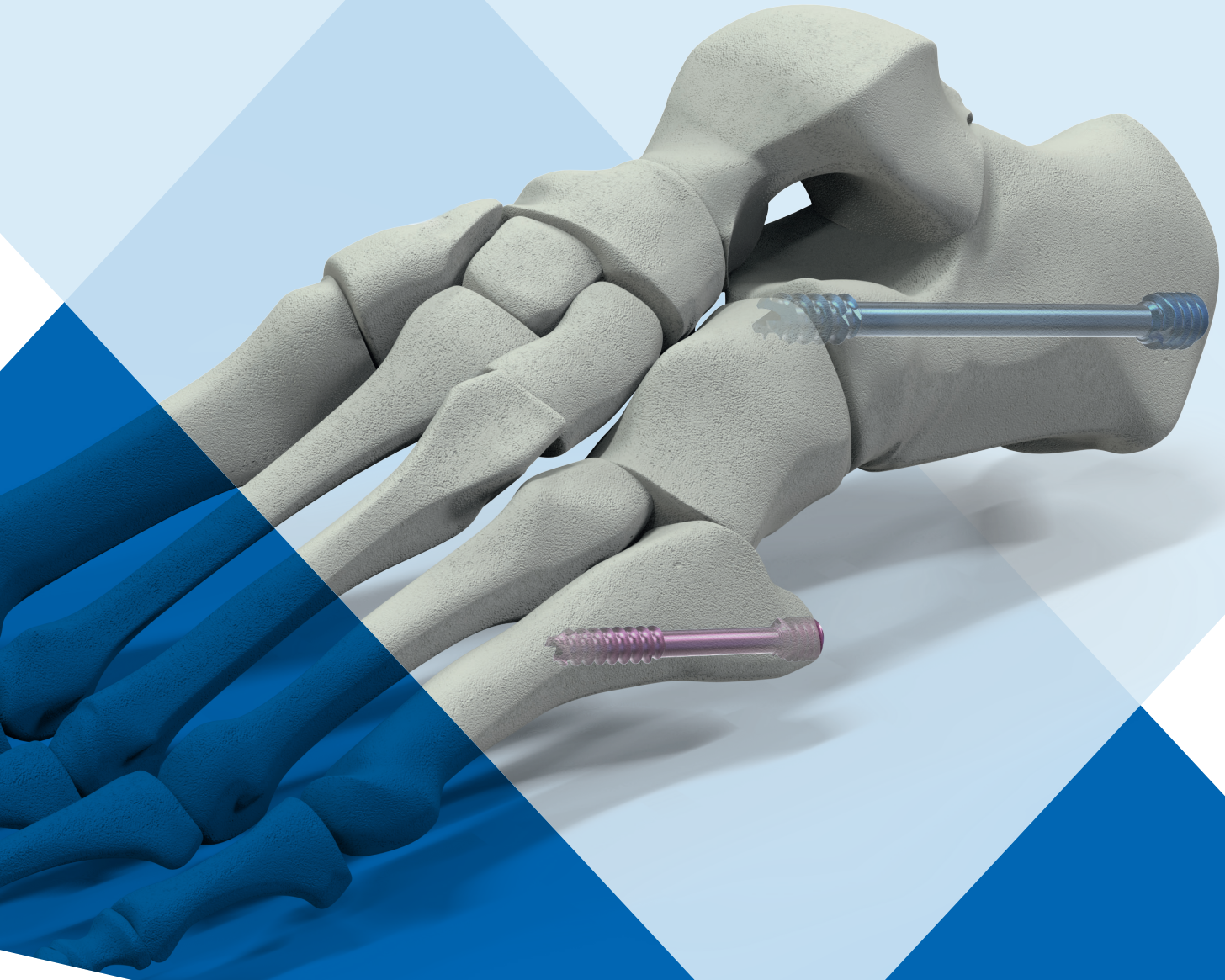
MARQUARDT
Medizintechnik



TWIN - Screw Ø 4.5mm
Ø 7.0mm

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Note:

