

# UNAwheel Maxi



## User Manual



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# Contents

<b>Preface</b>	<b>4</b>	<b>5 Use of the UNAwheel Maxi</b>	<b>27</b>
<b>Compliance</b>	<b>5</b>	5.1 Controls	28
<b>Copyright &amp; Disclaimer</b>	<b>6</b>	5.2 Functions of the display	29
<b>1 Introduction</b>	<b>7</b>	5.3 Error codes	28
1.1 Intended use	7	5.4 Driving	29
1.2 Area of application	7	5.5 Charging	30
1.3 Warranty & Contact	8	5.6 Driver training	30
1.4 Icons & Symbols used in this manual	9	<b>6 Air Transportation</b>	<b>32</b>
1.5 Safety	9	6.1 Air transportation rules	32
1.6 Use	9	6.2 Remove the battery for air transportation	32
1.7 Storage & Transport	12	6.3 Battery passport	34
1.8 Charging	12	6.4 Air transportation certificate	35
1.9 Maintenance	12	<b>7 Maintenance</b>	<b>36</b>
1.10 Cleaning	13	7.1 Inspection	36
<b>2 The UNAwheel</b>	<b>14</b>	7.2 Cleaning	36
2.1 Description	14	<b>8 Disposal</b>	<b>37</b>
2.2 Technical specifications	15	8.1 Materials Used	37
<b>3 Installation</b>	<b>16</b>	<b>9 Label</b>	<b>38</b>
3.1 Delivery contents	16		
3.2 Requirements	18		
3.3 Adapter's placement. Option 1: Wheelchair front tubes	19		
3.4 Adapter's placement. Option 2: Frame under the wheelchair seat	23		
<b>4 Attaching &amp; Detaching the UNAwheel Maxi</b>	<b>24</b>		
4.1 Attach the UNAwheel Maxi	24		
4.2 Detach the UNAwheel Maxi	25		

# Preface

The UNAwheel Maxi power add-on is a high-quality versatile product for every-day life. Its defining characteristics are:

- Powerful 450W brushless gearless motor
- Maximum speed of 20 km/h (the device can be speed-limited to comply with local regulations)
- Maximum range of 25 km
- Max. climbing ability of 14% (8°)
- Battery type is Lithium Ion 36V 8Ah 288Wh
- Easy to use controls and LCD display
- Adjustable frame width
- Maximum load capacity of 120 kg (264 lbs)
- Total weight of 13kg

The safest speed mode can be picked out of 5 speed modes available (max. 6 km/h, max. 12 km/h, max. 18 km/h, max. 20 km/h, the reverse mode — max. 6 km/h).

The device can be transported by car, ship or plane.

UNAwheel Maxi mounts to the front of a manual wheelchair, providing a power boost when needed. UNAwheel Maxi is powered by 450W motor delivering power and speed. Five speed settings are available — max. 6 km/h, max. 12 km/h, max. 12 km/h, max. 18km/h and max. 20 km/h — meaning you can get anywhere fast and safe. The device can be speed-limited by the Distributor to comply with local speed limits.

The frame is width adjustable (221–500mm; 8-3/4" —19-3/4"). The handlebar's height and tilt angle can be adjusted too. The adapter can be mounted on rigid or folding wheelchairs with solid or swing-away leg supports. Clamps fit a variety of wheelchair tube types including oval and polygonal (tube diameter's range — 19mm–36mm). Due to its reasonable weight of 13 kg the power assist can be easily transported in a trunk of a car. The IATA-compliant removable Li-ion battery allows air transportation.

Before using the power add-on, please read this user manual thoroughly. The design is subject to technical alterations without notice.

# Compliance



UNAcare Pte. Ltd. as the manufacturer of the UNAwheel Maxi declares that the power assist conforms to the Medical Device Regulation (2017/745).

The declaration of conformity was therefore created by UNAcare Pte. Ltd. with sole responsibility.

Any serious incident that has occurred in relation to the device should be reported by the User to the manufacturer and the competent authority of the Member State in which the user is established.

Please contact local authorized UNAcare Pte. Ltd. dealer if you have any questions regarding the use or maintenance of your power assist.

If there is no authorized dealer in your area please email or call UNAcare Pte. Ltd.:

<b>Address</b>	UNAcare Pte. Ltd, 6 Eu Tong Sen Street, #09–09, Singapore, zipcode 059817
<b>Phone</b>	+ (351) 308 – 800002
<b>Website</b>	www.unawheel.eu
<b>General questions</b>	info@unacare.eu
<b>Sales questions</b>	ae@unacare.eu
<b>CEO</b>	Nick Yudin, n.yudin@unacare.eu
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Nothing herein may be considered to be an additional warranty. UNAcare Pte. Ltd. is not liable for technical or other errors in or omissions from this material.

UNAcare Pte.Ltd. and its sales partners accept no liability in the event of non-compliance with national traffic laws.

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# 1 Introduction

This user manual is intended for users and owners of the UNAwheel Maxi. It contains all the information necessary to use the UNAwheel Maxi safely and successfully.

## 1.1 Intended use

The UNAwheel Maxi is intended to be used as a wheelchair power add-on. It should be connected to a wheelchair through the adapter and used according to the instructions in this manual. It is designed for personal use indoors or outdoors. Using the UNAwheel Maxi in any other way than described in this manual can lead to injury or product damage. The serial number label is located on the frame.

### 1.1.1 Service life

We expect that the estimated service life of this product is 4 years on average provided that the product is used as intended and maintained and serviced in accordance with all instructions specified in the User manual. This service life can be extended by handling, servicing, maintaining and using the product with care and if there are no technical limitations that arise from further developments in science and technology. However, the service life may also be reduced significantly by excessive or improper use. The service life required by the applicable standards shall not be deemed an additional guarantee.

## 1.2 Area of application

The power add-on provides the user with the potential to safely cover long distances in an ergonomically and ecologically efficient manner, using their own wheelchair. It expands the activity radius significantly. The attached wheelchair must be equipped in accordance with road traffic regulations when used on public roads, pavements and spaces. The power add-on can be operated by people (adults and adolescents) who:

- Are physically and mentally capable of safely operating the power add-on in all operating situations (steering, braking, etc.) and can meet the legal requirements for use on public roads.
- Have been advised and trained in its use by UNAcare Pte.Ltd. or an authorized UNAwheel Maxi dealer.

The power add-on should be able to cope with tarmac surfaces and firm paths with different topography. Avoid driving on unpaved or loose surfaces (e.g. on loose gravel, in sand, mud, snow, ice or through deep puddles of water), as this may expose the user to unforeseen risks.

We herewithin advise, that using the UNAwheel Maxi max. speed settings higher than 6 km/h is only permitted on public roads in certain countries and otherwise may only be used on private property. In the absence of approval, in accordance with the road traffic laws, the UNAwheel Maxi may not be driven on public roads, bicycle-lanes and pavements. You need to inform yourself about the country specific legislation regarding usage and your legal obligation to insure the UNAwheel Maxi.

