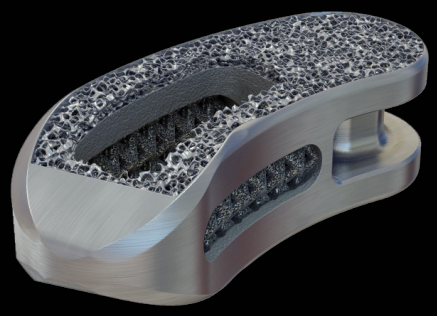
JULIET® Ti TL

BY SPINEART



TRANS FORAMINAL LUMBAR Ti CAGE

CONTENT

CONCEPT AND DESIGN

In 2006, to accompany the ROMEO® posterior fusion system, Spineart developed a range of interbody devices to achieve 360° fusion: the JULIET interbody system.
Named after William Shakespeare's characters Romeo and Juliet, the two systems complement each other perfectly.
The JULIET$_{PO}$, JULIET$_{OL}$, JULIET$_{AN}$ and JULIET$_{TL}$ are designed to be used with the ROMEO 2 system for a reliable, efficient and easy-to-use platform to achieve fusion.
Building on the success and experience acquired with our PEEK range, Spineart developed a new Titanium range, featuring the ***Ti-LIFE***$_{Technology}$, a state-of-the-art porous, interconnected structure replicating the trabecular bone geometry.
With each product development, Spineart is relentlessly driven by the same motto: Quality, Innovation and Simplicity.

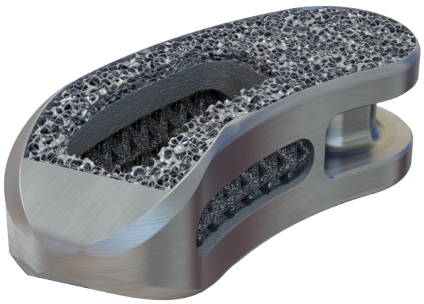
AT A GLANCE

Ti-LIFE TECHNOLOGY

OSTEOCONDUCTIVE

IMAGING PERFORMANCES

COMPLETE RANGE

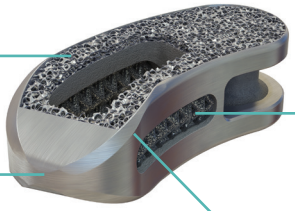


INDICATIONS

The JULIET$_{TI}$ range is indicated for arthrodesis of the lumbar spine at one level or two contiguous levels from L2 to S1 in patients with:
• Degenerative pathology, including symptomatic disc degeneration, recurrent hernia, degenerative spondylolisthesis;
• Isthmic spondylolisthesis;

These patients should be skeletally mature and have had six months of non-operative therapy. Supplemental fixation/stabilization as well as additional bone grafting material are required.

IMPLANTS

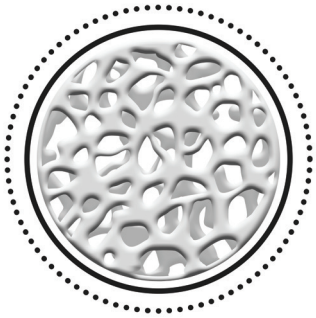


REFERENCES		
LORDOSIS 6°	**LENGTH**	
H08	**L30**	**JUT-T6 30 08-S**
H09	**L30**	**JUT-T6 30 09-S**
H10	**L30**	**JUT-T6 30 10-S**
H11	**L30**	**JUT-T6 30 11-S**
H12	**L30**	**JUT-T6 30 12-S**
H13	**L30**	**JUT-T6 30 13-S**
H14	**L30**	**JUT-T6 30 14-S**

REFERENCES		
LORDOSIS 6°	**LENGTH**	
H08	**L34**	**JUT-T6 34 08-S**
H09	**L34**	**JUT-T6 34 09-S**
H10	**L34**	**JUT-T6 34 10-S**
H11	**L34**	**JUT-T6 34 11-S**
H12	**L34**	**JUT-T6 34 12-S**
H13	**L34**	**JUT-T6 34 13-S**
H14	**L34**	**JUT-T6 34 14-S**

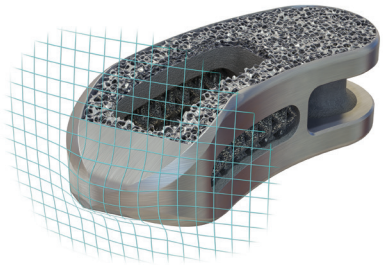
TECHNICAL FEATURES

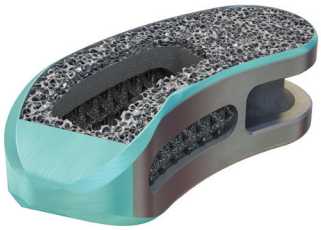
Ti-LIFE TECHNOLOGY



- The osteoconductive structure mimics the bone trabecular geometry and is designed to promote bone in-growth. This technology is based on a propriety algorithm associated with a unique additive manufacturing process, commonly referred to as 3D printing.