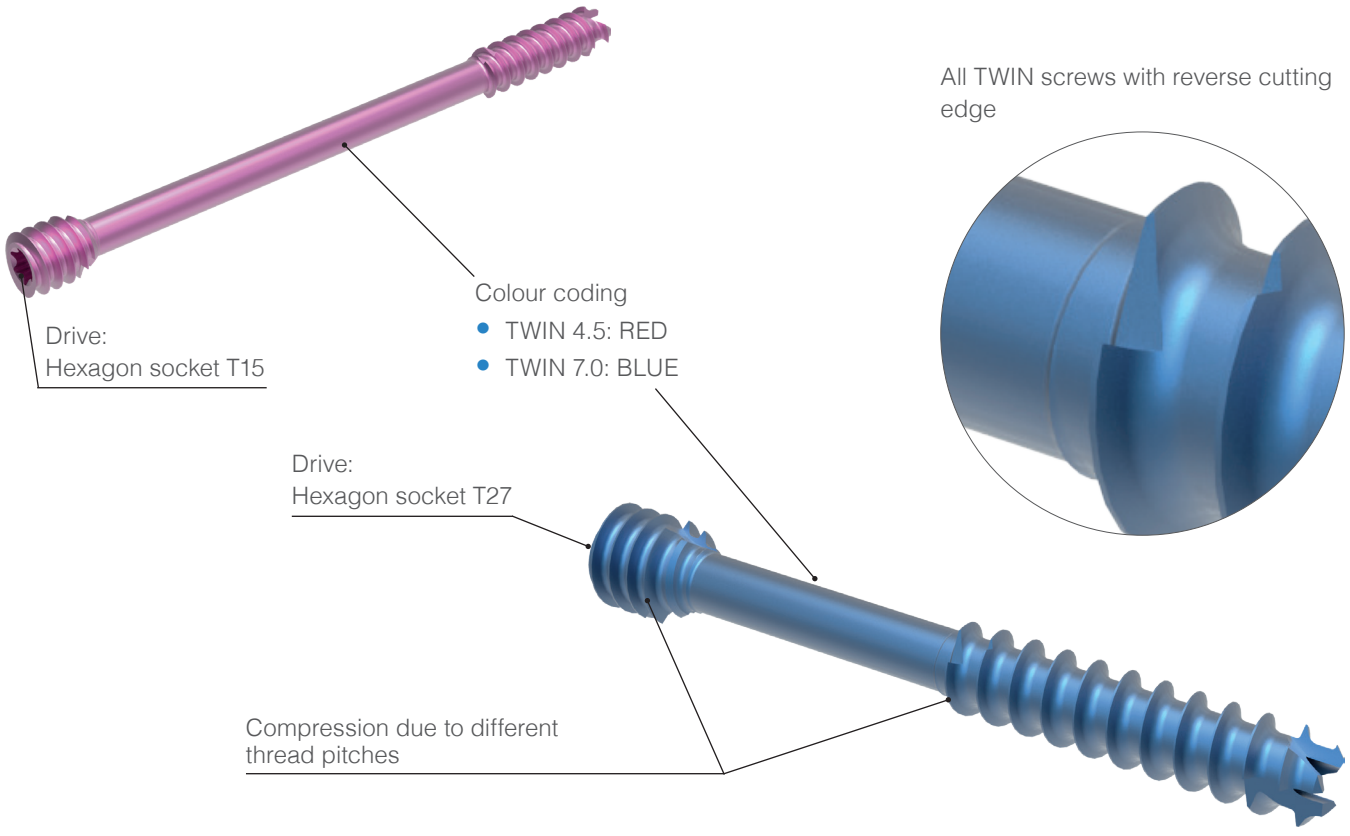
The surgical technique outlined below reflect the surgical procedure usually chosen by the clinical advisor. However, each surgeon must decide which surgical method and which approach is the most successful for his patient.

Introduction

Product Specification

The ***TWIN*** - Screw has one thread each on the screw head and the screw tip.

The thread at the screw head has a larger diameter and a smaller pitch than at the screw tip. As a result, when the screw head enters the bone, the distal fragment is pulled closer and compression is achieved. The result is stable internal fixation of the fragment by means of compression.



