

User Manual

LEVO Summit EL



Please read these User Instructions carefully before operating your wheelchair! Failure to follow these instructions can result in serious personal injury and/or damage to the wheelchair! This is a type-approved medical device. Alterations to the construction or electronics will void the warranty and the product liability.

If you have questions or difficulties, please contact your dealer or:

Manufacturer:

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CH-5610 Wohlen
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IMPORTANT!

Contact your dealer, distributor or LEVO AG if you have a visual impairment.

LEVO strongly recommends that wheelchair users

a) fully acquaint themselves with the instructions for their device

b) always have access to 3rd-party assistance in case of emergency.

LEVO AG

EU SRN: CH-MF-000008751

The EU Authorized Representative for the MDR (EU) 2017/745 is:
be-on-Market GmbH, Lilienstrasse 33, D-91244 Reichenschwand.

1. EU - Declaration of Conformity



EC Declaration of Conformity



As manufacturer of the LEVO range of stand-up wheelchairs, the company

LEVO AG
Anglikerstrasse 20
CH-5610 Wohlen
Switzerland

EU SRN: CH-MF-000008751

declares under its sole responsibility that the Stand-up Wheelchair model

LEVO Summit EL

Basic UDI-DI (GMN) 07613045 73

Product Class I

conform to all of the general provisions of MDR Medical Device Regulation (EU) 2017/745.

This Declaration of Conformity includes all accessories and options of the **LEVO Summit EL** and is according to Annex IV of Regulation (EU) 2017/745.

The **LEVO Summit EL** conforms to 2011/65/EU and is tested according to EN 12183:2014.

The EU Authorized Representative for the MDR (EU) 2017/745 is:
be-on-Market GmbH, Lilienstrasse 33, D-91244 Reichenschwand.

2021-06-30 - **LEVO AG**

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2. Product Identification – Product Label

A unique serial number plate is attached to the wheelchair rear axle for identification purposes.

The device is absolutely identified by the serial number and the extended barcode GS1-128.



The following is an example of the **LEVO** serial number plate or sticker:

Identification	Example	Intent / Meaning	Visual aid
Type	SUMMIT EL /L/50/54	Model SUMMIT EL /L/50/54	
Serial No.	730013 05/2015	Serial No. 730013 Year & month of Production 05/2015	
Color	white	Frame color white	
Max. user weight	125kg	max. user weight 125kg	
Max. save slope	11°	max. save slope, unmoved, direction downhill 11°	
Tyre pressure	6 bar	Recommended pressure of pneumatic tires min. 6.0 bar	

Please note that the chair identification is also shown on the warranty card. This card is delivered to your dealer and they should store it for you. Please ask for a copy and refer to your Serial Number for any communication when referring to your wheelchair.

3. Meaning of symbols



Please read these instructions carefully before using your wheelchair. Failure to do so can result in serious injury and/or damage to the wheelchair.



Symbol of a wheelchair which is not used as a seat in a motor vehicle or to transport in a motor vehicle. Please contact your **LEVO** dealer about available equipment.



Symbol of a wheelchair which is equipped and certified as a seat in a motor vehicle or for transportation in a motor vehicle.



Symbol signalling a danger of trapping body parts during operation. Please take particular care of the areas between armrest and seat unit and around the pivots of the armrest and the standing mechanism when changing the seat position to avoid injury! This also applies to any other people around the wheelchair.



The wheelchair should not be lifted by the armrests.



The wheelchair conforms to current EU medical device regulations, directives and legislation and carries the CE mark.

4. Warranty

Your **LEVO** product carries a warranty of two years on all material and manufacturing defects of mechanical parts.

Batteries are excluded from the warranty.

Any signs of improper use or lack of maintenance will void any warranty.

Any structural or technical changes on the chair are prohibited and will void all warranty or product liability claims.

Please notify your dealer and **LEVO** of any warranty claim or possible issues with your chair.

LEVO contact information can be found on the first page of this manual.

5. General Information for Stand-up Wheelchairs

Dear **LEVO** Client,

We would like to thank you for putting your trust in **LEVO** and our product.

The **LEVO Summit** standing wheelchair is a unique aid for use by those with the inability to stand and/or walk on their own. As well as performing all the functions of a lightweight wheelchair, the **LEVO** enables you to stand up on command.

Please read this manual carefully before using your **LEVO**. It contains important information necessary for the successful operation of your wheelchair.

It is possible that achieving the standing position may load the body in a way that it is perhaps not used to. Therefore, it is **necessary to consult with your doctor or physical therapist to confirm that there are no contraindications such as contractures, orthostatic hypotension, osteoporosis or other conditions present.**

In the case of strong or sudden spasms, cramps or similar conditions, it is necessary that the user is allowed to stand only under the supervision of an accompanying attendant or caregiver.

As a **LEVO** customer, you have the opportunity to make a valuable contribution with the on-going future development of our products. Your suggestions are always appreciated. This will insure that **LEVO** continues to offer the most functional products available and provides for the widest possible range of needs.

Sincerely,

LEVO AG

EU SRN: CH-MF-000008751

The EU Authorized Representative for the MDR (EU) 2017/745 is:
be-on-Market GmbH, Lilienstrasse 33, D-91244 Reichenschwand.

6. User Profile - LEVO Summit EL

LEVO Summit clients are those who prefer a lightweight manoeuvrable wheelchair and will benefit from the comfort and function of the electric stand feature. Both contribute to enhance your lifestyle in work and leisure time situations.

The model **Summit** combines all the positive qualities of a manual driven wheelchair with the convenience of safe standing at your fingertip. The user-friendly electric standing system (with gas spring assist), elevates you effortlessly to any standing angle to 86° upright, with ankles/hips/shoulders in a straight line.

Depending on the client's capability, the **LEVO Summit** is available with a choice of a rocker switch, a toggle switch or a remote control which can also be operated by an attendant.

In all circumstances, it is best that a client be evaluated by a rehabilitation mobility team as to the appropriateness of a standing wheelchair. This team should consist of family members, a doctor, a therapist and a dealer.

The following characteristics distinguish the LEVO Summit:

- Optimal biomechanics in all positions from sitting to standing upright to 86°
- Provides continuous lift to the full standing position which can be paused at any angle
- A standing switch located on the armrest or by remote control
- Six ground contact points insuring safe standing
- Standing on demand providing health benefits and relief from discomfort
- Lightweight wheelchair performance both indoors and out
- Client tailored upper / lower leg length, foot position and backrest height
- Seat widths: 13.75"/35cm – 19.75"/50cm
- Seat depth: 13.75"/35cm – 21.75"/55cm
- User weight max.: 275 lbs./125 Kg

LEVO Summit EL Standard Configuration

- Manual driven wheelchair, electric standing function
- Seat and tension adjustable backrest with padded upholstery
- Flip-up, height and angle adjustable armrests
- Armrest tube straight with integrated rocker switch / battery-controller / charger
- Fold down Backrest
- Five standard frame colours and multiple options
- Easy transfer footrest

- Pneumatic rear tire/wheels
- Chest straps, side guards and knee support incl. wedge
- Seat cushion

For further information please contact your Authorized LEVO distributor



Please take note of this icon throughout this document. It is your alert to safety concerns or warnings intended to prevent injury to persons or damage to the wheelchair.

