



Surgical Technique

2.7mm Wise-Lock Modular Foot System

about us

Auxein Medical is an integrated, research based, orthopaedic Implants & instruments manufacturing company, producing a wide range of quality, affordable generic implants, trusted by healthcare professionals and patients across geographies. It is the Company's constant endeavor to provide a wide basket of generic and our innovator products that exceed the highest expectations of customers in term of quality and safety. The company has world-class manufacturing unit established in india and serves customers in over 75 countries worldwide.

Our Achievements



Guidelines

This publication sets forth detailed recommended procedures for using Auxein Medical devices and instruments.

It offers guidance that needs to be heeded. However, with any such technical guide, each surgeon must consider the unique needs of each patient and make appropriate adjustments when and as required.

A workshop training under DAIS Academy by Auxein will provide assistance prior to first surgery. It is vital to know that all non-sterile devices must be cleaned and sterilized before use.

Moreover, multi-component instruments must be disassembled for cleaning. The surgeon must discuss all relevant risks, including the finite lifetime of the device, with the patient, when necessary.

Please NOTE that all the bone screws referenced in this document here are not approved for screw attachment or fixation in the areas not mentioned in this publication.

Warning:

This description is not sufficient for immediate application of the instrumentation. Instruction by a surgeon experienced in handling this instrumentation is highly recommended.



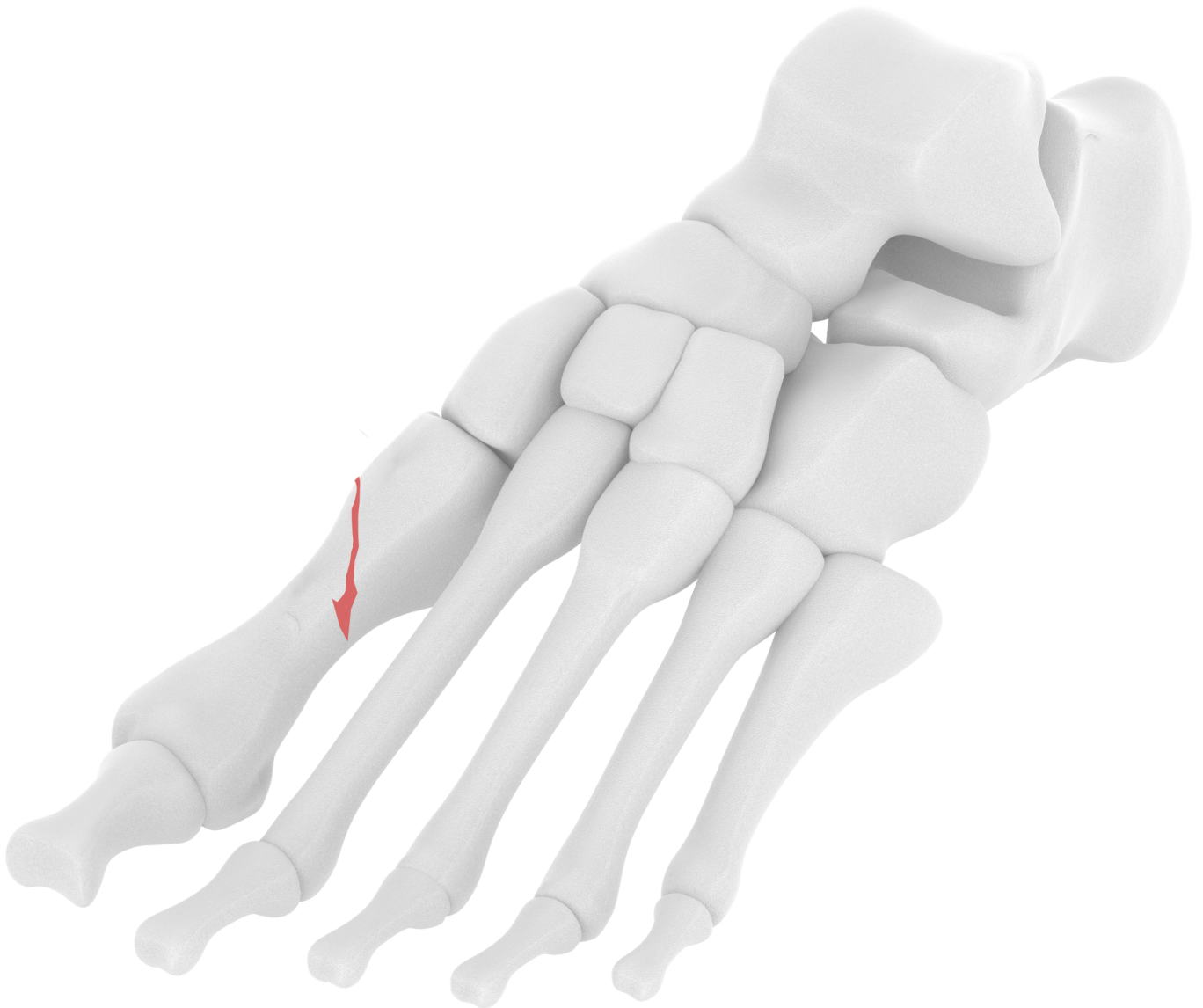
INDICATIONS

Wise-Lock plates may in principle be used for the same indications as for the corresponding standard plates.

