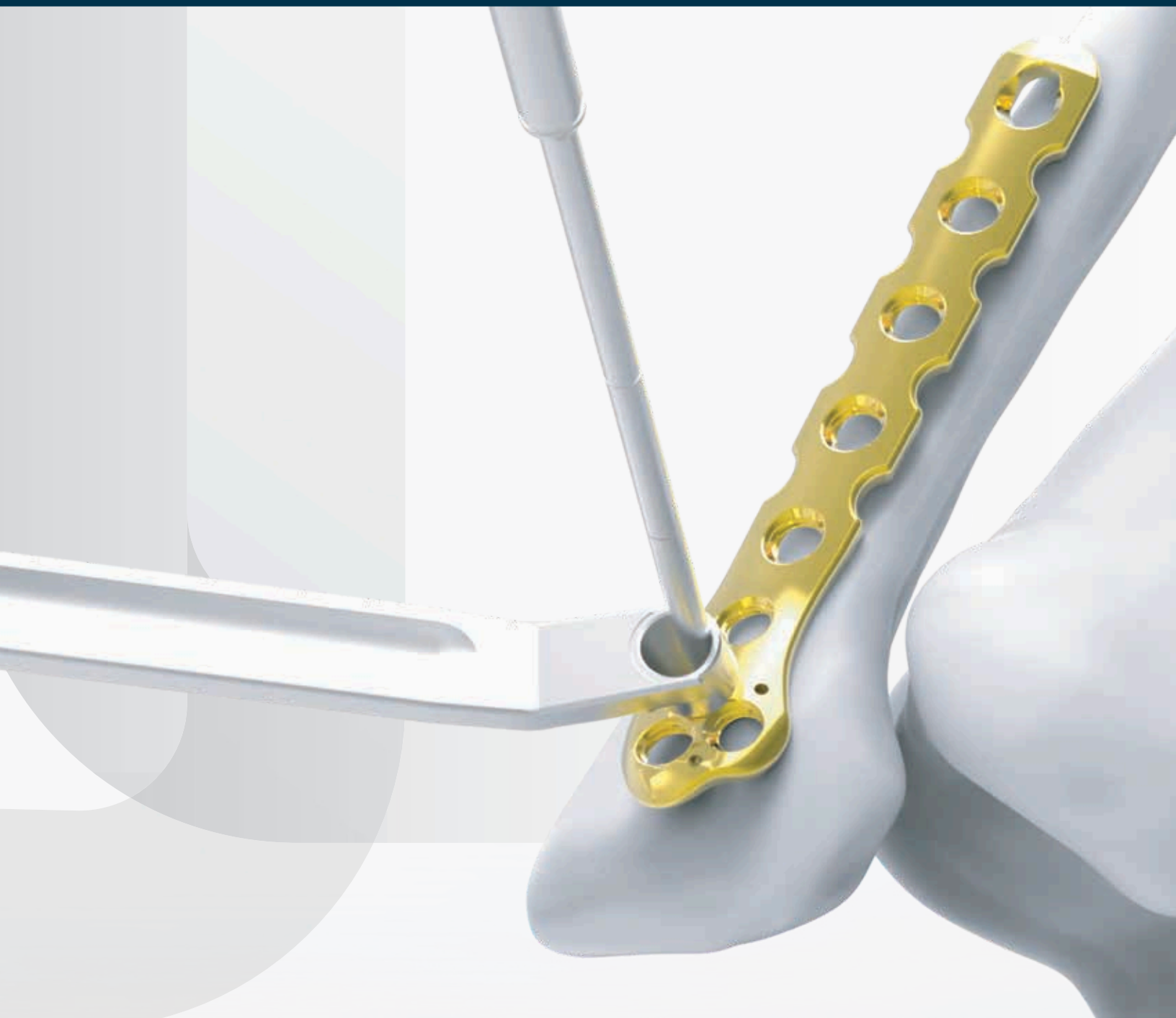
summa ortho

FIBULA LOCKING PLATE SYSTEM

Surgical Guide



Contents

Indication

The SUMMA Ankle System (Fibula) is intended for use in the internal fixation of the distal fibula.

