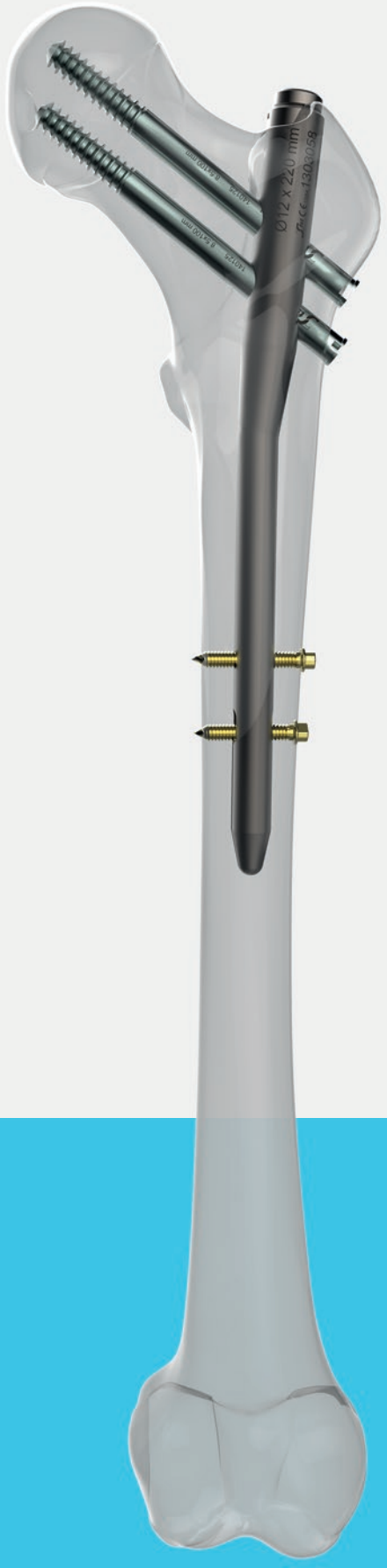


PROFIN®

PROXIMAL FEMORAL NAIL

INTRAMEDULLARY NAIL

Table of Contents

Introductions

Indications

Pertrochanteric, intertrochanteric and high subtrochanteric fractures.

Features

PROFIN is an unreamed titanium intramedular nail which is designed for femur proximal end fractures.

The cannulated end cap protects the top of the nail and facilitates the extraction procedure.
The 16 mm proximal diameter reduces the bone loss to minimum.

Cannulated Proximal Lag Screws
Ø8.5 mm; Self-Tapping, cancellous type,
Rotational stability and compression
126° collodiaphyseal angle

Anatomic 6° ML Slope
Compatible with the femur proximal end anatomy.
Easy entering with little incision from the trochanteric tip.
Using the same nail for right and left.

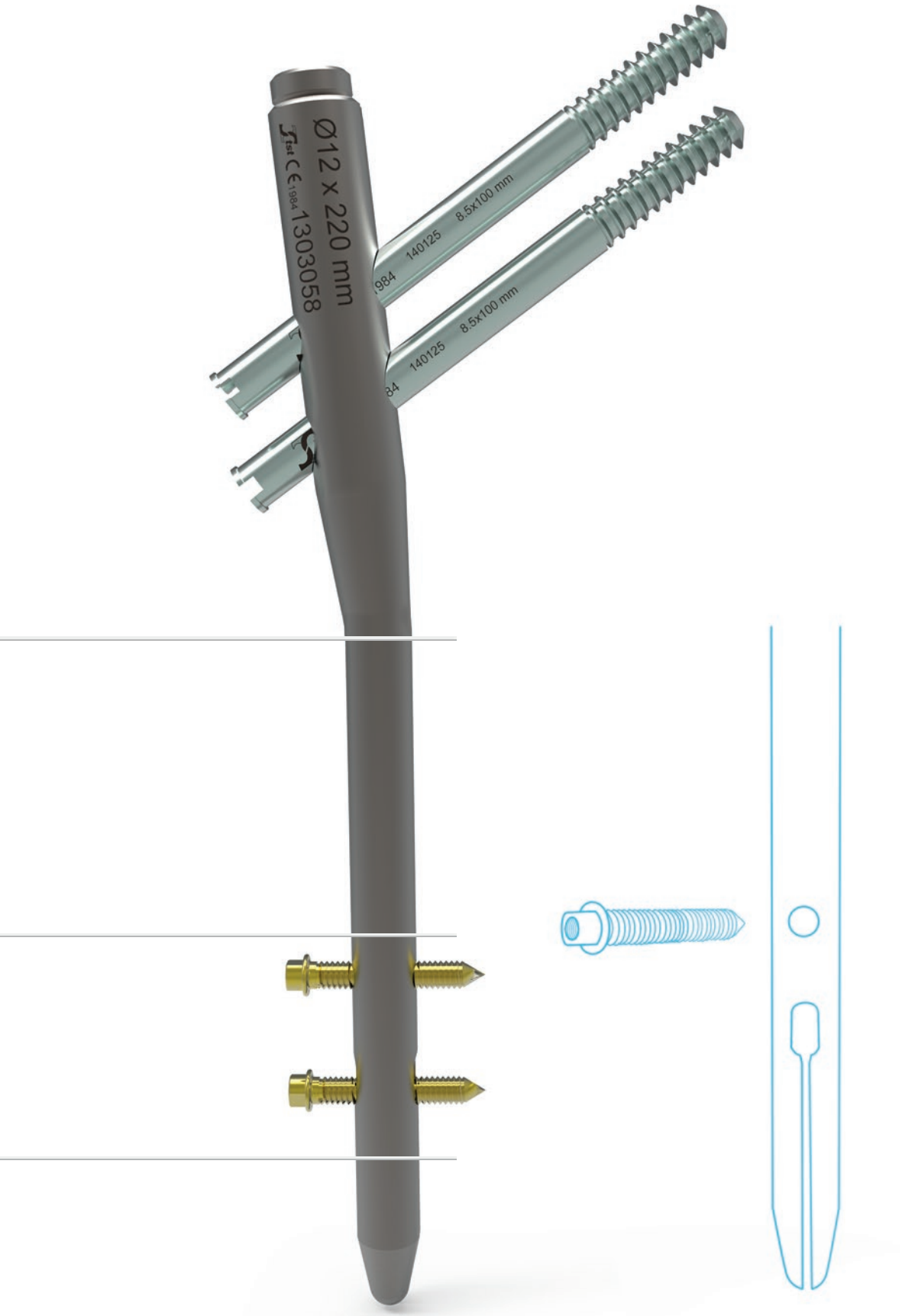
Cannulated round geometry; easy insertion over the guide wire by preserving the reduction.

