

summa
ortho **ANKLE SYSTEM**

Lateral Distal Fibula Plate



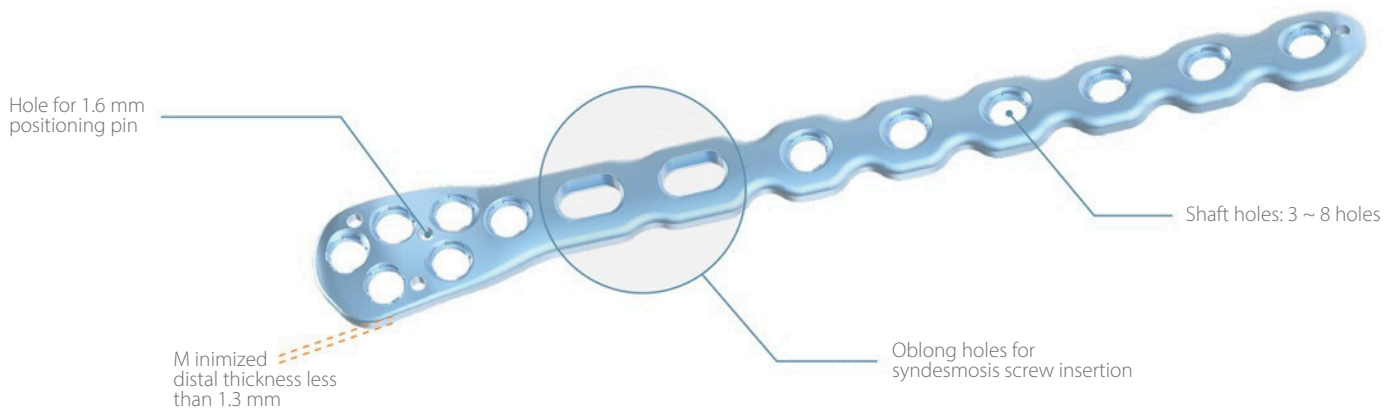
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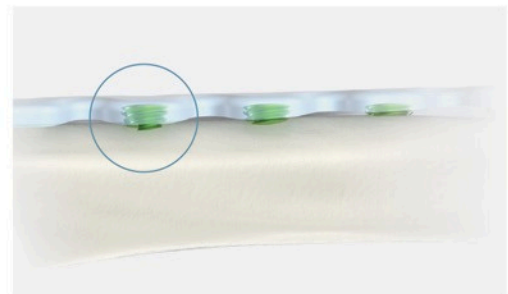
The SUMMA Ankle System (Fibula) is intended for use in internal fixation of the distal fibula.

SUMMA Lateral Distal Fibula Plate

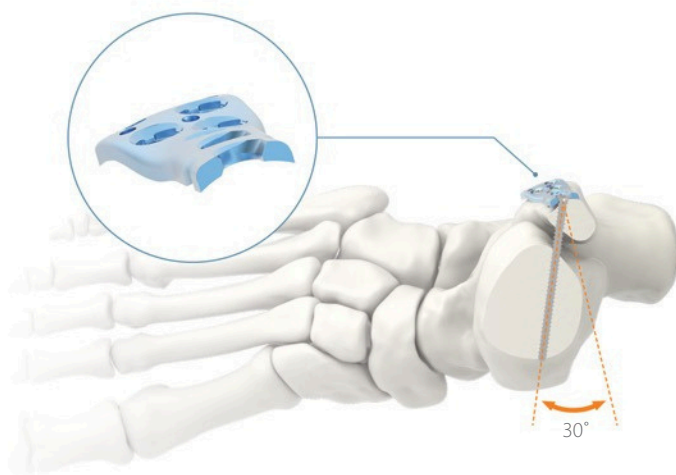


General Features

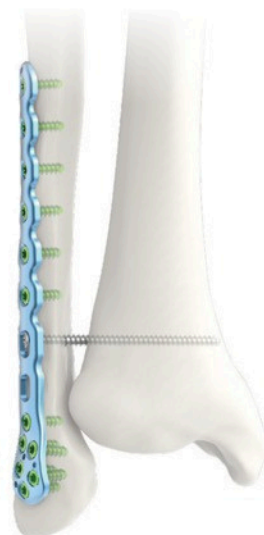
- Anatomically pre-contoured
- Low profile with 2.0 mm thickness
- No screw head overhang avoids irritation
- Four choices in screw types and sizes
 - Locking and cortical screws
 - 2.8 mm or 3.5 mm in screw diameter
- Variable locking up to $\pm 15^\circ$
- Plates length with 3 to 8 shaft screw holes



No screw head protrusion



Tapered screw hole enables surgeons to control appropriate trajectory for syndesmosis screw fixation

