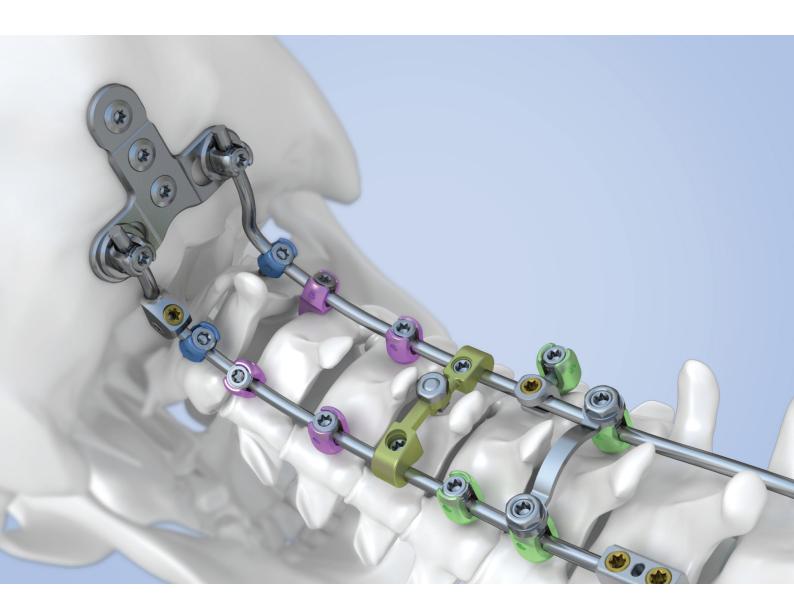


ANAX TM OCT

Spinal System





Product Overview

Occipital plate • Medial occipital plate (Small, Medium, Large) · Lateral occipital plate (Small, Medium, Large) • Cortical screw (D4.5mm), Rescue screw (D5.0mm) Rod • Rod (D3.5) • Transition rod (D3.5-D5.5, D3.5-D6.0) • Pre-bent rod (D3.5) • OC Adjustable Rod (D3.5) Set screw Set screw (Square thread) • Set screw for H-H connector Set screw for connector Transverse link • Small, Medium, Large · Head to head connector • Hook (H4.5, 6.0) • Left & Right angled hook (H4.5, H6.0) • Left & Right offset hook (H4.5, H6.0) Polyaxial screw Polyaxial screw (D3.5, D4.0, D4.5 x 10~50mm) Shank screw (D3.5 x 20~36mm) Connector Axial connector (D3.5-D3.5, D3.5-D5.5, D3.5-D6.0) Domino connector (D3.5-D3.5, D3.5-D5.5, D3.5-D6.0) Lateral connector (L10, L13mm)

Preparation

All necessary imaging studies should be available to plan implant placement and visualize individual patient

The patient is placed on the operating table in a prone position with the patient's head securely immobilized. Care should be taken to avoid abdominal pressure in order to reduce bleeding.

Use the standard surgical approach to expose the spinous processes and lamina of the vertebrae to be fused.

Surgical Technique

1. Start screw hole

	Instruments	
OS0350	AWL	

Determine the entry point and trajectory for the screw and use the AWL to create a pilot hole (Fig. 1). This helps to prevent displacement of the DRILL BIT during initial insertion.



ANAX™OCT Spinal System

2. Select screw and drill bit

Instruments		
OS0010	DRILL BIT FOR D3.5 (Ø2.1)	
OS0020	DRILL BIT FOR D4.0 (Ø2.6)	
OS0030	DRIVING HANDLE	
OS0040	ADJUSTALE DRILL GUIDE	

Select the **DRILL BIT** that corresponds to the screw diameter to be used. 3.5 mm screw is to be used with Ø2.1 drill bit. 4.0 mm screw has a larger core diameter and is to be used with Ø2.6 drill bit. Drill bit diameter sizes are printed on the adaptor side for handle connection. (Fig. 2)

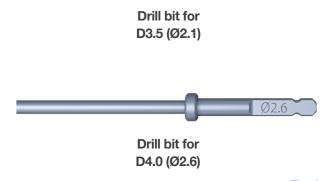


Fig. 2





3. Set ADJUSTABLE DRILL GUIDE depth

Instruments		
OS0040	ADJUSTABLE DRILL GUIDE	

To set the **ADJUSTABLE DRILL GUIDE** to the desired depth, push the side button to release the inner tube, align the distal end of the internal drill guide tube with the appropriate depth calibration on the window. Release the button to lock the **ADJUSTABLE DRILL GUIDE** at the desired depth. (Fig. 3)