Plate Specifications

Plates	*Thickness*	*Length*	*Holes*	*Color*	*Material*
Lateral Distal Fibula Plates	2.0 mm	62 ~ 122mm	3 ~ 8	Gold	Pure Titanium Gr.4
Straight Distal Fibula Plates		38 ~ 122mm	3 ~ 10	Blue	

Screw Specifications

Screw Types	*Outer Diameter*	*Length*	*Insertion Type*	*Screw Head Recess*	*Color*	*Material*
Locking Screw	Ø 3.5 mm	10 ~ 50 mm	Self-Tapping	Hexagonal	Silver	Titanium Alloy
Cortical Screw (Non-Locking)		10 ~ 70mm				

Materials

All plates are made from pure titanium material in conformity with ASTM F67. All screws are made from titanium alloy material in conformity with ASTM F136. The titanium is an ideal material for implant as it is biocompatible, corrosion resistant, and non-toxic.

Benefits of Locking Plating System

Locking plate and screw system provides more stable fixation than conventional plate and screw system. Locking screws do not rely on bone-to-plate compression and will not be loosened from the plate during the healing process. A fixed angle construct can be created by using locking screws in osteopenic bones or multi fragmentary fractures where secure bone purchase with conventional screws may be compromised.

Anatomically twisted body of the lateral plate

The twisted body of the lateral plate accommodates the lateral anatomy of the distal fibula.

Anatomically pre-contoured plate design

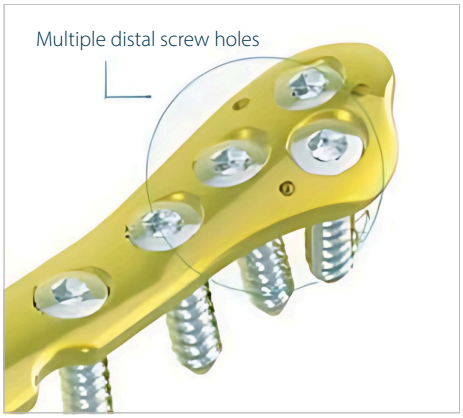
The SUMMA Fibula plates are pre-contoured to fit the distal fibula with minimal plate bending.

Additional bending of distal fibula plates may be necessary depending on the patients' bone anatomy.

Plate bending can be performed by using the plate bender (SO-111-088).

Guide pin holes for temporary plate fixation

Guide Pin can be placed for temporary plate fixation. The guide pin holes accept guide pins up to 1.6mm thick.



Multiple Distal Screws

Multiple distal screws on the head of the lateral plate enable stable periarticular fixation by providing multiple points of fixation in fractures with multiple fragments or limited distal bone stock.

Syndesmotic screw placement

The edges of the plates are scalloped to allow syndesmotic screw placement outside the plate without compromising the plate's position.

Poly-Axial Locking System

Both the locking or cortical screws can be inserted in ±10° with respect to the plate in any direction as surgical needs dictate.

Variable Angle Drill Guide

The variable angle drill guide helps to drill pilot holes within the poly-axial range of ±10°.

Fixed Angle Drill Sleeve

The drill sleeve helps to drill a pilot hole in the nominal trajectory.

Scales are marked on the drill guide and the drill bit for prompt depth measurement without the help of a depth gauge.

Surgical Technique

Surgical Technique – Straight Distal Fibula Locking Plates (Shaft Fracture)

Reduction

Expose and clean the fracture site and reduce the fracture.

Insertion of a lag screw (Optional)

Drilling

Drill a 3.6 mm gliding hole for the lag screw into the anterior cortex of the proximal fragment. The hole should be drilled as perpendicular to the fracture plane as possible.

Insert the 2.7 mm drill sleeve into the gliding hole, then drill the far cortex with the 2.7 mm drill bit.

Instruments	
Code	*Description*
SO-112-35-601-L	Drill Bit Ø3.6mm for Lag Screw Technique Drill Bit
SO-112-35-603	Ø2.7mm for 3.5mm Screws Fixed Angle Drill Sleeve for
SO-111-087	Ø2.7mm Drill Bit Lag & Compression Drill Guide for Ø3.6
SO-111-100	& 2.7mm Drill Bit

Measuring

Measure the depth of the hole with the hook of the depth gauge pointing distally.

Instrument	
Code	*Description*
SO-111-086	Depth Gauge

Lag screw insertion

Closely observe the compression effect on the fracture line while tightening the lag screw.