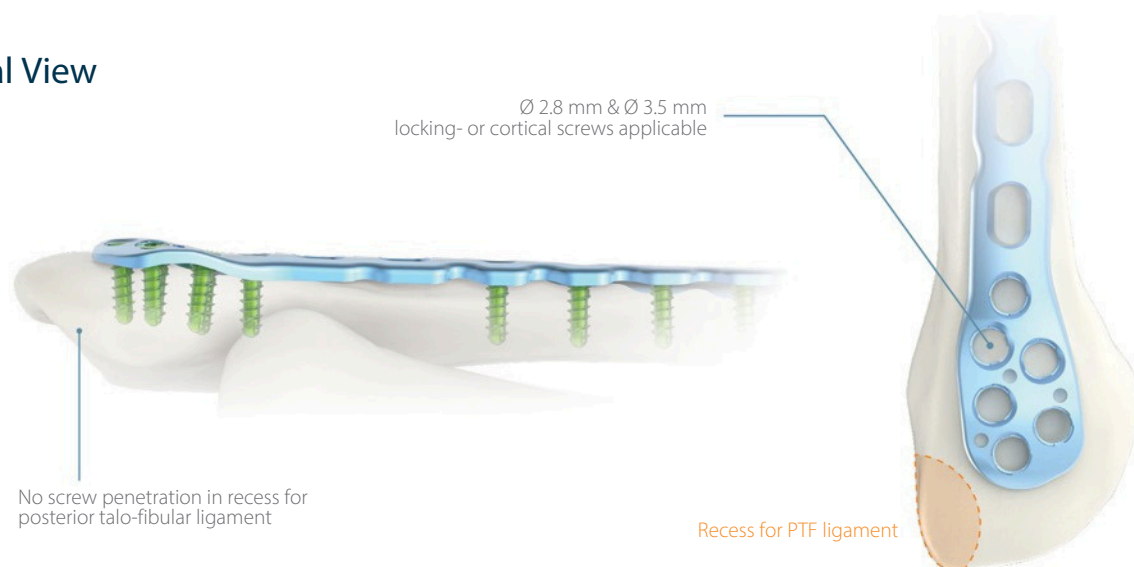


Lateral approach with syndesmosis screw

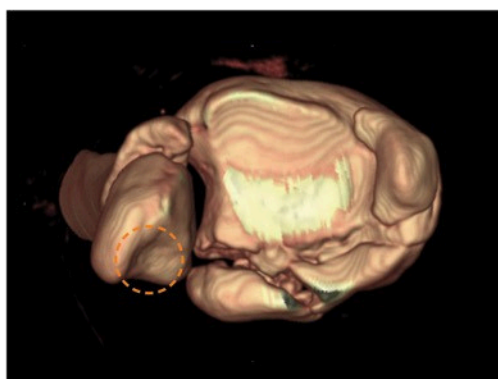
Refined shape of the plate head is based on the bone anatomy

- Posteroinferiorenndofdistal fibulacorresponds tothe recessforthe posterior talo-fibular ligament (PTFL).
- Screw holes over posterior talo-fibular ligament (PTFL) is redundant due to its thickness which only allows placement of very short screws.
- No screw penetration in the recess for PTF ligament minimizes soft tissue irritation & potential articular cartilage damage.

Lateral View



Inferior View

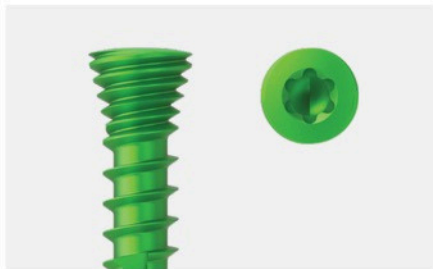


Posterior talo-fibular ligament recess

Clinical Outcome



Lateral Distal Fibula Plate - continued



STARIX Screw with self-retaining function

- Internal recess T10 according to international standard
- Minimizes the risk of cam-out and recess breakage
- Allows higher torque transmission
- Optimal self-retaining function achieved through precision machining



Variable Locking Interface with Locking Screw

- Poly-axial screw insertion
- Angle range: $\pm 15^\circ$
- Plate-screw locking interface

Screw Options

with STARIX Pick-up (T10)



