Netti® DYNAMIC

Netti® Dynamic S

User Manual

CE This product conforms to regulation MDR 2017/745/EU for medical products.

UM0122 UK 2024-05

inspire joy of life

CONTENTS

1. INTRODUCTION

Netti Dynamic S is a comfort wheelchair for children meant for both indoor and outdoor use. It is tested to EN 12183.
The tests were carried out by an accredited test laboratory in Germany.

In Alu Rehab we believe that wheelchairs should be chosen based on a thorough assessment focusing on the needs of the user and demands from environment. Children grow quickly and for that reason we have created Netti Dynamic S with many adjustment and adaptation. It is a wheelchair that is easy to adjust over time as the child grows, providing an ergonomically sitting environment for the child.

Netti Dynamic S has an adjustable seat and back angle, thus facilitating for the user change of position, mobilisation or posture correction (stabilization).

Netti Dynamic S is a tilt and back recline wheelchair that allows for controlled «Open Kinetic Chain» (OK-C) movements for the user.

Netti Dynamic S has been crash tested at RISE (Research Insitute of Sweden) and TASS International Netherlands, according to ISO 7176-19.

Max user weight is 75 kg,
also when used as a seat in a car.

When mounting accessories such as power kit etc., the weight of the accessories must be subtracted from the max user weight.

Specifications varies between countries.

1.1 AREAS OF USE / INDICATIONS FOR NETTI DYNAMIC S

Netti Dynamic S is a multifunctional wheelchair which is an advanced mobility aid for users affected by dystonia. It is for users with extensive movement patterns resulting in strong spasms and contractions of the user's musculoskeletal apparatus causing joint dislocations, involuntary movements, sliding, loss of function and also challenging the strength of the wheelchair.

The patented Netti Dynamic System (Patent EP2836184) accommodates the user's extension movements letting the wheelchair work in synergy with the user's movements. When accommodating the spastic extensions pattern, muscle tone and frequency of spasms could be reduced. The wheelchair is dynamic and will follow the user's movements of both upper and lower body.

NETTI DYNAMIC SYSTEM
Allows for Open Kinetic Chain movements (OK-C)

- Leg movements
- Hip movements
- Back movements
- Head movements
- Foot movements

IMPORTANT BENEFITS

- The wheelchair adapts to the movements of the user.
- The user will have less discomfort during spasm as the wheelchair supports the movement.
- After a spasm the user returns to the original sitting position securing a good position and pressure distribution.
- It reduces unintentional change of position.
- It helps prevent the user sliding forward in the chair and thereby getting a bad sitting position and inadequate pressure distribution.
- Extends the lifetime of the wheelchair.

CONTRA INDICATIONS

- Limitations of the Netti Dynamic S system when allowing movements leads to destructive postures.
- When allowing movements increases extension tone and spasms.
- When the client may not be able to return to a neutral position.

1.2 QUALITY AND DURABILITY

The Netti Dynamic S wheelchairs are tested at an accredited test laboratory in Germany, following the European Standard EN 12183.

As manufacturer, Alu Rehab A.S evaluates the test to be equal to 5 – 6 years of normal use of the chair. The disability of the user, the toughness of use as well as the level of maintenance done, foremost decides the durability of the wheelchair. Thus, the durability will vary depending on these three factors.

With adequate maintenance, the lifetime of the wheelchair can be expected to exceed the 5 year warranty period by several years

1.3 THE ENVIRONMENT AND WASTE DISPOSAL

Alu Rehab and its suppliers wish to protect the environment.

This means:

- That we avoid using environmentally harmful substances and processes to the greatest extent possible.
- That Alu Rehab's products are ensured a long service life and a high degree of flexibility – to benefit the environment and economy.
- That all packaging can be recycled.
- That the wheelchair was designed to be separated into its component materials – to make recycling easier.

Contact your local recycling agent to get correct information how to handle in your area.

Netti Dynamic S is designed for temperature range from –10°C to +40°C.

1.4 INFORMATION FOR RE-USE

All products from Alu Rehab are designed to give years of maintenance-free service. All products can be adapted for re-use by an authorised dealer. In order to guarantee performance and safety, Alu Rehab recommends the following tests prior to any re-use.

Please examine the following components for function, integrity etc. and replace parts as necessary:

- Wheels (tyre tread)
- Wheelchair frame
- Front castors and quick release
- Hubs
- Brake function
- Directional stability of wheels
- Bearings: test for wear and lubrication.
- Cushions
- Leg supports
- Arm supports
- Recline / tilt function
- Push bar / handles
- Anti-tip

Please also note the content of chapter 10.2 Cleaning and washing instructions.

For hygienic reasons: please replace the head support for a new user.

ANTI-TIP

Correctly fitted, the anti-tip will secure the chair from tipping backwards. We strongly recommend use of the anti-tips.

A refurbishment manual for Netti wheelchairs can be downloaded at My-Netti.com

A recycling manual for Netti wheelchairs can be downloaded at My-Netti.com

1.5 ABOUT THIS MANUAL

In order to avoid damages while using the Netti Dynamic S wheelchair, please read this manual carefully before starting to use the chair.

Symbol of forbidden actions. No warranty can be claimed whenever these actions are implemented.

Symbol of warning. Whenever this symbol is used, caution has to be taken.

Symbol for important information.

Symbol for useful tips.

Symbol for tools.

7°

Symbol for parking brake safe slope.

Max. 75 kg

Symbol for max user weight.

MD **Medical Device**

Manufacturer - Name and address

Date of manufacturing

SN **Serial number**

Read user instruction

Please note that this manual is updated according to the year and date stated on each page.

User Manual on web **www.my-netti.com**

For enhanced readability (advantageous for users with visibility challenges) please find our user manual on our web page: **www. My-Netti.com** – manuals – user manual Netti Dynamic S.

Latest user manual updates, product safety notes, addresses and other product information like recalls etc. will be published on our web page.

1.6 VITAL MEASURES

Netti Dynamic S is comfort wheelchairs designed for both outdoor and indoor use.
Min. dimensions in the table refer to seat width 250 mm. Max. dim refers to seat width 350 mm.

Specifications varies between countries.

TOTAL WEIGHT: 23,3 – 24 – 24,7 KG
ex. cushions, leg and head support

SEAT WIDTH:

250, 300 & 350 mm

SEAT DEPTH:
(From back rest cushion to front of seat plate)

250, 300 & 350 mm

SEAT HEIGHT:
From floor to top seat plate using 16" main wheel (or for 22" main wheels)

440 mm (or 470 mm)*

* By changing position of main wheels, it is possible to achieve seat height of 500 mm.

BACKREST HEIGHT:
(Measured from seat plate to top of backrest Velcro.)

375 mm*

Using back rest extender gives 100 mm extra backrest height.

Tilt range 35° / Recline range 35°

*** Least stable and most stable refers to position of anti-tippers.

* The test was stopped by 15°.

Specification	min.	max.
Overall length with leg support and push bow	920 mm	1050 mm
Overall length without leg support, pushbbow folded	740 mm	740 mm
Overall width	405 mm	515 mm
Height without head rest	885 mm	885 mm
Folded length	740 mm	740 mm
Folded width	395 mm	495 mm
Folded height	885 mm	885 mm
Total mass ex all supports	23,3 kg	24,7 kg
Mass heaviest part – leg support	2,3 kg	2,4 kg
Static stability uphill	0°	15°
Static stability downhill	9°	15°
Static stability sideways	0°	15°
Seat plane angle	0°	35°
Effective seat depth	250 mm	350 mm
Effective seat width	250 mm	350 mm
Seat surface height at front	440 mm	470 mm
Backrest angle	90°	125°
Backrest height	375 mm	375 mm
Foot plate to seat distance	240 mm	390 mm
Leg to seat surface angle	79°	0°
Arm support to seat distance	120 mm	290 mm
Front location of arm support structure	235 mm	275 mm
Push rim diameter – 22" wheel	480 mm	
Horizontal axle location	120 mm	120 mm
Parking brake – safe slope	0°	7°
Minimum turning radius	665 mm	685 mm

Model width 350 mm. Measured without cushions.
For your calculation of overall width:
Netti Dynamic S with 16": SW + 155 mm
Netti Dynamic S with 22": SW + 345 mm
Netti Dynamic S with 22" and mudguards: SW + ca. 360 mm

2. QUICK REFERENCE

The content of this page is a summary of the whole manual. It gives you a brief introduction to the use and care of the Netti Dynamic S wheelchair.

The quick reference is not a replacement for the manual, only a reminder / check list.

- Unpack the wheelchair.
- Fold the backrest up and mount the recline gas strut to the backrest strut bracket.
- Install the arm supports.
- Mount the leg supports.
- Fold up and adjust the push bow.
- Mount the head support.
- Install the cushions.
- Mount accessory.

(See chapter 5 for more information. Mounting descriptions will follow the accessory.)

Adjust the wheelchair to the user:
Adjust seat depth and eventually the wheelchair balance, foot support height, armrest height, head support height and depth, chair back cushion height before the wheelchair is ready for use.

For more information about adapting the wheelchair to the user, please see:
My-Netti.com Knowledge centre.

Announcements to product safety and eventually product recalls will be published on our home page www.My-Netti.com

For troubleshooting, see chapter 11. For mounting and adjustments see chapter 6.

Drive carefully!

Be sure to lock all handles properly.

Watch out for pinching danger when folding and unfolding, tilting, reclining and all other adjustment movements.

Never stand on the foot plates due to risk of tipping forwards.

The anti-tips are always used for the safety of the user.

When the chair is tilted rearwards the anti-tips must be activated. The brakes must be locked when leaving the user in the backwards tilted position.

Never lift the wheelchair by the leg supports, arm supports or head support.

Be aware that friction against push-rims can create a warm surface.

Surface temperature of metal parts in frame structure might increase when exposed to direct sunlight.

Salt water can increase risk of corrosion. Further precautions related to environmental conditions not needed.

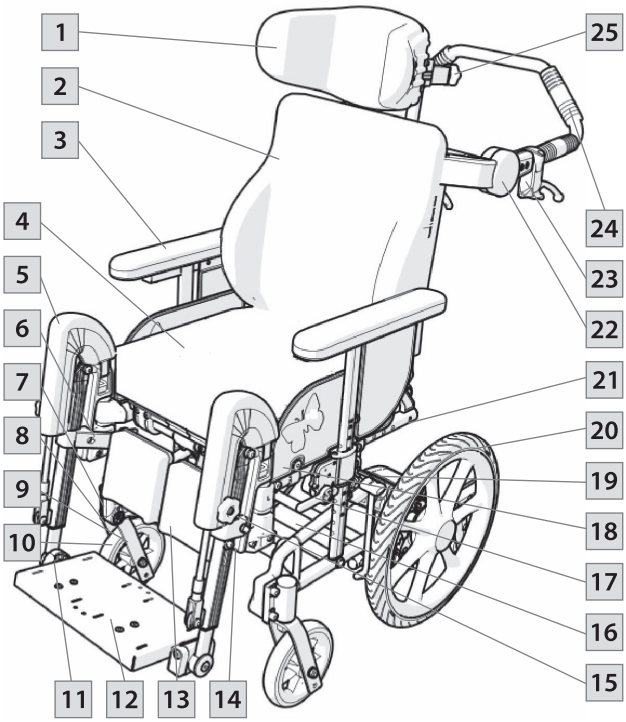
If electrical functions are mounted:
Charge the battery daily.

If the chair has pneumatic tires: Make sure to check tyre pressure every week and inflate to keep wheels at 36 PSI.

3. DESCRIPTION

Standard version*

1. Head support
2. Backrest cushion
3. Arm support with pad
4. Seat cushion
5. Knee pad on leg support
6. Calf support bracket
7. Bearing house / front fork fastening
8. Quick release front fork
9. Front fork
10. Front castor
11. Footboard lock
12. Footboard
13. Calf support
14. Height adjustment screw
15. Angle adjustment knob
16. Name plate wheelchair on the wheelframe cross bar.
17 Arm support height knob
18. Cloth protector
19. User brake (if mounted)
20. Main wheel
21. Back hinge – seat depth adjustment
22. Push bow pivot hinge
23. Drum brake handle
24. Push bow
25. Head support depth knob



If any of these parts are missing and you need more information, please contact your dealer.