SMOOTH BULLET NOSE





- The cages feature a smooth bullet self-distracting nose and polished chamfer. This design allows for ease of insertion, enabling distraction of the intervertebral space while mitigating the risk of damaging the endplates, nerve roots and soft tissues.

MULTI AXIAL IMPLANT HOLDER

- The implant holder locking mechanism allows to change the direction of the device during implantation ensuring a precise anterior positioning of the cage in situ.

TECHNICAL FEATURES

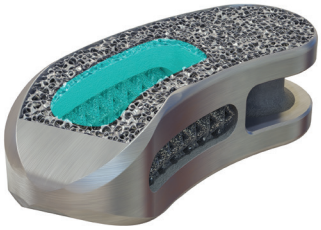
IMAGING PERFORMANCE

- The JULIET$_{Ti}$ design features an overall reduced density to optimize the imaging performances.

Imaging on specimen

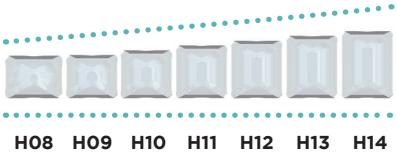
BONE GRAFT

- In addition to the osteoconductive properties of the ***Ti-Life***$_{Technology}$, the large windows allow for an extensive bone graft area.
  Therefore 100 % of the cage surface is dedicated to bone fusion without compromising the mechanical properties of the cage.



COMPLETE RANGE

- The size range is available in two lengths, 30 and 34mm and in 1mm increment heights, from H08 to H14, to address different anatomies.

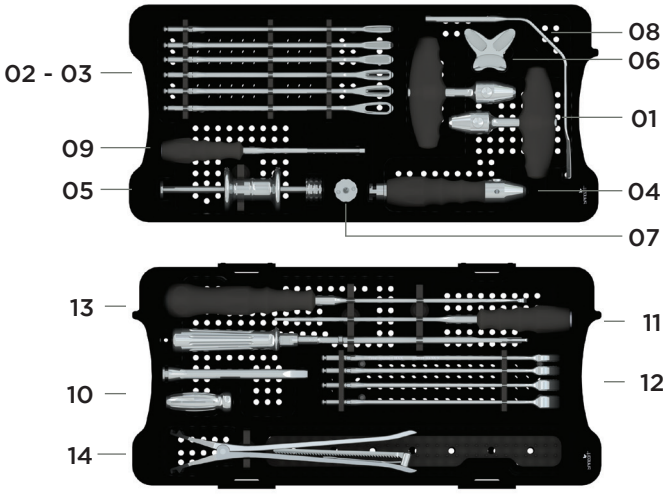


STREAMLINED AND COMPACT INSTRUMENTATION

- The Combo instrument set provides a complete, modular and compact solution.

INSTRUMENT SET

TLIF COMBO SET*



UNIVERSAL CONTAINER

CONTAINER - BASE	JUL-BX 10 01-N

PREPARATION TRAY

#	DESCRIPTION	REFERENCE
	UNIVERSAL TRAY	JUL-BX 10 02-N
	UNIVERSAL RACK	JUL-BX 10 05-N
01	T HANDLE	HAN-SI MD TE-N
02	PADDLE DISTRACTOR	JUL-IN 00 05-N JUL-IN 00 06-N JUL-IN 00 07-N
03	DISC SHAVER	JUL-IN 01 07-N JUL-IN 00 08-N JUL-IN 00 09-N JUL-IN 00 10-N JUL-IN 00 11-N JUL-IN 00 12-N JUL-IN 00 13-N JUL-IN 00 14-N
04	MODULAR STRAIGHT HANDLE	HAN-SI SH ST-N
05	SLAP HAMMER	HAN-SS SH 01-N
06	“3 IN 1” COMPACTION BASE	JUT-IN 00 01-N
07	IMPACTION CAP	HAN-SS SH 02-N
08	NERVE ROOT RETRACTOR	DYN-IP 00 05-N
09	COMPACTOR	JUL-IN 14 00-N

TLIF TRAY

#	DESCRIPTION	REFERENCE
	TL TRAY	JUL-BX 10 03-N
	TL RACK	JUL-BX 10 12-N
10	MULTIAXIAL IMPLANT HOLDER	DYN-IT 00 01-N
11	FINAL IMPACTOR	JUL-IN 17 00-N
12	IMPLANT TRIALS	JUT-IN 03 08-N JUT-IN 03 09-N JUT-IN 03 10-N JUT-IN 03 11-N JUT-IN 03 12-N JUT-IN 03 13-N JUT-IN 03 14-N
13	CURETTE CURVED	JUL-IN 16 00-N
14	INTERLAMINA DISTRACTOR	DYN-IT 00 04-N

*For further information on the JULIET$_{Ti\ TL}$ instrumentation, please refer to the corresponding surgical technique.