Locking Ø 2.8 mm



Locking Ø 3.5 mm



Cortical Ø 3.5 mm

Self-retaining function of STARIX screw

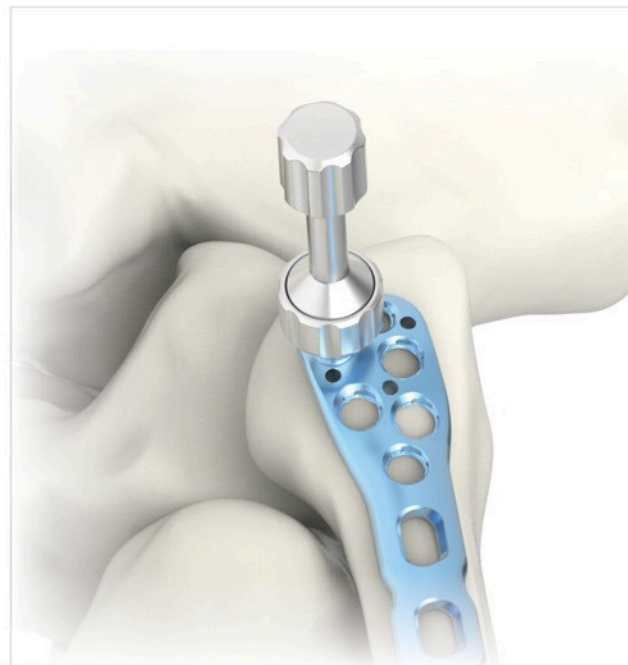
Allows easy screw pick up from the box and prevents screw fall out



Instrument – Variable Angle Drill Sleeve

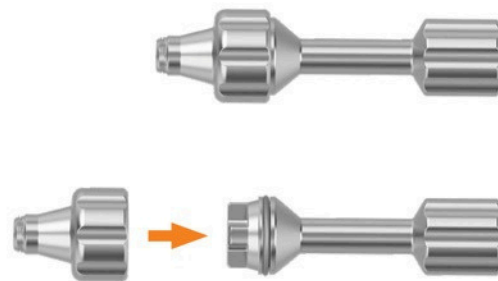


- ① The variable angle drill sleeve enables the surgeons to insert locking screws with preferred angle in range of $\pm 15^\circ$.



- ② The drill sleeve handle facilitates engaging the drill sleeve into the screw holes. Assemble the sleeve handle to the drill sleeve. Once the drill guide is engaged to the screw hole by turning it clockwise, disconnect the drill sleeve handle by simply pulling it out.

C-Arm View



Variable angle drill sleeve
SO-111-172

Variable angle drill sleeve handle
SO-111-157

I Surgical Technique

1. Patient Positioning and Exposure

Position the patient in supine and make a straight lateral or posterolateral surgical incision to expose the fracture of the fibula based upon the fracture pattern and surgical planning.

When posterior malleolar fragment is planned to be stabilized via posterolateral approach, a floppy lateral position with posterolateral incision can be considered.

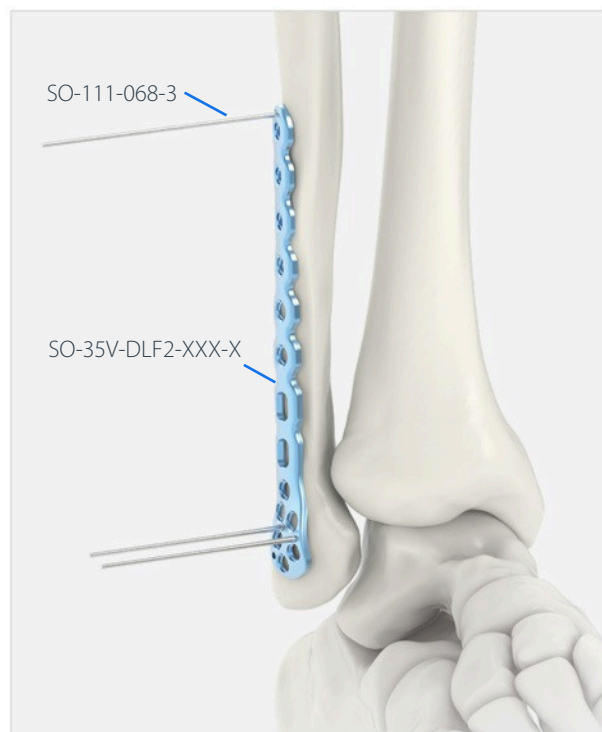
2. Fracture Reduction

Most AO 44B simple spiral lateral malleolar fractures can be reduced directly with a Weber or lion jaw clamp. Once anatomical reduction is verified with c arm images a lag screw can be placed across the fracture site.

The plate fixation can be followed afterward. AO 44C suprasyndesmotoc fractures can be multifragmentary. In order to avoid too much periosteal stripping of the wedge fragments, bridge plating concept can be used with open surgical approach. Accurate restoration of fibular length, alignment, and rotation is critically verified with an image intensifier.

3. Plate Positioning

Position the fibula plate (SO-35V-DLF2-XXX-X) such that the curvature of the plate nestles smoothly over the lateral surface of the fibula. The plate is then provisionally held with 1.6 mm pins (SO-111-068-3), one through the most proximal pin hole and one or preferably two pins through distal pin holes. Position of the plate carefully evaluated with c-arm images.

