



WOLTURNUS

# User's Manual

For Rex 350



Wolturnus A/S recommends that you read this manual before using the wheelchair.



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# 1 Introduction

## 1.1 Foreword

This user manual provides users and helpers with essential information about the design, functions, use and maintenance of the Wolturnus Rex 350 wheelchair for adults, throughout the rest of this manual this model will be described as the wheelchair. The manual contains the information necessary to ensure safe use of the wheelchair. It contains troubleshooting information with, where applicable, solutions.

The wheelchair is an electric wheelchair with a high-strength aluminium frame. The wheelchair design makes it as easy as possible for the user to operate the chair independently. The wheelchair is custom-built according to the user's instructions. This ensures that the wheelchair precisely meets the individual user's requirements. The wheelchair is ideal for users who want to have an active daily life, indoors and outdoors, and be able to move around independently.

The instructions in this manual are essential for safe and correct use of the wheelchair. Before starting to use it, it is important that both the user and helper read these instructions carefully, paying special attention to the safety instructions. The information will also ensure that the user gets full advantage of the wheelchair's features and functions. Visually impaired users may obtain this information by having another person read for them. Furthermore, the manual is available on [www.wolturnus.dk/en/](http://www.wolturnus.dk/en/) where it is possible to enlarge the text or have the text read up by a suitable computer program. Keep this user manual throughout the lifetime of the wheelchair: it contains information that can answer future questions and it contains guidelines for adjusting and adapting the chair.

This user manual has been produced in accordance with DS EN82079-1 'Preparation of instructions for use - Structuring, content and presentation'. It is divided into sections. The heading on each page contains the title of the overall section. The foot of each page displays the page number, year, and site of origin of the user manual. It also includes the wheelchair model.

## 1.2. Intended use

The wheelchair is designed for individual mobility, indoors and outdoors. It is only suitable for people who are unable to walk or have a mobility problem, but have unimpaired sight and cognition. Only equipment that is specified in this user manual may be used with this wheelchair, and vice versa.

Wolturnus A/S does not guarantee this product if it is used with accessories or products from manufacturers other than those specified as part of the modular system.

Use of the wheelchair for any purpose other than the aforementioned will be considered incorrect. In the event of incorrect use, the user - i.e. not the manufacturer - is liable for resulting damage to persons or property.

The wheelchair may only be used by practised users. For personal protection and in order to ensure that the wheelchair is used safely and correctly, it is a requirement that the user and helpers receive training and instruction.

The wheelchair can only be used safely if it is used correctly in accordance with the information provided in this user manual. The user bears final responsibility for accident-free use.

**WARNING!****Risk of injury with incorrect use**

To avoid the risk of getting fingers caught in the rear wheel spokes or seat, and to avoid the risk of the chair tipping, children should not play with the wheelchair.

**1.3 Usage**

The wheelchair's modular design and versatility make it suitable for users who have difficulty walking or who have a mobility handicap as a result of:

- Paralysis
- Loss of limbs (leg amputation)
- Limb defects or deformities
- Damaged or defective limbs
- Other illnesses

When adapting the wheelchair for the user, the following should be taken into account:

- Body height and weight (max. load 140 kg)
- Physical and mental constitution
- Age
- Residential circumstances
- Surroundings

**1.4 Service****INFORMATION**

The wheelchair service and repairs may only be carried out by authorised personnel trained by Wolturnus A/S. In the event of problems, please contact Wolturnus A/S.

In the event of questions or problems that cannot be resolved using this user manual, please contact Wolturnus A/S customer service at (+45) 9671 7170.

Wolturnus A/S strives to provide full assistance to its customers in every respect and thus to ensure total satisfaction with the wheelchair. Wolturnus A/S contact information and a list of service locations can be found in section 13.

In the event that the wheelchair requires repairs at Wolturnus A/S for an extended period of time, a courtesy wheelchair can be borrowed for that period. Please contact Wolturnus A/S for further information.

## 1.5 CE compliance

The wheelchair meets the requirements of European Commission Directive 93/42/EEC for medical devices. The product is classified as Class 1 on the basis of the classification criteria for medical devices in accordance with IX of the directive. Wolturnus A/S has therefore, as manufacturer with sole liability, made a declaration of conformity in accordance with appendix VII of the directive.

## 1.6 Liability

Wolturnus A/S' warranty applies only if the product is used in accordance with the specified circumstances, purpose and instructions. The frame is covered by a 5-year warranty. Other parts manufactured by Wolturnus are covered by a 2-year warranty. Parts that are designed and manufactured by a third-party manufacturer and mounted on a Wolturnus wheelchair are covered by a Wolturnus A/S warranty that is equal to the warranty provided to Wolturnus A/S by the third-party manufacturer.

Wolturnus A/S is not liable for injury or damage caused by:

- Components and parts that are not authorised by Wolturnus A/S.
- Alteration to the original surface treatment.
- Repairs or alterations to the wheelchair that are not carried out by Wolturnus A/S. All warranty repairs will be carried out by Wolturnus A/S.
- Incorrect use of the wheelchair (e.g. to play basketball or rugby), or loads that exceed the construction or specified maximum for the wheelchair (in accordance with directive 93/42/EEC for medical devices).
- Circumstances in which the wheelchair is used by any party other than the original owner/user.
- Circumstances involving bad weather or dangerous situations, or in general all types of predictable negligence.
- Lack of maintenance.
- Cleaning with agents that contain acid or alkaline products, with high-pressure equipment or similar.

