

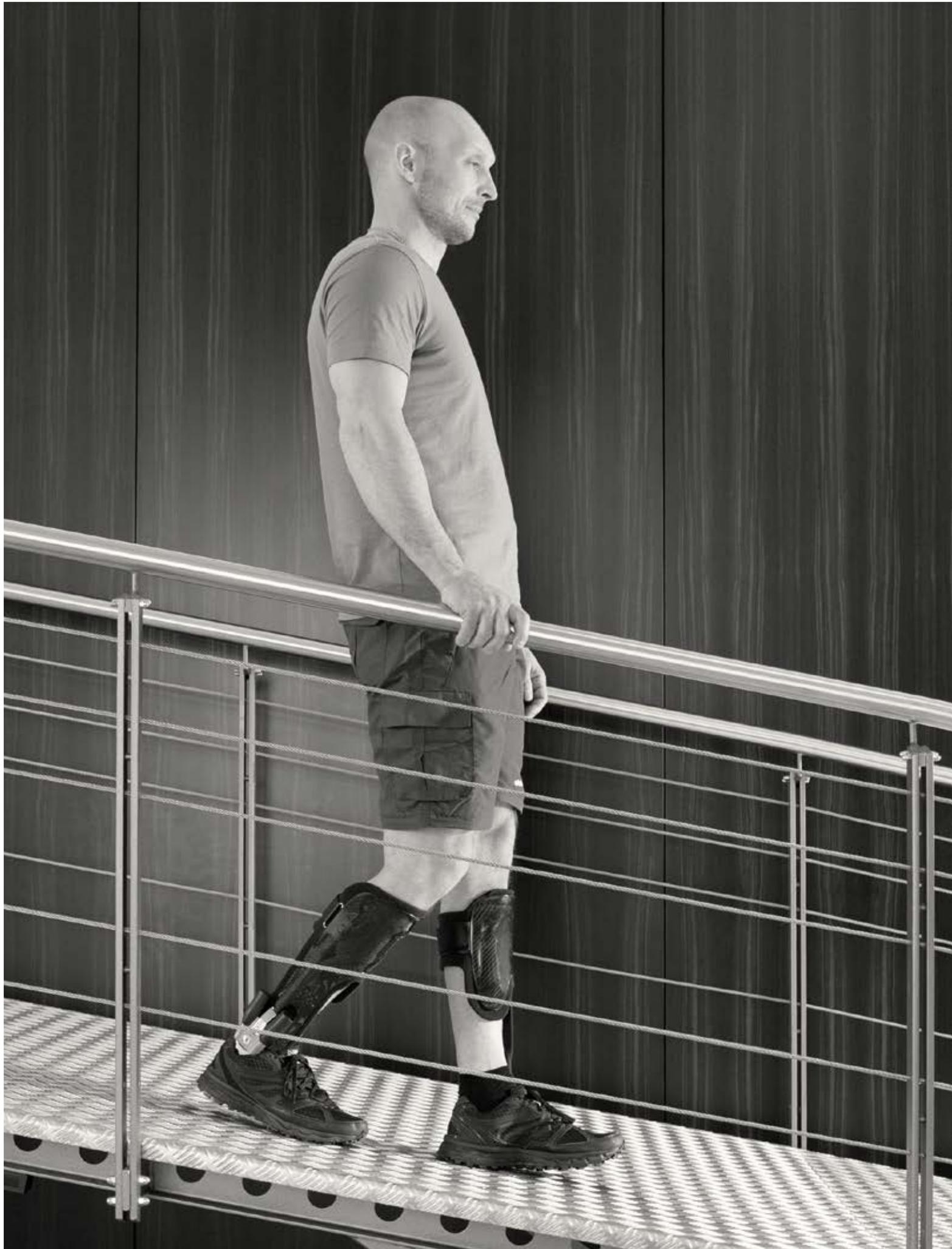
ottobock.

Nexgear Tango Ankle Joint

Strong. Dynamic. Modular.

Quality for life





Foreword



“One of the things users with neuroorthopaedic clinical pictures want is to compensate for the affected musculature to a significant extent. Based on this, the Nexgear Tango aims to make standing and walking as natural and safe as possible while conserving the user’s energy – whether on level surfaces or when negotiating areas such as inclines or stairs. The Tango ankle joint is a major step in this direction for users who find that insufficient lower leg musculature is one of their main problems.”

