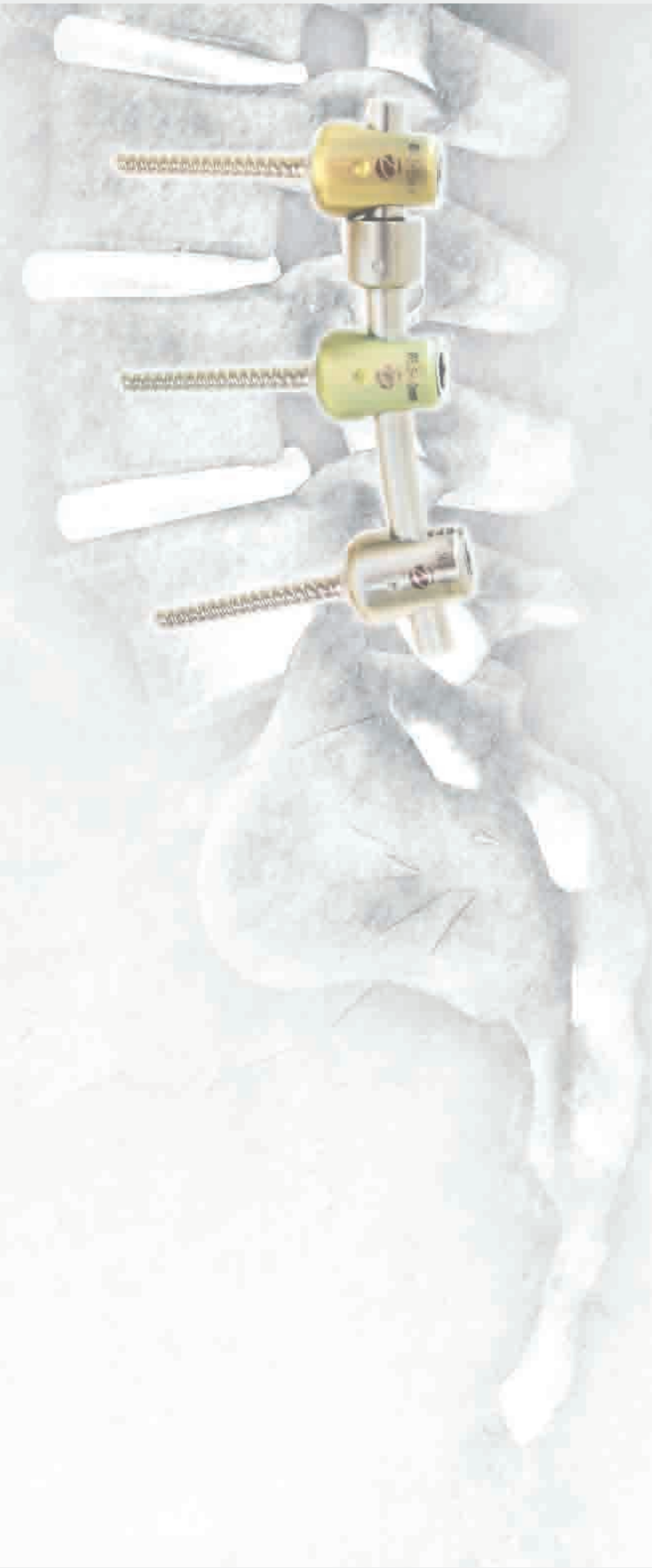

fixpine

Spinal Fixation system

Spinal System

Products introduction & Surgical Technique

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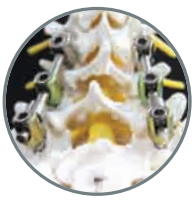
MEDICAL SERVICES FOR BETTER LIFE

fixpine
Spinal Fixation system

Contents



Low profile Design

Easy to use instrument

www.diomedical.com

Buttress thread set screw

Buttress thread type minimizes the spreading forces during tightening of the set screw, unlike similar competitive implants that use a standard thread type and outer cap or nuts to limit the spreading of the implant head. This reduces one step procedure of the locking implant.

FIXPINE Set Screw

STRONG ENOUGH WITHOUT OUTER CAP OR NUTS

This type makes less spreading forces than standard thread

Various type of screws

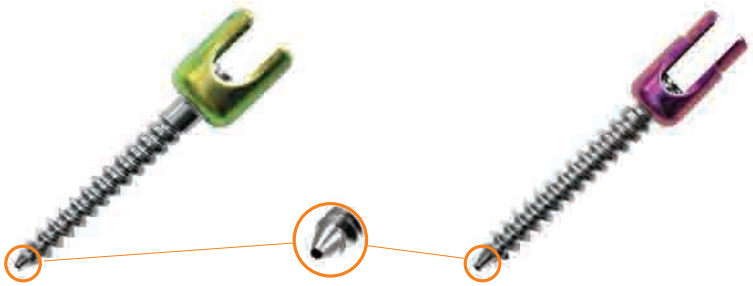
FIXPINE SPINAL FIXATION SYSTEM offers screws in various type, diameters and lengths so that, based on patient requirements and surgical indications, the surgeon can choose the most appropriate construct rigidity.