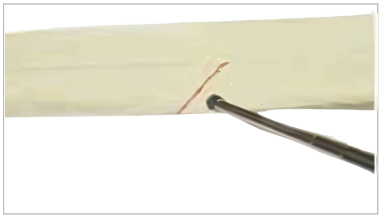


Plate preparation

Bending the plate

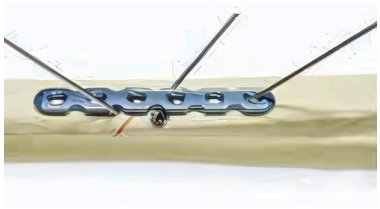
Prepare a plate. If surgical needs dictate, bend the plate slightly to match the anatomic shape of the bone.

Instruments	
Code	*Description*
SO-111-088	Bender Grasping
SO-114-009	Forceps

Pinning

Guide pins can be placed through the distal end of the plate to assist with temporary maintenance of the reduction and plate placement.

Instrument	
Code	*Description*
SO-111-068-3	Guide Pin Ø1.6mm



Drilling

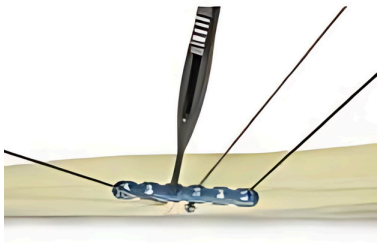
Use the drill bit through the drill guide to predrill the bone.

Instruments	
Code	*Description*
SO-111-089	Drill Guide for Ø2.7mm Drill Bit Drill
SO-112-35-603	Bit Ø2.7mm for 3.5mm Screws

Depth measurement

Measure for screw length using the depth gauge.

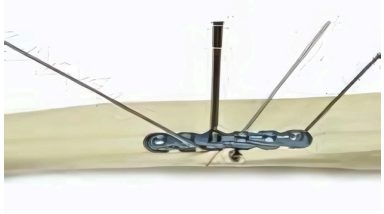
Instrument	
Code	*Description*
SO-111-086	Depth Gauge



Fixation

Select and insert the appropriate screw. Fixation should start at the hole near to the proximal fracture line.

Instruments	
Code	*Description*
SO-111-063	Screwdriver Handle
SO-111-087	Fixed Angle Drill Sleeve for Ø2.7mm Drill Bit
SO-111-100	Lag & Compression Drill Guide for Ø3.6 & 2.7mm Drill Bit



Confirm reduction and fixation

Confirm the stability of the fixation and make sure that there is unrestricted motion at the ankle joint.

Surgical Technique – Straight Distal Fibula Locking Plate (Distal Malleolus Fracture)

Reduction

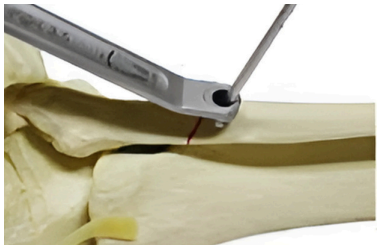
Expose and clean the fracture site and reduce the fracture.

Insertion of a lag screw (Optional)

Drilling

Drill a 3.6 mm gliding hole for the lag screw into the anterior cortex of the proximal fragment. The hole should be drilled as perpendicular to the fracture plane as possible.

Insert the 2.7 mm drill sleeve into the gliding hole, then drill the far cortex with the 2.7 mm drill bit.



Instruments	
Code	*Description*
SO-112-35-601-L	Drill Bit Ø3.6mm for Lag Screw Technique Drill Bit
SO-112-35-603	Ø2.7mm for 3.5mm Screws Fixed Angle Drill Sleeve for
SO-111-087	Ø2.7mm Drill Bit Lag & Compression Drill Guide for Ø3.6
SO-111-100	& 2.7mm Drill Bit

Measuring

Measure the depth of the hole with the hook of the depth gauge pointing distally.

Instrument	
Code	*Description*
SO-111-086	Depth Gauge

Lag screw insertion

Closely observe the compression effect on the fracture line while tightening the lag screw.

