JULIET® Ti PO/OL

BY SPINEART

POSTERIOR LUMBAR Ti CAGES

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

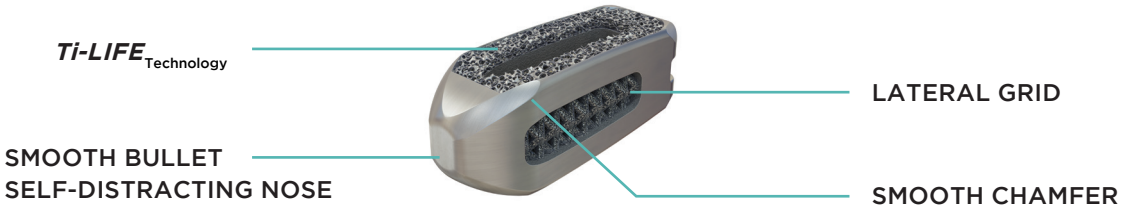
COMPLETE RANGE

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;

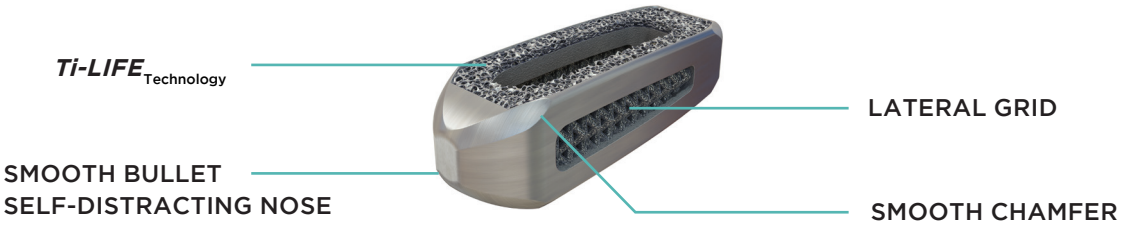
These patients should be skeletally mature and have had six months of non-operative therapy. Supplemental fixation/stabilization as well as additional bone grafting material are required.

JULIET Ti PO



REFERENCES			
LORDOSIS 6°		**W**	
H07	**L24**	**10.5**	**JUT-P6 24 07-S**
H08	**L24**	**10.5**	**JUT-P6 24 08-S**
H09	**L24**	**10.5**	**JUT-P6 24 09-S**
H10	**L24**	**10.5**	**JUT-P6 24 10-S**
H11	**L24**	**10.5**	**JUT-P6 24 11-S**
H12	**L24**	**10.5**	**JUT-P6 24 12-S**
H13	**L24**	**10.5**	**JUT-P6 24 13-S**
H14	**L24**	**10.5**	**JUT-P6 24 14-S**

JULIET Ti OL



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H10	**L28**	**10.5**	**JUT-O6 28 10-S**
H11	**L28**	**10.5**	**JUT-O6 28 11-S**
H12	**L28**	**10.5**	**JUT-O6 28 12-S**
H13	**L28**	**10.5**	**JUT-O6 28 13-S**
H14	**L28**	**10.5**	**JUT-O6 28 14-S**

REFERENCES			
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H08	**L32**	**10.5**	**JUT-O6 32 08-S**
H09	**L32**	**10.5**	**JUT-O6 32 09-S**
H10	**L32**	**10.5**	**JUT-O6 32 10-S**
H11	**L32**	**10.5**	**JUT-O6 32 11-S**
H12	**L32**	**10.5**	**JUT-O6 32 12-S**
H13	**L32**	**10.5**	**JUT-O6 32 13-S**
H14	**L32**	**10.5**	**JUT-O6 32 14-S**

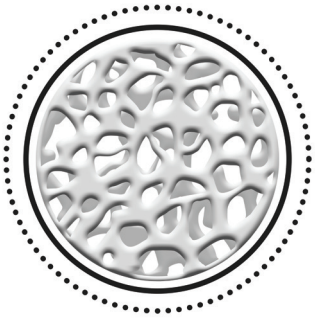
OPTIONAL REFERENCES*			
LORDOSIS 6°		W	
H07	**L36**	**10.5**	**JUT-O6 36 07-S**
H08	**L36**	**10.5**	**JUT-O6 36 08-S**
H09	**L36**	**10.5**	**JUT-O6 36 09-S**
H10	**L36**	**10.5**	**JUT-O6 36 10-S**
H11	**L36**	**10.5**	**JUT-O6 36 11-S**
H12	**L36**	**10.5**	**JUT-O6 36 12-S**
H13	**L36**	**10.5**	**JUT-O6 36 13-S**
H14	**L36**	**10.5**	**JUT-O6 36 14-S**