To keep updated about this product e.g. regarding new features, safety notice, product recalls check [www.wolturnus.dk](http://www.wolturnus.dk). Contact information and overview concerning all of Wolturnus's products are available at the website - or by contacting Wolturnus A/S customer service at (+45) 9671 7170.

## 1.7 Returns

In the event that the wheelchair has to be returned to the supplier or to Wolturnus A/S, e.g. for repairs, it should be transported in its original packaging for optimum protection. Wolturnus A/S therefore recommends that the original packaging is retained throughout the lifetime of the wheelchair.

## 2 Safety

### 2.1 Symbols

#### **WARNING!**

Warning about risk of serious accident or injury

#### **CAUTION!**

Warning about risk of accident or injury

#### **NOTICE**

Warning about risk of technical damage

#### **INFORMATION**

Operational and service information

### 2.2 Standards and directives

All safety information in this user manual is based on applicable national laws and regulations in the EU. For other countries, a declaration of conformity with applicable laws and national regulations is required.

In addition to the safety instructions contained in this user manual, the user must be familiar with and must comply with applicable regulations from professional associations, on accident prevention and on environmental protection. All information contained in this user manual must be complied with at all times without limitation. The wheelchair is constructed in accordance with applicable regulations. The wheelchair safety level is approved by CE certification and a declaration of conformity.

### 2.3 General safety instructions

- The electrical wheelchair must only be used correctly.
- The electrical wheelchair must only be used by trained users and must not be used by any other person than the user.
- The electrical wheelchair must only be used to transport one person.
- All safety instructions in this user manual and all other relevant documentation must be kept and complied with throughout the lifetime of the chair. The user manual must always be available to the user.
- The back and seat upholstery have passed the demanded tests for ignition, so they are fire-resistant. Nevertheless extreme care should be taken when in the vicinity of flammable items and fire, including, for example, lighted cigarettes.
- To avoid discomfort when using the chair, damaged back or seat upholstery should be replaced as soon as possible.
- Do not force the chair over obstacles when using it on hills and slopes.
- The wheelchair must not be used on stairs.
- Avoid getting in or out of the chair while on hills or a slopes.
- The hip strap (accessories) gives the user extra stability. It must never be used as part of the strap attachment system when securing the chair for transport in a vehicle.
- Do not force the wheelchair along on hills or slopes of greater than 10°.
- Do not park on hills or slopes of greater than 10°, not even with the brake pad activated.
- Do not modify your electrical wheelchair.

### 2.4 Safety requirements for transport, assembly and storage

- Only suitable lifting mechanisms may be used when transporting the wheelchair.
- Do not lift the electrical wheelchair in its seat frame.
- Avoid touching any electrical components when transporting the electrical wheelchair.
- Make sure all moveable components are put into a locked position.
- The wheel locks must be applied when transporting with a lifting platform in situations where the chair must be stationary, e.g. in lifts, buses, trains etc.
- The wheelchair must, to the degree possible, be placed in the middle of the platform and all components, e.g. the anti-tip device, must be clear of any area where there is a risk of them being caught during transport.
- When adjusting and adapting the chair, all attachment features, e.g. screws and nuts, must be fastened according to instructions.
- All electronic components must be turned off during transport.
- For transport in vehicles we recommend that, whenever possible, the user is transferred to the vehicle's own seats and uses the vehicle's own safety belts. If this is not possible, and the user therefore must remain in the chair, there must be an approved, mounted docking system in the vehicle.



## 2.5 Safety requirements during use




- The user and helpers must always ensure that the chair and its safety features are in proper and safe condition before using the chair.
- The electrical wheelchair must be inspected by a Wolturnus-authorized specialist at least once every year in order to ensure that the chair is in proper working order and safe to use.
- The chair must immediately cease to be used if any feature is defective or not operational or if any other circumstance arises which could lead to injury.
- Before starting to use the electrical wheelchair, all mechanical adjustments (positioning the seat, accessories, etc.) must be carried out in accordance with the user's individual requirements and abilities. These adjustments may only be carried out by Wolturnus-authorized specialists.
- 140 kg is the maximum load for the electrical wheelchair. It must not be exceeded.
- The wheelchair tyres must be inspected visually before use to ensure that there is sufficient tread depth and correct tyre pressure. The correct pressure is printed on the tyre.
- The electrical wheelchair should only be used on areas meant for pedestrians, do not ride it in traffic and on roads.
- The wheelchair should not be used on slippery surfaces (e.g. ice) or on very rough terrain (e.g. on gravel or small stones).
- When getting in and out of the wheelchair, the user's full weight should not be placed on the footrest or armrests. These cannot bear full body weight.
- Only change direction at reduced speed.
- The wheelchair must only be lifted by gripping the frame parts. Do not grip the footrest or armrests or seat frame to lift the electrical wheelchair.
- The wheelchair must not be exposed to extreme temperatures, to high humidity or to environments with chlorine (e.g. in saunas or at swimming pools).
- The wheelchair's surface temperature can raise if it is exposed to high heat, e.g. in strong sunlight for an extended period of time. There is also a risk of too low a surface temperature in the event of extreme cold.
- The anti-tip device should always be used, do not dismount the anti-tip wheels.
- Never place fingers between the rear wheel spokes or under the seat. Caution is advised when travelling through narrow passages.
- The electrical wheelchair elevation feature is only meant to be used on level ground and in a parked state.
- Always use seatbelt while using the elevation feature.
- Be aware of surroundings when lowering the seat, to avoid any alien elements from interfering.
- Do not interfere with, repair or change any electrical components.
- Do not approach any obstacles at an angle.