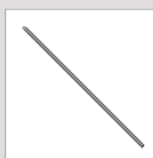


Required Set



SUMMA Lateral
Distal Fibula
Full Kit
SO-112-146

Required Instruments



Guide Pin
SO-111-068-3

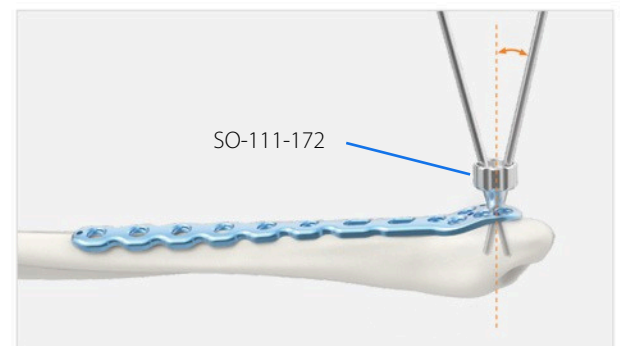
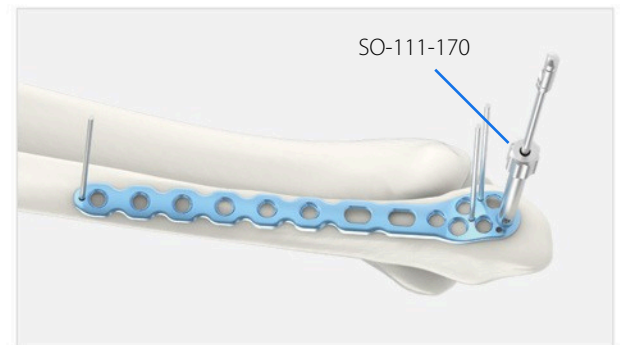
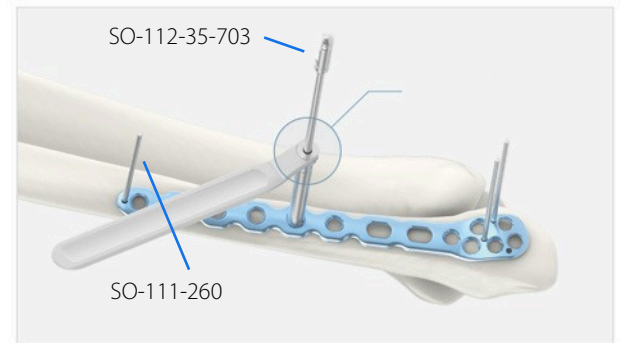
4. Distal Screw Placement

All distal plate holes can accept either Ø2.8 mm or Ø3.5 mm locking screws. To insert screws into the distal cluster of holes, drill 2.7 mm drill bit (SO-112-35-703) for 3.5 mm screws through the drill guide (SO-111-260 for Ø3.5 mm screw) to the desired depth.

* Instruments for Ø2.8 mm screw are provided separately.

With fixed angle drill sleeve (SO-111-170), the locking screw can be inserted only in predefined or nominal angle.

With variable angle drill sleeve (SO-111-172), the screw can be inserted at desired angle within 30 degrees range.



Required Instruments



Drill Bit
SO-112-35-703



Drill Guide
SO-111-260



Drill Sleeve
SO-111-170



Drill Sleeve
SO-111-172

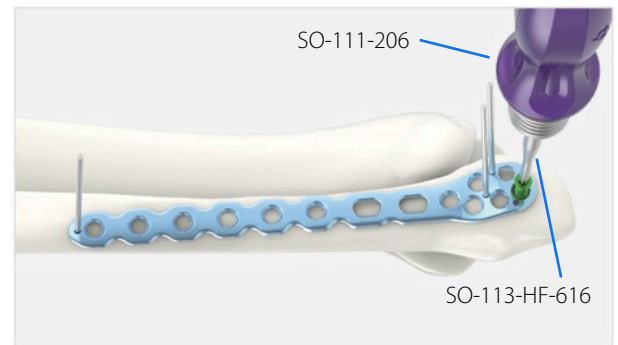
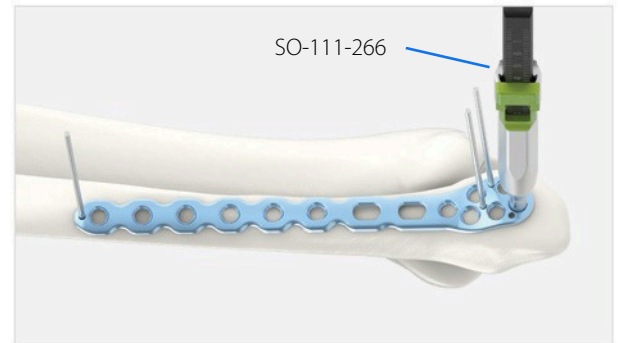
4. Distal Screw Placement - continued

Measure the screw length by using the depth gauge (SO-111-266).