Fig. 3

4. Drill hole

Instruments		
OS0010	DRILL BIT FOR D3.5 (Ø2.1)	
OS0020	DRILL BIT FOR D4.0 (Ø2.6)	
OS0030	DRIVING HANDLE	
OS0040	ADJUSTABLE DRILL GUIDE	
OS0330	STRAIGHT PROBE	
OS0340	CURVED PROBE	
OS0360	STRAIGHT & CURVED TESTER	

Drill to the desired trajectory and depth using the **DRILL BIT** (either Ø2.1, Ø2.6) with the **DRIVING HANDLE** ; they are going through the **ADJUSTABLE DRILL GUIDE**.(Fig. 4)

The **DRIVING HANDLE** attached to the **DRILL BIT** is not shown. Pedicle preparation can be performed using the **PROBEs**(straight or curved) or **TESTER**.



Fig. 4

5. Measure

Instruments		
SO0280	DEPTH GAUGE (50mm)	

Use the **DEPTH GAUGE** to confirm the hole depth and select the corresponding screw length.

The **DEPTH GAUGE** reading and the screw length indicate actual bone purchase.

The **DEPTH GAUGE** must sit directly on the bone. (Fig. 5)

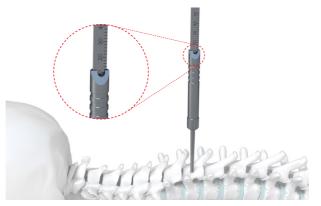


Fig. 5

6. Tapping (optional)

	Instruments	
OS0030	DRIVING HANDLE	
OS0050	ADJUSTABLE TAP GUIDE	
OS0060	TAP D3.5 (Dark Blue)	
OS0070	TAP D4.0 (Violet)	
OS0080	TAP D4.5 (Green)	

Dense bone may be tapped using the appropriate **TAP**s, depending on the chosen screw. **TAP** is identified by color anodizing ring according to the housing color of desired screws. (Fig. 6)

Setting method of **ADJUSTABLE TAP GUIDE** is same with **ADJUSTABLE DRILL GUIDE** for desired tap depth. (Fig. 7)

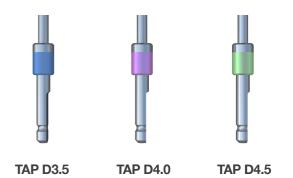


Fig. 6



Fig.

7. Insert screw

	Instruments	
OS0090	POLY SCREW DRIVER	
OS0100	RATCHET HANDLE	

Insert the selected screws using the **POLY SCREW DRIVER**. (Fig. 8)

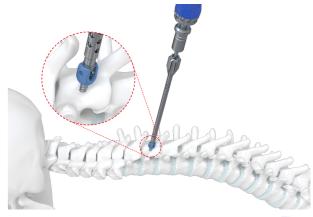


Fig. 8



8. Insert of rod

Instruments			
SO0160	ALIGNMENT TOOL		
OS0120	ROD CUTTER		
OS0130	ROD BENDER		
OS0140	ROD HOLDER		
OS0220	IN-SITU ROD BENDER (LEFT)		
OS0230	IN-SITU ROD BENDER (RIGHT)		
OS0240	ROD TEMPLATE		

Contour the **ROD TEMPLATE** to estimate appropriate rod length and proper shape for anatomy.

Use the **ROD BENDER** to contour the rod to fit contoured the **ROD TEMPLATE**. (Fig. 9)

For more complex anatomy, rod bending can be optionally performed using the **IN-SITU ROD BENDERs** by holding the both ends of the rod.

Use the **ROD CUTTER** to cut the rod to the appropriate length

Insert the rod into the variable axis heads of the screws using the **ROD HOLDER**. (Fig. 10)

The **ALIGNMENT TOOL** may be used to help orient the heads to the correct position.



Fig. 9



Fig. 10

9. Insert of set screw

	Instruments
OS0150	T15 DRIVER SHAFT
OS0210	TORQUE LIMITING HANDLE

Loosely fasten the set screw using the **T15 DRIVER SHAFT** and **TORQUE LIMITING HANDLE**.