Nail body diameter 10, 11 and 12 mm intramedular unreamed nail placement.
Nail length choices: standart 250 mm, short 220 mm.

Distal locking options: static and/or dynamic locking
Cortical screw Ø5 mm: fixation to the driver with unique head design, dropping and advancement to the wrong direction is prevented.

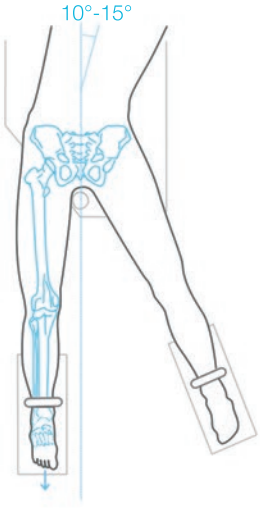
A distal slot that allows flexing and reducing the stress focus.

Titanium Material: highly resistant biocompatible material.

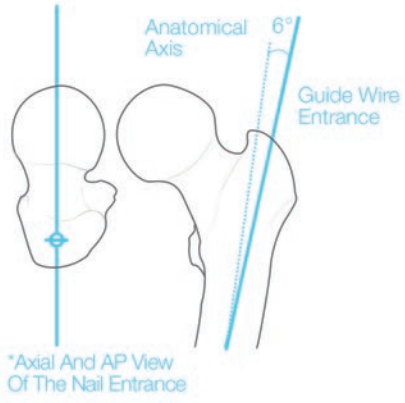

Ø12 x 220 mm
1303058
140125
8.5x100 mm
140125
8.5x100 mm

Surgical Technique

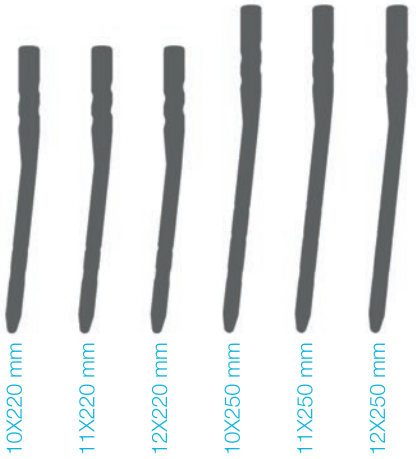
The Patient is placed to the traction table, in supine position and the hip which will be intervened in adduction. The reduction is controlled by the fluoroscopy. After the suitable position the trochanteric major is plaped and entered with a 5 cm incision longitudinally from the tip to the proximal. It is reached to trochanter major by the incision of the skin and subcutaneous, facia lata and parallel to gluteus medius muscle fibers.



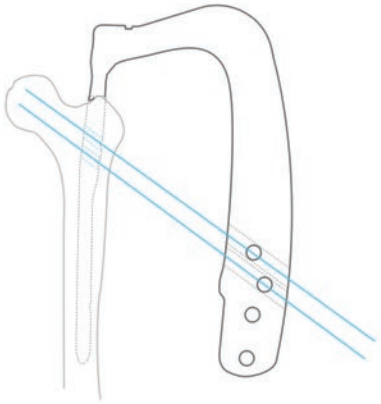
A guide wire Ø2.5 x 600 mm is sent through *Kirschner Wire Guide* from slightly lateral from the tip of the trochanter major, so that it is on the neck axis. After seeing the guide wire in the medulla from both plans by the control of fluoroscopy, a nail entry is opened by a cannulated *AWL* or a trochanteric reamer through a soft tissue protector over the guide wire. The reaming process is continued until the reamer reaches to the hindrance. The entry place is widened to be suitable to the proximal diameter of the nail.



The nail length and diameter is determined according to the status of the fracture and radiographic measurement. The nail, in the appropriate diameter and in length, is mounted to *Insertion Handle* for PROFIN.

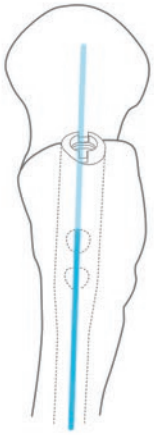


The PROFIN nail is sent by pushing or applying rotational forces. We do not suggest the usage of the hammer. If necessary, it is gently tapped with a hammer to the *PFN Insertion Knob* which is mounted on to the *PROFIN Insertion Handle*. A smaller diameter nail must be sent if the nail could not be placed. If it is still not possible to sent the nail because of the narrow medulla cavity, the medulla cavity must be reamed up to 10 mm. The nail must be sent until the top of the nail reaches the trochanteric entry. Meanwhile it must be controlled by the fluoroscopy to be sure that the proximal screws would find the femoral neck.

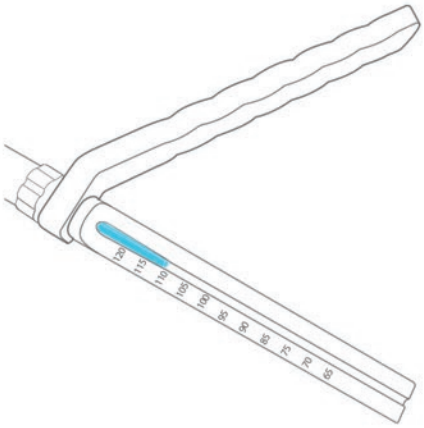


For the Proximal screw a *Proximal Drill & Screw Sleeve* with Trocar in it is sent through with stap incision until it arrives to the bone. To prevent sliping back of the *Proximal Drill & Screw Sleeve* from its place a *Guide Locking Device* is used.

