



## MetaFix™ OpenWedge

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**Surgical technique and  
Ordering information**

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## Description

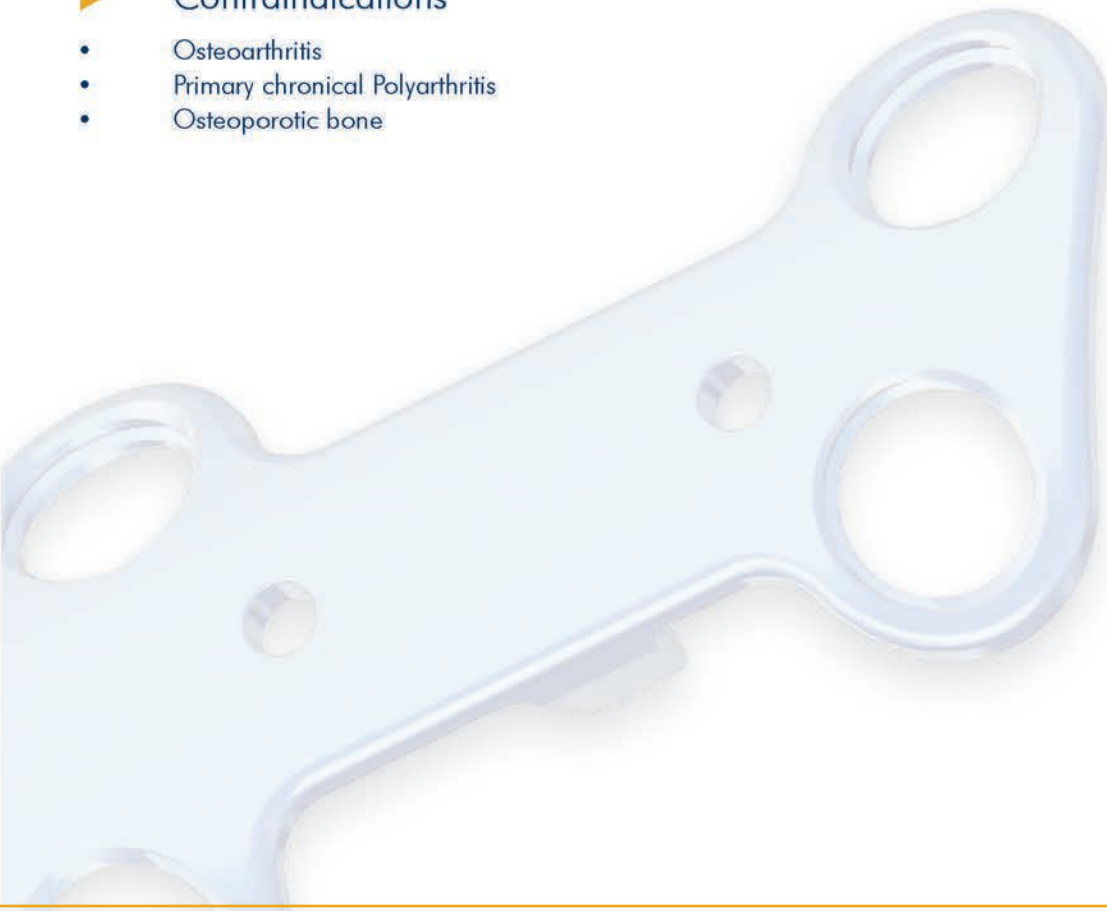


### ► Indications

- Fixation of fresh fractures
- Revision procedures
- Joint fusion
- Reconstruction of small bones of the hand, feet, wrist, ankles, fingers and toes

