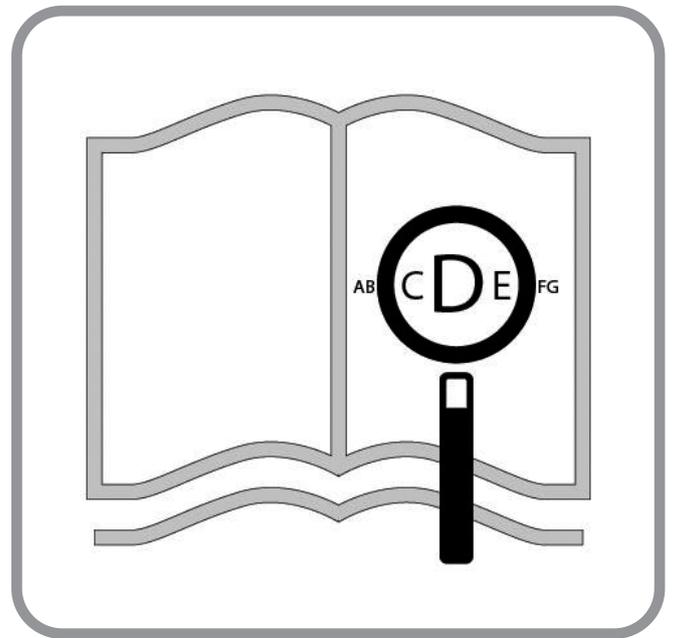




Empulse **StreetJet**

**Instructions for use**

**Empulse**



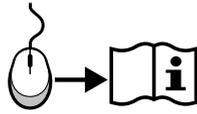
If you are visually impaired, this document can be viewed in PDF format at **[www.SunriseMedical.co.uk](http://www.SunriseMedical.co.uk)**.

## **Pull Device Components**

EN

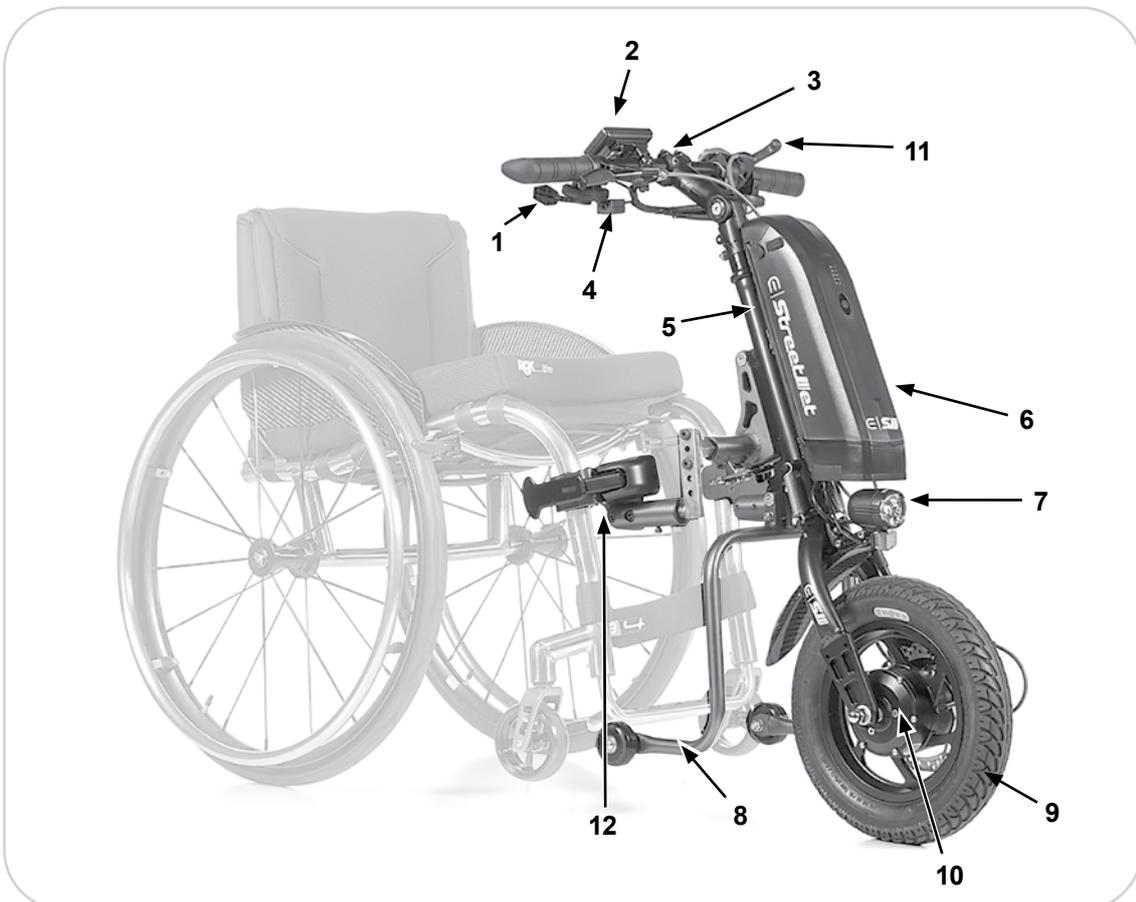


We at SUNRISE MEDICAL have been awarded the ISO-13485 certificate, which affirms the quality of our products at every stage, from R & D to production. This product complies with the standards set forth in EU and UK regulations. Options or accessories shown are available at extra cost.



 **EN 04**

1. Throttle
2. Display
3. Handlebar
4. Brake Lever
5. Frame
6. Battery
7. Lights
8. Stand
9. Front wheel
10. Hub motor
11. Docking release lever
12. One touch docking clamps



## Contents

|   |           |
|---|-----------|
| <b>Foreword</b>   | <b>5</b>  |
| <b>Use</b>  | <b>6</b>  |
| <b>Area of application</b>  | <b>6</b>  |
| <b>1.0 General safety notes and Driving limits</b>                        | <b>7</b>  |
| Safety instructions – prior to each ride.                                 | 8         |
| Safety instructions – while driving                                       | 8         |
| Safety instructions - after your ride:                                    | 8         |
| <b>2.0 Warranty</b>   | <b>9</b>  |
| Liability   | 9         |
| <b>3.0 Handling</b>   | <b>10</b> |
| Delivery:   | 10        |
| Unpacking:  | 10        |
| Adjusting the handlebar:  | 10        |
| Fitting the display:  | 10        |
| Storage:  | 10        |
| Safety:   | 10        |
| <b>4.0 Fitting to the wheelchair for the first time</b>                   | <b>11</b> |
| 4.1. Fitting the clamps to the wheelchair                                 | 11        |
| 4.2. Fitting the pulling device and adjusting the fitting angle correctly | 12        |
| <b>5.0. Docking and de-docking of the pulling device by the user</b>      | <b>15</b> |
| 5.1. Docking  | 15        |
| 5.2. De-docking   | 15        |
| <b>6.0 Operation</b>  | <b>16</b> |
| 6.1. Brakes   | 16        |
| 6.2. Switching on and off   | 16        |
| 6.3. Selecting the direction of travel                                    | 17        |
| 6.4. Controlling the speed (throttle)                                     | 17        |
| 6.5. Selecting the drive levels   | 18        |
| 6.6. Cruise control   | 18        |
| 6.7. Functions of the display   | 19        |
| <b>7.0 Battery and charger</b>  | <b>21</b> |
| 7.1 Introduction  | 21        |
| 7.2 Safety instructions for the battery and charger                       | 21        |
| 7.3. Notes for transportation in aeroplanes                               | 23        |
| 7.4. Switching the battery on and off                                     | 23        |
| 7.5. Charge status display for the battery                                | 24        |
| 7.6. Detaching the battery  | 24        |
| 7.7. Charging the battery   | 25        |
| 7.8 Battery warranty:   | 25        |
| <b>8.0 Maintenance and troubleshooting</b>                                | <b>25</b> |
| 8.1. Fitting and repairing the tyre:                                      | 25        |
| 8.2 Regular maintenance   | 26        |
| 8.3 Electrical system   | 26        |
| <b>9.0 Technical Specifications</b>                                       | <b>27</b> |
| <b>10.0 Notes on storage</b>  | <b>29</b> |
| <b>11.0 Cleaning and hygiene</b>  | <b>29</b> |
| <b>12.0 Disposal and recycling</b>  | <b>30</b> |
| <b>13.0 Nameplate</b>   | <b>31</b> |

## Definitions of words used in this manual

| Word  | Definition  |
|---|---|
|  <b>DANGER!</b>  | Advice to the user of Potential Risk of serious injury or death if the advice is not followed |
|  <b>WARNING!</b> | Advice to the user of a risk of injury if the advice is not followed                          |
|  <b>CAUTION!</b> | Advice to user that potential damage to equipment may occur if the advice is not followed     |
| <b>NOTE:</b>  | General advice or best practice   |
|                  | Reference To Additional Documentation   |

### NOTE:

- Please keep a note of your local service agent's address and telephone number in the space provided.
- In the event of a breakdown, contact them and try to give all relevant details so they can help you quickly.
- The pulling devices shown and described in this user guide may not correspond in every detail exactly to your own model. However, all instructions are completely relevant, regardless of possible detail differences.
- The manufacturer reserves the right to alter without notice any weights, measurements or other technical data shown in this manual. All figures, measurements and capacities shown in this manual are approximate and do not constitute specifications.

Dealer signature and stamp



## Foreword

### Dear Customer,

We are very happy that you have decided in favour of a high-quality product from SUNRISE MEDICAL.

This owner's manual will provide numerous tips and ideas so that your new pulling device can become a trustworthy and reliable partner in your life.

For Sunrise Medical, it is very important that we have a good relationship with our customers. We like to keep you up-to-date about new and current developments at our company. Keeping close to our customers means: fast service, as little red tape as possible, working closely with customers. Whenever you need replacement parts or accessories, or if you just have a question about your pulling device – we are there for you.

We want you to be satisfied with our products and service. At Sunrise Medical we are constantly working to develop our products further. For this reason, changes can occur in our range of products with regard to form, technology, and equipment. Consequently, no claims can be construed from the data or pictures contained in this user's manual.

The management system of SUNRISE MEDICAL is certified to ISO 13485 and ISO 14001.

**UK  
CA** As the manufacturer, SUNRISE MEDICAL, declares that this product conforms to the UK Medical Devices Regulation 2002 No. 618.