Plate preparation

Bending the plate

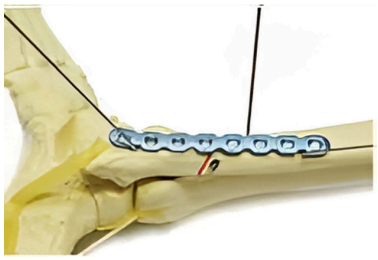
Prepare a plate. If surgical needs dictate, bend the plate slightly to match the anatomic shape of the bone.

Instruments	
Code	*Description*
SO-111-088	Bender Grasping
SO-114-009	Forceps

Pinning

Guide pins can be placed through the distal end of the plate to assist with temporary maintenance of the reduction and plate placement.

Instrument	
Code	*Description*
SO-111-068-3	Guide Pin Ø1.6mm



Drilling

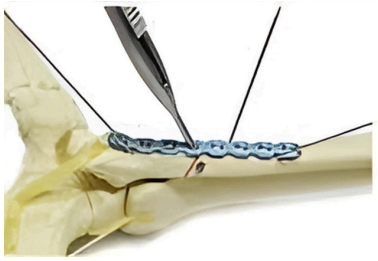
Use the drill bit through the drill guide to predrill the bone.

Instruments	
Code	*Description*
SO-111-089	Drill Guide for Ø2.7mm Drill Bit
SO-112-35-603	Drill Bit Ø2.7mm for 3.5mm Screws

Depth measurement

Measure for screw length using the depth gauge.

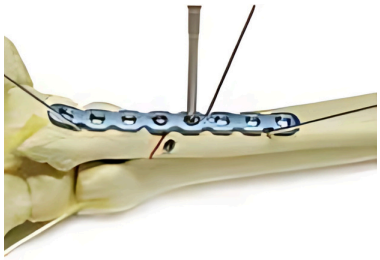
Instrument	
Code	*Description*
SO-111-086	Depth Gauge



Fixation

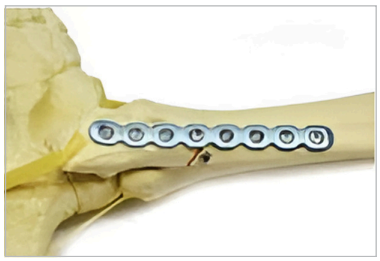
Select and insert the appropriate screw. Fixation should start at the hole near to the proximal fracture line.

Instruments	
Code	*Description*
SO-111-063	Screwdriver Handle Fixed Angle Drill Sleeve for Ø2.7mm
SO-111-087	Drill Bit Lag & Compression Drill Guide for Ø3.6 & 2.7mm
SO-111-100	Drill Bit

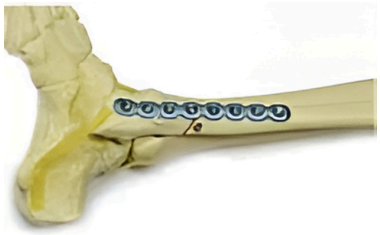


Confirm reduction and fixation

Confirm the stability of the fixation and make sure that there is unrestricted motion at the ankle joint.



Fixation of the syndesmotic complex (Optional)



Syndesmosis

If the syndesmosis is disrupted, it must be stabilized.

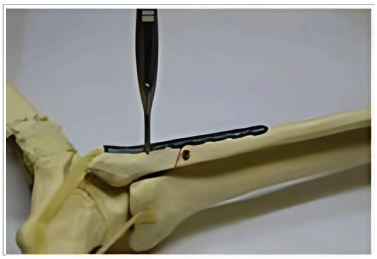
Drilling

Drill a hole through the fibula and the lateral cortex of the tibia, just proximal to the inferior tibiofibular joint, 30 degrees from posterior to anterior, parallel to the tibial plafond, with the ankle joint in neutral position.

Instruments	
Code	*Description*
SO-111-089	Drill Guide for Ø2.7mm Drill Bit Drill
SO-112-35-603	Bit Ø2.7mm for 3.5mm Screws

Depth measurement

Measure for screw length using the depth gauge.



Instrument	
Code	*Description*
SO-111-086	Depth Gauge

Screw insertion

Use a depth gauge to determine the length of the screw. The foot should be in neutral position during the positioning of the screw.

Instruments	
Code	*Description*
SO-111-063	Screwdriver Handle Fixed Angle Drill Sleeve for Ø2.7mm
SO-111-087	Drill Bit Lag & Compression Drill Guide for Ø3.6 & 2.7mm
SO-111-100	Drill Bit

Surgical Technique – Lateral Distal Fibula Locking Plates

Reduction

Expose and clean the fracture site and reduce the fracture.

