

ottobock.

***Nexgear Tango ankle.***  
Dynamic. Modular. Powerful.







# Introduction.

The *Nexgear Tango ankle* double action ankle joint offers a wide range of patient-specific settings with four different function modules. These can be tested on and with the user using the *Tango test orthoses* in order to determine the most appropriate adjustment and alignment on an individual basis. Thanks to its damping characteristics and spring-loaded stop the joint is almost noiseless. The foot stirrup is wear-resistant and serviceable thanks to replaceable shim plates made of hardened steel.



# Nexgear Tango ankle – one joint, many possibilities.

Thanks to its comparatively high energy return, the modular, double action *Nexgear Tango ankle* joint offers the dynamic properties required for a more physiological gait. Four different modules enable a high level of flexibility when fitting patients. They can be added or removed during the rehabilitation process. This allows the joint to be adapted to the patient's needs.

## Reaction-module:

The *Reaction-module* offers a comparatively high energy return while maintaining freedom of movement of approx. 15° to 20° without spring pretension in the ankle and makes it possible to walk more smoothly and securely. Additionally, the module normalizes knee loading in the stance phase and controls dorsal and plantar flexion and supports toe-off in the final stance phase. Static adjustment and dynamic adjustment are performed separately. Dynamic adjustment is performed by means of continuously variable pretension of the *Reaction-springs*. Two different *Reaction-springs* are available (strong and extra strong).

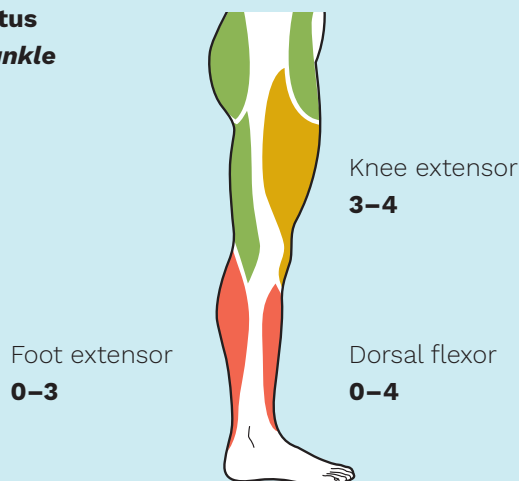
## Ultra-module:

The *Ultra-spring* features all the benefits of the *Reaction-spring* while also delivering double the spring force of the yellow *Reaction-spring* (extra strong). This facilitates more unilateral fittings.

## Benefits at a glance

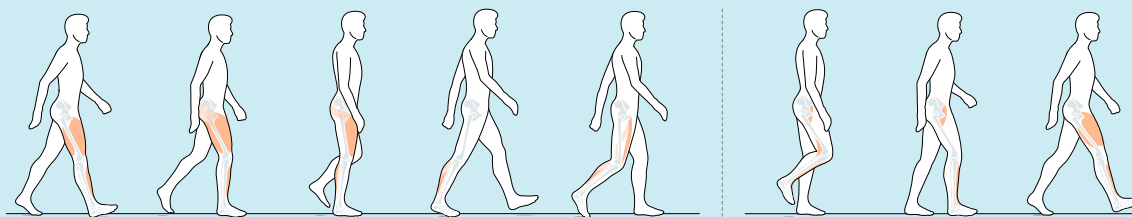
- Double action ankle joint with four function modules (Stop-module, Spring-module, Reaction-module and Ultra-module) for dorsal and ventral use.
- For unilateral and bilateral fittings
- For adults and children, selection by weight classification
- Adaptability throughout the entire rehabilitation process thanks to modules that can be added and removed (modular design)
- Static alignment and dynamic adjustment (pretension) are carried out independently
- Serviceable stirrup thanks to replaceable shim plates
- A sustainable dummy concept with reusable steel dummies creates less waste
- Cushioning and a spring-mounted stop ensure that the joint stops silently
- Enables the patient to walk more smoothly and more physiologically
- Base body available in titanium and steel
- Making use of the titanium *Tango joint* reduces the weight of the orthosis

## Suitable muscle status for Nexgear Tango ankle



## Janda classification

- 0** No visible and/or palpable muscle contraction
- 1** Visible and/or palpable muscle contraction, movement is not possible
- 2** Movement possible without the effects of gravity
- 3** Movement against gravity is possible
- 4** Movement against low to medium resistance is possible
- 5** Movement with normal strength