## 2.6 User requirements

- Before starting to use the wheelchair, the user and any helpers must read the user manual thoroughly and be familiar with its contents.
- The electrical wheelchair must only be used by trained users. To ensure this, the user and any helpers will receive instruction in use of the chair from Wolturnus-authorized specialists.

## 2.7 Type Labels

A type label is attached to the wheelchair. The type label includes the following information:

	Caution
	The wheelchairs year of production
	Read the user's manual before using the wheelchair

The labels are placed shown on image 1.

See the manual for fixation of wheelchair in motorvehicles for information about car fixation and safety.

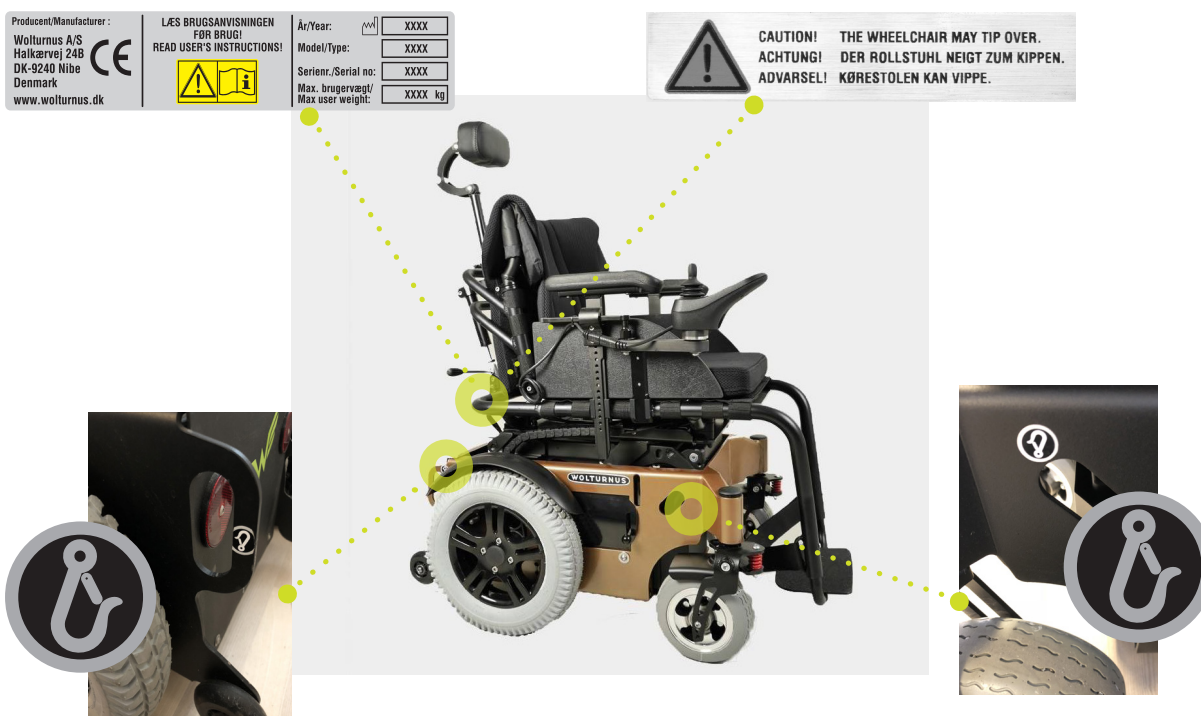


Image 1 Location of type label, anti-tip warning, and restraining points

### 3 Product description

Rex 350 is a reliable and stable electric wheelchair with a top speed of up to 14 km/h (6 or 7,2 km/h is standard). It has a range of up to 45 km depending on the battery type and the terrain. Steering by an attendant can be choosed, if the user is not able to drive the wheelchair himself.

The narrow and low-noise electric wheelchair gives good opportunities to change the seating position and offers up to five different electrically seat adjustments - e.g. elastic leg supports, adjustable back angle and electric seat lift and tilt.

The sturdy electric wheelchair is classified as a class B electrically powered wheelchair cf. EN 12184, which means that the wheelchair can be used indoors and outdoors.

Due to the modular design, additional equipment and accessories can be purchased and retrofitted. A range of accessories is described in section 7. The entire range of accessories, spare parts and additional equipment can be seen at the Wolturnus A/S web shop [www.wshoppen.dk](http://www.wshoppen.dk).



Image 2 Rex 350 from behind



Image 3 Rex 350 seat lift and seat tilt

## 4 Delivery and preparation for use

### 4.1 Delivery

Delivery covers:

- The wheelchair with main components
- User manual
- Selected accessories (Accessories range: see section 7)

#### INFORMATION

The range of accessories are determined by the product configuration that the user chooses when ordering the wheelchair.