Insertion of a lag screw (Optional)

Drilling

Drill a 3.6 mm gliding hole for the lag screw into the anterior cortex of the proximal fragment. The hole should be drilled as perpendicular to the fracture plane as possible.

Insert the 2.7 mm drill sleeve into the gliding hole, then drill the far cortex with the 2.7 mm drill bit.

Instruments	
Code	*Description*
SO-112-35-601-L	Drill Bit Ø3.6mm for Lag Screw Technique Drill Bit
SO-112-35-603	Ø2.7mm for 3.5mm Screws Fixed Angle Drill Sleeve for
SO-111-087	Ø2.7mm Drill Bit Lag & Compression Drill Guide for Ø3.6
SO-111-100	& 2.7mm Drill Bit

Measuring

Measure the depth of the hole with the hook of the depth gauge pointing distally.

Instrument	
Code	*Description*
SO-111-086	Depth Gauge

Lag screw insertion

Closely observe the compression effect on the fracture line while tightening the lag screw.

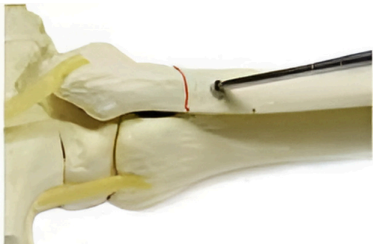


Plate preparation

Bending the plate (optional)

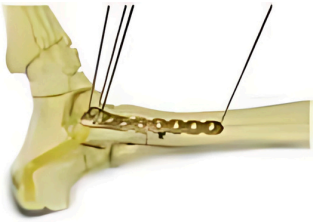
Prepare a plate. If surgical needs dictate, bend the plate slightly to match the anatomic shape of the bone.

Instruments	
Code	*Description*
SO-111-088	Bender Grasping
SO-114-009	Forceps

Pinning

Guide pins can be placed through the distal end of the plate to assist with temporary maintenance of the reduction and plate placement.

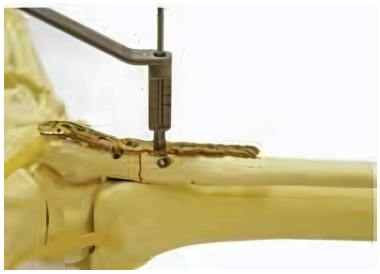
Instrument	
Code	*Description*
SO-111-068-3	Guide Pin Ø1.6mm



Drilling

Use the drill bit through the drill guide to predrill the bone.

Instruments	
Code	*Description*
SO-111-089	Drill Guide for Ø2.7mm Drill Bit
SO-112-35-603	Drill Bit Ø2.7mm for 3.5mm Screws



Depth measurement

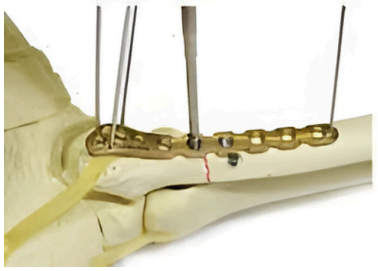
Measure for screw length using the depth gauge.

Instrument	
Code	*Description*
SO-111-086	Depth Gauge

Fixation

Select and insert the appropriate screw. Fixation should start at the hole near to the proximal fracture line.

Instruments	
Code	*Description*
SO-111-063	Screwdriver Handle
SO-111-087	Fixed Angle Drill Sleeve for Ø2.7mm Drill Bit
SO-111-100	Lag & Compression Drill Guide for Ø3.6 & 2.7mm Drill Bit



Confirm reduction and fixation

Confirm the stability of the fixation and make sure that there is unrestricted motion at the ankle joint.

Fixation of the syndesmotic complex (Optional)

Syndesmosis

If the syndesmosis is disrupted, it must be stabilized.

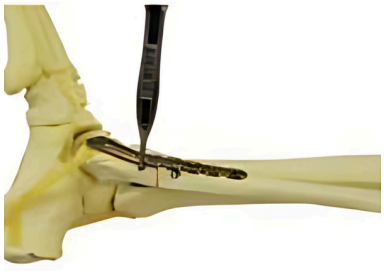
Drilling

Drill a hole through the fibula and the lateral cortex of the tibia, just proximal to the inferior tibiofibular joint, 30 degrees from posterior to anterior, parallel to the tibial plafond, with the ankle joint in neutral position.

