNING: Control your electric wheelchair - Never put your electric wheelchair in neutral on slopes. It may accidentally roll away.**

The wheelchair is fitted with a freewheel device that is accessible and operable only by the attendant.

2.17.1 220W motors-6km/h

Put the chair in neutral with the adjusting levers ① on both motors.

Clutch or declutch the motor by following the instructions below:



DRIVING

Push the adjusting levers ① of both motors in the position of the symbol for driving. Switch the operator control out and in. Electronically controlled driving is now possible.

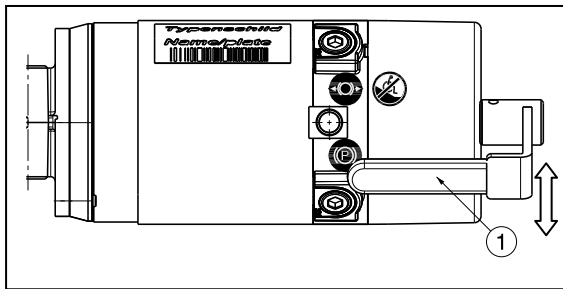


NEUTRAL

Pull the adjusting levers ① of both motors in the position of the symbol for neutral and you will activate the wheelchair's free-running mode. The wheelchair can now be pushed without electronic drive.



In free wheel mode, the electronic brake is deactivated and the wheelchair will no longer be held back. Do not activate free wheel mode on slopes.



⚠ You should only use free-running to transport the wheelchair or to move it out of a danger zone.

⚠ When free-running is activated, the electromagnetic braking system is deactivated, so the wheelchair is no longer secured against rolling away. Take care not to set the wheelchair down on slopes or uneven terrain, or it may accidentally roll away.

⚠ The electronic system will indicate, through the lock symbol flashing, that electronic driving is not possible.

2.18 Transport in the car

⚠ **DANGER: Risk of injury - The electric wheelchair is not suited for use as a seat in a motor vehicle.**

⚠ **WARNING: Risk of injury - No people or objects should be under the electric wheelchair, during transportation.**

⚠ **WARNING: Risk of injury - See that the wheelchair is attached properly. So you can avoid injury from the passengers during collision or sudden braking.**

⚠ **WARNING: Risk of injury- Use for attaching the wheelchair and passenger NEVER the same seatbelt.**

Never use your wheelchair as a seat in an automobile or other vehicle. The wheelchair shall be marked with following symbol.



To transport the wheelchair in the car use following steps:

The best way to transport your electric wheelchair in the car is to drive the electric wheelchair in the car by using ramps.

When you are not experienced to drive the electric wheelchair by using of ramps you can also put the wheelchair in neutral mode and push the wheelchair in the car by using ramps.

When the wheelchair does not fit in the car it is also possible to transport the wheelchair by the following steps:

1. Remove all moveable parts prior to transporting (footrests, armrests, operator control, seat frame, lower frame, etc.).
2. Store moveable parts safely.
3. Place the electric wheelchair in the car with 2 persons by grasping to the fixed parts of the frames.
4. Attach the solid parts of the frame securely to the vehicle.
5. Place the wheelchair in drive mode (engage the parking brakes) and check that the operator control is switched off.

2.19 Transport in an airplane

The electric wheelchair can be transported in an airplane. Electric wheelchairs shall be checked at the desk. Announce the wheelchair on time by the concern airline before departure. Do not use the electric wheelchair as a seat in an airplane, the wheelchair must be stored in the cargo room.

To transport the wheelchair in an airplane note the following requirements:

1. Type and properties of wheelchair (joystick, batteries)

The wheelchairs shall be foreseen of dry or gel batteries. Mostly these batteries must not be removed out the wheelchair. Only disconnect and insulate the electrical connections on the battery.

2. Dimensions and weight of the wheelchair

The allowable weight and dimensions of the wheelchair depends on the type of the airplane.

3. Damage on the wheelchair

It is possible that the wheelchair could be damaged because the wheelchair will be stored in a narrow area with the suitcases and other goods.

To prevent damage on the wheelchair:

- Put the electrical adjustments in standard position (lift column as low as possible, seat inclination horizontal, back inclination the most forward).
- Fold the footplates upwards, place the armsupports in the most inward position.
- Check that the adjustment levers shall positioned inwards.
- Cover the operator control with an soft material that can withstand shocks.

Before travelling contact the concerned airline about the requirements for transporting the wheelchair in an airplane.

2.20 Batteries

The standard for your electric wheelchair is two closed, 12 V/38 Ah AGM batteries. The batteries used with your electric wheelchair are drive batteries which only attain full capacity after a few charging and use cycles.

If the batteries loose their power after long usage, or if they are damaged, get them both replaced by a specialist dealer only.

We accept no liability for damage caused through using other types of batteries.

If the batteries are opened, all manufacturer liability and all claims will become void.

Do not use the batteries at temperatures below +5°C or above +50°C (the ideal is: +20°C).

2.21 Battery charger

To charge the batteries, only use the battery charger supplied - IMPULSE S (6 A). For the user instructions of the battery charger you can refer to the manual of the Impulse S that is delivered with your battery charger.

2.22 Charging the batteries

⚠ CAUTION: Risk of injury - Only use the battery charger supplied to charge batteries.

As the IMPULSE S (6 A) charger aligns the charge curve with the AGM batteries' charge level, you can recharge your wheelchair after each use. This avoids any aggressive battery charging and the "memory effect".

Recharge the wheelchair, at the latest, when the charge indicator on the steering unit goes into the red zone. If, despite this, you continue driving, eventually only the last red diode lights up and flashes continually, indicating that the batteries are nearly flat. If you disregard this warning signal, too, an error message will shortly appear indicating that the batteries can no longer provide power for driving. The batteries should therefore be charged before these error messages appear, using the supplied battery charger IMPULSE S (6 A). Avoid the batteries becoming drained, in any case.

• FIRST USE

First put the plug into the wall socket. After an LED combination has lit up, the charger switches to STANDBY. Both LEDs (green and yellow) are active.

Next, connect the charger cable with the three-pin plug to the loader socket on the electric wheelchair's operator control. Once connected to the batteries, the charger automatically begins charging. Now only the yellow LED is active.

When charging is complete, the yellow LED goes out and the green LED comes on. Now remove the charger cable from the operator control. The charger switches back to STANDBY mode (yellow and green LEDs active).

If the charger cable is not removed, a tiny current will keep the batteries topped up (trickle charging).

If you decide not to use your electric wheelchair for an appreciable period, you must nevertheless recharge it regularly to keep it in a running condition ready for immediate use.

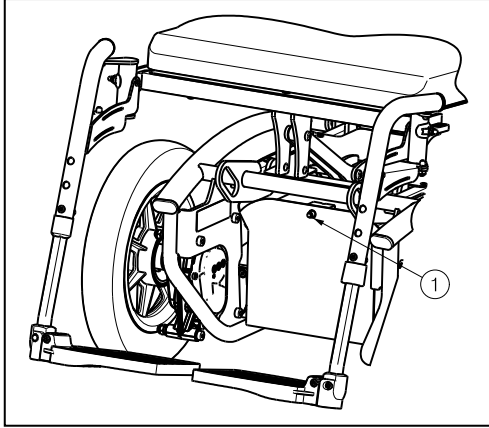
The manufacturer accepts no liability for damage caused by improper charging.