#### WARNING!

The wheelchair may tip over. Wolturnus recommends to use the anti-tip device at all times.

Wolturnus A/S delivers the wheelchair ready for use. All configurations that are part of the order have been made or will be made upon delivery by the supplier or a consultant. The wheelchair is adapted to meet the user's personal wishes and requirements.

The wheelchair's functions can be tested by following the instructions in section 6.

Troubleshooting: see section 9.

### 4.2 Preparation for use

Before starting to use the wheelchair, it must be inspected to ensure that it is complete (image 3) and that all functions are in proper working order. Wolturnus A/S delivers the wheelchair ready for use.

#### Main components (image 4):

1. Neck support
2. Armrest and sideguards
3. Controller
4. Eye for fastening the wheelchair
5. Anti-tip
6. Rear wheel
7. Wheelchair electrical engine
8. Castors
9. Footrest



Image 4 Main components

## 5 Transport and storage

### 5.1 Transport

Wolturnus A/S recommends looking through all the safety information before using or transporting the product. It is advised not to disassemble the chair before transport, but to use CE certified products recommended by Wolturnus A/S, as mentioned in section 1.5, for more information contact Wolturnus A/S customer support at (+45) 9671 7170 or on Mail: [info@wolturnus.dk](mailto:info@wolturnus.dk)

#### INFORMATION

Wolturnus A/S does not cover any cost related to accidents with non-approved external components. See the manual for fixation of wheelchair in motorvehicles for information about car fixation and safety.

#### WARNING!

The wheelchair may tip over. Wolturnus recommends to use the anti-tip device at all times.

#### CAUTION!

Be sure to read all safety instructions before handling the electrical wheelchair, to avoid damage to people or property.

### 5.2 Transfer

The method of transferring in and out of the wheelchair is an individual choice made by the wheelchair user, but it is recommended to have a trained professional present while learning new transfer methods.

The following description is based on transfer without third-party help and from one wheelchair to another.

- Make sure the power is turned off before starting the transfer.
- Make sure the casters are turning the direction of the transfer, this will provide more stability to your transfer.
- Make sure armrests and seatbelts are not in the way of the transfer.
- If you have a foldable footrest, fold them up and out of the way. Otherwise take your feet out of the footrest.
- Make sure you are as close to the transferring object as possible.
- If the transferring object is a wheelchair, make sure its wheel locks are applied.
- Make the transfer, while containing stability and control.

## WARNING!

Make sure the electrical wheelchair is turned off and secured, before making any transfers

## CAUTION!

### **Risk of damage due to overload.**

When getting in and out of the chair, the user must not place full body weight on the footrest or armrests. (This may cause the chair to tip or break)

## CAUTION!

The wheel locks must be applied during transfer.

## INFORMATION

For longer standstills or heavy heating of the tires (e.g. near radiators or by sunlight) the tires can be deformed permanently. Therefore, keep sufficient distance from heat sources, move the chair in between or make sure you can cover up the wheelchair for long-term storage.

## 6 Adjustment and set-up

### 6.1 Adjustable features

#### CAUTION!

##### Risk of accident due to loose screws

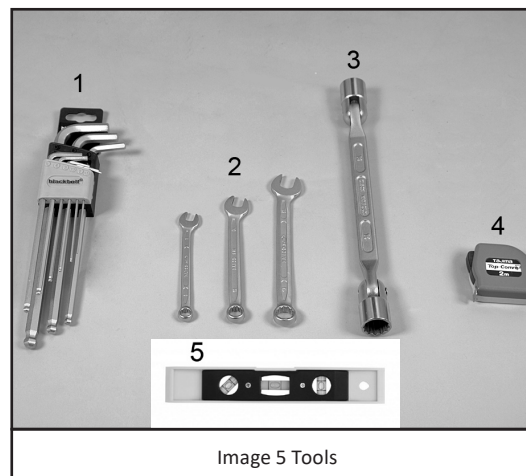
After loosening threaded screws, they must be replaced with new screws or secured again with a medium-strength thread paste (e.g. EuroLock A24.20). After making adjustments to the wheelchair, screws and nuts must be tightened correctly.

The wheelchair can be adjusted in various ways. When delivered, the height, width and angle of the seat and the back have been positioned in accordance with the customer's order as received by Wolturnus A/S. Wolturnus A/S recommends not to adjust the electrical wheelchair without the supervision of a professional trained by Wolturnus A/S.

### 6.2 Tools

The following tools (image 5) are necessary for adjustments and settings described in this section:

- 3 mm Allen key (1)
- 4 mm Allen key (1)
- 5 mm Allen key (1)
- 6 mm Allen key (1)
- 8 mm single-head wrench (2)
- 10 mm single-head wrench (2)
- 13 mm single-head wrench (2)
- 17 mm socket wrench
- Torque wrench (3)
- Measuring tape (4)
- A bubble level (5)



#### NOTICE

Damaged tools or incorrect use of tools can result in injury or in damage to the chair.



### 6.3 Adjusting back depth and form

The back's form can be adjusted to suit the individual user's requirements for support and balance. The Velcro straps under the back upholstery are used to adjust it.