<b>Physiological gait</b>	<ul style="list-style-type: none"> <li>• Initial ground contact with the heel</li> <li>• Plantar flexion</li> <li>• Knee extension</li> </ul>	<ul style="list-style-type: none"> <li>• Energy storage</li> <li>• Dynamic toe-off</li> </ul>	<ul style="list-style-type: none"> <li>• Control of dorsal extension</li> </ul>
<b>Nexgear Tango ankle supports</b>	<ul style="list-style-type: none"> <li>• Initial ground contact with the heel</li> <li>• Adjustable control of plantar flexion</li> <li>• Continuously variable, dynamic control of knee extension</li> </ul>	<ul style="list-style-type: none"> <li>• Energy storage</li> <li>• Dynamic toe-off</li> </ul>	<ul style="list-style-type: none"> <li>• Continuously variable, strong support for dorsal extension</li> </ul>
<b>Double action ankle joints support</b>	<ul style="list-style-type: none"> <li>• Initial ground contact with the heel</li> <li>• Control of plantar flexion to a limited extent</li> <li>• Continuously variable control of knee extension, not dynamic</li> </ul>	<ul style="list-style-type: none"> <li>• No energy storage</li> <li>• No dynamic toe-off</li> </ul>	<ul style="list-style-type: none"> <li>• Continuously variable support for dorsal extension</li> </ul>
<b>Carbon springs support</b>	<ul style="list-style-type: none"> <li>• Initial ground contact with the heel</li> <li>• No dynamic control of plantar flexion</li> <li>• Dynamic control of knee extension not adjustable</li> </ul>	<ul style="list-style-type: none"> <li>• Energy storage</li> <li>• Dynamic toe-off</li> </ul>	<ul style="list-style-type: none"> <li>• Strong support for dorsal extension</li> </ul>

### ***Nexgear Tango ankle***

For users with weakness or loss of the dorsal extensor muscle a normal gait is impossible. Their mobility is significantly restricted. To achieve a largely physiological gait, they require an ankle-foot orthosis with a high level of energy return that enables the following:

- Controlled plantar flexion
- Support for knee extension
- Dynamic push-off with the foot and
- Strong dorsal support

The *Nexgear Tango ankle* improves the motion sequences throughout the various gait phases. This makes walking even more physiological and smoothly.

### **Indications:**

- Partial or total paralysis of the leg muscles
- Orthopaedic diseases of the lower limbs

### **The versatile joint**

The function and design of the ankle joint can be adapted at any time thanks to its four exchangeable modules – from continuously variable spring pretension to adding and removing the modules. This means users can utilize the joint throughout the entire rehabilitation process, even as their needs change.

# Modular design.

You can choose the particular modules to use with the base body according to the individual's needs. There are four different modules: the Stop-module, Spring-module, the Reaction-module and the Ultra-module.



## 17AD300 Base body

Base body for *Nexgear Tango* ankle

Article number	System width	Max. body weight	Side	Material	Quantity unit
17AD300=14-ST	14 mm	110 lbs (unilateral) / 176 lbs (bilateral)	both sides	Steel	Piece
17AD300=14-T	14 mm	110 lbs (unilateral) / 176 lbs (bilateral)	both sides	Titanium	Piece
17AD300=16-ST	16 mm	187 lbs (unilateral) / 264 lbs (bilateral)	both sides	Steel	Piece
17AD300=16-T	16 mm	187 lbs (unilateral) / 264 lbs (bilateral)	both sides	Titanium	Piece
17AD300=20-ST	20 mm	242 lbs (unilateral) / 352 lbs (bilateral)	both sides	Steel	Piece
17AD300=20-T	20 mm	242 lbs (unilateral) / 352 lbs (bilateral)	both sides	Titanium	Piece

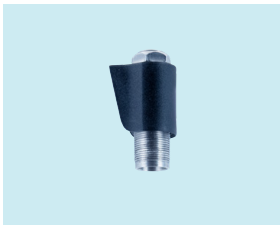


## 17AD301 Stop-module for 17AD300

Stop-module for the 17AD300 *Nexgear Tango* ankle.

The set consists of stop pin, stop bolt, spring, screw-in sleeve and cover.

Article number	System width	Max. body weight	Side	Accessory for	Quantity unit
17AD301=14	14 mm	110 lbs (unilateral) / 176 lbs (bilateral)	both sides	17AD300=14-*	Piece
17AD301=16	16 mm	187 lbs (unilateral) / 264 lbs (bilateral)	both sides	17AD300=16-*	Piece
17AD301=20	20 mm	242 lbs (unilateral) / 352 lbs (bilateral)	both sides	17AD300=20-*	Piece



## 17AD302 Spring-module for 17AD300

Spring-module for the 17AD300 *Nexgear Tango* ankle.