Thanks to the angular stability provided by the plate-screw connection, better clinical results can be obtained in patients with metaphyseal fractures, comminuted fractures and osteoporotic bone.

Possible indications for implants of size 2.7 include:

- Fractures of metatarsal I
- Fractures of the tarsals
- MTP 1 fusions
- Osteotomies and arthrodeses of the tarsals (e.g. calcaneo-cuboidal fusion)



1. Combi Hole Feature:-

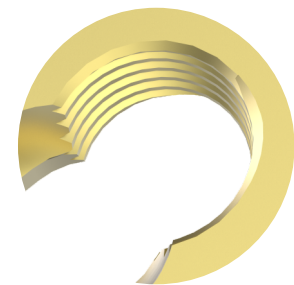
The Combi Hole offer the surgeon choice of using either locking screw or cortical screw, preoperatively and intraoperatively for fracture fixation.



2. Tapered, threaded hole for locking screws.

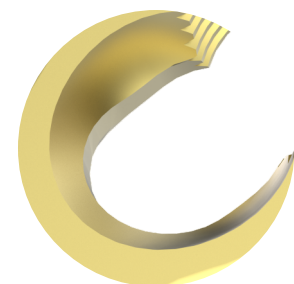
The self-tapping locking screws can be locked in the tapered threaded hole to ensure angular stability.

Use screw driver shaft with Quick Coupling Handle and Torque limiter to avoid the cold welding in plates and screws.



3. Compression Hole unit:

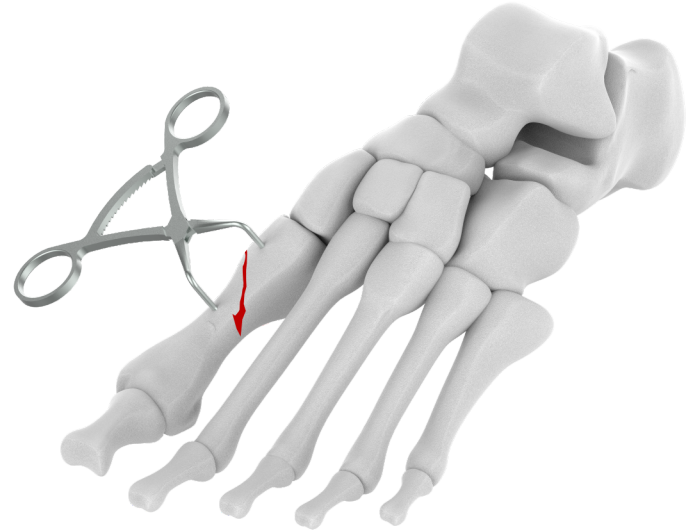
This unit helps in fracture reduction and plate compression. Securing the plate with cortical screws creates friction between the underside of the plate and the surface of the bone by compression at the interface. In order to ensure absolute stability, the frictional resistance must be greater than the forces produced during rehabilitation.



Surgical technique

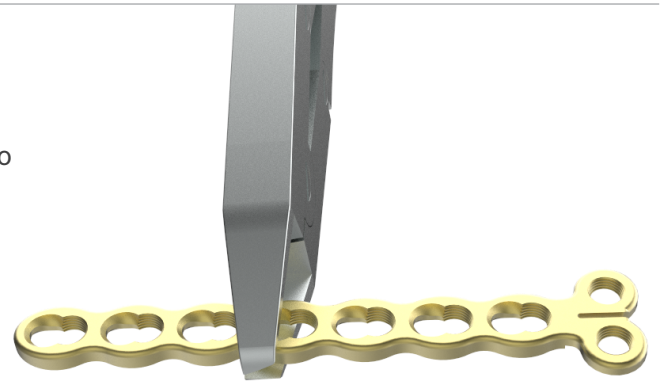
1. Reduce fracture

- Reduce the fracture under the image intensifier and, if necessary, fix with Kirschner wires or reduction forceps (1138-31).



2. Trim Plate:

Use the **1138-18** Cutting forcep for hand and foot system to shear the plate to desired length according to fracture site and fixation plan.
Remove the burs and sharp edges to avoid soft tissue damage and irritation.



3. Plate Bending or Contouring.

Use the **1137-03** Bending Pin or **1138-31** Bending Plier to contour the plate anatomically.

Avoid hole or thread deformation as it may hinder the locking and compression.



Note: The threaded bending pin can be used to bend the round locking holes.



4. Position plate

- Position the plate over the reduced fracture and, if necessary, fix provisionally with Kirschner wires or reduction forceps.