### ► Contraindications

- Osteoarthritis
- Primary chronic Polyarthritis
- Osteoporotic bone





## Surgical Technique

*The surgical technique presented here is used to demonstrate the fundamental procedure. Merete GmbH, as the manufacturer of these devices, does not practice medicine and does not recommend these or any other surgical techniques for use on a particular patient. The surgeon who performs any implant procedure is responsible for determining and utilizing the appropriate techniques for implanting a prosthesis in each individual patient. Merete GmbH is not responsible for the selection of the appropriate surgical technique to be utilized for an individual patient. The implantation of the MetaFix™ OpenWedge can only be done with the supplied MetaFix™ Instruments. MetaFix™ implants are single used products and not be re-used.*

- Medial longitudinal incision

Medial longitudinal incision. Indulgent preparation medially in the distal section up to the joint capsule, as well as on the retinacular structures of the m. ext. hallucis l. (extensor sling). In the proximal section, the incision should penetrate up to the periosteum in order to achieve a good soft tissue coverage for the plate. Distally the extensor hallucis longus is shown and its lateral retinacula (extensor sling) are detached.

- Joint opening

Lateral release to the intermetatarsal area 1/2 with mobilization of the sesamoid bone complex.

- Proximal preparation

In order to have a tension free wound closing, it is recommended to mobilize the soft tissue complex epiperiosteal.

- Marking the plate position

The distal and proximal ends of the plate as well as the center of the plate are marked onto the bone with a sterile skin pen (Figure 1). This makes the intended repositioning of the plate easier and indicates the position of the osteotomy cut to be done.

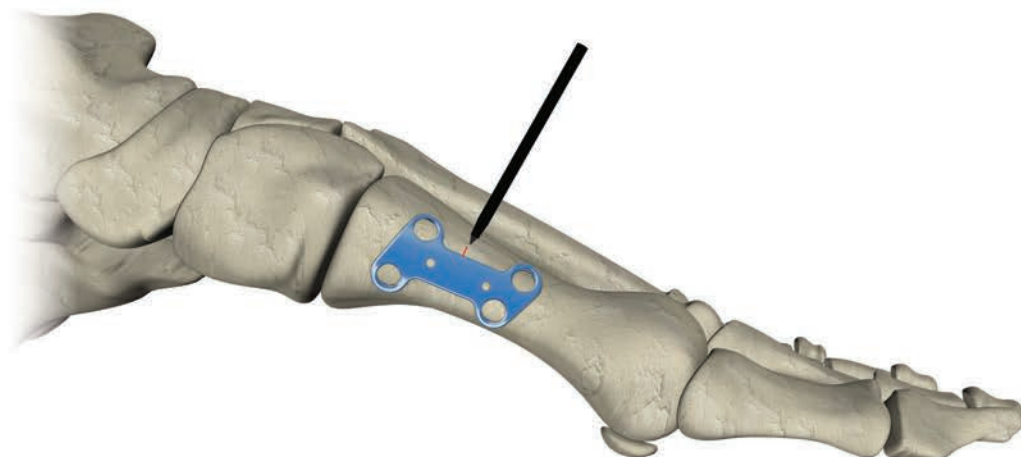


Figure 1 Marking the plate position

- Placing a guiding wire

In order to determine the definitive osteotomy-axis, a K-wire (Ref. CK14215) is induced as a guiding wire for the sawing plane into the lateral corticalis (Figure 2). Depending on the inclination angle of the K-wire, the distal fragment can be adjusted in plantar or dorsal direction.

**NOTE:**

Once the desired correction is achieved, the surgeon may choose to place a Merete 1.4 mm x 150 mm K-wire (distal to the plate position on the metatarsal) medially through the 1<sup>st</sup> metatarsal into the 2<sup>nd</sup> metatarsal. This will assist in holding the desired correction during plate selection (Figure 2).