Product configuration may vary between different countries.

Illustrations may differ from the delivered product.

For visually impaired people, manuals and catalogues can be downloaded at www.My-Netti.com

If in doubt – contact your dealer!

4. FEATURES OF NETTI DYNAMIC S

STANDARD

SEAT
- Dynamic seat plate
- Netti Sit S Pressure distributive cushion
- Tilt –0° to +35°
- Adjustable seat height from 440 – 470mm
- Adjustable seat depth: 100 mm

WHEELS
- Main wheel 16" x 1,4" PU with drum brake
- Front castor: 6" PU with quick release axle

Standard main wheels may vary between countries.

BACKREST
- Angle: 35°
- Height: 375 mm
- Netti Super Stabil S backrest cushion has integrated lumbar support and side support
- Angle adjustable and fold down push bow

BRAKES
- Drum brakes, attendant lever and foot brakes + user brake handle

ANTI-TIPPER
- Turnable, height and length adjustable

LEG SUPPORT
- Dynamic leg support
- Height adjustable whole foot plate

ARM SUPPORT
- Height adjustable and push down arm support
- Depth adjustable pads

HEAD SUPPORT
- Netti Mini – height and depth adjustable with side support
- Removable
- Integrated belt fixing brackets

ACCESSORIES

SEAT
- Tray
- Hip belts / pelvic stabilizer and 4 points harnesses
- Seat depth extenders for seat width 350 mm – (one gives seat depth 395 mm, two give 440 mm)
- Seat width pads allowing stepless seat width reduction by max 90 mm

WHEELS
- 22" Puncture proof main wheels with drum brakes
- 22" push rims
- Front castor: 6" 150 x 30 mm Flexel
- Camber angle: 4°
- Spoke protector

BACKREST
- Backrest cushions Netti Stabil

LEG SUPPORT
- Angle adjustable leg support with foot plate and calf support
- Amputation support
- Knee and thigh support

ARM SUPPORT
- Different pads

HEAD SUPPORT
- Netti A with side support
- D86133 or D23973
- Head support E with different length side supports

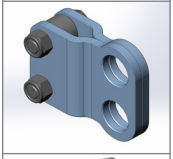
5. ACCESSORIES

The anytime updated complete accessory and spare part catalogue can be downloaded from our home page www.My-Netti.com order forms.

FRAME

CAR FIXING KIT

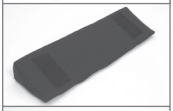
FRAME EXTENDER
Increases distance between main wheels and front casters. Reduces tipping risk.



BACK

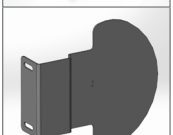
BACKREST CUSHIONS
Several models.
Please contact your dealer.

WEDGE
Increases side support.

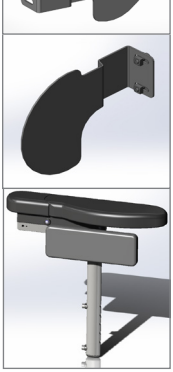


LUMBAR SUPPORT
Increases lumbar curvature.

SIDE SUPPORT
Depth and height adjustable.



SIDE SUPPORT FOR SW 25
Depth and height adjustable.



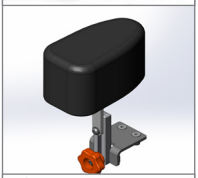
SEAT WIDTH PADS
Side, depth and height adjustable, see chapt 6.12.

SEAT

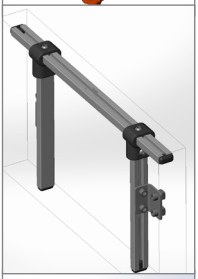
SEAT CUSHIONS
Many to choose from.
Please see our homepage.

BELTS
Several models; hip belts with or without upholstery and with plastic lock or car lock, vests and harnesses (See chapt. 5.1 and 5.2 for mounting).

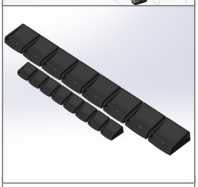
ABDUCTION BLOCK
Netti Mini



MOUNTING RAIL FOR HARNESS
Height and width adjustable. Quick locks for belt fixing are fixed to square nuts in the horizontal profile. The rail is mounted to chairback profiles.
See chapt. 5.2.



FIX LOCK KIT
Locks to be mounted to mounting rail for easy fixing of harnesses.



HARNESSES
Several types of belts and harnesses with or without upholstery.

4 POINT HIP BELTS

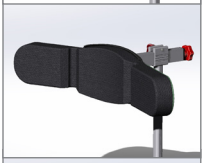
BACK EXTENDER
Increases the Velcro back with 100 mm.

CALF HUGGERS ON THE CALF SUPPORTS

ANKLE HUGGERS

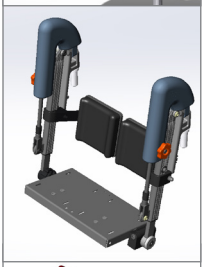
HEAD SUPPORT

SUPPORT A –
Mini.

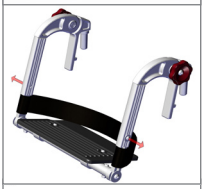


SUPPORT E –
With different length side supports.

LEG SUPPORTS



NETTI MINI LEG SUPPORT
Angle adjustable.



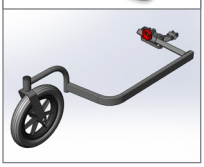
NETTI MINI UNIVERSAL LEG SUPPORT

FOOT BOX

TRAYS etc.
Make user assessment before ordering a tray: potential conflict between dynamic movements and fixed table.

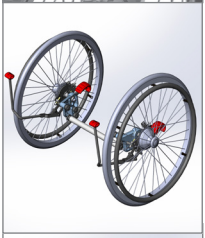
UPHOLSTERY FOR TRAY.
Offers a soft base for the arm resting on the tray.

NETTI NATURE
Kit with 12" front wheel and frame to fix to Netti Dynamic S, allows for driving outdoors and off-road.



WHEELS

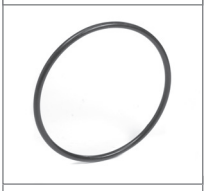
MAIN WHEELS
16" and 22" with drum brake.



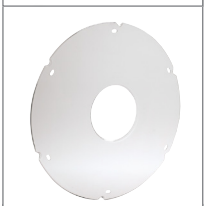
22" wheel kit with drum brakes. To be mounted by authorised personnel.

MUD GUARD
For 22" wheels.

FRONT CASTORS 6"
150 x 30 mm Flexel.



PUSH RING
Aluminium 22".



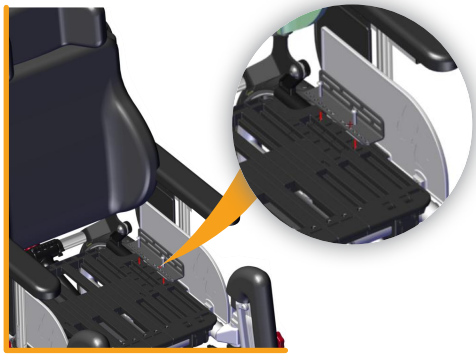
SPOKE PROTECTORS
For 22" main wheel.
Transparent.

TOOL SET

5.2 MOUNTING OF HIP BELT

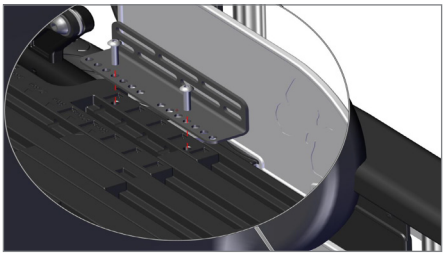
- Pull the belt thorough the hole in the hip belt bracket.

- Thread the belt back through the belt clamp.



- Fix the hip belt bracket to the bracket on the seat plate using the enclosed screws and nuts.

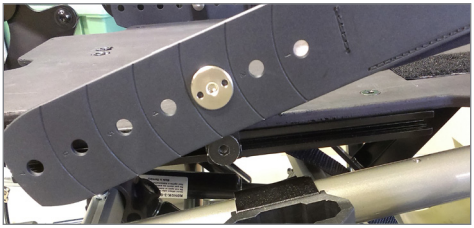
4 mm Allen-key.



- The hip belt bracket on the seat plate can be moved to 7 different positions providing the optimal position for the hip belt.

The hip belt bracket is mounted to the seat plate by:

- Pushing the screw following the Evoflex kit, through the belt bracket on the seat plate.



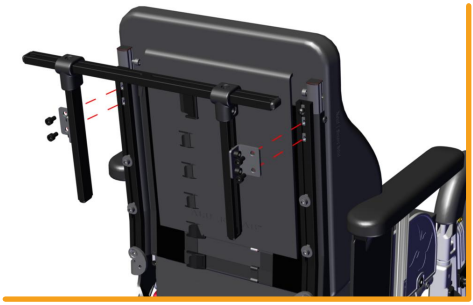
- Push the hat-nut through the belt in the hole giving the correct length for the user.
- Connect the screw and the hat nut and tighten well. The screw and nut are long enough that the belt can freely pivot around them.
- Shorten the belt end to prevent conflict with the seat plate.
- Adjust the position of the seat belt.

- The hip belt should be positioned across the thighs. The hip belt is necessary for activating the dynamic seat plate. The belt lifts the seat plate when the user extends. It ensures that the user returns to the original seating position after an extension and helps reduce sliding and repositioning.

You find the anytime updated overview over belts and harnesses on our home page **www.My-Netti.com**

5.3 MOUNTING OF H-BELT BAR

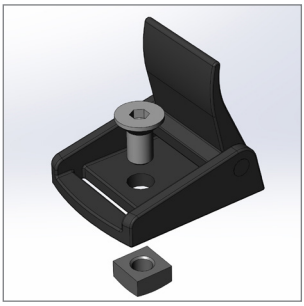
- Fix the H-belt attachment bracket onto the back profiles with 2 x 2 M6 screws onto square nuts in the back profiles.



- Fix the H-belt attachment brackets at the right position / height. The height should be level with the shoulders of the user.

FIXLOCK

- Mount the Fixlocks to the horizontal and vertical bars as needed.
- Remove plastic caps closing the bar end.
- Insert the square nut into the bar slot.
- Screw through the Fixlock into the square nut.
- Move the Fixlock sideways to the desired position on the bar before tightening it well.



- Thread the belt through the Fixlocks on the bar and lock. Adjust to the requested belt length.

The Fixlock allows for easy adjustment at any time.

The lower ends of the belts can be fixed like shown in chapter 5.1.

4 mm Allen-key for M6 screws with pan heads.
5 mm Allen-key for M6 screws with cylinder head.

6. ASSEMBLING AND ADJUSTMENT

For information about adapting the wheelchair to the user, please see: My-Netti.com Knowledge center.

Tools needed are described under each chapter. Accessories described in chapter 5 is a presentation of options and will be delivered with separate mounting descriptions.

6.1 UNPACKING

1. Unpack all the parts, and check that everything is there according to the packing list.
2. Unfold the chair back and mount the recline cylinder to the chair back frame.
3. Mount anti-tippers.
4. Pull up the arm supports to correct height.
5. Place cushions and mount the leg supports.
6. Mount accessories.

Weight of components

Main wheel:	16" x 1,4": 1,7 kg each
Front castors:	6": 0,6 kg each
Leg support:	2,1 kg (with footboard)
Back cushion:	Super Stabil S: 1,0 kg
Netti S Sit cushion:	0,8 kg
Head support A Mini:	0,75 kg

Necessary tools are described under each chapter. Accessories described in chapter 5 are presentations of options, and will be delivered with separate mounting descriptions.

