



LEOS[◇]

Plating System

Surgical Technique
MTP Procedure



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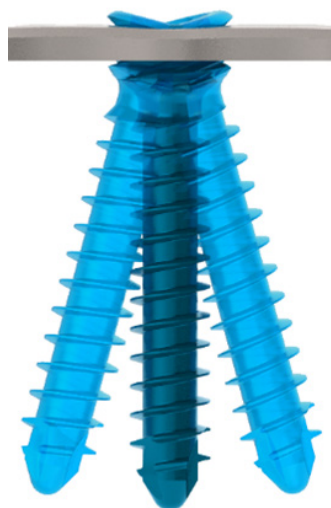
Nota Bene

The following technique is for informational and educational purposes only. It is not intended to serve as medical advice. It is the responsibility of treating physicians to determine and utilize the appropriate products and techniques according to their own clinical judgment for each of their patients. For more information on the product, including its indications for use, contraindications, and product safety information, please refer to the product's label and the Instructions for Use found at LEOS-eIFU.info.

Overview

Features

The Smith & Nephew LEOS[®] Plating System offers a wide variety of features and benefits.



Variable angle locking 30°



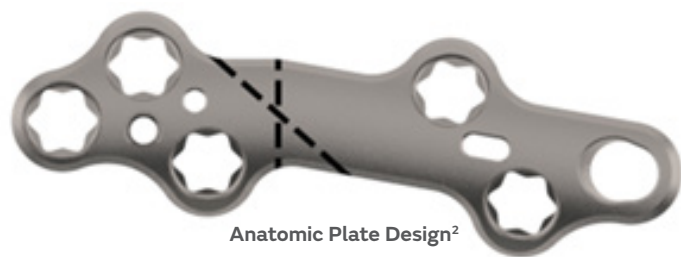
Low screw head prominence



Up to three screw insertions without locking strength degradation¹



Plate Thickness 1.3mm+

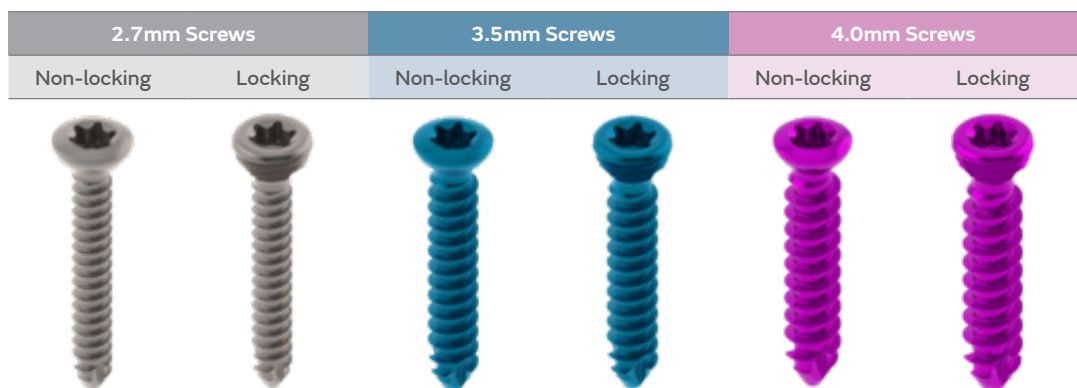


Anatomic Plate Design²



Type II Anodization

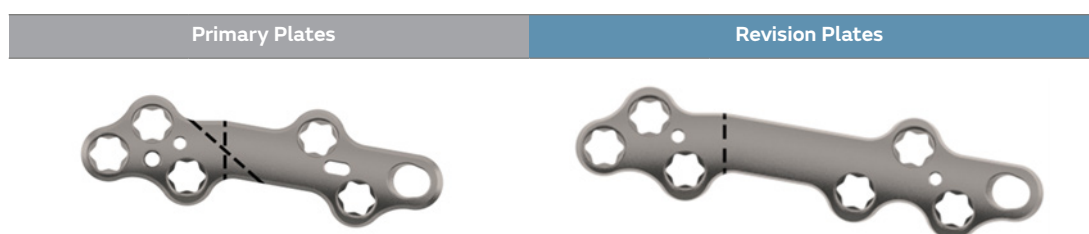
Screw options



Description	7620-27XX	7621-27XX	7620-35XX	7621-35XX	7620-40XX	7621-40XX
Thread Diameter	2.7	2.7	3.5	3.5	4.0	4.0
Core Diameter	2.0	2.0	2.4	2.4	2.7	2.7
Drill	2.0	2.0	2.4	2.4	2.4	2.4
Thread Pitch	1.0	1.0	1.25	1.25	1.5	1.5
Driver	T15	T15	T15	T15	T15	T15
Screw Lengths	8-40 (2mm increments)		8-40 (2mm increments) 45-60 (5mm increments)		10-40 (2mm increments) 45-60 (5mm increments)	

