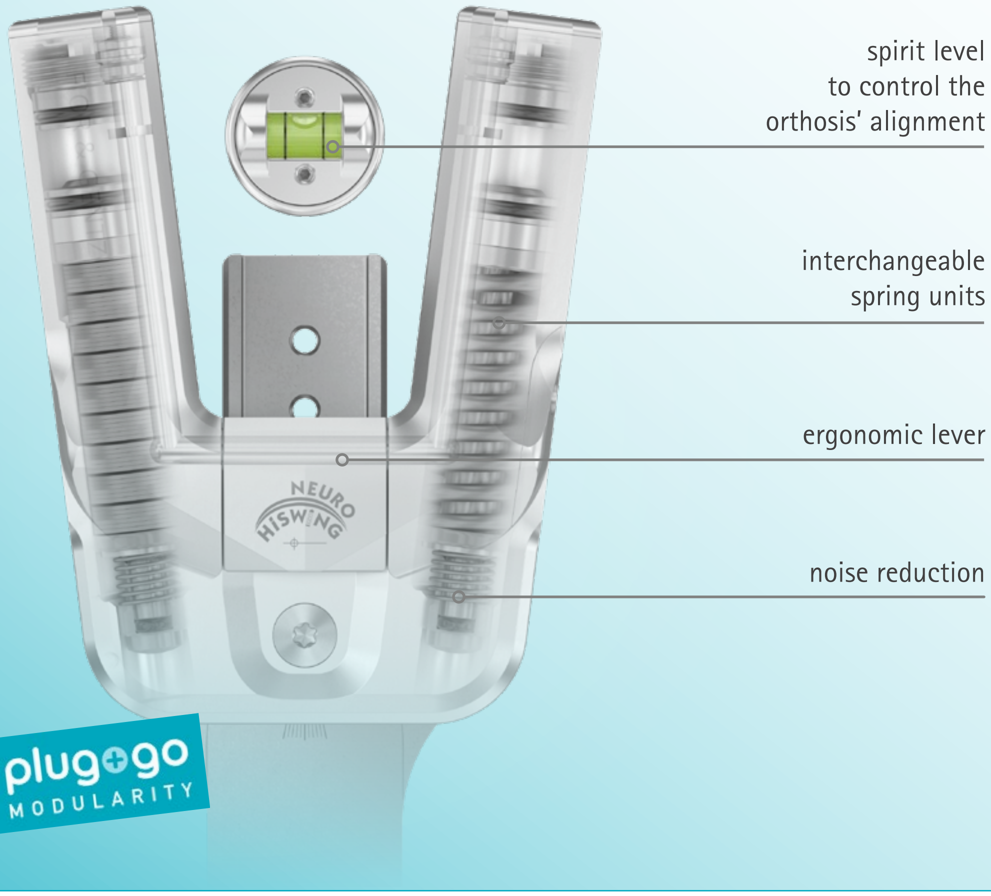
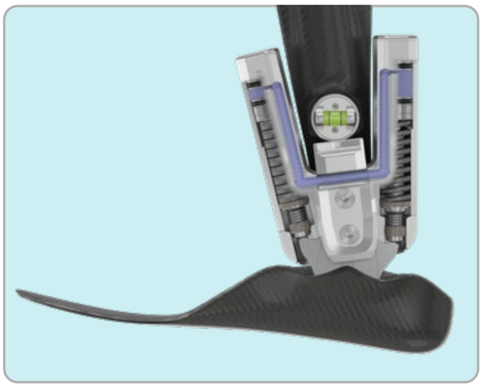
NEURO HiSWING – the First Hydraulic Ankle Joint in Orthotics



Integrated Hydraulics

Innovation in Orthotics



Unique in orthotics: thanks to the hydraulic component, the patients are able to independently change the ankle joint angle, if required, and then reliably restore the basic alignment set by the orthotist in the workshop.

By opening the lever, the required inclination angle of the foot can be adjusted (e.g. on a slope). The spirit level on the system ankle joint indicates the correct alignment for the slope when the air bubble is centred.

NEURO HiSWING –
Comfort in Every Situation

Function Video
Scan the QR Code
for more information

Safety and Flexibility

The **NEURO HiSWING** is the first hydraulic ankle joint in orthotics. Thanks to the innovative design, stairs and hilly terrain can be mastered easily with the **NEURO HiSWING**.

The **NEURO HiSWING** provides the following advantages for the patients:

- hiking in hilly terrain
- more comfort when sitting
- climbing stairs with less effort
- wearing shoes with different heel heights
- standing and walking without shoes

Advantages of a Treatment with a NEURO SWING Product Range System Joint

The system joints of the NEURO SWING product range are particularly well suited for patients with a weakness of the dorsiflexors and plantar flexors. Due to their dynamic features, these support patients in standing and walking safely and maintaining their balance without being dependent on other devices.