Heiko Drewitz, Certified Prosthetist/Orthotist (CPO)

The joint system enables a variable range of motion in the upper ankle and highly customised adjustment of the resistances for plantar flexion and dorsal extension. In addition to the noticeably dynamic end of the terminal stance phase/pre-swing phase, the user also benefits from a very smooth transition from the flexing to the extending action of the knee moment.

The upper ankle joint motion of up to 20° dorsal extension offers tremendous relief compared to other orthosis systems, particularly when walking uphill, and results in a nearly physiological load on the knee joint here as well.

New fitting options with Nexgear



The premium Nexgear system joint range offers new fitting options for AFOs and KAFOs. Our goal is to combine the latest technologies and materials with a modern design and some 30 years of development experience. This results in sophisticated fitting solutions that increase the mobility of people with paralysis or partial paralysis of the leg muscles.

In future, the Nexgear range will include compatible ankle and knee joints. These can be combined to meet the individual needs of users.

Indications

Partial or total paralysis of the leg muscles, mainly in case of neurological diseases such as:

- Incomplete spinal cord injury (ISC)
- Traumatic brain injury
- Infantile cerebral palsy
- Stroke

Indications must be determined by the physician.

Tango – one joint, many possibilities

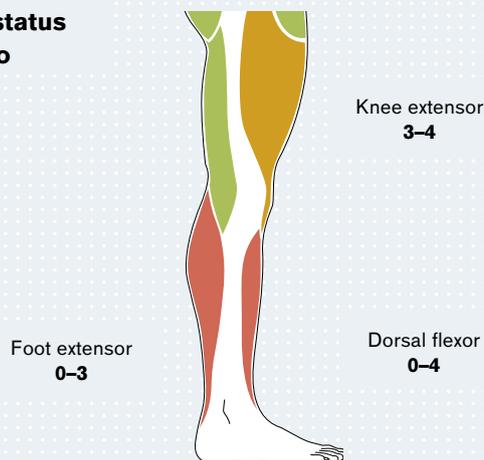
The Tango ankle joint is the first product in our Nexgear range. This modular system with a high level of energy return offers the necessary dynamics for a more efficient and physiological gait. Three different modules enable a high level of flexibility in functionality and design and can be added or removed at any time. This allows you to adapt the joint as closely as possible to a user's individual needs throughout the entire rehabilitation process.

The highly functional Reaction-module uses ground reaction forces to influence the knee and ankle joint. Plantar flexion and dorsiflexion can be controlled dynamically. The knee joint is also supported in the stance phase. The module's different Reaction-Springs allow the required energy return to be optimised on an individual basis. In addition, the Tango ensures the largest possible range of motion in the ankle, even with high spring force. This results in a more dynamic and physiological gait pattern.

Benefits at a glance

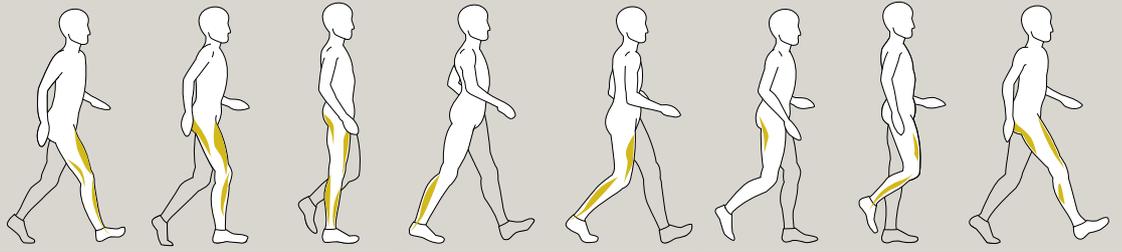
- ▶ Double action ankle joint with three function modules (Stop-module, Spring-module, Reaction-module) enables an ideal adaptation to the needs of the user in terms of function and design
- ▶ Individual adaptation throughout the entire rehabilitation process thanks to modules that can be added and removed
- ▶ Reaction-module:
 - High level of energy return with maximum freedom of movement in the ankle
 - Dynamic control of plantar flexion and dorsiflexion, support for knee extension in the mid-stance phase and support during toe-off/initiation of the swing phase
 - Separate static and dynamic settings
 - Dynamic adjustment thanks to continuously variable preload
 - Two Reaction-Springs in the strong and extra strong versions
- ▶ For adults and children, selected by weight classification
- ▶ For unilateral and bilateral fittings
- ▶ Base body available in titanium and steel