When you're travelling with your UNAwheel Maxi, always check the specific legislation in the respective country.

### 1.3 Warranty & Contact

UNAcare provides two warranty periods upon purchase of the UNAwheel Maxi:




- 1 year or 1000 km (600 miles) for the UNAwheel's battery, display and controller.
- 2 years or 2000 km (1200 miles) for the UNAwheel's motor, frame and adapters.

The improper use can cause the product damage and void the warranty. To get more information about the warranty conditions or questions regarding this document, please contact us:

<b>Address</b>	UNAcare Pte. Ltd, 6 Eu Tong Sen Street, #09-09, Singapore, zipcode 059817
<b>Phone</b>	+ (351) 308 – 800002
<b>Website</b>	www.unawheel.eu
<b>General questions</b>	info@unacare.eu
<b>Sales questions</b>	ae@unacare.eu
<b>CEO</b>	Nick Yudin, n.yudin@unacare.eu
<b>European Commission (EC) Authorized Representative</b>	CEpartner4U BV Esdoornlaan 13, Maarn 3951 DB, Netherlands + (31) 343 – 444875 www.CEpartner4U.com

**Your dealer**


### 1.4 Icons & Symbols used in this manual

-  **WARNING** Risk of serious or fatal injury or severe product damage.
-  **CAUTION** Risk of injury or product damage.
-  **NOTICE** Useful information unrelated to safety.

### 1.5 Safety

Carefully read the following safety instructions before installing, using, transporting, storing or maintaining the UNAwheel Maxi and its adapters.

### 1.6 Use

-  **WARNING**
  - Before use, check all the connections, battery level, brake function of the UNAwheel and the wheelchair parking brakes, display and the central adapter. Never travel if anything listed above is not working correctly.
  - Before using the UNAwheel Maxi on a slope, make sure the brakes are working correctly.
  - Risk of toppling over! Your wheelchair, with the UNAwheel Maxi attached to it, is a three-wheeled vehicle. When turning, crossing obstacles and driving perpendicular to slopes, a three-wheel vehicle tends to tip over more easily than a four-wheel vehicle. Adjust your driving behaviour and your speed accordingly.
  - Drive slowly while making turns in order to avoid toppling over.
  - Try driving the UNAwheel Maxi on a flat surface, at ground level before using it on a slope to avoid toppling over and collision.
  - Never drive perpendicular to slopes, cross obstacles only in forward direction.
  - Do not drive faster than 6 km/h (4 mph) on public roads.
  - Do not use the product on slopes without assistance.
  - Do not go downhill or uphill if battery level is less than 50%.
  - The UNAwheel Maxi is equipped with water and dust protection (IP54). Even though you can drive Maxi in wet weather conditions please avoid deep puddles and never use the power add-on during the heavy rain. Never immerse the UNAwheel in water or other liquids.

- In the (unlikely) event of the battery pack overheating or catching on fire, you must ensure that the battery pack does not come into contact with water or other liquids. The only suitable extinguishing agent that is recommended by the battery manufacturers is sand.
- Before each trip, the wheelchair user must decide whether it is safe to drive the power assist, based on a few factors such as driving experience and physical strength. Users drive through the hazardous areas listed below at their own discretion and risk.
  - Quay walls, berths and marinas, paths and areas near water, bridges and dykes without railings.
  - Narrow footpaths, gradients (e.g. ramps and driveways), narrow paths along slopes, mountain paths.
  - Narrow and/or steep/inclined paths along main and side roads or near precipices.
  - Paths covered with leaves, snow or ice.
  - Ramps and lifting equipment on vehicles.

### CAUTION

- The product's maximum load is 120 kg or 264 lbs (excl. a wheelchair).
- Do not use the product at temperatures colder than  $-10^{\circ}\text{C}$  ( $14^{\circ}\text{F}$ ) or warmer than  $40^{\circ}\text{C}$  ( $104^{\circ}\text{F}$ ).
- The product's driving characteristics can be influenced by electromagnetic fields as emitted by mobile phones or other radiating devices.
- If you have metal implants in your spine use the UNAwheel Maxi cautiously.
- Never touch the wheels of your wheelchair if the UNAwheel is switched on.
- The distance between the User's body and the handlebar in its max turned position should be at least 5 cm (2").
- The distance between the User's legs and the adapter, should be at least 1 cm (1/2").
- Do not drive on slippery surfaces or on a rough ground such as coarse gravel.
- When crossing obstacles (such as curbs), drive forward. The UNAwheel Maxi can cross obstacles with a maximum height of 7 cm (2-3/4"). Drive forward slowly until the wheel of your UNAwheel runs into the obstacle. Slowly cross the obstacle. You may need assistance.

- Switch off the power add-on and put the wheelchair brakes on while attaching and detaching the UNAwheel Maxi and while using an elevator or a lifting platform.
- You must not use the UNAwheel on escalators or moving walkways.
- Do not throw or drop the product.
- Never leave the UNAwheel unattended, even if it is switched off.
- Avoid exposing the UNAwheel to direct sunlight (especially when the device is not in use). Intense sun exposure over long periods of time can cause overheating and severe damage of the motor and the battery. Plastic parts age faster when exposed to direct sunlight. In case of overheating caused by sun exposure or excessive use, leave the UNAwheel to cool down.
- Excessive use can cause the motor to overheat. Do not touch (risk of burning). Leave the UNAwheel for a while in order to cool down. Heat can also cause the leakage of oil and grease.
- The UNAwheel is only intended for transporting people with disabilities or reduced mobility. The product must not be used for a purpose other than the intended use. Keep it out of reach of children. The UNAwheel Maxi must not be used as a vehicle on public roads.

### NOTICE

- The maximum speed allowed on public roads depends on local traffic regulations.
- Speed above 6 km/h (3.7 mph) may only be driven on private property.
- The product can generate electromagnetic fields that may cause interference in other devices. For this reason, switch off the product when not in use.
- If you hear unusual noises or notice unusual vibrations during the ride, there is a chance that parts of the UNAwheel or the wheelchair have come loose. It is also possible that foreign object has entered the device during the ride. In this case, contact the authorized dealer.

## 1.7 Storage & Transport

### ⚠ CAUTION

- Store the product charged. Check the battery level every 3 months. If it's less than 50% please charge the device.
- The temperature during transport and storage must remain between 0°C (32°F) and 25°C (77°F).
- The product must be switched off during transportation.

## 1.8 Charging

### ⚠ CAUTION

- Charge the product in a dry place at temperatures between 10°C (50°F) and 30°C (86°F).
- Switch off the UNAwheel Maxi when charging.
- If the UNAwheel is not in use for a long period of time, its battery must be charged and discharged at least once in 3 months to maintain the battery's capacity.
- Do not allow dust and dirt getting into the charger. To clean the charger, use a dry piece of cloth.
- Place the charger on its rubber feet at ground level.
- The charger may only be opened by authorized personnel.

## 1.9 Maintenance

### ⚠ WARNING

- Make sure the product is checked and serviced at least once a year by an authorized dealer.
- Ensure all screws are firmly tightened after making any adjustments.