The additional special features of some of the NEURO SWING product range system joints provide advantages in different environments. For example, some can be used in or around water while others can be adjusted to steep terrain by the patients themselves.

Furthermore, thanks to their adjustment options, the system joints allow a long-term, high-quality and individually adapted treatment as they can be can be adjusted to changes resulting from the course of the disease at any time.

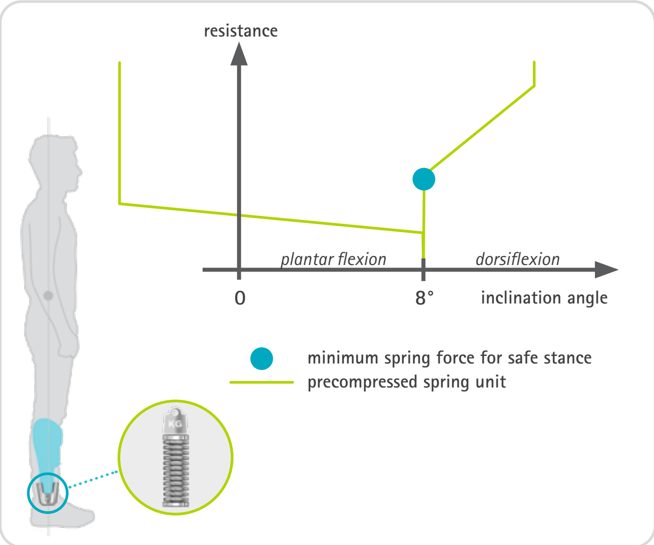
NEURO SWING – Overview of System Ankle Joints

	NEURO SWING	NEURO SWING 2	NEURO SWING H_2O	NEURO HiSWING	NEURO HiSWING R+
Material	steel / titanium	steel / titanium	carbon	titanium	titanium
precompressed spring units	+	+	+	+	+
adjustable alignment	+	+	+	+	+
adjustable range of motion	+	+	–	+	+
variable spring force	+	+	+	+	+
integrated noise reduction	–	+	–	+	+
water-resistant	–	–	+	–	–
plug + go modularity*	+	+	–	+	–
inwards and outwards bent joint versions	+	+	–	+	+
weight, e.g. system width 20mm (titanium + carbon)**	156g	189g	104g	380g	424g

*does not apply for the NEURO SWING 24mm system width
**without spring units

You can find more information on the functions of the NEURO SWING system ankle joints on the FIOR & GENTZ website's product pages of the system joints.

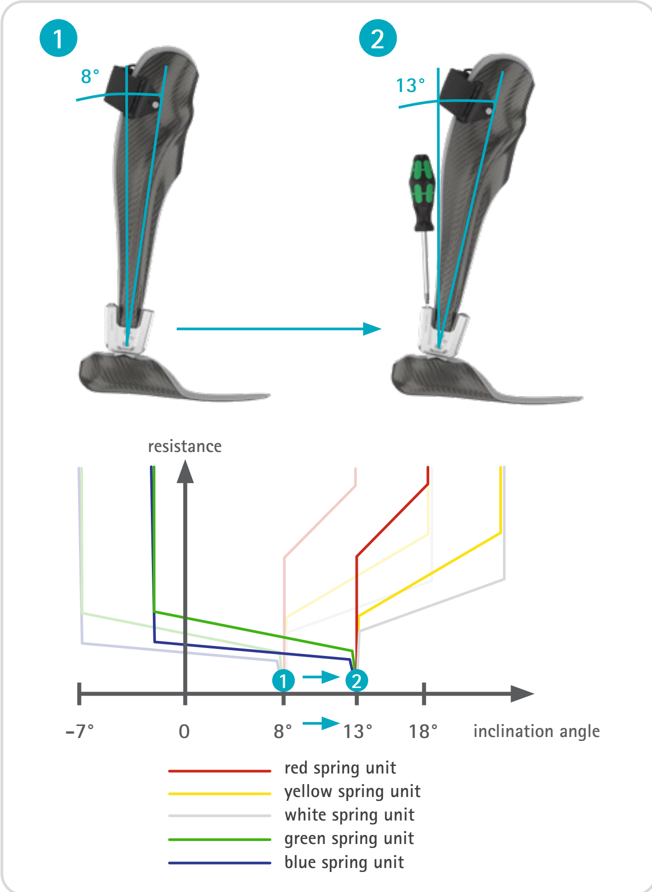
Precompressed Spring Units Making a Huge Difference



Precompressed Spring Units

In order to bring the body into a stable balance with a present calf muscle (plantar flexors) weakness, the orthosis must activate the formerly lost forefoot lever. Precompressed spring units provide the necessary resistance without limiting the range of motion in the ankle joint too much. Depending on the spring force used, they offer a basic resistance of the required level. If it is exceeded in motion, a higher resistance is achieved.

Different basic resistances can be generated in the two directions of movement by individually combining differently precompressed spring units.