7. Important Safety Information before operating LEVO Summit EL



The stand-up wheelchair **LEVO Summit EL** allows manual driving with an integrated, battery-powered stand-up actuator. The stand-up actuator is operated by pushing a rocker switch or by operating an optional manual joystick controller, either by the user or by an accompanying person. The seat moves to any position between completely seated, as with any ordinary wheelchair, and standing up to 86°.

Moving to a standing position may load the body in a way that the body is perhaps not used to. Therefore, before using a stand-up wheelchair, consult your doctor or physical therapist to make sure that no contraindications such as strong contractures or osteoporosis are present. Without a prescription by your doctor or physical therapist, there are risks of injury. All user and medical instructions must be strictly followed.

In the case of strong or sudden spasms, cramps or similar, the user should stand under the supervision of an accompanying person.

Regarding visual and cognitive skills, the physician, therapist or dealer must decide whether the **LEVO Summit EL** is suitable for the user in terms of personal safety and depending on the intended environment and use.

Please take care to avoid trapping yourself or other persons in the mechanism during elevation or descent. Especially take care of the sections between the seat and the mainframe to avoid any kind of injury.

The **LEVO Summit EL** must be driven to level and solid ground before elevating the user to a standing position (Caution: risk of tipping over!).

The brakes of the **LEVO Summit EL** must be activated before elevating to a standing position (Caution: risk of tipping over!).

The standing function should not be operated without a person seated in the **LEVO Summit EL** (risk of accident!).

It is absolutely essential to mount the knee support and the chest strap correctly before you use the stand-up function! You should never go into standing without these safety restraints securely in place (risk of accident)!

The restraints must be worn over clothing to prevent any skin irritations.

The **LEVO Summit EL** should not be lifted by the armrests. The armrests are designed for high, downward load, but not for upward, tensile loading.

Driving the wheelchair must always be in the completely seated position so that the load can be distributed to the frame. Otherwise there are risks of damage to the seating system.

Please avoid any abnormal and unforeseen loads like torques or shear forces. Additional load at the armrests or backrest, fixing for transport without the dedicated equipment etc. should be strictly avoided! The wheelchair could be damaged causing injury to the user or other persons.

For amendments and adjustments to the mechanics or to the electronics and for maintenance work, please contact your dealer.



For safety reasons, adjustments to the stand-up mechanism and functionally-related parts must only be performed by trained personnel.

Standing wheelchairs require professional adjustment to safely and comfortably be used in the standing position.

All available standard sizes guarantee the passage of escape routes marked as wheelchair accessible, as wheelchair seats or connecting routes in public transport. Please take note of and ask about escape routes. Size-dependent adjustments are therefore strictly forbidden, as these may put these features at risk.

All adjustments outside the standard configurations which convert wheelchair characteristics are strictly forbidden as this can cause risk of serious injury.

Be aware that the surface temperatures can increase when exposed to external sources of heat (e.g. sunlight).

Please avoid exposing the wheelchair to extreme heat. Please also note that, if exposed to high humidity or salt, the wheelchair should be cleaned and dried frequently.

The resistance to ignition of materials and assemblies are as follows:

- Plastic parts according to UL 94-V0
- Upholstery according to EN 1021-2

Please note that strong electromagnetic fields can cause interference with the control or operation of the standing-actuator function.

Please note that all product safety information can be obtained on our website, from your dealer and in the user manuals which will be available at your retailer. In case of product recalls you will be informed by your retailer, as the **LEVO** products are sold exclusively through retailers.

Owners or users of **LEVO** products that have acquired a second-hand **LEVO** product from a source other than a recognised retailer must contact **LEVO** and/or a **LEVO Summit EL** representative to ensure correct fitting and to perform necessary safety checks. Adjustments to the mechanism must be performed only by trained personnel.

Please note that the product life under normal functional use and care is around 7 to 10 years. If the wheelchair is used not according the instructions or is subject to extreme or difficult conditions, the life may be shortened.

8. Initial operation

8.1. Connecting and charging the battery



- Make sure the actuator jack is plugged into the battery box.
- Connect the charger to the wall socket and wait for the LED to light up in green.



- Pull out the charging plug from the rear side of the backrest (behind the upholstery) and plug in the charger connector.
- The LED turns to red and indicates the charging process.
- The battery needs to be charged until the LED light on the charger turns to green. This normally takes about 1 ½ hours.



- After charging, replace the plug behind the backrest upholstery.

- Only use the original LEVO charger delivered with the chair. Other chargers may harm the electrical system.



- The actuator must not be operated while charging.

8.2. Folding down the backrest



- Grasp the cord in with one hand and twist to release the back locking pins.
- With the other hand, push the backrest forward.



Backrest upright



Backrest folded

CAUTION:

- Release the cord and ensure that the pins are locked on each side.



8.3. Rear wheel inspection

The **LEVO Summit EL** is equipped with quick release rear axles that allow the wheels to be removed and replaced for transport or storage needs.



- To attach or take off the rear wheels, press the release button in the center of the hub and pull the wheel away from the chair.

CAUTION:



- **When remounting the wheel, push and pull it several times to ensure the quick-release axle has fully engaged.**
- **Never take off the wheels with the client in the wheelchair.**

8.4. Brake inspection

The brakes on the rear wheels of the **Summit EL** secure the chair against unintended movement.



- Engage the brakes by pushing the upper lever forward. Disengage by pulling the upper lever back.
- The efficiency of the brakes is dependent on their position in relation to the wheel, and, the condition of the tire tread and pressure. The brakes should be checked regularly for proper operation.

CAUTION:



- **The brakes must be locked when standing or anytime you are transferring into or out of the chair.**
- **Wet tires and/or rolling surfaces have a detrimental effect on locking efficiency.**
- **When modifying the forward/rearward location of the rear axle tube/wheel, it is always necessary to re-adjust the brakes for proper locking efficiency.**

8.5. Standing stability inspection



- The control switch on the armrest enables you to actuate the standing mechanism up and down. Pull the switch up to elevate the seat to the standing position.



- When fully standing, confirm that the legrest down post/support plugs and the front and rear wheels are all touching the floor.
- Push the control switch down to return to the seated position.