Monoaxial Pedicle Screw

Monoaxial Reduction Pedicle Screw

Polyaxial Pedicle Screw

Polyaxial Reduction Pedicle Screw



Cannulated Polyaxial Pedicle Screw

Cannulated Polyaxial Reduction Pedicle Screw

Strong polyaxial spinal screw

Average angle of variability of 40º, screw head can be flexed to any desirable position by a set screw so that repositioning can be performed with a fixed screw head

Flexibility of 40º

Long arm screw head

- **Correction and stabilization of difficult anatomical variations, encountered in higher grades of spondylolisthesis and other such deformities is facilitated by this system**
- **Achieve controlled and gradual anatomical reduction of the deformity**
- **Long arm type is designed to tighten the set screw very easily and smoothly and also simply break off to remove it during the operation**

Reduction Screw Head

Rod

FIXPINSE SPINAL FIXATION SYSTEM offers rods in various lengths with 6mm diameter.

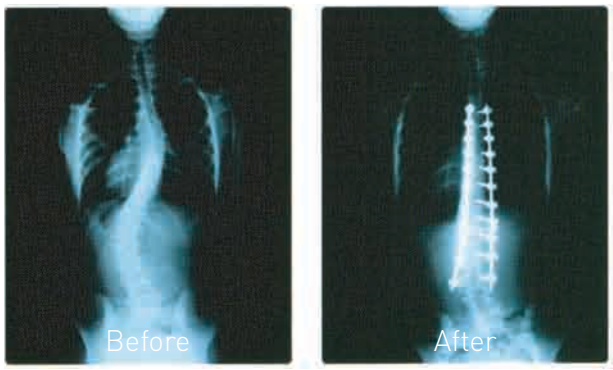
Titanium

All components of FIXPINE are made of Titanium alloy, Ti6Al4V Eli which is strongest at high stress and has excellent biocompatibility

Indication

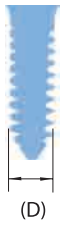
- Correction or stabilization of the vertebral column
- Consolidation of bone fusion
- The management of spinal column deformation and fracture
- Degenerative, traumatic and tumoral pathologies
- Pseudarthrosis and revision surgery

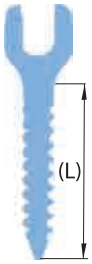
Case



Products list with part number

The diameter of the ranges from 4.0 to 8.0, increasing by 0.5mm. Each size has a corresponding screw length, which ranges from 35mm to 60mm increasing by 5mm.

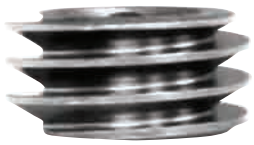




Diameter	Length	Monoaxial	Monoaxial Reduction	Polyaxial	Polyaxial Reduction	Cannulated Polyaxial	Cannulated Polyaxial Reduction
4.0	30mm	OSM1113	OSM1213	OSM2113	OSM2213	-	-
4.0	35mm	OSM1114	OSM1214	OSM2114	OSM2214	-	-
4.0	40mm	OSM1115	OSM1215	OSM2115	OSM2215	-	-
4.5	35mm	OSM1124	OSM1224	OSM2124	OSM2224	-	-
4.5	40mm	OSM1125	OSM1225	OSM2125	OSM2225	-	-
4.5	45mm	OSM1126	OSM1226	OSM2126	OSM2226	-	-
5.0	35mm	OSM1134	OSM1234	OSM2134	OSM2234	OSM2334	OSM2434
5.0	40mm	OSM1135	OSM1235	OSM2135	OSM2235	OSM2335	OSM2435
5.0	45mm	OSM1136	OSM1236	OSM2136	OSM2236	OSM2336	OSM2436
5.5	35mm	OSM1144	OSM1244	OSM2144	OSM2244	OSM2344	OSM2444
5.5	40mm	OSM1145	OSM1245	OSM2145	OSM2245	OSM2345	OSM2445
5.5	45mm	OSM1146	OSM1246	OSM2146	OSM2246	OSM2346	OSM2446
6.0	40mm	OSM1155	OSM1255	OSM2155	OSM2255	OSM2355	OSM2455
6.0	45mm	OSM1156	OSM1256	OSM2156	OSM2256	OSM2356	OSM2456
6.0	50mm	OSM1157	OSM1257	OSM2157	OSM2257	OSM2357	OSM2457
6.5	40mm	OSM1165	OSM1265	OSM2165	OSM2265	OSM2365	OSM2465
6.5	45mm	OSM1166	OSM1266	OSM2166	OSM2266	OSM2366	OSM2466
6.5	50mm	OSM1167	OSM1267	OSM2167	OSM2267	OSM2367	OSM2467
7.0	40mm	OSM1175	OSM1275	OSM2175	OSM2275	OSM2375	OSM2475
7.0	45mm	OSM1176	OSM1276	OSM2176	OSM2276	OSM2376	OSM2476
7.0	50mm	OSM1177	OSM1277	OSM2177	OSM2277	OSM2377	OSM2477
7.5	40mm	OSM1185	OSM1285	OSM2185	OSM2285	OSM2385	OSM2485
7.5	45mm	OSM1186	OSM1286	OSM2186	OSM2286	OSM2386	OSM2486
7.5	50mm	OSM1187	OSM1287	OSM2187	OSM2287	OSM2387	OSM2487