**CE** As the manufacturer, SUNRISE MEDICAL, declares that this product conforms to the Medical Device Regulation (2017/745).

### NOTE:

#### General user advice.

Not following these instructions may result in physical injury, damage to the product or damage to the environment!

Notice to the user and/or patient: Any serious incident that has occurred in relation to the device should be reported to the manufacturer and the competent authority of the Member State in which the user and/or patient is established.

### B4Me special adaptations

Sunrise Medical strongly recommends that in order to ensure that your B4Me product operates, and performs as intended by the manufacturer; all the user information supplied with your B4Me product is read and understood, before the product is first used.

Sunrise Medical also recommends that the user information is not discarded after reading it, but it is kept safely stored for future reference.

### Medical Device Combinations

This medical device is always to be used in combination with one other Medical Device or other product. Information on which combinations are possible can be found at [www.Sunrisemedical.co.uk](http://www.Sunrisemedical.co.uk). All combinations listed have been validated to meet the General Safety and Performance Requirements, Annex I Nr. 14.1 of the Medical Device Regulation 2017/745.

Guidance on the combination, such as mounting, can be found within this manual.

Please contact your local, authorised SUNRISE MEDICAL dealer if you have any questions regarding the use, maintenance or safety of your pulling device.

In the case of there being no authorised dealer in your area and you have any questions regarding product safety or recalls, contact Sunrise Medical either in writing or by telephone.

### Sunrise Medical

Thorns Road  
Brierley Hill  
West Midlands  
DY5 2LD  
England

Phone: 0845 605 66 88

Fax: 0845 605 66 89

[www.SunriseMedical.co.uk](http://www.SunriseMedical.co.uk)



Do not use your pulling device until this manual has been read and understood.

Please follow the instructions contained within the Owner's Manual.

## Use

The Empulse StreetJet is a powered pulling device, which is attached to a wheelchair, to support the mobility and integration of the wheelchair user in daily life. It is designed for personal use indoors or outdoors.

**The maximum user weight (including both the user and any weight of accessories fitted to the pulling device) is marked on the serial number label. The serial number label is located on the frame as well as in the owner's manual.**

Warranty can only be taken on if the product is used under the specified conditions and for the intended purposes.

### Service life

The intended lifetime of this product is 5 years, provided that:

- It is used in strict accordance with the intended use.
- All service and maintenance requirements are fulfilled.

### DANGER!

- Do not fit any unauthorized electronic equipment.

## Area of application

The pulling device 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.

### Indications

The adjustability, as well as the modular design, mean that it can be used by those who cannot walk or have limited mobility because of:

- Paralysis
- Loss of extremity (leg amputation)
- Extremity defect deformity
- Joint contractures/joint injuries
- Illnesses such as heart and circulation deficiencies, disturbance of equilibrium or cachexia as well as for elderly people who still have strength in the upper body.

### Contraindications

The electrical pull and add on devices shall not be used in case of:

- Perception disorder
- Imbalance
- Loss of both arms
- Joint contracture or joint damage on both arms
- Seating disability
- Physically and mentally not capable of safely operating the pull device in all operating situations (steering, braking, ..)
- Not meeting the legal requirements for use on public roads.

### NOTE:

Please note that driving a wheelchair requires sufficient cognitive, physical and visual skills. The user must be able to assess the effects of actions during the operation of the wheelchair and, if necessary, to correct them. These capabilities and the safe use of the additionally attached components cannot be assessed by Sunrise Medical as a manufacturer. We cannot accept any liability for any damage resulting from this.

Please refer to the operating instructions of the wheelchair and the additionally mounted components. Instruct the user in the safe use of the wheelchair and the additionally mounted components. Inform users of specific warnings that need to be read, understood, and respected.

### Operating Conditions

The pulling device 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 Empulse StreetJet with max. speed-settings higher than 6 kph 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 Empulse StreetJet 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 Empulse StreetJet.

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

## 1.0 General safety notes and Driving limits

The technology and construction of this pulling device have been designed to provide maximum safety.

International safety standards currently in force have either been fulfilled or exceeded in parts.

Nevertheless, users may put themselves at risk by improperly using their pulling device. For your own safety, the following rules must be strictly observed.

Unprofessional or erroneous changes or adjustments increase the risk of accident. As a pulling device user, you are also part of the daily traffic on streets and pavements, just like anyone else. We would like to remind you that you are therefore also subject to any and all traffic laws.

**Be careful during your first ride with this pulling device. Get to know your pulling device.**

### **WARNING!**

- Exceeding the maximum load can lead to damage to the pulling device, loss of control, or serious injury to the user and other people.
- Exercise caution when using the pulling device. For example, avoid negotiating obstacles such as, steps, curbs, path edges or dropping down gaps without slowing down or braking first.
- The pulling-device is not tested and approved according to ISO 7176-19. It is therefore not allowed to transport the user in the wheelchair with the StreetJet docked in a car. When transporting a combined unit made up of a pulling device and wheelchair vehicle, the user must transfer onto the vehicle seat and must not sit on the combined unit. The combined unit itself (without user) must be tied down during transportation and secured against slipping.
- This pulling device should be used exclusively to convey one person at a time. Any other use does not comply with the intended purpose.
- Use of the pulling device is only recommended for those who have the right physical and psychological constitution to be able to cope with public traffic.
- Please note that you are subject to any and all traffic laws when riding in public traffic.
- As a beginner, you should ride particularly carefully at first.
- Familiarise yourself with the braking distances from various speeds.
- Familiarise yourself with the general traffic laws!
- In order to achieve a stable ride when travelling straight ahead, wherever possible, you should avoid hasty steering movements when travelling at speed or going round corners.
- A three-wheel vehicle is never as stable as a four-wheel vehicle and it may tip over as a result of sudden manoeuvres or going round bends too quickly.
- When you are riding, braking or manoeuvring, always hold the handlebars firmly with both hands. Failure to do so could increase the risk of an accident through steering error.
- The speed must be adjusted to suit the technical capabilities of the bike, terrain and operator.
- At night and dawn/dusk, always use the lights.
- Only ride on asphalt paths, or firm, smooth surfaces.
- Use caution when riding over curbs, steps, potholes, etc. as there is an increased risk of tipping over.
- Adjust your method of driving to your capabilities.
- Ride slowly and carefully, particularly when riding round corners.
- Do not touch the motor, because it can get very hot.
- Your pull device should be serviced by your dealer at regular intervals. (min. every year).

- As with all moving parts, there is a risk that fingers could become trapped. Please always handle carefully.
- If the traction device is subject to direct sunlight / external heat sources or low temperatures for long periods, parts of your pulling device could become very hot (>41°C) or very cold (<0°).
- The pulling device should not be used in stormy conditions, heavy rain/snow or on slippery or damaged surfaces.
- You should only use product combinations which have been approved by Sunrise Medical.
- The standard version of your pull device has been tested on the applicable requirements with respect to electromagnetic radiation (EMC requirements) In spite of these tests:
- It cannot be excluded that electromagnetic radiation may influence the driving characteristics of the pull device. For example:
  - mobile telephony
  - large-scale medical apparatus
  - current generators
  - high voltage source
  - other sources of electromagnetic radiation
- It cannot be excluded that the pull device may interfere with electromagnetic fields. For example:
  - shop doors
  - burglar alarm systems in shops
  - garage door openersIn the unlikely event that such problems do occur, we request that you notify your dealer immediately.

### **DANGER!**

**CHOKING HAZARD** – This mobility aid uses small parts which under certain circumstances may present a choking hazard to young children.

The pull device shown and described in this user guide may not correspond in every detail exactly to your own model. However, all instructions are completely relevant, regardless of possible detail differences.

**NOTE:** The pulling devices shown and described in this user guide may not correspond in every detail exactly to your own model. However, all instructions are completely relevant, regardless of possible detail differences. The manufacturer reserves the right to alter without notice any weights, measurements or other technical data shown in this manual. All figures, measurements and capacities shown in this manual are approximate and do not constitute specifications.

**NOTE:** We would like to point out that the versions of the pulling device which drive faster than 6 kph are only permitted in road traffic in certain countries and otherwise may only be used on private land. In the absence of approval, in accordance with the road traffic laws, the versions which drive faster than 6 kph version may not be driven on public roads or even cycle ways. It is your responsibility to find out the information about which legal regulations apply in your particular country and about the insurance or driving licence obligations for versions which drive faster than 6 kph.

If you order a version which has a speed of over 6 kph, please confirm this to Sunrise Medical with your signature, that you have understood this information and that we should deliver this version.

## Safety instructions – prior to each ride.

### CAUTION!

- Check the conditions of your wheels, (including the wheels of your wheelchair) visually, (spokes and rims, damages of tyres) as well as the pressure of the tyres. The correct air pressure is indicated on the tyre.
- Tyre pressure which is too low or too high will have a negative effect on the braking action, wear and tear and the driving performance.
- Always check that the tread depth of your tyres is Okay.
- Check that the brake works correctly. The pulling device may not be used if the brakes are not 100% functioning!
- Avoid damage to the Bowden cables. There is a risk of kinking the cable when you transfer to/from the device.
- Check the fork by visual inspection for damage (e.g. cracks and breakages)
- Check that all components, especially the bolts, are tight.
- Check that the handlebars are firmly fixed.
- Check the connection between the pulling device and your wheelchair. Clamping must be on the metal tube without any parts, (e.g. calf strap, frame protectors) in between.
- Check the frame and the components of your wheelchair for any damage, (e.g. cracks).
- Check that the lights are functioning and the reflectors are sound; they must be visible all the time during use.
- Ensure that your feet cannot slip off the foot plate of your wheelchair. Use a special fixing tool if necessary.
- Check all cables and electrical connections.
- Check that the battery is locked correctly and fully charged.
- Switch the battery on and check the light.
- Always wear a helmet.

## Safety instructions – while driving

### WARNING!

- Make yourself familiar with the device in flat terrain before driving up or down slopes.
- Always hold the handlebars with both hands firmly as otherwise, there is a high risk of an accident through steering error.
- Always adapt your speed to your driving capability and to the traffic - / terrain conditions
- Use particular caution when approaching stairs, edges, drops or other hazard areas.
- Reduce your speed to walking pace and lean your body inwards, when driving round a bend.
- When waiting e.g. at a pedestrian crossing, a traffic light, on hills or slopes or at ramps of any type, always activate the brake.
- Due to the increased turning circle, turning can be sometimes impossible e.g. in corridors and other confined spaces.
- Only use the defined brackets to fix objects, (additional weights, bike panniers)
- When driving on pedestrian areas, observe the maximum permitted speed (walking speed).
- Always follow the road traffic regulations when driving on public roads and footpaths.
- Avoid driving on unpaved or loose surfaces (e.g. on loose gravel, in sand, mud, snow, ice or through deep puddles of water).