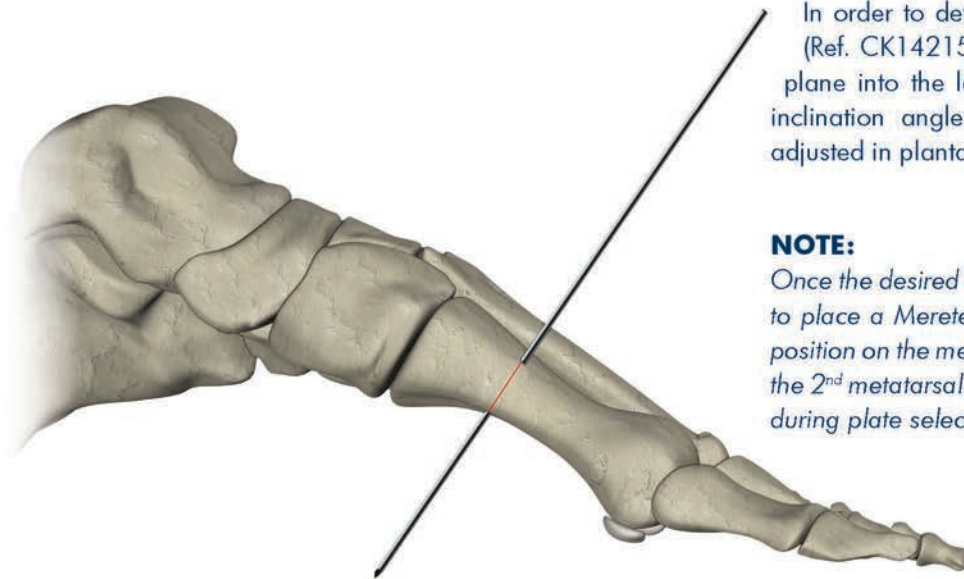


Figure 2 Guiding wire

- Making the osteotomy cut

Performing the osteotomy cut and medial opening in the calculated extent. The gap may be filled up with cortispongeous chipping. Induce crossing K-wires to temporarily fix the osteotomy (Figure 3).

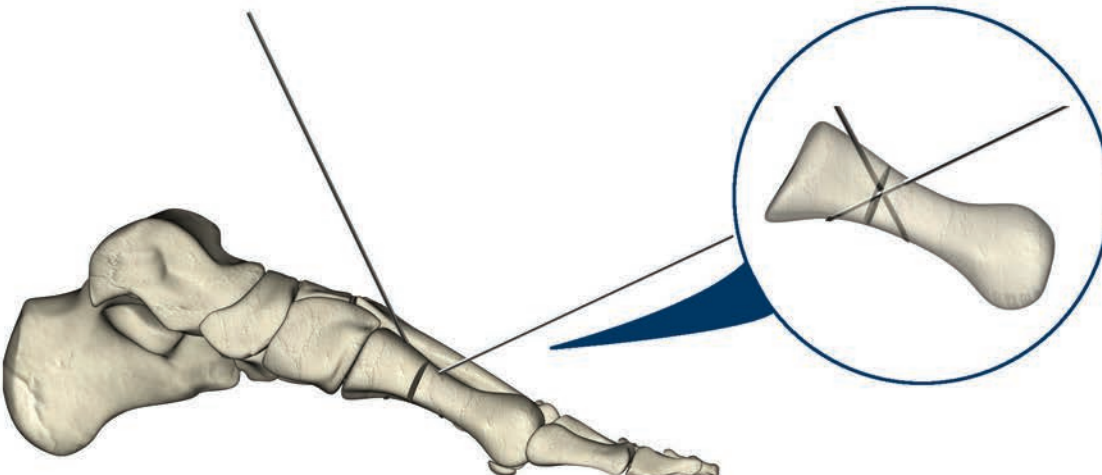


Figure 3 Temporary fixation of the osteotomy

- Selection of the wedge width

By trial application of the plate onto the bone, the wedge width is selected (Figure 4).