Suitable muscle status for Nexgear Tango



Classification according to Janda

- 0 No visible and/or palpable muscle contraction
- 1 Visible motoric and/or palpable muscle contraction with no motor effect
- 2 Distinct muscle contraction, movement with cancelling of gravity possible
- 3 Movement against gravity is possible
- 4 Movement against low to medium resistance is possible
- 5 Movement with normal strength



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

Gait cycle with the Tango

Users with weakness or loss of the dorsal extensor muscle are unable to walk normally. 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
- ▶ Pushing off dynamically with the foot
- ▶ Strong dorsal support

The Nexgear Tango improves the motion sequences throughout the various gait phases. Walking becomes more physiological, dynamic and effective.

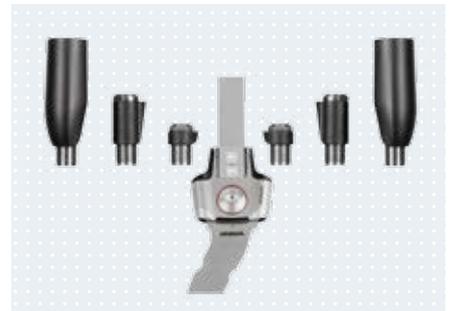


The versatile joint

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

Modular design

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



17AD100=* Base body



► The weight classification permits unilateral use for a user body weight up to 110 kg and bilateral use for up to 160 kg.

Article number	System width	Max. body weight	Material	Unit
17AD100=10	10 mm	15 kg (unilateral)	Steel	Piece
17AD100=10-T		25 kg (bilateral)	Titanium	
17AD100=12	12 mm	20 kg (unilateral)	Steel	
17AD100=12-T		40 kg (bilateral)	Titanium	
17AD100=14	14 mm	50 kg (unilateral)	Steel	
17AD100=14-T		80 kg (bilateral)	Titanium	
17AD100=16	16 mm	85 kg (unilateral)	Steel	
17AD100=16-T		120 kg (bilateral)	Titanium	
17AD100=20	20 mm	110 kg (unilateral)	Steel	
17AD100=20-T		160 kg (bilateral)	Titanium	

17AD100A=AS* Stop-module



► You can use the module for the adjustable stop to set a continuously variable dorsal or plantar stop.

Article number	System width	Max. body weight	Unit
17AD100A=AS-10	10 mm	15 kg (unilateral)	Piece
		25 kg (bilateral)	
17AD100A=AS-12	12 mm	20 kg (unilateral)	
		40 kg (bilateral)	
17AD100A=AS-14	14 mm	50 kg (unilateral)	
		80 kg (bilateral)	
17AD100A=AS-16	16 mm	85 kg (unilateral)	
		120 kg (bilateral)	
17AD100A=AS-20	20 mm	110 kg (unilateral)	
		160 kg (bilateral)	

17AD100A=LS* Spring-module



▶ The Spring-module has a continuously variable compression spring for adjusting the dorsal support.

Article number	System width	Max. body weight	Unit
17AD100A=LS-10	10 mm	15 kg (unilateral) 25 kg (bilateral)	Piece
17AD100A=LS-12	12 mm	20 kg (unilateral) 40 kg (bilateral)	
17AD100A=LS-14	14 mm	50 kg (unilateral) 80 kg (bilateral)	
17AD100A=LS-16	16 mm	85 kg (unilateral) 120 kg (bilateral)	
17AD100A=LS-20	20 mm	110 kg (unilateral) 160 kg (bilateral)	

17AD100A=HS* Reaction-module



▶ The Reaction-module features very high spring forces. In addition to damped and controlled plantar flexion, this module therefore offers dynamic control of the knee in the mid-stance phase and a high level of energy return at the beginning of the swing phase.