CAUTION:



- **Only if the standing stability and all previous inspections are checked ensured, the user can enter the chair for further inspections and adjustments.**



9. Knee support and chest strap

Two very important safety features of a standing wheelchair are the knee support and the chest strap. It is essential to position yourself securely and comfortably before attempting to stand. Caution: Be mindful to carry out each step carefully before standing. If not done, the possibility of injury is greatly increased.

9.1. Knee support

The knee support secures the lower legs in place while the chair rises to the standing position.



- The right and left side are independently adjustable allowing proper tension as well as the location of the knee wedge in the center.
- A push lever on the pad releases the inserted serrated strap to add or relieve tension by increasing/decreasing the strap length.

CAUTION:



- **The location of the kneepad on the shin is important for safety and proper standing. Positioned with the client seated, its proper location is.**
 - **Vertical Location – approximately 1 ½” from the top of the kneepad to bottom of the kneecap (patella). This is primarily a function of the vertical location of the footplate.**
 - **Forward/Rearward Location – with the client sitting upright and hips set fully toward the rear of the seat, there should be a “hand thickness” between the shin and the kneepad. This is primarily a function of the seat depth.**
- **Only adjust the knee support when the client is in the seated position. Never attempt to do so when standing.**

9.2. Chest strap

The chest strap secures the upper body in place as the chair rises to the standing position. The straps wrap around the backrest tubes and are adjoined to one another with two adjustment rings (see picture). Weaving in and out of the rings, the straps can be lengthened or shortened adapting to different size clients. It is also possible to adjust the chest strap up or down to accommodate need. Always make certain the straps go around the backrest tubes and are weaved correctly through the rings.

The vertical location of the chest strap around the backrest can be adjusted accommodate to the strength and ability of the client. Generally, the greater the disability (i.e. higher spinal cord injury), the higher the chest strap should be accordingly located on the backrest



CAUTION:



- **Make sure to retract the end of the belt back toward the centre.**
- To release the chest strap, simply pull the buckle cover forward and away from the chest.
- To minimize irritation, avoid wearing it directly on the skin.

Only when both the knee support and chest strap are comfortably and correctly fitted, is the client prepared to safely stand up.



10. Safety Information for Standing

It is possible that achieving the standing position may load the body in a way that it is perhaps not used to. Therefore, it is necessary to consult with your doctor or physical therapist to confirm that there are no contraindications such as contractures, orthostatic hypotension, osteoporosis or other conditions present.

In the case of strong or sudden spasms, cramps or similar situations, it is necessary that the user is allowed to stand only under the supervision of an accompanying attendant or caregiver.

Regarding visual and cognitive capability the physician, therapist or dealer must decide whether the **LEVO Summit** can be used by the user depending on its environment and in terms of personal safety.

There are many moving components on the chair that interact and change positions as the chair cycles from sit to stand. Please take care to avoid any pinching or squeezing of the client or attendant.

To insure standing stability and avoid risk, the **LEVO Summit EL** must be located on flat and level surfaces with the brakes engaged. Be certain to check for objects which would prevent the legrests from reaching the ground simultaneously preventing solid contact.

Damage may occur if the standing system is operated without a person in the chair. The chair is engineered so that the client's weight acts as an assist to the electric lift actuator and gas struts as the chair returns to the seated position.

It is imperative that before attempting to stand, that the knee support and the chest strap are properly positioned to restrain the client and are secured to the wheelchair.

The restraints must be worn over clothing to prevent any skin irritations.

While it is a rare occurrence, please note that if the wheelchair is exposed to electromagnetic fields, it can cause interference with the control or operation of the standing actuator function of the **Summit**. These electromagnetic fields could include: store entryways; power lines; MRI machines; computers; Wi-Fi/WLAN networks, Bluetooth devices; cell phones; and house energy smart meters.



11. Standing

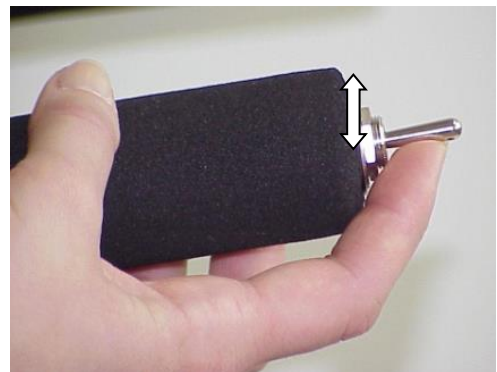
Depending on the client's capability, the **LEVO Summit** is available with a choice of a rocker switch, a toggle switch or a hand held remote control with a cord which can also be operated by an attendant.

The standing mechanism is powered by an electrical actuator and operates with assistance from two gas springs. The actuator is powered by a rechargeable lithium-ion battery.

The control switch on the armrest (or optional remote control) enables you to move the stand-up mechanism either up or down.



Standard



Option

The standing actuator motor shuts off automatically at the end of travel at both the end of the standing and sitting cycle. When fully standing, the legrests will firmly contact the ground providing optimal stability.

Please note that if the wheelchair is exposed to electromagnetic fields, it can cause interference with the control or operation of the standing actuator function of the **Summit**.

To return to the seated position, push the control switch down. The seat starts to lower and will shut off automatically when fully seated.

Do not use the standing mechanisms excessively due to overheating the actuator. The actuator has a duty cycle of 10% (2 min every 18 min). If the actuator overheats due to constant use, the standing mechanism may stop in mid-cycle without the audible low battery alarm. If this happens, wait a few minutes and then go back to seated position, waiting about 20 min before using the standing mechanism again.



- Remote control (optional):
The remote control connects at the control box. Operated by the client or attendant alike, the remote control can be located anywhere on the chair and attaches with velcro. The up and down functions are accomplished by pressing the buttons as indicated.



12. Correct seated and standing positions

Correct seated and standing positions must be evaluated by your LEVO dealer and the chair should be adjusted for the proper fit. If you should feel uncomfortable in any position, please do not hesitate to contact your LEVO dealer.