When inserting the set screws, they may be turned one-quarter to one-half turn counterclockwise to seat the thread before tightening. (Fig. 11)



Fig. 11

9-1. Persuader (Optional)

	Instruments	
OS0200	PERSUADER	

Use the **PERSUADER** to introduce the titanium rod into the polyaxial screw housing U shape channel. Place the **PERSUADER** over the rod and onto the poly axial screw housing until the tip of the **PERSUADER** sits below the screw head reduction feature. Squeeze the handle to engage the **PERSUADER** and introduce the rod into the head of the screw. Loosely fasten the set screws using the **SET SCREW INSERTER** through the cannulation of the **PERSUADER**. When insert the set screw, they may be turned one-quarter to one-half turn counterclockwise to seat the thread before tightening. (Fig. 12)

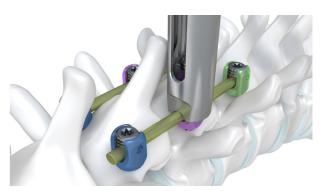


Fig. 12

10. Lock construct

	Instruments
OS0150	T15 DRIVER SHAFT
OS0190	ANTI-TORQUE
OS0210	TORQUE LIMITING HANDLE

After final adjustment of the construct, fully tighten all set screws with the T15 DRIVER SHAFT and TORQUE LIMITING HANDLE. The construct is now rigidly locked. Final tightening should be accomplished with a torque of 3.0 Nm after all set screws have been placed, and should be aided by the ANTI-TORQUE. (Fig. 13)



Fig. 13

11. Apply compression or distraction

		Instruments	
	OS0170	DISTRACTOR	
	OS0180	COMPRESSOR	

compressor or distractor with polyaxial screw heads is only possible if the set screws have not been tightened. Use the compressor to achieve compression or the distractor to achieve distraction, and then tighten the set screws as described in Step 10. (Fig. 14)



Fig. 14





Additional Techniques

A. Placement of laminar hooks

a. Place laminar hooks

Instruments				
OS0110	HOOK HOLDER			

Attach the **HOOK HOLDER** to the appropriate hook. Place the hook in the desired location. (Fig. 15)

b. Insert rod

Insert the rod as described in step 8.

c. Insert of set screw

Instruments				
OS0110	HOOK HOLDER			
OS0150	T15 DRIVER SHAFT			
OS0210	TORQUE LIMITING HANDLE			

Loosely fasten the set screw using the **T15 DRIVER SHAFT**, with the **HOOK HOLDER** holding the hooks to stabilize the construct.

d. Lock construct

Lock the construct as described in step 10

B. Insert transverse link

Instruments				
OS0140	ROD HOLDER			
OS0150	T15 DRIVER SHAFT			
OS0160	DRIVER FOR TL			
OS0210	TORQUE LIMITING HANDLE			

Place the transverse link on the screw construct to assess fit. Hold the transverse link with the **ROD HOLDER**. Adjust as necessary.

Both sides of the transverse link should be placed over the rods. Perform semi-tightening using **T15 DRIVER SHAFT** for both side set screw and use **DRIVER FOR TL** for center nuttightening.

After removing the **ROD HOLDER**, fully tighten for set screws and center nut using the **T15 DRIVER SHAFT** and **DRIVER FOR TL** with a torque of 3.0 Nm respectively. (Fig. 16)

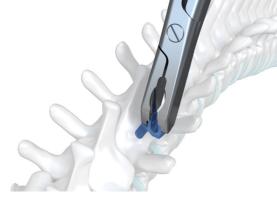


Fig. 15

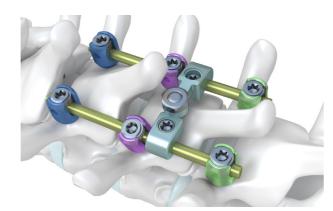


Fig. 16

Optionally, H-H Connector can be used to connect housing to housing in transverse direction.

Firstly, attach the Set screw for H-H connector having bi-level thread to the housing of the embedded screw.

Place the H-H Connector, then perform final tightening with the Nut using **DRIVER FOR TL** for H-H Connector with 3.0 Nm torque. (Fig. 17)



Fia. 17

C. Insert lateral connector

Instruments				
OS0140	ROD HOLDER			
OS0150	T15 DRIVER SHAFT			
OS0210	TORQUE LIMITING HANDLE			

In need of offset connection between the screw and rod, the lateral connectors are used. In case of offset distance between the screw and rod more than 8 mm, then the connectors should be used. (Fig. 18)

Insert the connector to the screw already embedded into the bone. Insert the set screw for connector to the screw using the T15 DRIVER SHAFT and TORQUE LIMITING HANDLE; they may be turned one- quarter to one-half turn counterclockwise to seat the thread before tightening.