Set Screw

Part Number	Size
OSM4153	Compatible with all FIXPINE Pedicle screw



Rod

Length	Part Number	Length	Part Number
40mm	OSM3131	110mm	OSM3138
45mm	OSM313E	120mm	OSM3139
50mm	OSM3132	130mm	OSM313K
60mm	OSM3133	140mm	OSM313F
70mm	OSM3134	150mm	OSM313A
80mm	OSM3135	160mm	OSM313G
90mm	OSM3136	180mm	OSM313H
100mm	OSM3137	200mm	OSM313B

Flexible Rod Ø6.0

Length	Part Number	Length	Part Number
40mm	OSM3301	100mm	OSM3313
45mm	OSM3302	110mm	OSM3315
50mm	OSM3303	120mm	OSM3317
60mm	OSM3305	130mm	OSM3319
70mm	OSM3307	140mm	OSM3321
80mm	OSM3309	150mm	OSM3323
90mm	OSM3311	160mm	OSM3325

Transeverse Link Set

Length	Part Number	Length	Part Number
40mm	OSM6201	70mm	OSM6204
50mm	OSM6202	80mm	OSM6205
60mm	OSM6203	90mm	OSM6206

Pedicle Hook

Width (W)	Diameter (mm)	Spec(mm)		
		5	7	9
8	13.5	SH.PH.0005	SH.PH.0007	SH.PH.0009

Laminar Hook

Width (W)	Diameter (mm)	Spec(mm)			
		4	5	7	9
5	13.5	SH.LH.0504	SH.LH.0505	SH.LH.0507	SH.LH.0509
7	13.5		SH.LH.0705	SH.LH.0707	SH.LH.0709

Left Angled Hook

Width (W)	Diameter (mm)	Spec(mm)		
		5	7	9
5	13.5	SH.AL.0005	SH.AL.0007	SH.AL.0009

Right Angled Hook

Width (W)	Diameter (mm)	Spec(mm)		
		5	7	9
5	13.5	SH.AR.0005	SH.AR.0007	SH.AR.0009

Offset Hook-Left

Width (W)	Diameter (mm)	Spec(mm)	
		5	7
5	13.5	SH.OL.0005	SH.OL.0007

Offset Hook-Right

Width (W)	Diameter (mm)	Spec(mm)	
		5	7
5	13.5	SH.OR.0005	SH.OR.0007

Lateral Connector

Width (W)	Diameter (mm)	Length(L)	
		31 (Open)	31 (Closed)
11.5	6	SH.LC.0010	FH.LC.0020

Axial Connector

Height (H)	Diameter (mm)	Length(L)		
		24	28	37
13	6.5	FH.AC.0020	FH.AC.0030	FH.AC.0040

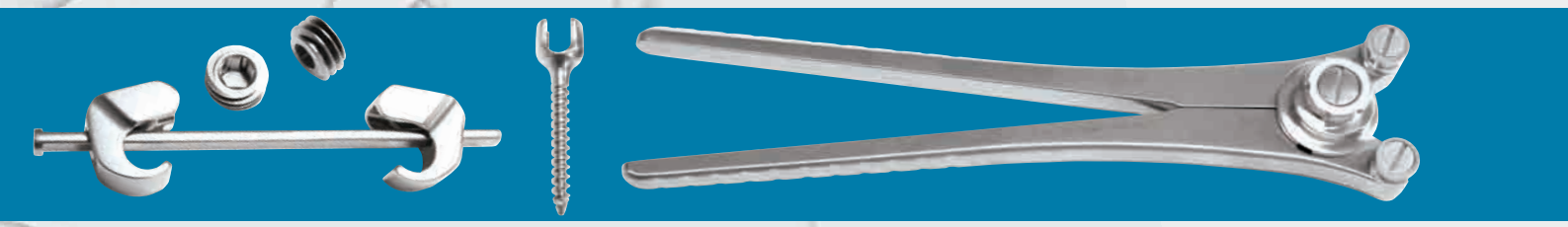
Domino Connector - 2mm ofset

Width (W)	Diameter (mm)	Length(L)	
		23.5	25.5
19.5	6.5	FH.DC.0220	FH.DC.0240

Domino Connector - 4mm ofset

Width (W)	Diameter (mm)	Length(L)	
		23.5	25.5
21.5	6.5	FH.DC.0520	FH.DC.0540

Surgical Technique



Site Preparation

1 Awl
2, 3 Prove Straight & Curved
4 Guide Pin A, B
5 Tester Thin & Thick
6 Tap with Ratchet

Instruments for Site Preparation

I

Pedicle hole preparation is began with a sharp Awl that penetrates the pedicle hole starting point.