* On special request

TECHNICAL FEATURES

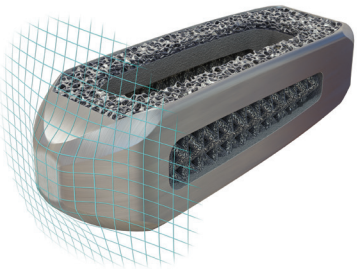
Ti-LIFE TECHNOLOGY

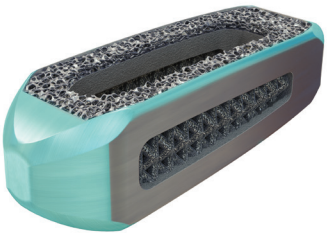
- **The osteoconductive structure mimics the bone trabecular geometry and is designed to promote bone in-growth. This technology is based on a propriety algorithm associated with a unique additive manufacturing process, commonly referred to as 3D printing.**



SMOOTH BULLET NOSE

- **The cages feature a smooth bullet self-distracting nose and polished chamfer. This design is aimed for easy insertion, enabling distraction of the intervertebral space while mitigating the risk of damage to the endplates, nerve roots and soft tissue.**





IMAGING PERFORMANCE

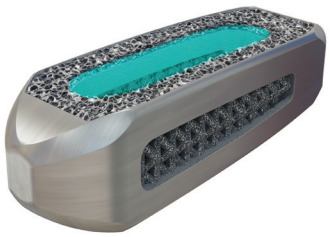
- **The JULIET$_{Ti}$ design features an overall reduced density to optimize the imaging performance.**

Imaging on specimen

TECHNICAL FEATURES

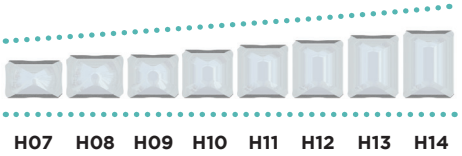
BONE GRAFT

- In addition to the osteoconductive properties of the ***Ti-Life***$_{\text{Technology}}$, 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

- JULIET$_{\text{Ti PO/OL}}$ cages are available in a wide range of options, to adress different patient anatomies, and various surgical approach techniques. For a detailed list of cages please refer to pages 5 and 6 of this guide.



STREAMLINED AND COMPACT INSTRUMENTATION

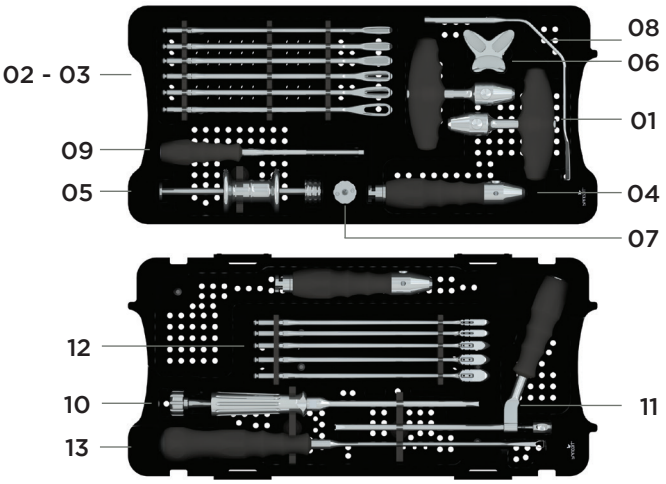
- The Combo instrument set provides a complete, modular and compact solution.

INSTRUMENT SET

PO/OL COMBO SET

PREPARATION TRAY

OLIF/PLIF TRAY



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

OLIF/PLIF TRAY

#	DESCRIPTION	REFERENCE
	OLIF/PLIF TRAY	JUL-BX 10 04-N
	OLIF/PLIF RACK	JUL-BX 10 11-N
10	IMPLANT HOLDER	DYN-IP 00 01-N
11	IMPLANT HOLDER MICRO	JUL-IO 00 01-N
12	TRIAL IMPLANT JULIET Ti PO/OL	JUT-IN 01 07-N JUT-IN 01 08-N JUT-IN 01 09-N JUT-IN 01 10-N JUT-IN 01 11-N JUT-IN 01 12-N JUT-IN 01 13-N JUT-IN 01 14-N
13	CURETTE	JUL-IN 15 00-N

*For further information on the JULIET Ti PO/OL instrumentation, please refer to the corresponding surgical technique.