(Units in mm)

Plate options



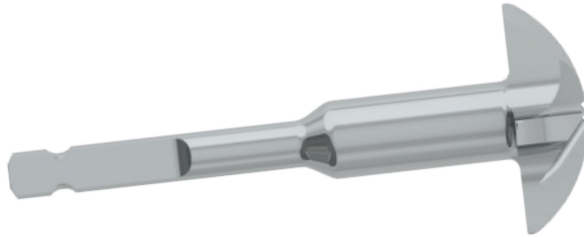
Description	Primary Plates	Revision Plates
Left/Right Specific	Yes	Yes
Plate Thickness	1.3mm	1.8mm
Dorsiflexion Options	0°, 5°	5°
Valgus	10°	10°
Plate Length Options	47mm 52mm	55mm 65mm
Compatible with Interfragmentary Guides	Yes	55mm plate only
# of Plate Options	8	4

Instrument options

MTP Specific Instruments

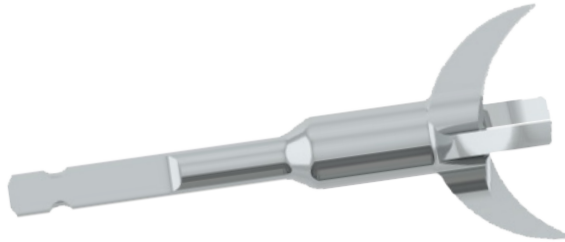
Reamers

Male
7624-30XX



16-22mm (2mm increments)

Female
7624-31XX



16-22mm (2mm increments)

MTP Targeting Guide
7624-411X



Left/Right specific

Targeting Guide
Attachment Bolt
7624-4100









Targeting Guide
Wire Sleeve
7624-4101



Accommodates wires
up to 1.65mm maximum

Instrument options *continued*

Drill compatibility		
Drill	Screw compatibility	Color coding
<div>2.0mm 7624-2920</div> 	2.7mm	Grey
<div>2.4mm 7624-2924</div> 	3.5mm and 4.0mm	Blue and Magenta
<div>4.0mm 7624-2940</div> 	LAG technique for all screws	Double-Banded Magenta

Drill Guide compatibility				
Drill Guide		Drill Bit compatibility	Plate Hole compatibility	Ability to measure screw length
Locking Drill Guide 7624-4900		2.0mm 2.4mm	Plate Locking Holes (on axis only)	Yes
Variable and Fixed Drill Guide 7624-4901		2.0mm, 2.4mm,	Plate Locking Holes (on and off axis)	Fixed side only
Compression Drill Guide 7624-4940		2.0mm, 2.4mm, 4.0mm*	Compression Slot *LAG technique outside of plate	Yes

Instrument options *continued*

Provisional fixation

K-Wires

Ø1.6mm Smooth K-Wire
7624-2016

Ø1.6mm Threaded K-Wire
7624-2116

Ø2.0mm Smooth K-Wire
7624-2020

Overall length

100mm

100mm

150mm

Plate Tacks

Plate Tack, 10mm
7624-2210

Plate Tack, 20mm
7624-2220

Working dimensions

Ø1.6mm x 10mm

Ø1.6mm x 20mm

Joint Preparation Disposables

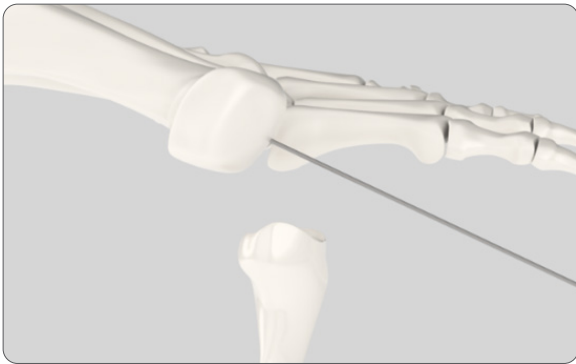
Ø2.0mm Subchondral Drill
7624-2820

Cartilage Scraper
7624-3208

Metatarsophalangeal (MTP) Joint Fusion Surgical Technique

Incision

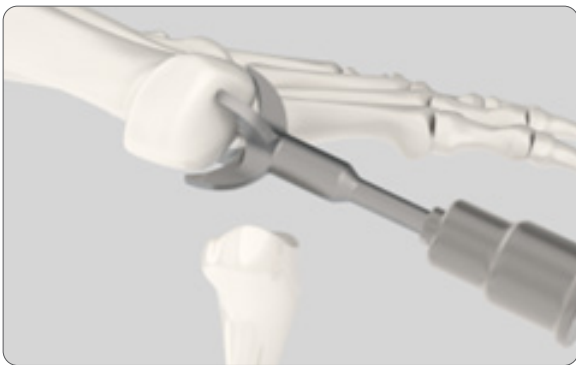
Make a dorsomedial incision to the 1st Metatarsophalangeal (MTP) joint per surgeon preference. Carefully dissect soft tissue medially and laterally to expose the Extensor Hallucis Longus (EHL) Tendon sheath, avoiding the medial branch of the terminal end of the Superficial Peroneal Nerve (SPN).