II

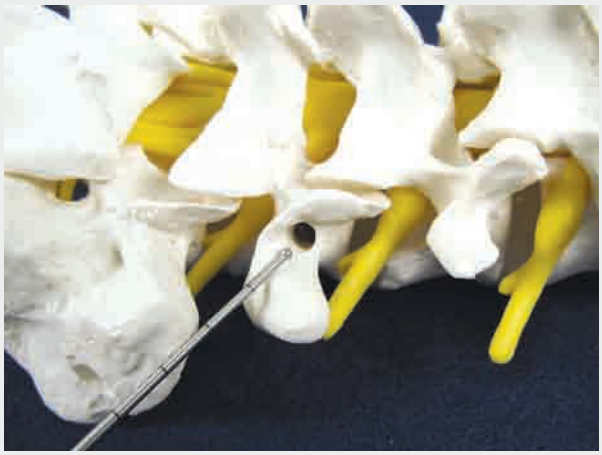
Determine the pedicle canal entry site.

Insert the Probe or Curved Probe into the established entry site, gently pressing through the pedicle canal to determine hole depth.

III

Confirmation of bony continuity on all sides and bottom of the prepared holes is achieved with a Tester.

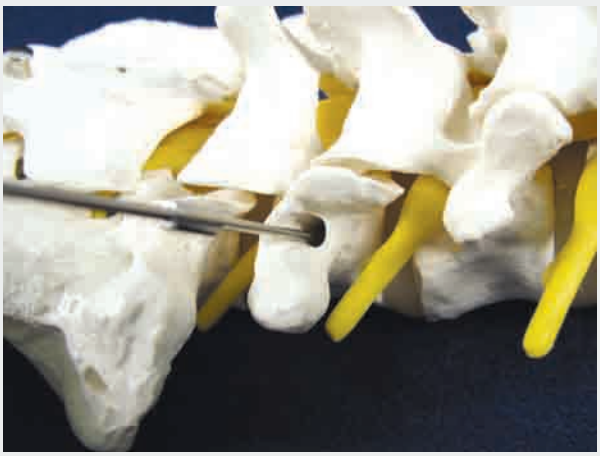
The Tester is used to palpate all four sides and the bottom of the pedicle hole to ensure that it is with bone..



IV

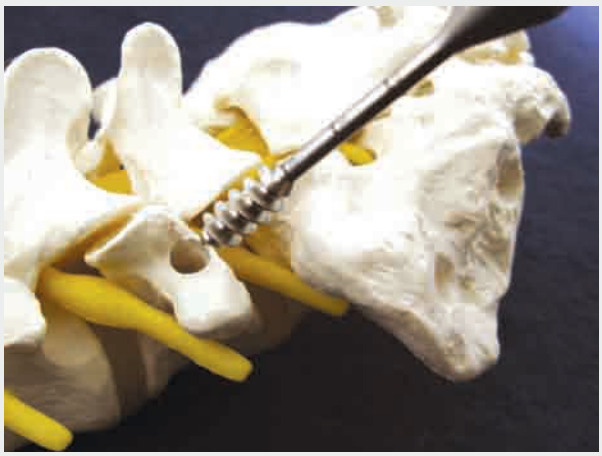
Insert the Guide Pin into the pedicle canal.

Guide Pin may be placed to identify appropriate screw trajectory via a lateral X-ray or fluoroscopy view.

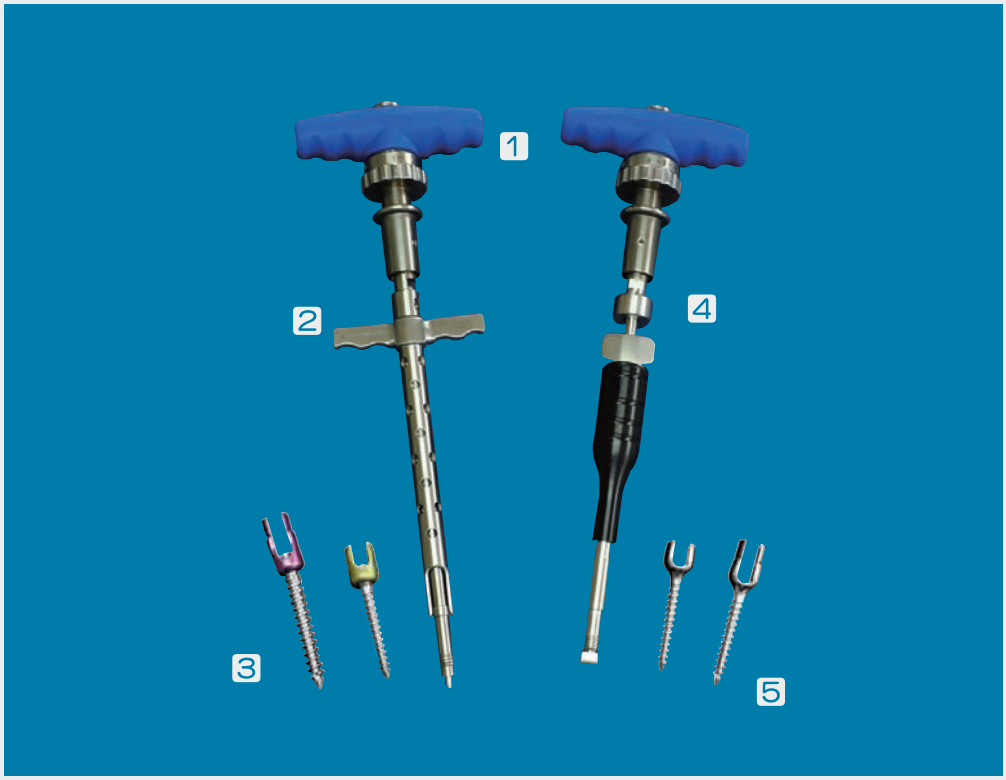


V

Taps are available for each of 5.5, 6.5, 7.5mm diameters.



