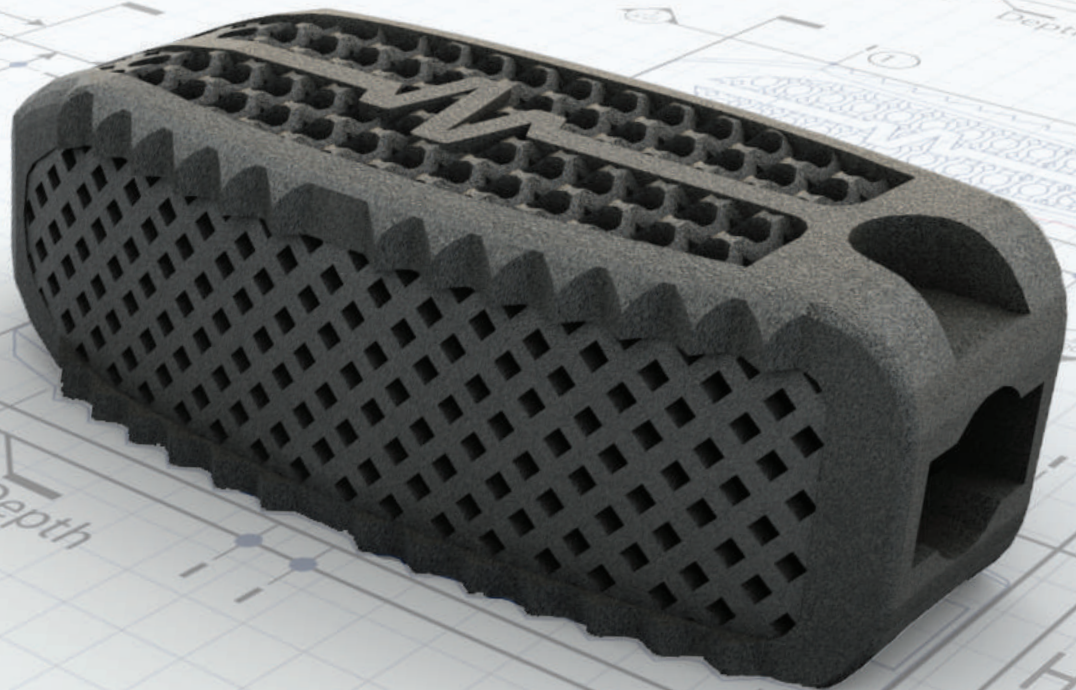


3D PRINTED **PANTHER**™

Lumbar Interbody Fusion Cage System



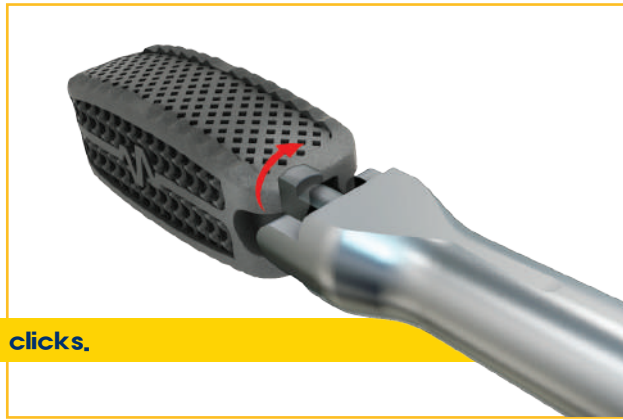
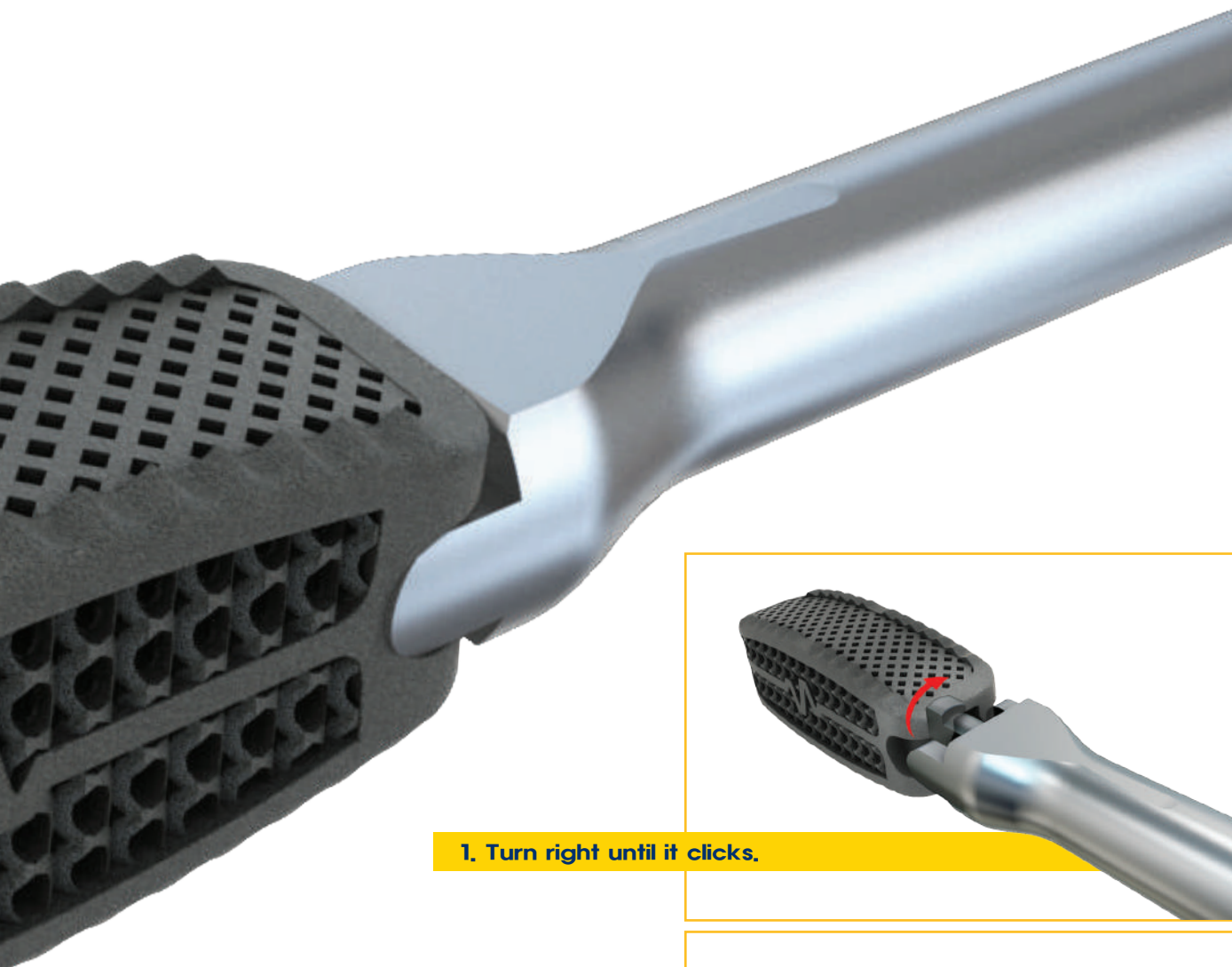
Porous Mesh Structure for Optimized Bone in-Growth and High Roughness Surface

3D PRINTED
PANTHER™

The anatomical shape of PANTHER cage, with a “bone like surface” guarantees perfect stability and a real interbody fusion solution. The bone grows inside the cage filling the entire porous structure, the cage can be easily filled with bone substitute to speed up the integration of the implant and the spine fusion.



2-STEP KEY LOCK SYSTEM



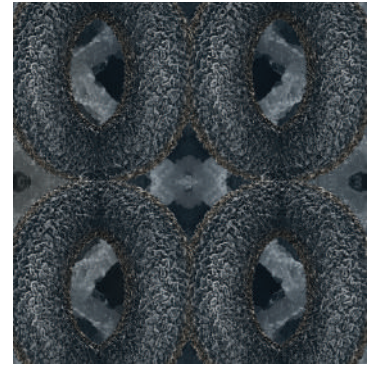
1. Turn right until it clicks.