Insert the rod into the connector and insert the set screw using the T15 DRIVER SHAFT and TORQUE LIMITING HANDLE.

After final adjustment of the construct, perform final tightening to the screw and the connector using the **TORQUE LIMITING HANDLE** with a torque of 3.0 Nm.



Fig. 18



D. Insert axial/domino connector

In need of extending an ANAXTM OCT Spinal System construct, the axial or domino connectors are provided. (Fig. 19)

With axial or domino connectors, either side of the connector may be connected first.

Tighten the set screw on one side, then connect the remaining rod and tighten the set screw using the **TORQUE LIMITING HANDLE** with a torque of 3.0 Nm.







AXIAL CONNECTOR AXIAL CONNECTOR AXIA (3.5×3.5) (3.5×5.5)

(3.5×5.5)

AXIAL CONNECTOR (3.5×6.0)



DOMINO CONNECTOR



DOMINO CONNECTOR (3.5×5.5)

DOMINO CONNECTOR (3.5×6.0)

Fig. 19

E. Occipital fusion technique

a. Select occipital plate

	Instruments	
OS0250	OCCIPITAL PLATE HOLDER	

Select the appropriate plate size to best fit the occiput. (Fig. 20)

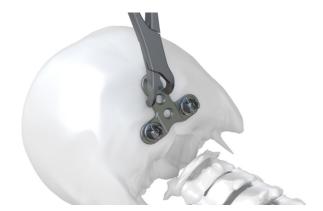


Fig. 20

b. Contour plate

Instruments				
OS0220	IN-SITU BENDER(LEFT)			
OS0230	IN-SITU BENDER(RIGHT)			

Use the IN-SITU BENDERs to contour the plate to fit the anatomy. (Fig. 21)

Warning: Care should be taken to avoid excessive bending to prevent damage due to concentration of stress on the plate. After bending the plate, do not straighten or bent repeatedly.



Fig. 21

c. Drilling

Instruments					
OS0030 DRIVING HANDLE					
OS0260	D3.3 DRILL BIT				
	FOR CORTICAL SCREW				
OS0270	D3.8 DRILL BIT				
	FOR RESCUE SCREW				
OS0300	DT GUIDE FOR PLATE (6-8)				
OS0310	DT GUIDE FOR PLATE (10-12)				
OS0320	DT GUIDE FOR PLATE (14-16)				

After positioning the plate on the occiput, select **DT GUIDE FOR PLATE** size for the desired depth.

Drill a hole to the desired trajectory and depth, using the **D3.3 DRILL BIT FOR CORTICAL SCREW** through the **DT GUIDE FOR PLATE**.

Drilling must occur through the occipital plate to ensure proper drilling depth. (Fig. 22)

Note

D3.8 DRILL BIT FOR RESCUE SCREW is used for preparation of **RESCUE SCREW**.

d. Tapping

	Instruments
OS0280	TAP FOR CORTICAL SCREW
OS0290	TAP FOR RESCUE SCREW

Tap through selected **DT GUIDE FOR PLATE** and **OCCIPITAL PLATE**, to ensure proper tapping depth.



Note

TAP FOR RESCUE SCREW is used for preparation of **RESCUE SCREW**.

Instruments				
OS0030	DRIVING HANDLE			
OS0150	T15 DRIVER SHAFT			

Insert the selected size of **CORTICAL SCREW** and provisionally tighten. (Fig. 24)

Note

RESCUE SCREW may be used if the **CORTICAL SCREW** has less than optimal fixation.

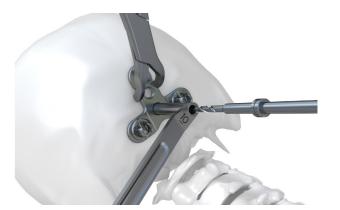


Fig. 22

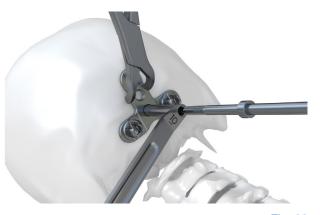


Fig. 23



Fig. 24





f. Insert additional screws

Insert remaining screws, as Step E-e. (Fig. 25)



Fig. 25

g. Occipital rod preparation and insertion

Choose suitable rod to fit occipitocervical construct and anatomy. There are two types of rods (PRE-BENT ROD D3.5, OC ADJUSTABLE ROD D3.5) for occipitocervical construct.