Screw Insertion

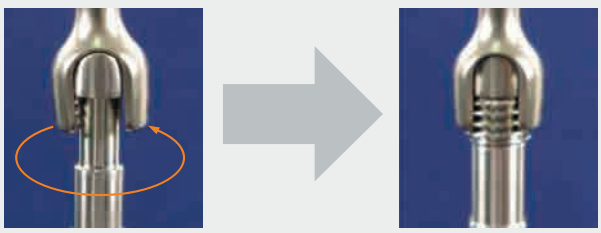


1 Ratchet Handle
2 Polyaxial Screw Driver
3 Polyaxial Pedicle Screw
4 Monoaxial Screw Driver
5 Monoaxial Pedicle Screw

Instruments for Screw Insertion

I

Assembly Screw Driver and Screw.



Assembled with Screw driver and Ratchet handle

II

Insert the Pedicle screw into the vertebral body until desired height.

Rod preparation & Insertion

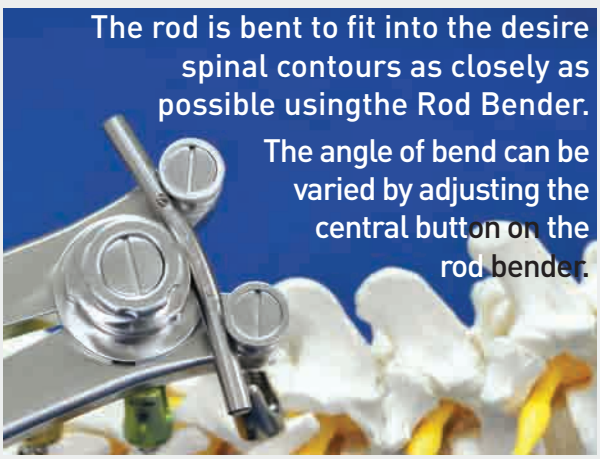
1 Rod Bender
2 Rod Holder
3 In-Situ Rod Bender (Left & Right)

Instruments for Rod Preparation & Insertion

I

The appropriate length rod should be chosen according to the construct, allowing approximately 4-5mm of rod overhang on either end of the construct.