Joint preparation

Expose the joint to gain access to the 1st Metatarsal head. Remove any osteophytes or loose bodies with a rongeur. The joint should be prepared per surgeon preference, but prep with spherical reamers will be described as follows.

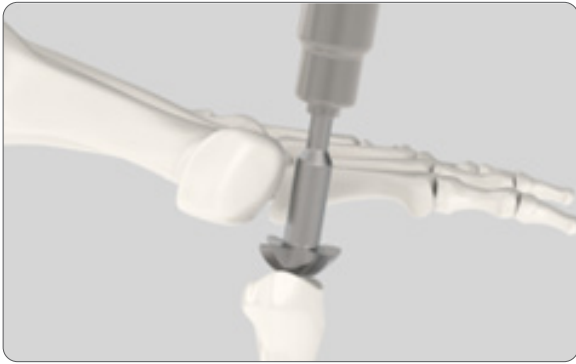
Place provided smooth or threaded 1.6mm K-wire into the 1st Metatarsal head.



Choose the appropriate size of female reamer depending on the 1st Metatarsal head diameter. Expose the subchondral bone to achieve bleeding bone exposure, taking care not to over shorten the 1st Metatarsal. Remove K-wire.



Place provided smooth or threaded 1.6mm K-wire centrally in the 1st Proximal Phalanx.



Use the corresponding size of male reamer to prepare the proximal phalanx fusion surface by removing subchondral bone to bleeding surface, taking care to not over shorten the 1st Proximal Phalanx or notch the 1st Metatarsal head.



Temporarily fix the 1st MTP joint per surgeon preference.



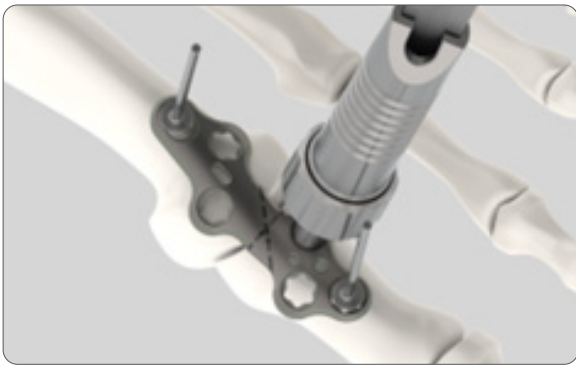
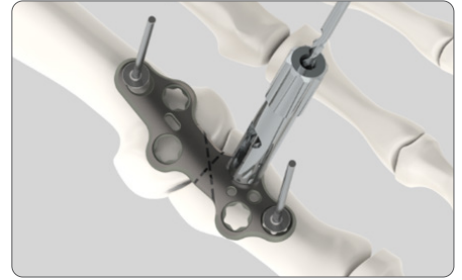
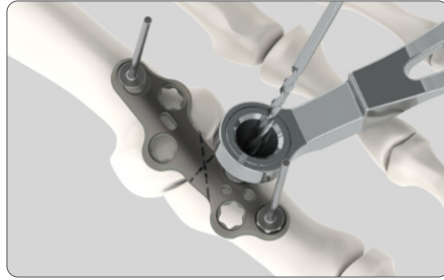
Plate selection

Choose the applicable plate based on surgeon discretion, orient the plate, and temporarily fixate the plate in place using plate tacks or k-wires. If using the proximal K-wire slot for temporary fixation, place wire at proximal end of slot to allow for compression.

Distal Screw placement

Prepare to place screws in at least 2 of the distal locking holes. A locking or non-locking screw can be used in the locking holes.

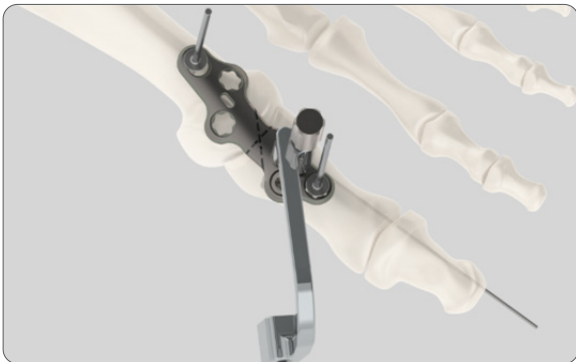
The LEOS® Plate System contains Drill Guides allowing for both fixed-angle and variable-angle drilling. Place chosen Drill Guide into hole and, using the appropriate drill for the desired screw diameter, drill to desired depth.



If using the Locking Drill Guide or the fixed side of the double drill guide, screw length can be measured by either using the Depth Gauge or by using the drill guide to read the measurement marks on the drill. If using the variable angle side of the double drill guide, screw length can be measured using the Depth Gauge.