The trocar is taken out, instead of it a Proximal *Sleeve K-wire Guide* is placed and a threaded pointed Ø2.5 x 340 mm K-wire is sent until subchondral area. AP and lateral fluoroscopic control is done.

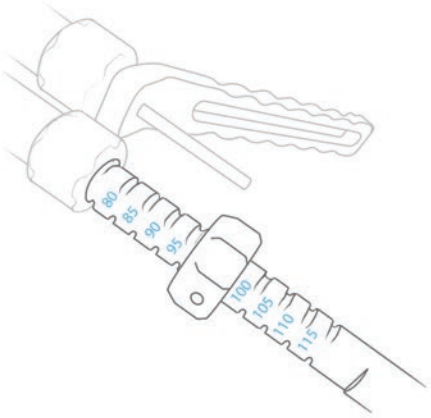


The optimal position of the K-wire which is directing the lower proximal screw is on the distal half of the neck center in AP view and in the middle line of the neck axis in lateral view. Pay attention to the proximal femur anteversion by placing the nail for appropriate placement. If the position of the K-wire is convenient a measuring is done for the screw over the K-wire. The real size of the screw should be 10 mm less than the measurement.



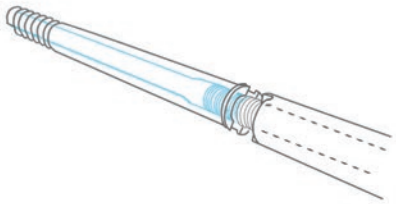
Pay attention to the placement of the *Proximal Drill & Screw Sleeve, K-wire Guide, Drill Guide* and the related instruments, have to touch the bone. For the second screw (Anti-rotation screw) which will be sent to the neck, a *Proximal Drill & Screw Sleeve* with a K-wire guide in it is placed to the *Profin Insertion Handle.*
A threaded pointed Ø2.5 x 340 mm K-wire is sent through it to the femoral head. The position is approved after the control with the fluoroscopy.

NOTE: According to the fracture, distal or proximal of the proximal screw could be sent first. The first screw should be sent with the short driver which is specially designed for compression. *The K-wire Guide* is taken out from the *Proximal Drill & Screw Sleeve* and the proximal cannulated drill is sent. The guiding way path is opened according to the predetermined screw length. The drilling should be done under the control of the fluoroscopy. The measurement markers nut which is on the drill, is adjusted to the predetermined screw length.



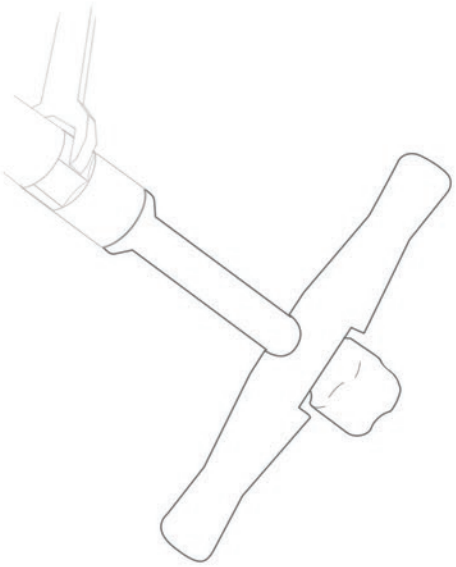
Because of the self-tapping specialty of the neck screws (Proximal screw, lag screw), there is no need for a bone tap. If necessary, for young patients' hard bone, threads can be cut by a tap before the insertion of the screw.

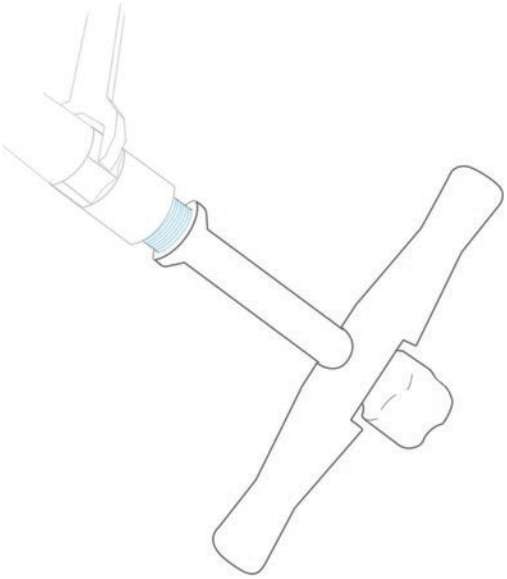
Owing to the connection device which is inside of the screw driver, the proximal screw is tightly secured as shown on the figure. Pay attention to match the threads of the screw and the driver.The proximal screw which is attached to the *Compression Wrench For Proximal Screw* (compression proximal screw driver) is sent over the K-wire to the femur head.



Intraoperative Compression

If there is a distraction, after sending the first screw, the nut which is on the *Compression Screw Driver* is turned clockwise with a *14 mm Wrench* to accomplish the compression under the control of the fluoroscopy.





Intraoperative Compression

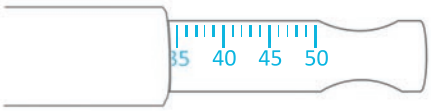
While the first screw is in compression, without taking the driver off the same steps, sending the screw after the drilling over the K-wire through the *Proximal Drill & Screw Sleeve*, are followed for the second screw (anti rotation screw). This Anti-rotation screw must be sent with the long screw driver under the control of the fluoroscopy.

After the placement of the proximal screws in right position, the *Screw Drivers* are taken off. *Proximal Drill & Screw Sleeves* and the K-wires are removed from the *Insertion Handle*.