6.2 MAIN WHEELS

16" x 1,4" (406 x 36 mm) with drum brake are installed by default from the factory.

22" main wheels can be ordered. They will be installed from factory or authorized personnel.

The 22" wheels have 4 degree camber angle and drum brakes. The brakes are operated independent on each side.

22" main wheels allow for higher seating height.

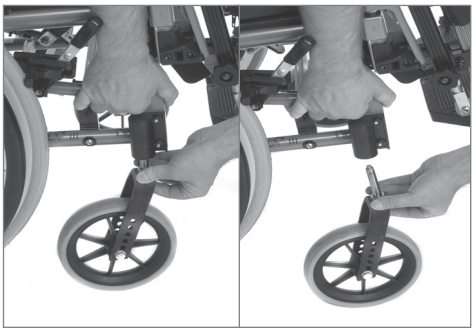
6.3 FRONT FORK

Front forks come as standard with quick release axles on top.

The front fork is easily removed by pressing the QR knob. The knob sits under the silicon hat on top of the bearing house. Pull the axle downwards out of the bearing house.

Check the angle of the castor bearing house. It should be vertical to the ground to give good driving performance.

6.4 FRONT CASTORS



To take of
- Press the quick release button and pull the front wheel downwards.

To mount
- Lead the quick release axle into the bearing house and push firmly.
- Pull the fork slightly to ensure that the fork is fully locked.

The foot-print of the wheelchair can be increased by interchanging the front castor bearing houses.

Sand and sea water (salt used for gritting in the winter) can damage the bearings of the front castors and the main wheels.
Clean the wheelchair thoroughly after exposure.

ANGLE OF BEARING HOUSE

Correctly adjusted vertical angle of the front fork is important to achieve proper manoeuvring qualities of the wheelchair.

Unfix the two bearing house screws on the outside of the frame enough to adjust the eccentric nut on the inside.
Angle the bearing house, so that it is 90° relative to the ground, tighten the screws well.

1 pc Allen-key.

The bearing house cannot be adjusted in height.

Check the position of the anti-tip.

6.5 SEAT HEIGHT AT THE FRONT

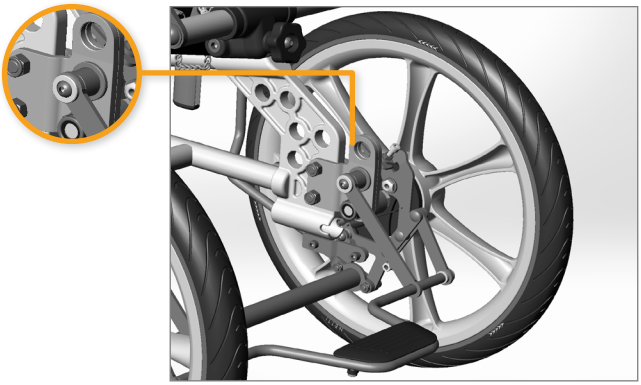
The seat height depends on:
- Size of front castors.
- Size of front fork.
- Check the angle of the castor bearing house.

6.6 SEAT HEIGHT AT THE REAR

The seat height at the rear depends on:
- Size of main wheel.
- Position of main wheel.

MAIN WHEEL
Unfix the screws holding the wheel, including washer and nut also including the drum brake fixings for user brake, foot pedal brake + cross bar. Mount it in required position in the main wheel bracket.

Illustrations shows the main wheel mounted to frame extension bracket which is standard configuration.



2 pcs open-end spanner.

When the seat heights changes ensure that the main wheels are placed such that the lower frame tube is parallel with the ground.

The risk for tipping increases when the main wheel is moved forward in the main wheel bracket.

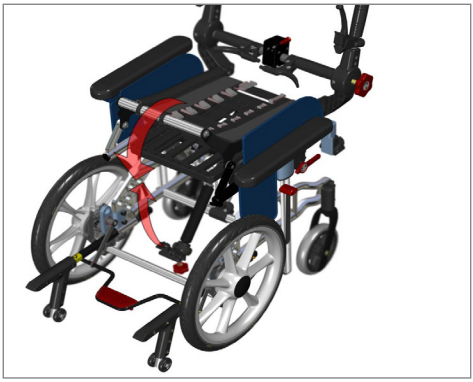
Check the position of anti-tip.

Readjust the brakes.

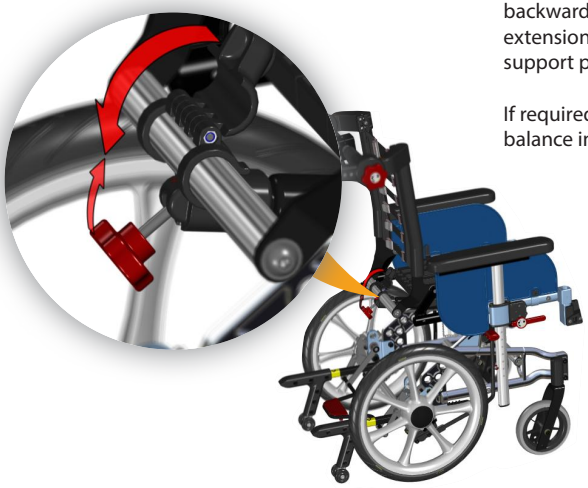
Readjust the angle of the bearing house.

6.7 BACKREST

- Unfold and lift the backrest up and fit the gas strut into the back lock bracket.

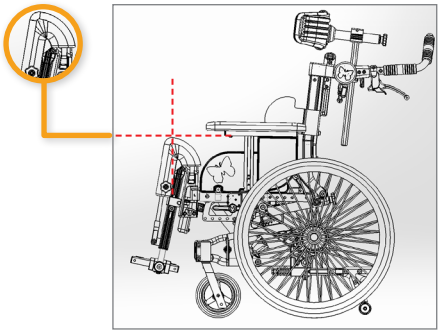


- Secure the backrest by locking the back lock and tighten the star wheel.



6.8 SEAT DEPTH – BALANCING THE WHEELCHAIR

The seat depth can be adjusted both in the front and the rear. The goal is to give the user an ergonomic seating position with lumbar support and the knee-joint aligned with the knee-joint of the leg supports.



By adjusting the seat depth the balance of the wheelchair is affected and thereby also the driving characteristics.
A well balanced chair is easy to drive without the tendency to tip backwards.
As a basic rule, start with adjusting the seat depth backwards. After this is done the leg support extension brackets can be pulled out to align the leg support pivot knee-joint with the user knee-joint.

If required, move the main wheels to get good balance in the wheelchair see 6.6.

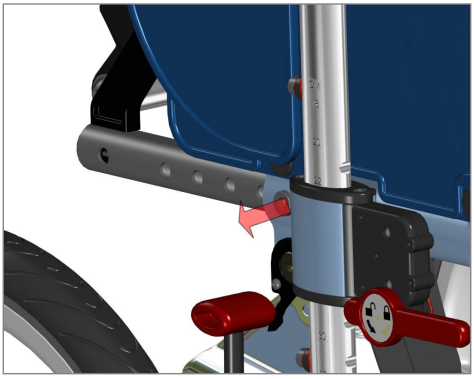
6.9 ADJUSTING THE SEAT DEPTH AT THE REAR

FINDING CORRECT SEAT DEPTH:
- Remove the leg support and head support.
- Adjust the seat to a horizontal position.
- Open the backrest angle slightly to make it easier for the user to get the bottom well into the chair.
- Adjust the backrest cushion height to give the user good lumbar support.
- Correct seat depth depends on the user's thigh length and is measured while seating.

When the seat depth is correct, there should be approximately 20 – 30 mm distance between the front edge of the cushion and the hollow of the knee.

- The seat depth can be adjusted in 6 intervals (250 – 275 – 300 – 325 and 350 mm) without change of parts.
- Small adjustments are done by adjusting the straps on the Velcro backrest.

ADJUSTMENT IS DONE AS FOLLOWS:
- Open the backrest lock and fold the backrest forward in the chair.
- Remove the screws for adjusting the seat depth on both sides and move the back-rest hinge to the required seat depth.
- The backrest hinge must be in the same positions on both sides.



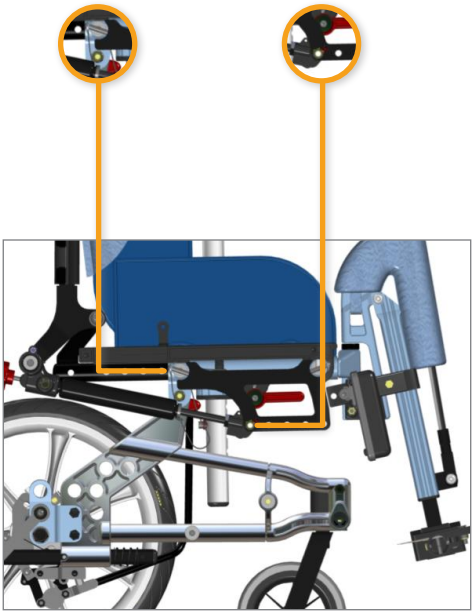
- Tighten the screws.
- The recline gas spring must change position so that the backrest angle equals 90° when the recline gas spring is in the end position.

6 mm Allen-key.
13 mm open-end spanner.

6.10 ADJUSTING THE SEAT PLATE DEPTH

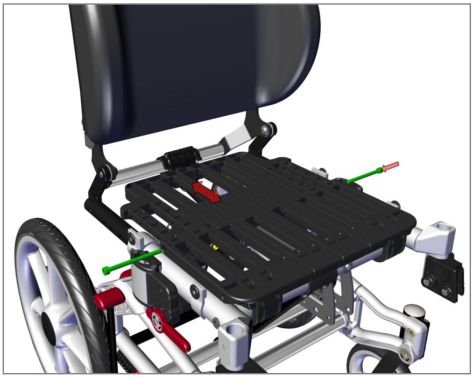
ATTACHING THE GAS SPRING UNDER THE CHAIR
In order to achieve a 90° position of the backrest the position of the gas spring under the chair has to be changed when the seat depth is adjusted. The hole where the back hinge is mounted follows the hole in the bracket where the cylinder is mounted.

Back hinge position Cylinder position



The seat plate can be depth adjusted in 5 intervals (250 – 275 – 300 – 325 and 350 mm) without change of parts except replacement of seat cushion to a depth equal to new seat depth.

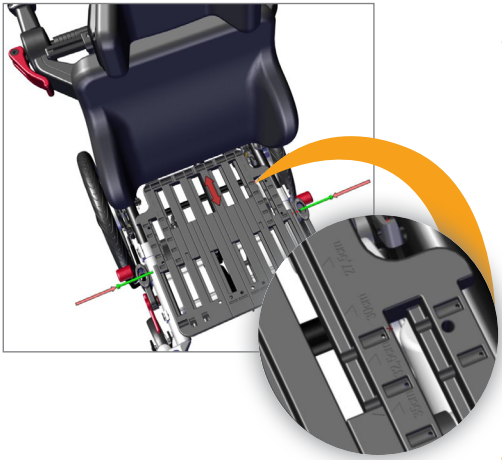
ADJUSTMENT IS DONE AS FOLLOWS:
- Remove the cushions.
- Pull the armrest up to max height or remove them.
- Remove the lower cloth protectors by unscrewing the 2 screws holding them.
- Swing the seat plate upwards to get access to the screws sitting on its side.
- Remove the screws on each side and pull or push the back part of the seat plate to desired seat plate depth.
- Insert the screws and fix.
- Replace all components.



If special user needs demands a different angle than the recline function allows, the position of the gas spring can be adjusted.

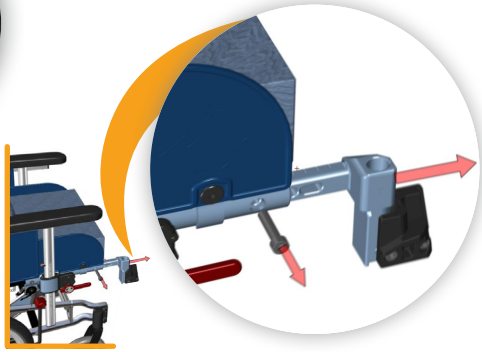
When changing seat depth, you also change the tipping point of the chair.
This can be prevented by changing the position of the main wheel in the main wheel bracket (see chapter 6.6).