- Avoid abrupt steering actions.
- Avoid driving in parallel to slopes.
- Avoid turning on slopes.
- On slopes the traction of the driving wheel is lowered and the braking effect is considerably reduced. The driving style and speed should be always adjusted so that the product can be safely stopped at all times.
- Towing or using a trailer is not permitted.
- Driving on stairs is not permitted.
- Obstacles e.g. curbs must be run over always frontal / rectangular with very low speed to avoid tipping over and potential injuries. The max obstacle height is 50 mm, but this depends on the distance from the castors to the ground.
- It must be avoided that any wheelchair components or parts of your body get trapped when driving over or passing obstacles. This could result in falls and serious injuries as well as damage to the product.
- When driving on wet surfaces, there is an increase slip hazard because the traction of the tyres is reduced. Adapt your driving style accordingly.
- Always use the main brake to slow down your pulling device.
- Sliding of the driving wheel during braking can be avoided by moving your body weight forward.
- Avoid strong braking actions while driving through bends.

## Safety instructions - after your ride:

- Switch off the device immediately when it is not in use to avoid accidental operation / movements caused by accidentally touching the throttle.
- Switching off helps to preserve the battery charge.

## 2.0 Warranty

### Warranty conditions:

1. If a part or parts of the pushing aid require repair or exchange as a consequence of a manufacturing defect within 24 months after delivery to the purchaser, then the affected part or parts will be repaired or replaced for free. The warranty will only cover manufacturing defects.
2. To enforce the warranty, please contact the supplier of your device – e.g. the Sunrise Medical Approved dealership or Healthcare provider with the exact details of the nature of the difficulty. Should you be using the device outside the area covered by the Sunrise Medical customer service agent, repairs or replacement will be carried out by another agency as designated by the manufacturer. The device must be repaired by a customer service centre/dealer designated by Sunrise Medical.
3. For parts, which have been repaired or exchanged within the scope of this warranty, we provide a warranty in accordance with these warranty conditions for the remaining warranty period for the device in accordance with point 1).
4. For original spare parts which have been fitted at the customer's expense, these will have a 12 months guarantee, (following the fitting), in accordance with these warranty conditions.
5. Claims from this warranty shall not arise, if a repair or replacement of a product or a part is required for the following reasons:
  - a. Normal wear and tear, which include batteries, armrest pads, upholstery, tyres, brakes shoes, etc.
  - b. Any overloading of the product, please check the EC label for maximum user weight.
  - c. The product or part has not been maintained or serviced in accordance with the manufacturer's recommendations as shown in the user instructions and/or the service instructions.
  - d. Accessories have been used which are not specified as original accessories.
  - e. The product or part having been damaged by neglect, accident or improper use.
  - f. Changes/modifications have been made to the product or parts, which deviate from the manufacturer's specifications.
  - g. Repairs have been carried out, before our Customer Service has been informed of the circumstances.
6. This guarantee is subject to the law of the country in which the Sunrise Medical product was purchased. \* Means the Sunrise Medical facility from which the product was purchased.

### Liability

If the pulling device:

- Is handled improperly
- Is not maintained in accordance with the maintenance schedule
- Is commissioned and used contrary to the instructions in this manual
- Has had repairs or other works carried out by non-authorized persons, or third-party parts installed or connected without prior agreement with Sunrise Medical, then Sunrise Medical is not responsible for the safety of the pulling device.

## 3.0 Handling

### Delivery:

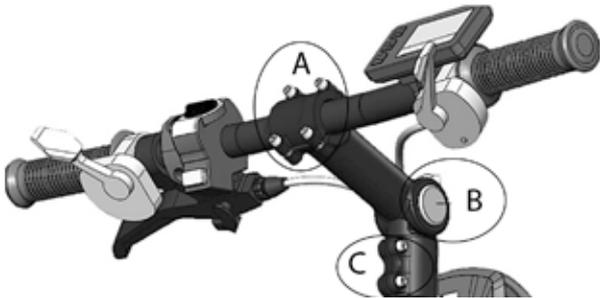
Your new pulling device is delivered fully assembled in a cardboard box. In order to avoid any damage during transportation, loose parts or parts to be fitted, are packed separately in the cardboard box.

### Unpacking:

- Check the shipping cardboard box for external damage which may have been caused during transportation.
- Remove all packaging material.
- Take the pulling device carefully out of the box and check that it is complete.
- Check all parts for surface damage, scratches, cracks, dents, distortions and other defects.
- The scope of delivery consist usually of the pulling device: Connecting frame with complete docking system, display, front light, lithium-ion battery and charger.

### Adjusting the handlebar:

The StreetJet is delivered with the handlebar assembly loosened to allow adjustment to suit an individual. Ensure the two bolts on the StreetJet stem clamp (C) are tightened to 10Nm with a 4mm allen key. Adjust the angle of the handle bar to your preferred position, then use a 5mm allen key to tighten the angle adjustment bolt (B) to 15Nm. The clamp that attaches to the handlebar will need the 4x bolts (A) tightening with a 4mm allen key to 6Nm each. This will secure the handle bar assembly ready for use.



### Fitting the display:

The display has been specifically programmed for your pulling device and is delivered with the pulling device. Fit the display as follows:

- Undo the gripper clamp of the display and position it between the throttle and stem round the handlebar. Tighten the clamp screw in order to fix the display.
- Connect the plug of the display to the free plug connection on the pulling device. The plug is protected against polarity reversal and can only be plugged in one way. Make sure that you do not damage the pins in the plug during installation.

**NOTE:** Should you find any damage, or if any parts are missing please let us know immediately.

### ⚠ CAUTION!

- The pulling device may only be used with the delivered docking system and the appropriate frame clamps for your wheelchair. The pulling device must be handed over ready to use from Sunrise Medical or an authorised Sunrise Medical dealer.
- Before using for the first time, the battery should be fully charged.

### NOTE:

- Wherever torque settings are specified, it is strongly recommended that a torque meter (not included), is used to verify correct torque specification is achieved. If no other information is given, the generic torque for M6 screws is 7 Nm.

### ⚠ CAUTION:

- Some of the screws that are used in manufacture have a thread lock (blue dot on the threads) and can be used up to three times, then they must be replaced by new screws with thread lock. Alternatively, you can put Loctite™ 243. Apply threadlock to the screws and re-fit them.

### Storage:

The pulling device should always be stored in an environment with low humidity, on an easy to clean surface at ambient room temperature (+15°C to + 25°C)

### Transport:

It is not allowed to transport the user in the wheelchair with the StreetJet docked in a car. When transporting a combined unit made up of a pulling device and wheelchair vehicle, the user must transfer onto the vehicle seat and must not sit on the combined unit. The combined unit itself (without user) must be tied down during transportation and secured against slipping.



This label on the product indicates that the pulling-device is not tested and approved according to ISO 7176-19. It is therefore not allowed to transport the user in the wheelchair with the StreetJet docked in a car.

When transporting a combined unit made up of a pulling device and wheelchair vehicle, the user must transfer onto the vehicle seat and must not sit on the combined unit. The combined unit itself (without user) must be tied down during transportation and secured.

### ⚠ WARNING!

- Always use a properly secured vehicle seat.
- The product and all its components must be secured during transport so that they are not damaged (e.g. by falling over) and do not become any risk to other people.

### ⚠ CAUTION!

- When loading make sure that the cables are not caught up, become kinked or otherwise damaged.
- The pulling device may not be used with damaged cables.

### Safety:

- To protect your pulling device against theft and also against unauthorized use, please use a suitable lock, such as those designed for bicycles.
- For extra security on the pulling device, please switch off and remove the battery.

## 4.0 Fitting to the wheelchair for the first time

### 4.1. Fitting the clamps to the wheelchair

The pulling device must only be fitted to wheelchairs for which there is a reciprocal combination declaration between Sunrise Medical and the manufacturer of the wheelchair.

The delivery includes the appropriate clamps for your wheelchair. If you have ordered the clamps for frames with round tubes, There are two different sets of round frame tube clamps available which can be fine adjusted between 19mm and 24mm / 25mm and 35mm.

To fine adjust the clamps to your frame tube diameter position the front frame of the wheelchair in the clamps. Open the jaws of the One Touch Clamp using the clamp lever.



Use a 4mm Allen key to adjust the threaded adjuster on the one touch clamp. This adjusts the force of the one touch clamp on the frame of your wheelchair. Turn the threaded adjuster anti-clockwise to open out the clamp jaw. With the jaws open, position them on the frame. Close the lever to engage the clamp, then tighten the threaded adjuster to pull the jaws in until they touch the frame of your wheelchair. Once the jaws are touching against the frame of your chair, release the clamp lever and further tighten the threaded adjuster  $\frac{3}{4}$  of a clockwise turn. Engage the clamp using the lever and check the StreetJet is firmly attached to your wheelchair.



The Empulse StreetJet cannot fit to wheelchairs with swing away footrests.

#### **⚠ DANGER!**

- If the clamps are fitted on removable footrests this will lead to damage to the wheelchair and can lead to a fall and injury to the user.

#### **⚠ CAUTION**

- Make sure that the Empulse StreetJet is securely attached to the wheelchair.
- Check the torque of the clamps at regular intervals.

#### **NOTE:**

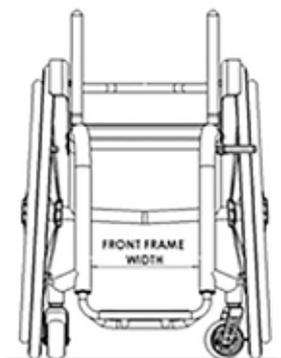
- Wherever torque settings are specified, it is strongly recommended that a torque-wrench (not included), is used to verify correct torque specification is achieved. If no other information is given, the generic torque for M6 screws is 7Nm.

#### **⚠ CAUTION:**

- Some of the screws that are used in manufacture have a thread lock (blue dot on the threads) and can be used up to three times, then they must be replaced by new screws with thread lock. Alternatively, you can put Loctite™ 243 threadlock on the screws and re-fit them.

