MIKAI

CLICKIT CF

SURGICAL TECHNIQUE

Diabetic Foot Application

Advantages

Quick application	Patented quick connection struts, supplied sterile
Stable and lightweight	Aluminium rings (8mm thickness), aluminium alloy struts
Versatile and Modular	Modular system applicable to different anatomies

Necessary Material

Description	Art Num	Qty
Ring (140, 160, 180, 200)	5000300ST2/301ST2/303ST2/304ST2	2
Foot Plate (140, 160, 180, 200)	5000363ST/360ST/362ST/364ST	2
Foot Plate Long (1)	500363LST/360LST/362LST/364LST	1
Foot plate joint	55000374ST2	1
Static Struts 100 mm	5000314ST2	2
Bilateral Struts 100/150	5000322ST2/5000324ST2	2
Countersunk screws for rings	5000352ST10	1
Wire Bolts	5000330ST2	5
Nuts	5000354ST20	1
Wires 1.8 mm	5000340ST5	2
Olive K-wires	5000342ST5	1

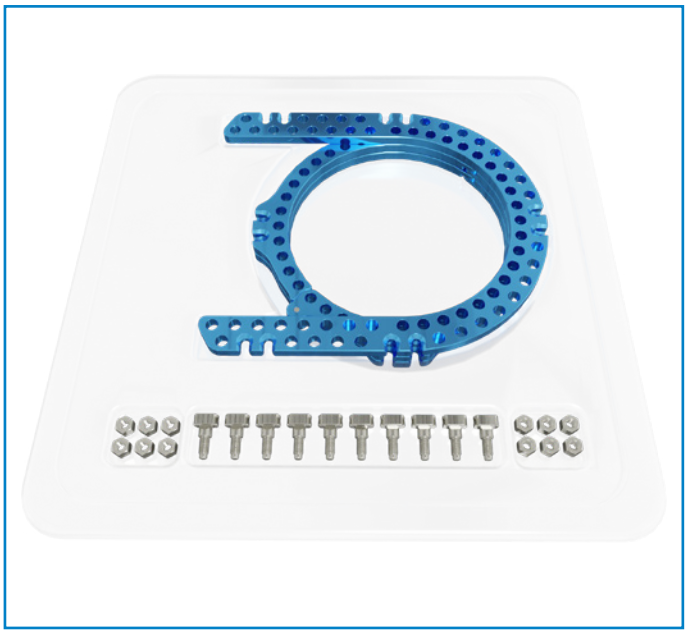
Optional Material

(for a better stability)

Description	Art Number	Qty
Threaded rod	Depends on length	1
1-2-3 hole support	5000335ST/336ST/337ST	1

(1) IN SUBSTITUTION OF THE STANDARD FOOT PLATE AND THE EXTENSION.

FOOT PLATE KIT



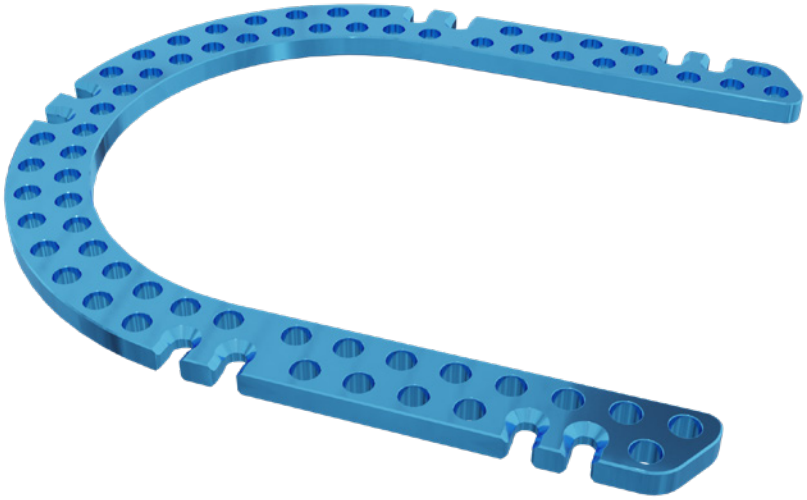
Description	Art Number
CF FOOT PLATE KIT 160 Ø	50003ARST16
CF FOOT PLATE KIT 180 Ø	50003ARST18
CF FOOT PLATE KIT 200 Ø	50003ARST20

Blister components:

Description	Qty
Half rings (assembled)	4
Countersunk screws for rings	6
Foot plate	1
Foot plate Long	1
Foot plate joint	2
Wire bolts	10
Nuts	12

Struts and any additional item required for the surgery will be separate to the blister.

Double Row Foot Plate



Features: Double row of holes and integrated 7 hole extension.