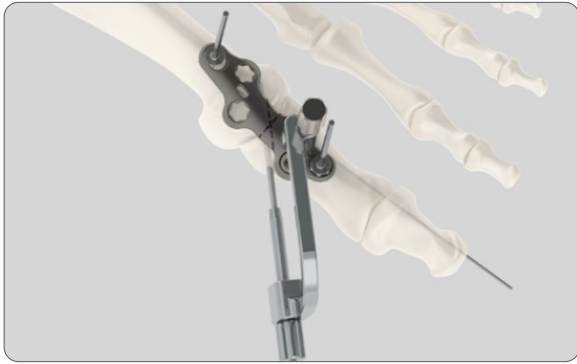


Use the T15 Driver to implant an appropriately sized screw. Repeat in second and/or third distal screw holes.



Optional Interfragmentary Screw placement

Attach the MTP Targeting Guide to the plate by sliding the Targeting Guide Attachment Bolt through the top hole of the Targeting Guide and screwing the end into the larger central hole in the plate. The protrusion on the underside of the Targeting Guide goes into the smaller central hole in the plate to orient the Targeting Guide correctly.



Slide the Targeting Guide Wire Sleeve into the appropriate hole on the other end to aid in placing a guide wire under Ø1.6mm of desired cannulated screw system across the joint. Under fluoroscopy, assess guide wire placement and length.

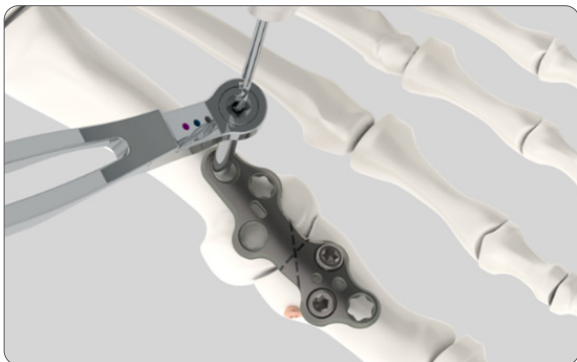


Once placement is confirmed, remove Targeting Guide assembly, leaving guide wire in place.



Remove temporary fixation of the plate and joint with the exception of fixation within the proximal K-wire slot if desired. Monitor amount of translation as screw is inserted and remove if needed to generate maximum translation and compression across the joint.

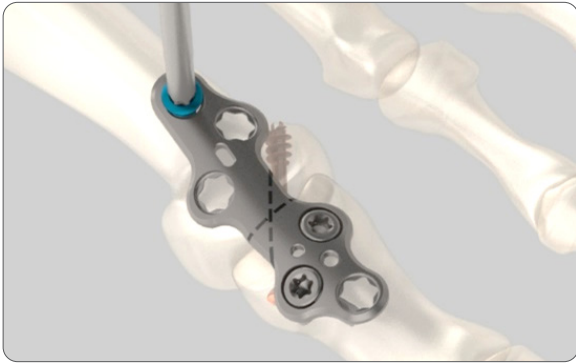
Insert cannulated screw per chosen cannulated screw system's technique including measuring and drilling for the screw.



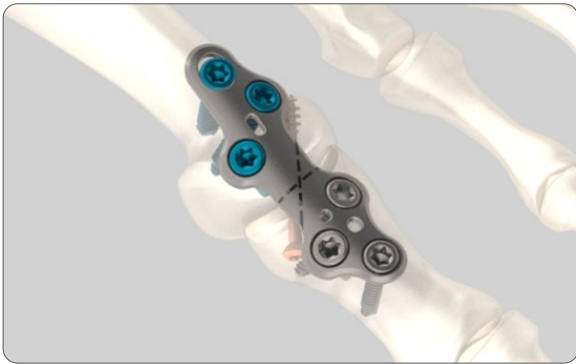
Optional Alternate Compression Screw procedure

Use the 2.4mm end of the Compression Drill Guide for predrilling at proximal most end of the compression slot using the appropriate drill for the desired screw diameter.

Screw length can be measured by either using the depth gauge or by using the drill guide to read measurements on the drill.



Remove remaining temporary fixation and insert a non-locking screw into proximal, tapered end of the compression slot utilizing the same technique as other screw placements. Be careful not to malposition fusion alignment.