Seat depth: correct



Seat depth: too long



Seat depth: too short



Knee support attachment
Screw even with centre of
knee



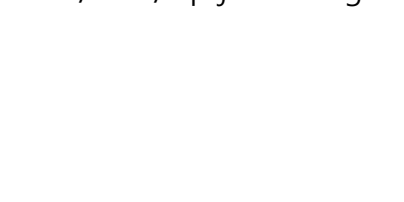
Knee support attachment
screw beyond centre of knee



Knee support attachment
screw behind centre of knee



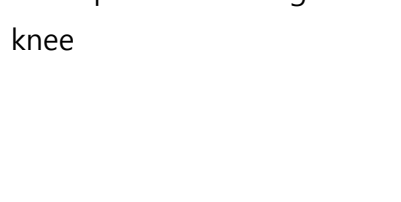
Ankle/knee/hip-joint straight



Knee joint overstretched



Incomplete stretching of the
knee



Correct seating position



Seat cushion too high

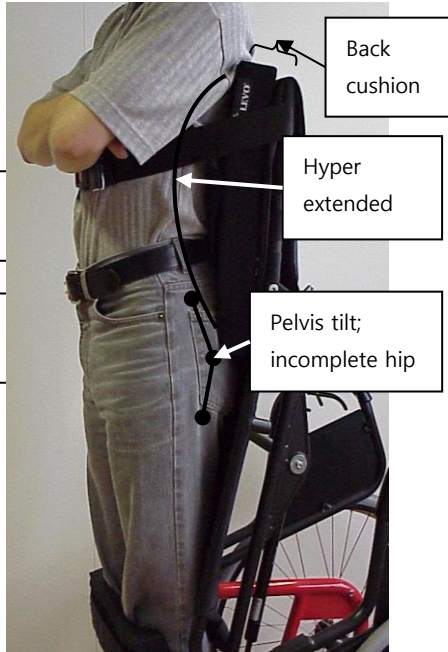
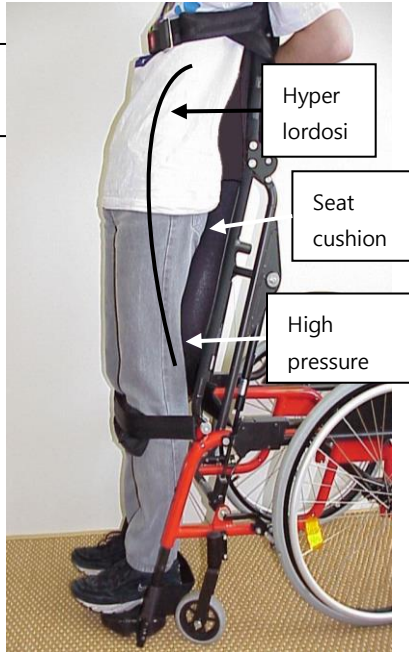
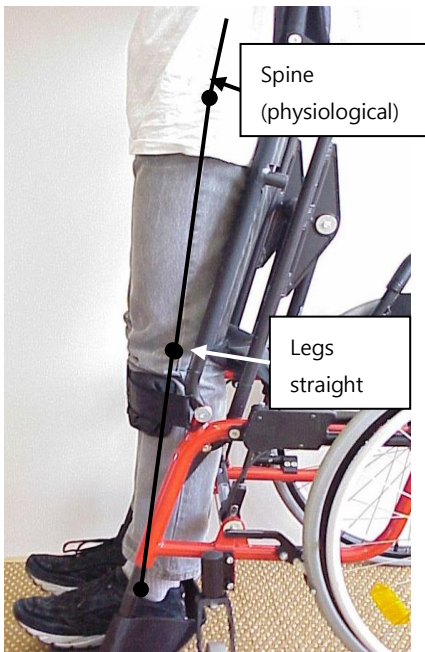


Back adjustment too low



Cushion for pressure relief in seated position

Backrest cushion or solid back for more comfort or stability



13. Seating adjustments

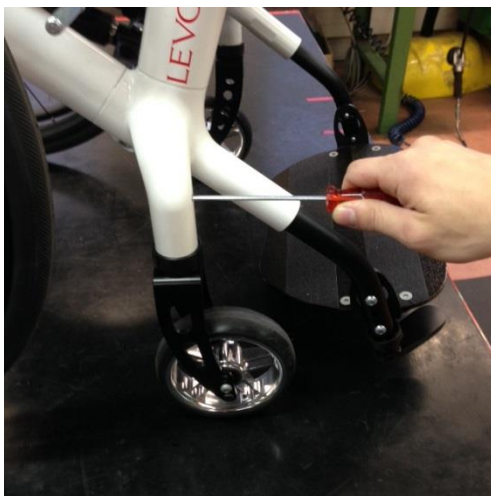
All **LEVO** wheelchairs are tailored to the specific anatomical dimensions of the client. The completed order form dictates how the chair is to be built. The chair is delivered with those pre-sets. In addition, many features can be further customized as the chair is fitted to the client. These features include seat angle, back angle, seat depth and should be made only by your authorized **LEVO** dealer.

Please note that anytime there are adjustments made to the wheelchair, a change of balance may take place and the risk of tipping must be assessed. Incorrect adjustments can lead to injuries. Also, structural frame alterations of any sort, and, exceeding the weight limit of the chair are strictly prohibited.

Contacting your LEVO dealer regarding any adjustments is necessary.



13.1. Front castor angle adjustment



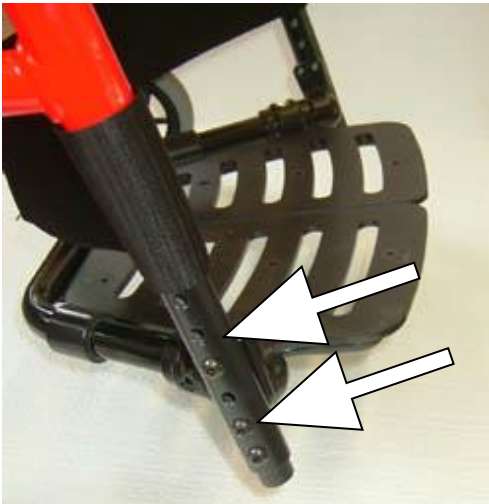
For straight tracking and steady front castor performance, it is best to have the front castor at 90° to the rolling surface.

- Using a square or angle measuring device, check the angle of the frame front to the rolling surface. Determine in which direction it needs to be adjusted.
- To adjust, loosen the set screws on the opposing sides (front and back). Adjust the angle by turning the one of the set screws (in or out) until a 90° angle to the floor is achieved.
- Tighten the set screw on the opposite side.
- Confirm both set screws are secure.
- Repeat on the opposite side of the chair.



13.2. Footrest adjustment

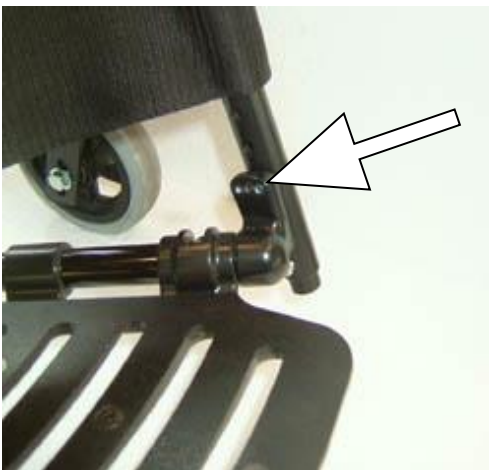
The height of the footrest is important for proper positioning both seated and standing. The footrest is set according to the lower leg length of the client and will come pre-set from the factory as specified on the order form. However, if necessary it can be adjusted.