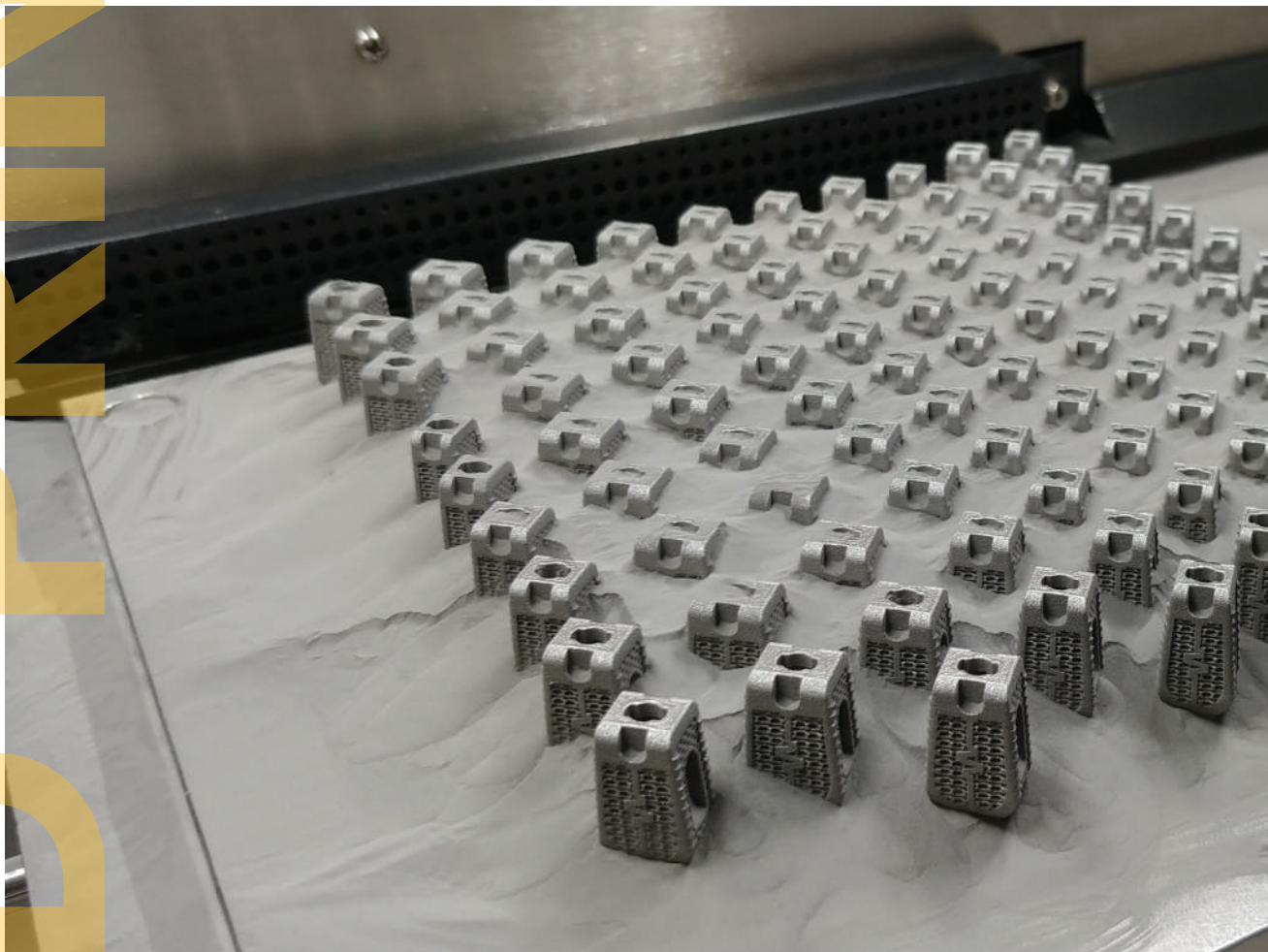
2. Insert the Inserter into the hole.

3D PRINTING.

High Primary Stability



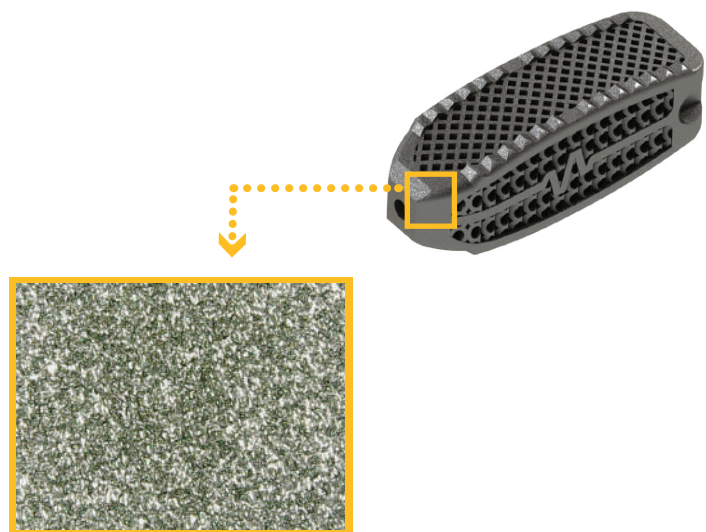
Average roughness of SLM 3D printed solid part surface is 40Ra(μm). Elevated surface of Titanium **provides high primary stability.**



SLM(Selective Laser Melting) 3D Printing Technique

PANTHER is produced with **Selective Laser Melting 3D Printing Technique**.

SLM 3D Printing Technique is possible to mass-produce various products by size and shape with a single production process and then it can be biodegradable to the body through several post-treatment processes.



Titanium Powder Laser Melted Porous Structure

Average closed porosity of SLM 3D printed solid part is 3%. It leads to **accelerated protein and mesenchymal stem cell attachment**.

