

Retractable Powered Fifth Wheel

Operating manual

Retractable Powered 5th Wheel Operating Manual—OM0028E/1

This manual contains important safety, installation and operating instructions for this unit. Read this manual thoroughly and completely, and retain for future reference. This unit can cause serious injury to personnel or damage to property if used incorrectly, therefore do not use this machine for any other purpose apart from its intended use. Using this unit incorrectly may void warranty.

Any damage audible or visible to this unit should be addressed at the time of discovery. Electrodrive Pty Ltd can provide parts and service support on request through its service partner company:

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Introduction

Effortlessly move hospital beds with the battery powered Retractable Powered 5th Wheel.

The Retractable Powered 5th Wheel converts your manually-pushed hospital beds into powered solutions. Productivity is greatly increased, and back or shoulder strain is eliminated.

The Retractable Powered 5th Wheel allows an operator to effortlessly move hospital beds:

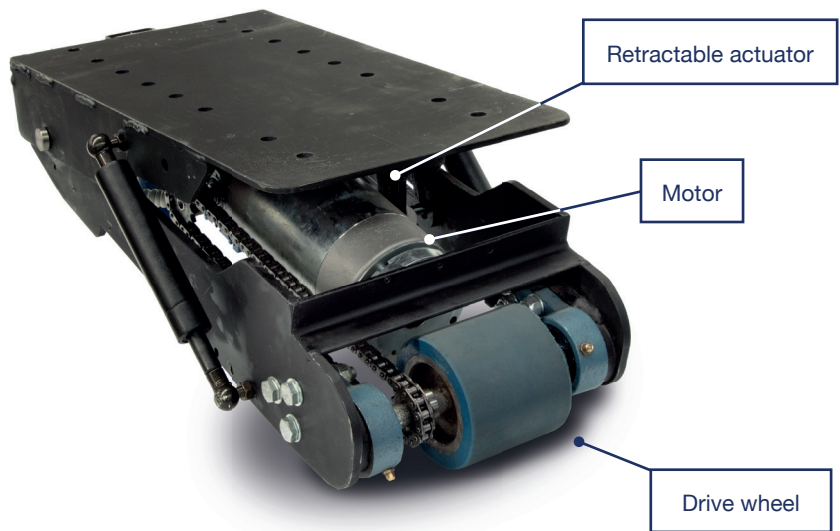
- Through long corridors, factory aisles, round tight corners.
- Up and down ramps.
- In and out of lifts.

Features

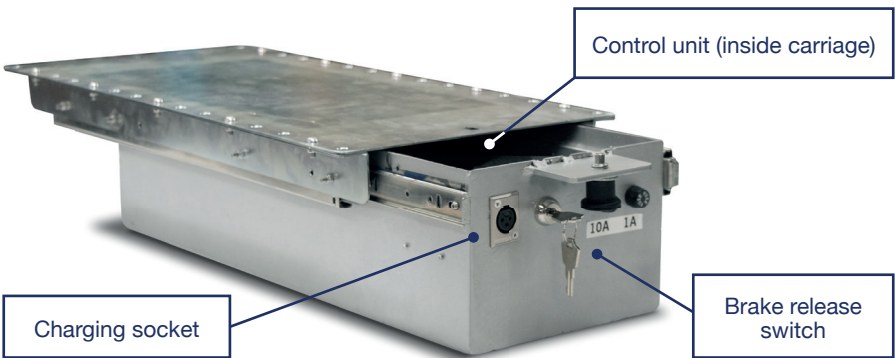
- Rated to tow up to 400 kg (dependent on slopes and speed).
- 24 Volt DC power.
- Variable speed drive unit.
- Electro-magnetic park brake.
- Travel speed—up to 4.5 kph.
- Robust steel chassis.
- Programmable motor controller.
- Automatic charger.

Operating instructions

Traction unit



Slide-out battery carriage



Controls



Key switch

The key switch must be turned clockwise to switch the unit on. When ON, the LED battery indicator will be illuminated. It is important to note that the unit should be switched off and the key removed, whenever it is not in use. This eliminates the risk of unauthorised movement and also prevents an unnecessary use of battery power.

Emergency stop

The controls have an emergency button.

Emergency stop button—in an emergency, push this button to stop the unit. To release, slightly twist the button and it will pop back up.