Article number	System width	Max. body weight	Unit
17AD100A=HS-10	10 mm	15 kg (unilateral) 25 kg (bilateral)	Piece
17AD100A=HS-12	12 mm	20 kg (unilateral) 40 kg (bilateral)	
17AD100A=HS-14	14 mm	50 kg (unilateral) 80 kg (bilateral)	
17AD100A=HS-16	16 mm	85 kg (unilateral) 120 kg (bilateral)	
17AD100A=HS-20	20 mm	110 kg (unilateral) 160 kg (bilateral)	

▶ The Reaction-Springs must be ordered separately for each module.

17AD100A=HS* Reaction-Spring strong



Article number	For	Unit
17AD100A=HS-12-1	17AD100A=HS-10 17AD100A=HS-12	Piece
17AD100A=HS-14-1	17AD100A=HS-14	
17AD100A=HS-20-1	17AD100A=HS-16 17AD100A=HS-20	

17AD100A=HS* Reaction-Spring extra strong



Article number	For	Unit
17AD100A=HS-12-2	17AD100A=HS-10 17AD100A=HS-12	Piece
17AD100A=HS-14-2	17AD100A=HS-14	
17AD100A=HS-20-2	17AD100A=HS-16 17AD100A=HS-20	

The Reaction-Spring of the Reaction-module is available in two different strengths (strong or extra strong). Choose the corresponding spring according to the individual spring force required.

Benefits during the fitting process

Static and dynamic adjustment

The Nexgear Tango lets the O&P professional take a systematic approach during the fitting process: First, the static alignment is adjusted. Then the dynamic adjustment (spring preload) of the

Reaction-Springs is set. Thanks to the special design of the Reaction-module, the static alignment has no influence on the dynamic setting.



► **Static alignment**
Insert the dummy and adjust the stop in the Reaction-module



► **Dynamic adjustment**
Continuously variable adjustment of the Reaction-Spring preload

17AD100A=FIT-KIT Fit kit

The Nexgear Tango fit kit makes selecting the right module and spring quick and simple. During the fitting process, the O&P professional or therapist can test all three modules and springs on the user in order to find the proper setting and alignment. The fit kit includes all three function modules in each size, all Reaction-Springs and the required tools such as the mounting adapter, TORX® bits and TORX® wrenches.



Accessories

17AD100A=DY* Dummy



► The 17AD100A=DY*-P plastic cover is included with the 17AD100 base body.

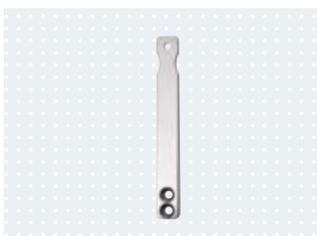
Article number	For
17AD100A=DY-10	17AD100=10 17AD100=10-T
17AD100A=DY-12	17AD100=12 17AD100=12-T
17AD100A=DY-14	17AD100=14 17AD100=14-T
17AD100A=DY-16	17AD100=16 17AD100=16-T
17AD100A=DY-20	17AD100=20 17AD100=20-T

17SF100=OS* Foot stirrup



Article number	For
17SF100=OS-10	17AD100=10 17AD100=10-T
17SF100=OS-12	17AD100=12 17AD100=12-T
17SF100=OS-14	17AD100=14 17AD100=14-T
17SF100=OS-16	17AD100=16 17AD100=16-T
17SF100=OS-20	17AD100=20 17AD100=20-T

17LS3=* Lamination bar



Article number	For
17LS3=10	17AD100=10
17LS3=10-T	17AD100=10-T
17LS3=12	17AD100=12
17LS3=12-T	17AD100=12-T
17LS3=14	17AD100=14
17LS3=14-T	17AD100=14-T
17LS3=16	17AD100=16
17LS3=16-T	17AD100=16-T
17LS3=20	17AD100=20
17LS3=20-T	17AD100=20-T

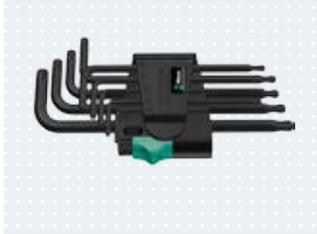
17AD100A=MA* Mounting adapter



► For installing and removing all three function modules.

