Netti® DYNAMIC

Netti® *DYNAMIC leg support*

Patent EP 2836184

User Manual &
Mounting Description

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

UM0115 UK 2021-03

inspire joy of life

CONTENTS

1. INTRODUCTION TO NETTI DYNAMIC LEG SUPPORTS

THE CONCEPT: NETTI DYNAMIC SYSTEM

WHAT IS NETTI DYNAMIC SEATING?

Netti Dynamic System is a tilt and recline wheelchair which allows controlled Open Kinetic Chain (OK-C) movements of the user.
Static comfort wheelchairs can be accommodated to support the user's distal segments. The controlled OK-C movement has an extra impact:
The distal segments can move, with a moderate resistance. OK-C helps to gain control of the proximal segments, especially when the user cannot inhibit muscle movements due to their medical condition.

EXAMPLES OF INVOLUNTARY MOVEMENTS ARE:

- **Dystonia** – involuntary, sustained or intermittent muscle contractions that can cause twisting and repetitive movements, abnormal posture or both. Muscle tone varies from normal or hypotonia to hypertonia.
- **Athetosis** – slow, involuntary writhing movement.
- **Chorea** – brief, irregular jerking movements.
- **Tremor** – this is a rhythmic movement of part of the body.
- **Hemiballism** – these are wild flinging / throwing movements of one arm or leg, usually occurring as a result of a cerebrovascular event.
- **Clonus** – rapid muscle jerks that are frequently repetitive.

A more detailed description of diagnosis and Netti Dynamic product recommendations is described in the User Manual UM0116 of the total Netti Dynamic System.

Before using Netti Dynamic System (NDS) or any of its components, a seating assessment should be carried out by a trained professional.

A wheelchair with dynamic system must be adjusted and operated different than static wheelchairs. Please study this manual and also pay careful attention to the user manual for the wheelchair where the dynamic leg supports have been mounted.

Important points are marked with the following symbols:

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.

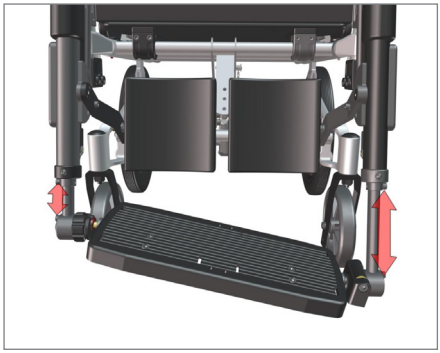
2. NETTI DYNAMIC DUAL – FEATURES

Netti Dynamic leg support DUAL is especial designed for users pushing with uneven force with their lower extremities, providing open kinetic chain.

The gas cylinders works independent and allows for the leg supports to be extended differently – tilting the footboard sideways and also tilting it forwards.

This multitude of possible flexible movements – gives the user freedom to perform voluntarily and involuntarily leg movements to very high degree.

When the extension forces are reduced, the gas cylinders gently brings the feet and legs back to the original foot position.



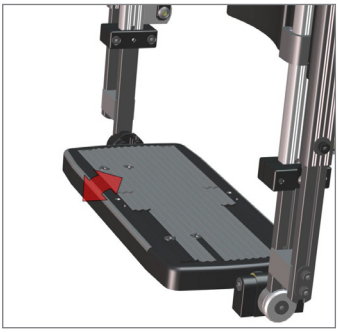
The wear and tear on the wheelchair is substantially reduced since the forces applied, are absorbed by the flexible system.

FUNCTIONAL OVERVIEW

The Netti Dynamic leg supports allow controlled Open Kinetic Chain (OK-C) movements of the lower extremities of the user.

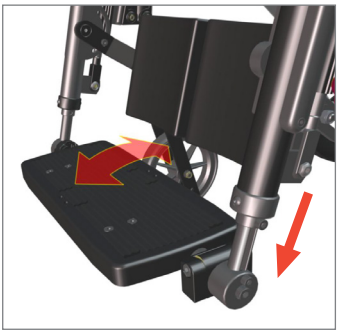
Unlike static wheelchairs, the user's distal segments are supported but can move. This helps to gain control of the proximal segments especially when the user cannot inhibit movements due to their medical condition.

Users with uneven movements of the lower extremities must use Netti Dynamic **DUAL** leg supports.



Netti Dynamic System **DUAL** 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 SUPPORT ADJUSTMENTS

For each user adjustments are required in order to meet the unique user needs.