There is a choice of different heights for mounting the footrest.

- Loosen and remove the four button head screws (using a 4 mm hex key) on the outside of the footrest tubes securing the footplate mount. Move the footplate mount to the desired locations. Replace and retighten the four button head screws.

If you use the easy-transfer footplate, you can achieve a wider adjustability by turning the footplate upside down.



There are three possible footrest angles. The standard angle is 90°. Depending on the used footplate you can change the angle by 10° to 12° forward or backwards.

- To adjust, loosen and remove the top two button head screws (using a 4 mm hex key) on the outside of the footrest tubes securing the footplate mount. Loosen the lower screws. Move the footplate to the desired angle. Replace and retighten the top two button head screws and retighten the lower.

The footrest angle is set standard at 10° to the floor. However, with the footplate in the lowest position, an angle of 0° (parallel to the rolling surface) is the only usable setting.

Otherwise, the footplate will touch the floor before the legrests as the chair moves to the standing position. This reduces the standing stability.

With the second lowest setting, there are two usable positions - 0° and 10°. In any higher footplate settings, all three angle variations are possible.

For all higher footrest settings there are all three angle variations possible.

CAUTION:



- **After adjusting the footplate, always check the standing stability to avoid tipping.**

13.3. Armrest height and angle adjustment

The armrest height can be adjusted by moving the armrest mounts vertically on the backrest tubes.



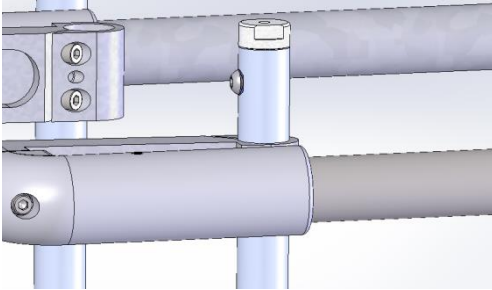
- Begin by removing the backrest upholstery and the tension adjustable Velcro straps. Loosen the socket head screws on either side of the armrest mounts and move the armrest to the desired position. Retighten the screws. Replace the Velcro straps applying appropriate tension and then the backrest upholstery.



- To change the armrest angle, locate the angle adjusting screw in the armrest mount. To raise the front end of the armrest, screw the threaded pin clockwise further into the mount. To lower the front end of the armrest, screw the threaded pin counter-clockwise out of the armrest joint.

13.4. Backrest height

The backrest height is easily adjustable. To do so, modify both the right and left backrest tubes.



- Begin by removing the backrest upholstery and the uppermost tension adjustable hook and loop strap.
- Remove the button head screw on the backrest tube and adjust the plug to the desired setting. Replace and tighten the button head screw.

13.5. Adjusting the brakes

The wheelchair should be unoccupied when adjusting the brakes. Secure the wheelchair in such a way as to prevent it moving when the brakes are disengaged.



- Disengage the brakes.
- Unscrew the two mounting screws on the brake mounting plate and move the assembly forward.
- Push the brake handle forward to the engaged position.
- Slide the assembly rearward until the contact arm is approximate 10-15 mm ($\frac{1}{4}$ ") from the tire.
- Retighten the brake mounting screws.



- Repeat as necessary until desired brake to wheel tension is achieved.

13.6. Calf / heel strap



The purpose of the calf/heel strap is to prevent the legs and feet from sliding backward. It can be positioned behind the heels or any higher position desired. Also, by using the hook and loop fastening system on the strap, it is possible to create more or less tension which can influence knee/leg extension and effect proper fit. For further instruction, please consult your **LEVO** dealer.

13.7. Backrest and Seat Upholstery



The tension of the Backrest upholstery can be changed using the internal adjustable Velcro straps. They can be tightened (for a more upright posture) or relaxed (for more contoured support).

The seat upholstery is also tension adjustable. In addition, running crosswise in the seat are slots which accommodate fiberglass reinforce strips.

These strips can be used in chosen areas to reduce the sling effect.

Depending on the height of the cushioning, it may be necessary to loosen the upholstery to be able to lower the cushioning down between the two seat supports.

When growing seat depth, it is usually necessary to add one or two Velcro straps on the rear of the upper seat rail (see figure).

13.8. Seat cushion

A wide variety of seat cushions can be used on the **Summit**. Generally, the Velcro on the top of the seat upholstery should allow you to attach to the Velcro on the bottom of the majority of seat cushions available. The Velcro fasteners keep the cushion positioned correctly both seated and standing. Please remember that the thickness of the seat cushion will have an effect on the set to footplate length and standing positioning as well. Please consult your **LEVO** dealer with any additional questions.



14. Components

14.1. Battery

The standing actuator is powered by a rechargeable, maintenance-free Lithium-Ion battery. Fully charged, the system will cycle up and down approximately 100 times.

When the battery is reduced to only 10% (23.7 V) of the full charge, an audible beeping will sound. When this occurs, the system will allow you to sit back down but not stand up. This prevents you from getting stuck in the standing position. Be sure to recharge the batteries as soon as possible. The system will again allow you to stand up when the battery reaches 90% (29 V) of a full charge.



CAUTION:

- **Never let the battery remain discharged for more than half a year. Doing so could lead to irreparable damage to the battery.**
- **Operating the motor while charging the battery may result in damage to the electrical system.**
- **In any situation demanding particular care and attention, e.g. when in transit (in motor vehicles, aircraft, etc.) or when the wheelchair is to be left unattended in the presence of children, be sure to disconnect the control cable and/or motor leads from the battery and electronic unit (Risk of accident!).**
- **Disconnecting the control cable prevents children or other unauthorized persons tampering with the stand-up mechanism.**
- **Disconnecting the motor leads cuts the electricity supply to the motor and prevents the stand-up mechanism being activated unintentionally.**

14.1.1. Recharging battery



CAUTION:

- **Only use the original battery charger „FY-2942000“ from Shenzhen Fuyuanian Power Co. Ltd . The use of other chargers may damage the battery and/or the charging system.**
- **Operating the motor while charging the battery may result in damage to the electrical system.**

Connect the charger to the wall socket and wait for the LED to light up in green.

To recharge the battery, remove the charging plug from the rear side of the backrest behind the upholstery and plug the charging cable into it. The LED turns to red and indicates the charging process.

When the battery is fully charged, the LED light turns to green and the charger automatically shut off. This generally takes around 1.5...2 hours.

After charging, stow the plug behind the backrest upholstery.