INSTRUMENTS

T HANDLE	HAN-SI MD TE-N

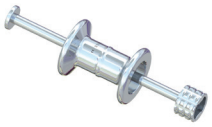
PADDLE DISTRACTOR	JUL-IN 00 XX-N

DISC SHAVERS	JUL-IN 0X XX-N

MODULAR STRAIGHT HANDLE	HAN-SI SH ST-N

COMPACTOR	JUL-IN 14 00-N

SLAP HAMMER	HAN-SS SH 01-N



CURETTE	JUL-IN 15 00-N

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

INSTRUMENTS

IMPACTION CAP	HAN-SS SH 02-N

NERVE ROOT RETRACTOR	DYN-IP 00 05-N

IMPLANT HOLDER PO/OL	DYN-IP 00 01-N

IMPLANT HOLDER MICRO	JUL-IO 00 01-N

TRIAL IMPLANT JULIET TI PO/OL	JUT-IN 01 XX-N

SURGICAL TECHNIQUE : JULIET TI OL

STEP 1

DISCECTOMY AND PREPARATION OF THE ENDPLATES

Partially remove the facet joints. 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.
Proceed to the discectomy.
Prepare and freshen the endplates using the 1mm increment disc shavers. A curette can also be used.
For an optimal protection of the dura, a nerve root retractor is available.

INSTRUMENT	REFERENCE
NERVE ROOT RETRACTOR	DYN-IP 00 05-N
CURETTE	JUL-IN 15 00-N
DISC SHAVER	JUL-IN 0X XX-N
PADDLE DISTRACTOR	JUL-IN 00 XX-N
T HANDLE	HAN-SI MD TE-N
MODULAR STRAIGHT HANDLE	HAN-SI SH ST-N

STEP 2

SELECTION OF THE IMPLANT SIZE

To determine the right cage to implant, it is mandatory to use dedicated OL implant trials.
Each implant trial represents the 3 different lengths.
To insert the implant trials, physicians can 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.
You can use the slap hammer to remove the implant trial.

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

INSTRUMENT	REFERENCE
TRIAL IMPLANT JULIET TI PO/OL	JUT-IN 01 XX-N
NERVE ROOT RETRACTOR	DYN-IP 00 05-N
MODULAR STRAIGHT HANDLE	HAN-SI SH ST-N
SLAP HAMMER	HAN-SS SH 01-N
IMPACTION CAP	HAN-SS SH 02-N

SURGICAL TECHNIQUE : JULIET Ti OL

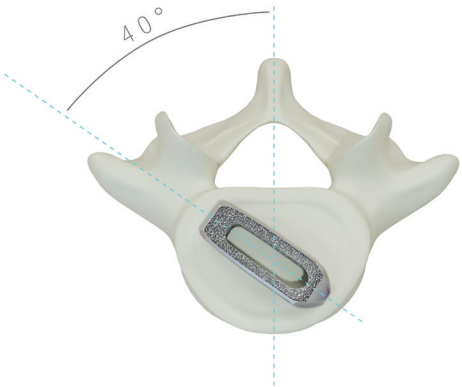
STEP 3

CAGE PREPARATION

Select the corresponding cage.
Connect it with the implant holder.
Position the cage on the compaction base. Fill it with bone graft or bone substitute.

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

STEP 4



INSERTION

Insert the cage into the disc space while protecting the dura with the nerve root retractor.
It is possible to gently hammer on the implant holder handle to ease the insertion of the implant.
Note that the placement angle of the JULIET Ti OL implant is 40 degrees from the median plane.

INSTRUMENT	REFERENCE
NERVE ROOT RETRACTOR	DYN-IP 00 05-N
IMPLANT HOLDER	DYN-IP 00 01-N
IMPLANT HOLDER MICRO	JUL-IO 00 01-N

SURGICAL TECHNIQUE : JULIET Ti OL

FINAL CONSTRUCT

The JULIET Ti OL cages should be used with a supplemental posterior fixation system, as described in the ROMEO 2, ROMEO 2 MIS, and ROMEO 2 PAD surgical techniques, or an anterior fixation system.
Compression forceps should be used for final compression of the construct.