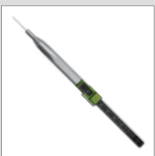
Insert 3.5 mm locking or cortical screws by connecting the T10 driver (SO-113-HF-616) to the driver handle (SO-111-206).

CAUTION: Use the maximum number of screws based on the indication to get the maximum stability

Confirm screw placement under fluoroscopy.



Required Instruments



Depth Gauge
SO-111-266



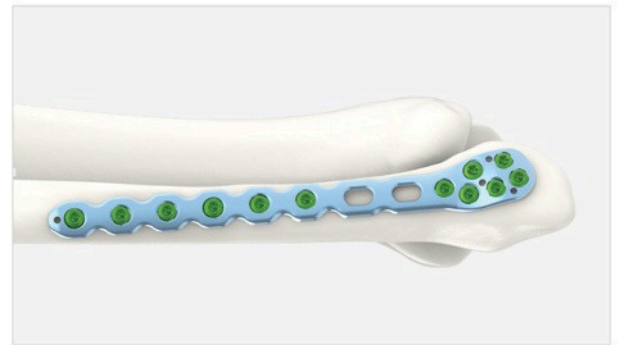
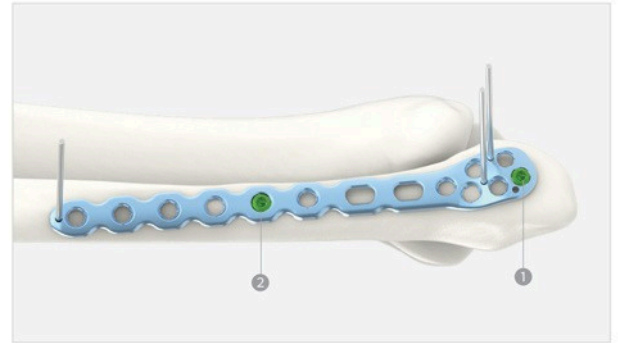
T10 Driver
SO-113-HF-616



Driver Handle
SO-111-206

5. Order of Screw Placement

Insert most distal screw (①) first, then one of proximal screws (②) to prevent plate rotation. Then insert rest of screws as needed.



6. Syndesmosis Screw (Optional)

If the surgeon decided to insert syndesmosis screws, a 3.5 mm cortical screws can be utilized through the two oblong holes.

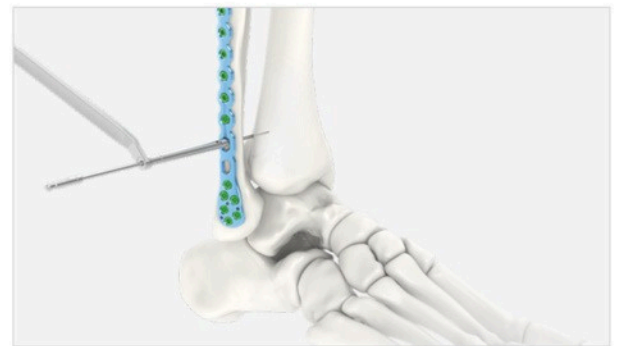
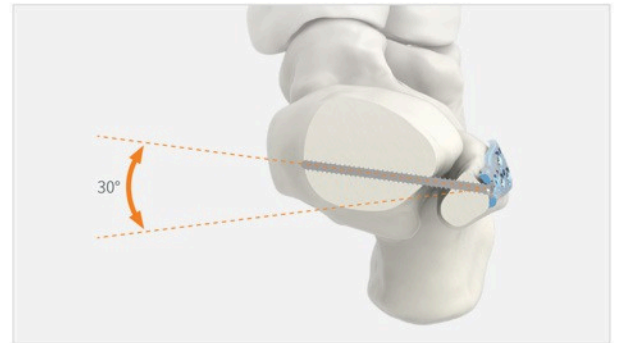
Drill the screw hole with an angle of 30° anterior to target the center of the tibia. Measure the screw length and insert screw according to usual screw insertion steps.

Confirm screw placement under fluoroscopy. Closing and postoperative protocol are at the discretion of the surgeon.

WARNING: Screws placed across the syndesmosis have a higher probability of fatigue failure of screws due to the repetitive motion across the syndesmosis.

7. Removing Plate and Screws

If the plate and screws need to be removed, make an incision over the fibula. Use the appropriate screwdriver to remove each screw.