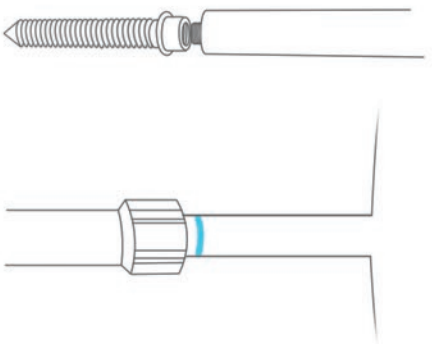
According to the type of the fracture, the distal locking can be done as static and/or dynamic.

Based on the used Standard nail or Short nail, the *Sleeve For Cortex Screw* for distal locking and a trocar in it, is placed to the appropriate hole on the insertion handle. After the skin incision, it is reached to the bone with a blunt dissection. The trocar is taken out and the *Drill Guide For Cortex Screw* is placed. The double cortex drilling is done with the Ø4.2 mm drill bit which is mounted to the surgical drill.

The screw length is determined according to the scale on the drill or with a depth gauge.



The cortical screw which has a special designed holding end is mounted to the *T-Handle Screw Inserter*. It is send as double cortex through the *Sleeve* For Cortex Screw until the mark comes to the sleeve end. According to the fracture type, one or two distal locking screws can be placed.



The *Insertion Handle* is separated from the nail with a *T-Screw Driver.*

The end cap is placed to the end of the nail with Ø5 X 180 mm screw driver tip on the direction of the nail axis.

Finally, the final position and the length of the fracture and the screw positions, if they are in the screw holes, are controlled with the fluoroscopy. After the confirmation of the suitability, the skin and subcutaneous are closed appropriate to the anatomy.

Nail Extraction

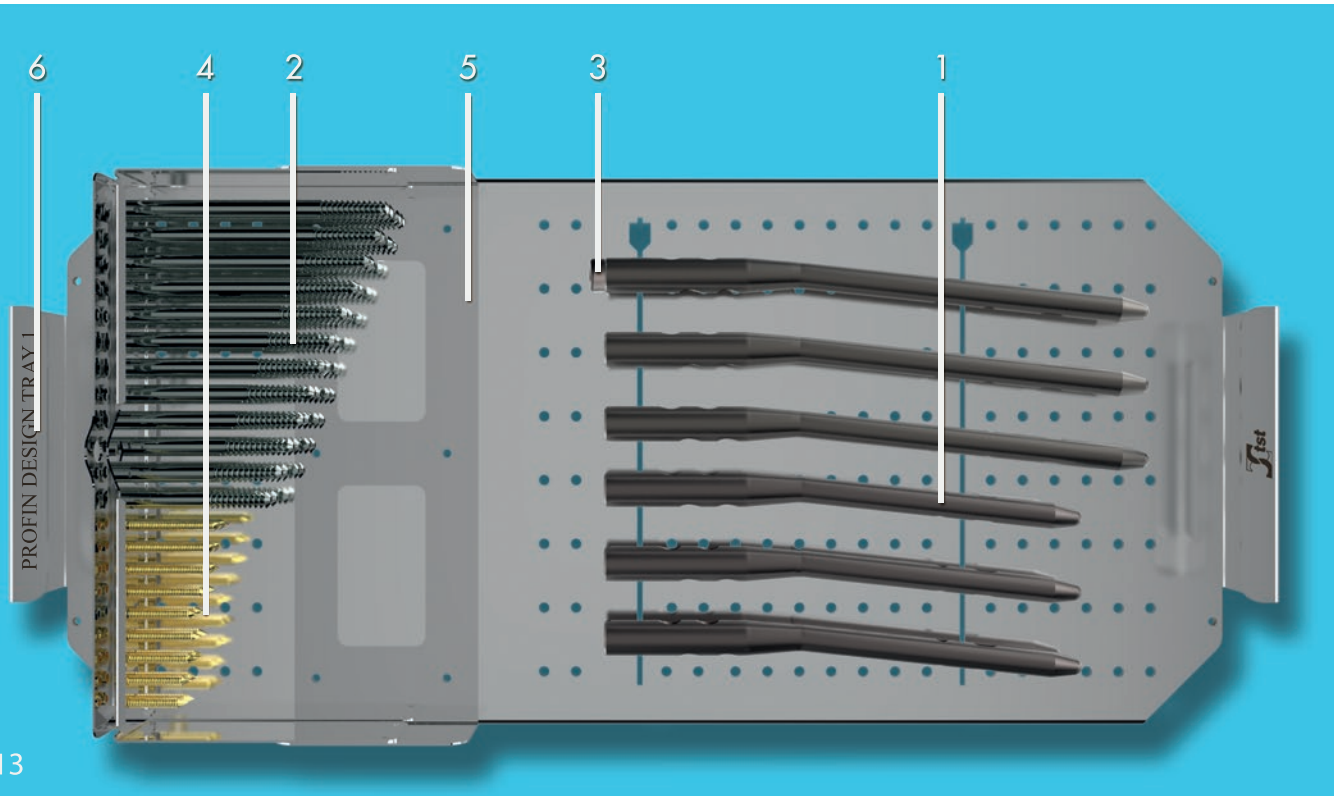
First of all, the end cap is removed with the *T-Screw Driver*. Then the *Insertion Handle* is mounted to the nail end and the proximal screws are screwed out. If there are two distal screws one of them is screwed out and to other one is reached with the tissue protector with a trocar in it. Then we leave one of distal screws to prohibit the rotation of the PROFIN during mounting the nail extractor.

Following the removing of the *Insertion Handle*, the extraction rod (Nail Extractor) is mounted to the end of the nail and tightened with a 12 mm wrench. After that the last screw is screwed out and a gently hammering is done to the nail extractor with the hinged slotted hammer to remove the nail.