For further information, please refer to the user instructions provided with the charger.

2.23 Thermal fuse

For the seat heights 400 and 450 mm the occupant or attendant can operate the thermal fuse.

For the seat height 500 mm only the attendant can operate the thermal fuse.



To protect the motor against overload, on the front side of the battery housing there is a thermal safety mechanism ① that will automatically cut off the motor to prevent overheating and thus rapid wear and tear or breakdowns. This can occur if you go up or down slopes that exceed the maximum gradient indicated. Nominal loads exceeding the maximum could also trigger the safety mechanism.

To be able to use the electric wheelchair again, remove the overload and wait till the motor has cooled down. Then gently press the thermal safety mechanism back in. Your wheelchair is now ready for use again.

3 Installation and adjustment

The instructions in this chapter are for the specialist dealer only.

The Navix has been designed as a front wheel drive electric wheelchair. The advantage of this wheelchair is a better maneuverability.

- ⚠ **WARNING:** Risk of unsafe settings - Use only the settings described in this manual.
- ⚠ **WARNING:** Risk of tipping over - Variation allowed adjustments can still change the stability of your wheelchair (tilt back or sideways).

3.1 Tools

The Vermeiren Navix shall be delivered with:

- Wrench set n°10 to n°19
- Allen keyset n°3 to n°5
- Screwdriver Phillips head

3.2 Manner of delivery

The electric wheelchair shall be delivered with:

- 1 seat and lower frame with arm supports, operator control, rear and front wheels
- 1 pair of footrests
- 2 x drive batteries, 2 x drive motors
- Impulse S charger (6A) + manual of Impulse S charger
- Electronics
- Tools
- Manual + manual operator control
- Accessories

Before use, check that everything is included and that no products are damaged (example by transport, ...).

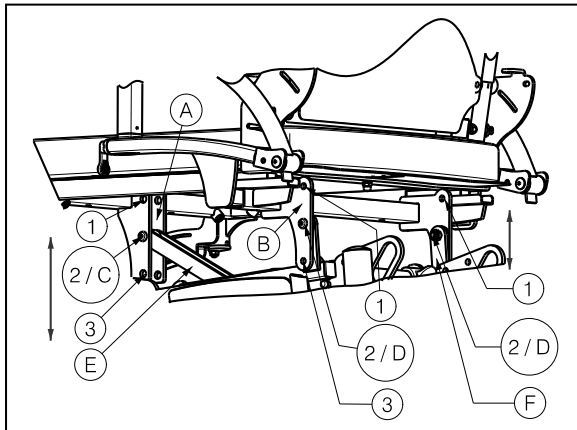
3.3 Possible adjustments

- ⚠ **WARNING:** Risk of injury - Turn the electric wheelchair off before you perform any adjustments.
- ⚠ **WARNING:** Risk of injury - Never perform any adjustments while you are driving.
- ⚠ **WARNING:** Risk of injury - Adjustments may only performed by your specialist dealer.
- ⚠ **WARNING:** Risk of injury - Make sure all screws, handles are firmly secured before driving with your electric wheelchair.
- ⚠ **CAUTION:** Risk of clamping – Keep fingers, buckles and clothes away from the attachment points or any moving parts.

3.3.1 Adjusting the seat height and angle

- ⚠ **WARNING:** Risk of injury - Never change the seat height or angle when the user is sitting in the wheelchair.

The Vermeiren Navix is adjustable in 3 different **seat heights** by changing the position of the front plates **Ⓐ** and the back plates **Ⓑ** of the seat frame upwards or downwards.

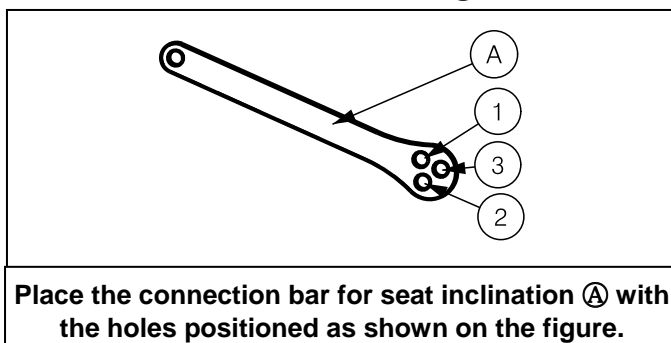


Seat height without seat cushion	Position front plate Ⓐ and back plate Ⓑ
400 mm	Hole 1
450 mm (Standard)	Hole 2
500 mm	Hole 3

Table 4: Seat height

1. Remove the screw **Ⓒ** from the front plates **Ⓐ** of the seat frame.
2. Place the seat height in the desired position by mounting the connection bar for seat inclination **Ⓔ** in the right hole of the front plates **Ⓐ** (refer to table 4).
3. Retighten the screw **Ⓒ** properly.
4. Remove the screws **Ⓓ** from the back plates **Ⓑ** of the seat frame on each side.
5. Place the seat height in the desired position by mounting plate **Ⓕ** of the lower frame in the right hole of the back plates **Ⓑ**.
6. Retighten the screws **Ⓓ** properly.

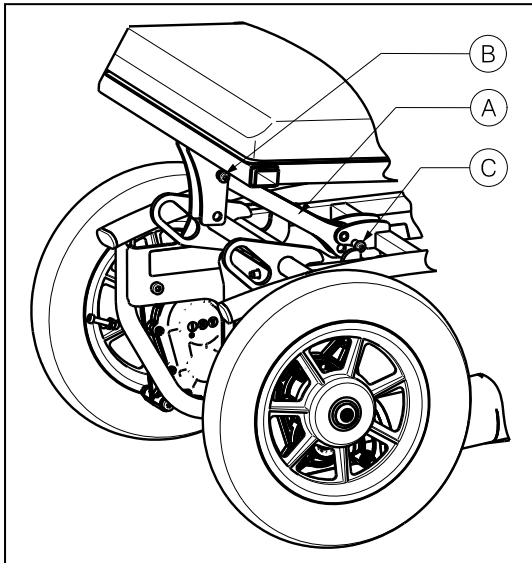
The Vermeiren Navix is adjustable in 3 different **seat angles** by changing the position of the connection lath for seat inclination **Ⓐ**.



Seat angle	Position connection bar for seat inclination Ⓐ
5° (standard)	Hole 1
7,5°	Hole 2
10°	Hole 3

Table 5: Seat angle

- ⚠ **WARNING:** Risk of injury - Perform the adjustment of the seat angle with 2 persons or place something between the seat frame and lower frame.
- ⚠ **WARNING:** Risk of injury - Keep fingers, buckles and clothes away from the attachment points of the seat frame.

