SCARLET® AL-T

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GENERAL INFORMATION

CONCEPT AND DESIGN

Building on the success and experience acquired with our Posterior Lumbar Titanium range, Spineart developed a new Titanium secured lumbar anterior cage, 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 philosophy: Quality, Innovation and Simplicity.

AT A GLANCE

Ti-LIFE Technology
Integrated Screw Channel
High Performance Screw
One Step Cam Lock

INDICATIONS

The SCARLET®AL-T system is indicated for intervertebral body fusion procedures in skeletally mature patients with degenerative disc disease (DDD) of the lumbar spine at one isolated level from L5-S1. DDD is defined as discogenic back pain with degeneration of the disc confirmed by patient history and radiographic studies. These DDD patients may also have up to Grade 1 spondylolisthesis at the involved level.

Used with the integrated fixation by the mean of the bone screws provided, the SCARLET® AL-T is a stand-alone system and requires no additional supplemental fixation system.

IMPLANTS

SMALL FOOTPRINT D24 MM X W32 MM LORDOSIS: 10° (OPTIONAL)

HEIGHT	REFERENCE
H10	SCA-LS 10 10-S
H12	SCA-LS 10 12-S
H14	SCA-LS 10 14-S
H16	SCA-LS 10 16-S

SMALL FOOTPRINT D24 MM X W32 MM LORDOSIS: 15° (OPTIONAL)

HEIGHT	REFERENCE
H10	SCA-LS 15 10-S
H12	SCA-LS 15 12-S
H14	SCA-LS 15 14-S
H16	SCA-LS 15 16-S

MEDIUM FOOTPRINT D27 MM X W36 MM LORDOSIS: 10°

HEIGHT	REFERENCE
H10	SCA-LM 10 10-S
H12	SCA-LM 10 12-S
H14	SCA-LM 10 14-S
H16	SCA-LM 10 16-S

MEDIUM FOOTPRINT D27 MM X W36 MM LORDOSIS: 15°

HEIGHT	REFERENCE
H12	SCA-LM 15 12-S
H14	SCA-LM 15 14-S
H16	SCA-LM 15 16-S

LARGE FOOTPRINT D30 MM X W40 MM LORDOSIS: 10°

HEIGHT	REFERENCE
H10	SCA-LL 10 10-S
H12	SCA-LL 10 12-S
H14	SCA-LL 10 14-S
H16	SCA-LL 10 16-S

LARGE FOOTPRINT D30 MM X W40 MM LORDOSIS: 15°

HEIGHT	REFERENCE
H12	SCA-LL 15 12-S
H14	SCA-LL 15 14-S
H16	SCA-LL 15 16-S

IMPLANTS

DIA 5.0 MM

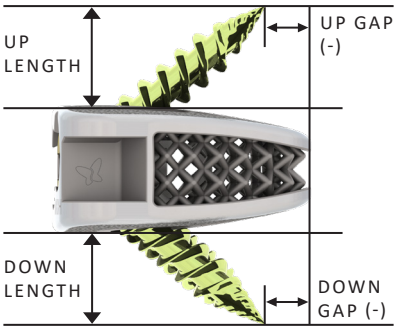
LENGTH	REFERENCE
L25	SJT-LS 50 25-S
L30	SJT-LS 50 30-S
L35	SJT-LS 50 35-S
L40	SJT-LS 50 40-S

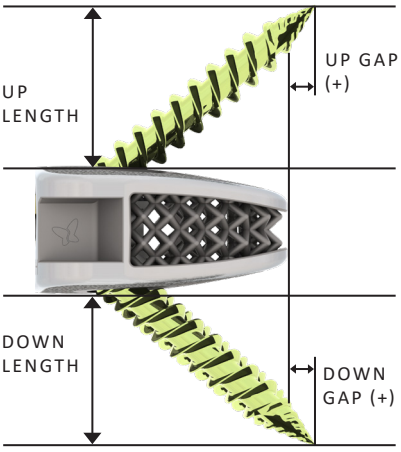
DIA 5.5 MM

LENGTH	REFERENCE
L25	SJT-LS 55 25-S
L30	SJT-LS 55 30-S
L35	SJT-LS 55 35-S
L40	SJT-LS 55 40-S

IMPLANTS

SCREW LENGTH DETERMINATION & SCREW / CAGE CORRESPONDENCE





SMALL CAGE

SCREW L25 MM - W32 MM X D24 MM (10° & 15°)				
	UP		DOWN	
HEIGHT (mm)	LENGTH (mm)	GAP (mm)	LENGTH (mm)	GAP (mm)
H10	10.5	-1.7	9.6	-1.7
H12	9.5		8.6	
H14	10		9.1	
H16	10.2	-2	9.3	-2