### ⚠ CAUTION

- Do not disassemble the product in any way other than described in this document.
- Be careful with your fingers while assembling or adjusting the product.

- Switch off the UNAwheel Maxi before attaching or detaching.

## 1.10 Cleaning

### ⚠ WARNING

- Do not clean the device under the water jet or using a water hose or any high-pressure cleaning machine. Prevent water from getting into the motor, battery and electronics.

### ⚠ CAUTION

- Do not use scouring agents to clean the product.

## 2 The UNAwheel

### 2.1 Description

The UNAwheel Maxi is a wheelchair power add-on that provides wheelchair users with a power boost. It is designed for people who are unable to walk but who are able to use a wheelchair independently. Thanks to its simple attachment mechanism, adjustment possibilities and modular design, the UNAwheel Maxi can be used by wheelchair users with different types of mobility impairments.

The UNAwheel Maxi is powerful enough for both indoor and outdoor driving.

The UNAwheel Maxi has an adapter, 2 types of tubes, 2 types of clamps and a range of spacers. It makes the UNAwheel Maxi compatible with a variety of wheelchairs: with swing-away leg supports, with folding or rigid frames (figure 1).

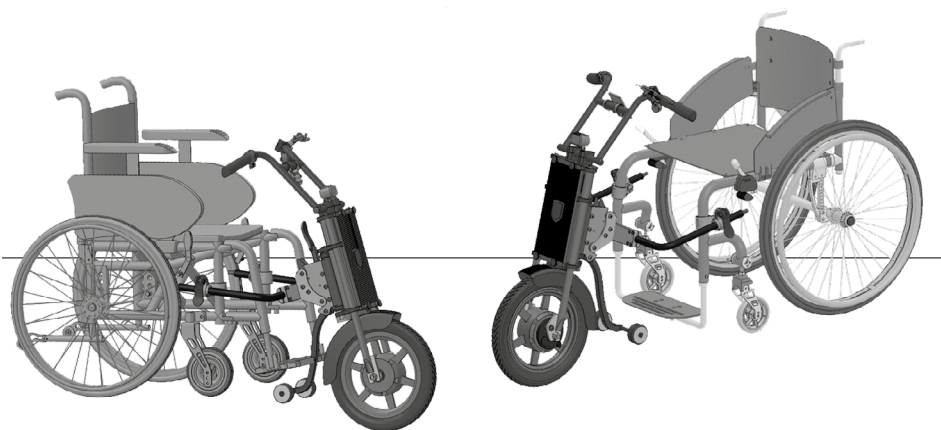


Figure 1. The UNAwheel Maxi is connected to a wheelchair with swing-away leg supports (on the left) and to a rigid frame wheelchair (on the right)

### 2.2 Technical specifications

<b>Total weight</b>	13 kg (28.6 lbs)
<b>Motor</b>	Electric, 450 W DC
<b>Battery</b>	Lithium Ion 36 V, 8 Ah, 288 Wh (allowed for air transportation)
<b>Tire</b>	14x2.125, Pneumatic
<b>Braking type</b>	Mechanic
<b>Public roads speed</b>	Max. 6 km/h (3.7 mph)
<b>Private territory speed<sup>1</sup></b>	Max. 20 km/h (16 mph)
<b>Speed modes</b>	Max. 6 — 6km/h, max. 12 — 12 km/h, max. 18 — 18 km/h, max. — 20 km/h
<b>Climbing capability</b>	Max. incline of 14%
<b>Range<sup>2</sup></b>	Max. 25 km (15.5 miles)
<b>Weight of the User</b>	Max. 120 kg (264 lbs)
<b>Operating voltage</b>	Nominal 36 V, min 30 V, max 42 V
<b>Max. current</b>	20 A
<b>Maximum torque</b>	26.7 nm
<b>Charging time</b>	5 hours
<b>Charging temperature range</b>	10 °C (50°F) and 30°C (86°F)
<b>Storage temperature range</b>	0°C (32°F) and 25°C (77°F)
<b>Weight of the battery pack</b>	2 kg
<b>Battery charger</b>	100–240V AC, 2A
<b>Protection Rating</b>	IP54

<sup>1</sup> Can be limited by the dealer in accordance with local traffic laws.

<sup>2</sup> Depending on the type of terrain, road surface, the weight of the user and temperature.



# 3 Installation

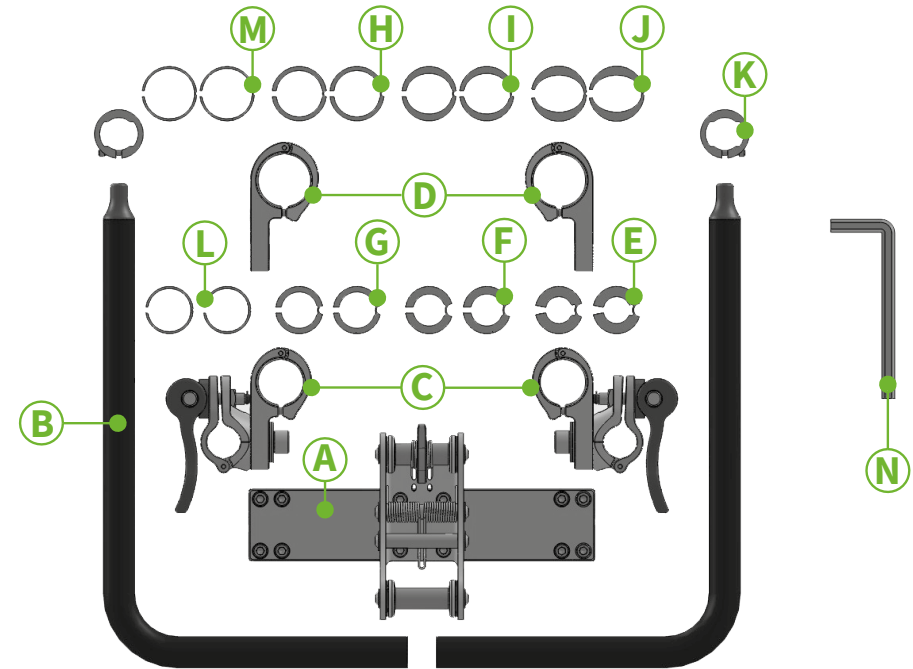
## 3.1 Delivery contents

The UNAwheel Maxi is delivered in one package:

- UNAwheel Maxi
- Charger with EU, UK, USA and AU cables
- Adapter with several fittings
- Battery travel case
- Tools

The adapter consists of the following parts:

- A.** central adapter
- B.** curved tubes (x2)
- C.** clamps for 19–30 mm (3/4" – 1-1/8") frame (x2)
- D.** clamps for 32–35 mm (1-1/4" – 1-3/8") and oval frame (x2)
- E.** spacers for 19–20 mm (3/4") frame (x2)
- F.** spacers for 22 mm (7/8") frame (x2), plastic
- G.** spacers for 25 mm (1") frame (x2), plastic
- H.** spacers for 32 mm (1-1/4") frame (x2), rubber
- I.** spacers for Quickie oval frame (x2), rubber
- J.** spacers for Progeo oval frame (x4), rubber
- K.** stop rings (x2)
- L.** spacers for 30 mm (1-1/8") frame (x2), rubber
- M.** spacers for 35 mm (1-3/8") frame (x2), rubber
- N.** HEX key set (2.5 mm, 3 mm, 4 mm, 5 mm, 8 mm)