Article number	For
17AD100A=MA-10	17AD100A-AS=10 17AD100A-LS=10 17AD100A-HS=10
17AD100A=MA-12	17AD100A-AS=12 17AD100A-LS=12 17AD100A-HS=12
17AD100A=MA-14	17AD100A-AS=14 17AD100A-LS=14 17AD100A-HS=14
17AD100A=MA-20	17AD100A-AS=16 17AD100A-LS=16 17AD100A-HS=16 17AD100A-AS=20 17AD100A-LS=20 17AD100A-HS=20

709S530 TORX® key set



Article number	709S530
For	TORX® socket screws
Scope of delivery	9-piece set: <ul style="list-style-type: none">• Without ball head on the long arm: 1x TX 8x76; 1x TX 9x79; 1x TX 10x85• With ball head on the long arm: 1x TX 15x90; 1x TX 20x96; 1x TX 25x104; 1x TX 27x112; 1x TX 30x122; 1x TX 40x132
Version	TORX® on the short arm, TORX® ball head on the long arm

710D20 Torque wrench, 1–25 Nm



Article number	710D20
Version	1/4" square drive
Equipment	Adjustable and readable torque value, includes calibration certificate
Measurement range	1–25 Nm
Total wrench length	291 mm
Scope of delivery	Without hexagon bits

710Y19 Connecting element



Article number	710Y19
For	1/4" hexagon bits according to DIN ISO 1173-C 6.3 and E 6.3
To be used for	710D20 Torque wrench
Version	Quick-release chuck for changing bits quickly, chrome-vanadium

710Y25 TORX® bit extension



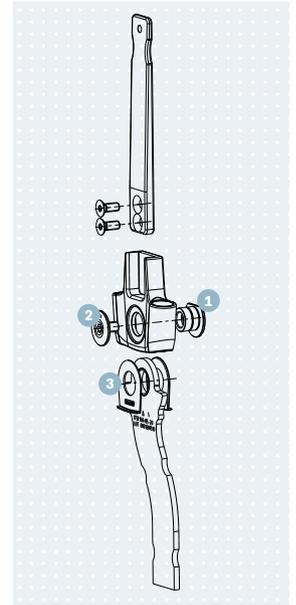
Article number	710Y25
For	TORX® socket screws
To be used for	710D20 Torque wrench
Version	With extended TORX® profile behind the ball head TORX® ball head enables screwing at an angle of up to 25°

Service sets

For 17AD100=* base body

17AD100S=* Base body and axial washers

Article number	Description	For	Consisting of
17AD100S=10		17AD100=10 17AD100=10-T	
17AD100S=12		17AD100=12 17AD100=12-T	
17AD100S=14	Service set for base body	17AD100=14	1x joint nut (1)
17AD100S=16		17AD100=14-T	1x joint screw (2)
17AD100S=20		17AD100=16 17AD100=16-T	
17AD100S=20		17AD100=20 17AD100=20-T	
17AD100S=10-1		17AD100=10 17AD100=10-T	
17AD100S=12-1		17AD100=12 17AD100=12-T	
17AD100S=14-1	Service set axial washers	17AD100=14	10x axial washers (3)
17AD100S=16-1		17AD100=14-T	
17AD100S=20-1		17AD100=16 17AD100=16-T	
17AD100S=20-1		17AD100=20 17AD100=20-T	



For 17AD100A=AS* Stop-module

17AD100S=AS* Stop and cover

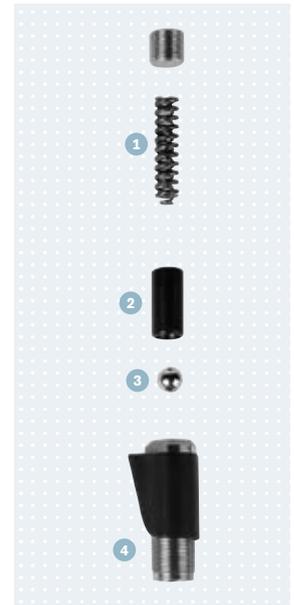
Article number	Description	For	Consisting of
17AD100S=AS-10-1		17AD100A=AS-10	
17AD100S=AS-12-1		17AD100A=AS-12	
17AD100S=AS-14-1	Service set for Stop-module	17AD100A=AS-14	1x stop (1)
17AD100S=AS-16-1		17AD100A=AS-16	
17AD100S=AS-20-1		17AD100A=AS-20	
17AD100S=AS-10-2		17AD100A=AS-10	
17AD100S=AS-12-2		17AD100A=AS-12	
17AD100S=AS-14-2	Cover for Stop-module	17AD100A=AS-14	1x cover (2)
17AD100S=AS-16-2		17AD100A=AS-16	
17AD100S=AS-20-2		17AD100A=AS-20	