Only use the emergency button in an emergency.

Emergency back-off bar

When the 'emergency back-off bar' is activated (depressed) while in motion, the Retractable Powered Fifth Wheel will behave in one of two ways.

1. In reverse (towards the operator), the unit will stop and then move away from the operator for a short distance.
2. In the forward direction, the unit will reduce to a slow speed.



Any accessories installed that prevent the safe operation of the emergency back-off bar may create a crush hazard for the user.

Throttle grip

The throttle grip provides variable speed control. Releasing the grip stops the unit. An automatic park brake is applied after a short delay after the grip has returned to its neutral position. Under no load, the park brake will maintain the Retractable Powered Fifth Wheel in a stationary position. Under load, the brake may not be capable of holding the system stationary, particularly on a sloping surface.

Speed selector

The speed selector will always start in the slow position. Select a speed that you are comfortable using. The speed can be changed while driving. It's advisable that the operator select a slow speed when approaching a bed or trolley to hitch; entering a confined area; on a slippery or slightly sloped floor surface; turning, or reversing.

Battery level indicator

The battery level indicator indicates the amount of charge left in the batteries. When it appears to be running low, return the unit to the closest charging station to charge the batteries. Being aware of the level of charge of the batteries will eliminate the possibility of running low on power whilst away from the charging station. Red light only indicates no usable battery power remaining.

Horn

Push to sound the horn, release to turn off.

Charger socket

The charger socket is located on the slide-out battery carriage. However, depending on customer needs, the charger socket can be fitted into a preferred location. If needed, extension loom can be provided.

Brake release

If for some reason the unit becomes inoperable, the brake to the motor can be released to allow manual movement. Release this brake by turning the brake release switch clockwise. Depending on customer needs, the brake release can be fitted into a preferred location. If needed, extension loom can be provided.

Capacity

Refer to the serial plate for the unit's safe working load, located on the traction unit.

Driving instructions

Safety check

Before using the Powered 5th Wheel the operator should complete the following check:

1. The battery charger is not connected.
2. The direction selector works.
3. The emergency stop button is released.
4. The brakes operate correctly when the throttle lever is released.
5. The battery indicator shows adequate charge.
6. There is no visible damage to the unit.

Steering

The Retractable Powered Fifth Wheel's handle design is based on the style of the "Gzunda" bed mover's hand controller, but has the added benefit of being able to raise the entire drive wheel off the ground.

This enables the bed, stretcher or trolley to manoeuvre sideways in narrow corridors or small rooms, and is recommended for hospital environments where space is limited.



Retractable wheel control

To operate the retraction function, simply press the 'lift' button on the Gzunda controller and the drive will lift off the ground allowing the bed, stretcher or trolley to manoeuvre sideways.

Use the 'engage' button to lower the drive wheel and re-enable power drive.



Note: The standard 33Ah batteries are designed to allow a maximum of four cycles of retraction per duty cycle and therefore should only be used when parking or storing the bed, stretcher or trolley.

The drive wheel should ALWAYS be lowered when driving or after parking. A larger battery pack can be supplied if retraction is to be used more frequently.

Charging

Ensure regular recharging of batteries (charging overnight after a day's usage is recommended). Irregular charging may cause the batteries to prematurely fail.

Leaving a machine in storage without charge for periods greater than a month can also lead to premature battery failure. This is not covered under warranty.

For detailed charging procedures refer to Appendix 1.



Only use the battery charger supplied with this Retractable Powered 5th Wheel.

The automatic features of the supplied charger ensures that the sealed gel batteries are not overcharged, and only a minimum amount of gas, if any at all, are expelled during charging.



Maintenance

Batteries

If this unit is not being used for an extended period of time, it should be connected to the battery charger to check the battery level on a regular basis, and placed on charge overnight if required. This will ensure the batteries are kept in good condition.

The batteries are sealed and maintenance free. DO NOT attempt to open these batteries. If the unit is not charged as above, the batteries may be exhausted and have dropped below the charging threshold of the battery charger. The supplied charger cannot begin to charge the batteries unless they have a small amount of charge. If this occurs, contact Electrodrive or your local service agent.

A sign that the batteries need replacing is when they no longer hold charge.

Motor and transmission

The motor is a sealed unit and does not require regular maintenance.