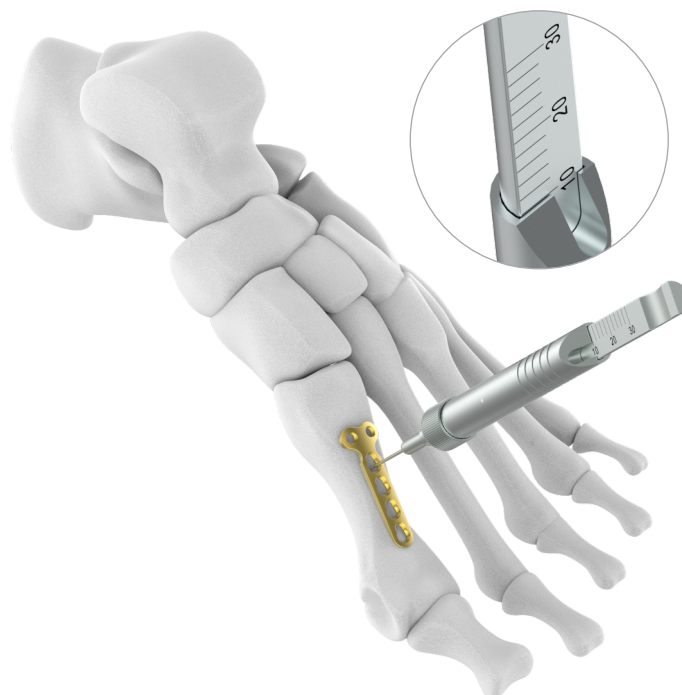
5. Drilling:

Mount the **1138-01** Self Centering Double Drilling Guide or **1138-02** Wise Lock Drill Sleeve 2.7mm into the plate. Pass the **1138-04** 2.0 mm Drill bit through the drill sleeve to drill the bone for screw.



6. Depth Measurement:

Use the **1138-14** or **1138-15** Depth Gauge to measure the drill depth to acquire the screw length required for locking and fixation.



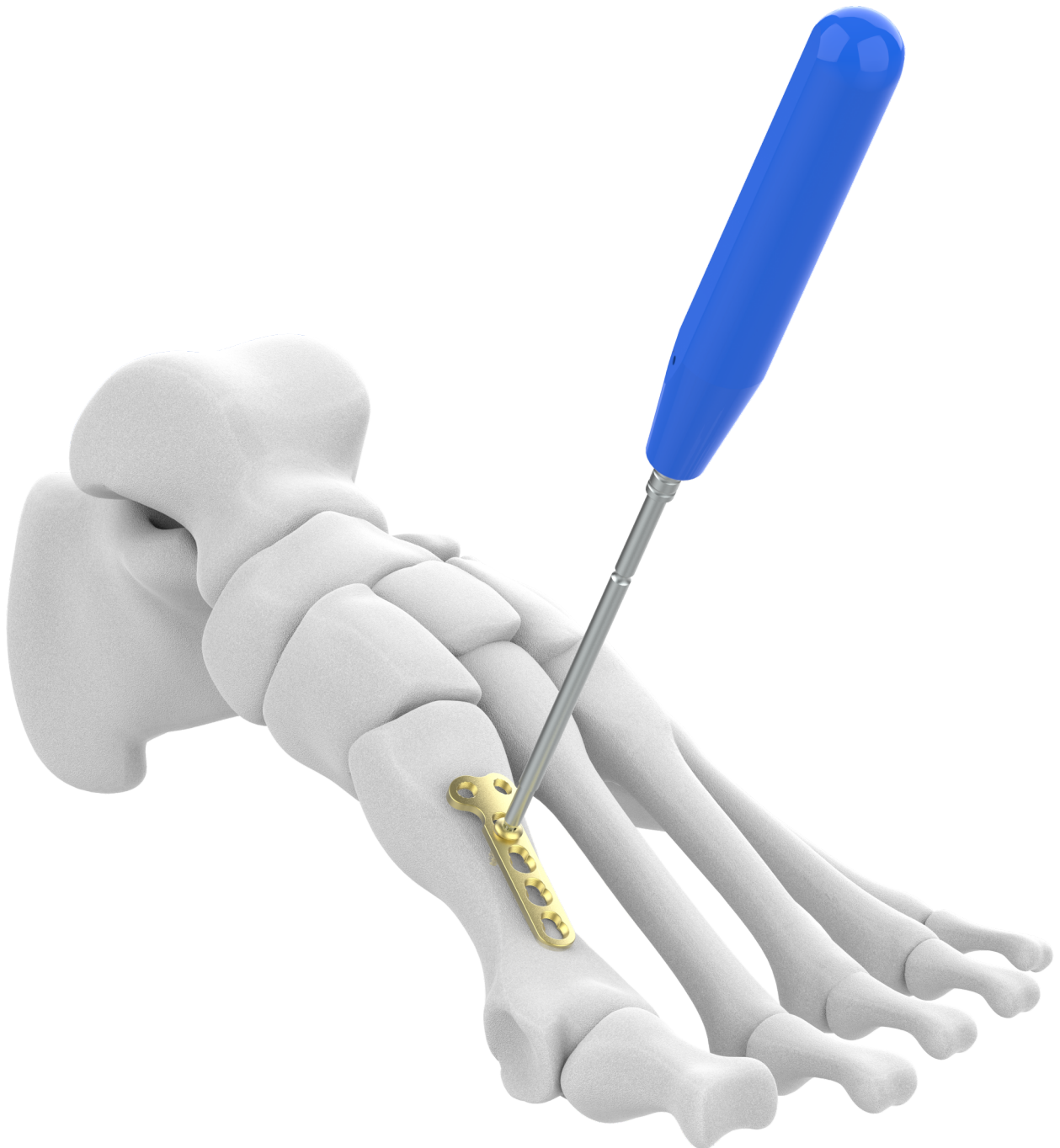
7. Cortical Screw Fixation.