⚠ **The adjustment should be carried out by a trained professional**

The Netti Dynamic leg support product range fits to different seat widths.
Available sizes: see table on page 15.

NETTI DYNAMIC DUAL 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).

Netti Dynamic DUAL leg support is offered in two different lengths.

Netti Dynamic DUAL **short** leg support lengths suits persons with lower leg length from circa 350 mm up to approximately 500 mm (measured when knees are 90° flexed, from underneath the thigh to under the heel – inclusive normal shoes).

Netti Dynamic DUAL **normal** leg support lengths suits persons with longer than 500 mm lower legs. See table and sizes on page 15 of this User Manual.

3. DAILY USE

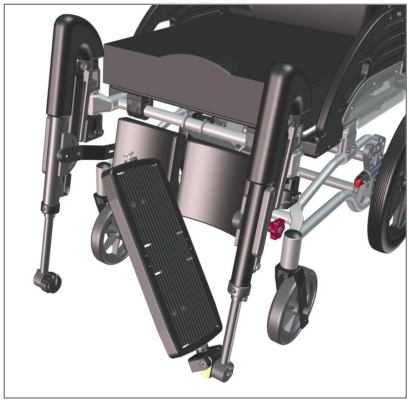
3.1 MOUNT THE LEG SUPPORTS

TO THE WHEELCHAIR. ENSURE AN OPEN ANGLE OF THE LEG SUPPORT WHEN INSERTING:

- Position the boltvertical into the frame hole.
- Turn it ca 30 degrees outward for it to enter easy.
- Turn it inward until it clicks into user position.

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.



3.2 ANKLE HUGGERS

The footboard has holes prepared for ankle huggers or shoe shells to be mounted as accessories.

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.

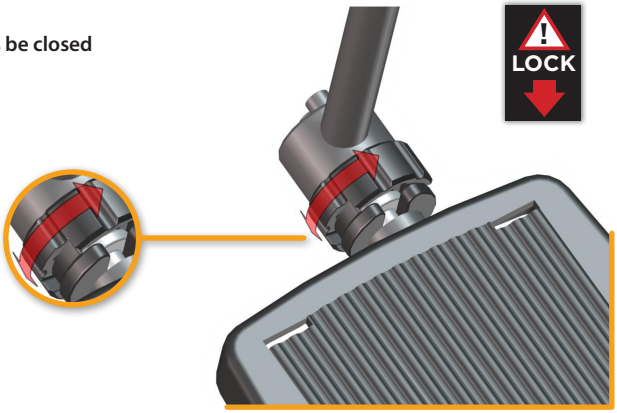
3.3 FOOTPLATE LOCK

With both leg supports in place, the footboard folds down into the lock on the right leg support.

LOCK

The lock is closed by turning the outer ring 90 degrees forward!

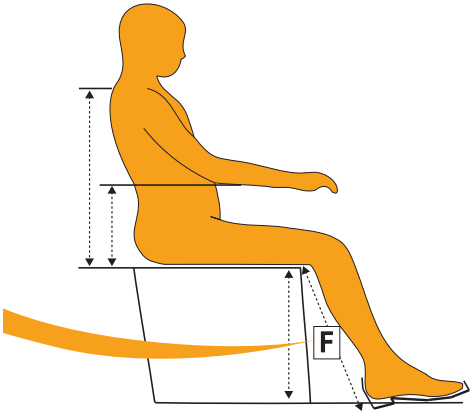
The footboard lock MUST always be closed when the chair is occupied.



4. ADJUSTING THE NETTI DYNAMIC LEG SUPPORT TO THE USER

4.1 LEG SUPPORT HEIGHT ADJUSTMENT

Measure the user's lower leg length F – 90 degrees bent knee – measure from underside thigh to underside heel of shoe.
The centre joint of the leg support is hidden under the knee-joint upholstery. The illustration with removed upholstery shows the leg support knee-joint centre. This shall be aligned both horizontally and vertically with the knee-joint of the user by adjusting both seat depth and footboard height.