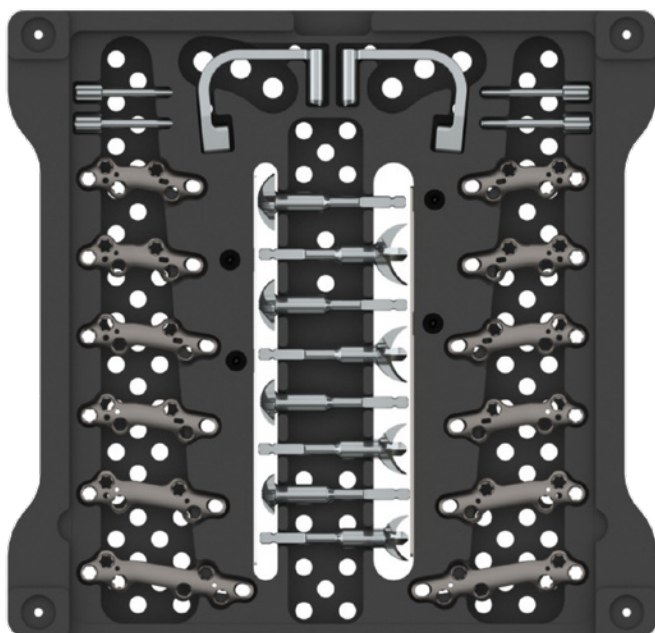
Proximal Locking Hole placement

Once adequate compression is achieved, fill in remaining holes with locking or non-locking screws utilizing the same technique as other screw placements.

Closure

Close in layers based on surgeon preference

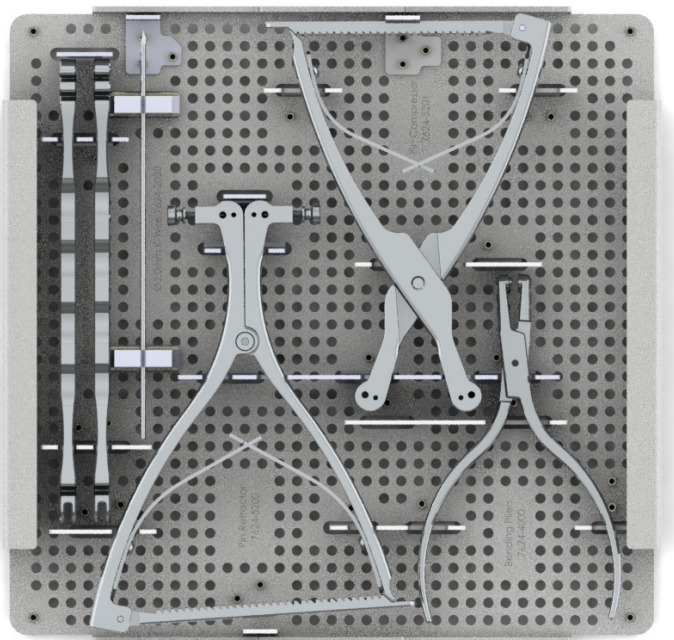
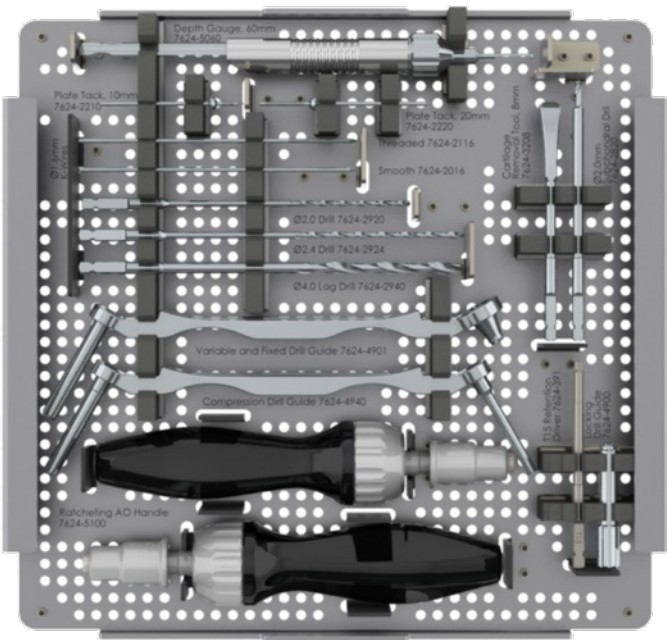
Catalog information



MTP Plate Caddy

Plates		
Cat no	Description	Qty
7624-3016	LEOS Ø16mm MTP Male Reamer	1
7624-3018	LEOS Ø18mm MTP Male Reamer	1
7624-3020	LEOS Ø20mm MTP Male Reamer	1
7624-3022	LEOS Ø22mm MTP Male Reamer	1
7624-3116	LEOS Ø16mm MTP Female Reamer	1
7624-3118	LEOS Ø18mm MTP Female Reamer	1
7624-3120	LEOS Ø20mm MTP Female Reamer	1
7624-3122	LEOS Ø22mm MTP Female Reamer	1
7624-4100	LEOS Targeting Guide Attachment Bolt	2
7624-4101	LEOS Targeting Guide Wire Sleeve	2
7624-4110	LEOS MTP Targeting Guide, Lt	1
7624-4111	LEOS MTP Targeting Guide, Rt	1