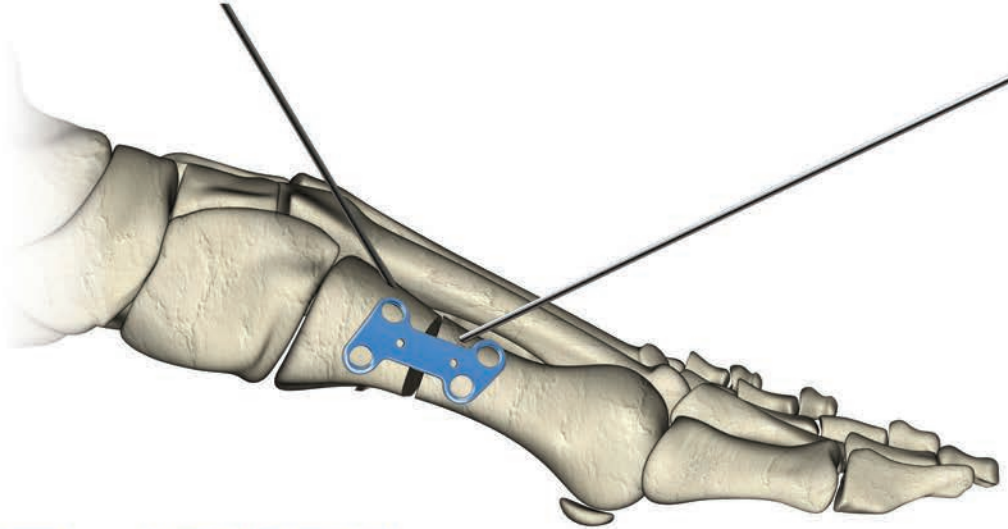


Figure 4 Selection of the wedge width

Due to the alignment of the locking screw threads it is guaranteed, that the proximal and distal screws to be introduced, do not run into the osteotomy gap (Figure 5).



Figure 5 Imaging of the screw direction

- Temporary fixation

Once the correct position is achieved, the opened osteotomy is fixed by introducing two K-wires DIA.1.4 mm, length 70 mm (Ref. CK14207), through the distal and proximal K-wire holes of the OpenWedge Plate (Figure 6). This keeps the plate and the osteotomy temporarily in position.

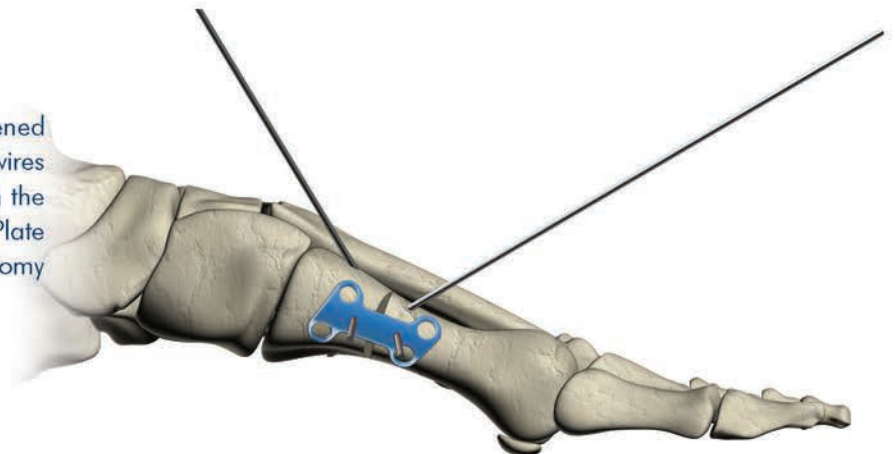


Figure 6 Fixation of the plate at the osteotomy gap



- Screwing in the drill guide

Screwing the drill guide (Ref. FH10045, FH10046) into one of the proximal screw holes of the implant (Figure 7).

Depending on the bone structure, the drill holes for the MetaFix™ LS Locking Screws can be made with the DIA. 2.0 mm drill bit or the DIA. 2.5 mm drill bit.