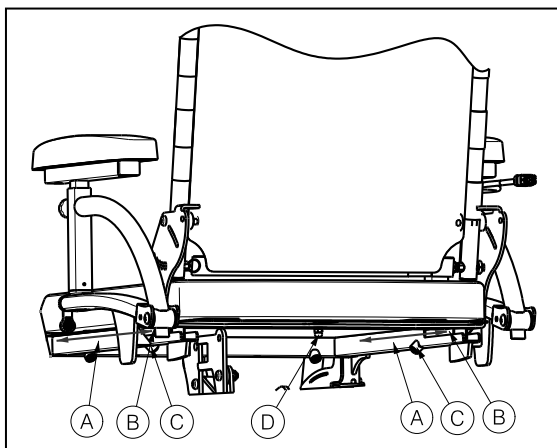


1. One person shall hold the seat frame upwards or place something between the seat frame and lower frame to avoid that the seat frame can fall down.
2. Loosen screw ② from the front plate a little bit so it will be possible to rotate the bar ① around these attachment point.
3. Remove the screw ③ from the connection bar for seat inclination ①.
4. Place the seat angle in the desired position by position the connection bar ① in the right position (refer to table 5).
5. Retighten the screws ②, ③ properly.

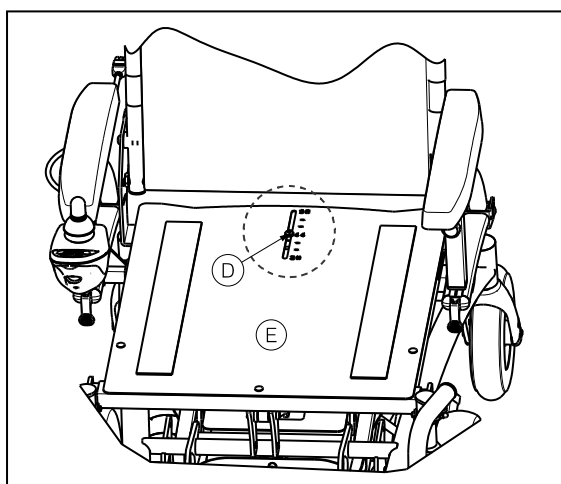
3.3.2 Adjusting the seat depth

- ⚠ **WARNING:** Risk of injury - Never change the seat depth when the user is sitting in the wheelchair.

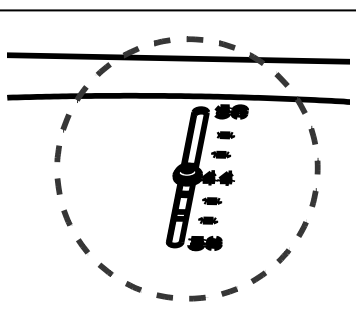
The Vermeiren Navix is adjustable in different seat depths over a range of 380 mm to 500 mm.



1. Remove the seat cushion with the velcro straps.
2. Loosen the hexagon socket set screws ③ just under the seat frame.
3. Loosen the screw ④ on the seat plate a little bit.
4. Place the seat plate in the correct seat depth by moving the square tubes ① and ② over each other.
5. Retighten the screws ③, ④ properly.
6. Replace the seat cushion with the Velcro straps.



The seat depth dimension you can read on the seat plate ⑤. The head of the screw ④ shall give the seat depth dimension.

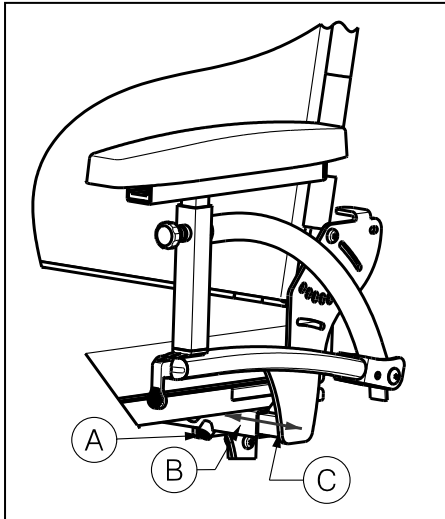


3.3.3 Adjusting the seat width

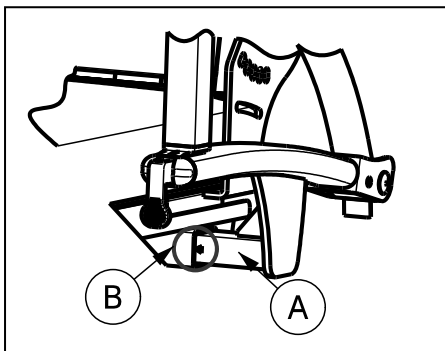
⚠ WARNING: Risk of tipping over - Check that the arm supports and footrests are positioned identically on each side.

The seat width can be adjusted over a range of 50 mm by moving the arm supports and footrest in horizontal direction.

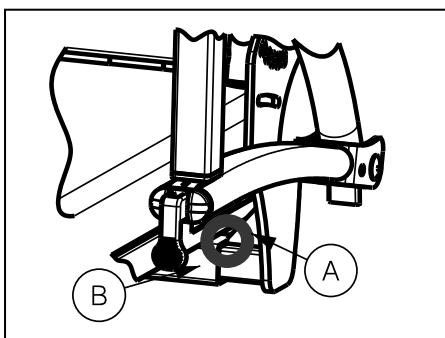
* Adjusting arm supports:



1. Loosen the hexagon socket set screws **Ⓐ** just under the seat frame on each side.
2. Move the arm support in an horizontal direction until the correct seat width, by moving the square tubes **Ⓑ** and **Ⓒ** over each other.
3. Retighten the screws **Ⓐ** properly.
4. Repeat instructions above for the other arm support.

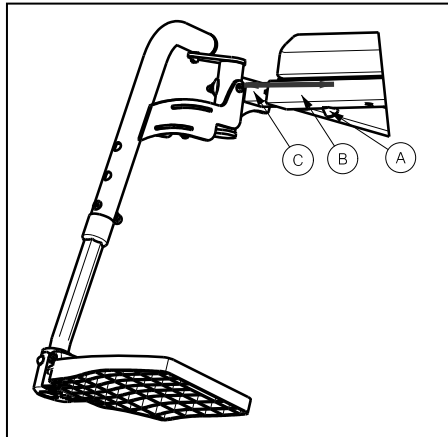


The maximum position of the seat width is marked with the triangle on the square tube **Ⓐ**. Place the point of the triangle against the square tube **Ⓑ** mounted on the seat frame.

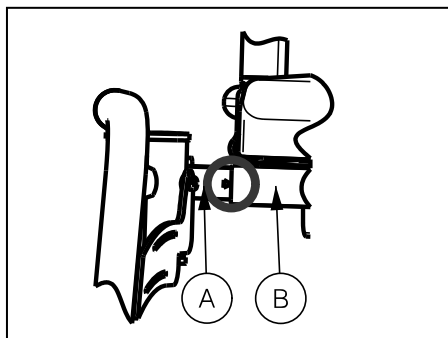


The minimum position of the seat width is when the triangle edge of part **Ⓐ** is against the square tube **Ⓑ** mounted on the seat frame.