The following tools are required to install the adapter:

- ruler
- 2.5 mm Allen wrench (included)
- 3 mm Allen wrench (included)
- 4 mm Allen wrench (included)
- 5 mm Allen wrench (included)
- 8 mm Allen wrench (included)

## 3.2 Requirements

The adapter can be mounted either on the wheelchair front tubes or on the frame under the seat. To determine which placement fits your wheelchair, see the following requirements:

Wheelchair front tubes	Wheelchair under seat frame
The wheelchair has a rigid or folding metal frame and non-detachable leg supports	The wheelchair has swing-away and detachable leg supports
The wheelchair's front tubes have a vertical straight part of 40 mm (1-1/2") at a height of 270 – 350 mm (10-1/2 – 14 inch) above the ground	The wheelchair's frame has a horizontal or vertical straight part of 50 mm (2") next to the leg supports
The width between the centers of front tubes is 321 – 500 mm (12-5/8" – 19-3/4") <sup>1</sup>	The width between the centers of frame tubes is 321 – 500 mm (12-5/8" – 19-3/4") <sup>2</sup>
The tubes are round (Ø35 (1-3/8"), 32 (1-1/4"), 30 (1-1/8"), 25 (1"), 22 (7/8"), 20 (3/4"), 19 (3/4") mm), oval (Progeo, Quickie Helium) or polygonal (Kuschall 2.0)	The tubes are round (Ø35 (1-3/8"), 32 (1-1/4"), 30 (1-1/8"), 25 (1"), 22 (7/8"), 20 (3/4"), 19 (3/4") mm) or oval (Progeo, Quickie Helium)

The User weight is less than 120 kg (264 lbs)

1 If the width is less than 321 mm (12-5/8"), the adapter's tubes can be cut to the desired width; min. 221 mm (8-3/4").

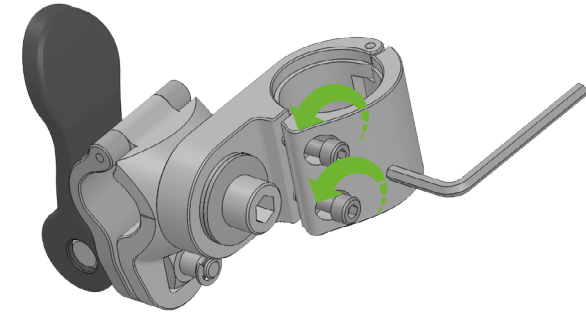
2 If the width is less than 321 mm (12-5/8"), the adapter's tubes can be cut to the desired width; min. 221 mm (8-3/4").

## 3.3 Adapter's placement

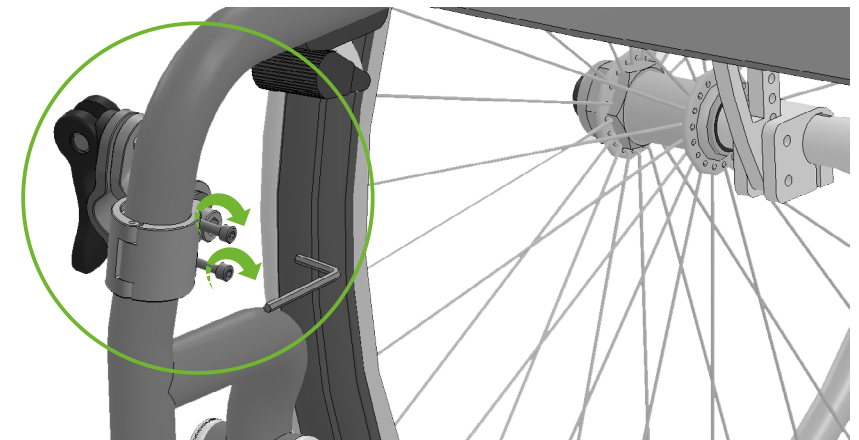
### Option 1: Wheelchair front tubes

#### 3.3.1 Attach the clamps

- 1 Disassemble the clamps by unscrewing their front two bolts. Use a 4 mm Allen wrench.

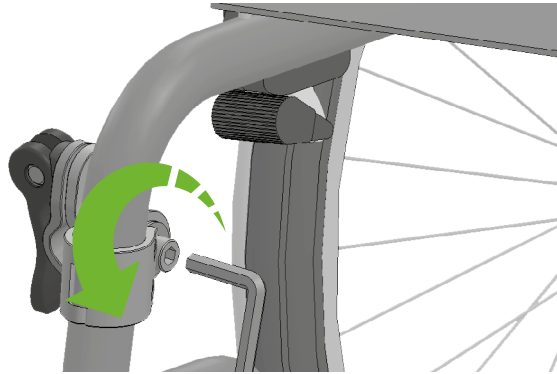


- 2 Place the two halves of the clamps around the front tubes of the wheelchair's frame. Use smaller clamps for tubes 19–30 mm (3/4" – 1-1/8") and bigger clamps for tubes 32–35 mm (1-1/4" – 1-3/8"), oval and polygonal. For all frame sizes use rubber spacers of appropriate size.
- 3 Lightly tighten the clamps by screwing on their two front bolts. You should still be able to slide the clamp up and down the tube.



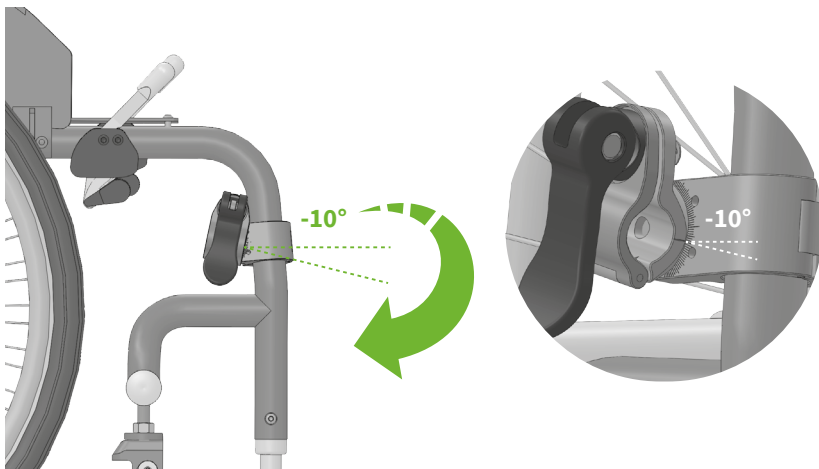
4 Place the clamps at a height of approx. 30–35 cm (11–14") above the ground. The height on the right side should be the same as the height on the left side. Use a ruler.