I Ordering Information

Lateral Distal Fibula Plates

Right



SO-35V-DLF2-003-R



SO-35V-DLF2-004-R



SO-35V-DLF2-005-R



SO-35V-DLF2-006-R



SO-35V-DLF2-007-R



SO-35V-DLF2-008-R

* Illustrated scale 1:1

Code	Holes	Length	Thickness	Color	Set Quantity
SO-35V-DLF2-003-R	3	67 mm	2.0 mm	Light Blue	2
SO-35V-DLF2-004-R	4	79 mm	2.0 mm	Light Blue	2
SO-35V-DLF2-005-R	5	91 mm	2.0 mm	Light Blue	2
SO-35V-DLF2-006-R	6	103 mm	2.0 mm	Light Blue	2
SO-35V-DLF2-007-R	7	115 mm	2.0 mm	Light Blue	2
SO-35V-DLF2-008-R	8	127 mm	2.0 mm	Light Blue	2

Left



SO-35V-DLF2-003-L



SO-35V-DLF2-004-L



SO-35V-DLF2-005-L



SO-35V-DLF2-006-L



SO-35V-DLF2-007-L



SO-35V-DLF2-008-L

* Illustrated scale 1:1

Code	Holes	Length	Thickness	Color	Set Quantity
SO-35V-DLF2-003-L	3	67 mm	2.0 mm	Light Green	2
SO-35V-DLF2-004-L	4	79 mm	2.0 mm	Light Green	2
SO-35V-DLF2-005-L	5	91 mm	2.0 mm	Light Green	2
SO-35V-DLF2-006-L	6	103 mm	2.0 mm	Light Green	2
SO-35V-DLF2-007-L	7	115 mm	2.0 mm	Light Green	2
SO-35V-DLF2-008-L	8	127 mm	2.0 mm	Light Green	2

Screws

Ø3.5mm Locking Screws



Code	Length	Color	Set Quantity
SO-35L-SO-L10-TA	10 mm	Green	10
SO-35L-SO-L12-TA	12 mm	Green	15
SO-35L-SO-L14-TA	14 mm	Green	15
SO-35L-SO-L16-TA	16 mm	Green	15
SO-35L-SO-L18-TA	18 mm	Green	10
SO-35L-SO-L20-TA	20 mm	Green	10
SO-35L-SO-L22-TA	22 mm	Green	10
SO-35L-SO-L24-TA	24 mm	Green	10

Ø3.5 mm Non-Locking Screws



Code	Length	Color	Set Quantity
SO-35-SO-L10-T	10 mm	Silver	4
SO-35-SO-L12-T	12 mm	Silver	4
SO-35-SO-L14-T	14 mm	Silver	4
SO-35-SO-L16-T	16 mm	Silver	4
SO-35-SO-L18-T	18 mm	Silver	4
SO-35-SO-L20-T	20 mm	Silver	4
SO-35-SO-L22-T	22 mm	Silver	4
SO-35-SO-L24-T	24 mm	Silver	4
SO-35-SO-L50-T	50 mm	Silver	4
SO-35-SO-L55-T	55 mm	Silver	4
SO-35-SO-L60-T	60 mm	Silver	4
SO-35-SO-L65-T	65 mm	Silver	4
SO-35-SO-L70-T	70 mm	Silver	4

Ø2.8 mm Locking Cortical Screws (Optional)



Code	Length	Color	Set Quantity
SO-28L-SO-L10-T	10 mm	Silver	4
SO-28L-SO-L12-T	12 mm	Silver	4
SO-28L-SO-L14-T	14 mm	Silver	4
SO-28L-SO-L16-T	16 mm	Silver	4
SO-28L-SO-L18-T	18 mm	Silver	4

Instruments

DRIVER SHAFT



Code	Description	Set Quantity
SO-113-HF-616	DRIVER FOR T10 BALL 100 mm	2

DRIVER HANDLE



Code	Description	Set Quantity
SO-111-206	HANDLE FOR DRIVER Ø5.0 BALL	2

DEPTH GAUGE



Code	Description	Set Quantity
SO-111-266	DEPTH GAUGE FOR Ø 3.5 1070	1

FORCEPS



Code	Description	Set Quantity
SO-114-009	FORCEPS COMMON PINCETTE	1

GUIDE PIN



Code	Description	Set Quantity
SO-111-068-3	GUIDE PIN Ø 1.6	10

DISPENSER



Code	Description	Set Quantity
SO-111-096	DISPENSER FOR GUIDE PIN	1

DRILL GUIDE



Code	Description	Set Quantity
SO-111-260	DRILL GUIDE FOR Ø2.7 FIXED Ø2.7 VARIABLE	1
SO-111-100	DRILL GUIDE FOR Ø2.7 COMP Ø3.6 FIXED	1
SO-111-204	DRILL GUIDE FOR Ø2.4 FIXED (Optional)	1

DRILL BITS



SO-112-35-701-L



SO-112-35-703



SO-112-35-701-L

Code	Description	Set Quantity
SO-112-35-701-L	DRILL BIT FOR Ø3.5 AO LAG	1
SO-112-35-703	DRILL BIT FOR Ø3.5 AO	2
SO-112-28-702	DRILL BIT FOR Ø2.8 AO (Optional)	1