SCREW L30 MM - W32 MM X D24 MM (10° & 15°)				
	UP		DOWN	
HEIGHT (mm)	LENGTH (mm)	GAP (mm)	LENGTH (mm)	GAP (mm)
H10	13.7	2.1	12.8	2.1
H12	12.7		11.8	
H14	13.2		12.3	
H16	13.4	1.8	12.5	1.8

SCREW L35 MM - W32 MM X D24 MM (10° & 15°)				
	UP		DOWN	
HEIGHT (mm)	LENGTH (mm)	GAP (mm)	LENGTH (mm)	GAP (mm)
H10	16.9	5.9	16	5.9
H12	15.9		15	
H14	16.4		15.5	
H16	16.6	5.6	15.7	5.6

SCREW L40 MM - W32 MM X D24 MM (10° & 15°)				
	UP		DOWN	
HEIGHT (mm)	LENGTH (mm)	GAP (mm)	LENGTH (mm)	GAP (mm)
H10	20.1	9.8	19.2	9.8
H12	19		18.2	
H14	19.6		18.7	
H16	19.8	9.4	18.9	9.4

IMPLANTS

SCREW LENGTH DETERMINATION & SCREW / CAGE CORRESPONDENCE

MEDIUM CAGE

SCREW L25 MM - W36 MM X D27 MM (10° & 15°)				
	UP		DOWN	
HEIGHT (mm)	LENGTH (mm)	GAP (mm)	LENGTH (mm)	GAP (mm)
H10	10.4	-4.7	9.5	-4.7
H12	9.4		8.5	
H14	9.9		9	
H16	10	-5.1	9.2	-5.1

SCREW L30 MM - W36 MM X D27 MM (10° & 15°)				
	UP		DOWN	
HEIGHT (mm)	LENGTH (mm)	GAP (mm)	LENGTH (mm)	GAP (mm)
H10	13.6	-0.9	12.7	-0.9
H12	12.6		11.7	
H14	13.1		12.2	
H16	13.3	-1.3	12.4	-1.3

SCREW L35 MM - W36 MM X D27 MM (10° & 15°)				
	UP		DOWN	
HEIGHT (mm)	LENGTH (mm)	GAP (mm)	LENGTH (mm)	GAP (mm)
H10	16.8	3	15.9	3
H12	15.8		14.9	
H14	16.3		15.4	
H16	16.5	2.6	15.6	2.6

SCREW L40 MM - W36 MM X D27 MM (10° & 15°)				
	UP		DOWN	
HEIGHT (mm)	LENGTH (mm)	GAP (mm)	LENGTH (mm)	GAP (mm)
H10	20	6.8	19.1	6.8
H12	19		18.1	
H14	19.5		18.6	
H16	19.7	6.4	18.8	6.4

LARGE CAGE

SCREW L25 MM - W40 MM X D30 MM (10° & 15°)				
	UP		DOWN	
HEIGHT (mm)	LENGTH (mm)	GAP (mm)	LENGTH (mm)	GAP (mm)
H10	10.3	-7.7	9.5	-7.7
H12	9.3		8.5	
H14	9.8		9	
H16	10	-8.1	9.1	-8.1

SCREW L30 MM - W40 MM X D30 MM (10° & 15°)				
	UP		DOWN	
HEIGHT (mm)	LENGTH (mm)	GAP (mm)	LENGTH (mm)	GAP (mm)
H10	13.5	-3.9	12.7	-3.9
H12	12.5		11.7	
H14	13		12.2	
H16	13.2	-4.3	12.3	-4.3

SCREW L35 MM - W40 MM X D30 MM (10° & 15°)				
	UP		DOWN	
HEIGHT (mm)	LENGTH (mm)	GAP (mm)	LENGTH (mm)	GAP (mm)
H10	16.7	0	15.8	0
H12	15.7		14.8	
H14	16.2		15.3	
H16	16.4	-0.4	15.5	-0.4

SCREW L40 MM - W40 MM X D30 MM (10° & 15°)				
	UP		DOWN	
HEIGHT (mm)	LENGTH (mm)	GAP (mm)	LENGTH (mm)	GAP (mm)
H10	19.9	3.8	19	3.8
H12	18.9		18	
H14	19.4		18.5	
H16	19.6	3.4	18.7	3.4

TECHNICAL FEATURES

Ti-LIFE TECHNOLOGY

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

ZERO PROFILE

The screw heads are completely integrated within the cage. Zero-profile implants may limit the risk of damage to vessels and adjacent soft tissues.