For 17AD100A=LS* Spring-module

17AD100S=LS* Spring and cover

Article number	Description	For	Consisting of
17AD100S=LS-10-1	Service set for Spring-module	17AD100A=LS-10	1x compression spring (1) 1x plastic sleeve (2) 1x ball (3)
17AD100S=LS-12-1		17AD100A=LS-12	
17AD100S=LS-14-1		17AD100A=LS-14	
17AD100S=LS-16-1		17AD100A=LS-16	
17AD100S=LS-20-1		17AD100A=LS-20	
17A100S=LS-10-2	Cover for Spring-module	17A100A=LS-10	1x cover (4)
17A100S=LS-12-2		17A100A=LS-12	
17A100S=LS-14-2		17A100A=LS-14	
17A100S=LS-16-2		17A100A=LS-16	
17A100S=LS-20-2		17A100A=LS-20	



30Y309=* Set screw

Article number	Description	For	Consisting of
30Y309=10	Set screw	17AD100A=LS-10	1x set screw (1)
30Y309=12		17AD100A=LS-12	
30Y309=14		17AD100A=LS-14	
30Y309=16		17AD100A=LS-16	
30Y309=20		17AD100A=LS-20	



17AD100A=HS* for Reaction-module

17AD100S=HS* Reaction-module and cover

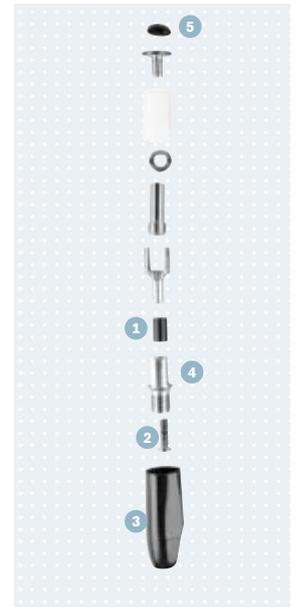
Article number	Description	For	Consisting of
17AD100S=HS-10-1	Service set for Reaction-module	17AD100A=HS-10	1x stop (1) 1x plastic sleeve (2)
17AD100S=HS-12-1		17AD100A=HS-12	
17AD100S=HS-14-1		17AD100A=HS-14	
17AD100S=HS-16-1		17AD100A=HS-16	
17AD100S=HS-20-1		17AD100A=HS-20	
17AD100S=HS-10-2	Cover for Reaction-module	17AD100A=HS-10	1x cover (3)
17AD100S=HS-12-2		17AD100A=HS-12	
17AD100S=HS-14-2		17AD100A=HS-14	
17AD100S=HS-16-2		17AD100A=HS-16	
17AD100S=HS-20-2		17AD100A=HS-20	

30Y444=* Support element

Article number	Description	For	Consisting of
30Y444=10	Support element	17AD100A=HS-10	1x support element (4)
30Y444=12		17AD100A=HS-12	
30Y444=14		17AD100A=HS-14	
30Y444=20		17AD100A=HS-16 17AD100A=HS-20	

516K2=* Cover cap

Article number	Description	For	Consisting of
516K2=25-7	Cover cap for Reaction-module	17AD100A=HS-10	1x cover cap (5)
516K2=30-7		17AD100A=HS-12	
		17AD100A=HS-14	
		17AD100A=HS-16 17AD100A=HS-20	



For 17SF100=OS* foot stirrup

30Y306=* Plastic bushing

Article number	Description	For	Consisting of
30Y306=10	Plastic bushing	17SF100=OS-10	1x plastic bushing (1)
30Y306=12		17SF100=OS-12	
30Y306=14		17SF100=OS-14	
30Y306=20		17SF100=OS-16	
		17SF100=OS-20	