If desired, the **ROD TEMPLATE** may be used to determine the appropriate length and curvature of the rod. Cut the rod to the appropriate length using **ROD CUTTER** and contour the rod to the appropriate shape using **ROD BENDER** as described in Step 8. **OC ADJUSTABLE ROD** allows the surgeon to preset the optimal angle of the rod for different patients and minimize the need for bending. (Fig. 26)

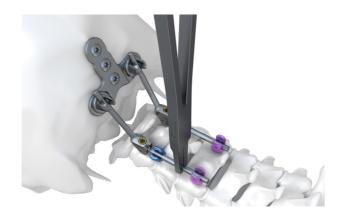


Fig. 2

h. Insert of set screw

Insert the set screw as described in step 9.

i. Lock construct

Lock the construct as described in step 10. (Fig. 27)

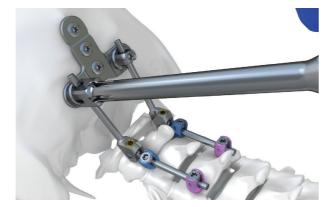


Fig. 27

Implant removal

Instruments					
OS0090	POLY SCREW DRIVER				
OS0100	RATCHET HANDLE				
OS0140	ROD HOLDER				
OS0150	T15 DRIVER SHAFT				
OS0160	DRIVER FOR TL				
OS0190	ANTI-TORQUE				
OS0210	TORQUE LIMITING HANDLE				

Loosen the Set Screw by turning the

T15 DRIVER SHAFT and TORQUE LIMITING HANDLE
assembly counterclockwise and hold rod using the

ANTI-TORQUE to prevent twisting of the screw
assembly. Turn counterclockwise to remove the Set
Screw. (Fig. 28, 29)

The hook, lateral connector, and axial/domino connectors require that the **T15 DRIVER** be used for removal. For the transverse links, the **DRIVER FOR TL** is required.

Remove the Rods using the **ROD HOLDER**.(Fig. 30)

Remove the screw using the **POLY SCREW DRIVER**. Turn counterclockwise slowly. All screws should be removed.(Fig. 31)



Fig. 29

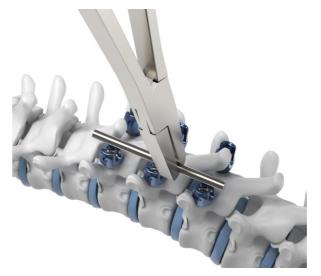


Fig. 30



Fig. 31



Ordering information

Implants (Single Use Only)





Polyaxial

Ø4.0mm

Screw







Polyaxial Screw Ø3.5mm						
Cat. No	Length (mm)	Cat. No	Length (mm)	Cat. No	Length (mm)	
OSA3510	10	OSA3524	24	OSA3538	38	
OSA3512	12	OSA3526	26	OSA3540	40	
OSA3514	14	OSA3528	28	OSA3542	42	
OSA3516	16	OSA3530	30	OSA3544	44	
OSA3518	18	OSA3532	32	OSA3546	46	
OSA3520	20	OSA3534	34	OSA3548	48	
OSA3522	22	OSA3536	36	OSA3550	50	

Polyaxial Screw Ø4.0mm						
Cat. No	Length (mm)	Cat. No	Length (mm)	Cat. No	Length (mm)	
OSA4010	10	OSA4024	24	OSA4038	38	
OSA4012	12	OSA4026	26	OSA4040	40	
OSA4014	14	OSA4028	28	OSA4042	42	
OSA4016	16	OSA4030	30	OSA4044	44	
OSA4018	18	OSA4032	32	OSA4046	46	
OSA4020	20	OSA4034	34	OSA4048	48	
OSA4022	22	OSA4036	36	OSA4050	50	

	Polyaxial Screw ∅4.5mm			Polyaxial Shank	Screw Ø3.5mm
Cat. No	Length (mm)	Cat. No	Length (mm)	Cat. No	Length (mm)
OSA4520	20	OSA4538	38	OSA3620	20
OSA4522	22	OSA4540	40	OSA3622	22
OSA4524	24	OSA4542	42	OSA3624	24
OSA4526	26	OSA4544	44	OSA3626	26
OSA4528	28	OSA4546	46	OSA3628	28
OSA4530	30	OSA4548	48	OSA3630	30
OSA4532	32	OSA4550	50	OSA3632	32
OSA4534	34			OSA3634	34
OSA4536	36			OSA3636	36