Status	Indicators LED
Stand by	Green
Charge	Red
Battery full	Green
Error, short circuit and wrong polarity	Alternating red and green
Error, overvoltage, overcurrent, safety timer, battery voltage issue	Flashing red or blinking red

It is best to charge the battery often. If possible, every day, overnight.

14.2. Rear wheels

LEVO standing wheelchairs are equipped with pneumatic tires or airless tires. Ask your dealer for information regarding custom wheels/tires or adjustments that may be made.

For pneumatic tires, check the tire pressure regularly. The optimal is 85–145PSI/6-10bar/600-1000 KPa.

14.2.1. Quick-release axle

The **LEVO Summit EL** is equipped with quick release rear axles that allow the wheels to be removed and replaced for transport or storage needs.



- To attach or take off the rear wheels, press the release button in the center of the hub and pull the wheel away from the chair.

CAUTION:



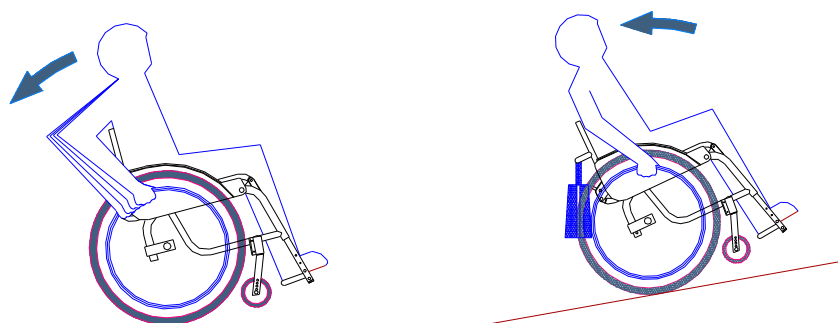
- **When remounting the wheel, push and pull it several times to ensure the quick-release axle has fully engaged.**
- **Never take off the wheels with the client in the chair.**



15. General Information on the Use of a Wheelchair

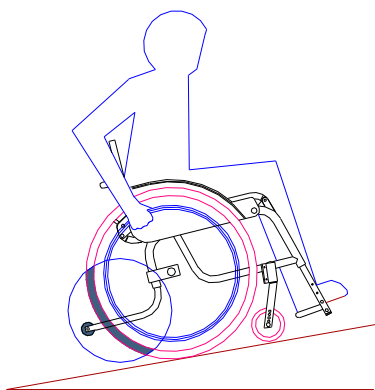
15.1. Driving the wheel chair: How to avoid tipping over

Please note that when starting pushing the wheel chair, the front wheels are going to lose traction due to acceleration. Depending on weight distribution this may cause the wheels to lift off the ground and the wheel chair to tip over backwards.



The situation mentioned above intensifies when using different rear wheel positions to achieve greater seat inclination, by too-vigorously engaging the drive wheel in the forwards direction or by using a cushion for elevated seating.

Please note that the weight of personal belongings (e.g. bags) can have a major effect on the centre of gravity of your wheel chair which may lead to increased instability.

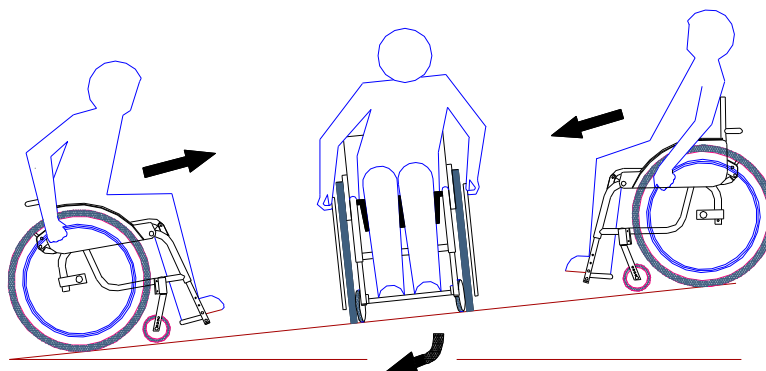


For more security while driving the installation of an anti-tip mechanism is strongly advised.



15.2. Gradients

Bear in mind that, when turning around on a steep hill, you will pass through a crosswise position first before the turn is completed. Whilst in the crosswise position, there is a risk of slipping sideways down the hill. Both you and any assisting person should be aware of this risk and counter steer accordingly.



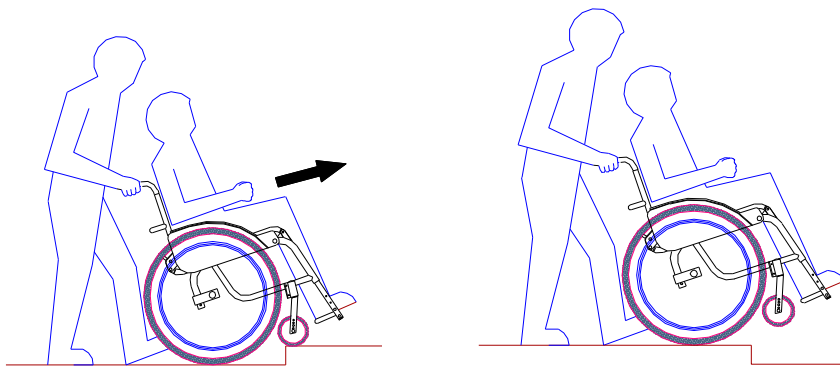
As a safety precaution, always ask a person to accompany you when manoeuvring down a slope. Bear in mind that slowing the wheelchair using the hand rims generates a great deal of heat between hands and the hand rim itself and can lead to burns on the palms of the hands. Therefore proceed cautiously when braking manually and, most importantly, when travelling downhill, never go faster than walking pace. Leaning backward improves stability and increases rear wheel downforce, thus also improving braking efficiency.

15.3. Climbing obstacles

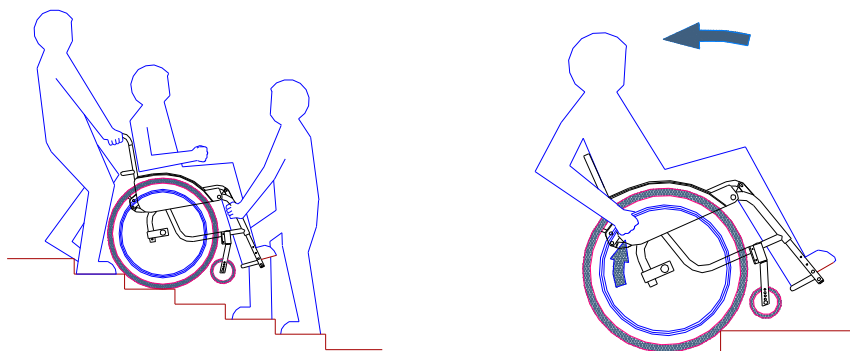
Any obstacle, such as a curb or threshold, should be viewed as a potential source of danger. This is due, in part, to the very short wheelbase of the wheelchair. To climb an obstacle, ask an accompanying person for assistance.