SCREW ANTI-BACKOUT SYTEM

The cages feature a channel to ease screw insertion.
The zero-profile one-step locking mechanism with pre-assembled cam locks prevent screw migration.

COMPREHENSIVE RANGE

10° and 15° lordosis
3 footprints

INSTRUMENT SETS

DISC PREPARATION 1

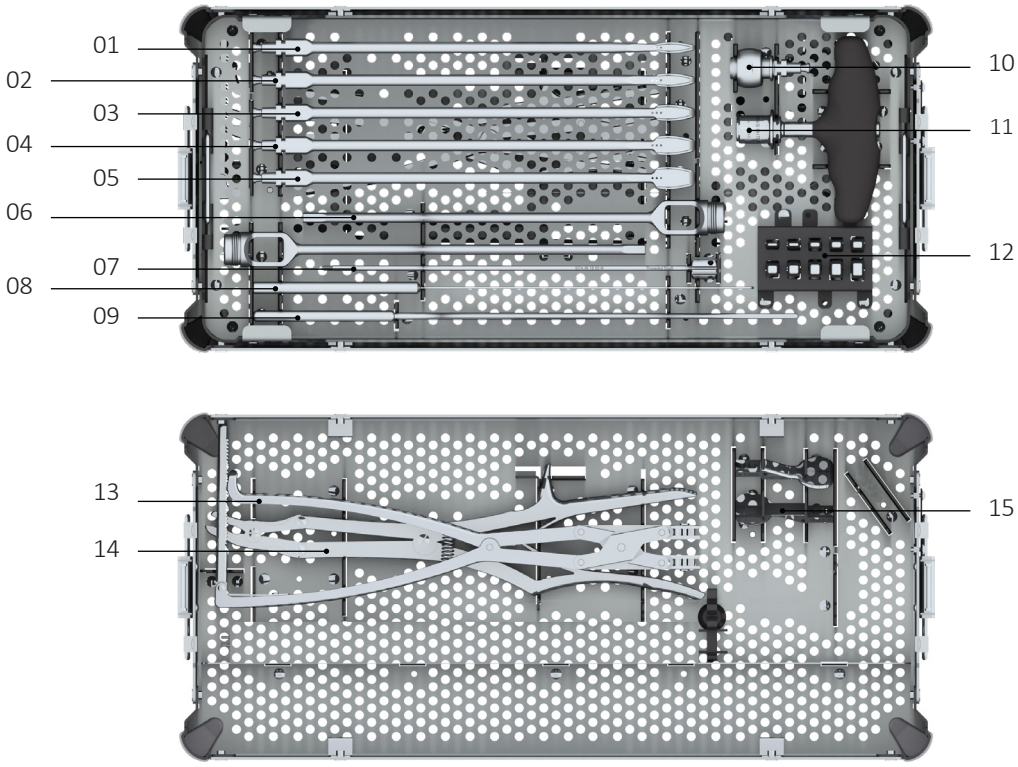
#	DESCRIPTION	REFERENCE
01	PITUITARY RONGEUR, STRAIGHT, 5MM	SCA-IN 21 00-N[1]
02	PITUITARY RONGEUR, STRAIGHT, 3MM	SCA-IN 22 00-N[1]
03	PITUITARY RONGEUR, 3MM, UP	SCA-IN 21 01-N[1]
04	PITUITARY RONGEUR, 5MM, UP	SCA-IN 22 01-N[1]
05	KERRISON RONGEUR, 5MM, 40DEG UP	JLL-IN 14 05-N[1]
06	KERRISON RONGEUR, 3MM, 40DEG UP	SCA-IN 23 00-N[1]

#	DESCRIPTION	REFERENCE
07	STRAIGHT RING CURETTE, 15MM	SCA-IN 09 02-N
08	ANGLED RING CURETTE, 15MM	SCA-IN 09 03-N
09	CUP CURETTE, STRAIGHT, SIZE «2»	SCA-IN 12 00-N
10	CUP CURETTE, ANGLED, DOWN, SIZE «2»	SCA-IN 12 01-N
11	CUP CURETTE, STRAIGHT, SIZE «4»	SCA-IN 24 00-N
12	CUP CURETTE, ANGLED, DOWN, SIZE «4»	SCA-IN 24 01-N
13	FLAT COBB, 30 MM	SCA-IN 10 02-N
14	COBB, 25MM, 10° UP	SCA-IN 10 01-N
15	RASP, STRAIGHT, 14MM	SCA-IN 08 00-N
	CUP CURETTE, ANGLED, DOWN, SIZE «0» (OPTIONAL)	SCA-IN 11 01-N
	CUP CURETTE, STRAIGHT, SIZE «0» (OPTIONAL)	SCA-IN 11 00-N
	STRAIGHT RING CURETTE, 11MM (OPTIONAL)	SCA-IN 09 00-N
	ANGLED RING CURETTE, 11M (OPTIONAL)	SCA-IN 09 01-N