Brakes

The dynamic braking system does not require regular maintenance.

Motor controller

This unit is not serviceable. Any difficulties experienced with speed control should be referred to Electrodrive.

Throttle grip

The throttle does not require maintenance. Only if the throttle suffers damage then it should be replaced.

Fuses

The control circuit is protected against inadvertent current over-loads. This fuse is located in the controller box.

Self-resetting circuit breaker

This Retractable Powered 5th Wheel is fitted with a self resetting circuit breaker in case of momentary over-load. This circuit breaker can be found beneath the battery carriage. If the unit repeatedly over-loads, test the machine, as the motor may be damaged, and continued use could damage the unit further.

Appendix 1: Machine rating conditions

Model	Safe Working Load	Max Load
Retractable Powered 5th Wheel	400 kg	400 kg

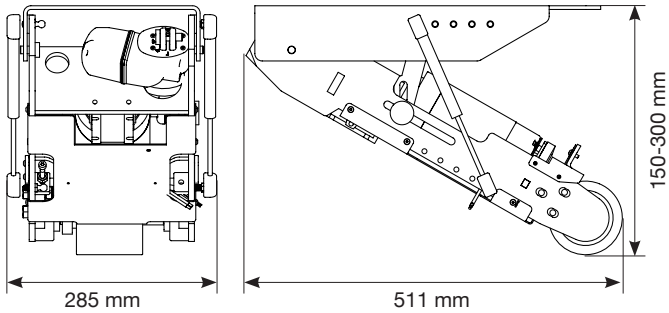
The Retractable Powered 5th Wheel has been designed to move the rated weight capacity on a level firm surface. Variations in the working environment may impede the performance of this unit. Such parameters include (but are not limited to) the following:

- Ramps and sloped surfaces
- Soft surfaces (for example carpet)
- Slippery surfaces (gravel, water, oil on the ground, etc)

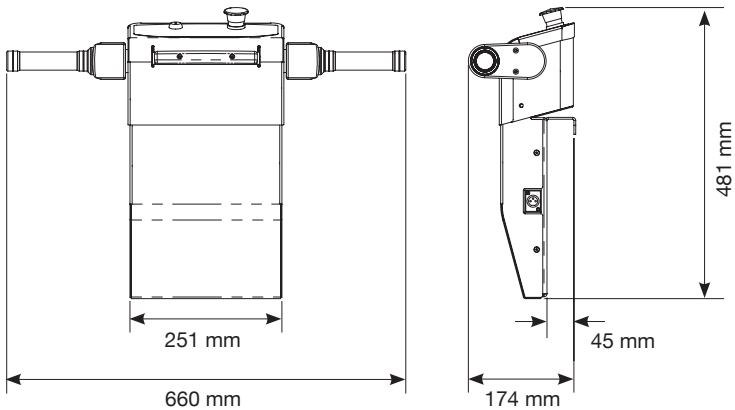


It is important that the Retractable Powered 5th Wheel IS NOT to be operated outside of the recommended conditions.

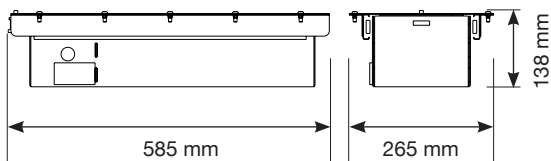
Drive wheel



Hand controller



Battery case



Appendix 2: Charging procedures for SLA batteries

- Always charge batteries when work is complete and the equipment is not required for use.
- Opportunity charging is NOT recommended. This can also shorten battery life.
- Never leave batteries in a discharged state as this will shorten the batteries life.
- For maximum battery life, a battery must be recharged to 100% capacity. Recharging less than 100% may result in premature battery failure. Batteries are not covered under warranty if they are not recharged properly.
- If batteries are disconnected from the machine and not used for lengthy periods of time, it is recommended to give them a maintenance charge once every two months.

Charging setup

- Ensure you have the correct charger for the batteries. The correct voltage and current is important to ensure the full life of the batteries.
- Check all connections are tight and in good condition.
- The green charger LED will illuminate to confirm charging is in progress.
- If charger lights do not come on, call your service technician.
- When charger is plugged in, drive function of machine is automatically inhibited.