Instruments	
Code	*Description*
SO-111-089	Drill Guide for Ø2.7mm Drill Bit Drill
SO-112-35-603	Bit Ø2.7mm for 3.5mm Screws

Depth measurement

Measure for screw length using the depth gauge.



Instrument	
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SO-111-086	Depth Gauge

Screw insertion

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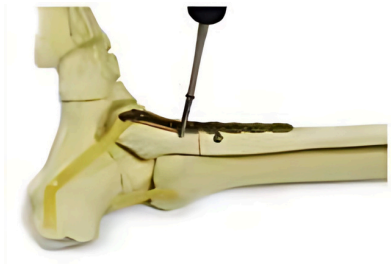


Instruments	
Code	*Description*
SO-111-063	Screwdriver Handle
SO-111-087	Fixed Angle Drill Sleeve for Ø2.7mm Drill Bit
SO-111-100	Lag & Compression Drill Guide for Ø3.6 & 2.7mm Drill Bit

Ordering Information

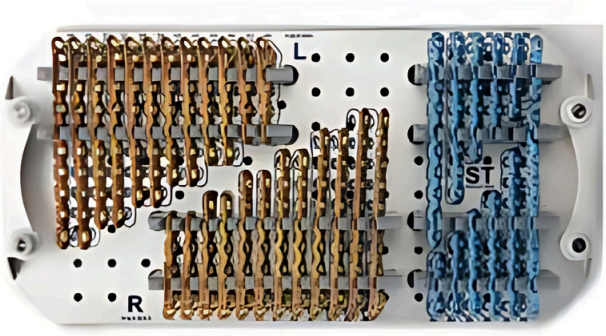
Ø3.5 Fibular Locking Plate Implants – Screws					
No	*Code*	*Description*	*Head Diameter (A)*	*Outer Diameter (B)*	*Quantity*
1	SO-35L-HF-010	3.5 Locking Screw (10mm)	Ø5.0	Ø3.5	10
2	SO-35L-HF-012	3.5 Locking Screw (12mm)			15
3	SO-35L-HF-014	3.5 Locking Screw (14mm)			15
4	SO-35L-HF-016	3.5 Locking Screw (16mm)			15
5	SO-35L-HF-018	3.5 Locking Screw (18mm)			10
6	SO-35L-HF-020	3.5 Locking Screw (20mm)			10
7	SO-35L-HF-022	3.5 Locking Screw (22mm)			10
8	SO-35L-HF-024	3.5 Locking Screw (24mm)			10
9	SO-35L-HF-028	3.5 Locking Screw (28mm)			10
10	SO-35L-HF-032	3.5 Locking Screw (32mm)			10
11	SO-35L-HF-036	3.5 Locking Screw (36mm)			8
12	SO-35L-HF-040	3.5 Locking Screw (40mm)			8
13	SO-35L-HF-045	3.5 Locking Screw (45mm)			8
14	SO-35L-HF-050	3.5 Locking Screw (50mm)			8
15	SO-35-FC-010	3.5 Cortical Screw (10mm)			8
16	SO-35-FC-012	3.5 Cortical Screw (12mm)			8
17	SO-35-FC-014	3.5 Cortical Screw (14mm)			8
18	SO-35-FC-016	3.5 Cortical Screw (16mm)			8
19	SO-35-FC-018	3.5 Cortical Screw (18mm)			8
20	SO-35-FC-020	3.5 Cortical Screw (20mm)			8
21	SO-35-FC-022	3.5 Cortical Screw (22mm)			8
22	SO-35-FC-024	3.5 Cortical Screw (24mm)			8
23	SO-35-FC-028	3.5 Cortical Screw (28mm)			8
24	SO-35-FC-032	3.5 Cortical Screw (32mm)			4
25	SO-35-FC-036	3.5 Cortical Screw (36mm)			4
26	SO-35-FC-040	3.5 Cortical Screw (40mm)			4
27	SO-35-FC-045	3.5 Cortical Screw (45mm)			4
28	SO-35-FC-050	3.5 Cortical Screw (50mm)			4
29	SO-35-FC-055	3.5 Cortical Screw (55mm)			4
30	SO-35-FC-060	3.5 Cortical Screw (60mm)			4
31	SO-35-FC-065	3.5 Cortical Screw (65mm)			4
32	SO-35-FC-070	3.5 Cortical Screw (70mm)			4

