

# NEURO SWING

Dynamic Balance  
and Stability



**24mm system width**  
 max. total weight\*  
 unilateral up to approx. 150kg/330lbs  
 bilateral up to approx. 220kg/485lbs  
 \* Use the Orthosis Configurator.

# NEURO SWING – Overview of System Ankle Joints



NEURO SWING  
THE ORIGINAL

since 2011

- adjustable alignment
- adaptable range of motion
- interchangeable spring units
- plug + go modularity



NEURO SWING 2

- adjustable alignment
- adaptable range of motion
- interchangeable spring units
- plug + go modularity
- integrated shock absorption



NEURO SWING Carbon

- adjustable alignment
- interchangeable spring units
- ultralight
- water-resistant

All adjustments can be made separately. They do not influence each other.

# 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 also 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 adjusted to changes resulting from the course of the disease at any time.

## NEURO SWING – Overview of System Ankle Joints



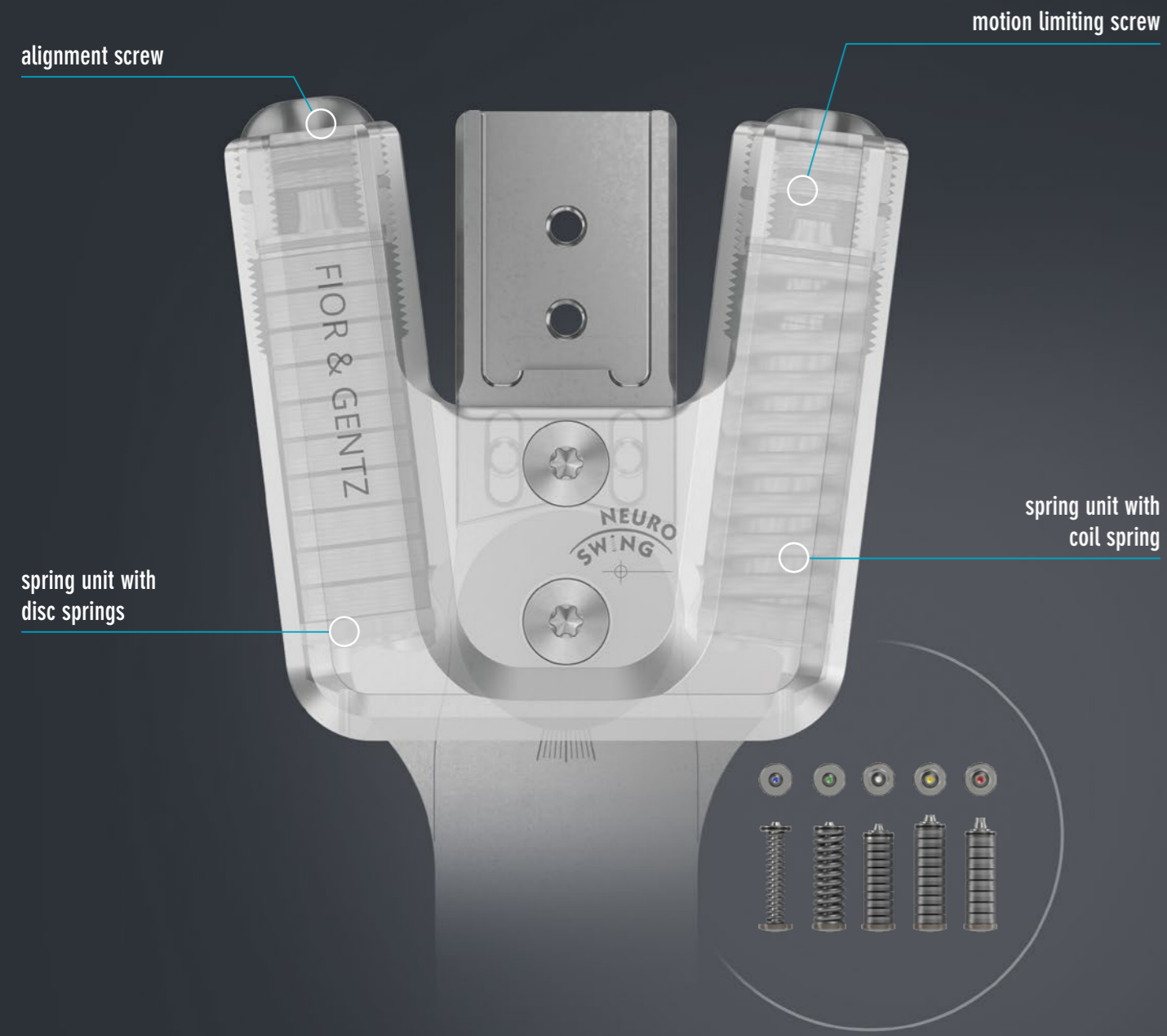
	steel/ titanium	steel/ titanium	carbon	titanium	titanium
precompressed spring units	+	+	+	+	+
All adjustments can be made separately. They do not influence each other.					
adjustable alignment	+	+	+	+	+
adjustable range of motion	+	+	-	+	+
variable spring force	+	+	+	+	+
integrated shock absorption	-	+	-	+	+
water-resistant	-	-	+	-	-
plug + go modularity	+	+	-	+	-
inwards and outwards bent joint versions	+	+	-	+	+
weight, e.g. system width 20mm (titanium + carbon)*	156g	189g	104g	380g	424g