**Pre-drill MetaFix™ LS DIA. 3.0 mm with DIA. 2.0 mm drill bit**

**Pre-drill MetaFix™ LS DIA. 3.5 mm with DIA. 2.5 mm drill bit**

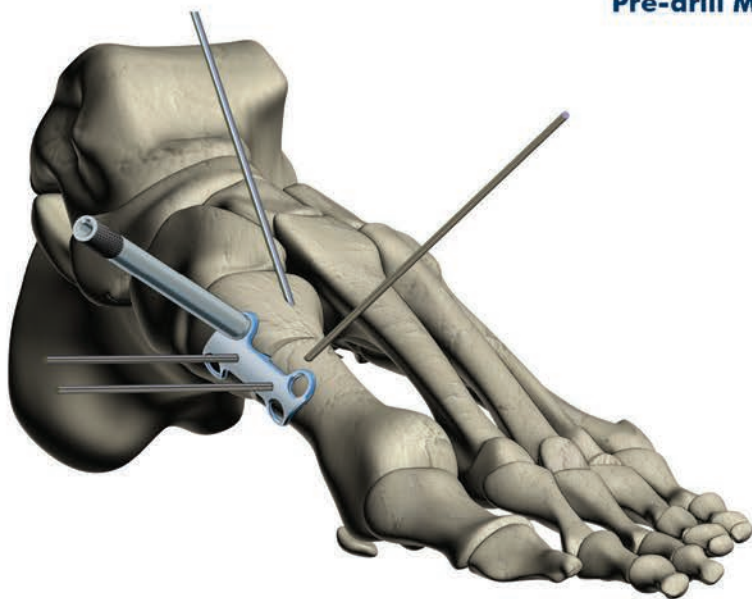


Figure 7 Screwing in the drill guide

- Drilling the screw hole

The screw hole is drilled with the drill bit (DIA.2.0 mm, (Ref. FH10003) or DIA.2.5 mm, (Ref. FH10004)) through the drill guide until it exits the opposite cortex (Figure 8).

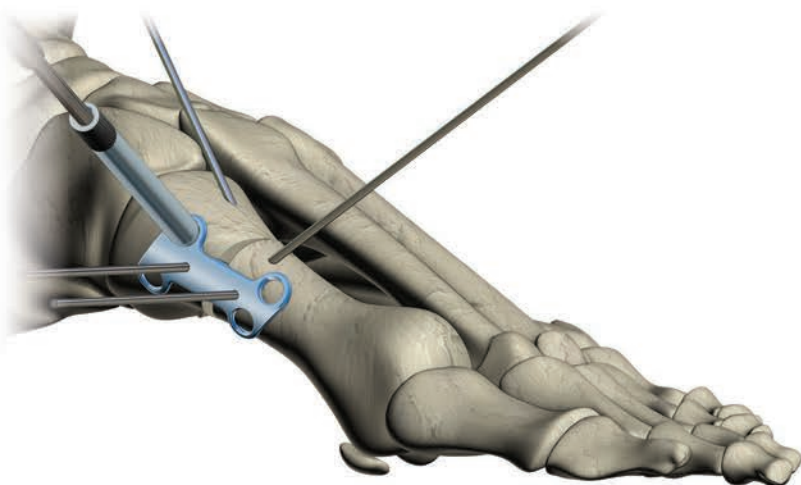


Figure 8 Drilling the 1st screw hole

- Determination of the screw length

After drilling the hole, the drill guide is removed. The sliding depth gauge (Ref. AC00007) must be placed through the plate hole onto the bone. The probe tip is to be pushed through the drilled hole and hooked into the opposite cortex. The appropriate screw length can be read off the scale at the end of the outer mantle of the sliding depth gauge (Figure 9).