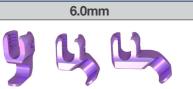
Set Screws				
Cat. No	OS1030	OS2500	OSA2801	
Description	Set Screw for Screws (Square Thread)	Set Screw for Connector	Set Screw for H-H Connector	

Lamina Hook

4.5mm



Cat. No	Description
OS1545	STRAIGHT
OS1546	LEFT ANGLED
OS1547	RIGHT ANGLED
OS1548	LEFT OFFSET
OS1549	RIGHT OFFSET



Cat. No	Description
OS1560	STRAIGHT
OS1561	LEFT ANGLED
OS1562	RIGHT ANGLED
OS1563	LEFT OFFSET
OS1564	RIGHT OFFSET

Transition Rod Transition Rod (L TYPE)

Rod (L TYPE)





Cat. No	Length (mm)	Cat. No
OS2001	Ø3.5 - 30	OS2001L (LTYPE)
OS2002	Ø3.5 - 35	OS2002L (L TYPE)
OS2003	Ø3.5 - 40	OS2003L (L TYPE)
OS2004	Ø3.5 - 45	OS2004L (L TYPE)
OS2005	Ø3.5 - 50	OS2005L (L TYPE)
OS2006	Ø3.5 - 55	OS2006L (L TYPE)
OS2007	Ø3.5 - 60	OS2007L (L TYPE)
OS2008	Ø3.5 - 70	OS2008L (L TYPE)
OS2009	Ø3.5 - 80	OS2009L (L TYPE)
OS2010	Ø3.5 - 90	OS2010L (L TYPE)
OS2011	Ø3.5 - 100	OS2011L (L TYPE)
OS2012	Ø3.5 - 120	OS2012L (L TYPE)
OS2013	Ø3.5 - 150	OS2013L (L TYPE)
OS2014	Ø3.5 - 200	OS2014L (L TYPE)
OS2015	Ø3.5 - 240	OS2015L (L TYPE)

OS2111 Ø3.5 - Ø5.5 x 200 OS2111L (L TYPE) OS2112 Ø3.5 - Ø5.5 x 300 OS2112L (L TYPE) OS2113 Ø3.5 - Ø5.5 x 400 OS2113L (L TYPE) OS2114 Ø3.5 - Ø5.5 x 480 OS2114L (L TYPE)	Cat. No	Length (mm)	Cat. No
OS2113 Ø3.5 - Ø5.5 x 400 OS2113L (L TYPE)	OS2111	Ø3.5 - Ø5.5 x 200	OS2111L (L TYPE)
, ,	OS2112	Ø3.5 - Ø5.5 x 300	OS2112L (L TYPE)
OS2114 03.5 - 05.5 x 480 OS21141 (LTVPF)	OS2113	Ø3.5 - Ø5.5 x 400	OS2113L (L TYPE)
002114 20.5 20.5 X 400 002114E (E 111 E)	OS2114	Ø3.5 - Ø5.5 x 480	OS2114L (L TYPE)
OS2115 Ø3.5 - Ø5.5 x 800 OS2115L (L TYPE)	OS2115	Ø3.5 - Ø5.5 x 800	OS2115L (L TYPE)
OS2121 Ø3.5 - Ø6.0 x 200 OS2121L (L TYPE)	OS2121	Ø3.5 - Ø6.0 x 200	OS2121L (L TYPE)
OS2122 Ø3.5 - Ø6.0 x 300 OS2122L (L TYPE)	OS2122	Ø3.5 - Ø6.0 x 300	OS2122L (L TYPE)
OS2123 Ø3.5 - Ø6.0 x 400 OS2123L (L TYPE)	OS2123	Ø3.5 - Ø6.0 x 400	OS2123L (L TYPE)
OS2124 Ø3.5 - Ø6.0 x 480 OS2124L (L TYPE)	OS2124	Ø3.5 - Ø6.0 x 480	OS2124L (L TYPE)
OS2125 Ø3.5 - Ø6.0 x 800 OS2125L (L TYPE)	OS2125	Ø3.5 - Ø6.0 x 800	OS2125L (L TYPE)

Rod for Oc	cipital Plate
Cat. No	
OS2210	
Description	
Pre-Bent	
Cat. No	
OSA2320	
Description	
OC Adjustable	





Transverse Link







Cat. No	Width (mm)
OSA2410	Small (23~28)
OSA2420	Medium (28~37)
OSA2430	Large (37~55)