## 4.2. Fitting the pulling device and adjusting the fitting angle correctly

### Adjust the intermediate sub-frame of the StreetJet to the appropriate width



There are three different front frame width ranges available to fit your individual wheelchair measurements. Measured from inside tube to inside tube.

| Measured width |
|----------------|
| 220-275 mm     |
| 275-330 mm     |
| 330-425 mm     |

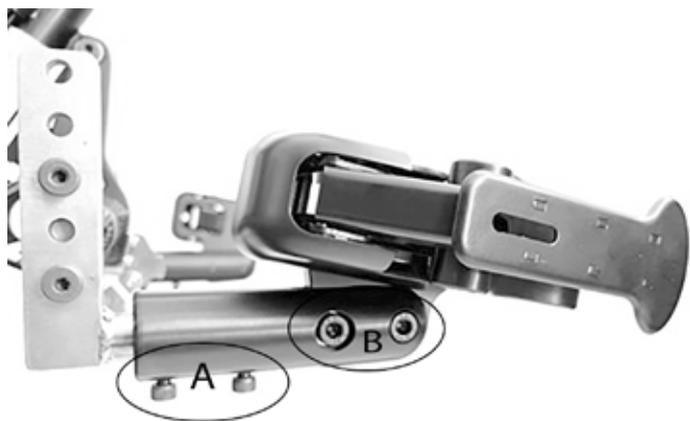
#### NOTE:

- A straight section of the frame tube at a minimum of 45mm is necessary for the attachment of the clamps.
- The optimal angle of the StreetJet to the ground is 80°. For optimal performance, it is recommended not to fall below the 322mm minimum mounting height (measured from floor to bottom edge of the clamp):

### Adjusting the subframe to the right front frame width and angle

NOTE: Make sure that the frame tube diameter is already adjusted (see section 4.1)

- Loosen the Screws (A) and (B) of the clamps



- Loosen the Screws (C) of the subframe



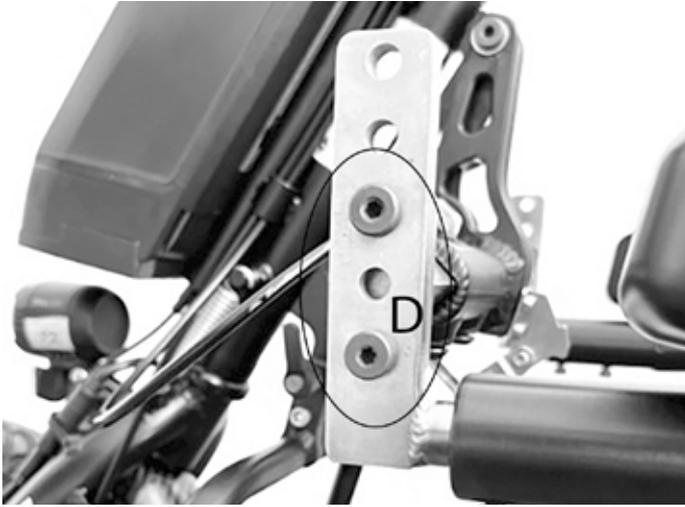
- Move the StreetJet in front of the wheelchair



- Close the clamps by pushing on the lever



- Make sure that the clamps are positioned on a straight section of the tube (min 45mm) and there is no interference with any part of the wheelchair
- If there is not enough straight tube length, please adjust the height of the clamps by reposition the docking arm height
  - Open the screws (D)
  - Reposition the docking arms
  - Tighten the screws (D) by 16Nm.



- Tighten the screws (C) to 16Nm

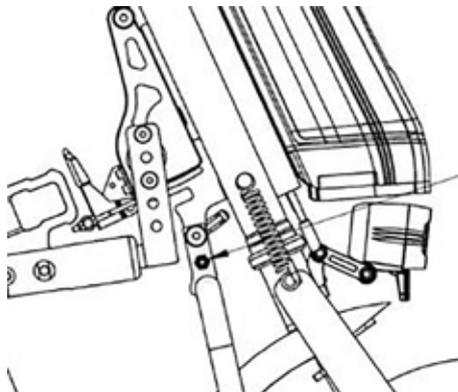


- Make sure that the distance between mounting plate and clamp does not exceed 20mm.

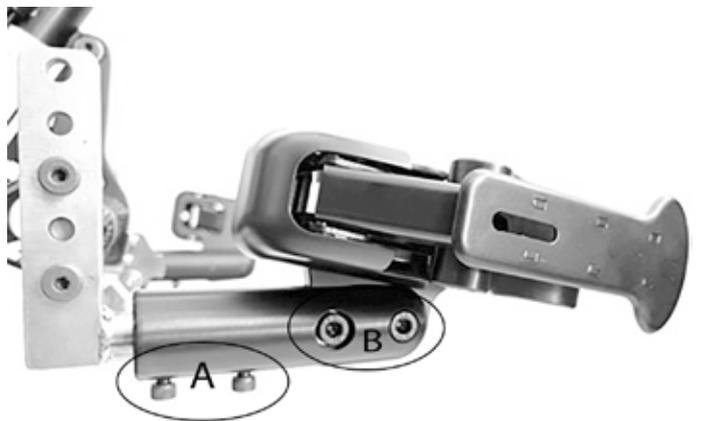


Ensure that there is in any case, no contact between the driving wheel/ stand and the footboard/ feet. (see section 5.0)

- If there is in any case a contact between the driving wheel and the footboard/ feet please, position the StreetJet that there in any case no contact between the driving wheel and the footboard/ feet
- If there is in any case a contact between the stand and the footboard. The position of the StreetJet stand must be adjusted. This is done by removing the M6 bolt and nut and repositioning the stand into the second adjustment hole. The bolt and nut can then be tightened to 12Nm to secure the stand in place.



- Tighten the screws (A) to 12Nm and (B) to 20Nm



**⚠ DANGER!**

Re-tighten screws 30 minutes before using the StreetJet, then retighten again after 24 hours.

**⚠ DANGER!**

In any case, make sure that the gap between the feet of the user and the drive wheel is big enough, even at full steering lock.

Under no circumstances must the drive wheel touch the user's feet during driving, this may cause injury.

**NOTE:**

Wherever torque settings are specified, it is strongly recommended that a torque meter (not included), is used to verify correct torque specification is achieved. If no other information is given, the generic torque for M6 screws is 7 Nm.

**⚠ CAUTION:**

Some of the screws that are used in manufacture have a thread lock (blue dot on the threads) and can be used up to three times, then they must be replaced by new screws with thread lock. Alternatively, you can put Loctite™ 243 threadlock on the screws and re-fit them.

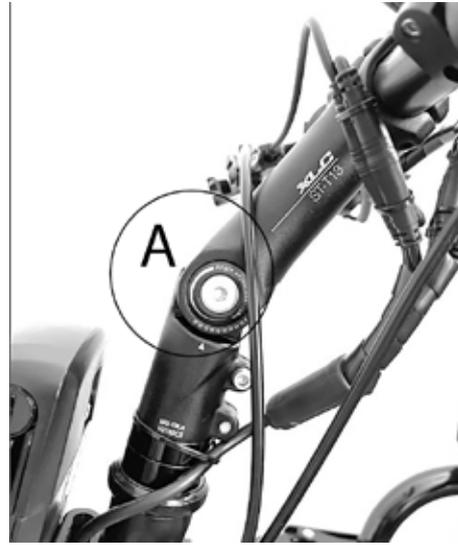
**⚠ CAUTION!**

Always observe the correct torque.

### Adjusting the handlebar position

The position of the handlebar can be adjusted from 0° to 90° angle.

To change the angle of the stem, loosen the screw (A). You can now move the stem to the angle you require (infinitely adjustable). Once the adjustment is complete, tighten the screw (A) to 20Nm.



**⚠ DANGER!**

Make sure to route and secure all cables properly. Make sure not to bend or stretch cables. If necessary, use zip-ties to fasten cables.

## 5.0. Docking and de-docking of the pulling device by the user

### DANGER!

Always make sure that the device is switched off before docking and de-docking.

Ensure the wheelchair is fully connected with the pulling device before use.

As with all moving parts, there is a risk that fingers and / or clothing could become trapped. Be extra careful when operating the clamp-lever and the locking-bolt.

### 5.1. Docking

1. Switch the pulling device off using the switch on the battery.
2. Drive with the wheelchair front frame into the docking clamps (Fig. 1)
3. Apply the wheelchair brakes. (Fig. 2)
4. Close the clamps by a push on the outside (Fig. 3)
5. Pull and hold the docking release lever on the handlebar (Fig. 4a)
6. In parallel, push the handlebar forwards/upwards (Fig. 4b)
7. And release docking release lever (Fig. 4c).
8. Close the clamp lever by pulling it upwards beyond the dead centre point. (Fig. 5).
9. Only release the wheelchair brakes just before setting (Fig. 6).



### DANGER!

- Before setting off, ensure that the pulling device is correctly docked and that all locks are closed.
- If the locks cannot be closed properly, or you have the feeling that they are not properly closed, please contact your dealer for this to be checked. Under no circumstances should you set off, there is a risk of accident and injury.
- The gap between castors of the wheelchair and the floor must be at least 40mm - otherwise there is a risk of accident and injury.
- The docking and de-docking procedures should always take place on an even surface.
- With all moving parts, pay attention to your fingers - there is a risk of finger entrapment.

### NOTE:

Before setting off, take a moment and go through the following checklist:

- Both clamps end at least 20 mm away from the drive wheel.
- The clamp lever is completely closed and there is no play.
- The gap between the castors of the wheelchair and the floor is at least 40mm.

### 5.2. De-docking

1. Apply the wheelchair brakes.
2. Switch the pulling device off using the switch on the battery.
3. Undo the clamp lever.
4. Push the handlebar gently forwards/upwards.
5. Pull and hold the docking release lever on the handlebar
6. Now lower the pulling device slowly until the castors of the wheelchair touch the floor.
7. Open the clamps by flipping them sideways.
8. Move the pull device to the front

### DANGER!

With all moving parts, pay attention to your fingers - there is a risk of finger entrapment.

The docking and de-docking procedures should always take place on an even surface.

Place the pulling device carefully onto the floor so that it does not get damaged.