- Fold up the back of the backrest upholstery so that the Velcro straps are visible (image 6).
- Loosen or tighten individual straps so that the back's form suits the user's requirements (image 6).
- Fold down the back upholstery and secure it to the straps.

Adjustment of the back form and depth greatly affects the benefit the user gets from the chair. Wolturnus A/S recommends that form and depth are initially adjusted with assistance from a Wolturnus A/S consultant or from the user's therapist.



#### **WARNING!**

When the seat and/or back upholstery straps have been adjusted, the wheelchair's point of gravity may have shifted, which may create a risk of backward tipping. Therefore, after adjusting the seat and/or back upholstery, check the point of gravity and, if necessary, adjust it before using the chair. (See section 6.10).

#### 6.4 Adjusting back height (only height-adjustable back)

- The back height can be steplessly adjusted to meet requirements.
- Remove the back upholstery and top.
- Press the spring lock in and either raise or lower the height bar for the back.
- To adjust the height even further, the height bar can be removed and reversed (image 7).
- Mount the back upholstery and top again.



Image 7 Press the spring lock in



Image 8 For further height adjustment

#### 6.5 Adjusting seat depth and form

- Remove the seat cushion and the front section of the seat cover (image 9).
- Adjust the Velcro straps on the rear section of the seat cover by tightening or loosening them to meet the user's requirements (image 10).
- Mount the front section of the seat cover and tighten the Velcro strap at the front.
- Mount the seat cushion.



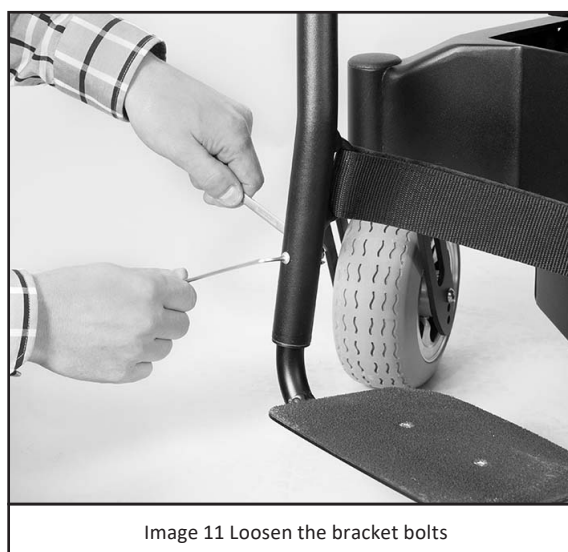
Image 9 Remove the front section



Image 10 Adjust the Velcro straps

## 6.6 Adjusting footrest height

- Use a 3 mm Allen key and an 8 mm wrench to loosen and remove both nuts at the back of the fore-frame (image 11).
- Remove the bolt so that the footrest can freely slide within the fore-frame tube.
- Raise or lower the footrest to the desired height, making sure that the holes in the footrest and the front-frame are aligned. Make sure that the footrest is not lopsided (image 11).
- Mount the clamps and nuts and tighten them (Tension 4 Nm/3,0 ft.lbf/35 in.lbf). If tightened too much, the frame could bend.



## 6.7 Adjusting footrest angle

- Use a 4 mm Allen key and 10 mm single-head wrench to loosen the nuts on the bracket underneath the foot plate (image 12).
- Turn the foot plate until it is at the desired angle (image 12).
- Tighten the nuts.



### 6.8 Adjusting foot plate position

- The foot plate itself can be adjusted and moved further back or forward.
- Use a 4 mm Allen key and 10 mm single-head wrench to loosen the bolts on the foot plate, then remove it (image 13).
- Mount it in the second set of foot plate notches.
- The bracket itself can be reversed so that the holes are positioned to the front of the foot brace. The foot plate can then be moved further forward.
- Pull the bracket to the right until the footrest join is visible.
- Push the left section away so that the bracket can be removed (image 14).



Image 13 Remove bolts



Image 14 Adjust position

### CAUTION!

Never place full body weight on the footrest.

## 7 Accessories and equipment

A wide range of accessories and equipment is available for Wolturnus active wheelchairs. The most popular accessories are described in this section. The full range of accessories and order information are available at the Wolturnus A/S website [www.wolturnus.dk/en/products/7.2](http://www.wolturnus.dk/en/products/7.2)

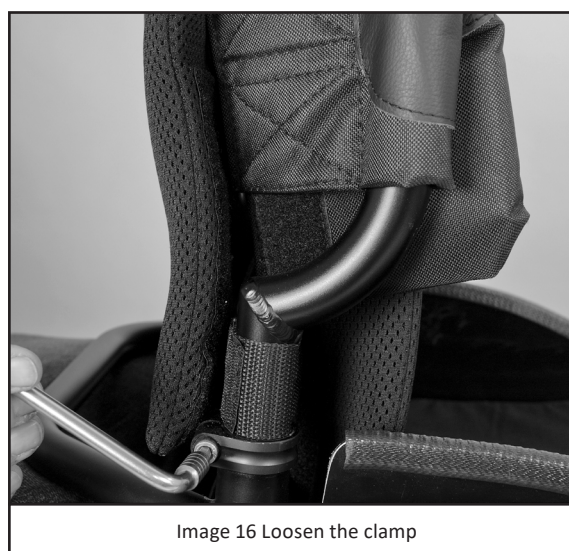
### 7.1 Wing Back multi-adjustable back system

The Wing Back system, developed by Wolturnus A/S, is a combined ergonomic support system for trunk and back that can be optimised. It can be used to meet a wide range of individual seating position requirements (image 15).