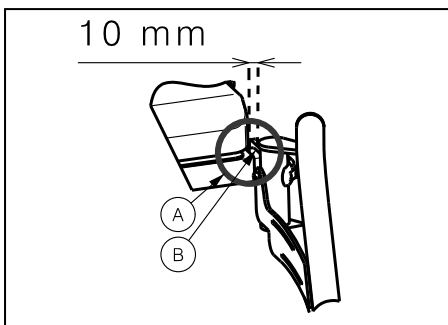
*** Adjusting footrests:**



1. Loosen the hexagon socket set screws (A) just under the seat frame on each side.
2. Move the footrest in an horizontal direction until the correct seat with, by moving the square tubes (B) and (C) over each other.
3. Retighten the screws (A) properly.
4. Repeat instructions above for the other footrest.



The maximum position of the seat width is marked with the triangle on the square tube (A). Place the point of the triangle against the square tube (B) of the seat frame.

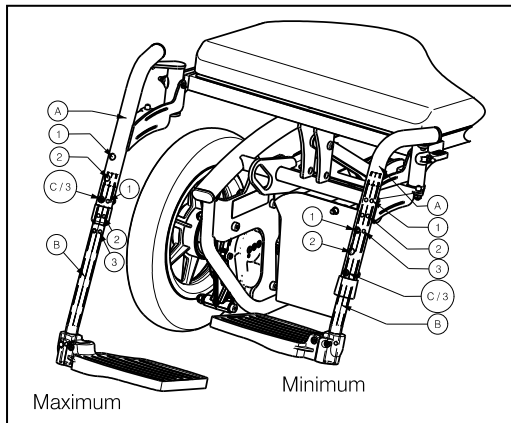


The minimum position of the seat width is with a safe distance of 10 mm between the square tubes (A) and (B).

3.3.4 Adjusting of the footrests

Height footrest	Position Outer tube (A)	Position inner tube (B)
330 mm	Hole 1	Hole 3
355 mm	Hole 1	Hole 2
380 mm	Hole 1	Hole 1
365 mm	Hole 2	Hole 3
390 mm	Hole 2	Hole 2
415 mm	Hole 2	Hole 1
400 mm	Hole 3	Hole 3
425 mm	Hole 3	Hole 2
450 mm	Hole 3	Hole 1

Table 6: Lengths of footrest for seat height 450 mm and seat angle 5°



Adjust the length of the footrests as follow:

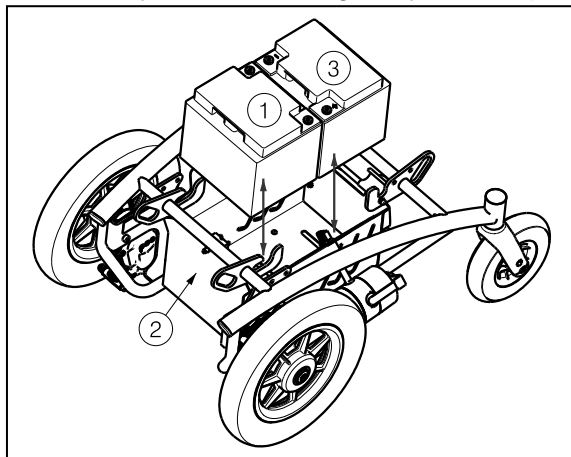
1. Remove the screw ③.
2. Adjust the length of the footrest to a comfortable length according table 6.
3. Tighten the screw ③ properly.

Check that the footrests are positioned identically on both sides.

3.4 Changing the batteries

⚠ CAUTION: Risk of burns - Do not come in contact with the acid from the batteries. See for a good ventilation of the battery compartment.

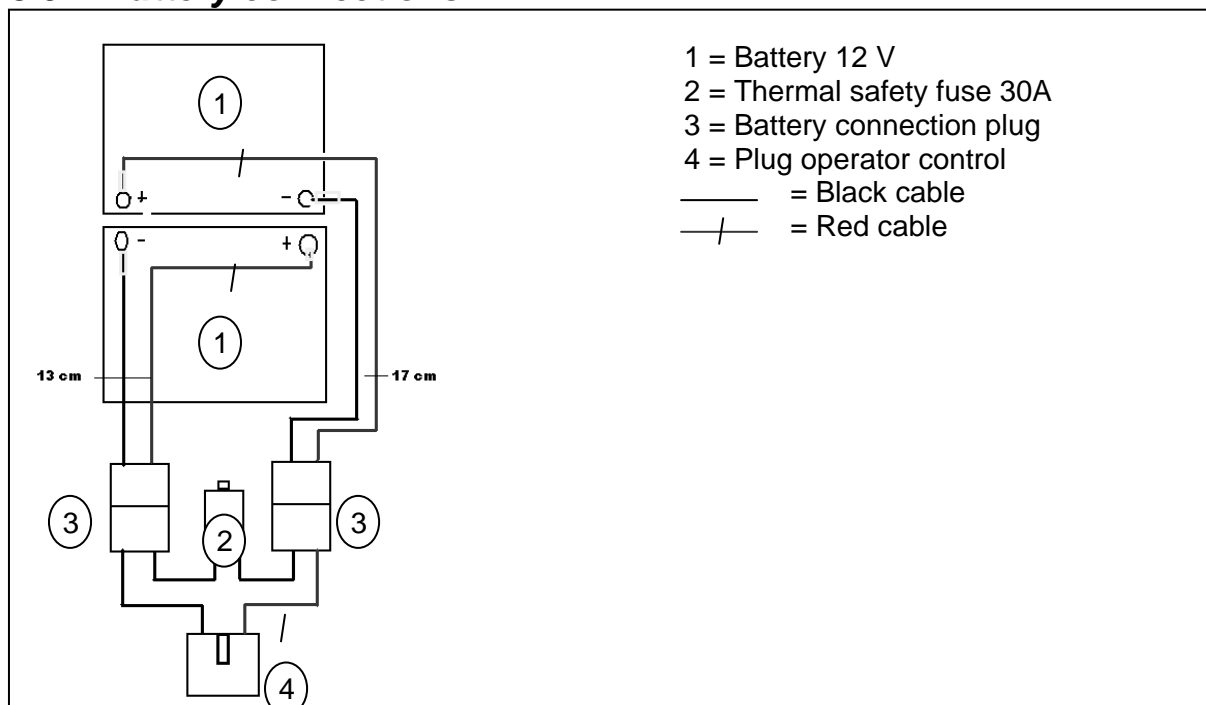
The battery shall be changed by trained personnel.



The battery can be changed according following steps.

1. Remove the seat frame (paragraph 2.10)
2. Disconnect all the wires on the batteries.
3. Lift the first battery ① out the battery housing ②.
4. Slide the second battery ③ forward and take it out the battery housing ②.
5. Take the new batteries.
6. Place the first battery ① in the battery housing ② and push it backwards.
7. Place the second battery ③ in the battery housing ②.
8. Connect all the wires to the batteries.
9. Replace the seat frame (paragraph 2.10)

3.5 Battery connections



3.6 Tyre changing

- ⚠ **CAUTION:** There must be no air in the tube before the tyre can be removed.
- ⚠ **CAUTION:** Risk of damage - If handled improperly, the rim might become damaged.

Only an expert can guarantee correct assembly. Work not done by your specialist dealer, would void any warranty claims.

Use only inflating equipment which complies to regulations and indicates the pressure in bar. We do not accept any liability for damage caused by using inflation equipment or wheels not supplied by the manufacturer.