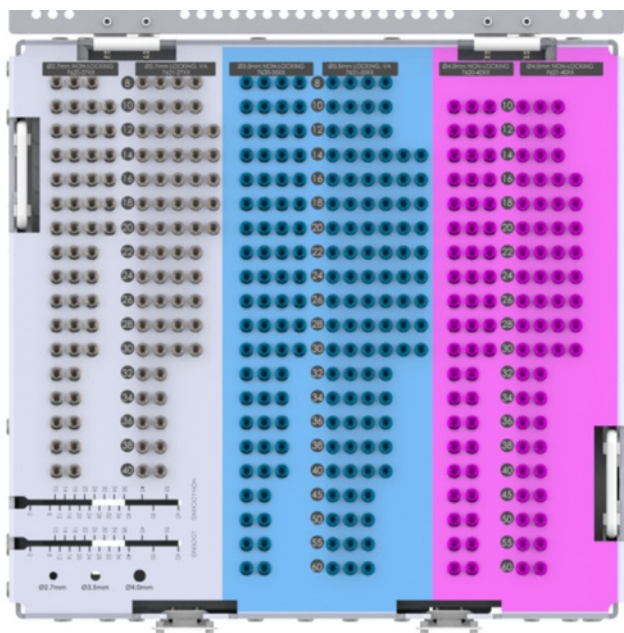
Cat no	Description	Qty
7622-1000	LEOS MTP Plate, SM, 0°, Lt	2
7622-1002	LEOS MTP Plate, SM, 0°, Rt	2
7622-1050	LEOS MTP Plate, SM, 5°, Lt	2
7622-1052	LEOS MTP Plate, SM, 5°, Rt	2
7622-1001	LEOS MTP Plate, MD, 0°, Lt	2
7622-1003	LEOS MTP Plate, MD, 0°, Rt	2
7622-1051	LEOS MTP Plate, MD, 5°, Lt	2
7622-1053	LEOS MTP Plate, MD, 5°, Rt	2
7622-1250	LEOS MTP Revision Plate, SM, 5°, Lt	1
7622-1252	LEOS MTP Revision Plate, SM, 5°, Rt	1
7622-1251	LEOS MTP Revision Plate, MD, 5°, Lt	1
7622-1253	LEOS MTP Revision Plate, MD, 5°, Rt	1



General Instrument Set

General Instrument Set		
Cat no	Description	Qty
7624-1002	LEOS® Ø2.7/3.5/4.0mm Instrument Caddy	1
7624-1003	LEOS Generic Instrument Caddy	1
Instrument Set		
7624-2016	LEOS Ø1.6mm Smooth K-Wire	6
7624-2020	LEOS Ø2.0mm K-Wire	6
7624-2116	LEOS Ø1.6mm Threaded K-Wire	6
7624-2210	LEOS Plate Tack, 10mm	4
7624-2220	LEOS Plate Tack, 20mm	4
7624-2820	LEOS Ø2.0mm Subchondral Drill	1
7624-2920	LEOS Ø2.0 Drill	2
7624-2924	LEOS Ø2.4 Drill	2
7624-2940	LEOS Ø4.0 Lag Drill	1

Instrument Set		
Cat no	Description	Qty
7624-3208	LEOS Cartilage removal tool, 8mm	1
7624-3915	LEOS T15 Retention Driver	3
7624-4000	LEOS Bending Pliers	2
7624-4001	LEOS Bending Iron, Large	2
7624-4900	LEOS Locking Drill Guide	3
7624-4901	LEOS Variable and Fixed Drill Guide	1
7624-4940	LEOS Compression Drill Guide	1
7624-5060	LEOS Depth Gauge, 60mm	1
7624-5100	LEOS Ratcheting AO Handle	2
7624-5200	LEOS Pin Retractor	1
7624-5201	LEOS Pin Compressor	1

Catalog information *continued*

Screw Caddy

Screw set

Cat no	Description	Qty
7620-2708	LEOS Ø2.7mm Non-locking Screw, 8mm	3
7620-2710	LEOS Ø2.7mm Non-locking Screw, 10mm	4
7620-2712	LEOS Ø2.7mm Non-locking Screw, 12mm	4
7620-2714	LEOS Ø2.7mm Non-locking Screw, 14mm	4
7620-2716	LEOS Ø2.7mm Non-locking Screw, 16mm	4
7620-2718	LEOS Ø2.7mm Non-locking Screw, 18mm	4
7620-2720	LEOS Ø2.7mm Non-locking Screw, 20mm	4
7620-2722	LEOS Ø2.7mm Non-locking Screw, 22mm	3
7620-2724	LEOS Ø2.7mm Non-locking Screw, 24mm	3
7620-2726	LEOS Ø2.7mm Non-locking Screw, 26mm	3
7620-2728	LEOS Ø2.7mm Non-locking Screw, 28mm	3
7620-2730	LEOS Ø2.7mm Non-locking Screw, 30mm	3
7620-2732	LEOS Ø2.7mm Non-locking Screw, 32mm	2
7620-2734	LEOS Ø2.7mm Non-locking Screw, 34mm	2
7620-2736	LEOS Ø2.7mm Non-locking Screw, 36mm	2
7620-2738	LEOS Ø2.7mm Non-locking Screw, 38mm	2
7620-2740	LEOS Ø2.7mm Non-locking Screw, 40mm	2
7621-2708	LEOS Ø2.7mm Locking Screw, VA 8mm	4
7621-2710	LEOS Ø2.7mm Locking Screw, VA 10mm	4