1: Refer to the GENERAL INFORMATION, page 35 of this guide

INSTRUMENT SETS

DISC PREPARATION 2



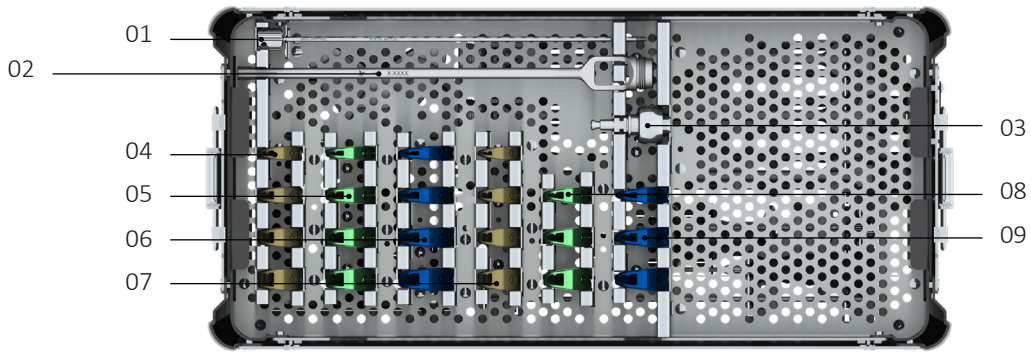
#	DESCRIPTION	REFERENCE
01	DISC SHAVER H08	SCA-IN 14 08-N
02	DISC SHAVER H10	SCA-IN 14 10-N
03	DISC SHAVER H12	SCA-IN 14 12-N
04	DISC SHAVER H14	SCA-IN 14 14-N
05	DISC SHAVER H16	SCA-IN 14 16-N
06	PADDLE DISTRACTOR HOLDER	SCA-IN 15 00-N
07	THREADED SHAFT	SCA-IN 18 00-N
08	CASPAR EXPLOR.HOOK MED - TIP90DG 245MM	BT089R[2]
09	BLUNT DISSECTOR	JLL-IN 00 01-N
10	HUDSON CONNECTOR	SCA-IN 17 00-N
11	T-HANDLE	HAN-SI MH TE-N

#	DESCRIPTION	REFERENCE
12	PADDLE DISTRACTOR H07	SCA-IN 15 07-N
	PADDLE DISTRACTOR H08	SCA-IN 15 08-N
	PADDLE DISTRACTOR H09	SCA-IN 15 09-N
	PADDLE DISTRACTOR H10	SCA-IN 15 10-N
	PADDLE DISTRACTOR H11	SCA-IN 15 11-N
	PADDLE DISTRACTOR H12	SCA-IN 15 12-N
	PADDLE DISTRACTOR H13	SCA-IN 15 13-N
	PADDLE DISTRACTOR H14	SCA-IN 15 14-N
	PADDLE DISTRACTOR H15	SCA-IN 15 15-N
	PADDLE DISTRACTOR H16	SCA-IN 15 16-N
13	PARALLEL DISTRACTOR	ELL-IN 01 07-N
14	LEKSELL DOUBLE-ACTION RONGEUR, 8MM	SCA-IN 13 00-N
15	DISTRACTOR PARALLEL INTERSOMATIC ENDTIP	SCA-IN 01 00-N