The Holding Sleeve For 2.4mm Cortical Screws **1137-08** is attached with **1137-07** Screwdriver Shaft, T8 For 2.4mm/2.7mm Screws with **1138-13** Handle With Quick Coupling (Straight) already coupled with shaft.

This assembly is used to pick place and fixation of screw in predrilled hole.

Alternative The Star Screwdriver for 2.4/2.7mm Screws **1138-40** attached with Holding Sleeve For 2.4mm Cortical Screws **1137-08** can be used to pick, place and fixation of screw.

Note:- For final tightening use the torque limiting attachment **1138-24** with screw driver. The torque limiting attachment ensures maximum strength of screw plate interface and prevent overtightening and distortion of screw recess.



8. Head Fixation.

Mount the Wise-Lock Drill Sleeve 2.7mm For Drill Bit $\text{\O}2.0\text{ mm}$ **1138-02** onto the rounded head hole. Pass the drill bit **1138-04** through the sleeve with Handle With Quick Coupling (Straight), for Hand & Foot System **1138-13** engaged with Drill bit. Observe the drill depth by observing the marking on the drill respective to the drill sleeve.



9. Head Screw fixation.

The Holding Sleeve For 2.4/2.7mm Wise-Lock Screws **1137-09** is attached with **1138-40** Star Screwdriver for 2.4/2.7mm Screws. This assembly is use to pick place and fixation of screw in predrilled hole.

Note:- For final tightening use the torque limiting attachment **1138-24** with screw driver. The torque limiting attachment ensures maximum strength of screw plate interface and prevent overtightening and distortion of screw recess.



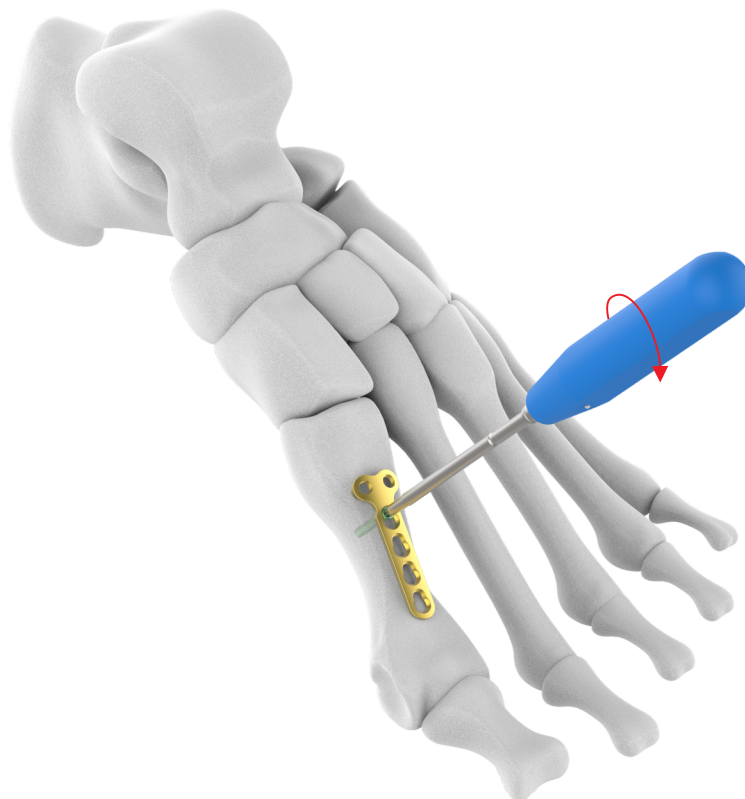
10. Final fixation.

For final fixation repeat the same procedure shown in the previous steps from 5 to 9.



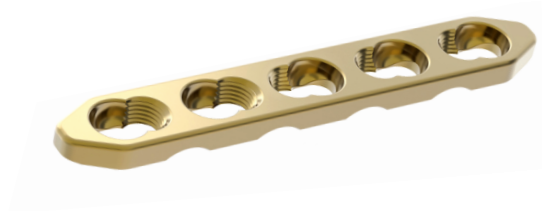
8. Remove implants

- To remove the plate, first unlock all screws then definitively remove them in a second step, otherwise the plate may rotate while the last screw is being removed and cause soft tissue damage.



2.7mm Wise-Lock Plate, Straight

Code	Holes
TI-505.404	4
TI-505.405	5
TI-505.406	6
TI-505.407	7
TI-505.408	8
TI-505.410	10



2.7mm Wise-Lock Condylar Plate

Code	Holes
TI-559.404	Shaft 4, Head 2
TI-559.405	Shaft 5, Head 2
TI-559.406	Shaft 6, Head 2
TI-559.407	Shaft 7, Head 2



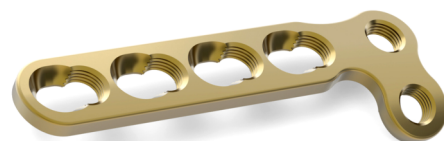
2.7mm Wise-Lock T-Plate

Code	Holes
TI-556.403	Shaft 3, Head 2
TI-556.404	Shaft 4, Head 2



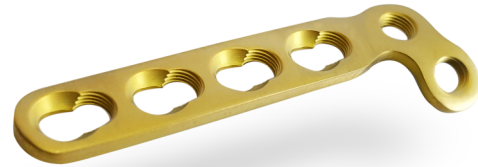
2.7mm Wise-Lock L-Plate

Code	Holes	Type
TI-813.403L	Shaft 3, Head 2	Left
TI-813.403R	Shaft 3, Head 2	Right
TI-813.404L	Shaft 4, Head 2	Left
TI-813.404R	Shaft 4, Head 2	Right