SURGICAL TECHNIQUE : JULIET TI PO

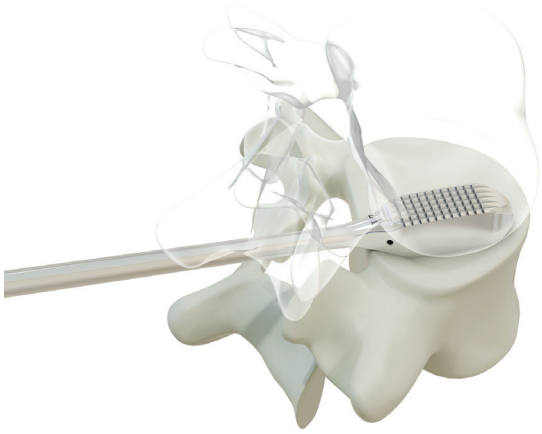
STEP 1

DISCECTOMY AND PREPARATION OF THE ENDPLATES

Remove partially the facet joints. Once the approach is done, distract the disc space thanks to modular paddle distractor, previously assembled with the modular straight handle, or the T handle, for a better rotation.
Proceed to the discectomy.
Prepare and freshen the endplates using the 1mm increment disc shavers. A curette can also be used .
For an optimal protection of the dura, a nerve root retractor is available.

INSTRUMENT	REFERENCE
NERVE ROOT RETRACTOR	DYN-IP 00 05-N
CURETTE	JUL-IN 15 00-N
DISC SHAVER	JUL-IN 0X XX-N
PADDLE DISTRACTOR	JUL-IN 00 XX-N
T HANDLE	HAN-SI MD TE-N
MODULAR STRAIGHT HANDLE	HAN-SI SH ST-N

STEP 2



SELECTION OF THE IMPLANT SIZE

To determine the right cage to implant, it is mandatory to use dedicated PO implant trials.
To insert the implant trials, physicians can 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.
You can use the slap hammer to remove the implant trial.

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

INSTRUMENT	REFERENCE
TRIAL IMPLANT JULIET TI PO/OL	JUT-IN 01 XX-N
NERVE ROOT RETRACTOR	DYN-IP 00 05-N
MODULAR STRAIGHT HANDLE	HAN-SI SH ST-N
SLAP HAMMER	HAN-SS SH 01-N
IMPACTION CAP	HAN-SS SH 02-N

SURGICAL TECHNIQUE : JULIET Ti PO

STEP 3

CAGE PREPARATION

Select the corresponding cage.
Position the cage on the compaction base. Fill it with bone graft or bone substitute.
Once the cage is prepared, connect it with the implant holder.

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

STEP 4

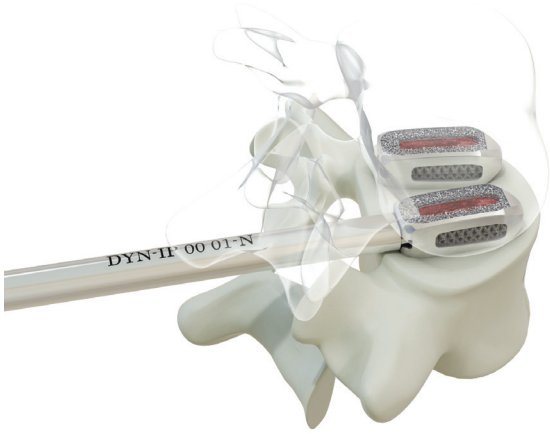
INSERTION

Insert the cage into the disc space by protecting the dura with the nerve root retractor.
It is possible to gently hammer on the implant holder handle to ease the insertion of the implant.

INSTRUMENT	REFERENCE
NERVE ROOT RETRACTOR	DYN-IP 00 05-N
IMPLANT HOLDER	DYN-IP 00 01-N
IMPLANT HOLDER MICRO	JUL-IO 00 01-N

SURGICAL TECHNIQUE : JULIET Ti PO

STEP 5

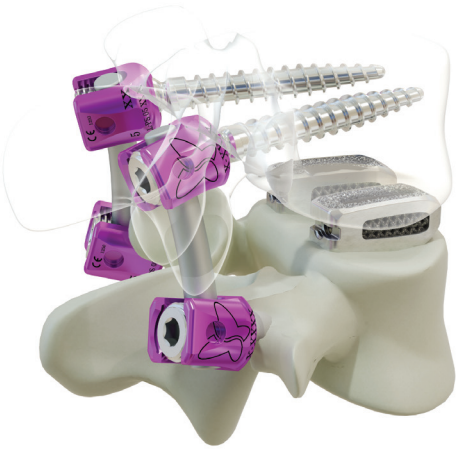


INSERTION OF THE SECOND CAGE

Repeat steps 3 and 4 to ensure the placement of the second cage.

INSTRUMENT	REFERENCE
IMPLANT HOLDER	DYN-IP 00 01-N
IMPLANT HOLDER MICRO	JUL-IO 00 01-N

FINAL CONSTRUCT



The JULIET Ti PO cages should be used with a supplemental posterior fixation system, as described in the ROMEO 2 surgical technique, or an anterior fixation system.
Physicians should use the compression forceps to compress the final construct.

NOTE

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