\* without spring units

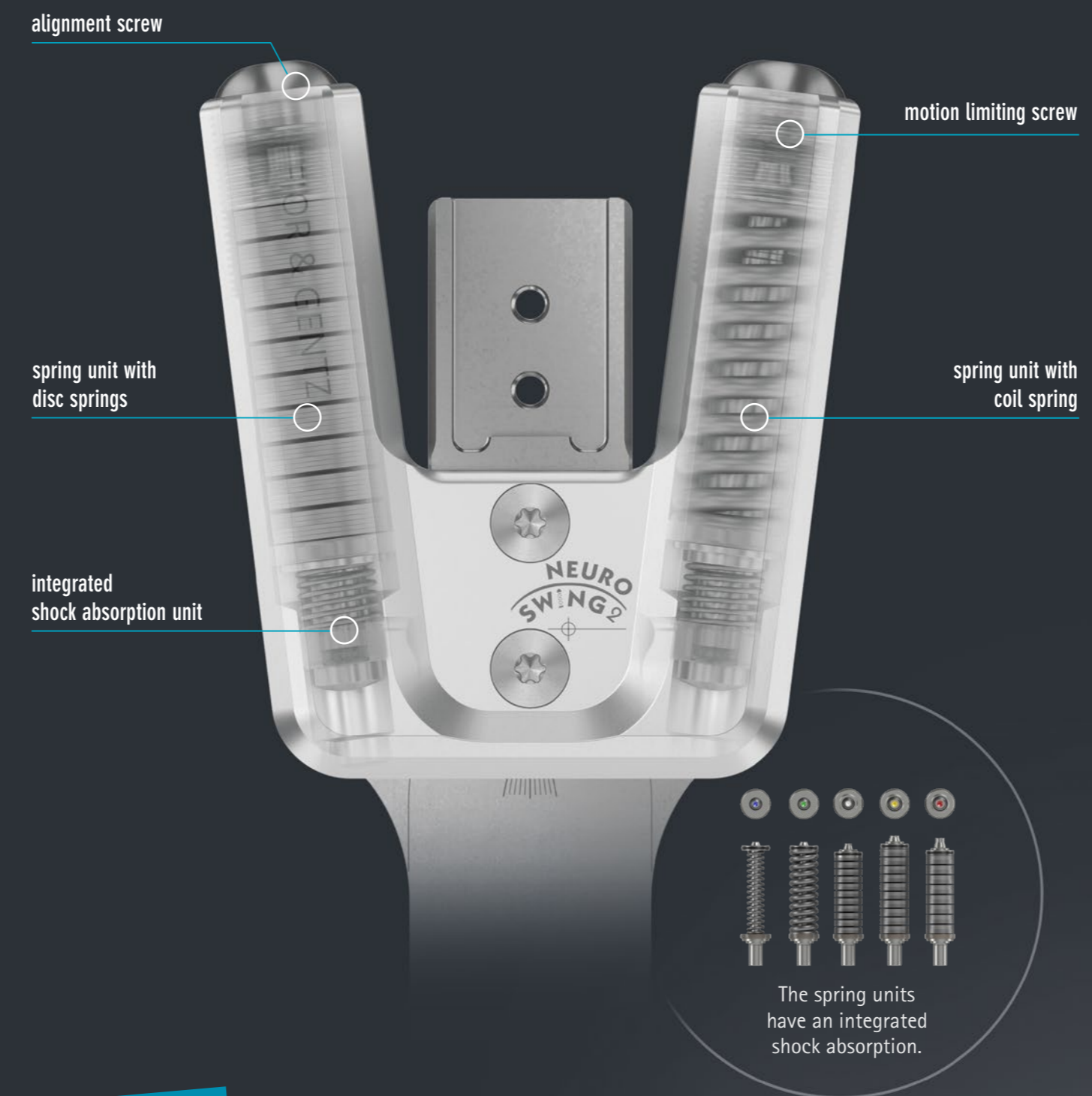


You can find more information on all NEURO SWING product range system ankle joints in the corresponding leaflets in the download section of the FIOR & GENTZ website.