2.7mm Wise-Lock L-Plate, Oblique

Code	Holes	Type
TI-1133.03L	Shaft 3, Head 2	Left
TI-1133.03R	Shaft 3, Head 2	Right
TI-1133.04L	Shaft 4, Head 2	Left
TI-1133.04R	Shaft 4, Head 2	Right



2.7mm Wise-Lock Mini Condylar Plate

Code	Holes	Type
TI-516.307L	7	Left
TI-516.307R	7	Right



2.7mm Wise-Lock Straight Plate

Code	Holes
TI-1134.02	2



2.4/2.7mm Wise-Lock X-Plate

Code	Holes	Length
TI-812.301	4	22x14mm
TI-812.302	4	24x18mm
TI-812.303	4	30x20mm
TI-812.304	4	36x20mm



2.7mm Cortical Screw, Self-Tapping, (Star Head)



Code	Length
TI-1242.06	6
TI-1242.08	8
TI-1242.10	10
TI-1242.12	12
TI-1242.14	14
TI-1242.16	16
TI-1242.18	18
TI-1242.20	20
TI-1242.22	22
TI-1242.24	24
TI-1242.26	26
TI-1242.28	28
TI-1242.30	30
TI-1242.32	32
TI-1242.34	34
TI-1242.36	36
TI-1242.38	38
TI-1242.40	40
TI-1242.42	42
TI-1242.44	44
TI-1242.46	46
TI-1242.48	48
TI-1242.50	50

2.7mm Wise-Lock Screw, Self-Tapping, (Star Head)



Code	Length
TI-1241.06	6mm
TI-1241.07	7mm
TI-1241.08	8mm
TI-1241.09	9mm
TI-1241.10	10mm
TI-1241.12	12mm
TI-1241.14	14mm
TI-1241.16	16mm
TI-1241.18	18mm
TI-1241.20	20mm
TI-1241.22	22mm
TI-1241.24	24mm
TI-1241.26	26mm
TI-1241.28	28mm
TI-1241.30	30mm
TI-1241.32	32mm
TI-1241.34	34mm
TI-1241.36	36mm
TI-1241.38	38mm
TI-1241.40	40mm
TI-1241.42	42mm
TI-1241.44	44mm
TI-1241.46	46mm
TI-1241.48	48mm
TI-1241.50	50mm
TI-1241.52	52mm
TI-1241.54	54mm
TI-1241.56	56mm
TI-1241.58	58mm
TI-1241.60	60mm

1137-07 Screwdriver Shaft, T8 For 2.4mm/2.7mm Screws



1137-03 Bending Pin With Thread For 2.4mm/2.7mm Wise-Lock Plates



1137-09 Holding Sleeve For 2.4/2.7mm Wise-Lock Screws



1136-06 Countersink For 2.0/2.4/2.7mm Screws



1138-01 Self-Centering Double Drill Guide $\varnothing 2.7/2.0$ mm



1138-02 Wise-Lock Drill Sleeve 2.7mm For Drill Bits $\varnothing 2.0$ mm



INSTRUMENTS

1138-04 Drill Bit Quick Coupling Ø2.0mm x Length 110mm, 2-Flute



1138-05 Drill Bit Quick Coupling Ø2.7mm x Length 102mm, 2-Flute



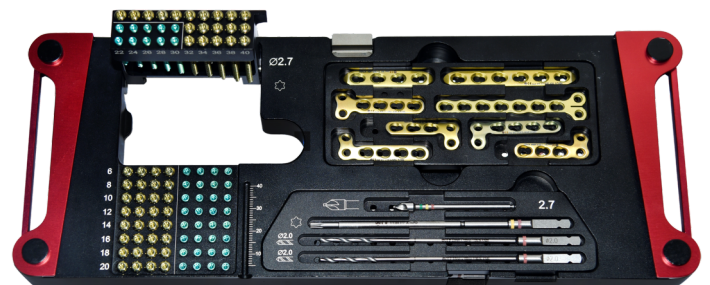
1138-41 Holding Sleeve For 2.7mm Cortical Screws