6.11 ADJUSTING THE SEAT DEPTH AT THE FRONT



It is possible to adjust the seat depth up to 60 mm at the front. The aim is to have the centre of the users knee-joint aligned with the leg support knee pivot point – while the user at the same time has back support of his lower back – also when the leg support angle is changed.

- Unfix the screw holding the pull out piece for the leg support.
- Set the pull out piece to the required position. Tighten the screws with 25 Nm.



There is a seat plate depth scale engraved on the seat plate.

6 mm Allen-key.

By setting the pull out pieces to different positions, it is possible to compensate for a rotated pelvis or different thigh length.

By users with strong involuntarily movements the extension pieces must not be pulled out more than 50 mm.

ABDUCTION BLOCK

The seat plate is prepared for mounting a abduction block. Position the block bracket in the centre on top of the seat plate. Push screws through the 2 holes and fix with nuts from below.

6.12 ANTI-TIP

Netti Dynamic S is always delivered with anti-tips. The anti-tips are to be activated in all daily use. Always activate the anti-tip whenever the wheelchair is left without attendant.
The anti-tips only need to be folded away when obstacles are to be crossed.

Activate (from fold away position):
- Step on the parking brake pedal and lock.
- Pull the anti-tip out / rearwards.
- Turn it down 180°.
- It locks into position with spring tension.

Anti-tips height is adjusted as follows:
- Unfix the 3 screws on the anti-tip pedal.
- Pull out or push in the vertical bar.
- Fix it in correct height using an Allen-key.
- Do the same procedure on the opposite side.

Fold away:
- Step on the parking brake pedal and lock.
- Pull the anti-tip out / rearwards.
- Turn it up 180°. It locks into position with spring tension.

The anti-tips are delivered adjusted according to ordered main wheel size in standard position.

5 mm Allen-key.

Check that both anti-tips have the same length. The gap between the anti-tip wheels and the ground must be max. 30 mm.

The anti-tip should always be used for the safety of the user.

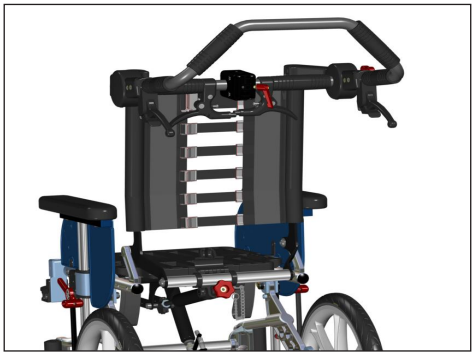
6.13 CUSHIONS

Cushions are fixed and adjusted on the wheelchair using the Velcro.

It is imperative to correctly set-up the cushion in order to ensure good seating comfort.

The cushion covers are washable and thereby reusable. Follow the instruction on the back of the cushion for correct maintenance and washing of the cushion.

6.14 ADJUSTING THE VELCRO BACK



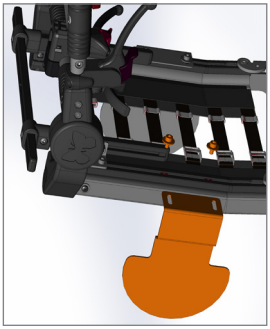
- Loosen the straps, and place the back rest cushion so that user gets room for the bottom and the integrated lumbar support in correct position.
- Tighten the straps so that they follow the curvature of the spine and gives a little extra support at the top of the sacrum.

6.15 SIDE SUPPORT

The back cushion can be sideways stabilized / reinforced by mounting side supports.
They are mounted to the back profiles and can be height and width adjusted to give the user optimal side support.

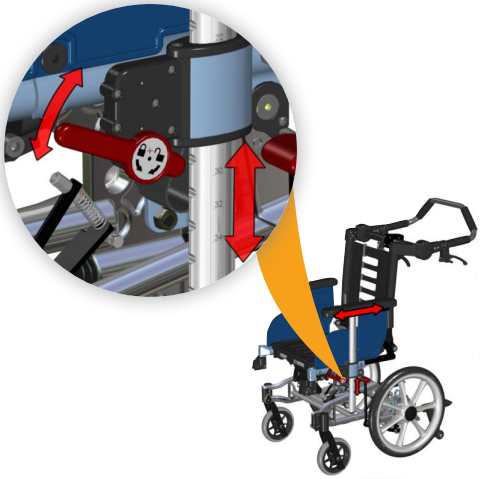
To Mount:

- Fold the back forwards to a horizontal position.
- Insert 2 M6 square nuts into the back profile. On the lower end of the profile a opening allows for the nuts to enter into the slot.
- Push the nuts upwards.
- Lay the side support on top of the profile as shown on the illustration and fix with screws entering into the 2 square nuts.
- Adjust the height and width of the side support. Check that the back cushion cover the side support with no hard edges.

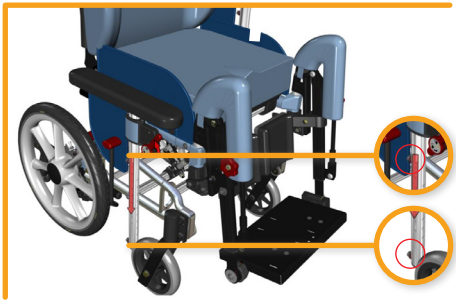


6.16 ADJUSTING THE ARM SUPPORT

- The arm supports are adjusted by opening the arm support lock.
- Pull the arm support up or down.
- A scale on the vertical profile helps defining same height on both sides.



The arm pad can be adjusted back and forwards by loosening the screws under the arm pad profile. Push the arm pad to desired position and fix. On top of the armrest pads soft armrest cushions can be slipped over. Remove when a table is mounted.



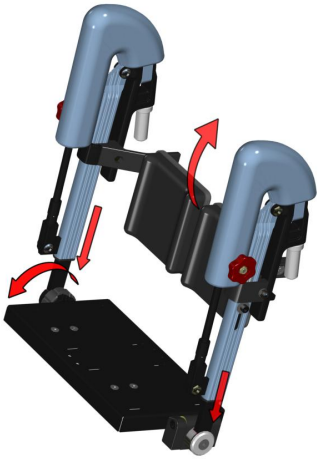
2 positioning screws allow for limiting the height. Position them where they are needed.

6.17 LEG SUPPORTS

Netti Dynamic leg support with whole foot plate is standard for Netti Dynamic S.
Universal leg support and angle adjustable leg support with foot plate and calf support are also available for Netti Dynamic S.

NETTI DYNAMIC S LEG SUPPORTS
are swingable and removable. They come with height and depth adjustable calf supports.

FUNCTIONAL OVERVIEW
The Netti Dynamic leg supports allow controlled Open Kinetic Chain (OKC) movements of the lower extremities of the user. Unlike static wheelchairs, the user's distal segments are supported but can move. This helps to gain control of the proximal segments especially when the user cannot inhibit movements due to their medical condition.



Netti Dynamic System S leg support allows for dynamic:

- Plantar flexion of the feet (leg support pivots anteriorly).
- Unilateral extension of the hip (single leg support goes down).
- Knee extension (leg supports move forwards).

When tone decrease, the lower extremities will be supported towards their resting position.

Leg supports need to be adjusted for each user in order to meet the unique user needs.

The adjustment should be carried out by a trained professional.

Netti Dynamic S leg support is especially developed to allow for uneven forces from the legs.
Unilateral extension of the hip (left or right part of the leg support goes down).

MOUNTING THE LEG SUPPORTS

This description is valid for all leg supports.

- Position the leg support fixing bolt vertical into the leg support bracket hole, turning it ca. 30 degrees outward for it to enter easy. Turn it inward until it clicks into user position.
- Remove by unlocking the foot board and lifting up and turning the leg support outward.

With the footboard folded up, there is free space for transfers.

The footboard folds down from the left and is locked to the right side; this gives a sturdy platform for the feet.

⚠ Always keep the footplate locked when in use.

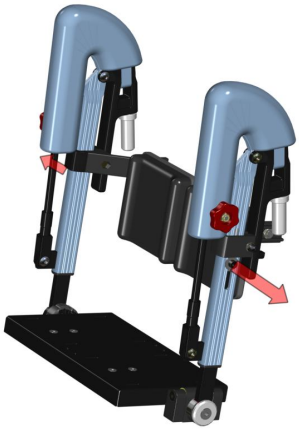
ANKLE HUGGERS

The footboard has holes prepared for ankle huggers or shoe shells to be mounted as accessories if required.
Ankle huggers are useful when involuntarily leg movements slide the feet of the footboard.
Ankle huggers are mounted to the footboard by threading the fixing belts through the holes in the footboard fixing them with buckles on the underside of the footboard.

FOOTBOARD HEIGHT ADJUSTMENT

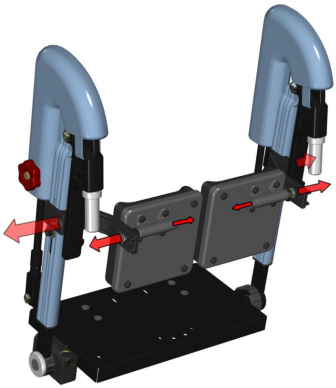
Loosen the M6 screws holding the leg support length-profile on the outside with 5 mm Allen-key. Adjust the footboard to a height from top of front edge seat-cushion to the footboard equal to the lower leg length.

Make sure there is enough free space under the footboard for the wheelchair to pass minor obstacles. Slightly tilting the seating unit may help.

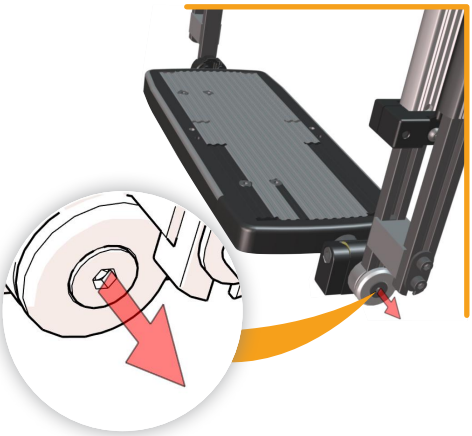


CALF SUPPORT HEIGHT AND DEPTH ADJUSTMENT

- Loosen the two M6 screws holding the calf pad arm and slide each calf pad up or down to desired height. They should in addition to supporting the calf also help prevent the feet sliding backwards from the footboard.



- Twist the calf pads to an angle giving support for the leg when the foot support is angled. The calf pads can swing freely to follow the movements and adjust to the user's leg position.
- Adjust the calf-pad depth by losing the M8 screw sitting inside the calf pad.
- Position the calf pad backwards or forwards till it barely touches the user's calf with his / her feet resting on the footboard.
- The feet should stay on the footboard with the feet on the middle of it.



FOOTBOARD ANGLE ADJUSTMENT

- Loosen the M8 screw on the left foot support with 5 mm Allen-key. This allows the footboard to rotate.
- Choose a footboard angle most similar to the user's foot angle. Fix the screws tightly so that the footboard does not move.

Please note that the Dynamic System footboard is still allowing for some rotation forward to flex when the user extends his / her feet.

Please note – weekly lubrication of the gliding length profiles with white Vaseline is important to ensure smooth function of the Netti Dynamic System Leg supports.

Netti Dynamic has also the following foot support alternatives – whole foot box (see chapter 5).

LOCKING THE LEG SUPPORT ANGLE

Angle adjustable leg supports
The red star wheel on the outside of the leg support is used to fix the required leg support angle.

The Netti Dynamic System Leg support angle can be locked by tightening the red star wheel on the outside of the leg support. This is necessary if sudden extension may harm persons standing by or surrounding, and always when the chair is used as a seat in a car.