5 Loosen the third bolt of each clamp. This allows you to rotate the clamps' brackets.



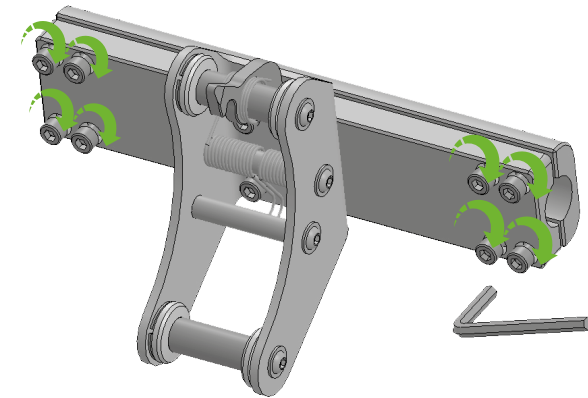
6 Rotate the the clamps' brackets so they are positioned at an angle of approx.  $-10^\circ$  relative to the floor. Make sure the clamps' brackets face forward.

7 Lightly tighten the bolts.

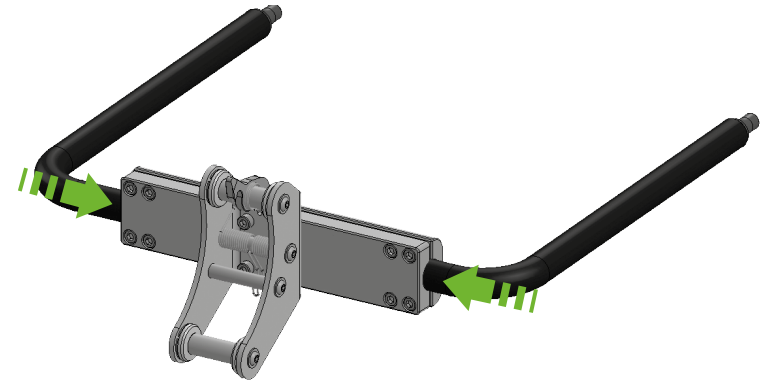


### 3.3.2 Assemble the central adapter

1 Loosen 8 bolts of the central adapter. Use a 5 mm Allen wrench.



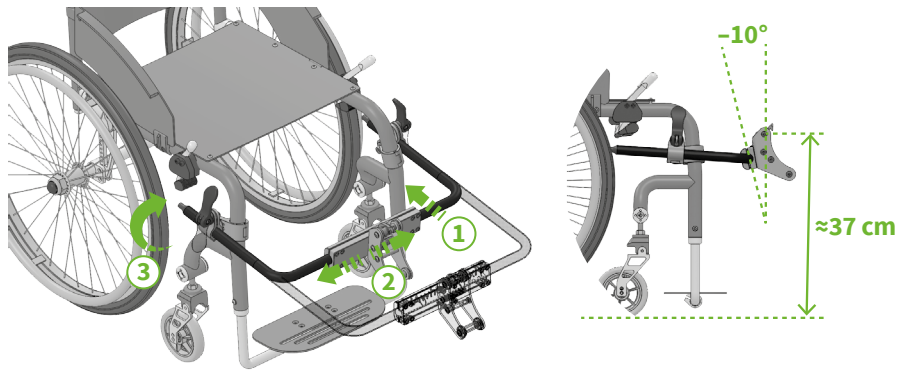
2 Insert the short ends of the curved tubes approx. 5 cm (2") into the central adapter.



3 Lightly tighten 8 bolts of the central adapter.

### 3.3.3 Attach the central adapter

- 1 The following steps should be performed with the user seating in the wheelchair.
- 2 Insert the long ends of the central adapter's tubes into the clamps' brackets — 1.
- 3 Adjust the width of the assembly if necessary — 2.
- 4 Place adapter as close as possible to the user's legs, but keep the gap of at least 50 mm (2") so legs do not touch the adapter during the ride.
- 5 Use the clamps' handles to tighten the brackets and secure the central adapter in place — 3.



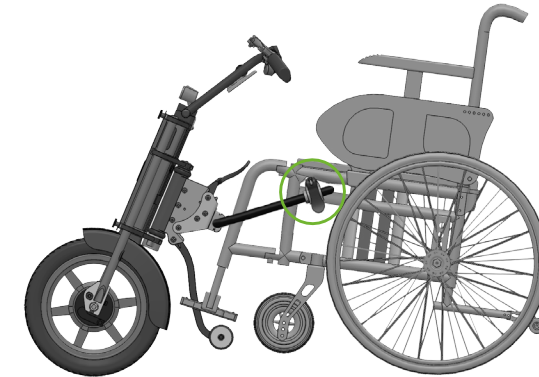
- 6 Position the upper axis of the central adapter at a height of 37 cm (14 — 1/2") above the ground, at a vertical angle of approx. 5°. Adjust the height by moving the adapter up or down. Clamps will rotate accordingly.
- 7 Tighten 3 bolts of each clamp. Use 4 and 8 mm Allen wrenches. For an 8 mm Allen wrench a force of at least 50 nm should be applied.
- 8 Tighten 8 bolts of the central adapter. Use a 5 mm Allen wrench.
- 9 Adjust the position of the stop rings and tighten them using a 3 mm Allen wrench.
- 10 Cut the adapter tubes to the desired length and place end caps.
- 11 Make sure the User can easily and independently insert the adapter into the clamps and remove it.

### 3.4 Adapter's placement

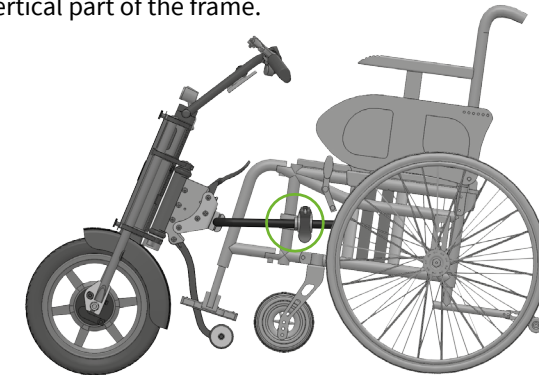
#### Option 2: Frame under the wheelchair seat

##### 3.4.1 Possible clamps' placements

- 1 Under the seat.



- 2 On the vertical part of the frame.



#### ⚠ WARNING

- Do not mount the clamps to the detachable leg supports. This may result in injury to the User or damage to the wheelchair.