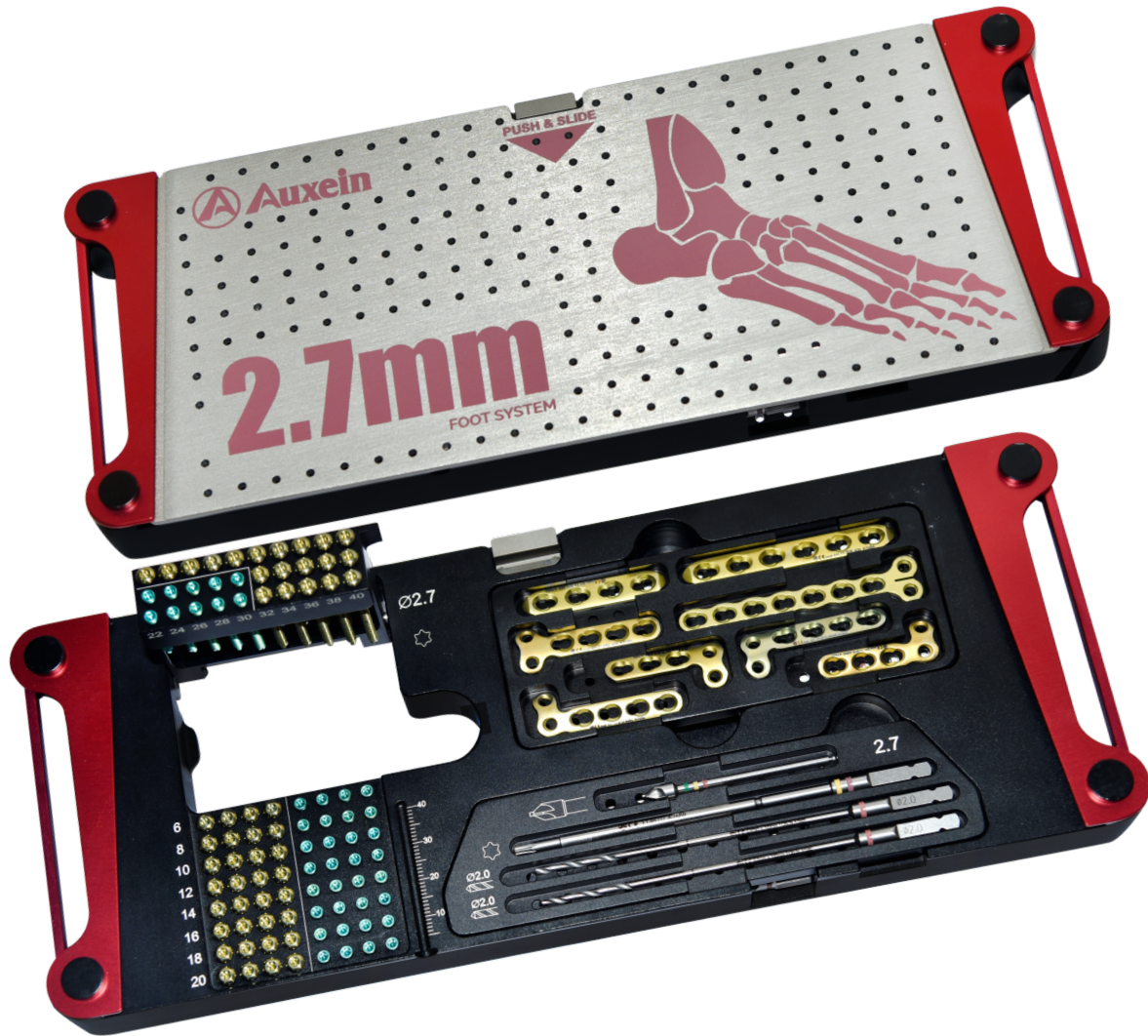
1138-11 Container with Tray and Lid For 2.7mm Implant & Instrument Set



1138-11 Container with Tray and Lid For 2.7mm Implant & Instrument Set



1138-11 Container with Tray and Lid For 2.7mm Implant & Instrument Set



Instruments For 2.7mm Wise-lock Modular Foot System

Code	Items	Qty
1137-07	Screwdriver Shaft, T8 For 2.4mm/2.7mm Screws	1
1137-03	Bending Pin With Thread For 2.4mm/2.7mm Wise-Lock Plates	2
1137-09	Holding Sleeve For 2.4/2.7mm Wise-Lock Screws	1
1136-06	Countersink For 2.0/2.4/2.7mm Screws	1
1138-01	Self-Centering Double Drill Guide Ø2.7/2.0mm	1
1138-02	Wise-Lock Drill Sleeve 2.7mm For Drill Bits Ø2.0mm	2
1138-04	Drill Bit Quick Coupling Ø2.0mm x Length 110mm, 2-Flute	2
1138-05	Drill Bit Quick Coupling Ø2.7mm x Length 102mm, 2-Flute	2
1138-41	Holding Sleeve For 2.7mm Cortical Screws	1
1138-11	Container with Tray and Lid For 2.7mm Implant & Instrument Set	1