Ø3.5 Fibular Locking Plate Implants – Plate			
No	Code	Description	Quantity
1	SO-35-DLFI-003-L	Lateral, Left, Length 62mm, 3 Shaft Holes	3
2	SO-35-DLFI-004-L	Lateral, Left, Length 74mm, 4 Shaft Holes	3
3	SO-35-DLFI-005-L	Lateral, Left, Length 86mm, 5 Shaft Holes	3
4	SO-35-DLFI-006-L	Lateral, Left, Length 98mm, 6 Shaft Holes	3
5	SO-35-DLFI-007-L	Lateral, Left, Length 110mm, 7 Shaft Holes	3
6	SO-35-DLFI-008-L	Lateral, Left, Length 122mm, 8 Shaft Holes	3
7	SO-35-DLFI-003-R	Lateral, Right, Length 62mm, 3 Shaft Holes	3
8	SO-35-DLFI-004-R	Lateral, Right, Length 74mm, 4 Shaft Holes	3
9	SO-35-DLFI-005-R	Lateral, Right, Length 86mm, 5 Shaft Holes	3
10	SO-35-DLFI-006-R	Lateral, Right, Length 98mm, 6 Shaft Holes	3
11	SO-35-DLFI-007-R	Lateral, Right, Length 110mm, 7 Shaft Holes	3
12	SO-35-DLFI-008-R	Lateral, Right, Length 122mm, 8 Shaft Holes	3
13	SO-35-DLST-003	Straight, Length 38mm, 3 Holes	3
14	SO-35-DLST-004	Straight, Length 50mm, 4 Holes	3
15	SO-35-DLST-005	Straight, Length 62mm, 5 Holes	3
16	SO-35-DLST-006	Straight, Length 74mm, 6 Holes	3
17	SO-35-DLST-008	Straight, Length 98mm, 8 Holes	3
18	SO-35-DLST-010	Straight, Length 122mm, 10 Holes	3

Instruments			
No	Code	D escription	Quantity
1	SO-111-063	Screwdriver Handle	2
2	SO-111-086	Depth Gauge	1
3	SO-112-35-603	Drill Bit Ø2.7mm for 3.5mm Screws	2
4	SO-111-089	Drill Guide for Ø2.7mm Drill Bit	1
5	SO-111-100	Lag & Compression Drill Guide for Ø3.6 & 2.7mm Drill Bit	1
6	SO-111-087	Fixed Angle Drill Sleeve for Ø2.7mm Drill Bit	1
7	SO-114-009	Grasping Forceps	1
8	SO-113-HF-611	Screwdriver Shaft for 3.5mm Screws	2
9	SO-111-068-3	Guide Pin Ø1.6mm	10
10	SO-111-088	Bender	2
11	SO-112-35-601-L	Drill Bit Ø3.6mm for Lag Screw Technique	1
12	SO-111-096	Guide Pin Dispenser	1
13	SO-112-087	SUMMA Fibula Locking Plate System Container	1

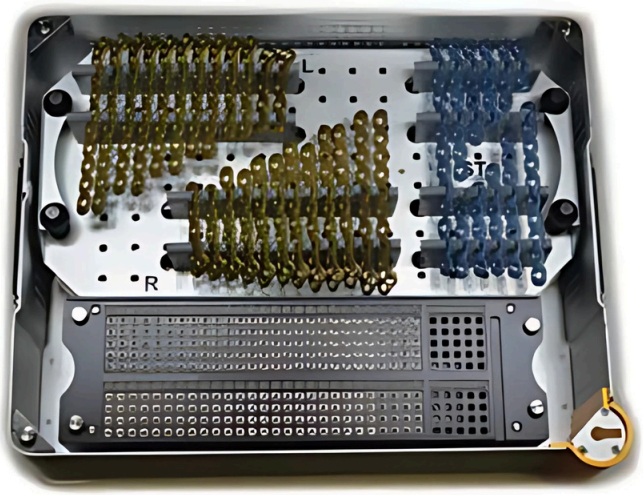
Ordering Information

[3.5 Locking and Cortical Screws]