# NEURO SWING



# NEURO SWING 2

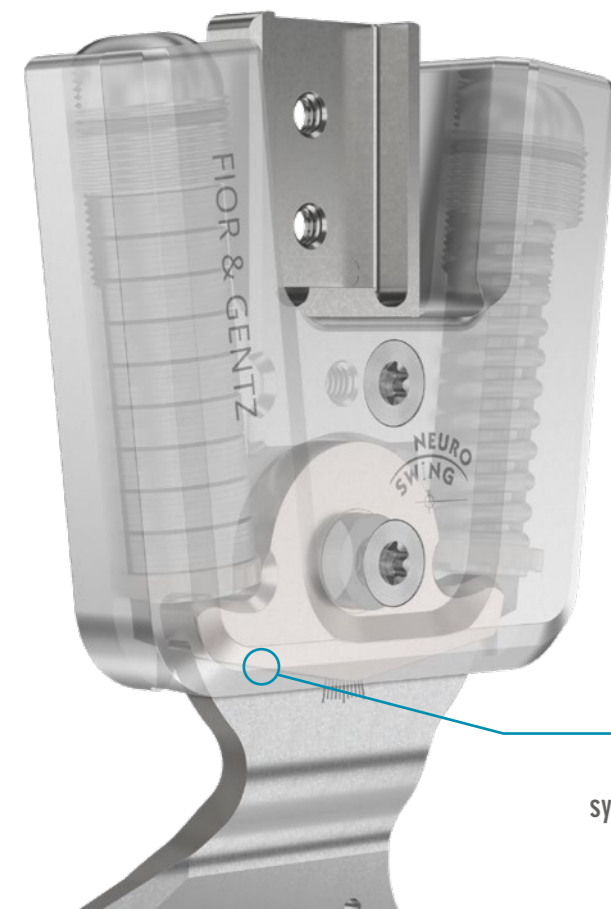


# NEURO SWING Carbon

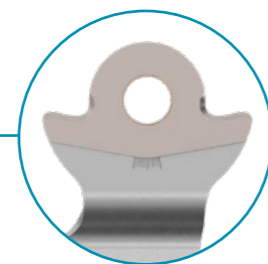




**NEURO SWING:**  
adapted  
to meet  
every need



reinforced  
system stirrup

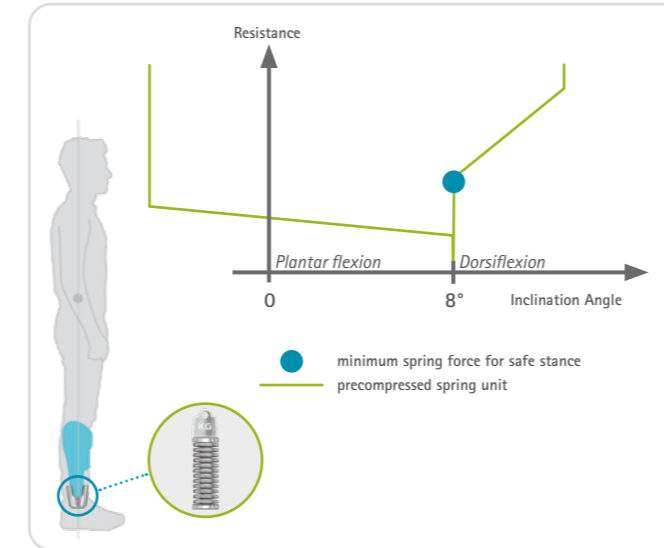


### 24mm System Width

The system ankle joints in the 24mm system width were specially designed for larger and heavier patients. An orthosis with a mounted system ankle joint from the NEURO SWING product range in the system width 24 mm offers an unrivalled, very high load-bearing capacity.

This means that patients with higher demands on the load capacity of an orthosis can benefit from the advantages of a durable orthosis with dynamic and adjustable system joints as well.

## NEURO SWING Precompressed Spring Units Making a Huge Difference



### Safe and Free-Handed Standing and Walking

The main purpose of an orthosis for a calf muscle weakness is to restore safety when standing and walking without depending on additional walking aids. For this purpose, the orthosis must activate the forefoot lever that has been lost due to the weakened calf muscles in order to provide the required resistance to counteract the body weight. Only the precompressed spring units of the system joints of the NEURO SWING product range offer a basic resistance at the required level.

If the basic resistance is overcome during movement, the resistance increases with increasing dorsiflexion due to the additional compression of the spring unit. By individually combining two spring units, different basic resistances can be used in both directions of movement. This way a high basic resistance required in the direction of dorsiflexion can be combined with a low basic resistance in the direction of plantar flexion. The diagram above shows two examples of typical spring characteristics of precompressed spring units with a tibial progression of 8°.



You can find detailed information on the topic of 'Problems of Conventional Fittings' on the FIOR & GENTZ website using the example of non-precompressed spring units and jointless orthoses.

### Variable Spring Force

We provide a total of five different spring units for each system width, with forces ranging from normal to extra strong and a range of motion from 15° (normal) to 5° (extra strong).