## 6.0 Operation

| Word              | Definition  |
|-------------------|---|
| <b>⚠ DANGER!</b>  | Advice to the user of Potential Risk of serious injury or death if the advice is not followed |
| <b>⚠ WARNING!</b> | Advice to the user of a risk of injury if the advice is not followed                          |
| <b>⚠ CAUTION!</b> | Advice to user that potential damage to equipment may occur if the advice is not followed     |
| <b>NOTE:</b>      | General advice or best practice   |

### 6.1. Brakes

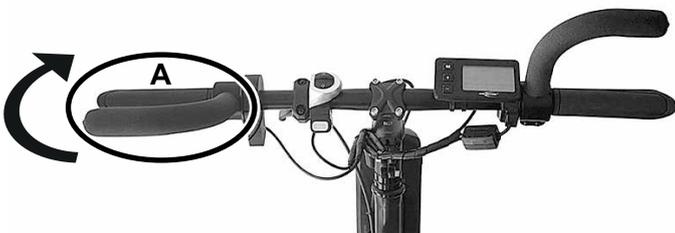
The pulling device has two brakes:

- a mechanical disk brake which is operated by a brake lever on the handlebar (A), optional mechanical double braking system with brake lever on right and left side
- an electrical brake, which is operated using the operating paddle on the handlebar (B). The electrical brake only works when the pulling device is switched on and ready for use.



#### Quad controls

Quad control brake is operated by pushing the lever (A) to the front.



Before driving, familiarise yourself with the operation, response and braking force of both brakes.

### **⚠ DANGER!**

- The electrical brake only works when the pulling device is switched on and ready for use.
- You will only achieve the maximum brake performance with the mechanical disk brake.
- Hard and sudden application of the brakes may cause you to fall forward with your upper body, resulting in possible injury. Therefore always stabilise yourself by holding onto the handles firmly with both hands.
- Braking power can be severely decrease by any or all of the following:
  - Worn tyre tread
  - Tyre pressure which is too low or too high
  - Soiled and wet tyres
  - Worn brake pads
- Ensure that the brake pads and brake discs do not become contaminated with oil and/or grease. If this happens the brake pads must be replaced. The brake disc must be professionally degreased with a brake cleaner.
- The disk brake is not self-adjusting and needs to be re-adjusted when the brake pads wear. Please contact your dealer to carry out this work.
- Be aware that the condition of the ground surface can significantly affect braking efficiency.
- Be aware that the stopping distance is extended when braking on a slope.
- The braking effect will be greatly reduced if the surface is wet, dirty, sandy, stony, uneven or otherwise compromised by environmental conditions. It is best to avoid these conditions. If this is not possible adapt your driving style to avoid the risk of potentially serious accidents.
- Always check the efficiency of the brakes before starting your journey to ensure that they are working correctly. The brakes should be checked regularly by your dealer and adjusted if required.
- If you stop on a steep slope (upwards), it can happen that the brake of the pulling device cannot hold the combined unit because of a lack of traction on the front wheel.

### 6.2. Switching on and off

Your pulling device has two switches:

- An On/Off switch on the battery housing - always switch this on first (to do this, see "Switching the battery on and off").
- An On/Off switch on the display: by pressing the upper "On/Off" button (for 2 seconds) you can switch the pulling device on or off.
- You can switch the lights on by holding the "+" button on the display pressed for 2 seconds. To switch off, press the "+" button again for 2 seconds. The display backlight is also switched on and off with the lights.

### **⚠ WARNING!**

- Always switch the pulling device off before docking or de-docking in order to avoid unintentional operation
- When not being used, always switch the pulling device off using the switch on the battery.

### 6.3. Selecting the direction of travel



- The direction control switch on the handlebar allows you to select the direction of travel. When the switch is pushed forwards in the direction of travel, the pulling device moves forwards when the throttle is activated.

- In order to change the direction of travel, the pulling device must be brought to a standstill. Then the direction control switch must be moved to the backwards position (travel direction to the back). Activating the throttle will move the pulling device backwards.

#### **⚠ DANGER!**

- The direction of travel can only be changed when the device is stationary. Operating the direction control switch when driving only has an effect once the device has come to a standstill.
- Before setting off each time, check the position of the direction control switch in order to avoid unintentionally moving backwards (risk of injury).
- When driving backwards take note of your environment in order to avoid collisions.
- Please note that the steering behaves differently when going backwards compared with going forwards. Abrupt steering movements can lead to a fall (risk of injury).

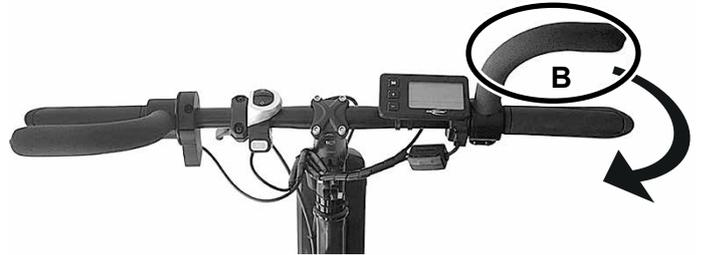
### 6.4. Controlling the speed (throttle)

- Using the throttle (A) you can control the speed with the thumb of your right hand.
- By applying greater pressure, the speed increases, by reducing the pressure, the speed will drop.
- When you let go of the throttle, the speed will drop, the pulling device will roll to a standstill.



#### **Quad controls**

Quad control throttle is operated by pulling the lever (B) .



#### **⚠ DANGER!**

- Always adapt your speed to your environment in order to avoid collisions (risk of injury).
- Familiarise yourself with the way your combined unit handles cornering before you drive at higher speeds (risk of injury).
- Before activating the throttle always check that the direction control switch is set to the required direction of travel.
- Always switch the pulling device off when docking and de-docking as well as when it is not being used in order to prevent accidental activation of the throttle.

#### **NOTE:**

- Driving at full throttle for long periods of time can mean that the motor is subject to extreme thermal load. In order to avoid overheating, the power will be restricted until the motor reaches a normal operating temperature again.

## 6.5. Selecting the drive levels

- Different drive levels (1, 2, 3) can be selected using the display, these determine the max. achievable speed in that particular Drive level.
- The drive levels can be selected using the “+” and “-” buttons on the display. The selected drive level will be shown in the top right of the display.

### NOTE:

- The max. speed and max. motor performance will only be achieved in drive level 3.

## 6.6. Cruise control



- By using the yellow pushbutton (A) which is integrated into the housing of the direction control switch, the current speed of the pulling device can be maintained (cruise control) without having to hold the throttle.
- Accelerate the pulling device to the required speed and then press the yellow push button. The pulling device will now hold that speed, even if you let go of the throttle.

- By pressing the pushbutton again or activating the brake (both mechanical and also the electrical brake), the cruise control will be deactivated immediately.
- When the cruise control is activated, it is not possible to accelerate using the throttle, to do this you will need to deactivate the cruise control.

### ⚠ DANGER!

- The cruise control can only maintain the set speed in terms of available motor power. If you are going up a slope with the cruise control activated, the speed may go down.
- When going downhill with the cruise control activated, it will attempt to maintain the set speed with the aid of the electrical motor brake. At the point when the slope is too steep and the electrical brake is no longer sufficient, the speed will increase. If necessary, you will need to activate the mechanical brake in order to maintain the required speed.

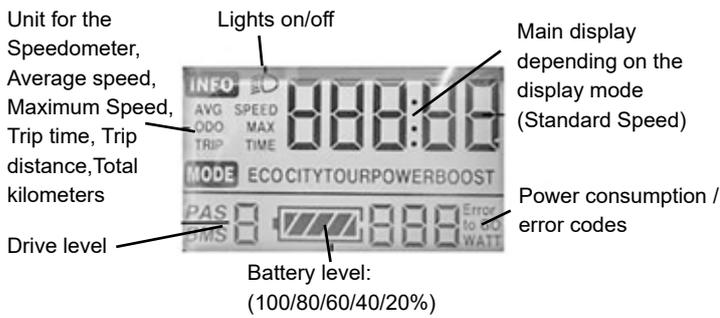
### ⚠ DANGER!

- Familiarise yourself with how the cruise control works before you use it. Practice activation/deactivation at low speeds.
- Even with the cruise control activated, you need to be constantly attentive and be ready to brake.
- Pay particular attention to your speed when going downhill with the cruise control activated. Control the speed manually if necessary using the mechanical brake (risk of injury).

### NOTE:

- If you do not use your pulling device for long periods of time, we recommend that you switch your pulling device on every 4 weeks and allow the wheel to rotate for approx. 5 minutes at low speed in order to guarantee that the grease that is there is distributed over all bearing positions, this will prevent corrosion of the bearings.

## 6.7. Functions of the display



Switching on and off

Selection of the drive level; Lights on/off

Selection of the drive level

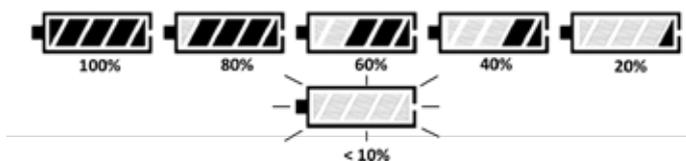
- After the pulling device is switched on by pressing the “On/Off” button for 2 seconds (also see “Switching on and off”) the display shows the current speed in the main screen and the total kilometres in the additional display. In addition, the selected drive level (after switching on, drive level 1 is pre-selected) as well as the current battery capacity is displayed.

### 6.7.1 Lights:

The lights can be switched on or off by pressing the “+” button for 2 seconds. This is displayed by the relevant symbol on the display (upper left corner).

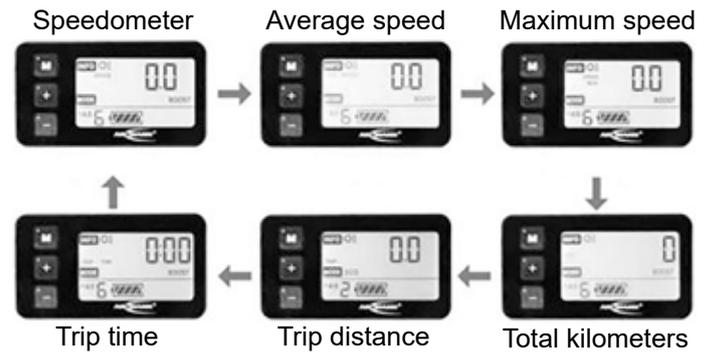
### 6.7.2 Battery capacity:

This is displayed in 20% steps. As soon as the battery display starts to flash, the battery must be charged immediately.