During charging

- Ensure there is enough airflow to help keep the batteries as cool as possible.
- If the batteries are swollen turn off immediately and call your service technician.
- Always leave batteries on charge until the charge is COMPLETE. This is indicated when charger LED turns off.

Charger manual

Please read BA1105—Battery Charger Operating Manual for more information.

Appendix 3: Spare parts list

Part (mechanical)	Description
EDGM1370	Chain and link (06B)
EDGM1810	Handgrip 7/8" x 5" – Handle
EDGM1635	Gear box
EDGM1785	Drive wheel shaft 192mm long
EDBRGUCFH204	UCFH204 bearing
EDSP1040	Sprocket 13T Bossed 06B, 18mm bore, 6mm Kw
EDSP1030	Sprocket 13T Bossed 06B, 14mm bore, 5mm Kw
EDGM168	G/Box output shaft single end
EDWH1050	GZ Drive wheel max 100mm diameter 90mm wide
EDACTGSTRUT-90X150N	Gas strut 90mm stroke, 150N

Part (electrical)	Description
EDBA1105	Battery charger 24V 7Amp
EDBATGEL33AH	12V 33AH battery
EDWIRP5W300C-HL	P5W300C – Handle loom
EDCL1130	Loom charger with socket
EL2110	Controller 1228, blank ready to program
CL1140	Controller box loom 12-way plug
EDEL1910	Circuit breaker – 40Amp
EDEL2450	Fuse 10 Amp (charger) (3AG)
EDEL2500	Fuse holder panel mount
EDWIRP5W300C-BAT	Power 5th Wheel battery loom
EDWIRGZP5W-HTC	GZP5W – Handle to the controller box
EDWIRP5W300C-KEY	P5W300C – Key switch loom
SWTESTOP2NCTWIST	E-stop button 24mm mushroom (16mm mount)
SWTDPDTBLK21OD	DPDT IP56 push button switch
MO1102	300W motor

Warranty

Electrodrive Pty Ltd warrants that this product is free from defects in materials and workmanship for a period of twelve months from the date of dispatch from the Electrodrive plant.

If a defect is reported, Electrodrive will repair or replace the defective part, at its own discretion. This warranty does not apply if this unit has been misused, damaged, or modified in any way.

Please be aware that modifications and misuse will void your warranty. The following activities (including, but not limited to) are examples of these:

Unauthorised maintenance

- The machine is re-wired by an unauthorized service agent
- The motor controller is re-programmed by an unauthorized service agent
- There are modifications to the body or frame of the machine
- Use of non-specified parts
- The machine is serviced by an unauthorized service agent

Misuse

- Overloading the unit either during towing or lifting
- Carrying people or other foreign objects
- Exposed to rain or other precipitation, unless weatherproof option is installed
- Exposed to a corrosive environment
- Driven off road—potholes, gravel, etc.
- Driven on slopes with a steeper gradient than 1:12
- Not being charged adequately
- Using the emergency stop button as an ON/OFF button

General wear items not covered under warranty

- Drive wheels and motor brushes
- Hand grips

Service log

Service recommendations

To ensure this equipment is kept in a safe and reliable condition, it is important to follow a preventative maintenance program. Maintain a log of the service work on the cards below, and always use an approved Electrodrive service agent to conduct the works. Approved service personnel will be provided with all necessary documents and components in service repair, including but not limited to, circuit diagrams, component part lists, descriptions, service checklists and spare parts.

6 month service

Date of service		Service agent	
Machine serial number			
Summary of works			
Next service due			

12 month service

Date of service		Service agent	
Machine serial number			
Summary of works			
Next service due			

18 month service

Date of service		Service agent	
Machine serial number			
Summary of works			
Next service due			

24 month service

Date of service		Service agent	
Machine serial number			
Summary of works			
Next service due			

30 month service

Date of service		Service agent	
Machine serial number			
Summary of works			
Next service due			

36 month service

Date of service		Service agent	
Machine serial number			
Summary of works			
Next service due			

42 month service

Date of service		Service agent	
Machine serial number			
Summary of works			
Next service due			

48 month service

Date of service		Service agent	
Machine serial number			
Summary of works			
Next service due			

54 month service

Date of service		Service agent	
Machine serial number			
Summary of works			
Next service due			

60 month service

Date of service		Service agent	
Machine serial number			
Summary of works			
Next service due			

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