##### 3.4.2 Assemble the central adapter

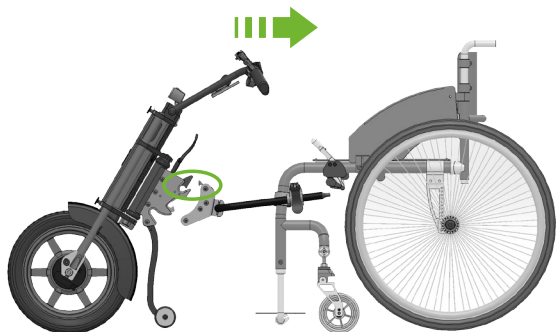
Proceed to paragraph 3.3.2

# 4 Attaching & Detaching the UNAwheel Maxi

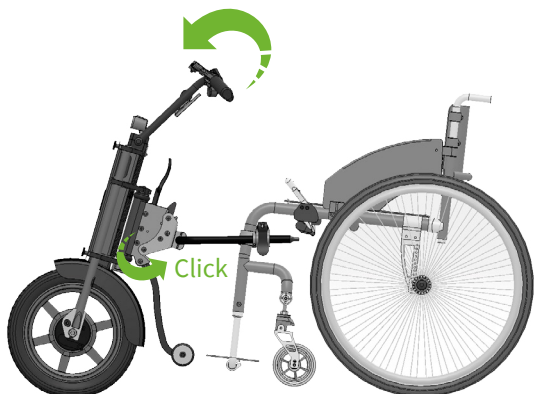
Before attaching or detaching the UNAwheel Maxi, carefully read the safety instructions.

## 4.1 Attach the UNAwheel Maxi

- 1 When seated in the wheelchair, hold the UNAwheel Maxi by its handlebar and pull it towards the wheelchair.
- 2 Pull the handlebar towards the wheelchair so the upper cylinder and the upper hook snap into place.



- 3 Push the UNAwheel's handlebar forward. The connector will snap into place.

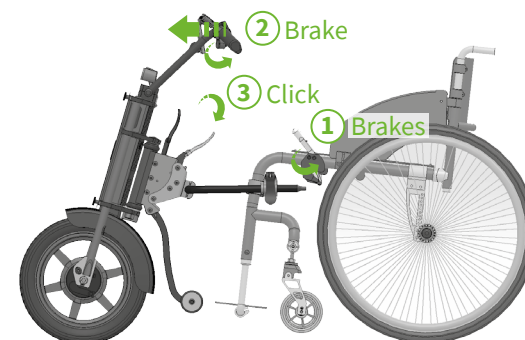


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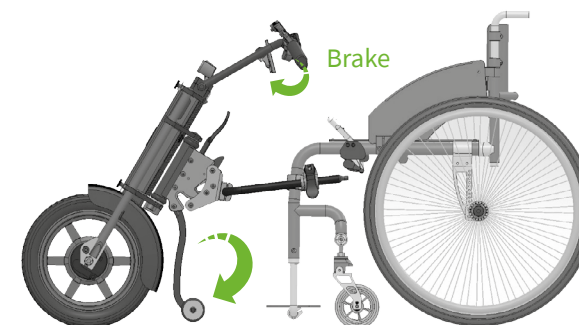
- When UNAwheel Maxi is attached, the front wheels of the wheelchair must be at a height of 30 to 100 mm (1-1/2" — 4") above the ground. If they are not, adjust the height of the central adapter accordingly.

## 4.2 Detach the UNAwheel Maxi

- 1 Lock the wheelchair brakes.
- 2 Lightly push the handlebar forward and press the brake lever with your left hand.
- 3 Pull the handle of the central adapter with your right hand till it clicks.



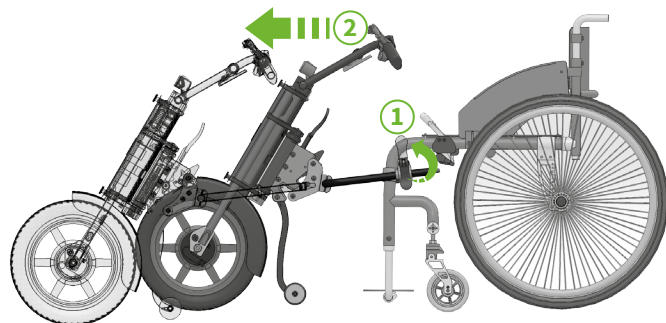
- 4 Put both hands on the handlebar and slowly release the brake lever of the UNAwheel Maxi. The front wheels of the wheelchair and the wheels of the UNAwheel support will touch the ground.



- 5 There are two options: you can either detach the UNAwheel together with the adapter or keep the adapter attached to the wheelchair and detach the power assist.

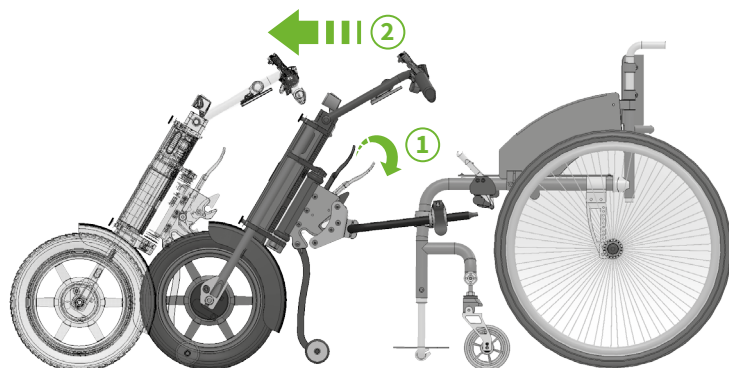
### 4.2.1 Assemble the central adapter

- 1 Rotate the handles of the clamps to loosen them.
- 2 Push the handlebar of the UNAwheel Maxi forward. The unit with the adapter will move forward.



### 4.2.2 Detach the UNAwheel Maxi unit only

- 1 Pull the handle of the central adapter once again till it clicks.
- 2 Push the handlebar of the UNAwheel Maxi forward. The unit will get detached from the adapter and move forward.

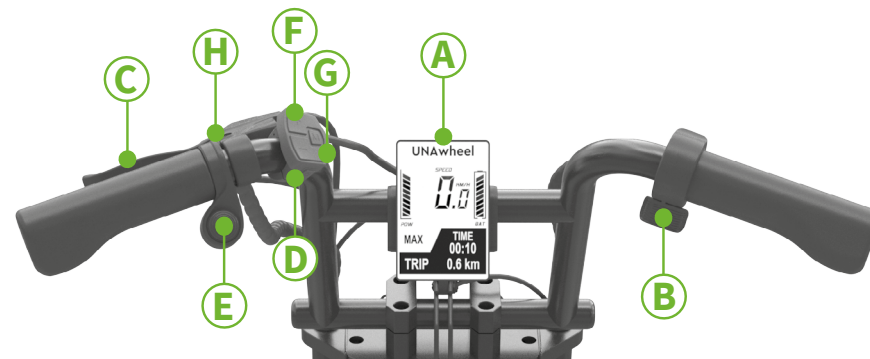


## 5 Use of the UNAwheel Maxi

Before using the UNAwheel Maxi, carefully read the safety instructions.

### 5.1 Controls

The UNAwheel Maxi's controls and display are placed at the bottom of the handlebar.