### 6.7.3 Display mode:

By pressing the “On/Off” button you can now select different display modes:



1. Display mode: “SPEED” - Speed
2. Display mode: “AVG SPEED” - Average speed
3. Display mode: “SPEED MAX” - Maximum speed driven
4. Display mode: “ODO” - Odometer, total distance driven
5. Display mode: “TRIP” – Total distance driven, since last trip clear (see section deleting the trip meter)
6. Display mode: “TRIP TIME”- Total drive time since last trip clear (see section deleting the trip meter)

### ⚠ DANGER!

- Only carry out setting work when the device is stationary and never when driving.

### 6.7.4 fault code display:

when the electronics detect faults in the system, these are displayed in the form of fault codes on the display.



The fault code is always shown in the bottom right corner of the display.

| Error Codes Display |                     |
|---------------------|---------------------|
| Fault code          | Description         |
| 30                  | Communication error |

| Error Codes Controller |                                      |
|------------------------|--------------------------------------|
| Fault code             | Description                          |
| 13                     | Overheating error                    |
| 14                     | Voltage error                        |
| 15                     | Motor output error                   |
| 16                     | Processor error                      |
| 17                     | Anti-rotation protection motor error |
| 19                     | Speed sensor error                   |
| 21                     | Overcurrent / MOSFET error           |
| 22                     | Throttle control error               |
| 23                     | Motor phase error                    |
| 24                     | Hall sensor error                    |
| 25                     | Brake signal error                   |

Faults can arise once sporadically. Each time the device is restarted, the fault code is deleted. If the fault should arise again, we recommend that you make a note of the fault code and contact your dealer.

### 6.7.5 Settings:

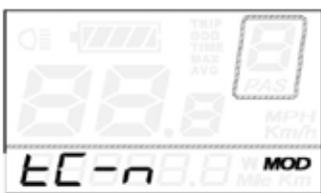
You can open the settings menu in order to carry out basic settings by pressing the + and - button for 2 seconds.

#### NOTE:

- These settings can only be carried out when stationary.

#### 1. Deleting the tripmeter:

press the “+” and “-” buttons at the same time and keep them pressed for 2 seconds. The menu opens.



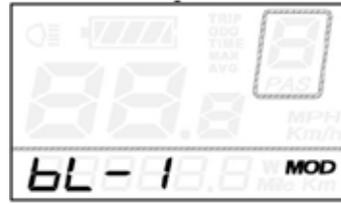
The display shows “tC-n”, pressing the “+” button you can toggle between “tC-n” (do not zero daily kilometres) and “tC-y” (zero daily kilometres). Select “tC-y” to zero the odometer and press the “On/Off” button for 2

seconds in order to confirm the entry and leave the menu.

or

Press the “On/Off” button briefly to confirm and toggle to the next menu point.

### 2. Adjusting the brightness of the display backlighting: “bL” (“backlight”) will now be shown in the display and the display backlight will be switched on.



In order to adjust the brightness, you can select between three brightness levels (bL-1/ bL-2/ bL-3) using the “+” and “-” buttons. Press the “On/Off” button for 2 seconds to confirm the entry and leave the menu.

or

Press the “On/Off” button briefly to confirm and toggle to the next menu point.

#### Acceleration adjustment:

“SSP” will now be shown in the display.

In order to adjust the acceleration, you can select between four acceleration levels (SSP:1/ SSP:2/ SSP:3/ SSP:4) using the “+” and “-” buttons (1=high acceleration / 4=low acceleration). Press the “M” button for 2 seconds to confirm the entry and leave the menu.

SSP:1 max acceleration  
 SSP:2 high acceleration  
 SSP:3 medium acceleration  
 SSP:4 low acceleration

To save the settings and return to home screen press M for two seconds.

or

Press the “On/Off” button briefly to confirm and toggle to the next menu point.

### 6.7.6 Changing the units:

“U” (“Unit”) will now be shown in the display.

Using the “+” and “-” buttons you can toggle between “U-1” (miles/mph) and “U-2” (kilometre/kph). Press the “On/Off” button for 2 seconds in order to confirm the entry and leave the menu.

## 7.0 Battery and charger

### 7.1 Introduction

The battery delivered with the product must only be used to drive the Empulse StreetJet from Sunrise Medical. No other components may be connected to it. Any other use requires the written authorisation of the manufacturer.

This operating manual only describes the use of the above-mentioned battery and corresponds to the state of the art at the time of print.

The manufacturer reserves the right to make changes resulting from further development of the mechanics, software or legal requirements. The manufacturer regards uses including the following as misuse of the battery:

- Use of the battery that contravenes the instructions and recommendations in this operating manual.
- Exceeding the technical limits laid down in this operating manual.
- Technical modifications to the battery.
- Changes to the software of the battery.
- Unauthorised attachments or use of the battery.
- The manufacturer shall not be liable for any damage caused by improper use of the battery.

| Word   | Definition  |
|--|---|
|  <b>DANGER!</b>   | Advice to the user of Potential Risk of serious injury or death if the advice is not followed |
|  <b>WARNING!</b> | Advice to the user of a risk of injury if the advice is not followed                          |
|  <b>CAUTION!</b> | Advice to user that potential damage to equipment may occur if the advice is not followed     |
| <b>NOTE:</b>   | General advice or best practice   |

## 7.2 Safety instructions for the battery and charger

### **WARNING!**

Read and observe the following safety instructions and precautions before activating the battery and before starting the charging process.

### **DANGER!**

- Failure to comply with the safety precautions and instructions may damage the product or result in electric shock, fire and/or serious injuries.
- The lithium-ion battery contains chemical substances, which may cause hazardous reactions if the safety instructions specified here are disregarded.

### **CAUTION!**

The manufacturer accepts no liability for damage resulting from non-compliance with these instructions.

### **Safety instructions and precautions on the use of the battery:**

### **WARNING!**

- Before using for the first time, the battery should be fully charged.
- The battery must only be used at temperatures between -15 °C and 45 °C.
- The battery must not be exposed to heat (e.g. radiators) or fire. External heat exposure can lead to the battery exploding.
- In the (unlikely) event of the battery overheating or catching on fire, you must ensure that the battery does not come into contact with water or other liquids. The only suitable extinguishing agent that is recommended by the cell manufacturers is sand.
- If possible, charge the battery after every use.
- For use for any other purpose than the one intended by Sunrise Medical, you will require the written authorisation of the manufacturer.
- The battery must not be opened or taken apart. Improper opening or wilful destruction of the battery involves the danger of serious injury. In addition, opening the battery voids any warranty claim.
- Never connect the battery contacts in the charging socket to metallic objects, or ensure that the contacts never come into contact with metallic objects (for example with metal filings).
- If the charging socket is dirty, clean it with a clean and dry cloth.
- Never immerse the battery in water.
- The useful life of the battery depends, among other things, on its storage location. Consequently, never leave the battery in hot locations for prolonged periods. In particular, use the boot of a car parked in the sun only for transport rather than as a storage location.

- The battery must not be subjected to mechanical impact. However, if this should happen, the battery must be checked by the manufacturer. Contact your servicing agent. You must not continue to use a damaged battery.
- If damaged or defective, the battery must be singled out and checked. Please contact your specialist dealer and discuss with them the next steps with regard to return and repair. The defective/damaged battery must not be used again or opened.
- Always ensure that the battery is kept clean and dry.
- Charge battery on a fire-and-heat-resistant underground. Do not place easily flammable or flammable objects close to the battery.
- Mishandling can lead to overheating, fire or explosions.

#### **Safety instructions and precautions on how to store the battery:**

##### **⚠️ WARNING!**

- Protect the battery immediately upon separating from the battery charger or motor. Never allow any moisture or foreign particles (e.g. metal fragments, small nails, filings or other conductive metals) to get into the battery.
- Do not expose the battery to moisture of any kind during storage (water, rainwater, snow, etc.).
- Before storing it, charge the battery and check its charge status every 3 months.
- Store the battery in a cool and dry location where it is safe from damage and unauthorised access.
- To achieve the optimum battery service life, it should be stored at a temperature from 10°C to 25°C and at a humidity of 20% to 75%.
- Battery storing conditions can be found in technical specification section.
- Avoid direct sunlight.
- When the battery is not in use, recharge it at least every 12 weeks to prevent damage.

#### **Safety instructions and precautions on the charging process:**

##### **⚠️ WARNING!**

- Only charge the battery in a ventilated, dry and dust-free environment.
- Do not charge the battery in the presence or vicinity of flammable liquids or gases.
- Do not expose the battery to moisture of any kind during charging (water, rainwater, snow, etc.).
- Do not carry out the charging process in rooms where moisture may affect the battery.
- The battery must only be charged at temperatures between 0 °C and 40 °C. If you attempt to carry out a charging process outside of this temperature range, the battery mechanism automatically switches off the charging process.
- Only use the designated charger to charge the battery. Your specialist dealer can provide the relevant information.

##### **⚠️ DANGER!**

- Using an unsuitable battery charger can lead to malfunction and result in the battery having a limited service life. There is also a danger of fire and explosion.
- When the charging process is complete, disconnect the charger from the mains socket first before disconnecting it from the battery.
- Ensure adequate air circulation as soon as the battery is charged. In principle, only charge the battery under supervision.
- Damaged batteries must not be recharged or used any further.
- Damaged battery chargers (damage to the plug, housing, cable) must not be used.

#### **Safety information and precautions on how to transport and ship the battery:**

##### **⚠️ WARNING!**

- Lithium-ion cells are used in the battery. Transport and shipping of the battery are, therefore, subject to all applicable statutory requirements, which must be strictly observed. For instance, a defective battery must never be transported by plane.
- If your battery is defective, take it personally to your specialist dealer as shipping lithium-ion batteries by post or other carriers is subject to strict rules and regulations. Once again, we recommend that you contact your specialist dealer.
- As transport regulations may change annually, we strongly recommend that you consult your travel operator, airline or shipping line before you set out on your trip in order to learn about the current applicable regulations. A defective battery must not be taken on a plane or put in your luggage.

##### **NOTE:**

- If your battery is fitted to the pulling device when being transported, relaxed transport regulations apply in accordance with UN3481.
- Make sure you keep the packaging container of the battery in case you need to transport it.
- Discuss transportation with your specialist dealer prior to shipping.