Indication TWIN 4.5:
Fixation of fractures of small and medium bones and bone fragments. Fixation of osteotomies and arthrodesis of the mid- and hindfoot.
In particular for:

- talonavicular arthrodesis
- subtalar arthrodesis
- calcaneocuboid arthrodesis
- triple Arthrodesis
- calcaneal osteotomy

Indication TWIN 7.0:
Fixation of fractures of small, medium and large bones and bone fragments. Fixation of osteotomies and arthrodesis of the foot and ankle.
In particular for:

- ankle arthrodesis
- Subtalar arthrodesis
- Calcaneal osteotomy

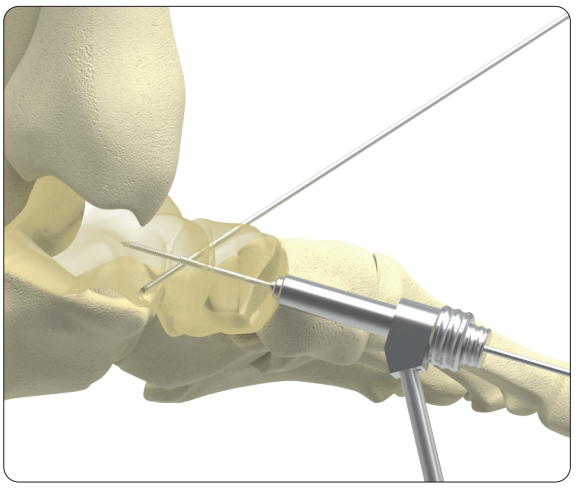
Surgical Technique

The following surgical instructions describe the use of the TWIN - Screw Ø 4.5 mm. The surgical technique for the TWIN - Screw Ø 7.0 mm is identical, but performed with different instruments (indicated in brackets).

Guide Wire Insertion

Instruments

REF 11.90217.150	*K-Wire Ø 1.7 mm*
(REF 11.90225.240S	*K-Wire Ø 2.5 mm)*
REF 08.20060.032	*Centering Sleeve 3.2 mm*
(REF 12.20060.050	*Centering Sleeve 5.0 mm)*
REF 12.20060.060	*Drill Sleeve 6.0/3.5*
(REF 12.20060.085	*Drill Sleeve 8.7/5.0)*
REF 12.20120.055	*Protection Sleeve 8.0/6.0*
(REF 12.20120.085	*Protection Sleeve 10.6/8.8)*



- After joint resection, the screw position is determined with the help of the K-wire Ø 1.7 mm.
- The K-wire is inserted into the bone via the centering sleeve located in the protection sleeve and the drill sleeve.
- The correct position of the guide wire is then checked by means of a C-arm.

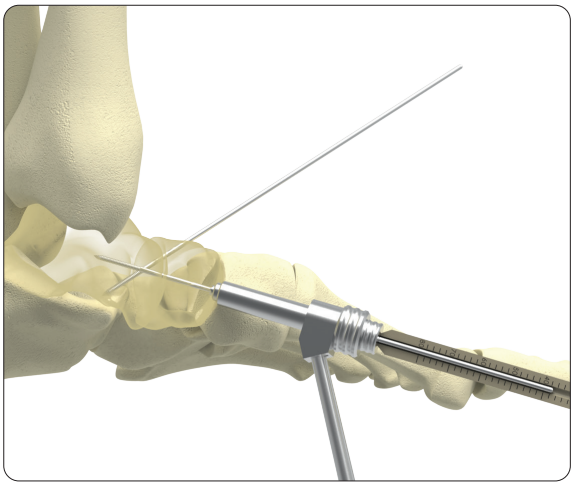
Note:

- A second K-wire can be inserted into the bone for additional rotational stability.

Screw Length Determination

Instruments

REF 12.20100.080	*Length Determination Instrument for REF 08.20060.032*
(REF 12.20100.120	*Length Determination Instrument for REF 12.20060.050*



- The length determination of the screw to be used is made via the K-wire located in the bone.
- The screw to be used is usually chosen 2 mm shorter than the specific length measurement result.
- This allows the proximal portion of the screw to be fully countersunk into the cortex and avoids any soft tissue irritation.