DRILL SLEEVES & DRILL SLEEVE HANDLE



SO-111-172



SO-111-170



SO-111-202



SO-111-201

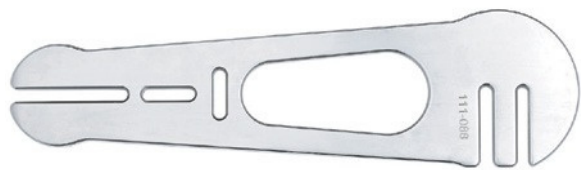


SO-111-157

Code	Description	Set Quantity
SO-111-172	DRILL SLEEVE FOR Ø2.7 VARIABLE	1
SO-111-170	DRILL SLEEVE FOR Ø2.7 FIXED	1
SO-111-202	DRILL SLEEVE FOR Ø2.4 VARIABLE (Optional)	1
SO-111-201	DRILL SLEEVE FOR Ø2.4 FIXED (Optional)	1
SO-111-157	VARIABLE DRILL SLEEVE HANDLE	2

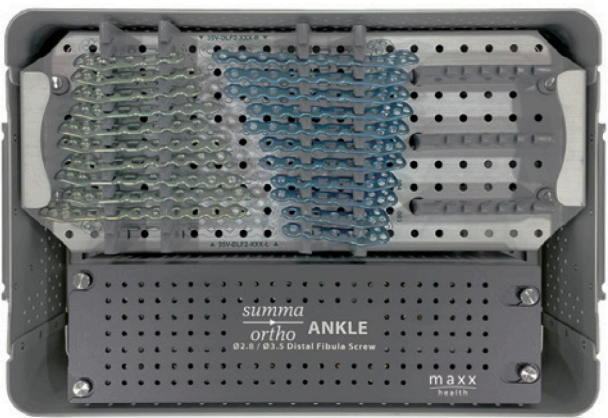
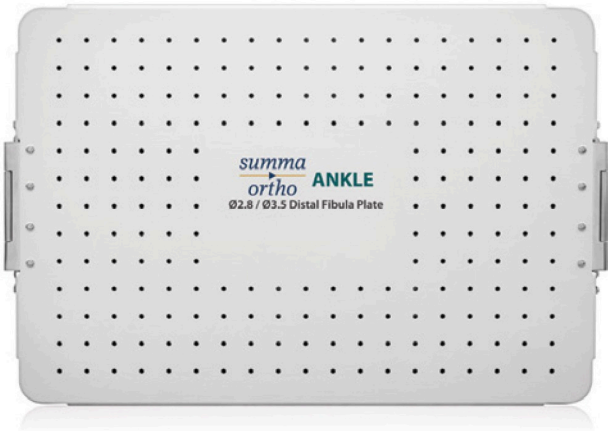
Instruments

BENDER



Code	Description	Set Quantity
SO-111-088	BENDER FLAT 3.0T PLATE	2

KIT



Code	Description	Set Quantity
SO-112-146	LATERAL DISTAL FIBULA FULL KIT	1

Set Configuration

Plates			
No	Code	Description	Set Quantity
1	SO-35V-DLF2-003-R	LATERAL DISTAL FIBULA PLATE RIGHT 3H	2
2	SO-35V-DLF2-004-R	LATERAL DISTAL FIBULA PLATE RIGHT 4H	2
3	SO-35V-DLF2-005-R	LATERAL DISTAL FIBULA PLATE RIGHT 5H	2
4	SO-35V-DLF2-006-R	LATERAL DISTAL FIBULA PLATE RIGHT 6H	2
5	SO-35V-DLF2-007-R	LATERAL DISTAL FIBULA PLATE RIGHT 7H	2
6	SO-35V-DLF2-008-R	LATERAL DISTAL FIBULA PLATE RIGHT 8H	2
7	SO-35V-DLF2-003-L	LATERAL DISTAL FIBULA PLATE LEFT 3H	2
8	SO-35V-DLF2-004-L	LATERAL DISTAL FIBULA PLATE LEFT 4H	2
9	SO-35V-DLF2-005-L	LATERAL DISTAL FIBULA PLATE LEFT 5H	10
10	SO-35V-DLF2-006-L	LATERAL DISTAL FIBULA PLATE LEFT 6H	11
11	SO-35V-DLF2-007-L	LATERAL DISTAL FIBULA PLATE LEFT 7H	12
12	SO-35V-DLF2-008-L	LATERAL DISTAL FIBULA PLATE LEFT 8H	2