Instruments

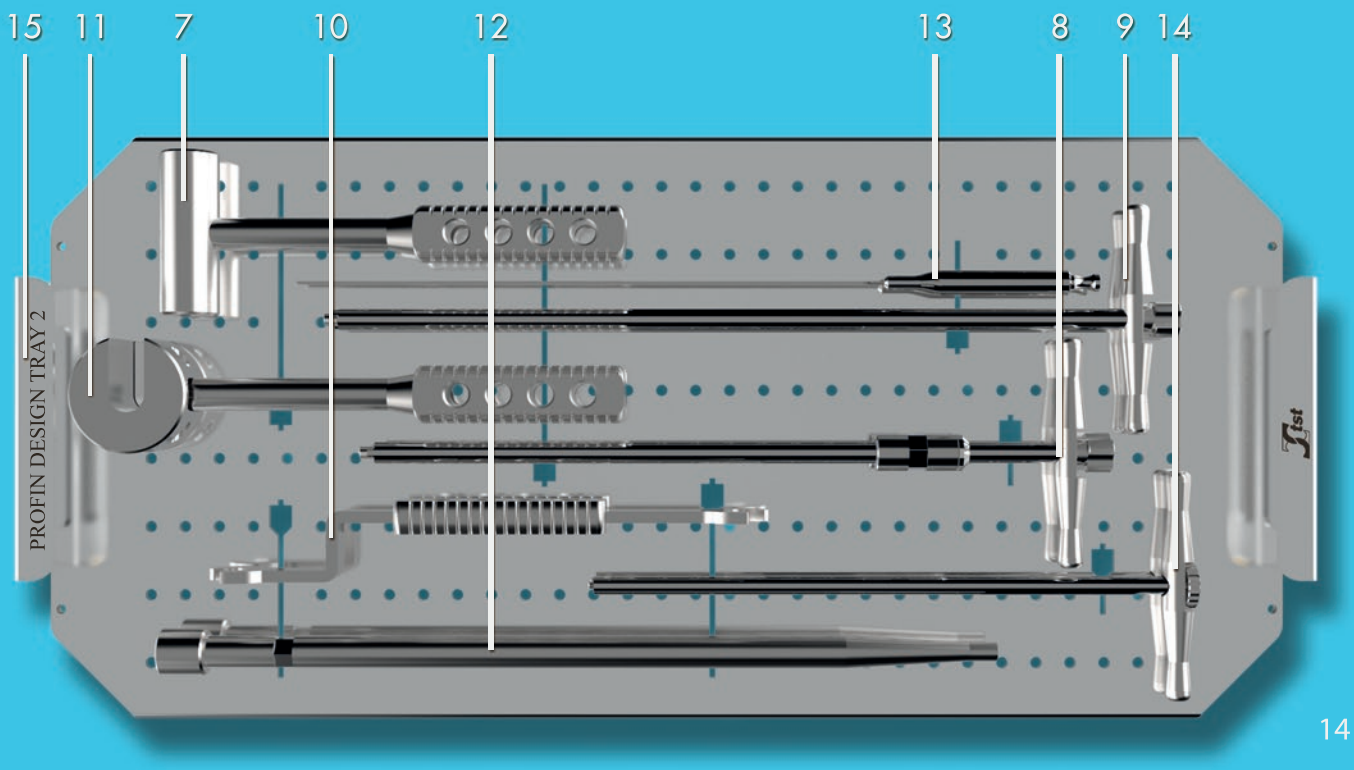
Implants

NO	CATALOG NO	UBB NO	DESCRIPTION	QTY
1	80129220010	8699931021349	PROFIN CANN. (PROX. FEM. INT. NAIL) TI Ø10X220 MM	1
	80129220011	8699931021363	PROFIN CANN. (PROX. FEM. INT. NAIL) TI Ø11X220 MM	1
	80129220012	8699931021387	PROFIN CANN. (PROX. FEM. INT. NAIL) TI Ø12X220 MM	1
	80129250010	8699931021356	PROFIN CANN. (PROX. FEM. INT. NAIL) TI Ø10X250 MM	1
	80129250011	8699931021370	PROFIN CANN. (PROX. FEM. INT. NAIL) TI Ø11X250 MM	1
	80129250012	8699931021394	PROFIN CANN. (PROX. FEM. INT. NAIL) TI Ø12X250 MM	1
2	80221650085	8698673423503	PROXIMAL SCREW SELFT CANLTD.TI - Ø 8.5X65 MM	2
	80221700085	8698673419544	PROXIMAL SCREW SELFT CANLTD.TI - Ø 8.5X70 MM	2
	80221750085	8698673419551	PROXIMAL SCREW SELFT CANLTD.TI - Ø 8.5X75 MM	2
	80221800085	8698673419568	PROXIMAL SCREW SELFT CANLTD.TI - Ø 8.5X80 MM	2
	80221850085	8698673419575	PROXIMAL SCREW SELFT CANLTD.TI - Ø 8.5X85 MM	2
	80221900085	8698673419582	PROXIMAL SCREW SELFT CANLTD.TI - Ø 8.5X90 MM	2
	80221950085	8698673419599	PROXIMAL SCREW SELFT CANLTD.TI - Ø 8.5X95 MM	2
	80221100085	8698673419605	PROXIMAL SCREW SELFT CANLTD.TI - Ø 8.5X100 MM	2
	80221050085	8698673419612	PROXIMAL SCREW SELFT CANLTD.TI - Ø 8.5X105 MM	2
	80221110085	8698673419629	PROXIMAL SCREW SELFT CANLTD.TI - Ø 8.5X110 MM	2
	80221150085	8698673419636	PROXIMAL SCREW SELFT CANLTD.TI - Ø 8.5X115 MM	2
	80221120085	8698673419643	PROXIMAL SCREW SELFT CANLTD.TI - Ø 8.5X120 MM	2
3	80421000006	8698673422551	END CUP FOR PROFIN	2
4	20124320050	8699931022346	CORTEX SCREW FOR NAILS TI Ø5X32 MM	2
	20124340050	8699931022353	CORTEX SCREW FOR NAILS TI Ø5X34 MM	2
	20124360050	8699931022360	CORTEX SCREW FOR NAILS TI Ø5x36 MM	2
	20124380050	8699931022377	CORTEX SCREW FOR NAILS TI Ø5x38 MM	2
	20124400050	8699931022384	CORTEX SCREW FOR NAILS TI Ø5x40 MM	2
	20124420050	8699931030945	CORTEX SCREW FOR NAILS TI Ø5x42 MM	2
	20124440050	8699931030952	CORTEX SCREW FOR NAILS TI Ø5x44 MM	2
	20124460050	8699931030969	CORTEX SCREW FOR NAILS TI Ø5x46 MM	2
	20124480050	8699931030976	CORTEX SCREW FOR NAILS TI Ø5x48 MM	2
5	0605000	8699931028461	PROFIN (PROX. FEM. INT. NAIL) SCREW BOX	1
6	0605400	8699931028508	PROFIN (PROX.FEM.INT.NAIL) IMPLANT 1.DESIGN TRAY	1