The Wing Back system is exceptional because the upper part of the back can be adjusted for depth, width and height and also function as a side/body support. Independently of one another, the left and right sides can be steplessly adjusted. Asymmetric adjustment is therefore possible.

#### *Adjusting the Wing Back system*

- Use a 3 mm Allen key to loosen the clamp until the Wing Back can be moved freely (image 16).
- Adjust the Wing Back height and angle to meet the user's requirements.
- Tighten the clamp.
- Adjust the Velcro straps according to the procedure for a standard back.



## 7.2 Sideguards

The wheelchair is supplied with Dibond sideguards as standard. A range of other sideguards made of different materials, with and without mudguard, is available. The full range of sideguards can be seen at the Wolturnus A/S website [www.wolturnus.dk/en/products/](http://www.wolturnus.dk/en/products/)

## 7.3 Thermal bridge insulation for sideguards

To insulate in order to prevent thermal bridges, sideguards can be covered with neoprene. Aluminium sideguards are particularly well-suited for this treatment as aluminium conducts heat. Neoprene can either be glued on or secured with Velcro. Templates for custom-made sideguards are retained at Wolturnus A/S so that the right neoprene cover can be recreated in the future.

## 7.4 Expansion kit and brackets for fixed sideguards

An expansion kit can be used to change the distance between sideguards and therefore broaden the seat width. It can, for instance, be used to advantage in colder months when bulky clothing is worn.



## 8 Cleaning and maintenance

### 8.1 Maintenance

Each time the wheelchair is used, operational parts, and particularly wheel locks, should be checked to ensure they are in proper working order. After being loosened 2-3 times when making adjustments or changing parts, self-locking nuts should be replaced.

The following table gives an overview of how to maintain the chair and how often.

Component	Function and inspection	Daily	Month	1/4 Year
Tyres	Tyres visibly pumped	X		
	Tyres are not damaged	X		
	Test/adjust tyre pressure (see side of tyre)		X	
	Check thread depth (min. 1 mm)		X	
Rear wheel	Directional stability during use	X		
	Wheels rotate freely without misalignment		X	
	Nuts on rear wheel mounting bracket are tight		X	
Castor	No front fork obstruction		X	
	Wheels rotate freely without misalignment		X	
	Axle bolts correctly tightened		X	
	Cap bolts correctly tightened		X	
Footrest	Any locking mechanisms are in working order		X	
	No obstructions or damage		X	
Upholstery	No damage or wear to upholstery		X	
	Securing straps function		X	
	Seat and back upholstery correctly positioned		X	
Side panels and armrests	Arm rest cushion is not loose	X		
	Side panel and armrest mounting nuts and bolts are tightened.		X	
Screws	All nuts and screws are tightened			X
Controller	Check controller functions properly before use	X		

### NOTICE

Do not maintain the electrical wheelchair when operated.

In the event of faults or missing parts, contact the supplier or Wolturnus A/S. Contact information: see section 13.

Wolturnus A/S recommends that the wheelchair is serviced at least once a year by the supplier or Wolturnus A/S.

**NOTICE**

The wheelchair must not be used in salt water. Avoid getting salt, sand and other dirt that can cause damage in the wheel bearings, castor mounting bracket or rear wheels. If this happens, the bearings should be replaced.

**8.2 Cleaning and disinfection**

The wheelchair should be cleaned regularly according to how often it is used and how dirty it is.

Clean the frame, plastic parts and wheels with a mild cleaning agent. After cleaning, dry all parts with a dry cloth.

Clean cushions and upholstery with warm water and washing-up liquid. Remove stains with a sponge or soft brush. Rinse afterwards with clean water and allow the parts to dry before mounting and using.

To disinfect, use water-based agents and follow the manufacturer's instructions, yet keep away all water-based agents from any and all electrical components.

**NOTICE**

Do not use corrosive cleaning agents, solvents or hard brushes.

**NOTICE**

Do not wet-wash. Do not use high-pressure equipment or a water jet. The wheelchair components must not be put in a washing machine. Keep all types of liquids and fluids away from any electrical components.

**NOTICE**

Clean the seat and back upholstery, cushions, handles and armrest before disinfecting.

**CAUTION!**

The wheelchair control panel must be switched off and the brakes must be engaged before wheel or tire change.



### 8.3 Replacement of air-drive wheels, tyres, tube

#### Replacing drive wheels:

- Replacing the drive wheels is done by raising one side of the rear of the wheelchair so that the tyre / wheel is free of ground.
- The drive wheel is removed by removing 4 screws using a 6 mm Allen key.
- When replacing the drive wheel tire or tube, the rim must be separated by disassembling 5 Allen screws using a 6 mm Allen key on the inside of the wheel, after which the two-part rim can be separated. The defective tyre or tube can now be replaced.



## INFORMATION

Unnecessary outdoor activity should be avoided. Regardless of the wear, the tyres should be replaced at an interval of 2 years.