Instruments			
No	Code	Description	Set Quantity
1	SO-111-206	HANDLE FOR DRIVER Ø5.0 BALL	2
2	SO-111-266	DEPTH GAUGE FOR Ø 3.5 1070	1
3	SO-112-35-703	DRILL BIT FOR Ø3.5 AO	2
4	SO-111-260	DRILL GUIDE FOR Ø2.7 FIXED Ø2.7 VARIABLE	1
5	SO-111-100	DRILL GUIDE FOR Ø2.7 COMP Ø3.6 FIXED	1
6	SO-111-170	DRILL SLEEVE FOR Ø2.7 FIXED	2
7	SO-111-172	DRILL SLEEVE FOR Ø2.7 VARIABLE	1
8	SO-111-157	VARIABLE DRILL SLEEVE HANDLE	2
9	SO-114-009	FORCEPS COMMON PINCETTE	1
10	SO-113-HF-616	DRIVER FOR T10 BALL 100MM	2
11	SO-111-068-3	GUIDE PIN Ø 1.6	10
12	SO-111-088	BENDER FLAT 3.0T PLATE	2
13	SO-112-35-701-L	DRILL BIT FOR Ø3.5 AO LAG	1
14	SO-111-096	DISPENSER FOR GUIDE PIN	1
15	SO-112-28-702	DRILL BIT FOR Ø2.8 AO (Optional)	2
16	SO-111-201	DRILL SLEEVE FOR Ø2.4 FIXED (Optional)	1
17	SO-111-202	DRILL SLEEVE FOR Ø2.4 VARIABLE (Optional)	1
18	SO-111-204	DRILL GUIDE FOR Ø2.4 FIXED (Optional)	1
19	SO-112-146	LATERAL DISTAL FIBULA FULL KIT	1

Ø 3.5 mm Cortical Non-Locking Screws			
No	Code	Description	Set Quantity
1	SO-35-SO-L10-T	Ø3.5 NON-LOCKING CORTICAL T10 10MM	4
2	SO-35-SO-L12-T	Ø3.5 NON-LOCKING CORTICAL T10 12MM	4
3	SO-35-SO-L14-T	Ø3.5 NON-LOCKING CORTICAL T10 14MM	4
4	SO-35-SO-L16-T	Ø3.5 NON-LOCKING CORTICAL T10 16MM	4
5	SO-35-SO-L18-T	Ø3.5 NON-LOCKING CORTICAL T10 18MM	4
6	SO-35-SO-L20-T	Ø3.5 NON-LOCKING CORTICAL T10 20MM	4
7	SO-35-SO-L22-T	Ø3.5 NON-LOCKING CORTICAL T10 22MM	4
8	SO-35-SO-L24-T	Ø3.5 NON-LOCKING CORTICAL T10 24MM	4
9	SO-35-SO-L50-T	Ø3.5 NON-LOCKING CORTICAL T10 50MM	4
10	SO-35-SO-L55-T	Ø3.5 NON-LOCKING CORTICAL T10 55MM	4
11	SO-35-SO-L60-T	Ø3.5 NON-LOCKING CORTICAL T10 60MM	4
12	SO-35-SO-L65-T	Ø3.5 NON-LOCKING CORTICAL T10 65MM	4
13	SO-35-SO-L70-T	Ø3.5 NON-LOCKING CORTICAL T10 70MM	4

Ø 3.5 mm Cortical Locking Screws			
No	Code	Description	Set Quantity
1	SO-35L-SO-L10-TA	Ø3.5 LOCKING CORTICAL T10 10MM	6
2	SO-35L-SO-L12-TA	Ø3.5 LOCKING CORTICAL T10 12MM	6
3	SO-35L-SO-L14-TA	Ø3.5 LOCKING CORTICAL T10 14MM	6
4	SO-35L-SO-L16-TA	Ø3.5 LOCKING CORTICAL T10 16MM	6
5	SO-35L-SO-L18-TA	Ø3.5 LOCKING CORTICAL T10 18MM	6
6	SO-35L-SO-L20-TA	Ø3.5 LOCKING CORTICAL T10 20MM	6
7	SO-35L-SO-L22-TA	Ø3.5 LOCKING CORTICAL T10 22MM	6
8	SO-35L-SO-L24-TA	Ø3.5 LOCKING CORTICAL T10 24MM	6

Ø 2.8 mm Cortical Locking			
No	Code	Screws Description	Set Quantity
1	SO-28L-SO-L10-TA	Ø2.8 LOCKING CORTICAL T10 10MM (Optional)	10
2	SO-28L-SO-L12-TA	Ø2.8 LOCKING CORTICAL T10 12MM (Optional)	10
3	SO-28L-SO-L14-TA	Ø2.8 LOCKING CORTICAL T10 14MM (Optional)	10
4	SO-28L-SO-L16-TA	Ø2.8 LOCKING CORTICAL T10 16MM (Optional)	10
5	SO-28L-SO-L18-TA	Ø2.8 LOCKING CORTICAL T10 18MM (Optional)	10

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