2: Refer to the GENERAL INFORMATION, page 35 of this guide

INSTRUMENT SETS

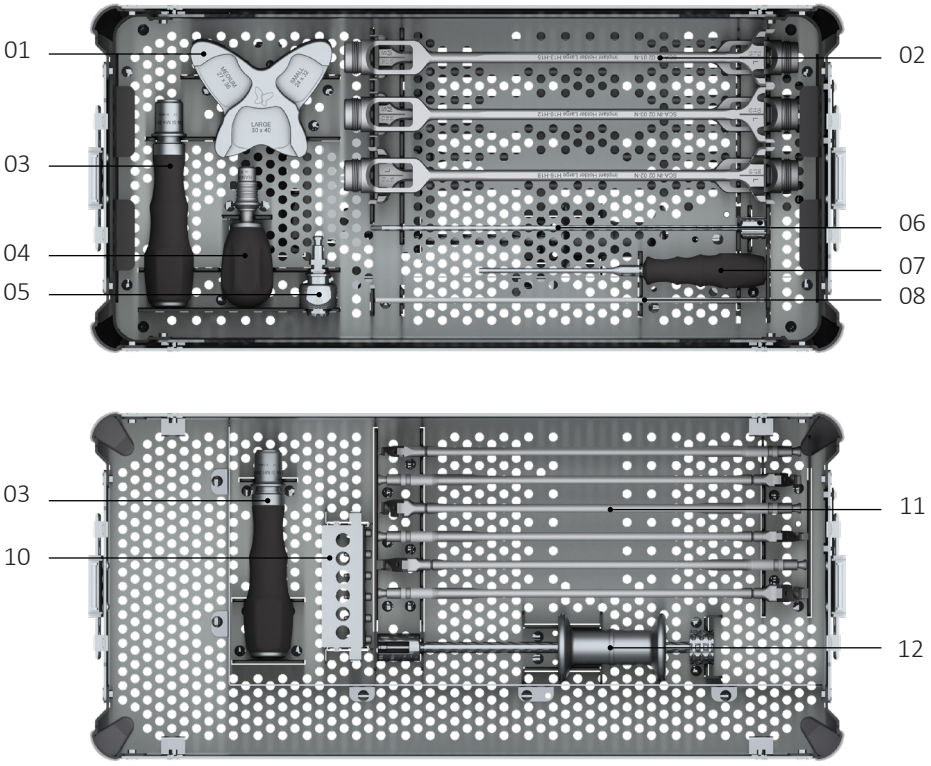
IMPLANT TRIALS AND CAGES INSERTION



#	DESCRIPTION	REFERENCE
01	THREADED SHAFT	SCA-IN 18 00-N
02	TRIAL INSERTER	SCA-IN 05 00-N
03	HUDSON CONNECTOR	SCA-IN 17 00-N
04	TRIAL SMALL H10 LORDOSIS 10°	SCA-TS 10 10-N
	TRIAL SMALL H12 LORDOSIS 10°	SCA-TS 10 12-N
	TRIAL SMALL H14 LORDOSIS 10°	SCA-TS 10 14-N
	TRIAL SMALL H16 LORDOSIS 10°	SCA-TS 10 16-N
05	TRIAL MEDIUM H10 LORDOSIS 10°	SCA-TM 10 10-N
	TRIAL MEDIUM H12 LORDOSIS 10°	SCA-TM 10 12-N
	TRIAL MEDIUM H14 LORDOSIS 10°	SCA-TM 10 14-N
	TRIAL MEDIUM H16 LORDOSIS 10°	SCA-TM 10 16-N
06	TRIAL LARGE H10 LORDOSIS 10°	SCA-TL 10 10-N
	TRIAL LARGE H12 LORDOSIS 10°	SCA-TL 10 12-N
	TRIAL LARGE H14 LORDOSIS 10°	SCA-TL 10 14-N
	TRIAL LARGE H16 LORDOSIS 10°	SCA-TL 10 16-N
07	TRIAL SMALL H10 LORDOSIS 15°	SCA-TS 15 10-N
	TRIAL SMALL H12 LORDOSIS 15°	SCA-TS 15 12-N
	TRIAL SMALL H14 LORDOSIS 15°	SCA-TS 15 14-N
	TRIAL SMALL H16 LORDOSIS 15°	SCA-TS 15 16-N
08	TRIAL MEDIUM H12 LORDOSIS 15°	SCA-TM 15 12-N
	TRIAL MEDIUM H14 LORDOSIS 15°	SCA-TM 15 14-N
	TRIAL MEDIUM H16 LORDOSIS 15°	SCA-TM 15 16-N
09	TRIAL LARGE H12 LORDOSIS 15°	SCA-TL 15 12-N
	TRIAL LARGE H14 LORDOSIS 15°	SCA-TL 15 14-N
	TRIAL LARGE H16 LORDOSIS 15°	SCA-TL 15 16-N