Cat. No	Length (mm)
OS2510	10
OS2513	13

	Ax	ial Connector	
	0.0		
Cat. No	OS2633	OS2635	OS2636
Size	Ø3.5 - Ø3.5	Ø3.5 - Ø5.5	Ø3.5 - Ø6.0

Domino Connector				
Cat. No	OS2733	OS2735	OS2736	
Size	Ø3.5 - Ø3.5	Ø3.5 - Ø5.5	Ø3.5 - Ø6.0	

H-H Connector







Cat. No	Description
OS2803	Nut

Cat. No	Width (mm)
OS2810	22-28
OS2820	28-34
OS2830	34-40
OS2840	40-46
OS2850	46-52

Occipital Plate





Medial		
Cat. No	Width (mm)	
OSA5010	Small (20~30)	
OSA5020	Medium (30~40)	
OSA5030	Large (40~50)	

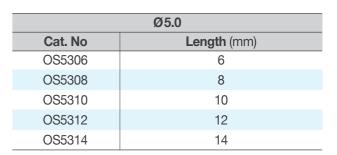
Lateral		
Cat. No	Width (mm)	
OSA5110	Small (20~30)	
OSA5120	Medium (30~40)	
OSA5130	Large (40~50)	

Cortical Screw for Plate





Ø4.5		
Cat. No	Length (mm)	
OS5206	6	
OS5208	8	
OS5210	10	
OS5212	12	
OS5214	14	







Instruments

OS0010 DRILL BIT FOR D3.5

OS0020 DRILL BIT FOR D4.0

OS0030 DRIVING HANDLE



| OS0040 ADJUSTABLE DRILL GUIDE



| OS0050 ADJUSTABLE TAP GUIDE



OS0060 TAP FOR D3.5



OS0080 TAP FOR D4.5