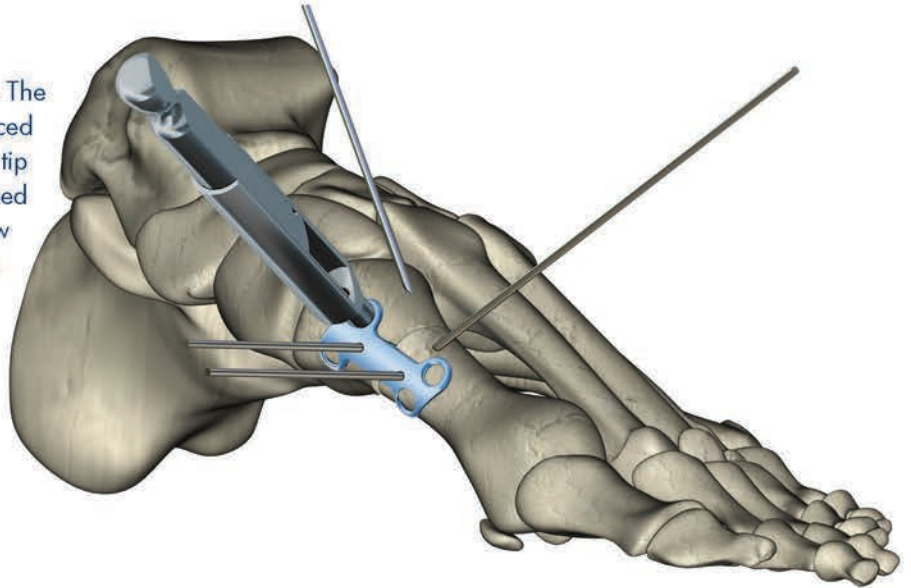


Figure 9 Determination of the screw length

**Note:**

*Placement of Locking Screws*

- The screw and the screwdriver should be exactly aligned with the axis of the screw hole. The screw should easily thread and lock into the plate.
- Do not use much force when tightening the screws. If resistance is met, slightly back out screw, realign screw and screw driver and turn the screw in again. The screw head should end up flush to the plate.
- For screw length measurements indicated with odd numbers, round up to the next even number to ensure bi-cortical placement of the locking screw.

- Screwing in the screw

The determined screw is to be screwed in with the screwdriver hex 2.5 mm (Ref. FH10025) into the bone. The screw must turn easily into the plate (Figure 10).

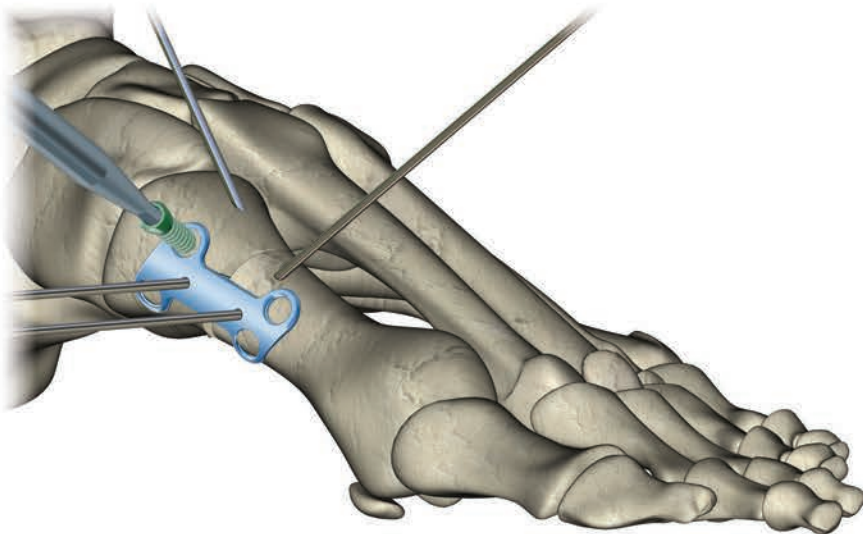


Figure 10 Screwing in the MetaFix™ LS DIA. 3.5 mm screw



- Placing an additional screw

The following screws are placed analog to the 1<sup>st</sup> locking screw, as described on pages 8-9.