#### Replacement of front wheels & fork:

- Replacing the front wheel is done by raising the wheelchair so that the tyre is free of ground.
- The front wheel is dismantled by removing 2 screws using 5 mm Allen keys.
- To access the nut, remove the cover plug using a suitable tool such as a screwdriver.
- The front wheel fork is then dismantled using a 17 mm wrench.



## 9 Troubleshooting

During routine maintenance, it may be necessary to make adjustments or repair faults. In most cases, the solution to the problem can be found on the following list:

Problem	Solution	Reference
Castor makes noise or is resistant	<ul style="list-style-type: none"> <li>• Check if there is dirt between the fork and castor or dirt in the fork ball-bearings.</li> <li>• Clean off the dirt and tighten the screws. If they do not roll freely, change the ball-bearings.</li> </ul>	<p>Section 8.3</p> <p>Section 8.2</p>
Front fork shakes	<ul style="list-style-type: none"> <li>• Loosen and remove the bearing housing cap and tighten the nut to a degree where the front fork with wheel can still easily rotate.</li> <li>• Make sure the castor is vertical.</li> </ul>	Section 8.3
Loud clicking noise	<ul style="list-style-type: none"> <li>• Check and tighten the screws in the rear wheel and castor mounting brackets</li> </ul>	<p>Section 8.3</p> <p>Section 8.3</p>
Footrest is lopsided	<ul style="list-style-type: none"> <li>• Check that the foot plate is horizontal and adjust the footrest height.</li> </ul>	Section 6.8

If the problem cannot be solved with the aid of the troubleshooting section, contact the supplier or Wolturnus A/S. Contact information: section 13.

The fault display is via the flashing LED indicator "Battery gauge" on the control panel. Table 1 explains the individual codes with associated error sources as well as possible causes and measures.

If the errors cannot be completely remedied by the measures described, the authorized dealer is able to read the exact error code and perform a more detailed system analysis with the hand-held programmer.

All faults that have occurred are stored in a list and can be read out by a main inspection of the electric wheelchair. Based on the saved data, additional service and maintenance intervals can be planned.

### 9.1 Warning

A warning indicates the status or malfunction of one or more components. Components without errors are not limited in their function.

### 9.2 Error

In case of communication problems in the control bus system, the system triggers an emergency stop to avoid uncontrolled functions. The wheelchair can be driven out of a danger zone, for example by means of the control again. road traffic.

If the wheelchair is not ready for operation after switching on, the push function can be set by loosening the brake (see chapter 6.4). Contact Wolturnus A / S immediately after an emergency stop!

#### **WARNING!**

Risk of accidents due to uncontrolled driving behavior:

When operating the electric wheelchair, uncontrolled movements may occur due to interference. In this case, contact Wolturnus A / S immediately..

Malfunction of the steering:

The control shows a fault signal on the control panel when the brake is released and the joystick is operated. If this is not the case, a malfunction exists which must be remedied immediately by an authorized dealer.

An error can affect one or more of the electric wheelchair's functions. Until the fault is rectified, the system is not fully operational.

#### **WARNING!**

Risk of injury due to abrupt stop of the electric wheelchair.





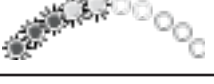
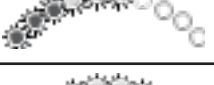





Flashing LED	Error/Warning	Reason	Possible solution
	Battery undervoltage	Battery deep discharge Battery cable error / faulty connection to battery	Charge the battery Check the connection to the battery
	Wrong wiring on left motor Defective motor	E.g. faulty connector	Check connection to the left motor Check the motor
	Short circuit on battery connection to the left motor	E.g. defective cable	Check the battery connection to the left motor
	Wrong wiring on right motor Defective motor	E.g. faulty connector	Check connection to the right motor Check the motor
	Short circuit on battery connection to the right motor	E.g. defective cable	Check the battery connection to the right motor
	Driving function blocked due to outside influences	The charger is connected	Remove the charger
	Joystick error	Joystick not in zero position when switching on	Bring the joystick to zero position before switching on
	Error in control box	Defective control box	Check all connections
	Brake released	The brake lock is open	Check motor brakes Check the connection to the controller
	Battery overvoltage	Voltage is too high Loose battery contacts	Drive slowly Check battery connection
	Communication error between control panel (joystick) and control box	Defective cable, loose connector	Check the connections

Table 1. Control panel LED indicators, codes, error sources and solutions

## 10 Technical data

Weights and Measures	Rex 350
Seat Width (SW) [mm]	260-480
Total Width (TW) [mm]	530-570
Seat Width - adjustability	No
Seat Depth (SD) [mm]	390-440
Seat Depth - adjustability	Yes
Total Length (TL) [mm]	970
Total Length Folded [mm]	
Total Height [mm]	
Folded Height [mm]	
Seat Height, front and rear (SH-f/r) [mm]	400-500 (0-30° with electric seat tilt)
Seat Height - adjustability	
Stepless Seating Angling	0-20° mechanical, 0-30° electric tilt
Footrest to Seat (VSL) [mm]	390-450
Leg to seat surface angle	75°-100°
Adjustable Foot Support	0-20° gascylinder, 0-30° electric
Back Height (BH) [mm]	320-380
Back Height - adjustability	Yes
Backrest Angle - adjustability	Yes
Stepless Back Angling	0-30° (Adjustable with screw, with gas cylinder or electric)
Locking of Back when Folded	
Front Frame Model	U/U-V
Turning Radius [mm]	1000
Max. Tare-weight [kg]	
User Weight	Max. 140 kg
Rear Wheel Camber	0°
Back to Rear Axel (RA) [mm]	
Rear Axle - adjustability	
(Optional) Securing in Vehicles	Yes
(Optional) Arm Rest	Yes
Height Seat Tube to Armrest (AS) [mm]	200-300
Backrest to Front Armrest	280-290
Anti-tip Device	Yes
Rear wheel	12,5" grey puncture-proof
Castors	7" grey puncture-proof