Frame Examples

A

(A) Clinical indication: stabilization of forefoot and midfoot. Bilateral rods allow for distraction or compression in the ankle.

B

(B) Clinical Indication: hindfoot stabilisation and offloading.

Pre-operative

Select the ring diameter using the templates. To allow for normal post-operative swelling, it is advisable to provide appropriate space between the inner diameter of the ring and the patient's skin. In general, 3 cm (~two finger breadths) of anterior clearance and 5 cm (~ three finger breadths) of posterior clearance affords ample room for the expected soft-tissue swelling.

The positioning of the fixator may vary depending on the patient's soft tissue and bone situation. It is however advised to position the foot plate parallel to the plantar axis in such a way to allow the application of wires in the distal and proximal part of the foot ring. The most distal ring should be positioned approximately 10-15 mm form the ankle joint. If soft tissue does not allow this, it should be positioned as distal as possible. The most proximal ring should be positioned at least 100 mm more proximal to the distal tibia one. If necessary, and for a better stability a third tibial ring may be applied.

Pre-assemble Frame

If you are not using the 160-180-200 mm foot plate kit (FIG 5) assemble the three semi-rings using the countersunk screws (FIG 6). Connect two hinged connection bolts to the foot plate and subsequently, connect the two foot rings together using two nuts (FIG 7).

Fig. 4

If you are using a foot plate, all the items will already be assembled, just connect the two foot rings using two nuts.

Fig. 5

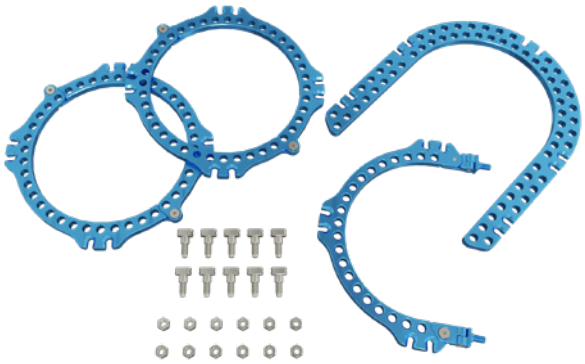


Fig. 6

Fig. 7

Application of ClickIt Struts

STATIC STRUTS

Loosen the countersunk screw in the strut to ease the insertion. Apply pressure on the cap at the extremity of the strut using your thumb and connect it to the ring. Once the 4 struts have been connected to the 2 rings, perform the final tightening using the 3 mm screwdriver or L key.

Fig. 8

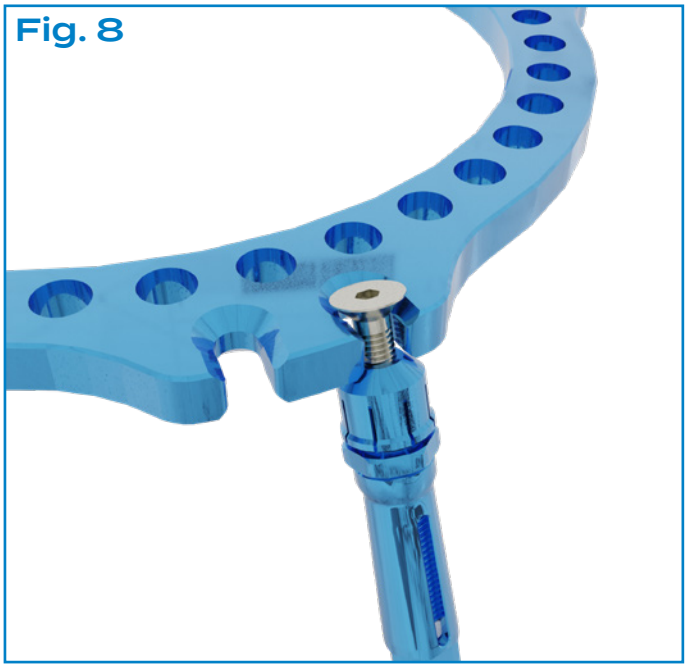
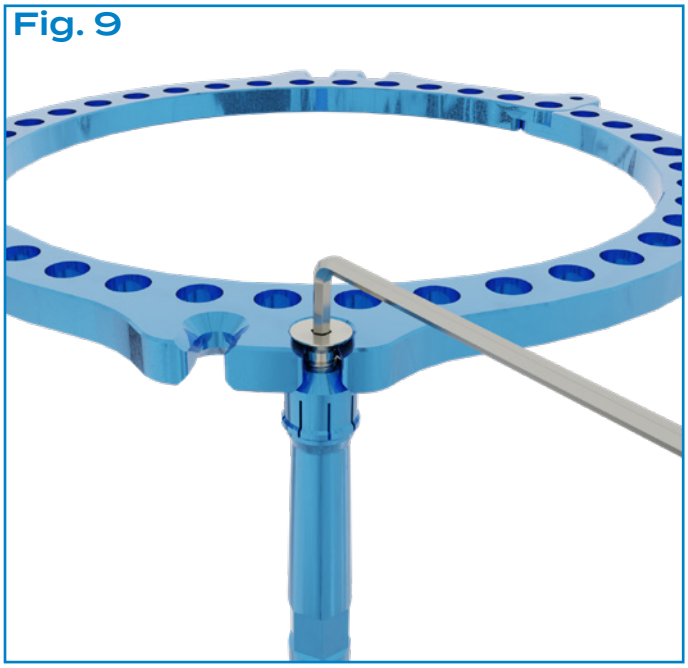