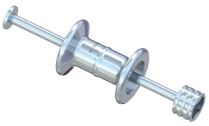
INSTRUMENTS

MULTIAXIAL IMPLANT HOLDER	DYN-IT 00 01-N

COMPACTOR	JUL-IN 14 00-N

IMPLANT TRIALS	JUT-IN 03 XX-N

SLAP HAMMER	HAN-SS SH 01-N



CURETTE CURVED	JUL-IN 16 00-N

NERVE ROOT RETRACTOR	DYN-IP 00 05-N

MODULAR STRAIGHT HANDLE	HAN-SI SH ST-N

INTERLAMINA DISTRACTOR	DYN-IT 00 04-N

INSTRUMENTS

FINAL IMPACTOR	JUL-IN 17 00-N

T HANDLE	HAN-SI MD TE-N

PADDLE DISTRACTOR	JUL-IN 00 0X-N

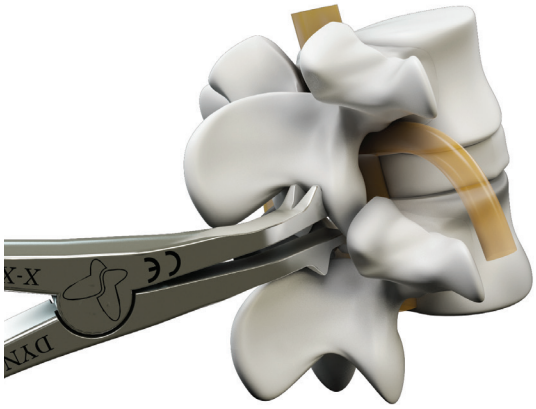
DISC SHAVERS	JUL-IN 0X XX-N

« 3 IN 1 » COMPACTION BASE	JUT-IN 00 01-N

IMPACTION CAP	HAN-SS SH 02-N

SURGICAL TECHNIQUE

STEP 1

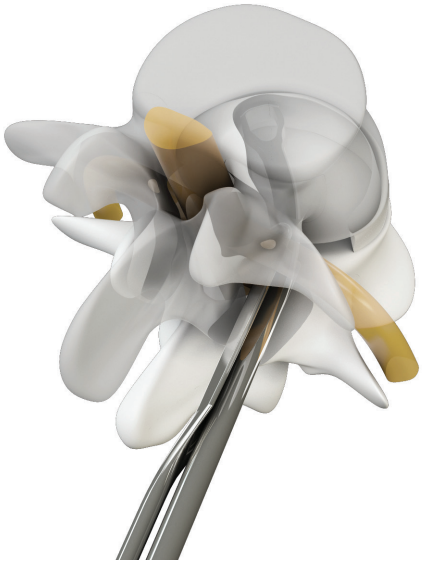


ARTHRECTOMY

Partially remove the facet joints (inferior articular facet of the upper vertebra, and superior facet of the lower vertebra). Once the facet joint is partially removed, the interlamina distractor can be placed to maintain the treated segment.

INSTRUMENT	REFERENCE
INTERLAMINA DISTRACTOR	DYN-IT 00 04-N

STEP 2



DISCECTOMY AND PREPARATION OF THE ENDPLATES

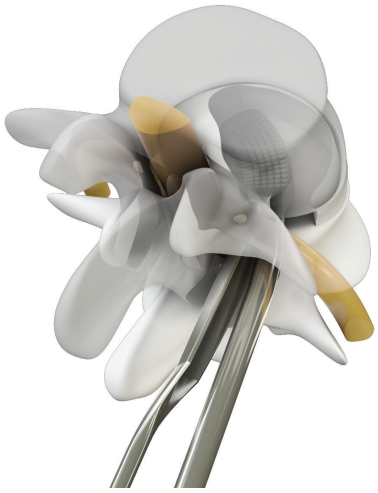
Once the approach is done, distract the disc space with the modular paddle distractor, previously assembled with the modular straight handle, or the T handle, for a better rotation. Once distracted, start the discectomy while protecting the dura with the nerve root retractor.
To ensure a good discetomy, you can scrap the endplates with both modular disc shavers, previously assembled with the modular straight handle, or dedicated curette.

Note: To maximize the chance of fusion, it is recommended to remove completely the superficial layers of cartilage plate until bleeding.