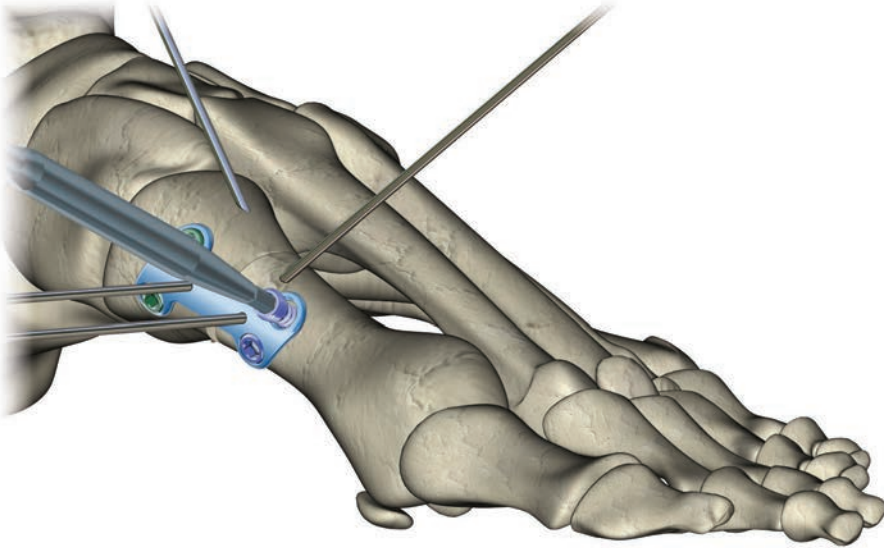


Figure 11 Placing the last locking MetaFix™ LS screw

## Ordering Information

### ► Implants



Wedge width (mm)	right	left
0	FH13000	FH12000
2	FH13002	FH12002
3	FH13003	FH12003
4	FH13004	FH12004
5	FH13005	FH12005
6	FH13006	FH12006