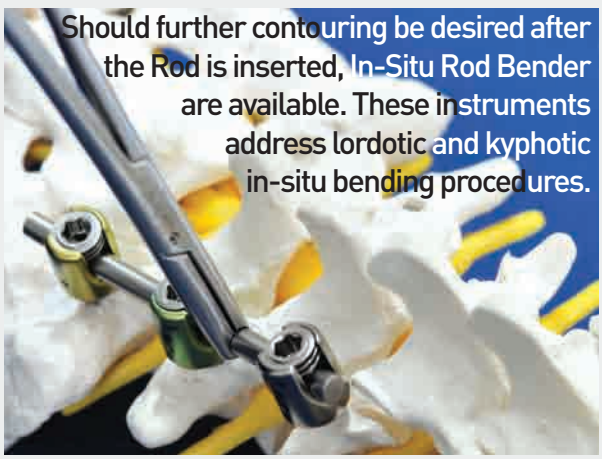
II



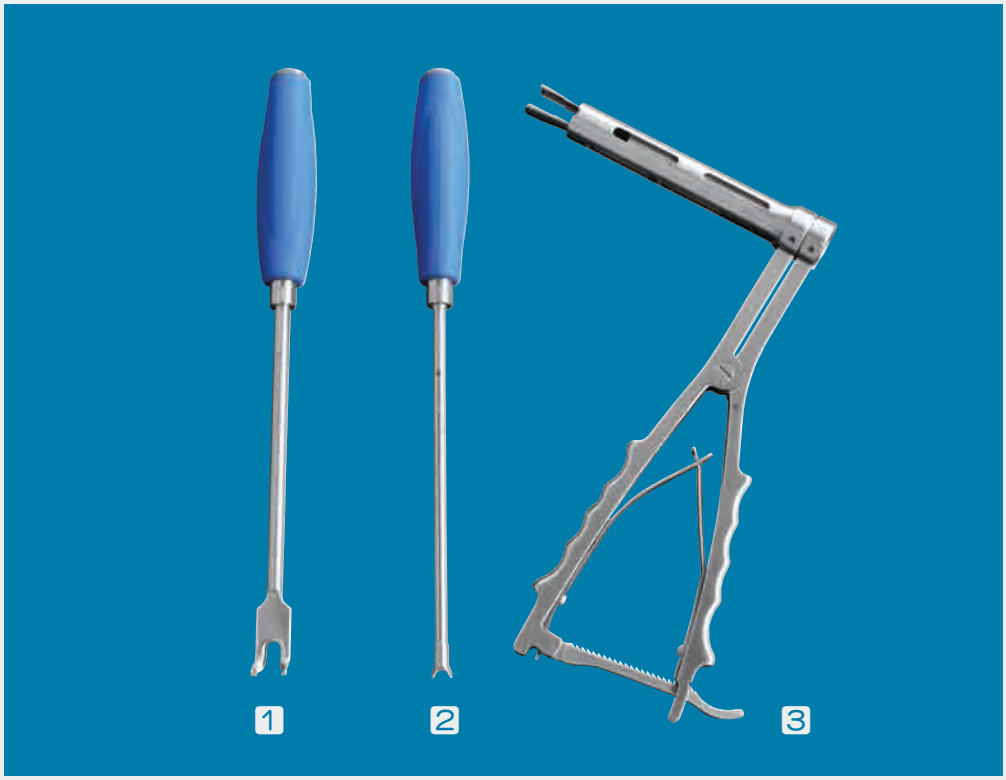
III

The rod is placed into the rod channel using the Rod Holder.

IV



Rod Instruction



1 Rod Fork
2 Rod Pusher
3 Persuader

Instruments for Rod Instruction

I

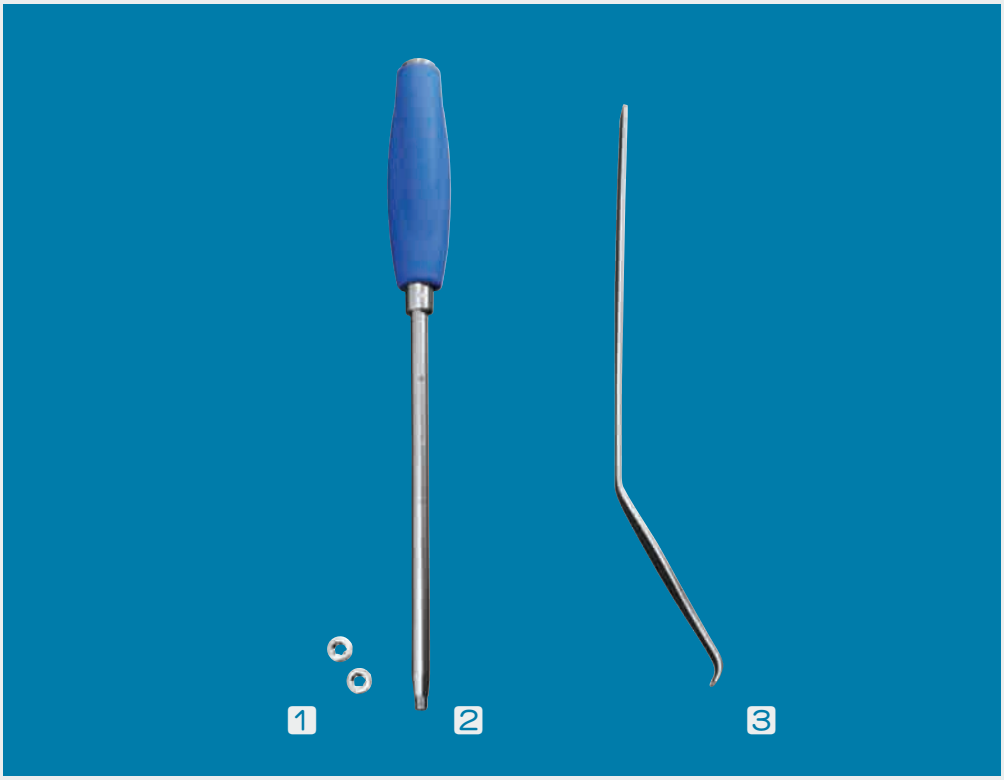
The Rod Fork is designed to staddle the implant and rod while introducing the rod into the open implant.

II

The Rod Pusher is used to apply gentle force to the rod while engaging the set screw.

As with all rod pushers, control is essential. Excessive force should be avoided.

Set Screw Insertion



1 Set Screw
2 Set screw Driver Guide
3 Retractor

Instruments for Set Screw Insertion

I

Set Screws are loaded onto the Set Screw Driver Guide and loosely inserted into the each housing.