INSTRUMENT	REFERENCE
DISC SHAVERS	JUL-IN 0X XX-N
PADDLE DISTRACTOR	JUL-IN 00 0X-N
NERVE ROOT RETRACTOR	DYN-IP 00 05-N
CURETTE CURVED	JUL-IN 16 00-N
MODULAR STRAIGHT HANDLE	HAN SI SH ST-N

SURGICAL TECHNIQUE

STEP 3



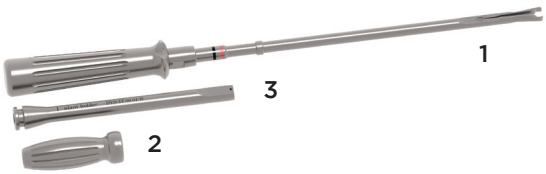
SELECTION OF THE CAGE SIZE

To determine the right cage to use, it is mandatory to use dedicated TL implant trials.
To insert the implant trials, connect the impaction cap to the modular straight handle to gently hammer on the assembly.
Once satisfied with the selected trial size, proceed to fluoroscopic controls to confirm the correct sizing.
Use the slap hammer to remove the implant trial.

Note: These implant trials can also be used to further rasp the endplates.

INSTRUMENT	REFERENCE
MODULAR STRAIGHT HANDLE	HAN-SI SH ST-N
NERVE ROOT RETRACTOR	DYN-IP 00 05-N
SLAP HAMMER	HAN-SS SH 01-N
IMPLANT TRIALS	JUT-IN 03 XX-N

STEP 4



ASSEMBLY OF THE IMPLANT HOLDER

The multiaxial implant holder consists of three parts : the axis, locking ring and the tube.

To assemble the implant holder, put the locking ring (2) and the tube (3) together.

Insert the axis in the previously assembled construct, consisting of the locking ring and the tube.

INSTRUMENT	REFERENCE
MULTIAXIAL IMPLANT HOLDER	DYN-IT 00 01-N

SURGICAL TECHNIQUE

STEP 5

LOCKED CAGE POSITION

CAGE PREPARATION

Select the corresponding cage.

The cage is connected to the multiaxial implant holder.
To lock the cage, twist the locking sleeve clockwise until the red line is visible and the cage is firmly attached.

Position the cage on the compaction base. Fill it with bone graft or bone substitute.

Do not overtighten.

INSTRUMENT	REFERENCE
« 3 IN 1 » COMPACTION BASE	JUT-IN 00 01-N
MULTIAXIAL IMPLANT HOLDER	DYN-IT 00 01-N
COMPACTOR	JUL-IN 14 00-N

SURGICAL TECHNIQUE

STEP 6

INSERTION

Insert the cage in the disc space.
Once the cage is inserted, unscrew the locking sleeve up to but not beyond the black line.

The cage can then be angulated.

Verify the cage positioning under AP and lateral view. Release the implant by loosening the locking sleeve past the black line and remove the multiaxial implant holder.

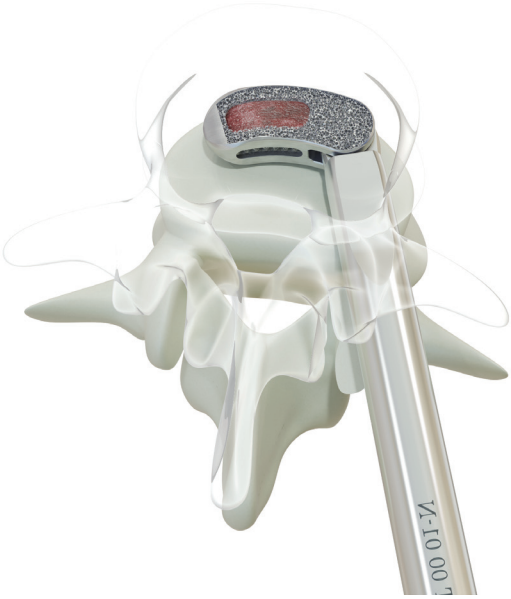
Add bone graft around the implant. Remove the interlamina distractor.

Note: Pass the midline of the vertebral body during implantation of the cage.

Remove all instruments. Perform a fluoroscopic control to make sure the implant is correctly positioned.

INSTRUMENT	REFERENCE
MULTIAXIAL IMPLANT HOLDER	DYN-IT 00 01-N
NERVE ROOT RETRACTOR	DYN-IP 00 05-N

ANGULATION POSITION



SURGICAL TECHNIQUE

FINAL CONSTRUCT

The JULIET$_{Ti\ TL}$ cage should be used with a supplemental posterior fixation system, as described in the ROMEO 2, ROMEO 2 $_{MIS}$, ROMEO 2 $_{PAD}$ surgical techniques, or an anterior fixation system.

Use the compression forceps to compress the construct if needed.

NOTE

NOTE

NOTE

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