Always lock the dynamic functions of Netti Dynamic S leg supports when Netti Dynamic S is used as a seat in a car.

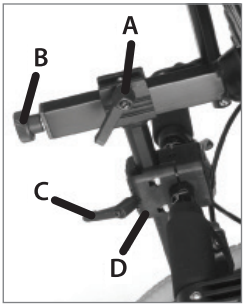
To maintain the dynamic functions of Netti Dynamic S leg supports («OK-C»), the red star wheel must be loose allowing for the knee movements («OK-C» movements of the knee).

6.18 HEAD SUPPORT

The depth of the head support should be adjusted to barely touch the back of the user's head when sitting relaxed.

The height of the head support needs to be adjusted to fit directly behind the head.

A – Lever for depth adjustment
B – Wheel for angle adjustment
C – Lever for height adjustment
D – Head support bracket.



Place the squared nut in the trace of the head support bracket as shown below.

- Place the head support in the head support bracket.
- The height and the depth of the head support is set to the required positions and tightened.
- The head support bracket is fixed by tightening the four screws two by two diagonally so the bracket is fixed with the same strength divided on the four screws.

Adjusting the head support in depth:
- Release the locking lever on top of the vertical bar **(A)**.
- Adjust the head support and fix it in required position.

Adjusting the head support in height:
- Release the locking lever on the head support adapter **(C)**.
- Adjust the head support and fix it in required position.

Adjusting the head support in angle:
- Release the adjustment wheel at the rear of the horizontal bar **(B)**.
- Adjust the head support and fix it in required position.

Adjusting the head support sideways:
- The head support adapter can be moved both to the right and left, giving the possibility to accomodate special needs for head support.
- Untighten the four screws holding the adapter together.
- Move the adapter to the required position and fix the adapter by tightening the screws diagonally.

Remember to release the levers when adjusting the head support.

6.19 PUSH BOW

If the head support stand does not fit the bracket perfectly the bracket is probably fixed too tight or unevenly.

After fitting the head support fix it properly by tightening the little set screw in the centre on top of the head support bracket using an Allen-key.

If the head support seems to short in height, it can be turned 180° by releasing the adjustment wheel at the rear of the horizontal bar (B).

Adjustment of push bow:

- Release the red handle on the right side of the push bow.
- Swing the push bow into required position.
- Lock the bow in required position by tightening the red wheel.

⚠ Be sure to lock the push bow properly.

Make sure the wires to brakes and tilt / recline functions never are sharply bent.

To get the push bow out of the way it can be turned all the way down till it touches the chair back.

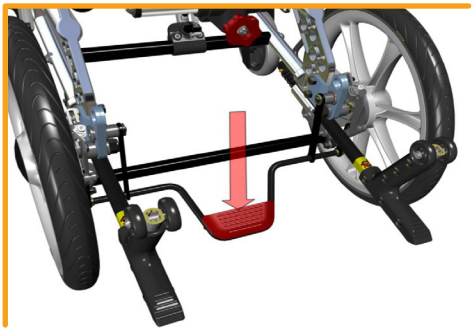
6.20 THE BRAKES

Netti Dynamic S with 16" drive wheels is equipped with drum brakes 3 operation modes:

- Parking brakes – with foot pedal.
- User operated parking brakes – with handle.
- Attendant brakes – with brake handles on the push bar.

The parking brake – operated by the attendant: push the foot pedal down.

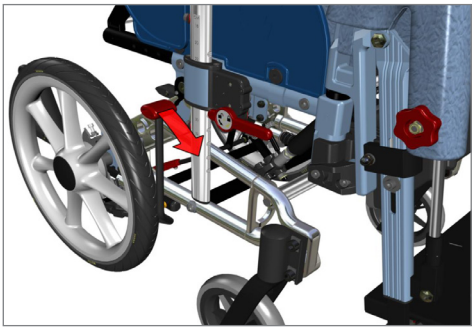
- To deactivate the brake, lift the foot pedal up.



Netti Dynamic S with 22" drive wheels does not have a foot pedal but the other brakes.

USER PARKING BRAKE

- Push the brake handle forward to lock.
- Pull the handle backwards to release.



ATTENDANT BRAKES

Pull the handles towards the push bow.
This allows for regulating driving speed.

These brakes can also be activated as parking brakes when the little handle on the main brake handle is pushed forward while the main handle is pulled. Be sure that both parking brakes are locked.

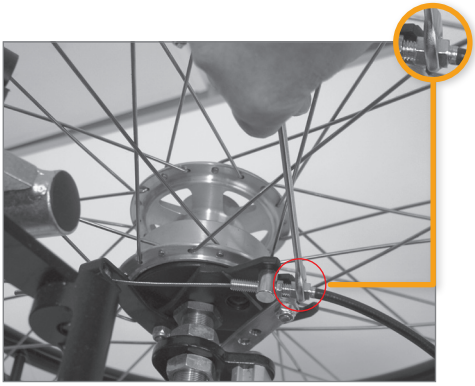
The parking brake function is released by pulling the main handle once more.

It is extremely important that the parking brakes are locked when the user is left sitting in the wheelchair.

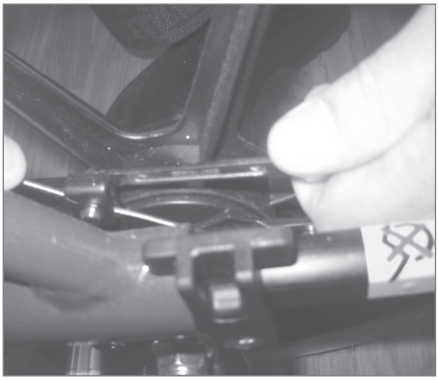
Do not leave the user in the wheelchair without activating the parking brake.

ADJUSTING THE DRUM BRAKE

If the brake does not brake properly:
Adjust the wire on one or both sides, adjust the foot screw 2 – 4 rounds out. Then re-check the brakes.



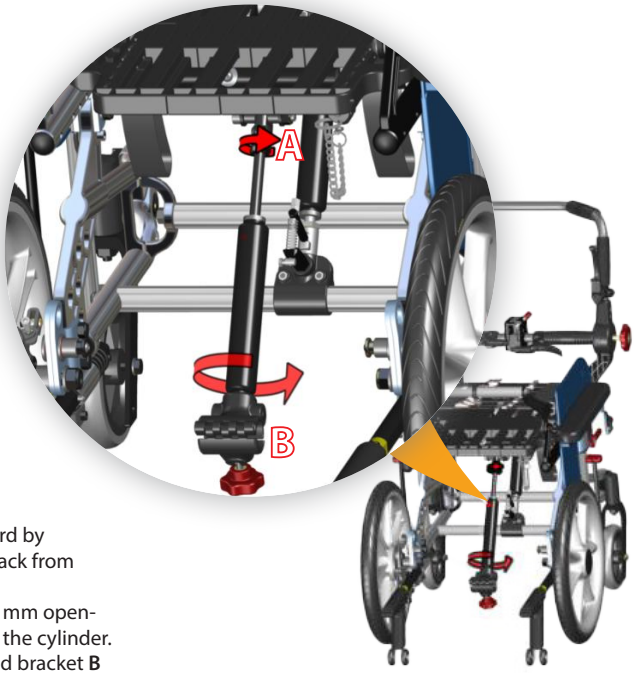
If the wire is too loose:
Adjust the foot screw all the way in. Tighten the wire by loosening the wire clamp before pulling the wire further through it. Tighten the wire clamp, and adjust the foot screw out again.



1 pc 10 mm open-end spanner.

To ensure the correct functions of the wire, these must never be taut.

6.21 CHANGE OF THE DYNAMIC CYLINDER



It may be required to change the back recline cylinder for adjustments to the user weight and power.

- Fold the chair back forward by disconnecting the chairback from the cylinder.
- Open the nut **A** with a 17 mm open-end spanner and remove the cylinder.
- Unscrew the cylinder head bracket **B** and fix the bracket to the new cylinder.
- Screw the new gas cylinder into the head until it touches the cross bolt leaving no play. Leave the nut **A** loose till the cylinder has correct depth.

If the cylinder sits too loose, you cannot release it with the operating handle; when it is too tight, the operating handle will not lock the cylinder.

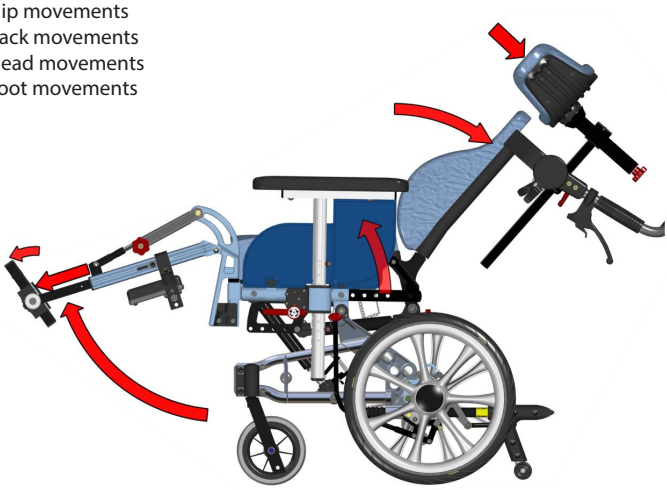
Tighten the nut A close to the head with the 17 mm open-end spanner and fix the gas cylinder firmly. Fold up the back and fix the cylinder to it.

Check all dynamic functions.

7. DYNAMIC FUNCTION

NETTI DYNAMIC SYSTEM
allows for Open Kinetic Chain movements (OK-C):

- Leg movements
- Hip movements
- Back movements
- Head movements
- Foot movements



With correct recline cylinder force, the wheelchair will bring the user up into normal position after a spasm.

7.1 NETTI DYNAMIC S

MAX EXTENSION

7.2 ASSESSMENT AND CHOICE OF NETTI DYNAMIC BACK SUPPORT GAS CYLINDER

The chair back position is defined by the chair back cylinder.

NETTI DYNAMIC FREE MOVEMENT BACK SUPPORT CYLINDER
Allows the back support to move backwards to full recline, giving full support during extension movement. When the user starts to relax the cylinder move the back support to its original position.

The strength of the full free cylinder has to be fitted individually according to body weight. A cylinder that is too strong will not allow the back support to move. A cylinder that is too weak will not be strong enough to lift the back support to its original position.

NETTI DYNAMIC FREE MOVEMENT BACK SUPPORT CYLINDER – LOCKING
The free cylinder is lockable in any reclined angle when the recline handle on the back is in neutral position. This may be necessary / required, when the chair is driven on rough ground where a sudden spastic extension may make the chair unstable, or when the user needs to lay back for a rest.

If you recline the chair back on a wheelchair with free cylinder, locking it in reclined position, it is only the Netti Dynamic Leg supports, seat plate and head support that will respond to spastic movements.

If you lock the free cylinder, it is important that the user is correct positioned and not sliding forward to prevent damage on the leg support.

Warning: the leg support might break if it is not correct adjusted; meaning that the user leg extension reaches the end of the leg support dynamic area, or if the user has slid forward.

NETTI DYNAMIC FREE MOVEMENT BACK SUPPORT CYLINDER – ACTIVATED

The dynamic back solution of Netti Dynamic System is activated by pulling the recline handle.
See page 34 for detailed illustrations.

The back support cylinder can be considered replaced by another cylinder (more / less Newton) if needed; either because of new or changed user needs, or if the weight of the user has changed.

Please contact your local dealer for advice on which new cylinder to choose. In chapter 6.20 of this manual the change of gas cylinder is described.

ASSESSMENT OF DYNAMIC BACK SUPPORT GAS CYLINDER FORCES, SUITING USER STRENGTH AND MOVEMENT PATTERNS

An assessment of the user is needed to find the right power of the cylinder.

Correct solution: The back cylinder gives full support on a full, open kinetic chain movement during the user's extension pattern. When the user starts to relax, the cylinder move the back support to its original position.