NB! CORRECT SEAT DEPTH:

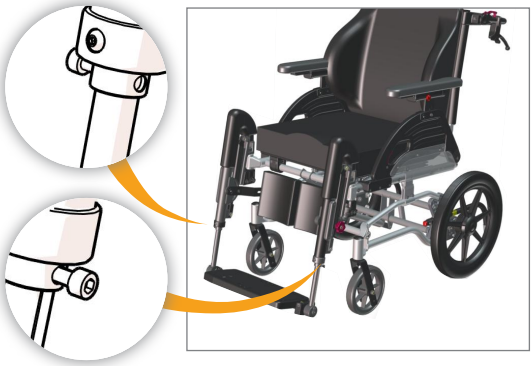
- Loosen the Velcro straps of the back support. Check that the user is sitting well into the chair leaning on the back cushion.
- Adjust the back support by pulling the straps of the Velcro. The knees of the user should align with the joint of the leg support both in height and in depth. This will ensure that the user gets a back good support and good pressure distribution under the thighs.
- Leave 30 – 40 mm free space between the users thigh and seat plate front.

The seat depth can be adjusted by:
moving the leg support extension pieces and thereby increas the seat depth in the front and by repositioning the chair-back hinges to adjust the seat depth backwards. Consider wheelchair balance.
See further information to seat depth adjustment in the wheelchair user manual.

Model: Netti DYNAMIC leg support
Language: English **Version:** 2021-03

4.2 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 – F dimension.



⚠ **Make sure there is enough free space under the footboard for the wheelchair to pass minor obstacles. Slightly tilting the seating unit may help.**
If not sufficient, the chair height must be adjusted as described in the main user manual for the wheelchair model.

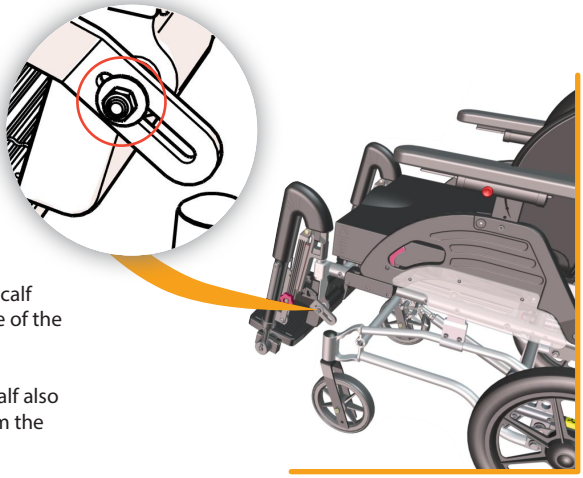
5. CALF SUPPORTS ADJUSTMENT

With both leg supports in correct height, the calf supports must be adjusted:

5.1 CALF SUPPORT HEIGHT ADJUSTMENT

- Loosen the two M6 screws with 5 mm Allen-key – on the half-moon brackets – holding the calf pad arm. This allows the calf support-pad arm to move up and down.
  The calf supports should in addition to supporting the calf also help prevent the feet sliding backwards from the footboard.
- Choose a height covering the middle and lower part of the user's calf and tighten the screws.
- 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.

5.2 CALF SUPPORT DEPTH ADJUSTMENT



- Loosen the M8 screw holding the calf pad on the calf pad arm
- 2 pc 13 mm spanner and
- Slide the calf pad in or out to desired depth – the calf pad barely touching the calf while the feet are standing on the middle of the foot board.

They should in addition to supporting the calf also help prevent the feet sliding backwards from the footboard.

5.3 LOCKING THE NETTI DYNAMIC DUAL LEG SUPPORT

The red knobs allow locking the dynamic elevation of the leg support plate.

For the dynamic use of the Netti Dynamic System (OK-C) this should be kept loose to allow for the knee joint to move ("OK-C movement" for the knee joint).

Locking the leg support may be required if sudden extension maylead the leg supports to hit persons or surrounding.
It is also required if the wheelchair is being used as a seat in a car. .

Model: Netti DYNAMIC leg support
Language: English **Version:** 2021-03

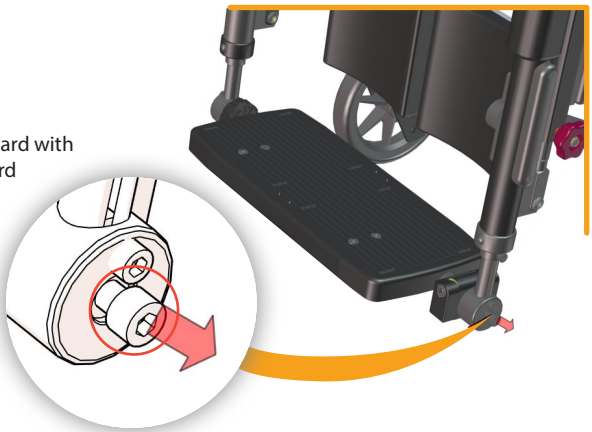
6. FOOTPLATE ANGLE ADJUSTMENT

6.1 NETTI DYNAMIC DUAL FOOTBOARD – ANGLE ADJUSTMENT

- Loosen the M8 screw on the left foot board with 6 mm Allen key. This allows the footboard to rotate.