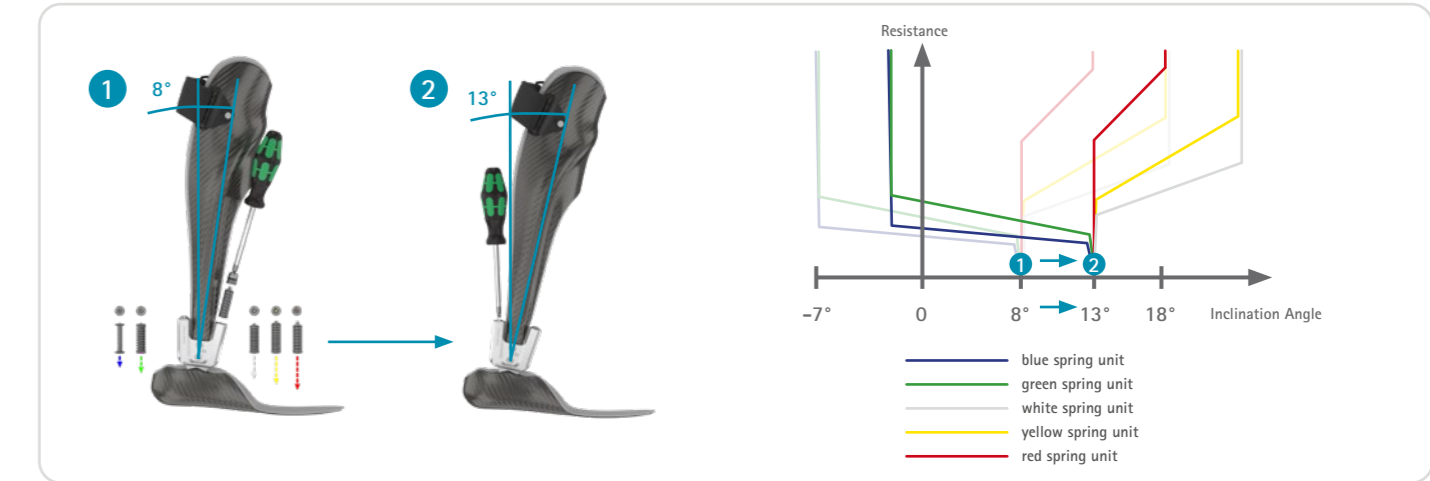
The spring unit with the yellow colour marking and "very strong" spring force offers a basic resistance with a 10° range of motion, which usually is enough to counteract the body weight appropriate for the system width.

The spring unit with the red colour marking and the "extra strong" spring force and 5° range of motion almost doubles the basic resistance compared to the spring unit with the yellow colour marking. It can be used for patients with a crouch gait, for example.

The spring unit with the blue colour marking and the "normal" spring force and 15° range of motion is usually used for patients with a peroneal palsy and a low activity level. It is strong enough to lift the foot in swing phase and counteract stumbling.

The spring unit with the green colour marking and "medium" spring force and 15° range of motion cannot only be used to control the foot lifting but also the plantar flexion and knee flexion in loading response. This spring unit is often used for patients with a peroneal palsy and a higher activity level.

The spring unit with the white colour marking and the "strong" spring force and 10° range of motion can be used to reduce the basic resistance compared to the spring unit with the yellow colour marking and increase it in comparison to the spring unit with the green colour marking.



### Independent Adjustment Options

The system joints in the NEURO SWING product range offer five colour-coded, interchangeable spring units with different spring forces. The diagram above shows the basic resistance of the spring units using the coloured spring characteristics. If the lower leg-to-plumb line angle is changed (e.g. 1 -> 2), these spring characteristics shift. The adjustment of the tibial inclination does not change the basic resistance and spring force of the selected spring unit. This clearly shows that the different settings work independently of each other. The original NEURO SWING system ankle joint allowed such independent adjustment for the first time and this unique advantage is still an integral part of the NEURO SWING product range system joints today.

The spring effect of the NEURO SWING system joints can be adjusted to optimise the resistance in both directions of movement of the ankle joint to counteract the body weight as well as the weakness of the calf and foot lifting muscles. The tibial inclination, as starting point for the specific resistances, can easily be adjusted with two alignment screws. This allows defining a stable position and a secure stance.



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.

### Individual Adjustment

Should the gait change, a quick response is possible at any time through the adaptable adjustments, exchangeable spring units or even a conversion to another system joint with plug + go modularity.

### Calculation of the Spring Force

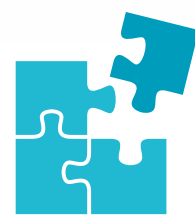
The FIOR & GENTZ Orthosis Configurator determines, based on the muscle strength, the spring force with the corresponding precompression that is best suited for the needs of your patients.





Would you like to produce an orthosis with a system ankle joint from the **NEURO SWING** product range?

Use the Orthosis Configurator to independently select the necessary system components for an orthosis with a system ankle joint from the **NEURO SWING** product range. The Orthosis Configurator determines the appropriate system components using patient data and taking the load capacity into account.



**Orthosis  
Configurator**

[www.orthosis-configurator.com](http://www.orthosis-configurator.com)

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