Note:

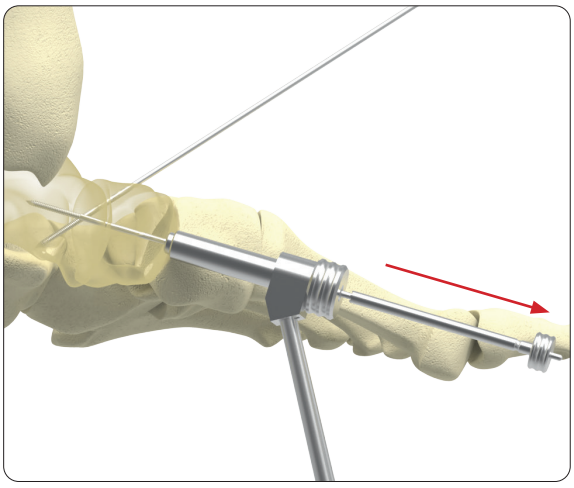
- The length determination instrument is placed directly on the guide sleeve. The K-wire end defines the screw to be used minus 2 mm.

Note:

Instruments

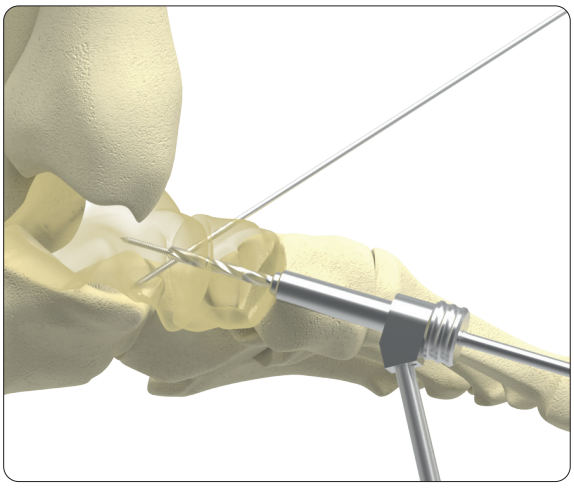
REF 12.20100.085	*Length Determination Instrument for K-Wire Ø 1.7 mm*
(REF 12.20100.125	*Length Determination Instrument for K-Wire Ø 2.5 mm)*

- Optionally, the screw length can be determined directly via the K-wire without guide sleeve, drill sleeve and tissue protection sleeve.



Centernig Sleeve Removal

- After determining the required screw length, the centering sleeve is removed.

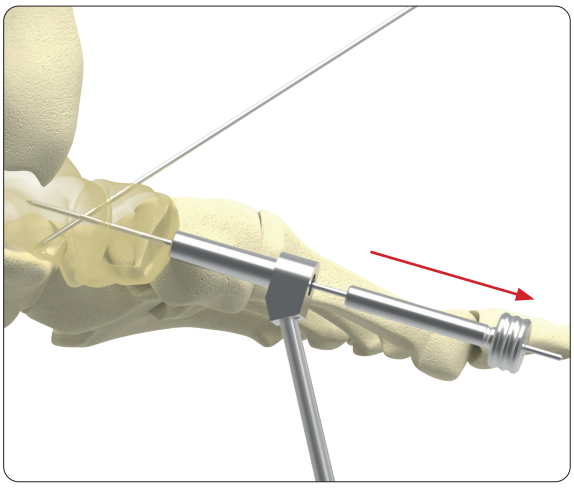


Drilling

Instruments

REF 12.20010.135(S) Drill Bit Ø 3.5 mm
(REF 12.20010.150(S) Drill Bit Ø 5.0 mm)

- The cannulated drill bit is then advanced over the K-wire to the bone and the screw hole for the TWIN screw is drilled.



Drill Sleeve Removal

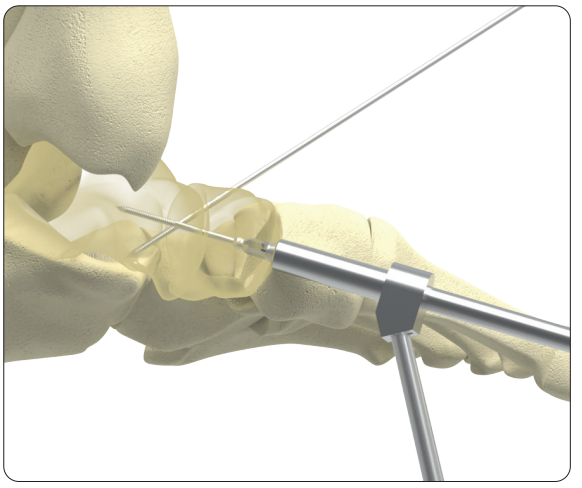
- After drilling the screw hole, the drill bit and the drill sleeve are removed.