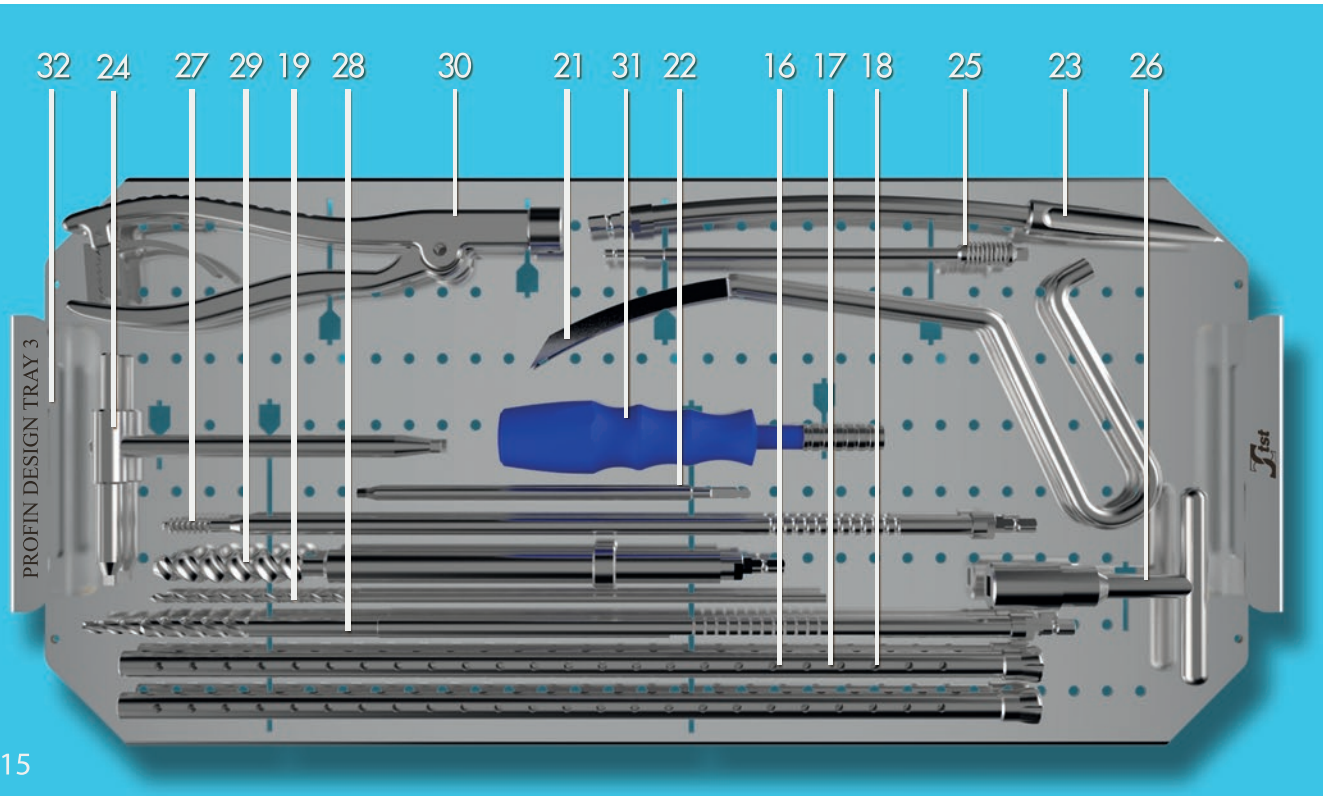
Instruments 1

NO	CATALOG NO	UBB NO	DESCRIPTION	QTY
7	01193002009	8699931028126	BONE HAMMER MEDIUM	1
8	08040000031	8698673496859	COMPRESSION WRENCH FOR PROX. SCREW	1
9	08040000140	8698673493438	WRENCH FOR PROXIMAL SCREW	1
10	08040001214	8698673493452	WRENCH 12 MM-14 MM	1
11	01195001009	8699931028195	HINGED SLOTTED HAMMER LARGE	1
12	08061000030	8680858408399	PFN NAIL EXTRACTOR	1
13	00250120050	8699931023039	DEPTH GAUGE - PROFIN & A-PFN 0-50 MM	1
14	00250100010	8699931023015	T HANDLE SCREW INSERTER 260 MM	1
15	0605100	8699931028478	PROFIN(PROX .FEM.INT.NAIL)INSTRUMENT 1.DESIGN TRAY	1