- ⚠ **WARNING:** Risk of injury - Check that the pressure is correct.
- ⚠ **CAUTION:** Risk of injury - Make sure that no objects, body parts or inner tubes are pinched between the tyre and the rim when mounting a tyre.

- Driving wheels (front wheels)

Removing tyre from rim:

1. Let all the air out of the tube.
2. Insert a tyre lever between the tyre and the rim.
3. Slowly and carefully push the lever downwards. This will pull the tyre over the edge of the rim.
4. Move the lever along the rim, the tyre will jump out.
5. Now carefully remove the tyre from the rim and then remove the tube.

Note the following before inserting the new tube:

Check the rim bed and the inside wall of the tyre for foreign matter and clean these properly if necessary. Check the condition of the rim bed, especially around the position of the air valve. Please use only genuine original replacement parts. No liability is accepted for damage caused by non-genuine replacement parts. Kindly contact your specialist dealer.

Assembly tyre from rim:



Put the deflated tube around the center of the rim. Make sure that the valve juts out the valve opening in the rim.



Push the tyre over the edge of the rim, starting behind the air valve. Inflate the tube slightly until it is round, and place it inside the tyre.



If the tube fits snugly inside the tyre without any folds (in the case of folds: let out some air), then the upper side of the tyre can be pressed lightly onto the rim with both hands, starting at the air valve.

Check all around on both sides that the tube is not pinched between the rim and the edge of the tyre. Lightly push the air valve inwards and pull it out again to make sure that the tyre is positioned properly in the region of the air valve.

To ensure that the wheel is inflated correctly, admit only so much air initially that the tyre can still be easily pushed inwards by using your thumbs. If the check-lines are equidistant from

the edge of the rim on both sides of the tyre, then the tyre is centered properly. If not - let out the air and position the tyre afresh. Now the tyre can be inflated to its full operating pressure (note the maximum) and the valve cap should be replaced.

When inflating the tyres, always check that the pressure is correct. The correct pressure is given on the tyre sides.

4 Maintenance

⚠ CAUTION: Risk of electrical shocks - Disconnect the batteries to prevent any unwanted current flow before performing any maintenance work.

Lifetime of the electric wheelchair is strongly influenced by its use, storage, regular maintenance, servicing and cleaning.

The device is flame resistant. An escalate burning of the seat and back cushion was not detected during the flammability test with a match-flame equivalent ignition source.

4.1 Regular Maintenance

The maintenance activities to ensure a good condition for your Vermeiren wheelchair are described below:

- Before every ride
 - Check the tyres for visible damage and/or soiling. Remove any dirt as it could impair the motion of the tyres. When a tyre is damaged, please go see an authorized workshop for repair.
 - Check the tyre pressure and inflate them if necessary (only for air tyres)
 - Check the motor brakes and replace if necessary.
 - See that all the screws are tightened properly.
 - Check the electric wheelchair (cleanliness, cracks, damage on structural parts ...) and make it clean. If necessary change the coating.
 - Switch on the electronics after verifying that the motor is engaged. The operator control indicates the level of the batteries. If the battery charge is not sufficient for the intended route, switch off the operator control and charge the batteries.
 - Use the drive electronics display to check that the driving, braking and adjustment features are fully-functional. If these functions are impaired, contact your dealer.

- Every 8 weeks: inspected and possibly lubricating or adjusting from
 - Arm supports, footrests, wheel axles
 - Dirt under the battery cover (carefully remove any dirt as it can corrode the plugs).
 - ⚠ **WARNING: Remove the pole connectors before cleaning the poles of the batteries.**
 - ⚠ **WARNING: Risk of Short circuit - Be careful not to put any objects capable of conducting an electric current between the poles of the batteries.**
 - Dirt / corrosion on the poles of the batteries (be careful to keep the poles of the batteries clean as dirt may damage the batteries).
 - Tighten moving parts that can be removed.
 - Condition of the cushioning materials
 - Profile depth of the wheels

- Every 6 months or for every new user
 - General review
 - Mechanical integrity
 - Cleanness, Disinfection
 - Function of the wheels and check tyre pressure
 - That the charger is working
 - Check the following greasing points:
 - a) All movable parts

For your convenience, on the back of this manual is a maintenance plan.

Repairing and assembling of spare parts for your wheelchair may only be performed by the specialist dealer.

Only authorized Vermeiren spare parts may be installed.

4.2 Shipping and storage

The shipping and storage of the electric wheelchair shall be according following instructions:

- Store in a dry place (between +5 °C and +41 °C).
- The relative humidity of the air should be between 30% and 70%.
- Provide sufficient covering or packaging to protect the electric wheelchair from rust and foreign bodies. (e.g. salt water, sea air, sand, dust).
- Store all removed parts together in one place (or mark them if necessary) to avoid mixing up with other products when re-assembling.
- Components must be stored without being subjected to strains (Do not put too heavy parts on the electric wheelchair, not clamping between something, ...). Grasp the wheelchair by solid frame parts only.
- Check internal cables for squashing and the prevention of kinks.
- Disconnect the power plug of the battery charger.

If batteries are not used, they can completely drain. So if you no longer use your electric wheelchair, you could leave it connected to the battery charger. Charging is automatically controlled by the battery charger. If you remove and store the batteries, kindly note the following:

- Remove the cable clamps from the poles of the battery.
- The positive pole must at least be covered by a pole cap.
- Only grasp the batteries by two opposite sides of the unit.
- Make sure that no objects can make contact with both poles during the time of storage (danger of short circuits!).
- Batteries should only be stored in dry, well-ventilated spaces at a temperature between 0°C and +40°C. Preferred storage temperature: **+20°C**).
- Keep the batteries in the battery boxes for protection against moisture or other external influences.
- Protect the plugs and sockets of the battery boxes against corrosion.
- Protect the batteries against deep discharging (see the chapter on battery charging).

If you have further questions, consult your specialist dealer who will gladly help you in regard to storage and servicing of your batteries.

4.3 Care

4.3.1 Seat and back cushion

The cleaning of the seat and back cushion shall done as follows:

- Clean the seat and back cushion with a cloth moistened in hot water. Take care that you do not soak the cover.
- Use a mild commercial detergent for removing stubborn dirt.
- Stains can be removed by using a sponge or a soft brush.
- Do not use strong cleaning liquids like solvents, nor use hard brushes.
- Never clean with steam and/or pressure washers.

Damage caused by the use of improper cleaning agents is not the responsibility of Vermeiren.

4.3.2 Plastic parts

Clean plastic parts of your electric wheelchair with commercial plastic cleaners. Only use a soft brush or soft sponge. Take note of special product information.

Examples of plastic parts are the footplates, control box, etc.

4.3.3 Coating

The high quality of the surface layer guarantees optimal protection against corrosion. If the outer coating is damaged by scratching or in some other way, get your specialist dealer to repair the affected surface.

When cleaning, only use warm water and normal household detergents and soft brushes and cloths. Ensure that no moisture gets into the components (tubes, electronics, ...).

Initially the chrome parts only require rubbing with a dry cloth. Dull places or stubborn dirt can best be removed by using a suitable commercial chrome polish.

Dulling can be avoided by lightly greasing steel parts with Vaseline.