Should you wish to negotiate such an obstacle with the help of an accompanying person they should not attempt to lift the wheelchair completely. It is important that they make sure that the rear wheels stay in contact with the floor all the time.

To overcome an obstacle (e.g. driving over a curb), first tilt the wheelchair just enough to lift the front wheels. Slowly lower the front wheels onto the obstacle and then push the wheelchair on until the large wheels are resting against the edge of the obstacle. Finally move the chair onto or over the obstacle.



To descend a major obstacle (e.g. to go down stairs), always use an assistant! The assistant should first tilt the wheelchair until the front wheels are off ground slightly, then move the chair forwards slowly.



Should you have to be carried over certain obstacles, please make sure to request the assistance of at least two persons. It is of great importance to inform the assistants that the wheelchair should be lifted by the solid parts only.

CAUTION:



- **Disregarding those instructions is a risk of major accidents and injuries!**

Keep in mind that handling any sort of obstacles on your own can be very demanding. You should be aware of the tendency of the wheelchair to tip over backwards when attempting to overcome an obstacle. Do not hesitate to ask for help at any time.



CAUTION!

Do not attempt to use the wheelchair on an escalator!

15.4. 8 Activating the Brakes

When using the wheelchair in situations where increased stability is particularly important, the brakes must be activated. This is especially important when standing up, transferring into your wheelchair or when you want to transfer yourself from the wheelchair into another seat. For safety reasons, it is particularly important to note that even though the wheelchair may be locked securely it can still slip away sideways.

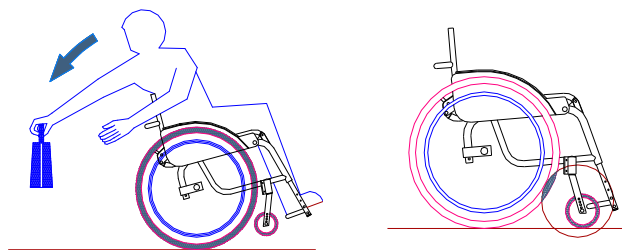
Keep in mind that insufficient tyre pressure or heavily worn out tyre treads have a detrimental effect on braking efficiency.

After driving through a puddle keep in mind that wet tyres reduce braking efficiency.



15.5. Picking up objects

Always remember that picking up objects will alter the centre of gravity which will affect the stability of the chair. This can cause the wheelchair to tip over, either backwards (see figure on the left), sideways or forwards. In the latter case, enlarge the wheelbase by positioning the front wheels in the same way they are positioned when driving backwards. It is also advisable to draw as near as possible to the object before attempting to pick it up.



15.6. Transfer sideways

- Drive as close as possible to the object you wish to transfer to.
- Put on the brakes
- Flip up the footrest of the wheelchair and put your feet on the ground.
- Lift the armrest on the side you are transferring to.
- Transfer yourself in your usual way out of the wheelchair or have yourself transferred out of the wheelchair.
- Lateral transfer is only in the complete sitting position of the wheelchair allowed.

15.7. Detachable components

Please note your wheelchair is designed to detach components to guarantee the lowest possible packing volume and weight. The detachable components are listed as follows:

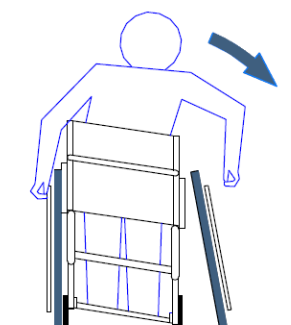
Detachable components	Weight reduction
2 main drive wheels	2x ca. 1.7 kg
1 footrest	1x ca. 1.2 kg

Please take care not to trap any clothing or parts of the body in the joints of the wheelchair as you are folding the backrest.

You should only occupy the wheelchair once it has been fully reassembled with all detachable components securely fixed in place.

Always make sure that the rear wheels have been securely fixed and cannot get loose while the wheelchair is moving.

Make sure the wheelchair is lifted by gripping the main frame only.



CAUTION:



- Do not lift the chair by gripping the armrests, the backrest or the seating tubes as this might lead to major damage.



16. Transport

16.1. Transport in a motor vehicle - wheelchair only

To transport the wheelchair in a motor vehicle make sure it is secured to prevent sliding or tipping over. Use only a fastening system which secures the wheelchair correctly.

CAUTION:



- **When transporting the wheelchair in a motor vehicle, be sure to disconnect the connecting lead from the battery unit.**

16.2. Transport in a motor vehicle - user in wheelchair

The LEVO LCEV is crash tested according ISO 7176-19:2008.

To transport the user in the wheelchair in a motor vehicle, please assure the following correct equipment is installed and restraints for fixation are ready for use:

- The chair has to be equipped and reinforced with the **LEVO Summit Tie-down kit** part number 32.073.0050 that can be ordered at **LEVO AG** through your **LEVO** distributor.
- The chair has to be secured by using only a restraint system which has been tested and passed the ISO 10542/2 standards.
- The occupant must be safely secured using only a restraint system which has been tested and passed the ISO 10542/2 standards.

16.3. Public transport of the wheelchair - wheelchair only

The **LEVO Summit** can be transported in every kind of public transportation without any restrictions. For airplanes there are Instructions which have to be followed.

16.3.1. Transport of the wheelchair in an airplane - wheelchair only



According to IATA Regulation 2.3.2.4 the wheelchair can be transported as checked baggage without restrictions in an airplane if the following conditions are fulfilled:

- The control box is removed by unscrewing the four hexagonal screws and disconnecting the two power cords.
- The cap has to be plugged onto the receptacle to protect from short circuit.
- The control box has to be protected from damage. For example by placing the control box in a protective pouch.
- The lithium ion battery must be carried in the passenger cabin.
- Since the battery does not exceed 75 Wh and has a UN 38.3 Test approval, the battery meet the requirements to be carried as hand luggage in the passenger cabin.
- The pilot-in-command must be informed of the location of the lithium ion battery.
- It is recommended that passengers make advance arrangements with each operator.
- To avoid complications while boarding it is recommended to inform the airline early on.