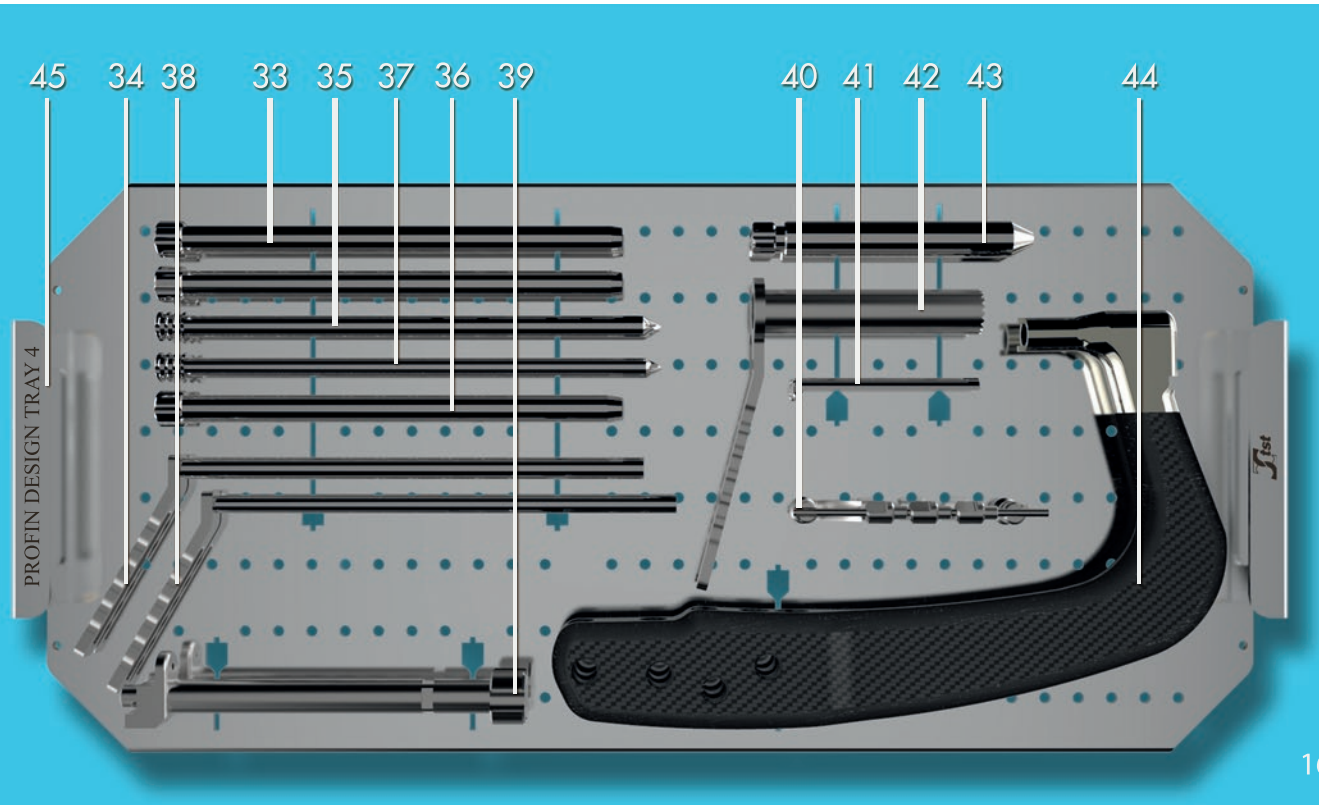
Instruments 2

NO	CATALOG NO	UBB NO	DESCRIPTION	QTY
16	23412340025	8699931022834	KIRSCHNER WIRE THREADED POINT Ø2,5x340 MM	4
17	23410340125	8699931026344	KIRSCHNER WIRE TROCAR POINT Ø2,5x340 MM	4
18	04551000350	8699931030686	K-WIRE TUBE Ø10XØ8X350 MM	2
19	01210030042	8699931030747	GRADUATED DRILL BIT Ø4,2 MM x300 MM (PFN)	1
20	23410060025	8699931028744	KIRSCHNER WIRE 2.5X600 MM	1
21	08201000003	8698673496248	AWL	1
22	02060018050	8680858405886	SCREW DRIVER QUICK TIP HEGZAGONAL Ø5.0X180 MM	1
23	00250200001	8699931023046	AWL (PFN)	1
24	02025100500	8699931005172	T-SCREW DRIVER 5 MM	1
25	02050101050	8699931029031	QUICK SCREW DRIVER SHAFT WITH SWIVEL 5MM HEX.BIT	1
26	02171000017	8698673440876	REAMER T HANDLE	1
27	08040000085	8698673493704	TAP Ø 8.5 MM CANNULATED FOR PROXIMAL SCREW	1
28	08040000110	8698673494619	PROXIMAL CANNULATED DRILL	1
29	08040000500	8698673495753	PROFIN TROCHANTERIC REAMER	1
30	08300000025	8699931021738	GUIDE WIRE PUSHER	1
31	02010101002	8698673493308	SOFT SCREW DRIVER QUICK LARGE	1
32	0605200	8699931028485	PROFIN(PROX.FEM.INT.NAIL)INSTRUMENT 2.DESIGN TRAY	1