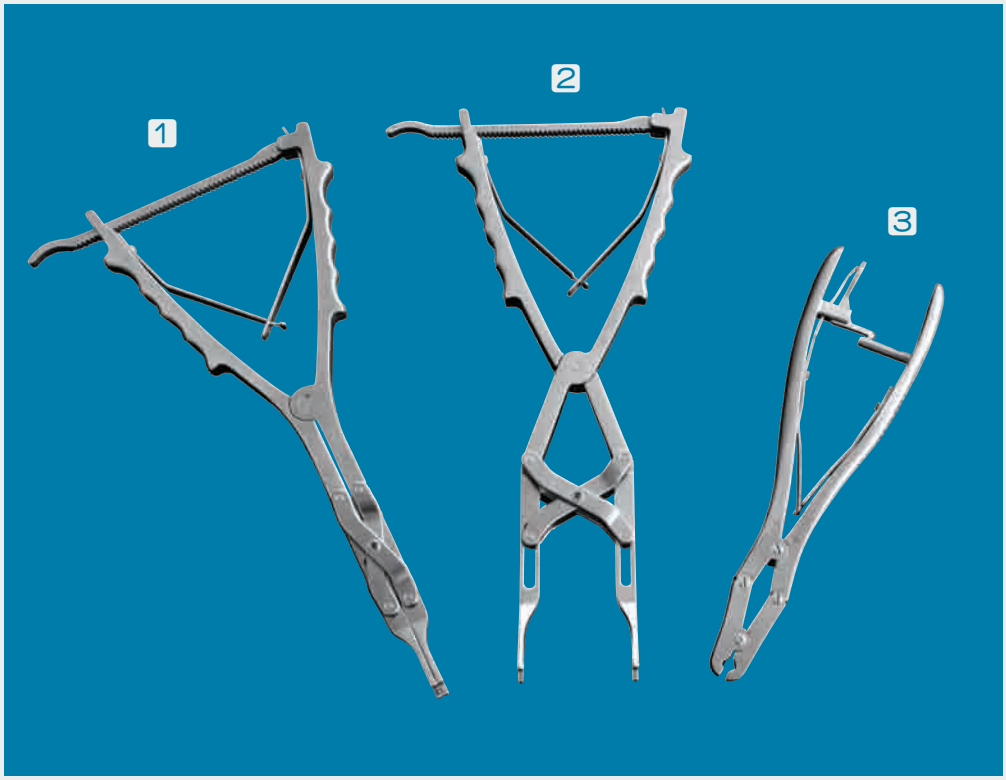
Do not final tighten the set screw with Set Screw Driver Guide.

II

Retractor is to make a space for Set screw driver Guide.

Fork of Retractor is located under housing.

Compression, Distraction & Rotation



1 Spreader
2 Compressor
3 Derotator

Instruments for Compression, Distraction & Rotation

I

Once the rod has been captured in the rod channel, compression and distraction maneuvers can be easily accomplished utilizing the Compressor and Spreader.


Screw Compression


Screw Distraction

II

The Derotator is used to firmly grasp the rod for rotation or to establish a purchase point for distraction or compression if necessary.

Final Tightening

1 Power Holder
2 5Hex Driver with Torque Wrench for Set Screw
3 Set Screw Driver

Instruments for Set Screw Insertion

I

Place the Set screw Driver through the appropriate arm of the Power Holder.

Place the tip of the Set screw Driver into the set screw and Power Holder over the set screw and rod.

II

Place the tip of the Set screw Driver into the set screw and Power Holder over the set screw and rod.

Begin turning the Set screw driver to tighten the cap nut.

Reduction Cut & Transverse Link

1 Cutter
2 Torque Wrench for T/L with 4Hex driver
3 Transverse Link Driver

Instruments for Reduction Cut & Transverse Link

I

Reduction Cutter is used to break off the extended arms.

II

Both hooks of the Transverse Link are hooked on the rod.

Tighten screw until half torque position, And then tighten every screw until final torque position.

Revision or Removal

The procedure should be done by the following steps for removing screws or revision.

Step 1 Remove transverse link

I Release the set screw using with Torque wrench for T/L.
Do not leave the set screw from T/L hook.
Then remove transverse link using with Rod holder.

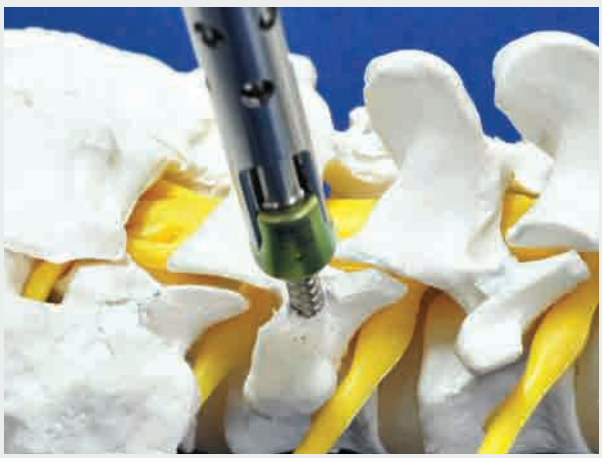
Step 2 Remove Set screw

I Release the set screw using with Anti-Torque and Torque wrench.
The set screw which will be released, is rotated just one round.

II Remove the set screw using with Set screw driver guide.

III Remove the rod using with rod holder

IV In case of revision, remove the screw after doing of above #3 procedure.



Step 3 Remove Screw

I Combine the screw which will be removed with mono screw driver or poly screw driver.
When you combine both of them, should make full force by hand.

II Rotate mono screw driver or poly screw driver counterclockwise slowly.
Rotate as slow as you can when the screw is not rotating.

III All screws should be removed as by step 2. Using a bigger size(recommend +0.5mm) screw than used one when revision.