  Choose a footboard angle to accommodate the user's foot angle.

- Fix the screws tightly so that the footboard does not move.



Please note that the DUAL footboard still allow for some rotation forward to flex when the user extends his / her feet.

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

7. NETTI DYNAMIC LEG SUPPORTS FOR DIFFERENT LEG LENGTHS

7.1 ONE-SIDED FOOTBOARD DEPTH ADJUSTMENT

By uneven leg length or leg position:
The leg support and footboard depth can be adjusted to compensate for this by the use of extensions pieces and extension bracket on the right leg support.

The extension piece is pulled forward and fixed in needed length on the side where the leg is longer.

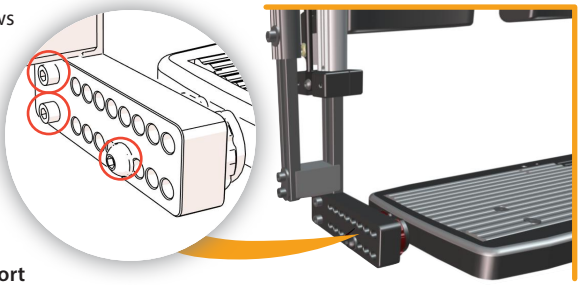
The leg support sits in the extension piece and is therefor also moved forward.

For the footboard to fall into the footboard lock after one sided extension piece adjustment, the footboard has to be repositioned.

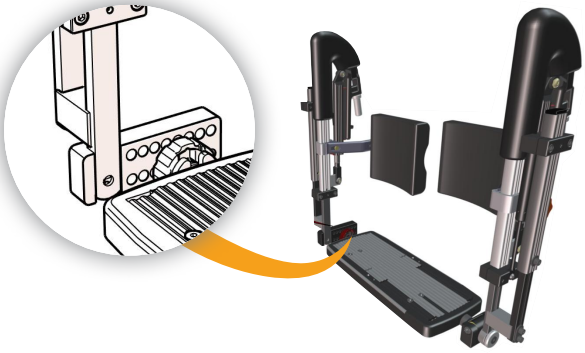
The footboard lock is removed from the length profile where it normally sits – and mounted to the extension bracket.

The extension bracket is mounted to the length profile where the lock was sitting.

- Fix the extension bracket with 2 M6 screws with 5 mm Allen-key through the length profile into 2 nuts.
- Fix the footboard lock with one M8 screw with 6 mm Allen-key.

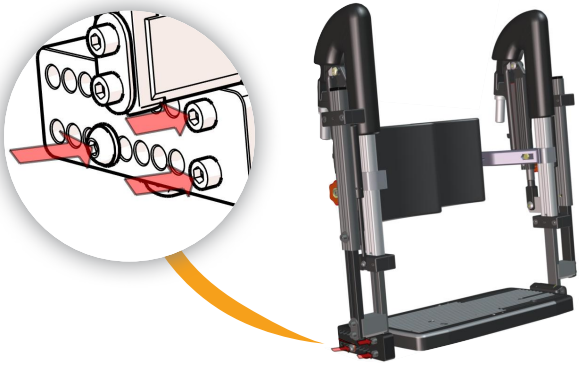


The picture to the right shows the bracket reaching forward, allowing for longer left leg. The right leg support and calf pad have to be moved backwards – suiting a user with shorter right leg.



The picture to the right shows the bracket reaching backwards, allowing for longer right leg. The right leg support and its calf pad have to be moved forwards – suiting a user with longer right leg.

All mounting illustrations are showed for Netti Dynamic PARALLEL.
The mounting procedure for Netti Dynamic DUAL is similar.



Extension platform kit for DUAL leg support: 82940 and 82941.