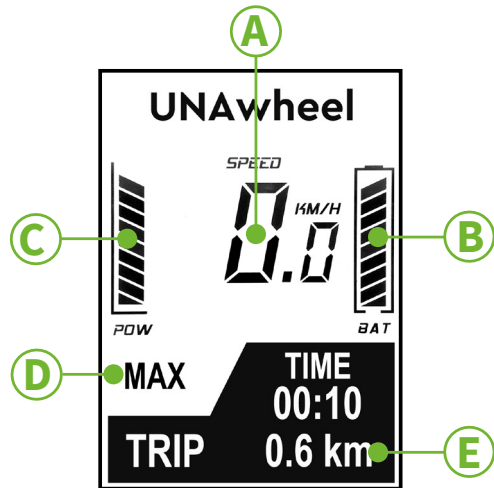


- A. Display
- B. Throttle lever
- C. Brake lever
- D. On/Off button
- E. Reverse button
- F. Speed mode up button
- G. Speed mode down button
- H. Bell

#### ⚠ NOTICE

- The throttle and the brake levers work in the same way: the harder you press, the greater the effect is.

## 5.2 Functions of the display



The UNAwheel Maxi's controls and display are placed at the bottom of the handlebar.

- A. Current speed
- B. Battery charge level
- C. Current power used
- D. Speed mode
- E. The current trip mileage

Press and hold the On/Off button for 2 seconds to switch on the UNAwheel Maxi. The display shows the current speed, the current trip mileage, the current speed mode and the battery charge level. The UNAwheel Maxi does not drive if you press the throttle lever right after turning on the power assist (safety reasons), you have to select the speed mode first.

## 5.3 Error codes

When the system detects a malfunction, the error codes are displayed. Each error code consists of the letters «Err» followed by a two-digit number:

Error code	Description
04	Throttle lever got stuck
05	Throttle failure
07	Over voltage protection
08	Hall signal wire of the motor failure
09	Motor phase fault
12	Current sensor failure
14	Controller is overheated
15	Controller's temperature sensor failure
21	Speed sensor error
23	Front light error
24	Front light sensor error
30	Improper connection between the display and controller

## 5.4 Driving

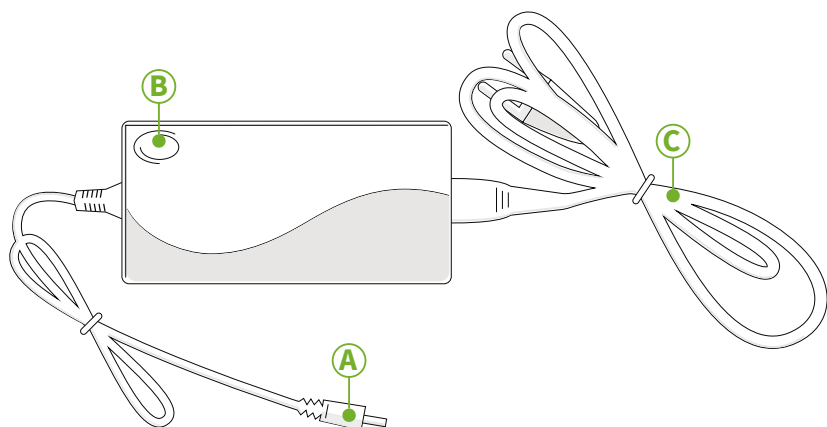
Use the UNAwheel Maxi's controls in the following ways:

- Press the Power button to switch on the UNAwheel Maxi.
- Press the Speed mode up button to select a speed mode (max. 6km/h, max. 12km/h, max. 18km/h, max).
- Press the Throttle lever to start driving.
- Press the Brake lever to slow down.
- Your current speed and the battery charge level are shown on the display.
- Press the Plus button to switch on/off the lantern.
- Press the Power button for 5 seconds to switch off the UNAwheel Maxi.

## 5.5 Charging

When using the UNAwheel Maxi on a daily basis, charge it when the display shows one or two bars of the battery charge level. Charge the UNAwheel Maxi using only the charger provided. Carefully read the safety instructions before charging the device.

- A. Battery cable
- B. Green/red charging indicator
- C. Mains cable



## 5.6 Driver training

- The safety and well-being of the driver is a top priority. To ensure this, it is essential to be aware of the UNAwheel's driving characteristics. The UNAwheel Maxi authorized dealer will help you in this regard with a complimentary device training session.
- The safety instructions provided by your wheelchair manufacturer also apply to driving the UNAwheel Maxi.
- Never press the throttle lever when switching on the device. This may result in the UNAwheel moving uncontrollably (risk of accident).
- Start driving carefully at ground level.
- Take your driver training in an obstacle-free spot.
- Make sure that the driving speed allows you to stop immediately when needed and to cross obstacles safely.

- To start driving, press the throttle lever smoothly. Always press the brake lever gently and in advance.
- When you release the throttle lever, the wheel of the UNAwheel automatically switches to freewheeling mode. Brake using braking lever.
- If the preset maximum speed is exceeded, the wheel automatically switches to freewheeling.
- Drive the UNAwheel Maxi on a flat surface, at ground level before using it on a slope.
- Be extra careful while going uphill and downhill and crossing any kind of obstacles.
- Never drive on slopes in freewheeling mode.
- Never drive on slopes. An unintentional shifting the centre of gravity may result in the wheelchair tipping over.
- The UNAwheel Maxi can cross obstacles with a maximum height of 7 cm (2-3/4").
- Obstacles with a height of more than 7 cm (2-3/4") must not be crossed as there is a risk of injury or product damage.
- Check the tyre pressure of your wheelchair and the UNAwheel, it affects the driving performance and the range of the UNAwheel.



# 6 Air Transportation

## 6.1 Air transportation rules

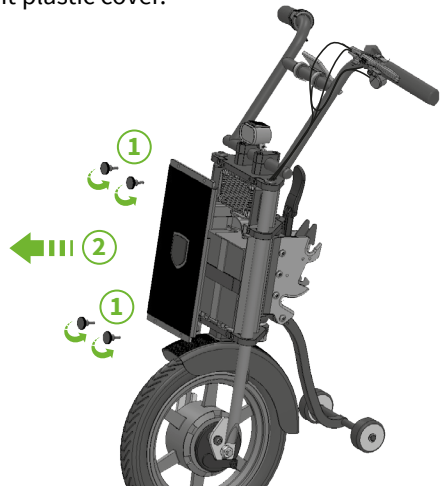
Two Li-ion batteries with max. 160 Wh capacity (each) or one Li-ion battery with max. 300 Wh capacity are allowed in the baggage according to IATA (DGR Chapter 2.3.2.4). Maxi's battery capacity is 288Wh.

To travel hassle-free:

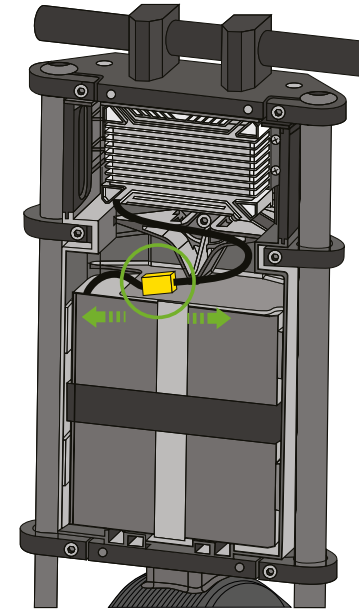
- 1 notify the airline company at least 72 hours before the flight;
- 2 provide the necessary information about the device — the UNAwheel Maxi is an assistive wheelchair device with a removable Li-ion battery;
- 3 print the UNAwheel Maxi Air Transportation Certificate for passengers and take it to the airport;
- 4 remove the battery and pack it;
- 5 drop off the power assist at the oversized baggage area;
- 6 bring the battery into the cabin.