HOW TO ASSESS AND CHOOSE THE RIGHT POWER OF THE DYNAMIC BACK SUPPORT CYLINDER?

Main factors to be considered by a trained professional:

- The user's weight, width and height.
- The character and strength of the body part extensions and movement patterns.
- Goals and improvement regarding the user's "Activity daily life" and health condition.

The user's movement pattern and muscle tone may also change over time.

It is relevant to assess and monitor the fitting of the wheelchair and the power of gas cylinders according to the development of the user's movement pattern and muscle tone over time. If the gas spring is too strong, the user will not be able to make an extension. It will be a "closed kinetic chain", or a static position for the user.

If the gas spring is too weak, the user will not be lifted back to his / hers original seating position after an extension of the upper body part.

OVERVIEW OF AVAILABLE DYNAMIC RECLINE CYLINDERS AND SEAT WIDTHS

The **user's width** is an indicator to assess regarding the choice of minimum gas spring force.
The **user's weight** is an indicator to assess regarding the choice of minimum gas spring force:
The spring must be strong enough to lift the user to upright position after extension.

FREE MOVEMENT BACK SUPPORT CYLINDER MODELS – LOCKABLE	USER WEIGHT	SEAT WIDTHS		
Newton (N)	Minimum kg	250 mm	300 mm	350 mm
100 N	15 kg	✓	✓	
200 N	20 kg	✓	✓	
300 N	30 kg	✓	✓	
400 N	40 kg	✓	✓	✓
500 N	50 kg		✓	✓
600 N	60 kg			✓

7.3 TILTING THE SEATING UNIT OPERATING TILT HANDLE

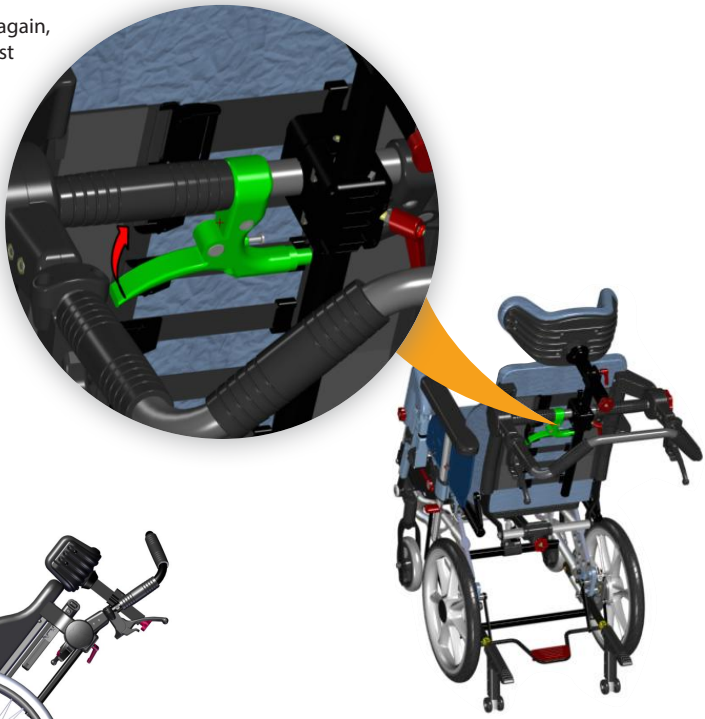
KEY WORDS REGARDING TILT AND RECLINE OF STATIC COMFORT WHEELCHAIRS

Tilt and recline are the basic benefits of a comfort wheelchair. It allows for varying seating positions during the time in the wheelchair.

We have reviewed the clinical evidences regarding tilt and recline, and found there are several studies or best practice guidelines suggesting that the tilt and recline sequence is important to reduce shear and sliding.

First tilt then recline afterwards.
When bringing the client upright again, the sequence should be recline first then tilt. It would seem that the most shear would be induced when going upright from a recline and tilted position.

Press the left handle on the push bar and put pressure to the push bar to tilt the seating unit with one of your hands, while you have eye contact with the user and put the other hand on the arm support. The correct relative angle between the body parts remain the same when the seating unit is tilted.



Wherever you let the handle loose, the seating unit will stay in this position.
To bring the seating unit up, press the handle and the tilt cylinder will assist you lifting the seating unit up.

A backward tilted seat unit gives a steeper seating angle in relation to the surface, and prevent sliding of the wheelchair user.

The seat unit can be tilted from 0° to +35°. There is a tilt scale on the chair side.

DECREASE THE POSSIBILITY OF SLIDING SHEAR AND PRESSURE SORES:

The tilt angle is to be used to achieve variation of the seating position for the user. It is common knowledge that recline should not be adjusted after the back angle is accommodated to the user's best seating position.

The muscle tone of the neck and back should be as low as possible for the user to prevent sliding, and a change of the recline angle from the original position will interrupt and destroy the correct body position, and cause an increased muscle tone in the neck.

The tilt sign sits on the push bar to the left:

⚠ The seat and back rest angle must not be adjusted without using the anti-tips.

ⓘ **To ensure correct function of the wires, these must never be taut.**

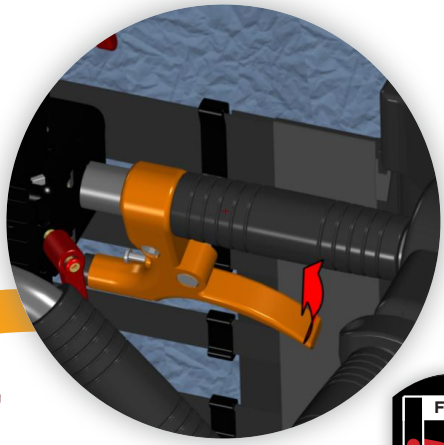
⚠ If the recline function is used during a transfer situation or other situations, it is very important that the recline angle is adjusted back to the correct, original position when the user is back to a normal seating position.

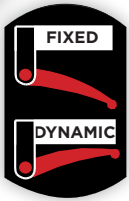
⚠ Wrong use of recline causes an increased possibility of sliding, and this means an increased danger of shear vertical and horizontal forces and pressure sores.

7.4 RECLINING THE CHAIR BACK – OPERATING RECLINE HANDLE

Press the right handle and put pressure to the push bar to recline the back with one of your hands, while you have eye contact with the user and put the other hand on the arm support.

The seat unit can be reclined from 0° to +35°. Wherever you let the handle loose, the chair back will stay fixed and locked.





DYNAMIC BACK:

⚠ To have the back behave dynamic, you have to activate the recline handle.

- Pull the recline handle tight to the push bar, the red handle automatically clicks in.
- Let go.
- The handle stays close to the push bar and the dynamic system is active.

To deactivate the dynamic recline, simply press the handle together with the red little handle again; the little, red handle is released, the handle returns to fixed position and the back is fixed.

On the recline handle there is a label reminding you that the back is behaving dynamic when the recline handle is activated and that the back is fixed when the handle is open. The recline and Dynamic back handle and sign sits on the push bar to the right.

The tilt sign sits on the push bar to the right:

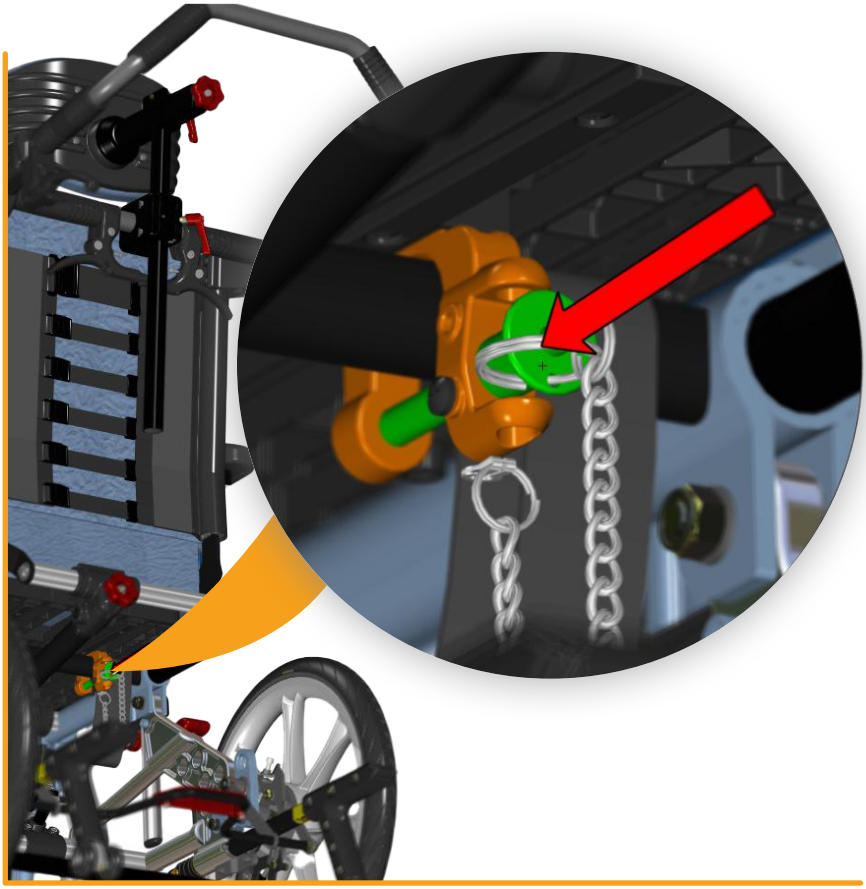
DYNAMIC SEAT PLATE LOCK

The dynamic seat plate swings up rotating at the front edge. The hip belt is fixed to the seat plate and when the user wearing the belt, goes into extension the seat plate follows. After extension the user sinks down sitting at same position on the seat.

In some cases it may be necessary for safety reasons to lock the movement of the seat. This is for instance when driving the wheelchair on rough surface where a sudden spastic extension may cause the chair and user to become unstable.

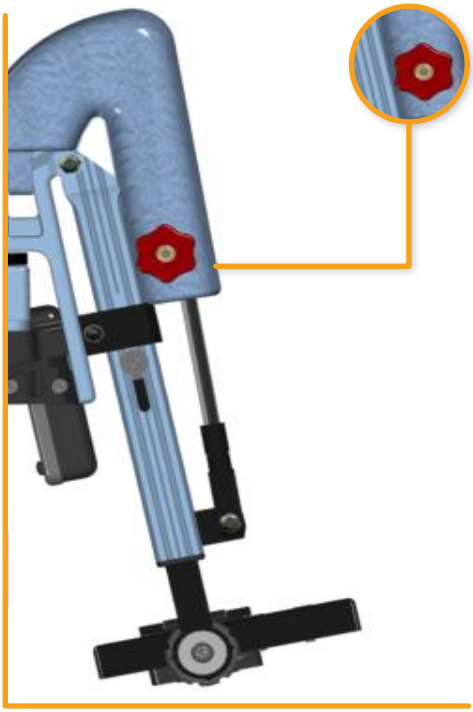
The seat plate lock is easy to use; remove the QR-Axcle by pressing the head to release it and move it from its vertical position and push it into the horizontal position.

⚠ Remember to unlock the seat plate when you are back in smooth areas, allowing the Netti Dynamic System to work.



DYNAMIC LEG SUPPORT LOCK

The dynamic leg supports can be locked by tightening the red star wheel on the outside of the leg support.



8. MANOEUVRING

8.1 GENERAL TECHNIQUES

MANOEUVERING AND CHAIR BALANCE:

The weight and balance of the chair influences the maneuvering qualities of the wheelchair. The weight, size and sitting position of the user are influencing factors. The position of the wheels will in addition influence the manoeuvering qualities. The more weight placed over the main wheels, the easier it is to manoeuver. If heavy weight is placed over the front castors, the chair will be heavy to manoeuver. See page 16 – seat depth adjustment – for balancing the chair.

Step approach:
Always approach the step in slow motion preventing the front castors to hit the step with force. The user could fall out of the chair by the impact. The front castors could be damaged.