Milling

Instruments

REF 12.20030.142 *Countersink Ø 4.2 mm*
(REF 12.20030.164 *Countersink Ø 6.5 mm)*

- The countersink is guided through the protection sleeve via the K-wire.
- The countersink is used to prepare the proximal portion of the TWIN screw in the bone.

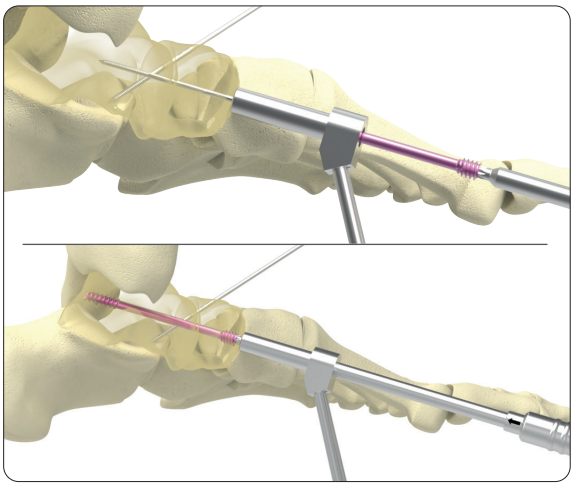


Screw Insertion

Instruments

REF 12.20040.115 *Screwdriver Shaft, T15*
(REF 12.20040.128 *Screwdriver Shaft, T27)*
REF 12.20050.020 *Handle with AO Coupling*
(REF 01.20010.270 *T-Handle with Quick Coupling)*

- The TWIN screw Ø 4.5 mm is now screwed into the bone over the K-wire using the screwdriver shaft and handle.



Product Information

Implants

TWIN - Screw Ø 4.5 / 5.5 mm

- Screw length: 20 - 80mm
- Thread diameter: 4.5 / 5.5mm
- Core diameter: 3.3 / 4.1mm
- Pitch: 1.75 / 1.25mm
- Hexagon socket: T15
- K-wire diameter: 1.7mm
- Material: Ti6Al4V

Article Number	Length	Thread Length
12.03355.020S	20 mm	9 mm
12.03355.022S	22 mm	9 mm
12.03355.024S	24 mm	10 mm
12.03355.026S	26 mm	16 mm
12.03355.028S	28 mm	16 mm
12.03355.030(S)	30 mm	16 mm
12.03355.032(S)	32 mm	16 mm
12.03355.034(S)	34 mm	16 mm
12.03355.036(S)	36 mm	16 mm
12.03355.038(S)	38 mm	16 mm
12.03355.040(S)	40 mm	16 mm
12.03355.045(S)	45 mm	16 mm
12.03355.050(S)	50 mm	16 mm
12.03355.055(S)	55 mm	20 mm
12.03355.060(S)	60 mm	20 mm
12.03355.065(S)	65 mm	20 mm
12.03355.070S	70 mm	24 mm
12.03355.075S	75 mm	24 mm
12.03355.080S	80 mm	24 mm

Article Number	Length	Thread Length
12.03716.040S	40 mm	16 mm
12.03716.045S	45 mm	16 mm
12.03716.050S	50 mm	16 mm
12.03716.055S	55 mm	16 mm
12.03716.060S	60 mm	16 mm
12.03716.065S	65 mm	16 mm
12.03716.070S	70 mm	16 mm
12.03716.075S	75 mm	16 mm
12.03716.080S	80 mm	16 mm
12.03716.085S	85 mm	16 mm
12.03716.090S	90 mm	16 mm
12.03716.095S	95 mm	16 mm
12.03716.100S	100 mm	16 mm
12.03716.105S	105 mm	16 mm
12.03716.110S	110 mm	16 mm
12.03716.115S	115 mm	16 mm
12.03716.120S	120 mm	16 mm