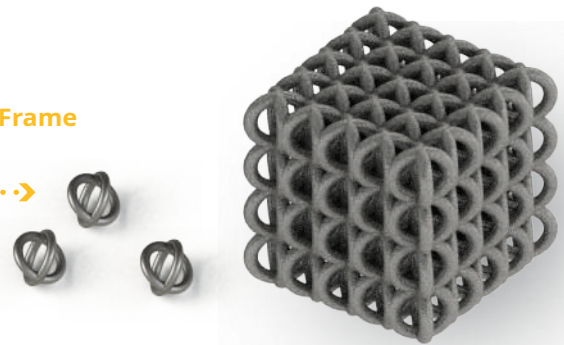
3D Ring Frame Mesh Technology

3D Ring Frame Mesh Structure

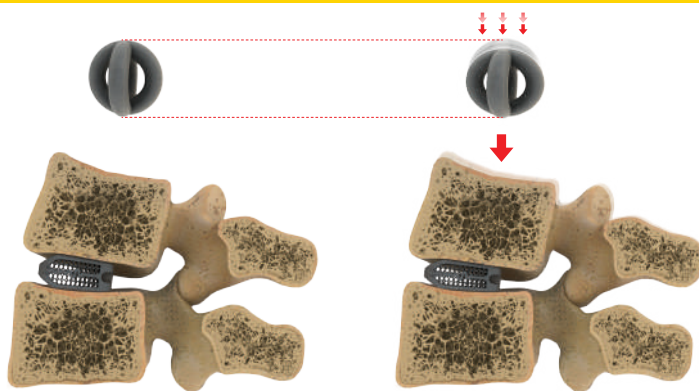


PANTHER has the **elasticity** what is similar to the bone has, because it is adopted the specially designed structure of cross intersected **3D ring frame mesh**.

3D Ring Frame



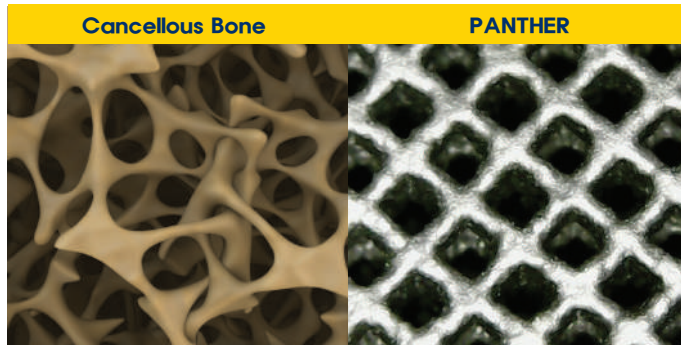
Elasticity of 3D Ring Frame Mesh



Designed to **minimize subsidence** by adopting the **cross intersected ring frame**.

3D PRINTED
PANTHER™

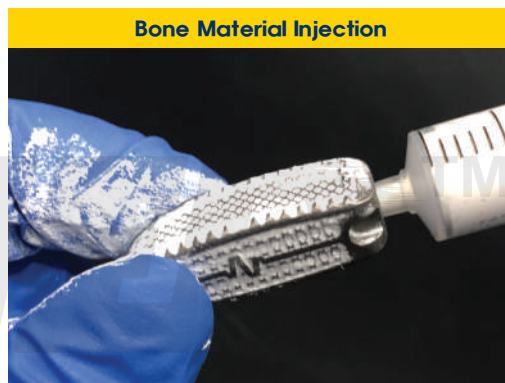
Optimized Bone in Growth



PANTHER has been created to optimized bone in-growth in spinal procedure, with a **mean pore size range of 630~730µm** on surface in contact with the vertebral body endplate and a **mean mesh part porosity range of 70~80%**.

	Cancellous bone	PANTHER	Competitive
Mean Pore Size	1000µm	630~730µm	550~650µm
Mean Porosity	50-90%	70-80%	70-80%

PANTHER offers an **osteoconductive scaffold** which allows for boney in-growth into the material of the implant, a high friction coefficient to help **prevent migration and expulsion**.



The rear of the **PANTHER**(Instrument holding side) has an injection hole to inject the bone materials into the cage. Injection of DBM, Synthetic Bone, Bone chip particles and other bone substitutes through this hole can fill the empty space of the cage and **increase the bone fusion effect** of the implant. Injection is performed before the implant is inserted into the body.

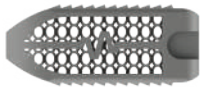
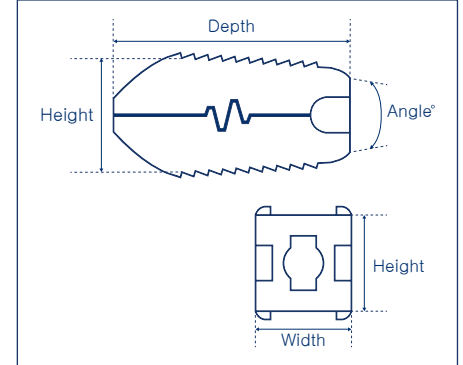
PLIF