## Safety information and precautions on the charger:

### **⚠️ WARNING!**

- Before starting the charging process, read and follow all instructions and precautions enclosed with the charger and the following precautions and safety information.
- Only use the designated charger to charge the battery. Your specialist dealer can provide the relevant information.
- When the charging process is complete, we recommend disconnecting the charger from the mains socket first before disconnecting it from the battery.
- Do not expose the charger to moisture of any kind during charging (water, rain water, snow, etc.).
- Do not carry out the charging process in rooms where moisture may affect the charger.
- Be aware of condensation. If the charger is brought from a cold room into a warm room, condensation may form. In this case, refrain from using the charger until all condensation has dissipated. Please note that this may take several hours.
- Never carry the charger by its power cable or the charger cable.
- Never tug at the power cable to disconnect the charger from the mains socket.
- Never subject cable and plug to any pressure. Overstretching or bending the cable, pinching a cable between a wall and a window frame or placing heavy objects on a cable or a plug may result in electric shock or fire.
- Lay the power cable and the attached charging cable so that nobody can step on it or trip over it and so both cables are protected against any other harmful effects or stress.
- Do not operate the charger if the power cable, the charging cable or the plugs attached to the cables are damaged. Damaged parts must be replaced immediately by the authorised specialist dealer.
- Do not use or disassemble the charger when it has received a hard blow or was dropped or damaged in another way.
- The charger must not be used by children.
- Never attempt to disassemble or modify the charger.
- Do not cover the charger during the charging process or place any objects on top of the device.
- Never connect the terminals of the charging plug with any metal objects.
- Ensure that the plug is firmly inserted in the socket.
- Never touch plugs with wet hands.
- Do not use the plug of the charger and/or the mains plug if they are wet or dirty. Before inserting it, clean the plug using a dry cloth.

## 7.3. Notes for transportation in aeroplanes

Shipping lithium-ion batteries or taking them with you on aeroplanes is strictly regulated. The guidelines may vary depending on the airline. In all cases, contact your airline or carrier, before you transport or want to send a device on an aeroplane which operates on lithium-ion batteries.

### **⚠️ WARNING!**

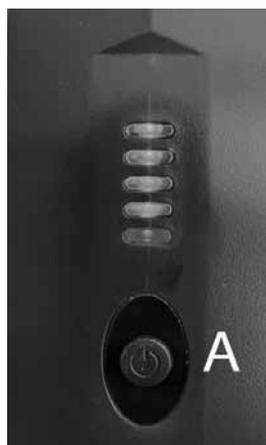
- The battery of the Empulse StreetJet contains lithium-ion cells. For shipping or transportation, you must comply with the relevant legal guidelines.
- The guidelines for shipping lithium-ion batteries or transportation in an aeroplane may change. It is essential that you contact your airline or travel operator in order to obtain information about the current guidelines before you start a trip or plan shipping.
- Defective batteries cannot be transported in an aeroplane under any circumstances.
- If your battery is defective, please contact your dealer to find out how to proceed. In this case, special conditions apply for transporting hazardous products.
- In all cases switch the battery off for transportation and protect the contacts on the underside of the battery against short circuiting.

## 7.4. Switching the battery on and off

The battery has an on/off switch on its housing (A). The current will only flow when the battery is switched on. The pulling device can only be switched on if the battery is switched on.

To switch on, proceed as follows:

- Press the ON/OFF button on the housing of the battery quickly. The red LED indicates that the battery is turned ON.
- To switch off, you need to press the ON/OFF button (A) again for 2 seconds.
- The battery will automatically shut off after 60 minutes.



## NOTE:

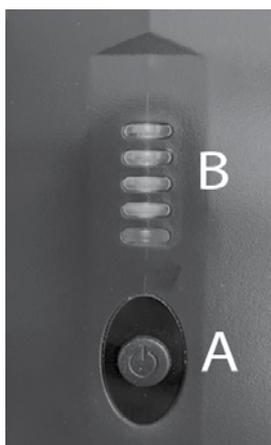
- Always switch the battery off when the pulling device is not being used. In this way, you can guarantee that no current will flow and the risk of self discharge of the battery is as small as possible.

## ⚠ WARNING!

- Always switch the battery off before you remove the pulling device.

### 7.5. Charge status display for the battery

The battery has an integrated charge status display. This is fitted on the front side of the battery. Using this display you can check the charge status of the battery quickly and easily.



- Press the ON/OFF button (A) quickly
- 4 green LED (B) means 100% charged, 3 LED= 75%, 2 LED= 50%, 1 LED=20%
- The display will go back off after approximately 10 seconds.

### 7.6. Detaching the battery

- The battery can be removed for charging or as protection against theft.
- In order to prevent unauthorised removal of the battery, the battery is fixed to the battery bracket with a lock.
- The battery can be removed as follows:
  - Switch the battery off (see “Switching the battery on and off”).
  - Open the lock using the key. To do this insert the key into the lock and then rotate it 90° anti-clockwise until it reaches the stop. Keep it in this position.
  - The battery can now be tipped to the right (in the direction of travel). To do this hold the battery at the top and push it to the side.
- To fit, insert the lower part of the battery into the floor plate of the battery bracket, then push the upper part of the battery gently against the battery bracket and push to the left (in the direction of travel) until the battery clicks into the battery bracket.



## NOTE:

- The pulling device is delivered with two identical keys. Always store the keys separately and make a note of the key number.

## 7.7. Charging the battery

Fully charge the battery before its first use. The battery capacity upon delivery is generally 30%. The battery can be charged at any capacity without adversely impacting its service life. The battery achieves its maximum service life when it is charged at an ambient temperature of between +10 °C and +25 °C.

- The battery can be removed for charging but can also be charged when fitted to the pulling device.
- To charge, connect the battery to the charger delivered with the product. Remove the rubber bungs from the charging socket of the battery, then plug the charging plug into the charging socket and tighten the cap nut.
- Now plug the mains plug of the charger into a socket
- During the charging process, the LED on the charger will be illuminated in red.
- When the battery is fully charged, the LED on the charger will change to green.
- The LEDs of the charge status display of the battery also display the current charge status of the battery.

### NOTE:

- Before inserting the plug in the socket, ensure that both parts are clean and there are no metallic particles on them. If you detect such particles, use a dry and clean cloth to remove them.
- During the charging process, the pulling device cannot be used.

### WARNING!

- Do not leave the batteries/battery pack unattended while charging.
- The charging process ends automatically as soon as the battery is fully charged. This avoids overcharging.
- Do not leave the charger connected to the mains socket any longer than necessary.
- When the charging process is complete, disconnect the charger from the mains socket first before disconnecting it from the battery.
- Before using the device, always check the charge status of the battery.
- The battery should be fully charged prior to use in order to provide motorised support at all times.
- The battery may only be charged in a dry room at temperatures between 0° and 40° C.
- We recommend charging the battery fully before longer periods of storage, eg, before a winter break and re-charge regularly (approx. ever 12 weeks).

## 7.8 Battery warranty:

Battery warranties are subject to periods set by the manufacturers. However, most of these warranties are subject to a wear and tear clause, and if you genuinely wear out your batteries in 24 months, it will not be possible to obtain a replacement under warranty.

## 8.0 Maintenance and troubleshooting

The pulling device is equipped with an 12" or 16" wheel. Make sure that the tyres are always at the recommended tyre pressure, as this will significantly affect the driving characteristics. If the tyre pressure is too low, movement and manoeuvrability is made more difficult due to the increased rolling resistance and this also increases the amount of effort required.

The optimum tyre pressure (usually 3-4 bar) is indicated on the tyre wall.

### 8.1. Fitting and repairing the tyre:

#### To remove the wheel/tyre:

- Switch the battery off and carefully remove it from the pulling device.
- Unplug the cable which connects the drive wheel to the pulling device at the connection. Make sure that no dirt or moisture can get into the plug and clean the contacts with a clean, dry cloth. Do not use lubricating or penetrating oil to clean the contacts.
- Remove the drive wheel, by undoing the nuts which are used to screw the drive wheel onto the fork on both sides and then pull the drive wheel downwards off the fork.
- Now pull the tyres off the rim using two plastic tyre levers.

Before fitting a new inner tube:

Inspect the base of the rim and the tyre inner wall for foreign bodies and if necessary clean thoroughly. Check the condition of the rim tape, particularly at the valve hole. Only well fitting, strong rim tape offers long-term protection against inner tube damage through burrs and sharp spoke heads.

To refit:

- Place the tube inside the tyre and rest the tyre on the rim.
- Align the valve stem with the cut out in the rim.
- Face the valve stem outward.
- Slowly inflate to 3-4 bar pressure
- Insert the drive wheel into the fork.
- Tighten the wheelnuts with 40NM.
- Connect the motor cable plug to the pull device, Make sure that there is no dirt or moisture into the plug and clean the contacts with a clean, dry cloth. Do not use lubricating or penetrating oil to clean the contacts.
- Carefully insert and switch on the battery.

### DANGER!

Make sure you use the right torque for the wheel nuts on the left and right of the fork (40 Nm).

After fitting, check the tyre pressure again.

## 8.2 Regular maintenance

Your pulling device is subject to high levels of stress when being used, and requires regular checks in order to guarantee your safety.

### **DANGER!**

Carry out the visual inspections/maintenance as described below regularly, at least every 4 weeks, and ideally before you set off each time:

- Make sure that all screws and fasteners are secure.
- Functional and safety check of all lights (if fitted).
- Functional/safety check of the docking system (pulling device and wheelchair) to make sure they are secure and check for wear.
- Check the brake pads for wear and that the brakes work properly. The disk brake must be re-adjusted/maintained regularly by a dealer.
- Check function of the disk brake (get your dealer to replace cables and brake pads if needed).
- Visual inspection of the fork and intermediate sub-frame for damage (e.g. cracks, corrosion, deformation etc.).
- Visual inspection of the wheelchair frame and back tubes for damage (e.g. cracks, deformation, etc.)".
- Check tyres (tread, cracks, damages) and replace if needed.
- Check the spoke tension and the rim and hub of all wheels (wheelchair wheels as well) for damage.
- Check all cable and electrical connectors.
- Check that the steering head and handlebar are secure.

## 8.3 Electrical system

If fault codes arise, or the electrical system of the pulling device does not function as intended:

- Contact your dealer.
- Switch the pulling device on and push it forwards 1 m by hand – check that it is working again
- Switch the battery off and carefully remove it from the pulling device.
- Check all freely-accessible plug connections for dirt or moisture. Clean the contacts if necessary with a clean, dry cloth. Use contact spray if necessary, but do not use lubricating or penetrating oil to clean the contacts under any circumstances.