4.3.4 Electronics

⚠ WARNING: Check the plug connectors for corrosion or damage before every ride, since it could affect the efficiency of the electronics.

⚠ WARNING: Remove the batteries before performing any maintenance, to avoid involuntary conduction of currents.

Wipe the control unit with a cloth moistened by a few drops of a commercial domestic cleaner. Do not use any abrasives or sharp-edged polishing equipment like a metal scrubber or brush, since these can scratch the surface of the operator control.

4.4 Inspection

In principle we recommend one inspection every year, and a minimum of one before usage is resumed. All of the following checks must be performed and documented by authorized persons:

- Visually check the frame parts for plastic deformation, cracks and impaired functioning. (basic frame, seat frame, back frame, side parts, leg supports, motor suspensions)
- Visually check all plastic parts for cracks and brittle spots
- Check the solidity and seating of all screws.
- Visually check all housings for damage, screws must be securely fixed, seals and gaskets should not exhibit visible damage.
- Visually check for damage to the paintwork (danger of corrosion)
- Check the plug connectors for corrosion or damage, since it could affect the efficiency of the electronics.
- Check the operation of the tyres (free running, level rolling, axle play, tyres, profile, condition of the rims, air pressure in the case of air tyres, floating axles, etc.)
- Verify the amount of grease on the metal joints of movable parts
- Check the functioning of the armrests and leg supports (locking, load, deformation, wear caused by loads).
- Check the operation of other detachable parts (example: personal safety belt, fitting back/seat, etc.)
- Check the cabling (especially for: crushing, abrasion, cuts, visible insulation of the inner conductor, visible metallic veins, kinks, lumpiness, color changes of the outer sleeve, brittle spots)
- Electric leads to be securely placed to avoid shearing, crushing and other mechanical stresses and strains.
- For the charger of the electric wheelchair measure the resistance of the protective braid (O) according to VDE 0702-1
- For the charger of the electric wheelchair measure the residual diversion current (A) according to VDE 0702-1
- For the charger of the electric wheelchair measure insulation resistance (MO) according to VDE 0702-1
- Check the functioning of the drives (during a test drive → noises, speed, free running, etc.), if necessary: Measure the performance, first with no load and then with the nominal load ("SWL"), to check for wear and tear of the motors by comparing the values of the electric current with the values when the electric wheelchair was delivered.
- Check the motors for adjustments (seat inclination, back inclination, lift column)
- Check the condition of the batteries, covers and tubes.
- Completeness of the delivery condition, instruction manual available?

Checking measurements may only be carried out by skilled persons trained on the wheelchair and at least under the supervision of an electrician who knows the checking instruments and processes. Only an electrician is able to release the electric wheelchair for use after performing measurements or servicing.

The service must only be confirmed in the maintenance plan if a minimum of all the above-mentioned aspects have been checked.

4.5 Troubleshooting

The following list will assist you with the troubleshooting of your electric wheelchair.

Problem	Cause of problem
The electric wheelchair refuses to go once started. No indication of charge level	<ul style="list-style-type: none"> • Electric wheelchair is not switched on. • Battery plug not connected (batteries not making contact). • Thermal safety fuses disengaged. (check that the fuses of the operator control and the batteries are defective or have burn out) • Batteries defective (totally discharged). • Defective operator control. • Loom of cables defective.
The electric wheelchair refuses to go once started. Charge level insufficient.	<ul style="list-style-type: none"> • Motor/gears in neutral. • Magnetic brake defective. • Motor defective.
Operating error	<ul style="list-style-type: none"> • Possible safety shut down or operating error (joystick). • Put the joystick in neutral position and restart the system.
Thermal safety fuses disengage.	<ul style="list-style-type: none"> • Motor overloaded (see "Technical specifications"). • Thermal safety fuses defective.
Battery error	<ul style="list-style-type: none"> • Check batteries and cabling, if necessary charge. • If necessary, replace batteries.
Batteries cannot be charged.	<ul style="list-style-type: none"> • Batteries not fitted correctly. • Loading socket defective • Wrong charger. • Loading device defective

4.6 Disinfection

⚠ WARNING: Dangerous Products - The use of disinfectants is restricted to authorized personnel.

⚠ WARNING: Dangerous Products, risk of skin irritation - Wear suitable protective clothing. Take note of the product information of the solutions concerned.

All parts of the wheelchair can be treated by scrubbing with a disinfectant.

All steps taken to disinfect rehabilitation equipment, their components or other accessory parts are to be recorded in a disinfection report containing a minimum of the following information (with product documentation appended):

Date of the disinfection	Reason	Specification	Substance and concentration	Signature
--------------------------	--------	---------------	-----------------------------	-----------

Table 7: Example of a disinfection book

Abbreviations used in column 2 (reason):

V = Suspected infection IF = Infection case W = Repetition I = Inspection

For a blank sheet of a disinfection book see § 9.

The recommended disinfectants for scrubbing (based on the list provided by the Robert Koch Institute, RKI) are standing in the table below. The current state of the disinfectants included in the RKI list can be obtained from the Robert Koch Institute (RKI) (homepage: www.rki.de).

Active substance	Product name	Laundry disinfection		Surface disinfection (scrubbing-wiping/disinfection)		Disinfection of excretions 1 part sputum or stools + 2 parts diluted solution or 1 part urine + 1 part diluted solution						Area of effectiveness	Manufacturer or Supplier
		Diluted solution	Time to take effect	Diluted solution	Time to take effect	Sputum		Stools		Urine			
						Diluted solution	Time to take effect	Diluted solution	Time to take effect	Diluted solution	Time to take effect		
		%	Hr.	%	Hr.	%	Hr.	%	Hr.	%	Hr.		
Phenol or phenol derivative	Amocid	1	12	5	6	5	4	5	6	5	2	A	Lysoform
	Gevisol	0,5	12	5	4	5	4	5	6	5	2	A	Schülke & Mayr
	Helipur			6	4	6	4	6	6	6	2	A	B. Braun
	m-cresylic soap solution (DAB 6)	1	12	5	4							A	
	Phenol	1	12	3	2							A	
Chlorine, organic or inorganic substances with active chlorine	Chloramin-T DAB 9	1,5	12	2,5	2	5	4					A ¹ B	
	Clorina	1,5	12	2,5	2	5	4					A ¹ B	Lysoform
	Trichlorol	2	12	3	2	6	4					A ¹ B	Lysoform
Per combinations	Apesin AP100 ²			4	4							AB	Tana PROFESSIONAL
	Dismozon pur ²			4	1							AB	Bode Chemie
	Perform ²			3	4							AB	Schülke & Mayr
	Wofesteril ²			2	4							AB	Kesla Pharma
Formaldehyde and/or other aldehydes or derivatives	Aldasan 2000			4	4							AB	Lysoform
	Antifect FD 10			3	4							AB	Schülke & Mayr
	Antiseptica surface disinfection 7			3	6							AB	Antiseptica
	Apesin AP30			5	4							A	Tana PROFESSIONAL
	Bacillocid special			6	4							AB	Bode Chemie
	Buraton 10F			3	4							AB	Schülke & Mayr
	Desomed A 2000			3	6							AB	Desomed
	Hospital disinfectant cleaner			8	6							AB	Dreiturm
	Desomed Perfekt			7	4							AB*	Desomed
	Formaldehyde-solution (DAB 10), (formaline)	1,5	12	3	4							AB	
	Incidin Perfekt	1	12	3	4							AB	Ecolab
	Incidin Plus			8	6							A	Ecolab
	Kohrsolin	2	12	3	4							AB	Bode Chemie
	Lysoform	4	12	5	6							AB	Lysoform
	Lysoformin	3	12	5	6							AB	Lysoform
	Lysoformin 2000			4	6							AB	Lysoform
	Melsept	2	12	4	6							AB	B. Braun
	Melsitt	4	12	10	4							AB	B. Braun
	Minutil	2	12	6	4							AB	Ecolab
	Multidor			3	6							AB	Ecolab
Nüscosept			5	4							AB	Dr. Nüsken Chemie	
Optisept			7	4							AB*	Dr. Schumacher	
Pursept-FD			7	4							AB*	Merz	
Ultrasol F	3	12	5	4							AB	Fresenius Kabi	
Amphoteric surfactants (amfotensiden)	Tensodur 103	2	12									A	MFH Marienfelde
Lye	Lime-milk ³							20	6			A ³ B	