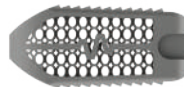
Full Mesh type



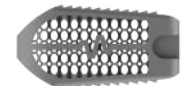
Graft Hole type



0° Lordosis Angle



4° Lordosis Angle



8° Lordosis Angle

Full Mesh	Graft Hole	D	W	A	H
C1-2410-A07	C2-2410-A07	24	10	0	7
C1-2410-A08	C2-2410-A08	24	10	0	8
C1-2410-A09	C2-2410-A09	24	10	0	9
C1-2410-A10	C2-2410-A10	24	10	0	10
C1-2410-A11	C2-2410-A11	24	10	0	11
C1-2410-A12	C2-2410-A12	24	10	0	12
C1-2410-A13	C2-2410-A13	24	10	0	13
C1-2410-A14	C2-2410-A14	24	10	0	14
C1-2410-A15	C2-2410-A15	24	10	0	15
C1-2410-A16	C2-2410-A16	24	10	0	16
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C1-2610-A07	C2-2610-A07	26	10	0	7
C1-2610-A08	C2-2610-A08	26	10	0	8
C1-2610-A09	C2-2610-A09	26	10	0	9
C1-2610-A10	C2-2610-A10	26	10	0	10
C1-2610-A11	C2-2610-A11	26	10	0	11
C1-2610-A12	C2-2610-A12	26	10	0	12
C1-2610-A13	C2-2610-A13	26	10	0	13
C1-2610-A14	C2-2610-A14	26	10	0	14
C1-2610-A15	C2-2610-A15	26	10	0	15
C1-2610-A16	C2-2610-A16	26	10	0	16
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C1-2810-A07	C2-2810-A07	28	10	0	7
C1-2810-A08	C2-2810-A08	28	10	0	8
C1-2810-A09	C2-2810-A09	28	10	0	9
C1-2810-A10	C2-2810-A10	28	10	0	10
C1-2810-A11	C2-2810-A11	28	10	0	11
C1-2810-A12	C2-2810-A12	28	10	0	12
C1-2810-A13	C2-2810-A13	28	10	0	13
C1-2810-A14	C2-2810-A14	28	10	0	14
C1-2810-A15	C2-2810-A15	28	10	0	15
C1-2810-A16	C2-2810-A16	28	10	0	16

Full Mesh	Graft Hole	D	W	A	H
C1-2410-E07	C2-2410-E07	24	10	4	7
C1-2410-E08	C2-2410-E08	24	10	4	8
C1-2410-E09	C2-2410-E09	24	10	4	9
C1-2410-E10	C2-2410-E10	24	10	4	10
C1-2410-E11	C2-2410-E11	24	10	4	11
C1-2410-E12	C2-2410-E12	24	10	4	12
C1-2410-E13	C2-2410-E13	24	10	4	13
C1-2410-E14	C2-2410-E14	24	10	4	14
C1-2410-E15	C2-2410-E15	24	10	4	15
C1-2410-E16	C2-2410-E16	24	10	4	16
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C1-2610-E07	C2-2610-E07	26	10	4	7
C1-2610-E08	C2-2610-E08	26	10	4	8
C1-2610-E09	C2-2610-E09	26	10	4	9
C1-2610-E10	C2-2610-E10	26	10	4	10
C1-2610-E11	C2-2610-E11	26	10	4	11
C1-2610-E12	C2-2610-E12	26	10	4	12
C1-2610-E13	C2-2610-E13	26	10	4	13
C1-2610-E14	C2-2610-E14	26	10	4	14
C1-2610-E15	C2-2610-E15	26	10	4	15
C1-2610-E16	C2-2610-E16	26	10	4	16
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C1-2810-E07	C2-2810-E07	28	10	4	7
C1-2810-E08	C2-2810-E08	28	10	4	8
C1-2810-E09	C2-2810-E09	28	10	4	9
C1-2810-E10	C2-2810-E10	28	10	4	10
C1-2810-E11	C2-2810-E11	28	10	4	11
C1-2810-E12	C2-2810-E12	28	10	4	12
C1-2810-E13	C2-2810-E13	28	10	4	13
C1-2810-E14	C2-2810-E14	28	10	4	14
C1-2810-E15	C2-2810-E15	28	10	4	15
C1-2810-E16	C2-2810-E16	28	10	4	16

Full Mesh	Graft Hole	D	W	A	H
C1-2410-J07	C2-2410-J07	24	10	8	7
C1-2410-J08	C2-2410-J08	24	10	8	8
C1-2410-J09	C2-2410-J09	24	10	8	9
C1-2410-J10	C2-2410-J10	24	10	8	10
C1-2410-J11	C2-2410-J11	24	10	8	11
C1-2410-J12	C2-2410-J12	24	10	8	12
C1-2410-J13	C2-2410-J13	24	10	8	13
C1-2410-J14	C2-2410-J14	24	10	8	14
C1-2410-J15	C2-2410-J15	24	10	8	15
C1-2410-J16	C2-2410-J16	24	10	8	16
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C1-2610-J07	C2-2610-J07	26	10	8	7
C1-2610-J08	C2-2610-J08	26	10	8	8
C1-2610-J09	C2-2610-J09	26	10	8	9
C1-2610-J10	C2-2610-J10	26	10	8	10
C1-2610-J11	C2-2610-J11	26	10	8	11
C1-2610-J12	C2-2610-J12	26	10	8	12
C1-2610-J13	C2-2610-J13	26	10	8	13
C1-2610-J14	C2-2610-J14	26	10	8	14
C1-2610-J15	C2-2610-J15	26	10	8	15
C1-2610-J16	C2-2610-J16	26	10	8	16
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C1-2810-J07	C2-2810-J07	28	10	8	7
C1-2810-J08	C2-2810-J08	28	10	8	8
C1-2810-J09	C2-2810-J09	28	10	8	9
C1-2810-J10	C2-2810-J10	28	10	8	10
C1-2810-J11	C2-2810-J11	28	10	8	11
C1-2810-J12	C2-2810-J12	28	10	8	12
C1-2810-J13	C2-2810-J13	28	10	8	13
C1-2810-J14	C2-2810-J14	28	10	8	14
C1-2810-J15	C2-2810-J15	28	10	8	15
C1-2810-J16	C2-2810-J16	28	10	8	16