For 17AD100A=DY* dummy

17AD100A=* Dummy cover

Article number	Description	For	Consisting of
17AD100A=DY-10-P	Dummy cover	17AD100=10	1x dummy cover
		17AD100=10-T	
17AD100A=DY-12-P		17AD100=12	
		17AD100=12-T	
17AD100A=DY-14-P		17AD100=14	
		17AD100=14-T	
17AD100A=DY-16-P		17AD100=16	
		17AD100=16-T	
17AD100A=DY-20-P		17AD100=20	
		17AD100=20-T	



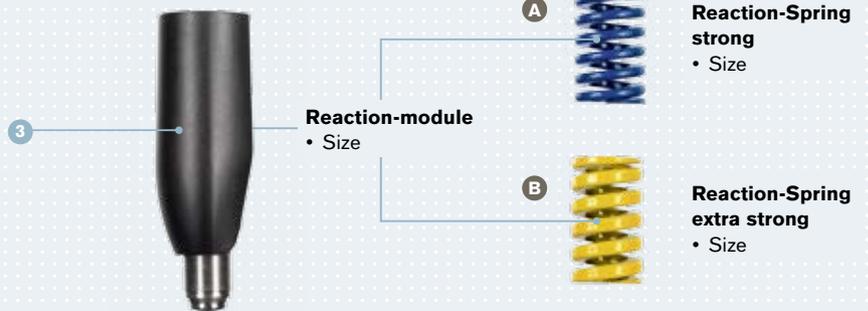
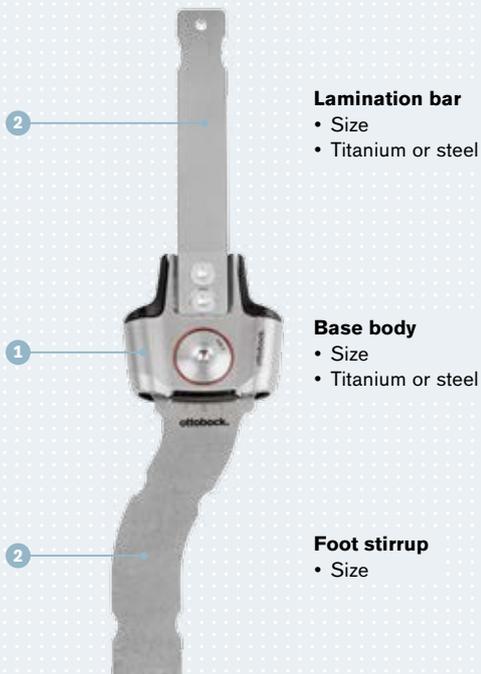
501F9=* Dummy screw

Article number	Description	For	Consisting of
501F9=M4x20	Dummy screw	17AD100A=DY-10	1x screw
		17AD100A=DY-12	
		17AD100A=DY-14	
		17AD100A=DY-16	
501F9=M6x25-1		17AD100A=DY-20	



Nexgear Tango

Selecting and ordering



Nexgear Tango

Order form

Company	<input type="text"/>	Date	<input type="text"/>
Technician	<input type="text"/>	Signature	<input type="text"/>
Customer no.	<input type="text"/>		