1138-11 Container with Tray and Lid For 2.7mm Implant & Instrument Set

Instruments For 2.7mm Wise-lock Modular Foot System

	Code	Items	Qty	
Plates	TI-505.404	2.7mm Wise-Lock Plate, Straight, 4 Holes	1	
	TI-505.406	2.7mm Wise-Lock Plate, Straight, 6 Holes	1	
	TI-559.407	2.7mm Wise-Lock Condylar Plate, (2 Head Holes), 7 Holes	1	
	TI-556.404	2.7mm Wise-Lock T-Plate, (2 Head Holes), 4 Holes	1	
	TI-813.403L	2.7mm Wise-Lock L-Plate, (2 Head Holes), 3 Holes - Left	1	
	TI-813.404L	2.7mm Wise-Lock L-Plate, (2 Head Holes), 4 Holes - Left	1	
	TI-813.403R	2.7mm Wise-Lock L-Plate, (2 Head Holes), 3 Holes - Right	1	
	TI-813.404R	2.7mm Wise-Lock L-Plate, (2 Head Holes), 4 Holes - Right	1	
Screws	TI-1242.06	2.7mm Cortical Screws, Self-Tapping, (Star Head), Length 6mm, Titanium	4	
	TI-1242.08	2.7mm Cortical Screws, Self-Tapping, (Star Head), Length 8mm, Titanium	4	
	TI-1242.10	2.7mm Cortical Screws, Self-Tapping, (Star Head), Length 10mm, Titanium	4	
	TI-1242.12	2.7mm Cortical Screws, Self-Tapping, (Star Head), Length 12mm, Titanium	4	
	TI-1242.14	2.7mm Cortical Screws, Self-Tapping, (Star Head), Length 14mm, Titanium	4	
	TI-1242.16	2.7mm Cortical Screws, Self-Tapping, (Star Head), Length 16mm, Titanium	4	
	TI-1242.18	2.7mm Cortical Screws, Self-Tapping, (Star Head), Length 18mm, Titanium	4	
	TI-1242.20	2.7mm Cortical Screws, Self-Tapping, (Star Head), Length 20mm, Titanium	4	
	TI-1242.22	2.7mm Cortical Screws, Self-Tapping, (Star Head), Length 22mm, Titanium	1	
	TI-1242.24	2.7mm Cortical Screws, Self-Tapping, (Star Head), Length 24mm, Titanium	1	
	TI-1242.26	2.7mm Cortical Screws, Self-Tapping, (Star Head), Length 26mm, Titanium	1	
	TI-1242.28	2.7mm Cortical Screws, Self-Tapping, (Star Head), Length 28mm, Titanium	1	
	TI-1242.30	2.7mm Cortical Screws, Self-Tapping, (Star Head), Length 30mm, Titanium	1	
	TI-1242.32	2.7mm Cortical Screws, Self-Tapping, (Star Head), Length 32mm, Titanium	4	
	TI-1242.34	2.7mm Cortical Screws, Self-Tapping, (Star Head), Length 34mm, Titanium	4	
	TI-1242.36	2.7mm Cortical Screws, Self-Tapping, (Star Head), Length 36mm, Titanium	4	
	TI-1242.38	2.7mm Cortical Screws, Self-Tapping, (Star Head), Length 38mm, Titanium	4	
	TI-1242.40	2.7mm Cortical Screws, Self-Tapping, (Star Head), Length 40mm, Titanium	4	
	Screws	TI-1241.06	2.7mm Wise-Lock Screws, Self-Tapping, (Star Head), Length 6mm, Titanium	4
		TI-1241.07	2.7mm Wise-Lock Screws, Self-Tapping, (Star Head), Length 7mm, Titanium	4
TI-1241.08		2.7mm Wise-Lock Screws, Self-Tapping, (Star Head), Length 8mm, Titanium	4	
TI-1241.09		2.7mm Wise-Lock Screws, Self-Tapping, (Star Head), Length 9mm, Titanium	4	
TI-1241.10		2.7mm Wise-Lock Screws, Self-Tapping, (Star Head), Length 10mm, Titanium	4	
TI-1241.12		2.7mm Wise-Lock Screws, Self-Tapping, (Star Head), Length 12mm, Titanium	4	
TI-1241.14		2.7mm Wise-Lock Screws, Self-Tapping, (Star Head), Length 14mm, Titanium	4	
TI-1241.16		2.7mm Wise-Lock Screws, Self-Tapping, (Star Head), Length 16mm, Titanium	4	
TI-1241.18		2.7mm Wise-Lock Screws, Self-Tapping, (Star Head), Length 18mm, Titanium	4	
TI-1241.20		2.7mm Wise-Lock Screws, Self-Tapping, (Star Head), Length 20mm, Titanium	4	
TI-1241.22		2.7mm Wise-Lock Screws, Self-Tapping, (Star Head), Length 22mm, Titanium	2	
TI-1241.24		2.7mm Wise-Lock Screws, Self-Tapping, (Star Head), Length 24mm, Titanium	2	
TI-1241.26		2.7mm Wise-Lock Screws, Self-Tapping, (Star Head), Length 26mm, Titanium	2	
TI-1241.28	2.7mm Wise-Lock Screws, Self-Tapping, (Star Head), Length 28mm, Titanium	2		
TI-1241.30	2.7mm Wise-Lock Screws, Self-Tapping, (Star Head), Length 30mm, Titanium	2		

1138-12 Handle with Mini Quick Coupling, for Hand & Foot System



1138-13 Handle With Quick Coupling (Straight), for Hand & Foot System



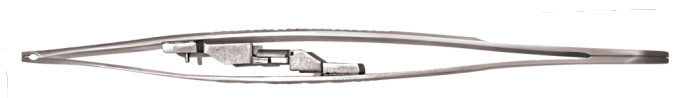
1138-14 Depth Gauge measuring upto 30mm, for Hand & Foot System



1138-15 Depth Gauge measuring upto 50mm, for Hand & Foot System



1138-17 Screw Holding Forcep, for Hand & Foot System



1138-18 Cutting Forcep, for Hand & Foot System



1138-23 Torque Limiting attachment, 0.8Nm, with AO quick coupling - Hand & Foot System



1138-24 Torque Limiting attachment, 0.4Nm, with AO Quick Coupling - Hand & Foot System