OS0090 POLY SCREW DRIVER

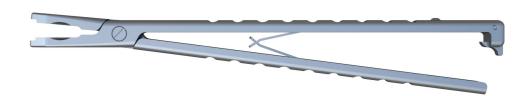


OS0100 RATCHET HANDLE



Instruments

OS0110 HOOK HOLDER



OS0120 ROD CUTTER



OS0130 ROD BENDER



OS0140 ROD HOLDER

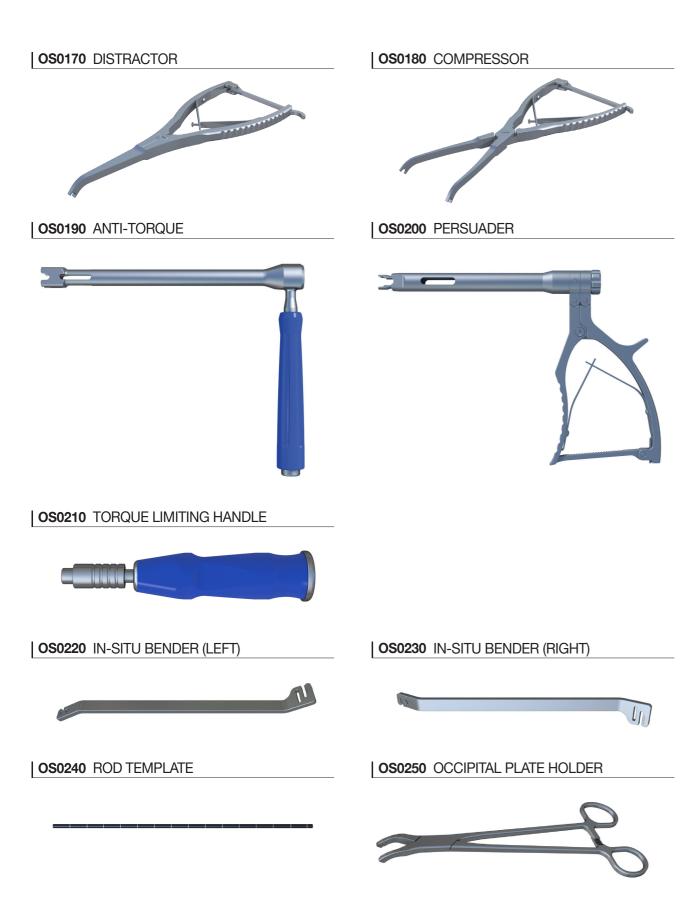


OS0150 T15 DRIVER SHAFT

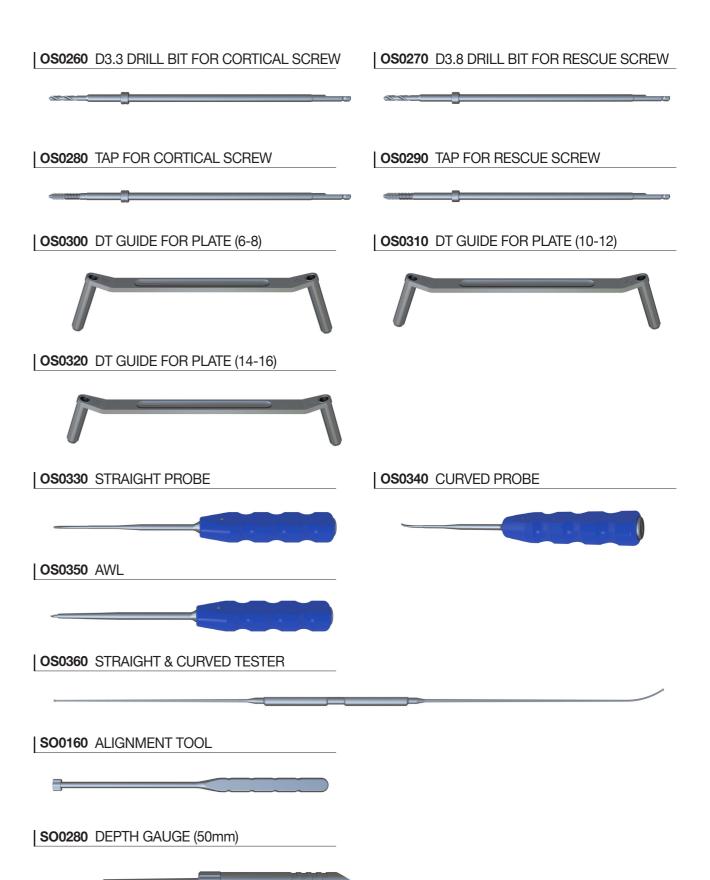
OS0160 DRIVER FOR TL



Instruments



Instruments

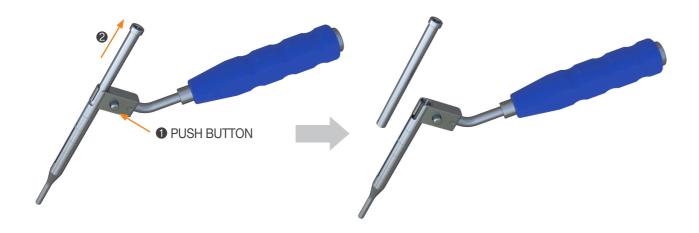




ANAX™OCT Spinal System SurgicalTechnique

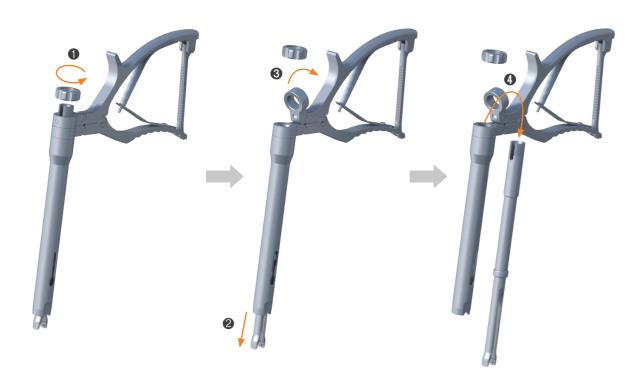
How to disassemble instrument for cleaning

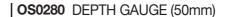
OS0040 ADJUSTABLE DRILL GUIDE OS0050 ADJUSTABLE TAP GUIDE

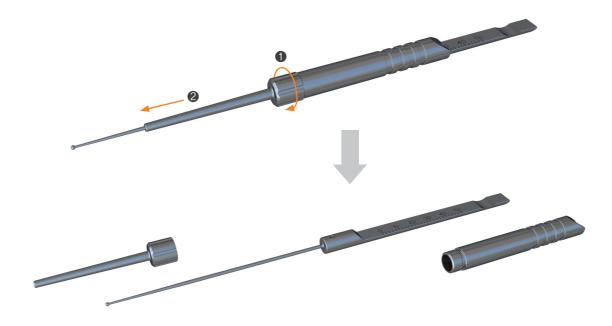


Instruments

OS0200 PERSUADER







**** ASSEMBLY OF INSTRUMENTS**

After cleaning and dry, all instruments should assemble in reverse order of disassembly to place their former positions for storage and sterilization





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