Driving down steps / sidewalks:
Be cautious that you do not drive down steps higher than 30 mm. The leg supports may hit the ground first. Thereby you may lose steering control and the leg supports may brake.

Driving on soft, rough or slippery ground:
can make safe manoeuvring more difficult as the wheels may loose traction and it is difficult to control the wheelchair.

Parking:
Increase the footprint and the support of the wheelchair by moving the chair about 100 mm rearwards making the front castors turn forward.

Companion:
If the user is left alone in the wheelchair, always lock the brakes and check that the anti-tips are turned down.

8.2 DRIVING TECHNIQUES – STEP UP –

Companions, drive up a step forwards:
- Check that the anti-tip is turned up.
- Angle the wheelchair backwards.
- Balance the chair on the mainwheels and push it forward until the front castors are on the step.
- Lift the push handles while pushing the chair onto the step.

⚠ Turn the anti-tip downwards.

Users, drive up a step backwards:
This technique is only useful if the step is very low. It also depends on the clearance between the foot plates and the ground.
- Check that the anti-tip is turned up.
- Drive the chair backwards towards the step.
- Make a firm grip on the push rims and move the body forward while pulling.

⚠ Turn the anti-tip downwards.

Companions, drive up a step backwards:
- Check that the anti-tip is turned up.
- Pull the chair backwards next to the step.
- Angle the wheelchair backwards, moving the front castors slightly up in the air.
- Pull the wheelchair up the step and go backwards long enough to put down the front castors on the step.

⚠ Turn the anti-tip downwards.

8.3 DRIVING TECHNIQUES – STEP DOWN –

Companions, drive down a step forwards:

- Check that the anti-tip is turned up.
- Angle the wheelchair backwards, moving the front castors slightly up in the air.
- Drive carefully down the step and angle the wheelchair forward putting the front castors back on the ground.

⚠ Turn the anti-tip downwards.

Companions, drive down a step backwards:

- Check that the anti-tip is turned up.
- Move the wheelchair backwards to the step.
- Drive carefully down the step and move the wheelchair backwards on the main wheel until the front castors have come away from the step.
- Put the front castors down on the ground.

⚠ Turn the anti-tip downwards.

8.4 DRIVING TECHNIQUES – SLOPE –

Important advise for driving down and uphill avoiding the risk of tipping.

⚠ Avoid turning the wheelchair in the middle of a slope.

⚠ Always drive as straight as possible.

ⓘ **It is better to ask for assistance than taking risks.**

Driving uphill:
Move the upper part of the body forwards in order to maintain the balance of the chair.

Driving downhill:
Move the upper part of the body backwards to maintain balance of the chair. Control the speed of the chair by clutching the push rims. Do not use the brakes.

8.5 DRIVING TECHNIQUES – UP STAIRS –

Always ask for assistance.

Never use escalators, even if assisted by a companion.

With assistance, backwards.

- Check that the anti-tip is turned up.
- Pull the wheelchair backwards to the first step of the stairs.
- Angle the wheelchair backwards on the main wheels.
- Pull the wheelchair slowly up the stair, one step at the time keeping the balance on the main wheel.
- Reaching the top of the stair, pull the wheelchair backwards far enough to put the front castors safely down on the floor.

Turn the anti-tip downwards.

If two companions are present, one person can assist lifting in the front of the frame.

Do not lift the wheelchair holding onto the leg supports.

Do not lift the wheelchair holding onto the arm supports.

The companions should use the strength in their legs carrying the chair, avoiding unnecessary stress on the back.

8.6 DRIVING TECHNIQUES – DOWN STAIRS –

Never use escalators, even if assisted by a companion.

With assistance, forwards:

- Check that the anti-tip is turned up.
- Drive the wheelchair forward to the first step of the stair.
- Angle the wheelchair backwards on the main wheels.
- Have a firm grip on the push bow, and keep the balance on the main wheel taking one step at the time.
- Reaching the bottom of the stair, put the front castors safely down on the floor.

Turn the anti-tip downwards.

If two companions are present, one person can assist lifting in the front of the frame.

Do not lift the wheelchair holding onto the leg supports.

Do not lift the wheelchair holding onto the arm supports.

8.7 TRANSFER

Techniques for transfering to / from the wheelchair should be practiced well with the persons involved. Here, we give some important advices for preparation of the chair:

With or without companion – sideways.
Before transfer:
- The wheelchair should be placed as close as possible to the destination of the transfer.
- Pull the wheelchair backwards 50 – 100 mm in order to make the front castors turn forward.
- Lock the brakes.
- Remove leg support and arm support on the side of the transfer.
- Tilt chair to horizontal position.

With or without companion – forwards.
Before transfer:
- The wheelchair should be placed as close as possible to the destination of the transfer.
- Pull the wheelchair backwards 50 – 100 mm in order to make the front castors turn forward.
- Lock the brakes.
- Tilt chair forward.

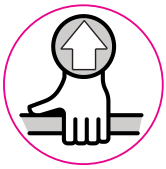
USING A HOIST:

B**efore transfer to chair:**
- Tilt the chair back.
- Remove the head support.
- Remove the leg supports.
- Open the back rest angle slightly.
- Replace the components when transfer is finished.

Never stand on the foot plates due to the risk of tipping the chair forwards.

8.8 LIFTING THE WHEELCHAIR

- The wheelchair should be lifted by the frame, and push bow only.
- Lifting points are marked with this sign.



Never lift the wheel chair by the leg supports or arm supports.

Do not lift the wheelchair with a user in it.

8.9 POINT OF BALANCE

Adjust the point of balance by changing the position of the main wheel in the main wheel bracket.

- Move the main wheel.
- Adjust the brakes.

When the main wheels are moved forward, it will be easier to maneuvre the wheelchair, but the risk of tipping backwards increases.

The point of balance can also be changed by adjusting the seat angle and / or angle of backrest.

Always use the anti-tip.

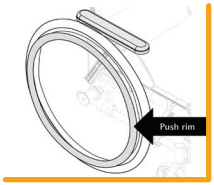
8.10 CAMBER ANGLE

Netti Dynamic S has as standard no camber angle. When the main 16" wheels are replaced with 22" wheels, the necessary wheel frame extender bracket has 4° camber angle for main wheel holes to be used.

Change of main wheels must be done by authorized personnel.

8.11 PUSH RIM

Netti Dynamic S can be deliverd with aluminium push rims with 22" main wheels. The material and distance to the main wheel influences the ability of the user to grip. Contact your dealer to get information about alternative push rims that fit your chair.



Alternative push rims may give a better grip, but the friction may increase.

When using the hands to stop the chair, the risk for burning of the hands increases.

A squeezing and trapping hazard of the fingers may occur when passing through narrow passages and if the fingers come between the spokes. To avoid this risk, we recommend spoke protectors as accessory.

If you want / need to change push rims or increase / decrease the distance between the push rims and the wheel, please contact your dealer.

9. TRANSPORT

Whenever possible, transfer to a car seat with vehicle safety belts when you are travelling with a car. Secure the wheelchair or store it in the cargo area of the car.

Netti Dynamic S is crash tested and approved to be used as seat in a car - ISO 7176-19.

MAX USER WEIGHT WHEN USE AS A SEAT IN A CAR: 75 KG.

⚠ If a seating system other than Netti, is mounted, it is the responsibility of the supplier of the system to approve if the combination of Netti Dynamic S and the system is safe for being used as seat in a car.

Please study the User manual UM0131 – How to use a Netti wheelchair as seat in a car, where even more details are available.

9.1 FOLDING FOR TRANSPORT

When the wheelchair is unoccupied, fold it as described below. Put the wheelchair in the trunk or back seat. When placed in the back seat, secure all parts and the frame using safety belts.

- Remove the cushions.
- Remove the head support (Chapt. 6.10).
- Turn the anti-tips upwards (Chapt. 6.7).
- Remove the arm supports (Chapt. 6.11).
- Remove the leg supports (Chapt. 6.9).
- Pull out the locking bolt for the back rest, and fold the back rest forward in the seat (Chapt. 6.5).
- Remove the main wheels (Chapt. 6.2).
- Remove the front castors (Chapt. 6.3).

9.2 TRANSPORT IN CAR

Netti Dynamic S has been successfully crash tested in a forward facing orientation with both pelvic and shoulder belts, according to the requirements of ISO 7176-19 and is approved to be used as a seat in a vehicle.

Netti s is tested with a combined wheelchair and occupant restraint system W120/DISR from Unwin Safety Systems. For further information: BraunAbility Europe. https://www.braunability.eu/wtors

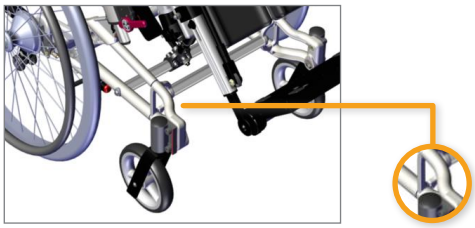
Always use approved wheelchair and occupant restraint system (ISO 10542) for fixing the wheelchair in the vehicle. Use a 4-point strap-type tiedowns to secure the wheelchair in the vehicle.

The chair is marked with stickers showing the wheelchair securement points.

REMOVE ACCESSORIES

Before using the Netti Dynamic S as a seat in a car, be sure to remove and secure all auxiliary parts and accessories (e.g. trays and abduction block) that may fall off the chair in case of an accident and secure them safely elsewhere.

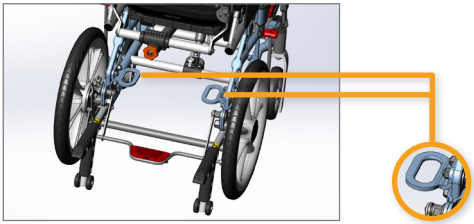
WHEELCHAIR SECURING



In the front use belts or strap attachment wrapped around the vertical frame bar behind the front castors. Pull the belts outwards and forwards. L

In the rear of the chair, car fixing brackets has to be mounted to the wheel brackets.

In the rear of the chair, car fixing brackets has to be mounted to the wheel brackets.



Use hooks to fix the belts to the car fixing brackets. The angle of the straps should be close to 45°.

Raise the chair to an upright seat position with max 10 degree tilt and 10 degree recline.

For fixing the wheelchair in the vehicle only the designated securement points should be used.

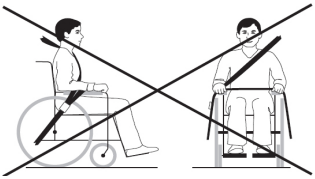
SECURING THE USER

⚠ Always use 3-point car occupant restraint belts.

⚠ Always use both pelvic and shoulder restraints to reduce the possibility of head and chest impact with vehicle components.

Watch out that the belt is not twisted and the release buckle will not get in contact with the chair in case of a crash.

⚠ **Make sure that:** the car safety pelvic-belt lay tightly across or in front of the pelvis - the angle between pelvic belt and the horizontal between 30 - 75 degree, the steeper angle the better. The shoulder belt must lay close to the body of the user and not across arm supports, wheels etc. See illustration



⚠ The corrective harnesses used in the wheelchair are not safety belts.

ⓘ **Lock the dynamic functions – when mounted – when the chair is used as a seat in a car. Sudden spastic movements may harm other passengers.**

ⓘ **Use Netti Cushions when Netti wheelchair is used as a seat in a car. Avoid any air-filled or gel cushions that can collaps in an accident.**

ⓘ **If a Netti head support is mounted correctly it is very stable but does not replace the need for external neck support mounted in the car.**

ⓘ **Netti Dynamic S has been crash tested without any power kit etc. If, at a later point of time a power kit, stair climber etc. is mounted, you need to check if your power assistant device is crash tested and approved for wheelchairs being used as seat in a car. If not, this must be dismounted when the wheelchair is used as a seat in a car.**

⚠ Never use the wheelchair as seat in cars if it has been involved in an accident with impact before it has been inspected and approved for this by the manufacturer´s representative.