INSTRUMENT SETS

IMPLANT TRIALS AND CAGES INSERTION

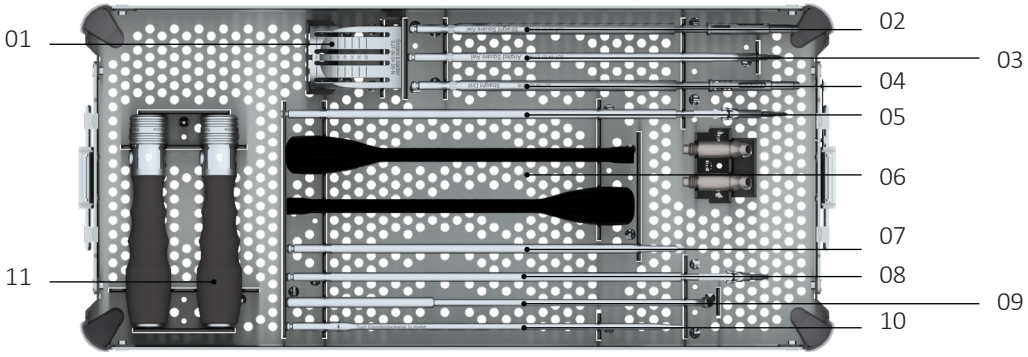


#	DESCRIPTION	REFERENCE
01	COMPACTION BASE	SCA-IN 07 00-N
02	IMPLANT HOLDERS: SMALL/MEDIUM H10-H12 SMALL/MEDIUM H13-H15 SMALL/MEDIUM H16-H18 LARGE H10-H12 LARGE H13-H15 LARGE H16-H18	 SCA-IN 01 01-N SCA-IN 01 02-N SCA-IN 01 03-N SCA-IN 02 00-N SCA-IN 02 01-N SCA-IN 02 02-N
03	STRAIGHT HANDLE (HUDSON CONNECTION)	HAN-SI MH SM-N
04	TORQUE LIMITING HANDLE (1NM)	HAN-SI AO PA-N
05	HUDSON CONNECTOR	SCA-IN 17 00-N
06	THREADED SHAFT	SCA-IN 18 00-N
07	COMPACTOR	SCA-IN 19 00-N
08	CAMLOCKER DRIVER	SCA-IN 06 00-N

#	DESCRIPTION	REFERENCE
10	LATERAL IMPLANT HOLDER SCREW M4X0.7	SCA-IN 16 00-N
11	LATERAL IMPLANT HOLDERS: SMALL/MEDIUM H10-H12 SMALL/MEDIUM H13-H15 SMALL/MEDIUM H16-H18 LARGE H10-H12 LARGE H13-H15 LARGE H16-H18	 SCA-IN 03 00-N SCA-IN 03 01-N SCA-IN 03 02-N SCA-IN 04 00-N SCA-IN 04 01-N SCA-IN 04 02-N
12	SLAP HAMMER	JLL-IN 12 00-N
	IMPLANT HOLDER SMALL/MEDIUM	SCA-IN 01 04-N
	IMPLANT HOLDER LARGE	SCA-IN 02 03-N
	LATERAL IMPLANT HOLDER LARGE	SCA-IN 04 03-N

INSTRUMENT SETS

SCREW INSERTION



#	DESCRIPTION	REFERENCE
01	SCREW LOADER	SJT-IN 04 00-N
02	STRAIGHT SQUARE AWL OR STRAIGHT SQUARE AWL LIGHT (OPTIONAL)	SJT-IN 01 00-N SJT-IN 01 03-N
03	ANGLED SQUARE AWL	SJT-IN 01 01-N
04	STRAIGHT DRILL	SJT-IN 02 00-N
05	U-JOINT DRILL	SJT-IN 02 01-N
06	UNIVERSAL-JOINT TUBE	SJT-IN 06 00-N
07	STRAIGHT SCREWDRIVER	SJT-IN 03 00-N
08	U-JOINT SCREWDRIVER	SJT-IN 03 01-N
09	U-JOINT GUIDE	SJT-IN 05 00-N
10	REVISION SCREWDRIVER	SJT-IN 03 02-N
11	STRAIGHT RATCHETING HANDLE	HAN-SI RA ST-N