17. Maintenance and Functional check

To keep the **LEVO Summit** running perfectly and to ensure personal safety and proper operation, please ensure your wheelchair is being serviced by your local **LEVO** dealer at least once a year and observe the following rules:

- **In general** please keep the wheelchair clean, never store it when damp.
- **Charge the batteries daily.** Best is to charge every night to assure the batteries are fully recharged for use during the whole next day. When charging, the LED lights up red and signal in green when the battery is fully charged.
- If the battery power decreases to a threshold low level, an acoustic signal will sound during operation. Please **immediately** go into sitting position and charge the batteries immediately to full power.
- Check the control switch or remote control **every day** to assure the operation moves the actuator without any delay. In case of irregularities, please go into sitting position and notify your dealer.
- Check the tire pressure **every week**. If necessary pump the tires up to 6.0 – 10 bar.
- Check the condition of the main and front wheels **every 2–3 months**. If a tire is heavily or unevenly worn, it should be replaced immediately.
- Check **every week** that the brakes still work reliably. Having applied the brakes, the wheels should stop turning completely. If the brakes are ineffective, they should be tightened and checked by your dealer.
- Check **every week** that the gas-springs support the actuator during elevating, which you will see by the smooth running of the stand-up mechanism up and down.
- If any faults are found, **immediately** inform your dealer before further using of the chair.

17.1. Functional check



Please make sure that the wheelchair is being maintained at least once a year by your **LEVO** dealer to assure and to guarantee the safe functioning of the chair.

The **LEVO Summit** is delivered already greased. Additional greasing should only be carried out professionally by your dealer.

For your chair the dealer should provide a service card in which all details of necessary maintaining or repairs are noted.

Before maintaining or hand over the wheelchair, a general functional check as follows has to be made:

- Function of the armrest switch or remote control and cabling
- Function of actuator and gas springs.
- Function of the charging unit (green LED light)
- Braking effect when driving uphill (Inclination: 8 degree)
- Braking effect when driving downhill (Inclination: 11 degree)
- Check all screws are securely fastened

17.2. Cleaning

- In case of soiling, the wheelchair can be cleaned with a moist cloth. Wipe it dry well afterwards.
- In case of heavy soiling, use a mild detergent and warm water for cleaning.
- Never apply furniture polish, pure spirit or solvents for cleaning.

18. Storage

18.1. Storage in general

The **LEVO Summit** is equipped with a folding backrest which allows you to reduce significantly the space required to store.



- Take the cord in one hand and twist to release the folding joint.
- With the other hand you can fold or unfold the backrest.



Initial position



Folded backrest position

18.2. Storage for more than 4 months

The **LEVO Summit** is essentially maintenance-free, and the user must only pay attention to keeping it clean. If the wheelchair is stored for more than 4 months or exceeds the recommended maintenance cycle deadlines, it must be checked in accordance with the Maintenance and Functional checking instructions in section 6 before use. Please note that the temperature range of storage is minimum 5 °C to maximum 50 °C.

19. Technical Information

	Min.	Max.
Overall Length (with footplate)	35.5" / 900 mm	39.5" / 1005 mm
Overall Width	20" / 510 mm	26" / 660 mm
Folded Length (without wheels)	31.5" / 800 mm	36.5" / 930 mm
Folded Width (without wheels)	18" / 455 mm	24" / 605 mm
Folded Height (without wheels)	19.25" / 490 mm	21.25" / 540 mm
Total chair weight	47 lbs. / 21.5 kg	50.75 lbs. / 23 kg
Weight of the heaviest part	37.5 lbs. / 17 kg	40.75 / 18.5 kg
Static stability downhill, sitting position	-	11°
Static stability uphill, sitting position	-	15°
Static stability sideways, sitting position	-	14°
Brake effectiveness uphill	-	15°
Brake effectiveness downhill	-	11°
Seat plane angle	3°	8°
Effective seat depth	13.75" / 350 mm	21.75" / 550 mm
Effective seat width	13.75" / 350 mm	19.75" / 500 mm
Seat surface height at front edge	19" / 480 mm	21.25" / 540 mm
Backrest angle	-7.5°	14°
Backrest height	12.5" / 320 mm	19.75" / 500 mm
Footrest to seat distance	16.5" / 420 mm	19.75" / 500 mm
Leg to seat surface angle	80°	100°
Armrest to seat distance	7" / 180 mm	12" / 300 mm
Main wheel diameter	22" / 560 mm	26" / 660 mm
Hand rim diameter	18.5" / 470 mm	22.5" / 570 mm
Minimum turning circle	39.5" / 1000 mm	47.25" / 1200 mm
Tire pressure	87 PSI / 600 kPa	145 PSI / 1000 kPa

Temperature for use	+41°F / +5°C	+104°F / +40°
Temperature for long term storage	+41°F / +5°C	+122°F / +50°C
Force to operate the control device	3 N Toggle Switch	10 N Rocker Switch
Available wheel dimension: D22x1", D24x1", D26x1"		

20. Disposal

- At the end of its service life the wheelchair should be returned to your **LEVO** dealer for proper disposal.
- Used batteries should also be returned to your **LEVO** dealer or to the place where they were purchased.



21. Trouble shooting

21.1. General operation

Malfunction	Solution
Wheelchair does not run in a straight line or all four wheels are not touching the ground	<p>First check the inflation of the tires. See Technical Data, section Fehler! Verweisquelle konnte nicht gefunden werden. and Tire repair, section Fehler! Verweisquelle konnte nicht gefunden werden.</p> <p>Have a technician check that the left and right rear wheels are to the same vertical adjustment as are the front castors. Check that both castors are set to the same angle in relation to the rolling surface. Check all wheels for debris on the axles.</p>
Discomfort in seated or standing position	<p>To function properly, clients must be carefully fitted to standing wheelchairs. If you experience discomfort in either the seated or standing position, please contact an authorized LEVO dealer for assistance.</p>
Legrests don't make contact with the ground in the fully standing position	<p>Caution: This is an unsafe situation. Adjusting the rear wheels up on the rear of the frame may correct this situation.</p> <p>Adjustment or modification to the leg support down posts may also be necessary.</p>
The front end is too light and the wheelchair tips over backwards too easily	<p>Most likely the rear wheels are adjusted too far forward on the frame. Have a technician move the wheels more to the rear. This will make the chair more stable. Note that anti-tip rollers (see accessories) are available and always recommended.</p>
Brakes don't brake effectively	<p>Have a technician check the inflation and wear of the rear wheels and adjust the brake mounts as necessary.</p>

21.2. Stand-up mechanism

Malfunction	Solution
Standing mechanism works but is unusually slow	<ul style="list-style-type: none">• Recharge battery• Have battery replaced
Mechanism inoperable (neither up nor down, no audible motor noise)	<ul style="list-style-type: none">• Check that motor lead to control box is plugged in• Check that switch lead to control box is plugged in• Check battery charge and recharge if necessary• Confirm that current is coming out of charger• Replace battery if necessary• Replace control box if necessary• Replace actuator if necessary

22. Version Management

Version Nr.	Date	Description	Release
1.0	2020-03-13	Documents separated	JC
1.1	2021-05-20	MDR adjustments	HB
1.2	2021-06-30	EU Single Registration Number SRN	HB