8. CHAIR WIDTHS, HEIGHTS AND FABRIC FOR NETTI DYNAMIC **DUAL** LEG SUPPORT:

CHAIR WIDTH IN MM	LEG SUPPORT ADJ. R 3D FABRIC	LEG SUPPORT ADJ. L 3D FABRIC	FOOTBOARD *A (HEIGHT 20 CM)	CALF PAD	ITEM NO.
350	82856	82857	82872	82862	82907
380	82856	82857	82873	82862	82908
400	82856	82857	82874	82863	82909
430	82856	82857	82875	82863	82910
450	82856	82857	82876	82864	82911
500	82856	82857	82877	82865	82912
CHAIR WIDTH IN MM	**LEG SUPPORT ADJ. R 3D FABRIC**	**LEG SUPPORT ADJ. L 3D FABRIC**	**FOOTBOARD *B (HEIGHT 30 CM)**	**CALF PAD**	**ITEM NO.**
350	82856	82857	82880	82862	82915
380	82856	82857	82881	82862	82916
400	82856	82857	82882	82863	82917
430	82856	82857	82883	82863	82918
450	82856	82857	82884	82864	82919
500	82856	82857	82885	82865	82920
CHAIR WIDTH IN MM	**LEG SUPPORT ADJ. R EASY CARE FABRIC**	**LEG SUPPORT ADJ. L EASY CARE FABRIC**	**FOOTBOARD *A (HEIGHT 20 CM)**	**CALF PAD**	**ITEM NO.**
350	82858	82859	82872	82862	82923
380	82858	82859	82873	82862	82924
400	82858	82859	82874	82863	82925
430	82858	82859	82875	82863	82926
450	82858	82859	82876	82864	82927
500	82858	82859	82877	82865	82928
CHAIR WIDTH IN MM	**LEG SUPPORT ADJ. R EASY CARE FABRIC**	**LEG SUPPORT ADJ. L EASY CARE FABRIC**	**FOOTBOARD *B (HEIGHT 30 CM)**	**CALF PAD**	**ITEM NO.**
350	82858	82859	82880	82862	82931
380	82858	82859	82881	82862	82932
400	82858	82859	82882	82863	82933
430	82858	82859	82883	82863	82934
450	82858	82859	82884	82864	82935
500	82858	82859	82885	82865	82936

For definition of correct footboard height, measure lower leg length with normal shoes and reduce it with seat cushion thickness. If it is shorter than 450 mm choose footboard height 200 mm. If it is longer than 450 mm choose footboard height 300 mm.

* **A** Footboard height 200 mm:
The distance between footboard and seat plate is minimum 300 mm up to 450 mm.

* **B** Footboard height 300 mm:
The distance between footboard and seat plate is minimum 450 mm up to 600 mm.

For wheelchairs with seat widths 500 mm and more the reinforced extension brackets for fixing the leg supports must be mounted.

9. TRANSPORT

Wheelchairs with Netti Dynamic System Leg support can be used as seat in a car if the wheelchair model has been tested and approved to ISO 7176-19. Please, follow the description for fixing the chair and the user as described in the User manual for the wheelchair.

The Netti Dynamic leg support has to be locked when the wheelchair is used as a seat in a car.

10. MAINTENANCE

All wheelchairs equipped with Netti Dynamic System will require special attention to maintenance compared with wheelchairs without dynamic system, due to the heavy and strong use.

Follow the wheelchair maintenance description in the wheelchair User Manual and pay special attention to tightening all screws and inspecting all joints.

Inspect the belts and harnesses on tear and wear. Replace if necessary.

NETTI DYNAMIC SYSTEM LEG SUPPORT – LUBRICATION

Please note – lubrication of the gliding length profiles with white Vaseline – is important to ensure smooth function of the Netti Dynamic System leg supports. In some cases sound can occur from the moving parts if they are not regularly lubricated.

11. TROUBLESHOOTING

Please study the recommendations in the User Manual for the wheelchairs where the Netti Dynamic System leg support is mounted – for instance:

Netti III HD (Netti Dynamic III HD)
Netti 4U CED (Netti Dynamic CED)
Netti BASE (Netti Dynamic BASE)
etc.

12. TESTS & WARRANTY

Netti Dynamic leg supports have been tested on several different Netti wheelchairs - both crash tests according to ISO 7176-19 and durability tests according to manual wheelchair standard EN 12183.

Netti Dynamic leg supports are manufactured following the Alu Rehab quality system according to ISO 13485.

The guarantee claims stated in the User Manual for the wheelchair also applies for wheelchairs with Netti Dynamic System when the Netti Dynamic System or parts are mounted and adjusted for the user under supervision of a Netti Dynamic System certified person.

Contact your local dealer if you have questions regarding certified persons for Netti Dynamic System.

Updated data about the wheelchair and the Netti Dynamic System is found on www.My-Netti.com

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