INSTRUMENTS

DISC PREPARATION

STRAIGHT RING CURETTE, 15MM	SCA-IN 09 02-N

ANGLED RING CURETTE, 15MM	SCA-IN 09 03-N

CUP CURETTE, STRAIGHT, SIZE «2»	SCA-IN 12 00-N

CUP CURETTE, STRAIGHT, SIZE «4»	SCA-IN 24 00-N

CUP CURETTE, ANGLED, DOWN, SIZE «2»	SCA-IN 12 01-N

PADDLE DISTRACTORS H07 TO H16	SCA-IN 15 07-N TO SCA-IN 15 16-N

CUP CURETTE, ANGLED, DOWN, SIZE «4»	SCA-IN 24 01-N

FLAT COBB, 30 MM	SCA-IN 10 02-N

COBB, 25MM, 10° UP	SCA-IN 10 01-N

RASP, STRAIGHT, 14MM	SCA-IN 08 00-N

PADDLE DISTRACTOR HOLDER	SCA-IN 15 00-N

THREADED SHAFT	SCA-IN 18 00-N

INSTRUMENTS

DISC PREPARATION

T-HANDLE	HAN-SI MH TE-N

CASPAR EXPLOR.HOOK MED - TIP90DG 245MM	BT089R[2]

KERRISON RONGEUR, 3MM, 40DEG UP	SCA-IN 23 00-N[1]
KERRISON RONGEUR, 5MM, 40DEG UP	JLL-IN 14 05-N[1]

LEKSELL DOUBLE-ACTION RONGEUR, 8MM	SCA-IN 13 00-N

PITUITARY RONGEUR, STRAIGHT, 5MM	SCA-IN 21 00-N[1]
PITUITARY RONGEUR, STRAIGHT, 3MM	SCA-IN 22 00-N[1]
PITUITARY RONGEUR, 3MM, UP	SCA-IN 21 01-N[1]
PITUITARY RONGEUR, 5MM, UP	SCA-IN 22 01-N[1]

CUP CURETTE, STRAIGHT, SIZE «0» (OPTIONAL)	SCA-IN 11 00-N
CUP CURETTE, ANGLED DOWN, SIZE «0» (OPTIONAL)	SCA-IN 11 01-N

STRAIGHT RING CURETTE, 11MM (OPTIONAL)	SCA-IN 09 00-N
ANGLED RING CURETTE, 11MM (OPTIONAL)	SCA-IN 09 01-N

1 & 2: Refer to the GENERAL INFORMATION, page 35 of this guide

INSTRUMENTS

DISC PREPARATION

PARALLEL DISTRACTOR	ELL-IN 01 07-N

BAYONETED PENFIELD #4, TOE IN	JLL-IN 00 01-N

DISTRACTOR PARALLEL INTERSOMATIC ENDTIP	SCA-IN 01 00-N

HUDSON CONNECTOR	SCA-IN 17 00-N

DISC SHAVERS	SCA-IN 14 08-N TO SCA-IN 14 16-N

INSTRUMENTS

IMPLANT TRIALS

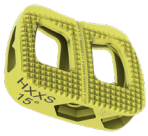
TRIAL INSERTER	SCA-IN 05 00-N

THREADED SHAFT	SCA-IN 18 00-N

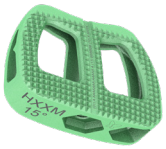
SLAP HAMMER	JLL-IN 12 00-N

HUDSON CONNECTOR	SCA-IN 17 00-N

TRIAL SMALL H10 TO H16 LORDOSIS 10°	SCA-TS 10 XX-N
TRIAL SMALL H10 TO H16 LORDOSIS 15°	SCA-TS 15 XX-N



TRIAL MEDIUM H10 TO H16 LORDOSIS 10°	SCA-TM 10 XX-N
TRIAL MEDIUM H12 TO H16 LORDOSIS 15°	SCA-TM 15 XX-N



TRIAL LARGE H10 TO H16 LORDOSIS 10°	SCA-TL 10 XX-N
TRIAL LARGE H12 TO H16 LORDOSIS 15°	SCA-TL 15 XX-N

INSTRUMENTS

CAGES INSTRUMENTS

IMPLANT HOLDER SMALL/MEDIUM H10-H12	SCA-IN 01 01-N
IMPLANT HOLDER SMALL/MEDIUM H13-H15	SCA-IN 01 02-N
IMPLANT HOLDER SMALL/MEDIUM H16-H18	SCA-IN 01 03-N
IMPLANT HOLDER LARGE H10-H12	SCA-IN 02 00-N
IMPLANT HOLDER LARGE H13-H15	SCA-IN 02 01-N
IMPLANT HOLDER LARGE H16-H18	SCA-IN 02 02-N