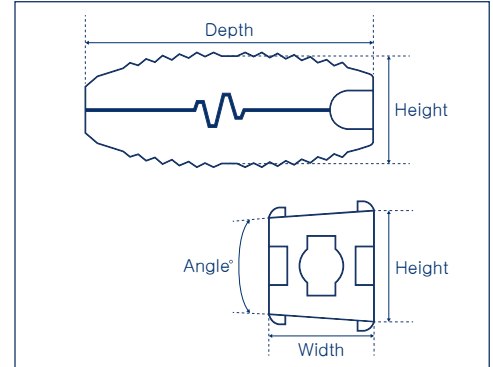
TLIF



Full Mesh type



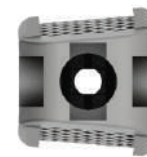
Graft Hole type



0° Lordosis Angle



6° Lordosis Angle



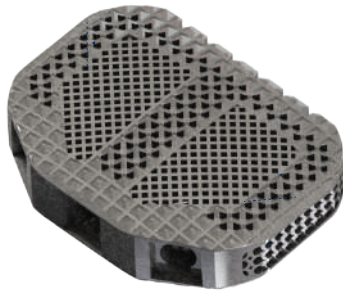
9° Lordosis Angle

Full Mesh	Graft Hole	D	W	A	H
C3-2810-A07	C4-2810-A07	28	10	0	7
C3-2810-A08	C4-2810-A08	28	10	0	8
C3-2810-A09	C4-2810-A09	28	10	0	9
C3-2810-A10	C4-2810-A10	28	10	0	10
C3-2810-A11	C4-2810-A11	28	10	0	11
C3-2810-A12	C4-2810-A12	28	10	0	12
C3-2810-A13	C4-2810-A13	28	10	0	13
C3-2810-A14	C4-2810-A14	28	10	0	14
C3-2810-A15	C4-2810-A15	28	10	0	15
C3-2810-A16	C4-2810-A16	28	10	0	16
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C3-3210-A07	C4-3210-A07	32	10	0	7
C3-3210-A08	C4-3210-A08	32	10	0	8
C3-3210-A09	C4-3210-A09	32	10	0	9
C3-3210-A10	C4-3210-A10	32	10	0	10
C3-3210-A11	C4-3210-A11	32	10	0	11
C3-3210-A12	C4-3210-A12	32	10	0	12
C3-3210-A13	C4-3210-A13	32	10	0	13
C3-3210-A14	C4-3210-A14	32	10	0	14
C3-3210-A15	C4-3210-A15	32	10	0	15
C3-3210-A16	C4-3210-A16	32	10	0	16
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C3-3610-A07	C4-3610-A07	36	10	0	7
C3-3610-A08	C4-3610-A08	36	10	0	8
C3-3610-A09	C4-3610-A09	36	10	0	9
C3-3610-A10	C4-3610-A10	36	10	0	10
C3-3610-A11	C4-3610-A11	36	10	0	11
C3-3610-A12	C4-3610-A12	36	10	0	12
C3-3610-A13	C4-3610-A13	36	10	0	13
C3-3610-A14	C4-3610-A14	36	10	0	14
C3-3610-A15	C4-3610-A15	36	10	0	15
C3-3610-A16	C4-3610-A16	36	10	0	16