<b>Weights and Measures</b>		<b>Rex 350</b>
Speed Limit	7,2 km/t (optional 10 or 14 km/t)	
Min. braking distance from max speed [mm]		
Range*	30 km with 50 Ah / 5H Gel-battery (standard) 45 km with 70 Ah / 5H Gel-battery 40 km with 40 Ah Lithium-ion battery	
Charging Time	From 6 hours	
Obstructs Obstacles up to [mm]	50	
Ground Clearance [mm]	80	
Hill Climbing	10°	

<b>Stability Direction</b>	<b>Scenario</b>	<b>Tipping Angle</b>
Downhill	Front Wheels Unlocked	15°
	Driving Wheels Locked	7°
Uphill	Driving Wheels Unlocked	11°
	With Anti-tip Devices Engaged	15°
Sideways	Left	15°
	Right	15°

\*The distance will be reduced if the wheelchair is used frequently on slopes and rough terrain.

SW	Seat Width	RA	Front of Back to Center Rear Axel
SD	Seat Depth	BF	Front of Back to front Footrest
SH-r	Seat Height rear	FF	Inner Front Frame
SH-f	Seat Height front	CW	Center Caster bearings
BH	Back Height	TW	Total Width
AS	Height Armrest to Seat Tube	TL	Total Length
VSL	Seat Surface to Rear Footrest		

## 11 Instructions for reuse

### 11.1 Instructions for reuse

The active wheelchair is suitable for reuse by a subsequent new owner. As the wheelchair is individual and custom-made, it is essential that the chair measurements and equipment are tailored to suit the new user. As with machinery and vehicles, there will be wear and tear. It is therefore important to ensure that the chair's functions and features have not been altered to a degree that could create a safety risk for the new user or any third parties during the lifetime of the chair.

Based on market studies and on its knowledge of contemporary technology, Wolturnus A/S has calculated that the active wheelchair, when used, serviced and maintained in accordance with the original instructions, has a five-year lifetime (excluding time kept in storage by an authorised dealership or the user). Note that with careful care and proper use, the active wheelchair can be used for a longer period than the defined lifetime.

Prior to reuse, the wheelchair must be carefully cleaned and disinfected. The product must then be inspected by an authorised specialist to assess its condition, wear and tear and damage. All worn or damaged parts and components that do not suit or are not designed for the new user must be replaced. This user manual includes a service plan (see maintenance chart section 8) and detailed information about the wheelchair.

### 11.2 Disposal

The wheelchair is delivered in a brown cardboard box that can be delivered to recycling centres or cardboard collection points. The protective bubble wrap on the frame must be disposed of as combustible waste. The aluminium frame must be disposed of as metal. The upholstery and side panels must be disposed of as combustible waste.

## 12 Environment

Wolturnus A/S strives to respect the environment to the greatest degree possible. An assessment has been done to determine the wheelchair's effect on the environment during its life cycle. During development, materials and forms are chosen that minimise waste of energy and material during production.

Wolturnus A/S has a unique approach to individual user measurement and to subsequent tailoring of the chair to meet the user's needs. Combined with the wheelchair's high mechanical quality, this ensures that the user can use the wheelchair for many years. The wheelchair lifetime is calculated to be approximately five years if it is maintained according to the instructions in this user manual. The long lifetime limits its effect on the environment.

Furthermore, meticulous quality control throughout the production process ensures that faults are rare, which limits the need to use superfluous resources on repairs or replacement products.

Generally, all work at Wolturnus A/S is carried out with respect for the environment. Aluminium residue after the production process is collected in containers and delivered for recycling. During the mounting process, use of hazardous agents is kept to a minimum and the work processes meet occupational safety requirements (APV). Use of material is continually optimized to ensure minimum waste.



## 13 Producent og service locations

### Service locations

In Denmark, authorised sales consultants throughout the country are in direct contact with Wolturnus A/S about spare parts, service and repairs.

Authorised distributors for Wolturnus A/S abroad:

- Finland: Respecta
- The Netherlands: Double Performance
- New Zealand: Euromedical
- Germany, Austria and the Czech Republic: Otto Bock

After-sales spare parts are available for all Wolturnus wheelchairs.

### Manufacturer

Wolturnus A/S

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Danmark

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Email: [info@wolturnus.dk](mailto:info@wolturnus.dk)

Webide: <http://www.wolturnus.dk>

Webshop for purchasing equipment and spare parts: <http://www.wolturnus.dk/en/products/>

Wolturnus A/S active wheelchairs are CE and TÜV approved in accordance with the requirements of Directive 93/42/EEC for medical devices (Class 1) and DS/EN 12183.





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**WOLTORNUS**