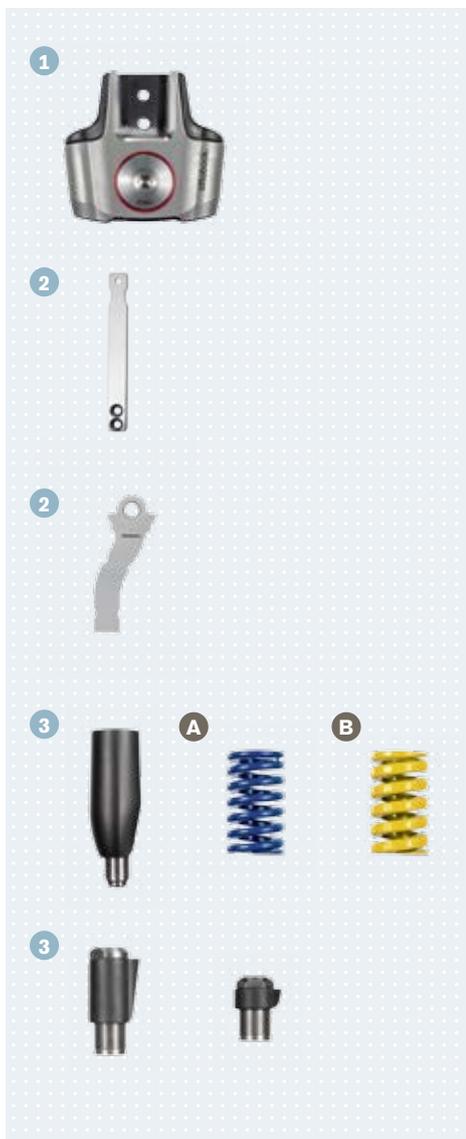
User information

Surname, first name Weight

Age Indication

Side Unilateral Bilateral

The size chosen depends on the patient's weight and the conditions of use. The 17AD100 Nexgear Tango can be equipped with up to two modules. Please enter the required quantity in the field provided.



1 Base body

<input type="text"/>	pc(s) 17AD100=10	<input type="text"/>	pc(s) 17AD100=10-T
<input type="text"/>	pc(s) 17AD100=12	<input type="text"/>	pc(s) 17AD100=12-T
<input type="text"/>	pc(s) 17AD100=14	<input type="text"/>	pc(s) 17AD100=14-T
<input type="text"/>	pc(s) 17AD100=16	<input type="text"/>	pc(s) 17AD100=16-T
<input type="text"/>	pc(s) 17AD100=20	<input type="text"/>	pc(s) 17AD100=20-T

2 Lamination bar

<input type="text"/>	pc(s) 17LS3=10	<input type="text"/>	pc(s) 17LS3=10-T
<input type="text"/>	pc(s) 17LS3=12	<input type="text"/>	pc(s) 17LS3=12-T
<input type="text"/>	pc(s) 17LS3=14	<input type="text"/>	pc(s) 17LS3=14-T
<input type="text"/>	pc(s) 17LS3=16	<input type="text"/>	pc(s) 17LS3=16-T
<input type="text"/>	pc(s) 17LS3=20	<input type="text"/>	pc(s) 17LS3=20-T

2 Foot stirrup

<input type="text"/>	pc(s) 17SF100=OS-10
<input type="text"/>	pc(s) 17SF100=OS-12
<input type="text"/>	pc(s) 17SF100=OS-14
<input type="text"/>	pc(s) 17SF100=OS-16
<input type="text"/>	pc(s) 17SF100=OS-20

3 Reaction-module

<input type="text"/>	pc(s) 17AD100A=HS-10
<input type="text"/>	pc(s) 17AD100A=HS-12
<input type="text"/>	pc(s) 17AD100A=HS-14
<input type="text"/>	pc(s) 17AD100A=HS-16
<input type="text"/>	pc(s) 17AD100A=HS-20

A Reaction-Spring strong

<input type="text"/>	pc(s) 17AD100A=HS-12-1
<input type="text"/>	pc(s) 17AD100A=HS-14-1
<input type="text"/>	pc(s) 17AD100A=HS-20-1

B Reaction-Spring extra strong

<input type="text"/>	pc(s) 17AD100A=HS-12-2
<input type="text"/>	pc(s) 17AD100A=HS-14-2
<input type="text"/>	pc(s) 17AD100A=HS-20-2

3 Spring-module

<input type="text"/>	pc(s) 17AD100A=LS-10
<input type="text"/>	pc(s) 17AD100A=LS-12
<input type="text"/>	pc(s) 17AD100A=LS-14
<input type="text"/>	pc(s) 17AD100A=LS-16
<input type="text"/>	pc(s) 17AD100A=LS-20

3 Stop-module

<input type="text"/>	pc(s) 17AD100A=AS-10
<input type="text"/>	pc(s) 17AD100A=AS-12
<input type="text"/>	pc(s) 17AD100A=AS-14
<input type="text"/>	pc(s) 17AD100A=AS-16
<input type="text"/>	pc(s) 17AD100A=AS-20

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