Full Mesh	Graft Hole	D	W	A	H
C3-2810-G07	C4-2810-G07	28	10	6	7
C3-2810-G08	C4-2810-G08	28	10	6	8
C3-2810-G09	C4-2810-G09	28	10	6	9
C3-2810-G10	C4-2810-G10	28	10	6	10
C3-2810-G11	C4-2810-G11	28	10	6	11
C3-2810-G12	C4-2810-G12	28	10	6	12
C3-2810-G13	C4-2810-G13	28	10	6	13
C3-2810-G14	C4-2810-G14	28	10	6	14
C3-2810-G15	C4-2810-G15	28	10	6	15
C3-2810-G16	C4-2810-G16	28	10	6	16
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C3-3210-G07	C4-3210-G07	32	10	6	7
C3-3210-G08	C4-3210-G08	32	10	6	8
C3-3210-G09	C4-3210-G09	32	10	6	9
C3-3210-G10	C4-3210-G10	32	10	6	10
C3-3210-G11	C4-3210-G11	32	10	6	11
C3-3210-G12	C4-3210-G12	32	10	6	12
C3-3210-G13	C4-3210-G13	32	10	6	13
C3-3210-G14	C4-3210-G14	32	10	6	14
C3-3210-G15	C4-3210-G15	32	10	6	15
C3-3210-G16	C4-3210-G16	32	10	6	16
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C3-3610-G07	C4-3610-G07	36	10	6	7
C3-3610-G08	C4-3610-G08	36	10	6	8
C3-3610-G09	C4-3610-G09	36	10	6	9
C3-3610-G10	C4-3610-G10	36	10	6	10
C3-3610-G11	C4-3610-G11	36	10	6	11
C3-3610-G12	C4-3610-G12	36	10	6	12
C3-3610-G13	C4-3610-G13	36	10	6	13
C3-3610-G14	C4-3610-G14	36	10	6	14
C3-3610-G15	C4-3610-G15	36	10	6	15
C3-3610-G16	C4-3610-G16	36	10	6	16

Full Mesh	Graft Hole	D	W	A	H
C3-2810-K07	C4-2810-K07	28	10	9	7
C3-2810-K08	C4-2810-K08	28	10	9	8
C3-2810-K09	C4-2810-K09	28	10	9	9
C3-2810-K10	C4-2810-K10	28	10	9	10
C3-2810-K11	C4-2810-K11	28	10	9	11
C3-2810-K12	C4-2810-K12	28	10	9	12
C3-2810-K13	C4-2810-K13	28	10	9	13
C3-2810-K14	C4-2810-K14	28	10	9	14
C3-2810-K15	C4-2810-K15	28	10	9	15
C3-2810-K16	C4-2810-K16	28	10	9	16
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C3-3210-K07	C4-3210-K07	32	10	9	7
C3-3210-K08	C4-3210-K08	32	10	9	8
C3-3210-K09	C4-3210-K09	32	10	9	9
C3-3210-K10	C4-3210-K10	32	10	9	10
C3-3210-K11	C4-3210-K11	32	10	9	11
C3-3210-K12	C4-3210-K12	32	10	9	12
C3-3210-K13	C4-3210-K13	32	10	9	13
C3-3210-K14	C4-3210-K14	32	10	9	14
C3-3210-K15	C4-3210-K15	32	10	9	15
C3-3210-K16	C4-3210-K16	32	10	9	16
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C3-3610-K07	C4-3610-K07	36	10	9	7
C3-3610-K08	C4-3610-K08	36	10	9	8
C3-3610-K09	C4-3610-K09	36	10	9	9
C3-3610-K10	C4-3610-K10	36	10	9	10
C3-3610-K11	C4-3610-K11	36	10	9	11
C3-3610-K12	C4-3610-K12	36	10	9	12
C3-3610-K13	C4-3610-K13	36	10	9	13
C3-3610-K14	C4-3610-K14	36	10	9	14
C3-3610-K15	C4-3610-K15	36	10	9	15
C3-3610-K16	C4-3610-K16	36	10	9	16

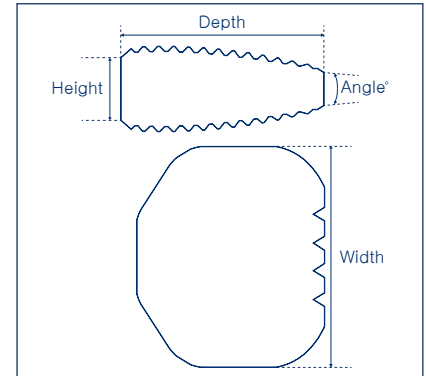
ALIF



Full Mesh type



Graft Hole type



8° Lordosis Angle

	Full Mesh	Graft Hole	D	W	A	H
	C5-2430-J08	C6-2430-J08	24	30	8	8
	C5-2430-J09	C6-2430-J09	24	30	8	9
	C5-2430-J10	C6-2430-J10	24	30	8	10
	C5-2430-J11	C6-2430-J11	24	30	8	11
	C5-2430-J12	C6-2430-J12	24	30	8	12
	C5-2430-J13	C6-2430-J13	24	30	8	13
	C5-2430-J14	C6-2430-J14	24	30	8	14
	C5-2430-J15	C6-2430-J15	24	30	8	15
	C5-2430-J16	C6-2430-J16	24	30	8	16
	C5-2430-J17	C6-2430-J17	24	30	8	17
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	C5-2838-J08	C6-2838-J08	28	38	8	8
	C5-2838-J09	C6-2838-J09	28	38	8	9
	C5-2838-J10	C6-2838-J10	28	38	8	10
	C5-2838-J11	C6-2838-J11	28	38	8	11
	C5-2838-J12	C6-2838-J12	28	38	8	12
	C5-2838-J13	C6-2838-J13	28	38	8	13
	C5-2838-J14	C6-2838-J14	28	38	8	14
	C5-2838-J15	C6-2838-J15	28	38	8	15
	C5-2838-J16	C6-2838-J16	28	38	8	16
	C5-2838-J17	C6-2838-J17	28	38	8	17