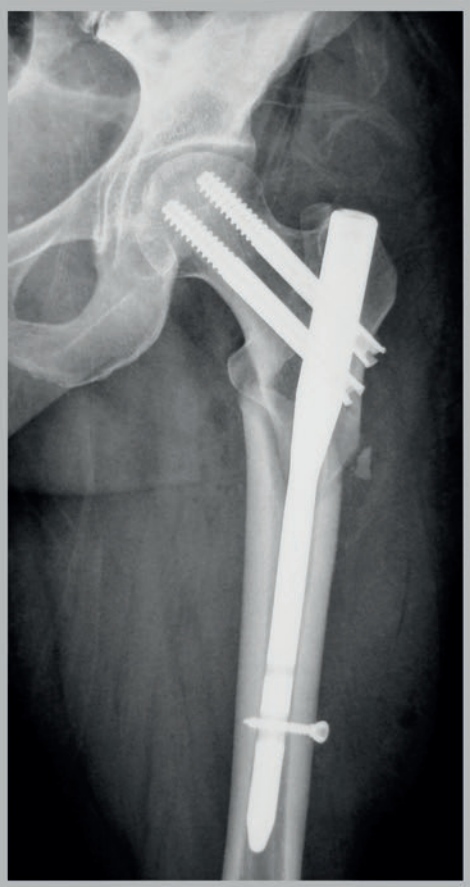


Instruments 3

NO	CATALOG NO	UBB NO	DESCRIPTION	QTY
33	08040000700	8699931005325	PROX.DRILL&SCR.SLEEVE Ø12X9.5X205 MM	2
34	08040000900	8699931022087	PROX.SLEEVE K-WIRE GUIDE 9.5X2.7X210MM	1
35	08040000800	8698673494602	PROX. SLEEVE TROCAR Ø9.5X230 MM	1
36	00250100602	8699931023022	SLEEVE (A-PFN&PFN) FOR CORTEX SCREW OF NAILS	1
37	08060080220	8699931032253	DISTAL TROCAR (A-PFN&PFN) Ø 8 X 220 MM	1
38	00250008101	8699931022926	DRILL GUIDE (A-PFN&PFN) FOR CORTEX SCREW OF NAILS	1
39	00250001031	8699931026658	PFN INSERTION KNOB	1
40	00250020001	8699931022933	A-PFN SCREW GUIDE LOCKING DEVICE	3
41	00250040002	8699931023138	LENGTH MEASURING DEVICE - PROFIN & A PFN	1
42	00250200033	8699931030709	PFN TROCHANTERIC SLEEVE	1
43	00260250600	8699931030716	PFN KIRSCHNER WIRE GUIDE Ø2.5X600 MM	1
44	08080000005	8699931032635	INSERTION HANDLE FOR PROFIN (F.CARBON)	1
45	0605300	8699931028492	PROFIN(PROX.FEM.INT.NAIL)INSTRUMENT 3.DESIGN TRAY	1
	00560270170	8699931010787	CONTAINER 560X270X170 MM	1



Case Radiographies



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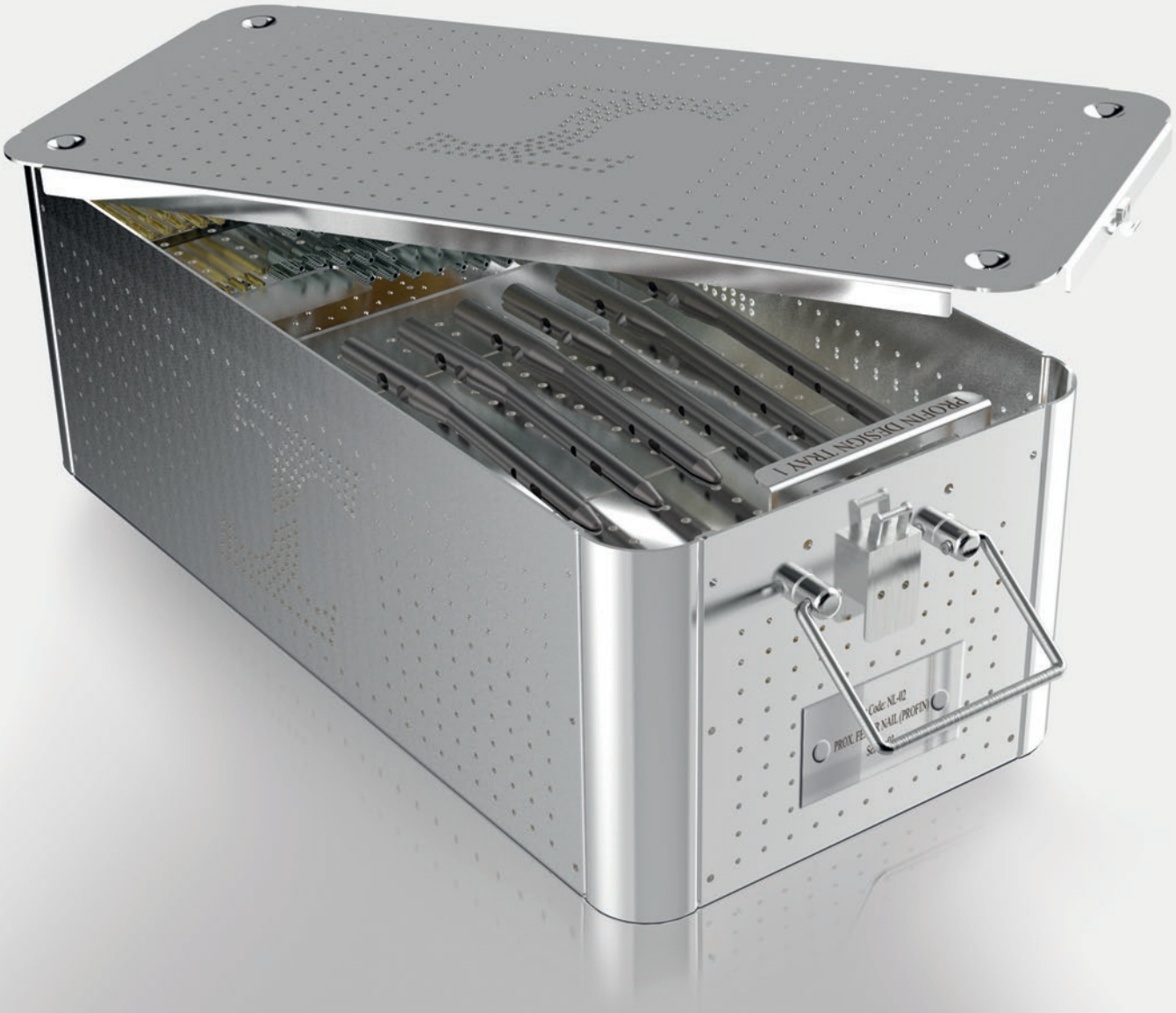

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