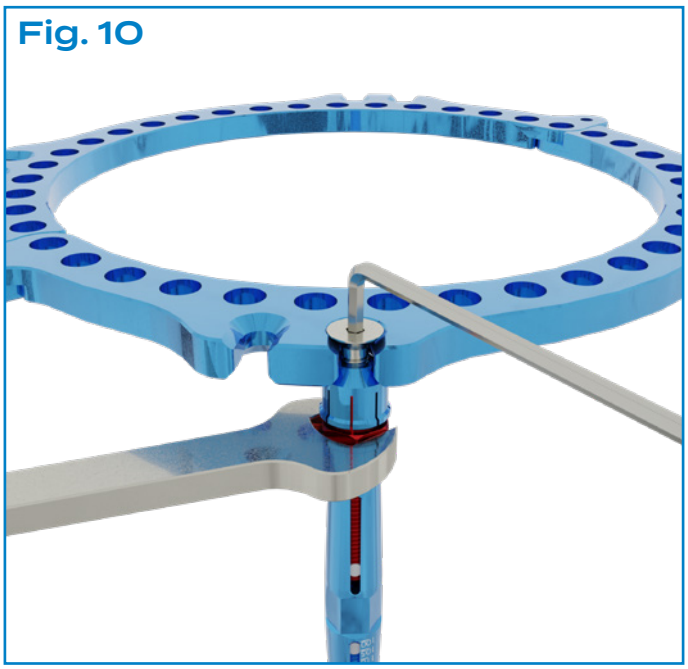
Fig. 9



BILATERAL STRUTS

The application is the same of static struts. The only difference is in the final tightening. When tightening bilateral struts, make sure to block the strut using the 12 mm wrench to avoid it from spinning (FIG 10).

Fig. 10



Once the struts have been applied the frame should look like this.

Fig. 11

Surgical technique

Insert the pre-assembled frame and verify the length. Wires and pins may be placed as per surgeon preference, taking into account the patient's anatomy and co-existing soft tissue and bony pathology.
In most cases the limb is provisionally positioned with towel bumps in the frame and progressively suspended in the frame by increasing numbers of wires and half pins. In cases where it may be difficult to use two wrenches to tighten the wire clamp, you may use the a 3 mm L-key to block the head (FIG 13).