## 6.2 Remove the battery for air transportation

- 1 Unscrew 4 bolts of the plastic front cover of the UNAwheel by hands.
- 2 Remove the front plastic cover.



- 3 Unplug the battery cable.



- 4 Remove the battery by pulling the central rubber handle.

## 6.3 Battery passport



### Li-Ion battery passport

Wheelchair power add-on Lithium Battery

Model: WT0353

Li-Ion: 36V, 8Ah, 288Wh

Date of production — 12/2021

#### Technical characteristics

Cell, configuration	K-Tech 18650, 10s4p	
Normal capacity	8000	mAh
Nominal voltage	37	V
Maximum continuous discharge current	20	A
Discharge overcurrent detection current	33±5	A
Fuse	35	A
Temperature protection	Charge: 50±4 Discharge: 70±4	Deg. Celsius
Cut-off voltage	30±0.5	V
Maximum continuous charge current	3	A
Functional charge temperature	+10 — +30	Deg. Celsius
Functional discharge temperature	0 — +30	Deg. Celsius
Storage temperature	0 — +25	Deg. Celsius
Dimensions (length*width*height)	150*135*62	mm
Weight	2100	gr



## 6.4 Air transportation certificate



6 Eu Tong Sen Street, Soho 1  
09-09, 059817, Singapore

### Certificate in relation to air transportation by passengers with walking disabilities

We hereby certify that our product UNAwheel Maxi, containing a removable lithium-ion battery, meets the requirements of UN Manual of Tests and Criteria, Part III, subsection 38.3 and therefore is suitable for air transportation by passengers according to IATA DGR Chapter 2.3.2.4.

#### Battery Description

Nominal Voltage: 36 V

Nominal Capacity: 8 Ah

Nominal Energy: 228 Wh

The nominal energy of the battery is 228 Wh which is below the IATA limit of 300 Wh (per battery).

#### For transportation:

the battery must be removed and securely packed;

the UNAwheel Maxi must be dropped off at the oversized baggage area;

the battery must be taken into the cabin.

We strongly recommend the Passenger to notify the airline company at least 72 hours before the flight in order to obtain approval.

This certificate does not apply to damaged or defective devices or batteries.

This certificate is valid until 31/12/2022.

**Nikolay Yudin**  
CEO, UNAcare Pte. Ltd.

UNACARE PTE. LTD., Address: 6 Eu Tong Sen Street, Soho 1, 09-09, 059817, Singapore.  
Phone: + (351) 308 – 800002. E-mail: info@unacare.eu

# 7 Maintenance

Maintenance and repair services should only be carried out by the authorized dealer. In case you encounter a malfunction immediately contact the Distributor or a Reseller in your country — depending on where you purchased the device. Carefully read the safety instructions before carrying out any maintenance on your device.

## 7.1 Inspection

The UNAwheel Maxi must be inspected before each use. The checks listed in the following table must be carried out by the user within the given timetable.

Check	Frequency
Tyre condition and pressure	Before each use
Battery level	Before each use
Brake function	Before each use
Error messages on the display	Before each use
Throttle lever functionality	Before each use
Brake lever function	Before each use
Connection of the central adapter	Before each use
Connection of the adapter on the wheelchair	Weekly
Charger	Monthly

### ⚠ NOTICE

- Not performing the checks may lead to the problems that void the warranty.
- If you experience any difficulties conducting the inspection, please contact the authorized dealer.

## 7.2 Cleaning

Use a damp cloth and a mild cleaning agent to clean the UNAwheel’s levers, display and charger. Use a damp plastic brush to clean the UNAwheel’s adapter and wheel.

# 8 Disposal



This device, its battery pack and accessories are durable products. They might, however, contain substances that are hazardous to the environment, if the parts are disposed of in locations (e.g. landfills) that are not destined for the disposal of such materials according to the applicable statutory regulations.

The product is labelled in accordance with European Directive 2002/96/EC with a “crossed-out rubbish bin” symbol, reminding you that it must be recycled.

Please protect the environment and return the product at the end of its service life to your local recycling centre.

As this product is not covered by the regulations of the WEEE Directive in all European countries, please inform yourself of the applicable waste disposal regulations in your country. Alternatively, return the UNAwheel to the authorized dealer or UNAcare for proper and environmentally safe disposal.

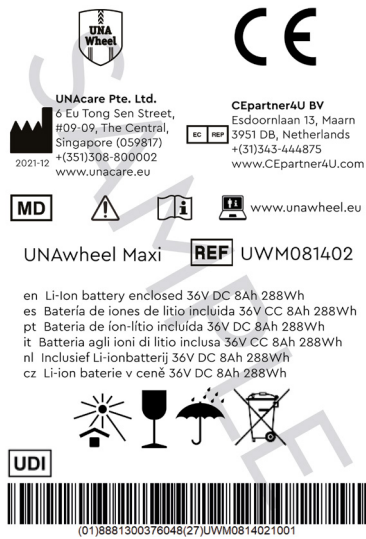
## 8.1 Materials Used



The following section describes the materials used in the UNAwheel Maxi, in terms of disposal or recycling of the power add-on and its packaging. Local regulations that apply to disposal or recycling of the UNAwheel Maxi must be also taken into consideration.

- Aluminium: Wheels, steering tube, parts of the frame, brake lever, handlebar, docking clamps, stand.
- Steel: Adapter tubes, frame hooks.
- Plastic: Handles, plugs, housing parts and tyres.
- Packaging: Expanded polystyrene, cardboard.
- Battery: Lithium-ion battery (hazardous product).

# 9 Label



The Label is placed on the frame.  
The label indicates the exact model designation and other technical specifications.  
Please provide the following pieces of information whenever you have to order replacement parts or to file a claim.

As we strive to continually improve the construction of our wheelchair power add-ons, product specifications may slightly vary from those stated in this User Manual. Weight/dimensions and performance data is approximate and is provided for informational purposes only.

All the products manufactured by UNAcare Pte. Ltd. comply with the Medical Device Regulation (2017/745).

UNAcare Pte. Ltd.

6 Eu Tong Sen Street, #09-09, Singapore, zipcode 059817

Singapore

Tel.: + (351) 308 – 800002

info@unacare.eu

www.unacare.eu

Label	Description
UNAwheel Maxi	Product name
CE	CE Mark
	Directions For Use
MD	Medical Device
	Manufacturer, year and month of production
EC REP	European Commission (EC) Authorized Representative
UDI	Unique Device Identification
	Information web site
REF	Catalogue number

**UNA**care