1 Not effective against myco-bacteria when service disinfecting, especially in the presence of blood.
 2 Not suitable for disinfecting blood-contaminated or porous surfaces (e.g. raw wood).
 3 Useless for tuberculosis; preparation of Lime-milk: 1 part dissolved lime (calcium hydroxide) + 3 parts water.
 * Checked for effectiveness on viruses in accordance with checking methods of the RKI (Federal Health Reporting 38 (1995) 242).
 A: Suitable for killing vegetative bacterial germs including myco-bacteria as well as fungi, including fungal spores.
 B: Suitable for deactivating viruses.

Table 8: Disinfectants

Kindly consult your specialist dealer if you have queries on matters related to disinfection; he will gladly assist you.

5 Warranty

Excerpt from the "General Business Conditions":

(...)

5. The warranty period for warranty claims is 24 months (12 months for batteries).

(...)

The guarantee excludes damage arising from structural changes to our products, insufficient maintenance, defective or improper handling or storage or the use of non-original parts. Likewise, the guarantee excludes parts or working parts subject to natural wear and tear.

(...)

The terms of the guarantee may differ from country to country. Please contact your dealer for further information.

6 Disposal

When disposing of the electric wheelchair or the batteries observe local regulations or contact your local disposal centre or return the product to your specialist dealer who, after submitting it to a hygienic procedure, will be able to send it back to the manufacturer who will dispose of and recycle it correctly, separating it into its component materials.

The manufacturer is responsible for taking back and recycling the electric wheelchair and shall meet the requirements of European Directive 2002/96/EC on Waste Electrical and Electronic Equipment.

Packaging materials can be taken to disposal or recycling centers or to your specialist dealer.

7 Declaration of conformity

The manufacturer or his authorized representative :

N.V. VERMEIREN N.V

Address :

Vermeirenplein 1/15

2920 Kalmthout

Belgium

declares under his sole responsibility that the CE marked medical devices :

Productgroup: Electronic wheelchairs

Brand: Vermeiren

Type: Navix

have been classified as class I, according to annex IX MDD 93/42/EEC, rule 12,

and is manufactured in full conformity with the European instructions below - including the latest modifications - and with the national law, that organizes this directions :

Medical devices directive MDD 93/42/EEC: 2007

and is in conformity with the relevant European harmonized standards:

EN 12184: 2009



SERVICE

The electric wheelchair was serviced:

Dealer's stamp:

Date:

Dealer's stamp:

Date:

Dealer's stamp:

Date:

Dealer's stamp:

Date:

Dealer's stamp:

Date:

Dealer's stamp:

Date:

Dealer's stamp:

Date:

Dealer's stamp:

Date:

Dealer's stamp:

Date:

Dealer's stamp:

Date:

- For service checklists an additional technical information, please see our specialist dealers nearest to you. More information on our website at: www.vermeiren.com.

ITALIANO

GARANZIA CONTRATTUALE

La carrozzina manuali sono garantite 5 anni, la carrozzine leggera 4 anni. Le carrozzine elettroniche, tricicli, letti e altri prodotti: 2 anno contro tutti i difetti di costruzione o di materiale (batterie 6 mesi). Multiposizioni 3 anni. Questa garanzia e' limitata alle sostituzione di parti riconosciute difettose.

CONDIZIONI

Per far valere la garanzia, e' necessario indirizzarla al vostro distributore di fiducia che presentera' al produttore il tagliando.

RISERVE

Questa garanzia non potra' essere applicata nei seguenti casi:

- danno dovuto al cattivo ed improprio utilizzo della carrozzina,
- danno subito durante il trasporto,
- incidente o caduta,
- smontaggio, modifica, o riparazione effettuate in proprio,
- usura abituale della carrozzina,
- invio del tagliando di garanzia con la data di acquisto.



VERMEIREN



**WAARBORG
GARANTIE
WARRANTY
GARANTIE
GARANZIA**

N.V. VERMEIREN N.V.
VERMEIRENPLEIN 1-15
B-2920 Kalmthout
Tel.: 00 32 (0)3 620 20 20
Fax: 00 32 (0)3 666 48 94
www.vermeiren.com

B

Naam/Nom/Name

Name/Nome

Adres/Adresse/Address

Adresse/Indirizzo

Woonplaats/Domicile/Home

Wohnort/Citta

E-mail

Artikel/Article/Article

Artike/Articolo

Reeks nr./N° de série/Serie nr.

Serien-Nr./No. di serie

Aankoopdatum/Date d'achat/Date of purchase

Kaufdatum/Data di acquisto

Stempel verkoper/Timbre du vendeur

Dealer stamp/Händlerstempel

Timbro del rivenditore

A

Naam/Nom/Name

Name/Nome

Adres/Adresse/Address

Adresse/Indirizzo

Woonplaats/Domicile/Home

Wohnort/Citta

E-mail

Artikel/Article/Article

Artike/Articolo

Reeks nr./N° de série/Serie nr.

Serien-Nr./No. di serie

Aankoopdatum/Date d'achat/Date of purchase

Kaufdatum/Data di acquisto

Stempel verkoper/Timbre du vendeur

Dealer stamp/Händlerstempel

Timbro del rivenditore

NEDERLANDS

CONTRACTUELE GARANTIE

Op de manuele rolstoelen geven wij 5 jaar, lichtgewicht rolstoelen 4 jaar. Op de elektronische rolstoelen, driewielers, bedden en andere producten : 2 jaar waarbij op constructie - of materiaalhouren (batterijen 6 maanden). Op multiposite rolstoelen geven we 3 jaar waarbij. Deze garantie is uitdrukkelijk beperkt tot de vervanging van defecte stukken of onderdelen.

TOEPASSINGSVOORWAARDEN

Om aanspraak te kunnen maken op de waarborg, bezorgt u het garantiecertificaat dat u heeft bewaard, aan uw Vermeiren dealer. De waarborg is enkel geldig in de zetel van de onderneming.