1138-26 Hohmann Retractor, 15mm, for Hand & Foot System



1138-27 Hohmann Retractor, 6.5mm, for Hand & Foot System



1138-28 Periosteal Elevator, Round, for Hand & Foot System



1138-29 Periosteal Elevator, Flat, for Hand & Foot System



GENERAL INSTRUMENTS

1138-30 Cutting Plier (For pins and plates), for Hand & Foot System



1138-31 Bending Pliers for Hand & Foot System



1138-33 Reduction Forcep, Pointed, Small, for Hand & Foot System



1138-36 Plate File, for Hand & Foot System



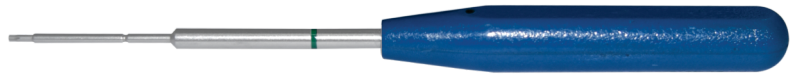
1138-37 Reduction Forcep, Serrated Jaws, for Hand & Foot System



1138-38 Star Screwdriver for 1.5mm Screws - Hand & Foot System



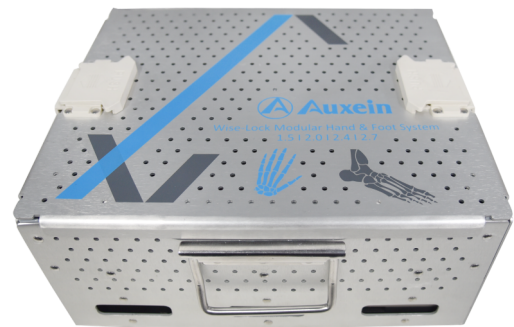
1138-39 Star Screwdriver for 2.0mm Screws - Hand & Foot System

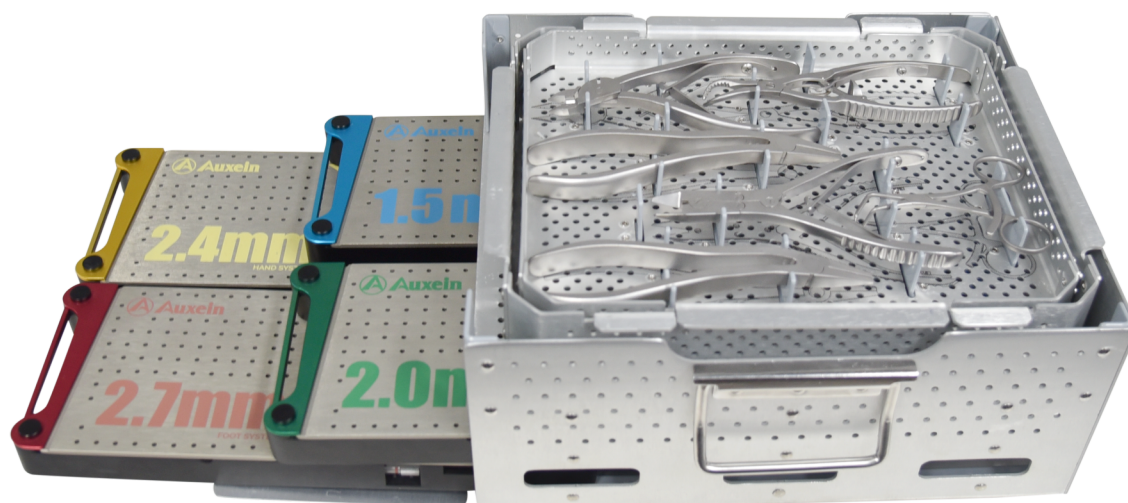


1138-40 Star Screwdriver for 2.4/2.7mm Screws - Hand & Foot System



1138-35 Container for Hand & Foot Instrument & Implant set



5001-000 Modular Hand & Foot System Instrument Set


Code	Items	Qty
1138-12	Handle with Mini Quick Coupling, for Hand & Foot System	1
1138-13	Handle With Quick Coupling (Straight), for Hand & Foot System	1
1138-14	Depth Gauge measuring upto 30mm, for Hand & Foot System	1
1138-15	Depth Gauge measuring upto 50mm, for Hand & Foot System	1
1138-17	Screw Holding Forcep, for Hand & Foot System	1
1138-18	Cutting Forcep, for Hand & Foot System	1
1138-23	Torque Limiting attachment, 0.8Nm, with AO quick coupling - Hand & Foot System	1
1138-24	Torque Limiting attachment, 0.4Nm, with AO Quick Coupling - Hand & Foot System	1
1138-26	Hohmann Retractor, 15mm, for Hand & Foot System	1
1138-27	Hohmann Retractor, 6.5mm, for Hand & Foot System	1
1138-28	Periosteal Elevator, Round, for Hand & Foot System	1
1138-29	Periosteal Elevator, Flat , for Hand & Foot System	1
1138-30	Cutting Plier (For pins and plates), for Hand & Foot System	1
1138-31	Bending Pliers for Hand & Foot System	2
1138-33	Reduction Forcep, Pointed, Small, for Hand & Foot System	1
1138-36	Plate File, for Hand & Foot System	1
1138-37	Reduction Forcep, Serrated Jaws, for Hand & Foot System	1
1138-38	Star Screwdriver for 1.5mm Screws - Hand & Foot System	1
1138-39	Star Screwdriver for 2.0mm Screws - Hand & Foot System	1
1138-40	Star Screwdriver for 2.4/2.7mm Screws - Hand & Foot System	1
1138-35	Container for Hand & Foot Instrument & Implant set	1



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