Products List with Part number

Awl OSM0010

Probe Straight OSM0031

Probe Curved OSM0030

Tester thin OSM0040

Tester thick OSM0041

Guide Pin A-Type OSM0021

Guide Pin B-Type OSM0022

Tap 5.5mm, 6.5mm, 7.5mm OSM0057, OSM0058, OSM0059

Poly Screw Driver OSM0074

Instrument list with part number

Mono Screw Driver OSM0062

Ratchet Handle OSM0053

Rod Holder OSM00I0

Rod Bender OSM0080

Rod Pusher OSM00E0

Rod Fork OSM00M0

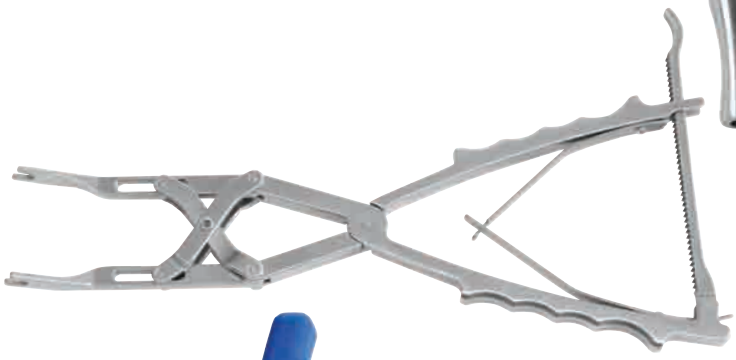
Set screw Driver Guide OSM00C0

Retractor OSM00L0

Derotator OSM00H0

Set srew Driver OSM00D0

Compressor OSM0063



Torque Wrench for set screw OSM0051

Torque Wrench for Transverse Link OSM0052

Spreader OSM0064

Power Holder OSM00B0

Persuader OSM0056

Cross Link Driver OSM00A0

Cutter OSM0090

Cutter -forcep type OSM0069

In-Situ Rod Bender Right OSM0055

In-Situ Rod Bender Left OSM0054

5Hexa Driver OSM0061

4Hexa Driver OSM0060

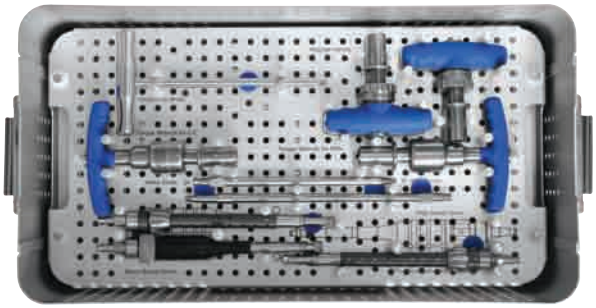
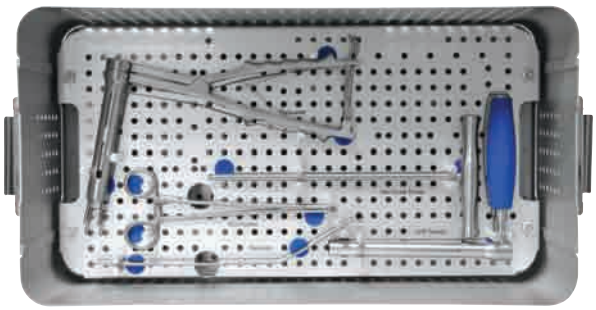
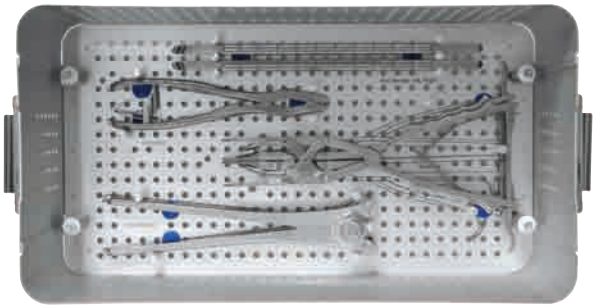
Hook Holder FH.IN.0010

Hook Holder curved FH.IN.0021

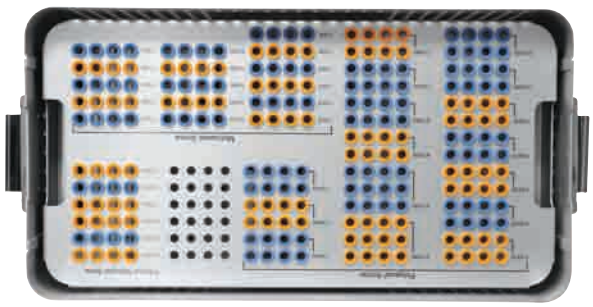
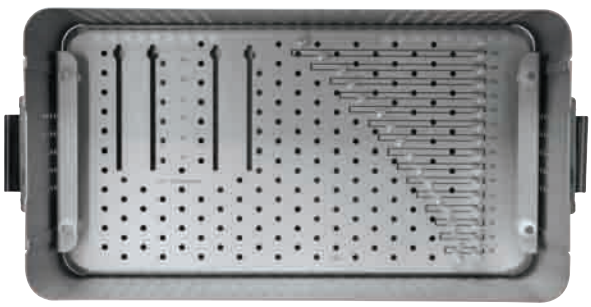
Pedicle Finder FH.IN.0021

Laminar Finder FH.IN.0022

Instrument Set

Implant Set

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#105 Mega Center, SK Technopark, 190-1, Sangdaewon-dong, Jungwon-gu, Seongnam, Gyeonggi-do, Korea
Tel : 82-31-776-3690 **Fax :** 82-31-776-3691
E-mail : diomedical.co.ltd@gmail.com **www.diomedical.com**