Cat no	Description	Qty
7621-2712	LEOS Ø2.7mm Locking Screw, VA 12mm	5
7621-2714	LEOS Ø2.7mm Locking Screw, VA 14mm	5
7621-2716	LEOS Ø2.7mm Locking Screw, VA 16mm	5
7621-2718	LEOS Ø2.7mm Locking Screw, VA 18mm	5
7621-2720	LEOS Ø2.7mm Locking Screw, VA 20mm	5
7621-2722	LEOS Ø2.7mm Locking Screw, VA 22mm	4
7621-2724	LEOS Ø2.7mm Locking Screw, VA 24mm	4
7621-2726	LEOS Ø2.7mm Locking Screw, VA 26mm	4
7621-2728	LEOS Ø2.7mm Locking Screw, VA 28mm	4
7621-2730	LEOS Ø2.7mm Locking Screw, VA 30mm	4
7621-2732	LEOS Ø2.7mm Locking Screw, VA 32mm	2
7621-2734	LEOS Ø2.7mm Locking Screw, VA 34mm	2
7621-2736	LEOS Ø2.7mm Locking Screw, VA 36mm	2
7621-2738	LEOS Ø2.7mm Locking Screw, VA 38mm	2
7621-2740	LEOS Ø2.7mm Locking Screw, VA 40mm	2
7620-3508	LEOS Ø3.5mm Non-locking Screw, 8mm	4
7620-3510	LEOS Ø3.5mm Non-locking Screw, 10mm	4
7620-3512	LEOS Ø3.5mm Non-locking Screw, 12mm	4
7620-3514	LEOS Ø3.5mm Non-locking Screw, 14mm	4

Screw set		
Cat no	Description	Qty
7620-3516	LEOS® Ø3.5mm Non-locking Screw, 16mm	4
7620-3518	LEOS Ø3.5mm Non-locking Screw, 18mm	4
7620-3520	LEOS Ø3.5mm Non-locking Screw, 20mm	4
7620-3522	LEOS Ø3.5mm Non-locking Screw, 22mm	4
7620-3524	LEOS Ø3.5mm Non-locking Screw, 24mm	4
7620-3526	LEOS Ø3.5mm Non-locking Screw, 26mm	4
7620-3528	LEOS Ø3.5mm Non-locking Screw, 28mm	4
7620-3530	LEOS Ø3.5mm Non-locking Screw, 30mm	4
7620-3532	LEOS Ø3.5mm Non-locking Screw, 32mm	3
7620-3534	LEOS Ø3.5mm Non-locking Screw, 34mm	3
7620-3536	LEOS Ø3.5mm Non-locking Screw, 36mm	3
7620-3538	LEOS Ø3.5mm Non-locking Screw, 38mm	3
7620-3540	LEOS Ø3.5mm Non-locking Screw, 40mm	3
7620-3545	LEOS Ø3.5mm Non-locking Screw, 45mm	2
7620-3550	LEOS Ø3.5mm Non-locking Screw, 50mm	2
7620-3555	LEOS Ø3.5mm Non-locking Screw, 55mm	2
7620-3560	LEOS Ø3.5mm Non-locking Screw, 60mm	2
7621-3508	LEOS Ø3.5mm Locking Screw, VA 8mm	4
7621-3510	LEOS Ø3.5mm Locking Screw, VA 10mm	4
7621-3512	LEOS Ø3.5mm Locking Screw, VA 12mm	4
7621-3514	LEOS Ø3.5mm Locking Screw, VA 14mm	6
7621-3516	LEOS Ø3.5mm Locking Screw, VA 16mm	6
7621-3518	LEOS Ø3.5mm Locking Screw, VA 18mm	6
7621-3520	LEOS Ø3.5mm Locking Screw, VA 20mm	6
7621-3522	LEOS Ø3.5mm Locking Screw, VA 22mm	6
7621-3524	LEOS Ø3.5mm Locking Screw, VA 24mm	6
7621-3526	LEOS Ø3.5mm Locking Screw, VA 26mm	6
7621-3528	LEOS Ø3.5mm Locking Screw, VA 28mm	6
7621-3530	LEOS Ø3.5mm Locking Screw, VA 30mm	6
7621-3532	LEOS Ø3.5mm Locking Screw, VA 32mm	4
7621-3534	LEOS Ø3.5mm Locking Screw, VA 34mm	4
7621-3536	LEOS Ø3.5mm Locking Screw, VA 36mm	4
7621-3538	LEOS Ø3.5mm Locking Screw, VA 38mm	4
7621-3540	LEOS Ø3.5mm Locking Screw, VA 40mm	4
7621-3545	LEOS Ø3.5mm Locking Screw, VA 45mm	2
7621-3550	LEOS Ø3.5mm Locking Screw, VA 50mm	2
7621-3555	LEOS Ø3.5mm Locking Screw, VA 55mm	2
7621-3560	LEOS Ø3.5mm Locking Screw, VA 60mm	2
7620-4010	LEOS Ø4.0mm Non-locking Screw, 10mm	3