Independent Adjustment Options

With the system ankle joints of the NEURO SWING product range, the resistance can be adjusted using interchangeable precompressed spring units to allow for standing in a stable balance without additional walking aids.

The angle at which the spring unit generates its specific resistance can easily be adjusted with two alignment screws. This allows a stable position to be defined for a secure stance. The spring force of the selected spring unit is not affected by this. The basic resistance also remains unchanged, as it is defined by the precompression of the spring unit.

On the FIOR & GENTZ Website, you can find detailed information on the topic "Problems of Traditional Treatments" taking non-precompressed spring units and jointless orthoses as examples.

NEURO HiSWING – Flexible in Every Situation

Walking Uphill and Downhill Safely

Thanks to its integrated hydraulics, an orthosis with a **NEURO HiSWING** system ankle joint can easily be adjusted to inclines or slopes.

Adjustment on the **NEURO HiSWING**:
The lever is opened while the foot is on the inclined surface and closed as soon as the bubble of the spirit level is centred.

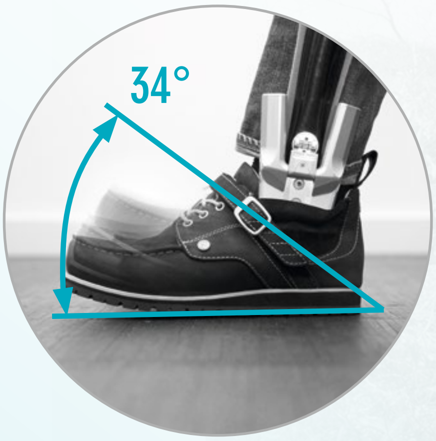
Wearing the Orthosis with Heels of Different Heights or without Shoes

The NEURO HiSWING system ankle joint can be flexibly adjusted to different heel heights and even allows for the orthosis to be worn without shoes. The **NEURO HiSWING orthosis** is attached to the foot using a simple hook-and-loop fastener to secure the foot piece. A slip-resistant sole ensures safety when walking.

Sitting Comfortably

Modern system ankle joints are functionally adapted to the biomechanics of standing and walking. With the **NEURO HiSWING** the patients can increase the range of motion of the system ankle joint and improve the sitting comfort.

Adjustment on the **NEURO HiSWING**:
The lever is opened, allowing the foot to be lowered comfortably.



Adjustable Settings

Adjustable by the Patients

Thanks to the lever, the lower leg-to-plumb line angle can be adjusted to the respective situation by the patients at any time.

Different Heel Heights

Thanks to the adjustability of the lower leg-to-plumb line angle, switching between shoes with different heel heights is easy.

Walking Up and Down Stairs Safely

Even strenuous hurdles, such as long and steep staircases, can be mastered safely with the **NEURO HiSWING**.

Adjustment on the **NEURO HiSWING**:
The lever is opened while the foot is standing on the higher step with an increased tibia inclination and closed as soon as the air bubble of the spirit level is centred. The tibia inclination is also increased down the stairs and the lever is opened and closed again accordingly.

Individual Adjustability

Adjustment of the Orthosis' Alignment in the Workshop

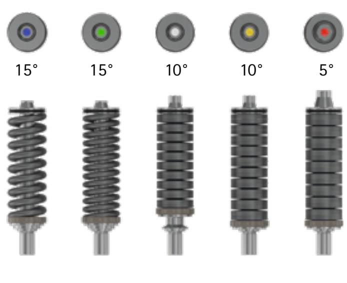
Thanks to the adjustable alignment of the **NEURO HiSWING** system ankle joint, the orthosis can be individually adjusted to the patients' pathological gait. The spirit level is adjusted to the respective basic alignment. If the gait changes, the alignment can easily be corrected and the spirit level readjusted in the workshop.

Adjustment of the Lower Leg-to-Plumb Line Angle On the Move

In changing terrain, the lower leg-to-plumb line angle can be adjusted to the respective slope by opening the lever on the system joint, getting into the required position and bringing the lower leg into an angle in which the air bubble of the spirit level is centred. Thus, the lower leg-to-plumb line angle can be adjusted to the specified basic alignment. Back on level terrain, the patients can reliably reset the system ankle joint to the workshop's basic alignment.

Variable Spring Force

The spring force in plantar flexion and dorsiflexion can be individually adjusted to the patients' needs thanks to the interchangeable spring units. The product range consists of a total of five different spring units, with forces ranging from normal to extra strong and a range of motion from 15° to 5°. The spring units are the well-proven, silent **NEURO SWING 2** models.



16mm

20mm

Would you like to produce an orthosis with a NEURO HiSWING system ankle joint?

Use the Orthosis Configurator to independently select the necessary system components for an orthosis with the NEURO HiSWING. The Orthosis Configurator determines the appropriate system components by taking the patient data and the load capacity of the selected system joint into account.

Orthosis Configurator
www.orthosis-configurator.com

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