UITZONDERINGEN

Deze garantie is niet van toepassing in geval van:

- schade te wijten aan het verkeerd gebruik van de rolstoel,
- beschadiging tijdens het transport,
- een val of een ongeval
- een demontage, wijziging of herstelling uitgevoerd buiten onze firma,
- normale slijtage van de rolstoel,
- niet inzenden van de garantiestrook.

FRANCAIS

GARANTIE CONTRACTUELLE

Les fauteuils manuels standard sont garantis 5 ans, les fauteuils ultra légers 4 ans. Les fauteuils électroniques, tricycles, lits et autres produits: 2 ans contre tous vices de construction ou de matériaux (batteries 6 mois). Fauteuils multiposition 3 ans. Cette garantie est expressément limitée au remplacement des éléments ou pièces détachées reconnues défectueuses.

CONDITIONS D'APPLICATION

Pour prétendre à cette garantie, il faut présenter le certificat de garantie que vous avez conservé à votre distributeur Vermeiren. La garantie est uniquement valable au siège de la société.

RESERVES

Cette garantie ne pourra être appliquée en cas de:

- dommage dû à la mauvaise utilisation du fauteuil,
- endommagement pendant le transport,
- accident ou chute,
- démontage, modification ou réparation fait en dehors de notre société,
- usure normale du fauteuil,
- non retour du coupon de garantie.

ENGLISH

CONTRACTUAL WARRANTY

We offer 5 years of warranty on standard wheelchairs, lightweight wheelchairs 4 years. Electronic wheelchairs, tricycles, beds and other products: 2 years (batteries 6 months) and multiposition wheelchairs 3 years. This warranty is limited to the replacement of defective or spare parts.

APPLICATION CONDITIONS

In order to claim this warranty, part "B" of this card has to be given to your official Vermeiren dealer. The warranty is only valid when parts are replaced by Vermeiren in Belgium.

EXCEPTIONS

This warranty is not valid in case of:

- damage due to incorrect usage of the wheelchair,
- damage during transport,
- involvement in an accident,
- a dismount, modification or repair carried outside of our company and/or official Vermeiren dealership,
- normal wear of the wheelchair,
- non-return of the warranty card

DEUTSCH

GARANTIEERKLÄRUNG

Wir garantieren, dass für unsere Rollstühle hochwertige Produkte verwendet werden, die in sorgfältiger Verarbeitung nach dem neuesten Stand der Technik montiert werden. Bevor Ihr Rollstuhl unser Werk verlassen hat, wurde er einer eingehenden Endkontrolle unterzogen, um auch letzte, eventuell vorhandene Mängel aufzuspüren.

Auf Standardrollstühle gewähren wir eine Garantie von 5 Jahren, auf Leichtgewichtrollstühle 4 Jahre, auf elektronische Rollstühle, Dreiräder, Betten und andere Produkte: 2 Jahre (Batterien 6 Monate), auf Multifunktionsrollstühle 3 Jahre.

In dieser Garantie eingeschlossen sind alle Mängel, die auf einen Produkt- oder Verarbeitungsfehler zurückzuführen sind. Dieser Garantie unterliegen keine Schäden aus unsachgemäßer Benutzung. Ebenfalls sind Verschleißteile von der Garantie ausgenommen.

Sollte einmal der Fall eingetreten sein, dass Sie aus berechtigtem Grunde mit Ihrem Rollstuhl unzufrieden sind, so wenden Sie sich bitte unverzüglich an Ihren Fachhändler. Er wird sich in enger Zusammenarbeit mit uns darum bemühen, eine für Sie zufriedenstellende Lösung zu finden.

A

- terugsturen binnen de 8 dagen na aankoop of registreer uw product via onze website, <http://www.vermeiren.be/registration>
- à renvoyer dans les 8 jours après achat ou registrar votre produit sur notre site, <http://www.vermeiren.be/registration>
- please return within 8 days of date of purchase or register your product at our website, <http://www.vermeiren.be/registration>
- zurückschicken innerhalb von 8 Tagen nach kauf oder registrieren Sie Ihr Produkt auf unserer website, <http://www.vermeiren.be/registration>
- da restituire entro 8 giorni dalla data di acquisto o registri il vostro prodotto al nostro web site, <http://www.vermeiren.be/registration>

B

- in geval van herstelling, kaart "B" bijvoegen.
- en cas de réparation, veuillez ajouter la carte "B".
- in case of repair, please add part "B".
- im Falle einer Reparatur, Karte "B" beifügen
- in case di riparazione, riprocedi la carta "B".

N.V. VERMEIREN N.V.
Vermeirenplein 1/15
B-2920 Kalmthout
BELGIUM



Belgium

N.V. Vermeiren N.V.

Vermeirenplein 1 / 15
B-2920 Kalmthout
Tel: +32(0)3 620 20 20
Fax: +32(0)3 666 48 94
website: www.vermeiren.be
e-mail: info@vermeiren.be

France

Vermeiren France S.A.

Z. I., 5, Rue d'Ennevelin
F-59710 Avelin
Tel: +33(0)3 28 55 07 98
Fax: +33(0)3 20 90 28 89
website: www.vermeiren.fr
e-mail: info@vermeiren.fr

Italy

Reatime S.R.L.

Viale delle Industrie 5
I-20020 Arese MI
Tel: +39 02 99 77 07
Fax: +39 02 93 58 56 17
website: www.reatime.it
e-mail: info@reatime.it

Poland

Vermeiren Polska Sp. z o.o

ul. Łączna 1
PL-55-100 Trzebnica
Tel: +48(0)71 387 42 00
Fax: +48(0)71 387 05 74
website: www.vermeiren.pl
e-mail: info@vermeiren.pl

Spain

Vermeiren Iberica, S.L.

Trens Petits, 6. - Pol. Ind. Mas Xirgu.
17005 Girona
Tel: +34 902 48 72 72
Fax: +34 972 40 50 54
website: www.vermeiren.es
e-mail: info@vermeiren.es

Germany

Vermeiren Deutschland GmbH

Wahlerstraße 12 a
D-40472 Düsseldorf
Tel: +49(0)211 94 27 90
Fax: +49(0)211 65 36 00
website: www.vermeiren.de
e-mail: info@vermeiren.de

Austria

L. Vermeiren Ges. mbH

Winetzhammerstraße 10
A-4030 Linz
Tel: +43(0)732 37 13 66
Fax: +43(0)732 37 13 69
website: www.vermeiren.at
e-mail: info@vermeiren.at

Switzerland

Vermeiren Suisse S.A.

Hühnerhubelstraße 59
CH-3123 Belp
Tel: +41(0)31 818 40 95
Fax: +41(0)31 818 40 98
website: www.vermeiren.ch
e-mail: info@vermeiren.ch

The Netherlands

Vermeiren Nederland B.V.

Domstraat 50
NL-3864 PR Nijkerkerveen
Tel: +31(0)33 2536424
Fax: +31(0)33 2536517
website: www.vermeiren.com
e-mail: info@vermeiren.be

Czech Republic

Vermeiren ČR S.R.O.

Sezemická 2757/2 - VGP Park
193 00 Praha 9 - Horní Počernice
Tel: +420 731 653 639
Fax: +420 596 121 976
website: www.vermeiren.cz
e-mail: info@vermeiren.cz