Cat no	Description	Qty
7620-4012	LEOS Ø4.0mm Non-locking Screw, 12mm	3
7620-4014	LEOS Ø4.0mm Non-locking Screw, 14mm	3
7620-4016	LEOS Ø4.0mm Non-locking Screw, 16mm	3
7620-4018	LEOS Ø4.0mm Non-locking Screw, 18mm	3
7620-4020	LEOS Ø4.0mm Non-locking Screw, 20mm	3
7620-4022	LEOS Ø4.0mm Non-locking Screw, 22mm	3
7620-4024	LEOS Ø4.0mm Non-locking Screw, 24mm	3
7620-4026	LEOS Ø4.0mm Non-locking Screw, 26mm	3
7620-4028	LEOS Ø4.0mm Non-locking Screw, 28mm	3
7620-4030	LEOS Ø4.0mm Non-locking Screw, 30mm	3
7620-4032	LEOS Ø4.0mm Non-locking Screw, 32mm	2
7620-4034	LEOS Ø4.0mm Non-locking Screw, 34mm	2
7620-4036	LEOS Ø4.0mm Non-locking Screw, 36mm	2
7620-4038	LEOS Ø4.0mm Non-locking Screw, 38mm	2
7620-4040	LEOS Ø4.0mm Non-locking Screw, 40mm	2
7620-4045	LEOS Ø4.0mm Non-locking Screw, 45mm	2
7620-4050	LEOS Ø4.0mm Non-locking Screw, 50mm	2
7620-4055	LEOS Ø4.0mm Non-locking Screw, 55mm	2
7620-4060	LEOS Ø4.0mm Non-locking Screw, 60mm	2
7621-4010	LEOS Ø4.0mm Locking Screw, VA 10mm	3
7621-4012	LEOS Ø4.0mm Locking Screw, VA 12mm	3
7621-4014	LEOS Ø4.0mm Locking Screw, VA 14mm	3
7621-4016	LEOS Ø4.0mm Locking Screw, VA 16mm	4
7621-4018	LEOS Ø4.0mm Locking Screw, VA 18mm	4
7621-4020	LEOS Ø4.0mm Locking Screw, VA 20mm	4
7621-4022	LEOS Ø4.0mm Locking Screw, VA 22mm	4
7621-4024	LEOS Ø4.0mm Locking Screw, VA 24mm	4
7621-4026	LEOS Ø4.0mm Locking Screw, VA 26mm	4
7621-4028	LEOS Ø4.0mm Locking Screw, VA 28mm	4
7621-4030	LEOS Ø4.0mm Locking Screw, VA 30mm	4
7621-4032	LEOS Ø4.0mm Locking Screw, VA 32mm	2
7621-4034	LEOS Ø4.0mm Locking Screw, VA 34mm	2
7621-4036	LEOS Ø4.0mm Locking Screw, VA 36mm	2
7621-4038	LEOS Ø4.0mm Locking Screw, VA 38mm	2
7621-4040	LEOS Ø4.0mm Locking Screw, VA 40mm	2
7621-4045	LEOS Ø4.0mm Locking Screw, VA 45mm	2
7621-4050	LEOS Ø4.0mm Locking Screw, VA 50mm	2
7621-4055	LEOS Ø4.0mm Locking Screw, VA 55mm	2
7621-4060	LEOS Ø4.0mm Locking Screw, VA 60mm	2

Handwriting practice area with 20 horizontal lines.



Surgical Technique

Smith+Nephew does not provide medical advice and does not recommend this or any other surgical technique for use on a specific patient. The surgeon who performs any implant procedure is responsible for determining and using the appropriate techniques for implanting the device in each patient.

Products may not be available in all markets because product availability is subject to the regulatory and/or medical practices in individual markets. Please contact your Smith+Nephew representative or distributor if you have questions about the availability of Smith+Nephew products in your area.

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39336 V1 06/23

Manufacturer:



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References

1. Tyber Medical Data on file. Memo-X25-02-09. **2.** Tyber Medical Data on file. Memo-X25-02-010.