## 9.0 Technical Specifications

| General data                    |  |
|---------------------------------|--|
| Operating voltage               | 36 Volt  |
| Range of action                 | up to 50km* (with 14 Ah battery) / up to 26km* (with 8 Ah battery)   |
| Max. speed options              | 6 kph; optional 10/15/20 kph (speed can be regulated in 3 levels)  |
| Climbing power (nominal)        | up to 11% (6°)   |
| Dynamic stability (rated slope) | 6° / 10.5%   |
| Flammability standards          | tested according to EN 12184   |
| Max. load                       | 120 kg   |
| Total weight                    | From 15.5 kg (with 14 Ah battery) / From 15 kg (with 8 Ah battery)   |
| Storage device temperature      | Tested according to ISO 7176-9 which allows operation temperature of -25 to +50 °C and a storage temperature of -40 to +65°C |

|                     | 12"   | 16"   |
|---------------------|-------|-------|
| Total length (max.) | 638mm | 667mm |
| Total width (max.)  | 580mm | 580mm |
| Total height (max.) | 803mm | 850mm |

| Motor data        |                             |                             |
|-------------------|-----------------------------|-----------------------------|
| Wheel size        | 12"                         | 16"                         |
| Rated voltage     | 36 Volt                     | 36 Volt                     |
| Power             | 250 W (Nominal) 630 W (Max) | 250 W (Nominal) 750 W (Max) |
| Maximum torque    | 40Nm                        | 60Nm                        |
| Protection rating | IP44                        | IP44                        |
| Motor noise       | max. 65 +/-5 dbA in 1 m gap | max. 65 +/-5 dbA in 1 m gap |
| Warranty          | 2 years                     | 2 years                     |

| Battery data                      |  |
|-----------------------------------|--|
| Battery type                      | Lithium-ion  |
| Rated voltage                     | 36 Volt  |
| Capacity                          | 14 Ah / 8 Ah   |
| Electrical power                  | 504 Wh / 288 Wh  |
| Discharge current                 | 15 A (continuous)<br>18 A (less than 10 minutes)<br>35 A (less than 5 seconds)   |
| Charging time                     | 7-8 hours (approx. at 2.0 A charging current for 14 Ah battery) / 3.5-4 hours (approx. at 4.0 A charging current for 14 Ah battery). |
| Charging temperature range        | 0 - 40°C   |
| Operating temperature             | -15° to 45°  |
| Storage temperature range         | -15° to 45°C (up to 1 month) / -15° to 35°C (up to 6 months)   |
| Maximum number of charging cycles | 1000   |
| Protection rating                 | IP65   |
| Warranty                          | 2 years  |
| Display                           | State of charge  |
| Functions                         | On/off switch  |
| Weight of battery pack:           | 2.6kg (14 Ah) / 2.1kg (8 Ah)   |

| Battery Charger       |             |
|-----------------------|-------------|
| Input                 | 100-240V AC |
| End-of-charge voltage | 42 Volt     |
| Charging current      | 2.0A / 4.0A |
| Protection Rating     | IPx4        |

| <b>Controller</b> |         |
|-------------------|---------|
| Rated voltage     | 36 Volt |
| Max. current      | 15 A    |
| Protection rating | IP54    |

| <b>Display</b> |  |
|----------------|--|
| Displays       | State of charge of battery<br>Drive level<br>Total / Trip distance Travelled<br>Trip Time Travelled<br>Current speed in kph/ mph<br>Average speed<br>Maximum Speed<br>Current motor power in Watt<br>Error Codes |

| <b>Thumb throttle</b> |      |
|-----------------------|------|
| Protection rating     | IPX4 |

| <b>Thumb brake</b> |      |
|--------------------|------|
| Protection rating  | IPX4 |

| <b>Control unit forwards/backwards, cruise control</b> |      |
|--|------|
| Protection rating                                      | IPX4 |

| <b>Mechanical brake</b> |      |
|-------------------------|------|
| Protection rating       | IPX4 |

\* The range depends on terrain and the prevailing driving conditions. The specified max range of action is valid for optimum travel conditions (level terrain, a newly recharged battery pack, ambient temperature of 20 °C, smooth travel, etc.). At lower temperatures, the range of the pull device may be lower than the range specified.

## 10.0 Notes on storage

### Battery:

- Protect the battery immediately upon separating from the battery charger or motor. Never allow any moisture or foreign particles (e.g. metal fragments, small nails, filings or other conductive metals) to get into the battery.
- Avoid storage in humid areas to prevent corrosion on the plug contacts.
- Do not expose the battery to moisture of any kind during storage (water, rainwater, snow, etc.).
- Before storing it, charge the battery and check its charge status every 3 months.
- Store the battery in a cool and dry location where it is safe from damage and unauthorised access.
- To achieve the optimum battery service life, it should be stored at a temperature from 10°C to 25°C and at a humidity of 20% to 75%.
- Do not keep your battery in places where the temperature exceeds 45°C or is less than -15°C.
- Avoid direct sunlight.
- When the battery is not in use, recharge it at least every 12 weeks to prevent damage.

### Pulling device:

- Store the pulling device in a dry place, protected from rain and snow.
- Cover the pulling device during long-term storage in order to protect it from dust.
- Do not store the pulling device at temperatures above 45°C or below -15°C.
- If you do not use your pulling device for long periods of time, we recommend that you switch your pulling device on every 4 weeks and allow the wheel to rotate for approx. 5 minutes at low speed in order to guarantee that the grease that is there is distributed over all bearing positions, this will prevent corrosion of the bearings.
- After a long period of storage, check that the brakes are working and check the condition of the tyres before setting off.

## 11.0 Cleaning and hygiene

### Cleaning:

- The pulling device should be cleaned regularly and after each bigger journey with commercially available, household cleaning agents and a little bit of water.
- The display, battery and all other electronic components may only be cleaned by wiping with a damp (not wet) cloth.
- The drive wheel can be cleaned with a soft sponge or a soft brush.
- The clamps on the wheelchair and the docking system can be cleaned with water, a soft sponge or a soft brush (recommended after each ride).
- After cleaning please, a penetrating oil (e.g. Ballisto WD 40, Caramba, etc.) can be used to lubricate the moving parts of the docking mechanism.

### CAUTION!

- Never use steam or high pressure to clean the device.
- Never use any abrasive cleaning agents or aggressive, acidic cleaners.
- Make sure that water will not get into contact with the electrical connectors.

### Hygiene measures when being re-used:

Prior to the wheelchair being re-used, it must be carefully prepared. All surfaces which come into contact with the user must be treated with a disinfection spray.

To do this, you must use a disinfectant as authorised/ recommended in your country, for rapid alcohol-based disinfection for medical products and medical devices, which must be disinfected quickly.

Please be aware of the manufacturer's instructions for the disinfectant you are using.

In general, a complete disinfection cannot be guaranteed on seams. We therefore recommend that you dispose of seat and back slings to avoid micro-bacterial contamination with active agents according to your local infection protection law.

## 12.0 Disposal and recycling

**NOTE:** If the pulling device has been made available to you as part of a charity or medical loans scheme, then it may not belong to you. If it is no longer required, then follow the instructions to return it as given by the organisation that made the pulling device available to you.

Electrical and electronic equipment need to be disposed of separately to general household waste at specific state-provided locations. The correct disposal and separate collection of used appliances serves to prevent potential damage to health and the environment. It is a requirement for the re-utilisation and recycling of used electrical and electronic equipment.

Detailed information on the disposal of your used equipment can be obtained from your local authority, your waste disposal service, the specialist dealer from which you purchased the product, or your sales contact.

This information only applies to equipment which is installed and sold in the countries of the European Union and which is subject to the European directive 2002/96/EC. In countries outside of the European Union, deviating conditions apply to the disposal of electrical and electronic waste.

### Materials Used:

In the following section, there is a description of the materials used on the pulling device, in view of the disposal or recycling of the pulling device and its packaging. There may also be special local regulations in force with regard to disposal or recycling, these must be taken into account when disposing of your pulling device. (This can include the cleaning or decontamination of the pulling device prior to disposal).

- Aluminium:** Wheels, parts of the frame, main brake lever, handlebar, docking clamps, fork and subframe
- Steel:** Steering tube, frame and sub-frame
- Plastic:** Handles, plugs, housing parts, tyres and clamp covers
- Packaging:** Made of soft polyethylene, cardboard
- Battery:** Lithium-ion battery (hazardous product)
- Carbon Fibre:** Fender

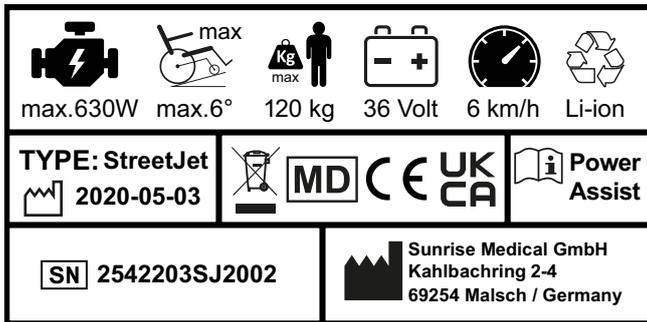
Please see battery section for more detailed information.



### 13.0 Nameplate

The nameplate is located on the frame as well as on a label in the owner's manual. The nameplate 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:

[SAMPLE]



Sunrise Medical Limited  
Thorns Road, Brierley Hill  
West Midlands, DY5 2LD  
UNITED KINGDOM



**ISO 7010-M002**  
Instruction manual/booklet must  
be read! (Blue Icon)

|              |  |
|--------------|--|
| <b>Type:</b> | Product Name/SKU Number.   |
| max X°       | Maximum safe slope, depends on wheelchair/ add-on bike setting, posture and physical capabilities of the user. |
| XXX kg       | Load Maximum.  |
|              | UKCA Mark  |
|              | CE Mark  |
|              | Directions for use   |
| X km/h       | Max speed.   |
| XX Volt      | Electrical voltage / V=Volt.   |
| XXX Watt     | Motor performance  |
|              | Cells contain lithium  |
|              | Must not be disposed of as household waste   |
|              | Serial number  |
|              | This symbol means Medical Device   |
|              | Manufacturer's address.  |
|              | Date of manufacture.   |
|              | Importer's address   |
|              | UK responsible person  |
|              | Swiss representative's address   |
|              | Symbol for wheelchair not intended to be used as a seat in a motor vehicle.                                    |

As we are committed to continually improving the construction of our wheelchairs and pull devices, product specifications may vary slightly from the examples illustrated. All weight/dimensions and performance data is approximate and is provided solely for guidance.

All pull devices must be used in accordance with the manufacturer's guidelines.



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