The set consists of compression spring, spring sleeve, ball, screw-in sleeve, set screw and cover.

Article number	System width	Max. body weight	Side	Accessory for	Quantity unit
17AD302=14	14 mm	110 lbs (unilateral) / 176 lbs (bilateral)	both sides	17AD300=14-*	Piece
17AD302=16	16 mm	187 lbs (unilateral) / 264 lbs (bilateral)	both sides	17AD300=16-*	Piece
17AD302=20	20 mm	242 lbs (unilateral) / 352 lbs (bilateral)	both sides	17AD300=20-*	Piece



### 17AD303 Reaction-module for 17AD300

Reaction-module for the 17AD300 Nexgear Tango ankle joint.

The set consists of cover and cover cap, spring, spring seat, spring and counter screw, screw-in sleeve and stop bolt.

Article number	System width	Max. body weight	Side	Accessory for	Quantity unit
17AD303=14	14 mm	110 lbs (unilateral) / 176 lbs (bilateral)	both sides	17AD300=14-*	Piece
17AD303=16	16 mm	187 lbs (unilateral) / 264 lbs (bilateral)	both sides	17AD300=16-*	Piece
17AD303=20	20 mm	242 lbs (unilateral) / 352 lbs (bilateral)	both sides	17AD300=20-*	Piece

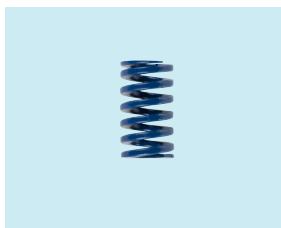


### 17AD304 Ultra-module for 17AD300

Ultra-module for the 17AD300 Nexgear Tango ankle.

The set consists of cover and cover cap, spring, spring seat, spring and counter screw, screw-in sleeve and stop bolt.

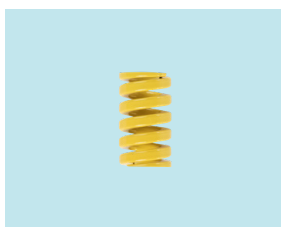
Article number	System width	Max. body weight	Side	Accessory for	Quantity unit
17AD304=16	16 mm	187 lbs (unilateral) / 264 lbs (bilateral)	both sides	17AD300=16-*	Piece
17AD304=20	20 mm	242 lbs (unilateral) / 352 lbs (bilateral)	both sides	17AD300=20-*	Piece



### 17AD305 Reaction-spring for 17AD300, strong

Reaction-spring, strong, for the 17AD303 Reaction-module. The Reaction-spring is available in sizes 14 and 20.

Article number	Side	Accessory for	Quantity unit
17AD305=14	both sides	17AD303=14	Piece
17AD305=20	both sides	17AD303=16 17AD303=20	Piece



### 17AD306 Reaction-spring for 17AD300, extra strong

Reaction-spring, extra strong, for the 17AD303 Reaction-module.

The Reaction-spring is available in sizes 14 and 20.

Article number	Side	Accessory for	Quantity unit
17AD306=14	both sides	17AD303=14	Piece
17AD306=20	both sides	17AD303=16 17AD303=20	Piece



### 17AD307 Ultra-spring for 17AD300

Ultra-Spring, ultra strong, for the 17AD304 Ultra-module. The Ultra-Spring is available in size 20. It provides approximately double the spring power as the yellow Reaction-Spring (extra strong).

Article number	Side	Accessory for	Quantity unit
17AD307=20	both sides	17AD304=16 17AD304=20	Piece



# Benefits during the fitting process.

## Separate static and dynamic alignment

First the static alignment is adjusted. Then the dynamic adjustment (spring pretension) of the springs is set. The static alignment therefore has no influence on the dynamic adjustment. The available range of motion (ROM) of 15-20° without pretension is retained for both dorsiflexion and plantar flexion.



### Static alignment

Insert the dummy and adjust the stop in the *Reaction-* or *Ultra-module*



### Dynamic adjustment

Continuously variable adjustment of the *Reaction-* or *Ultra-spring*

## 17AT1 Test brace set and 17AT3=1 Fit-Kit

The 17AT1 test brace set contains various test braces and makes it possible to try out the 17AD300 Nexgear Tango ankle on the patient under professional supervision. Different configurations can be tested with additional use of the 17AT3 Fit-Kit, which contains all available modules for the Tango ankle joint (*Ultra-*, *Reaction-*, *Spring-* and *Stop-modules*) as well as the tools required to adjust them.







### 17AD308 Tool kit static alignment

Spring dummy set for the 17AD300 *Nexgear Tango ankle*.