Never do alterations or substitutions to wheelchair securement points or structural and frame parts or componets without consulting the manufacturer.

The rating of the wheelchair`s accomodation of vehicle-anchored belt restrains is **A = good**

9.3 TRANSPORT IN AIRPLANE

Netti Dynamic S wheelchair may be transported in airplane without any restrictions.
Netti Dynamic S wheelchair is equipped with 2 gas springs. These are however not classified as dangerous goods.
Contrary to general dangerous goods instruction UN3164, the IATA-DGR (special regulation A114) rules that the goods that contain gas and are determined to function as shock absorbers (including energy-absorbing devices or pneumatic springs) are NOT subject to the transport instructions i.e. they are indemnified from the following requirements:

a) Each article has a gas volume which does not exceed 1,6 l and a charge pressure not exceeding 250 bar, where the product of the capacity expressed in liters and charge pressure expressed in bars doesn't not exceed 80.
b) Each article has a minimum burst pressure of 4 times the charge pressure at +20 degree Celsius for products not exceeding 0,5 l gas space capacity.
c) Each article is made of material that will not fragment.
d) Each article was manufactured in accordance to quality standard which is approved by the responsible national authority.
e) It is proven and shown that the article relives its pressure by means of a fire degradable seal or other pressure relief device such that the article will not fragment and the article does not rocket.

9.4 TRAVELLING ON PUBLIC TRANSPORT

The wheelchair should be put in a special area for wheelchairs. The wheelchair should face opposite the direction of travel. The back of the wheelchair must be located against a fixed object such as a row of seats or a partition. Make sure the user can easily reach any hand rails or handles. Use belts and harnesses in the chair to hold the user. Use safety belts if available to secure the user in the vehicle.

Please be aware that wider wheelchairs have wider turning radius and reduced manoeuvrability in vehicles. Smaller wheelchairs generally provide greater ease of vehicle access and manoeuvrability to a forward facing position.

10. MAINTENANCE

10.1 MAINTENANCE INSTRUCTIONS

You as a user of the wheelchair (and your attendants and family) are responsible for the everyday maintenance of the chair. Clean it regularly. Do the maintenance to assure safe and long time reliable functions and hygienic appearance.

Frequency	Weekly	Monthly
Check defects / damages e. g. breakage / missing parts	X	
Washing of wheelchair		X
Washing of cushions		X
Check anti-tip function		X
Check brake adjustment		X
Check tyre wear		X
Oiling of bearings with bicycle oil		X
Grease vertical leg support profiles with white vaseline	X	

Check / re-adjust screws and nuts at regular intervals. Dynamic chairs need frequent checks due to hard and dynamic use.

Sand and sea water (salt used for gritting in the winter) can damage the bearings of the front castors and main wheels.
Clean the wheelchair thoroughly after use.

* As a rule of thumb, use oil on movable parts and all bearings. Alu Rehab recommends use of ordinary bicycle oil.

10.2 CLEANING AND WASHING

1. Remove cushions before washing the wheelchair.
2. Clean the frame using water and a rag.
3. We recommend using soft soap.
4. Rinse the wheelchair well using clean water to remove all the soap.
5. Use methylate spirit to remove any dirt left.
6. Clean cushions and covers according to instructions printed on cushions.

NETTI CUSHION CLEANING PROCEDURES

CORE	
Washing	Hand wash 40° C
Disinfection	Virkon S
	Auto clave 105° C
Drying	Squeeze
	Air dry standing edgewise
OUTER COVER	
Washing	Machine wash 60° C
Drying	Tumble dry max. 85° C

DISINFECTION OF THE WHEELCHAIR

Remove cushions. See separate washing instruction above.
Wipe disinfection: use a soft rag wetted with Hydrogen peroxide or technical alcohol (isopropanol) and wipe the whole chair clean.
Hydrogen peroxide recommended:
NU-CIDEX "Johnsen and Johnsen".

10.3 LONG TERM STORING

If the wheelchair is to be stored for longer time – (longer than 4 months) no special actions are needed. We recommend that the chair is cleaned before storing. Before it being used again, complete the above maintenance instructions.

SPARE PARTS

The Netti chairs are built of modules. Alu Rehab carries stock of all parts and is ready to supply these on short notice. Necessary instructions for mounting will follow the parts.
Parts to be handled by user are defined in spare part catalogues that can be downloaded at **www.My-Netti.com**.
These parts can, if needed, also be removed and sent to manufacturer / distributor upon request.

Parts related to wheelchair frame construction must be handled by manufacturer or authorized service facility.

If defects or damages occur, please contact your dealer.

Original paint for repair of scratched, can be ordered from Alu Rehab.

11. TROUBLESHOOTING

Symptom	Reason / Action	Reference in manual
The wheelchair is going askew	• The main wheel hubs might be incorrectly mounted. • The front castors may not stand vertical to the ground or in the same height. • One of the brakes might be too tight. • The user is sitting very askew in the chair. • The user might be stronger on one side than the other.	**6.2** **6.3** **6.14**
The wheelchair is heavy to manoeuvre	• The main wheel hubs might be incorrectly mounted. • Clean the front castors and forks for dirt. • Too much weight over the front castors.	**6.2** **6.3**
The wheelchair is hard to turn	• Check that the front castors are not fixed too hard. • Clean the front castors and forks for dirt. • Check, that the front castors are placed in correct position. • Too much weight over the front castors, adjust the balance of the chair.	**6.3** **6.3** **6.3**
The main wheels are difficult to take off and put on	• Clean and grease the quick release. • Adjust hub bushing further out from the frame.	**6.2** **6.2**
The brakes are not functioning well	• Adjust the brake. • Check the distance between wheels and brakes.	**6.14**
The front castors wobble and the chair is shaky	• The front forks are not properly fixed. • Adjust the front fork angle. • Too much load over the front castors will provoke wobbling, adjust the balance of the chair. • Tighten all screws.	**6.3**

Please contact your dealer for information about authorized service facilities that can give support if solution is not reached in this form.

When in need of spare parts, please contact your dealer.

When making changes affecting frame construction, contact dealer / manufacturer for confirmation ahead of the action.

12. TESTS & WARRANTY

12.1 TESTS

Netti Dynamic S is tested and have been approved for usage both indoors and outdoors.
The chairs are CE marked.

Netti Dynamic S:
Maximum user weight: 75 kg.

Netti Dynamic S has been tested by an accredited German test laboratory according to DIN EN 12183.

It has been crash tested both with 16" and 22" main wheels at RISE (Research Institute of Sweden) and TASS International Netherlands according to ISO 7176-19 with Netti Seating System.

The seating system is tested for fire resistance according to EN 1021-2.

When mounting accessories such as power kit etc., the weight of the accessories must be subtracted from the max user weight.

Specifications varies between countries.

12.2 WARRANTY

Alu Rehab is providing you with a 5-year warranty on all frame components and on the cross-tube assembly. There is a 2-year warranty on all other CE labelled components except batteries. For batteries a 6-month warranty is provided.

Alu Rehab is not responsible for any damage resulting from inappropriate or unprofessional installation and / or repairs, neglect, wear from changes in wheelchair assemblies or instructions not approved by Alu Rehab or by use of spare parts delivered or produced by third parties. In such cases, this warranty shall be considered null and void.

This warranty is only valid when the user use, maintain and handle the wheelchair as described in the user manual.

12.3 CLAIM

If a product has developed a fault during the warranty period as result of a defect in design or manufacturing, you may forward a warranty claim.

- Claims are to be forwarded as soon as a defect is discovered and not later than 2 weeks after the defect is discovered.
- Claims are to be addressed to the sales agent of the wheelchair. Please note that sales documentation has to be filled in and signed correctly with serial number and eventually NeC number in order to document time and place of the purchase of the wheelchair.
- The sales agent and Alu Rehab are to decide whether a defect is covered by the warranty. The claimer will be informed about the decision as soon as possible.
- If the claim is accepted, the sales agent and Alu Rehab representative are to decide if the product will be repaired, replaced or the customer is entitled to a reduced price.
- If a warranty claim is judged to be invalid – after careful inspection of the defect (defect due to wrong use and / or lack of required maintenance) you are free to decide if you want to have the defect product repaired (if possible) at your expense, or if you want to purchase a new product.

Normal wear, incorrect use or incorrect handling is not a reason for claims.

12.4 NETTI CUSTOMIZED / INDIVIDUAL ADAPTATIONS

Netti customized / individual adaptations are defined as all adjustments that are not included in this manual. Individual adaptations made by Alu Rehab are labelled with a unique NeC number for identification.

Wheelchairs that are especially adjusted /adapted by the customer cannot keep the CE mark given by Alu Rehab A.S Norway.
If the adjustments are performed by other than Alu Rehab approved dealers, the warranty given by Alu Rehab A.S Norway will not be valid.

If there are any uncertainty about special fitting and adaptations, please contact Alu Rehab A.S.

If you have different needs than what our standard wheelchair program can cover, please take contact with customer service for eventually special adjustments or individual solutions.

12.5 COMBINATIONS WITH OTHER PRODUCTS

Combinations of Netti Dynamic S and other products not manufactured by Alu Rehab A.S; generally, in these cases, the CE mark of all the products involved will not be valid.
However, Alu Rehab A.S has made agreements with some manufacturers about some combinations.
By these combinations the CE mark and guarantees are valid.

For further information, please contact your dealer or Alu Rehab A.S Norway directly.

PRODUCT RESPONSIBILITY

Netti Dynamic S with different configurations of Netti equipment have been tested / risk evaluated by Alu Rehab.
Any alterations or substitutions must not be made to the wheelchair securement points or to structural and frame parts without consulting the wheelchair manufacturer Alu Rehab.

Substitutions or alterations of components from third part suppliers to Netti Dynamic S requires the risk evaluation and acceptance of the product responsibility and safety for use of the wheelchair from the manufacturer that is performing the substitution or alteration.

12.6 SERVICE AND REPAIR

Information about service and repair services in your area, please contact your local dealer.

A unique identification number / serial number is found on the bottom frame cross bar on left side of the chair.

A spare part catalogue for the wheelchair can be obtained through your local dealer or downloaded at www.My-Netti.com

A refurbisment manual for the wheelchair can be obtained through your local dealer or downloaded at www.My-Netti.com

Information about product safety and eventually recalls are found on our home page www. My-Netti.com

A recycling manual for the wheelchair can be obtained through your local dealer or downloaded at www.My-Netti.com

13. MEASURES & WEIGHT

Seat width*	Seat depth standard**	Backrest height ***	Total width = Transport width	Weight
250 mm	250 – 350 mm	375 mm	405 mm	23,3 kg
300 mm	250 – 350 mm	375 mm	460 mm	24,0 kg
350 mm	250 – 350 mm	375 mm	515 mm	24,7 kg

* Measured between skirt guards.
** Measured from front of seat plate to back rest hinge without cushion.
Superstabil S backrest cushion subtract approximately 30 mm.
*** Measured from the seat plate to the top of Netti Seating System back cushion.

The weight is including main wheels, front castors, leg supports and arm supports. No cushions.

Max user weight is 75 kg.
When mounting accessories such as power kit etc, the weight of the accessories and luggage must be subtracted from the max user weight.

Luggage attached to the wheelchair must not be heavier than 8 kg. The luggage must not be attached in a way that change the stability of the chair.

Max user weight is 75 kg when Netti Dynamic S is being used as a seat in a vehicle.

Recommended inflation pressure using air tyres is: 33 – 35 PSI.

inspire joy of life

MEYRA® GROUP

MEYRA® NETTI

Manufacturer:

Alu Rehab AS
Bedriftsvegen 23
N-4353 Klepp Stasjon
Norway

post.klepp@Meyragroup.com
T: +47 51 78 62 20
my-netti.no

Distributor

Alu Rehab ApS
Kløftehøj 8
DK-8680 Ry
Denmark

info.ry@Meyragroup.com
T: +45 87 88 73 00
F: +45 87 88 73 19
my-netti.dk