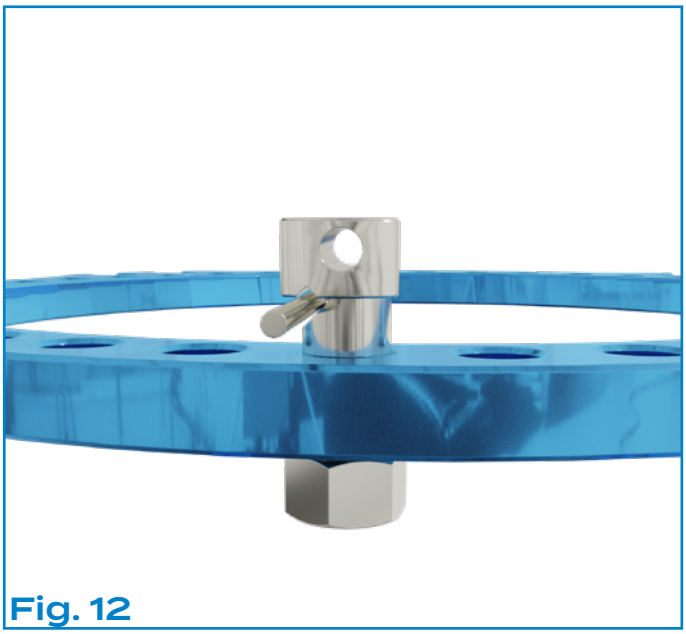


Fig. 12

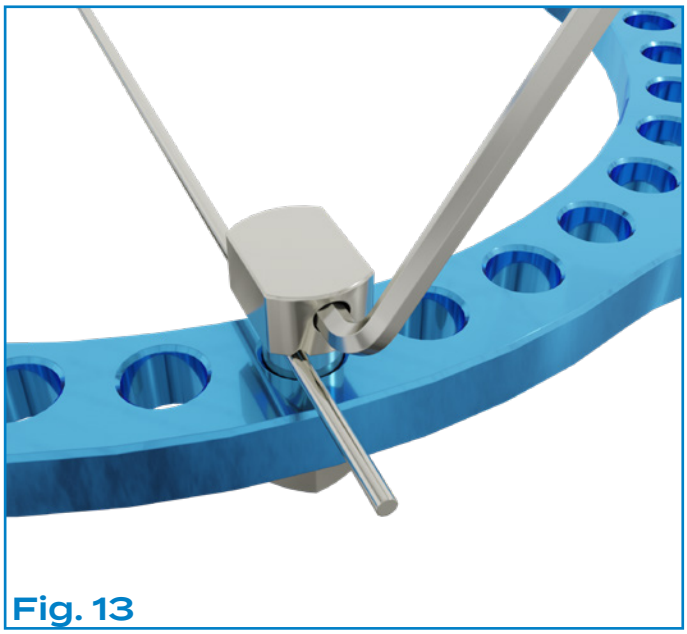


Fig. 13

1. Insert a transverse smooth wire from the lateral side of the tibia. Secure the lateral wire fixation bolt and tension the wire to 130 kg (90 kg max if it is olive). Verify that the frame is parallel to the mechanical axis of the tibia in both A/P and lateral views.

2. Insert a transverse wire from the lateral side of the calcaneal. Tighten the wire fixation bolt on the stopper side and tension the wire to 100 kg. (If you use an olive wire maximum 90 kg).

3. Insert third Wire through the midfoot. Tension this wire to 100 kg. (80 kg if you use an olive).

4. Insert a medial face wire (4) at the proximal tibial ring level to complete stabilization of the proximal tibia. 130 kg.

5. At the distal tibial ring level, insert a wire (5) through the fibula and tibia to stabilize the distal tibia. Insert a smooth wire (6) at the appropriate crossing angle to complete stabilization of the distal tibia.

6. Insert a second calcaneal wire (7) at approximately 60° to 70° to the first wire.

7. Insert a wire through the metatarsals, starting at the base of the 5th and exiting through the base of the 1st. This wire may be needed in heavier or osteoporotic patients where additional stability is desired. Tension this wire to approximately 70-80 kg.

Complete the fixation: each ring should have at least 3 wires. In case of very heavy patients it may be necessary to insert HA coated screws to add stability to the construct.

Once all the K-wires and screws have been inserted it is possible to proceed with the compression of the ankle joint (if needed). If using bilateral struts, every rotation corresponds to 2 mm of compression.

Once the compression is done, secure the anterior foot ring by connecting it with 1 or two threaded rods to the tibial rings (use a 2 hole support).

Fig. 14

Rocker Rail – use 50 mm threaded rods 3 per side. Try to keep them as short as possible, especially with heavy patients. In case of very 100 kg+ patients it is recommended to use the dedicated spacers that can be seen in fig 16.

Fig. 15

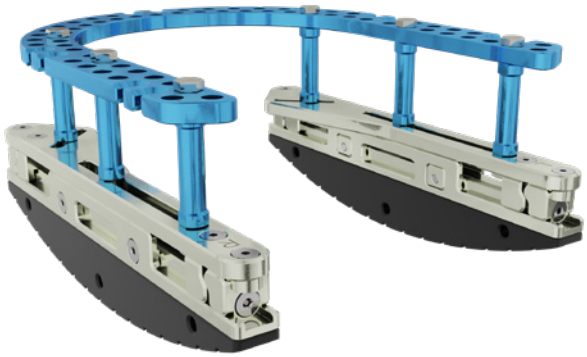
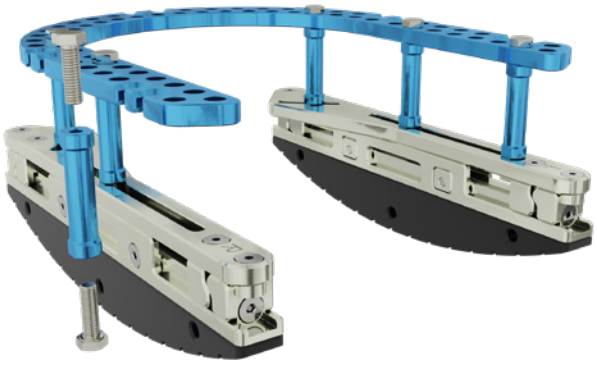


Fig. 16



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