12° Lordosis Angle

	Full Mesh	Graft Hole	D	W	A	H
	C5-2430-N08	C6-2430-N08	24	30	12	8
	C5-2430-N09	C6-2430-N09	24	30	12	9
	C5-2430-N10	C6-2430-N10	24	30	12	10
	C5-2430-N11	C6-2430-N11	24	30	12	11
	C5-2430-N12	C6-2430-N12	24	30	12	12
	C5-2430-N13	C6-2430-N13	24	30	12	13
	C5-2430-N14	C6-2430-N14	24	30	12	14
	C5-2430-N15	C6-2430-N15	24	30	12	15
	C5-2430-N16	C6-2430-N16	24	30	12	16
	C5-2430-N17	C6-2430-N17	24	30	12	17
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	C5-2838-N09	C6-2838-N09	28	38	12	9
	C5-2838-N10	C6-2838-N10	28	38	12	10
	C5-2838-N11	C6-2838-N11	28	38	12	11
	C5-2838-N12	C6-2838-N12	28	38	12	12
	C5-2838-N13	C6-2838-N13	28	38	12	13
	C5-2838-N14	C6-2838-N14	28	38	12	14
	C5-2838-N15	C6-2838-N15	28	38	12	15
	C5-2838-N16	C6-2838-N16	28	38	12	16
	C5-2838-N17	C6-2838-N17	28	38	12	17



15° Lordosis Angle

	Full Mesh	Graft Hole	D	W	A	H
	C5-2430-R09	C6-2430-R09	24	30	15	9
	C5-2430-R10	C6-2430-R10	24	30	15	10
	C5-2430-R11	C6-2430-R11	24	30	15	11
	C5-2430-R12	C6-2430-R12	24	30	15	12
	C5-2430-R13	C6-2430-R13	24	30	15	13
	C5-2430-R14	C6-2430-R14	24	30	15	14
	C5-2430-R15	C6-2430-R15	24	30	15	15
	C5-2430-R16	C6-2430-R16	24	30	15	16
	C5-2430-R17	C6-2430-R17	24	30	15	17
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	C5-2838-R10	C6-2838-R10	28	38	15	10
	C5-2838-R11	C6-2838-R11	28	38	15	11
	C5-2838-R12	C6-2838-R12	28	38	15	12
	C5-2838-R13	C6-2838-R13	28	38	15	13
	C5-2838-R14	C6-2838-R14	28	38	15	14
	C5-2838-R15	C6-2838-R15	28	38	15	15
	C5-2838-R16	C6-2838-R16	28	38	15	16
	C5-2838-R17	C6-2838-R17	28	38	15	17



18° Lordosis Angle

	Full Mesh	Graft Hole	D	W	A	H
	C5-2430-U10	C6-2430-U10	24	30	18	10
	C5-2430-U11	C6-2430-U11	24	30	18	11
	C5-2430-U12	C6-2430-U12	24	30	18	12
	C5-2430-U13	C6-2430-U13	24	30	18	13
	C5-2430-U14	C6-2430-U14	24	30	18	14
	C5-2430-U15	C6-2430-U15	24	30	18	15
	C5-2430-U16	C6-2430-U16	24	30	18	16
	C5-2430-U17	C6-2430-U17	24	30	18	17
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	C5-2838-U11	C6-2838-U11	28	38	18	11
	C5-2838-U12	C6-2838-U12	28	38	18	12
	C5-2838-U13	C6-2838-U13	28	38	18	13
	C5-2838-U14	C6-2838-U14	28	38	18	14
	C5-2838-U15	C6-2838-U15	28	38	18	15
	C5-2838-U16	C6-2838-U16	28	38	18	16
	C5-2838-U17	C6-2838-U17	28	38	18	17

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(42052) 1st floor & 2nd floor, ANT Bldg., 38, Chungui-ro,
Suseong-gu, Daegu, Korea.
TEL +82(0)53 252 5833 FAX +82(0)53 252 5834

Sales Office

HEADQUARTER (DAEGU Office)

(42052) 2nd floor, ANT Bldg., 38, Chungui-ro, Suseong-gu, Daegu, Korea.
TEL +82(0)53 252 5833 FAX +82(0)53 252 5834

SEOUL Office

(08215) #1507, STX W Tower, 90, Gyeongin-ro 53-gil, Guro-gu, Seoul, Korea.
TEL +82(0)2 864 5833 FAX +82(0)2 864 5834

BUSAN Office

(48059) #912, ACE Hightech 21, 48, Centumjungang-ro, Haeundae-gu, Busan, Korea.
TEL +82(0)51 465 7117 FAX +82(0)51 465 7167

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MZSC-H003-001 (Rev. 000)