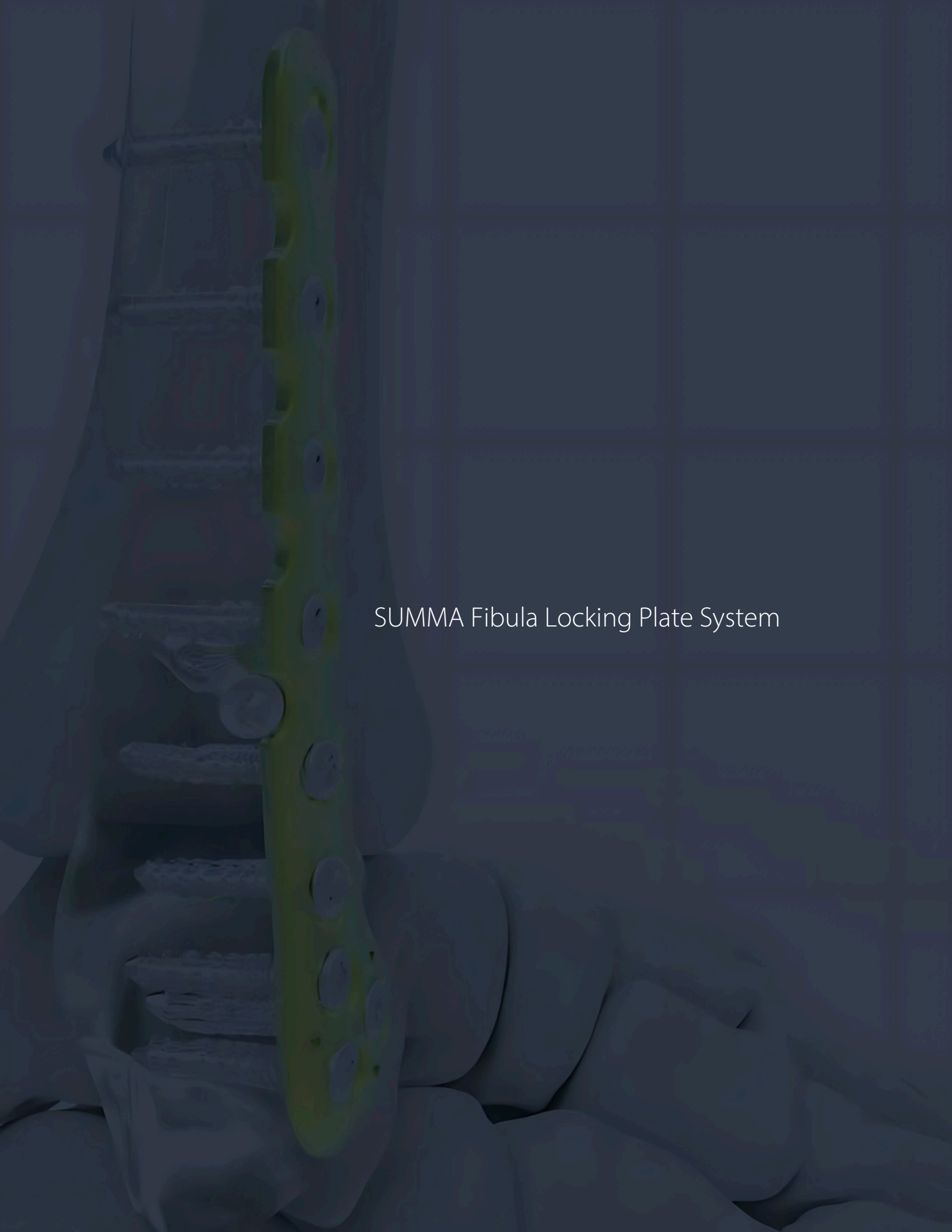


[Lateral Distal Fibula Plates and Straight Plates]

[Instruments for Distal Fibula Plates and Screws]



[Full Set]



SUMMA Fibula Locking Plate System

Manufactured for Summa Orthopaedics by Jeil Medical. Distributed by Maxx Health Inc.

maxx health

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