The set consists of a mounting adapter and a spring dummy for the *Reaction-module* as well as two guide screws. The size 20 version of the set also features a mounting adapter and a spring dummy for the *Ultra-module*.

Article number	Side	Accessory for	Quantity unit
17AD308=14	both sides	17AD300=14-*	Piece
17AD308=20	both sides	17AD300=16-* 17AD300=20-*	Piece



### 17AD309 Tool set for dynamic adjustment

Tool set for the dynamic adjustment of the *Reaction-* and *Ultra-modules* in all sizes for the *Nexgear Tango ankle*. The set includes two socket wrench inserts (sizes 20 and 24), a 1/4 to 1/2 inch adapter, a Torx angle wrench (T50), two hexagon inserts (bits, 2.5 mm and 3 mm).

Article number	Side	Accessory for	Quantity unit
17AD309=20	both sides	17AD303=* 17AD304=*	Piece



### 17AD310 Shaping dummy set

Shaping dummy set for exact lamination on the modules of the 17AD300 *Nexgear Tango ankle*.

#### The set contains:

- Lower section of shaping dummy
- Left and right upper section of the shaping dummy for the 17AD300 *Nexgear Tango ankle* (base body)
- Two shaping dummy upper sections for the 17AD303 *Reaction-module*
- Two shaping dummy upper sections for the 17AD304 *Ultra-module*
- Countersunk screws

Article number	Side	Accessory for	Quantity unit
17AD310=14	both sides	17AD300=14-*	Piece
17AD310=20	both sides	17AD300=20-*	Piece
17AD310=16	both sides	17AD300=16-*	Piece



### 17AD312 Assembly tool set for 17SF300

Assembly tool set for 17SF300 foot stirrup for 17AD300 *Nexgear Tango ankle*. The set consists of the upper and lower section of the tool, fixing screw for upper section with lower section, cotter pin drive for the roll pin and hex bit T8.

Article number	Side	Accessory for	Quantity unit
17AD312=20	both sides	17SF300=*	Piece



### 17AD313 Lamination dummy set for 17AD300

Lamination dummy set for the 17AD300 *Nexgear Tango ankle*. The set contains a lamination dummy lower section and slotted oval head screw and an insertion aid for the joint nut.

Article number	Side	Accessory for	Quantity unit
17AD313=14	both sides	17AD300=14-*	Piece
17AD313=16	both sides	17AD300=16-*	Piece
17AD313=20	both sides	17AD300=20-*	Piece



# Service sets.

## 17AD314 Lamination dummy upper part

Lamination dummy upper section for 17AD300 Nexgear Tango ankle. Spare part.

Article number	Side	Spare part for	Quantity unit
17AD314=14	both sides	17AD300=14-*	Piece
17AD314=16	both sides	17AD300=16-*	Piece
17AD314=20	both sides	17AD300=20-*	Piece

## 17AD315 Set axial washers for 17AD300

Axial washers set with twelve axial washers, six sizes each in two versions for 17AD300 Nexgear Tango ankle. Spare part.

Article number	Side	Spare part for	Quantity unit
17AD315=14	both sides	17AD300=14-*	Piece
17AD315=16	both sides	17AD300=16-*	Piece
17AD315=20	both sides	17AD300=20-*	Piece

## 17AD316 Service set for 17SF300

Service set for 17SF300 foot stirrup for 17AD300 Nexgear Tango ankle.

The set consists of two shim plates, four roll pins and two fixing screws for the shim plates and a bearing bush.

Article number	Side	Spare part for	Quantity unit
17AD316=14	both sides	17SF300=N-14	Piece
17AD316=16	both sides	17SF300=N-16	Piece
17AD316=20	both sides	17SF300=N-20	Piece

## 17AD317 Service set for 17AD303 and 17AD304

Service set for 17AD303 Reaction-module and 17AD304 Ultra-module for 17AD300 Nexgear Tango ankle.

The set consists of spring, sleeve for stop pin, stop bolt and counter screw.

Article number	Side	Spare part for	Quantity unit
17AD317=14	both sides	17AD303=14 17AD304=14	Piece
17AD317=16	both sides	17AD303=16 17AD304=16	Piece
17AD317=20	both sides	17AD303=20 17AD304=20	Piece

## 17AD318 Service set for 17AD301

Service set for the 17AD301 Stop-module for 17AD300 Nexgear Tango ankle.

The set consists of spring, stop bolt and a sleeve for the stop pin.

Article number	Side	Spare part for	Quantity unit
17AD318=14	both sides	17AD301=14	Piece
17AD318=20	both sides	17AD301=16 17AD301=20	Piece







*Please contact us if you have any further questions or  
would like more information.*