TWIN - Screw Ø 7.0 / 8.5mm, 16mm thread

- Screw length 16 mm: 40 - 120mm
- Thread diameter: 7.0 / 8.5mm
- Core diameter: 5.0mm
- Pitch: 1.8 / 2.75mm
- Hexagon socket: T27
- K-wire diameter: 2.5mm
- Material: Ti6Al4V

Article Number	Length	Thread Length
12.03732.050S	50 mm	32 mm
12.03732.055S	55 mm	32 mm
12.03732.060S	60 mm	32 mm
12.03732.065S	65 mm	32 mm
12.03732.070S	70 mm	32 mm
12.03732.075S	75 mm	32 mm
12.03732.080S	80 mm	32 mm
12.03732.085S	85 mm	32 mm
12.03732.090S	90 mm	32 mm
12.03732.095S	95 mm	32 mm
12.03732.100S	100 mm	32 mm
12.03732.105S	105 mm	32 mm
12.03732.110S	110 mm	32 mm
12.03732.115S	115 mm	32 mm
12.03732.120S	120 mm	32 mm

TWIN - Screw Ø 7.0 / 8.5 mm, 32mm thread

- Screw length 32 mm: 50 - 120mm
- Thread diameter: 7.0 / 8.5mm
- Core diameter: 5.0mm
- Pitch: 1.8 / 2.75mm
- Hexagon socket: T27
- K-Wire diameter: 2.5mm
- Material: Ti6Al4V

Instruments

TWIN Screw Ø 4.5 mm

11.90217.150 Kirschner Wire Ø 1.7mm, threaded tip, L 150mm

12.20010.135(S) Drill Bit Ø 3.5/1.85mm, cannulated, AO Coupling, L 150/120mm

12.20030.142 Countersink Ø 4.2mm with stop, cannulated, AO Coupling

12.20040.115 Screwdriver Shaft, T15, cannulated, AO Coupling, L 142/112mm

08.20120.016 Trocar Ø 1.6mm

08.20060.032 Centering Sleeve 3.2 for K-wire Ø 1.6mm

12.20060.060 Drill Sleeve 6.0/3.5

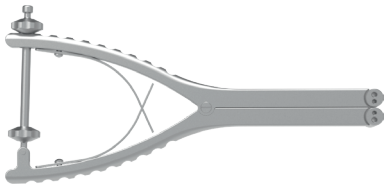
12.20100.080 Length Determination Instrument for REF 08.20060.032

12.20100.085 Length Determination Instrument for K-wire Ø 1.7mm x 150mm

12.20050.020 Handle with AO Coupling

12.20120.055 Protection Sleeve 8.0/6.0

12.20120.018 Universal Distractor for K-wire Ø 1.8mm/2.5mm



02.20120.015 Screw Forceps, self-holding

TWIN Screw Ø 7.0 mm

11.90225.240S Kirschner Wire Ø 2.5mm, threaded tip, L 240mm

12.20010.150(S) Drill Bit Ø 5.0/2.8mm, cannulated, Jacobs Chuck, L 230mm

12.20030.164 Countersink Ø 6.5mm with stop, cannulated, AO Coupling

12.20040.128 Screwdriver Shaft, T27, cannulated, Quick Coupling, L 190/160mm

12.20120.030 Trocar Ø 2.8mm

12.20060.050 Centering Sleeve 5.0 for K-wire Ø 2.5mm

12.20060.085 Drill Sleeve 8.7/5.0

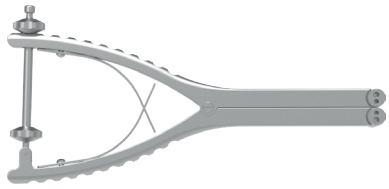
12.20100.120 Length Determination Instrument for REF 12.20060.050

12.20100.125 Length Determination Instrument for K-wire Ø 2.5mm x 240mm

01.20010.270 T-Handle with Quick Coupling, cannulated

12.20120.085 Protection Sleeve 10.6/8.8

12.20120.018 Universal Distractor for K-wire Ø 1.8mm/2.5mm



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