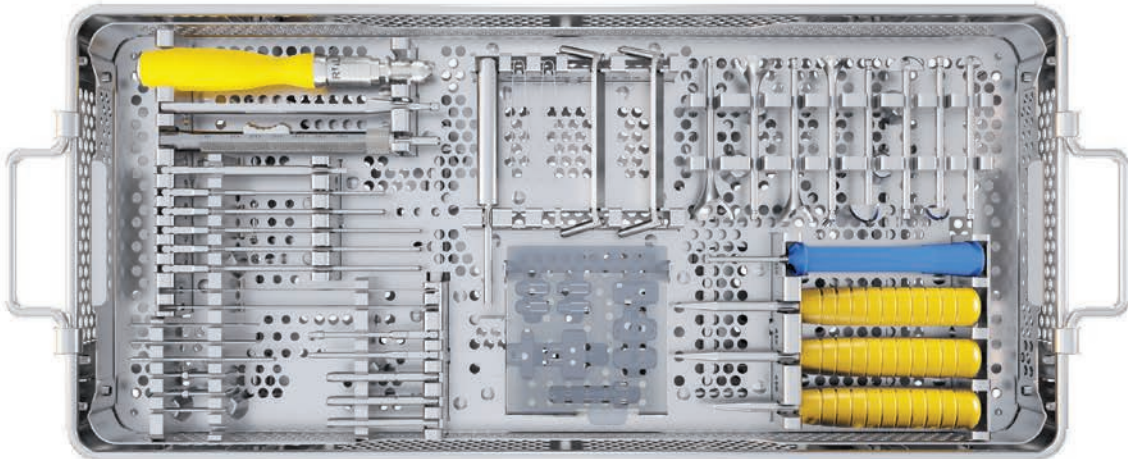
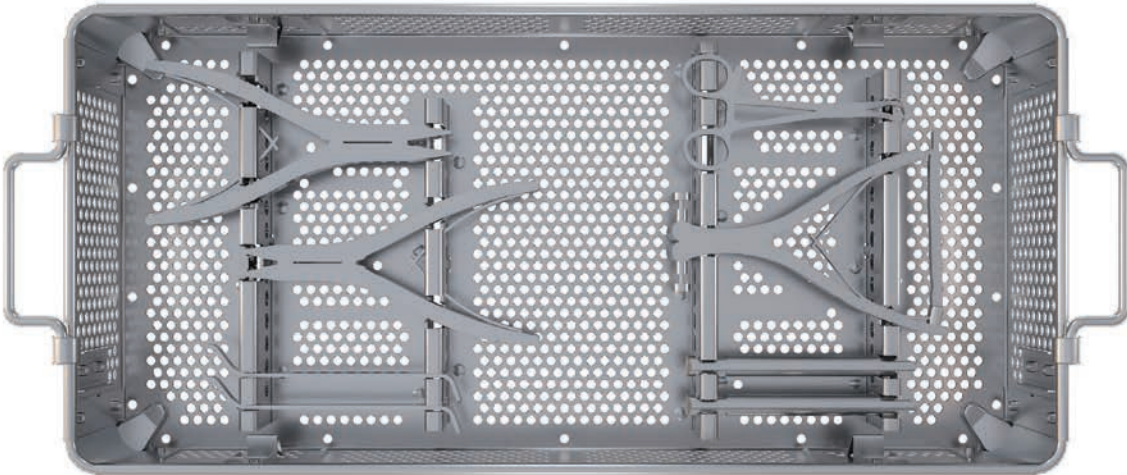
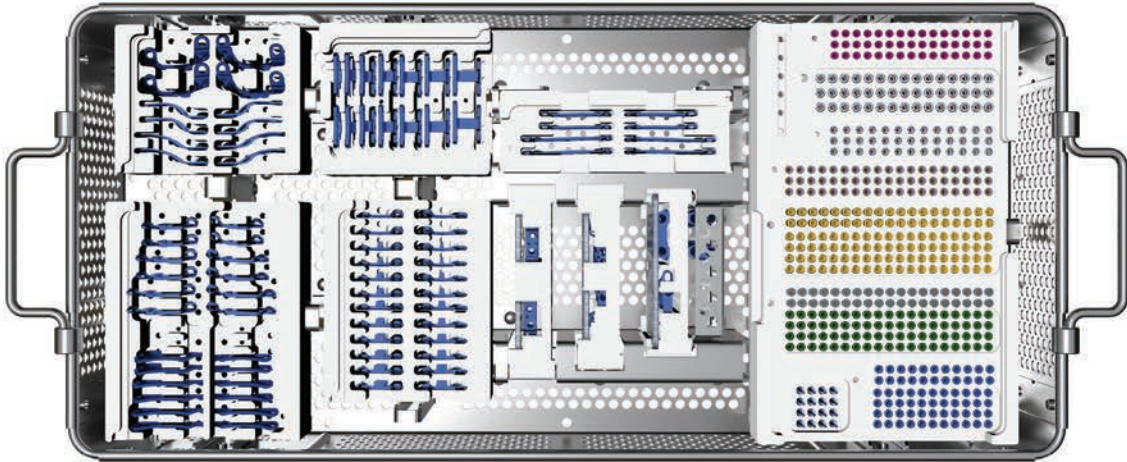
Wedge width 1 mm available on request



Length (mm)	DIA. 3.0 mm	DIA. 3.5 mm
12	FH30012	FH35012
14	FH30014	FH35014
16	FH30016	FH35016
18	FH30018	FH35018
20	FH30020	FH35020
22	FH30022	FH35022
24	FH30024	FH35024
26	FH30026	FH35026
28	FH30028	FH35028
30	FH30030	FH35030
32	FH30032	FH35032

► Instruments

Ref.	Name
FH95500	Foot & Ankle Tray





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