LATERAL IMPLANT HOLDER SMALL/ MEDIUM H10-H12	SCA-IN 03 00-N
LATERAL IMPLANT HOLDER SMALL/ MEDIUM H13-H15	SCA-IN 03 01-N
LATERAL IMPLANT HOLDER SMALL/ MEDIUM H16-H18	SCA-IN 03 02-N
LATERAL IMPLANT HOLDER LARGE H10-H12	SCA-IN 04 00-N
LATERAL IMPLANT HOLDER LARGE H13-H15	SCA-IN 04 01-N
LATERAL IMPLANT HOLDER LARGE H16-H18	SCA-IN 04 02-N

LATERAL IMPLANT HOLDER SCREW M4X0.7	SCA-IN 16 00-N

COMPACTOR	SCA-IN 19 00-N

COMPACTION BASE	SCA-IN 07 00-N

CAMLOCKER DRIVER	SCA-IN 06 00-N

STRAIGHT HANDLE (HUDSON CONNECTION)	HAN-SI MH SM-N

TORQUE LIMITING HANDLE (1NM)	HAN-SI AO PA-N

INSTRUMENTS

SCREW INSERTION

STRAIGHT SQUARE AWL	SJT-IN 01 00-N

STRAIGHT DRILL	SJT-IN 02 00-N

STRAIGHT SCREWDRIVER	SJT-IN 03 00-N

REVISION SCREWDRIVER	SJT-IN 03 02-N

SCREW LOADER	SJT-IN 04 00-N

STRAIGHT RATCHETING HANDLE	HAN-SI RA ST-N

STRAIGHT SQUARE AWL LIGHT (OPTIONAL)	SJT-IN 01 03-N

ANGLED SQUARE AWL	SJT-IN 01 01-N

U-JOINT DRILL	SJT-IN 02 01-N

U-JOINT SCREWDRIVER	SJT-IN 03 01-N

U-JOINT GUIDE	SJT-IN 05 00-N

UNIVERSAL-JOINT TUBE	SJT-IN 06 00-N

INSTRUMENT ASSEMBLY

TRIALS AND CAGES INSERTION
HUDSON CONNECTION HANDLES

SCREWS INSERTION
RATCHET HANDLE

TORQUE LIMITING
HANDLE

HUDSON CONNECTION HANDLE ATTACHMENT

Align parallel flat surfaces of the instrument shaft with corresponding handle recess. Pull the adaptor barrel while inserting the shaft. Release the adaptor barrel.

INSTRUMENT	REFERENCE
STRAIGHT HANDLE (HUDSON CONNECTION)	HAN-SI MH SM-N
T-HANDLE	HAN-SI MH TE-N

TRIAL INSERTER & IMPLANT HOLDER ASSEMBLY

Insert the **Threaded Shaft** into the **Implant Holder** or **Trial Inserter**. Align the **Hudson Connector** onto the **Implant Holder** or **Trial Inserter** and turn clockwise to secure the assembly.

INSTRUMENT	REFERENCE
THREADED SHAFT	SCA-IN 18 00-N
HUDSON CONNECTOR	SCA-IN 17 00-N
TRIAL INSERTER	SCA-IN 05 00-N
IMPLANT HOLDER SMALL/MEDIUM	SCA-IN 01 XX-N
IMPLANT HOLDER LARGE	SCA-IN 02 XX-N
PADDLE DISTRACTOR HOLDER	SCA-IN 15 00-N

INSTRUMENT ASSEMBLY

SLAP HAMMER ATTACHMENT

The **Slap Hammer** can be used if additional force is needed for instrument removal. Attach instruments per respective connection end:

Hudson Connection
Align and insert the proximal end of the instrument shaft into the **Slap Hammer** slot. Rotate the **Slap Hammer** shaft clockwise 90°.

INSTRUMENT	REFERENCE
SLAP HAMMER	JLL-IN 12 00-N

ASSEMBLY OF THE U-JOINT INSTRUMENTS

1. Connect the U-Joint instrument with the universal U joint angled part.

2. Thread the **U-Joint Tube** onto the **Universal U Joint** angled part using a counter clockwise rotation.

INSTRUMENT	REFERENCE
UNIVERSAL JOINT TUBE	SJT-IN 06 00-N
U-JOINT SCREWDRIVER	SJT-IN 03 01-N
U-JOINT DRILL	SJT-IN 02 01-N
U-JOINT GUIDE	SJT-IN 05 00-N

SURGICAL TECHNIQUE

_STEP 1

PATIENT POSITIONING AND EXPOSURE

For an anterior approach of the lower lumbar levels, place the patient supine in a slight Trendelenburg position, per surgeon preference.

Locate the operative disc level and incision location via lateral fluoroscopy.

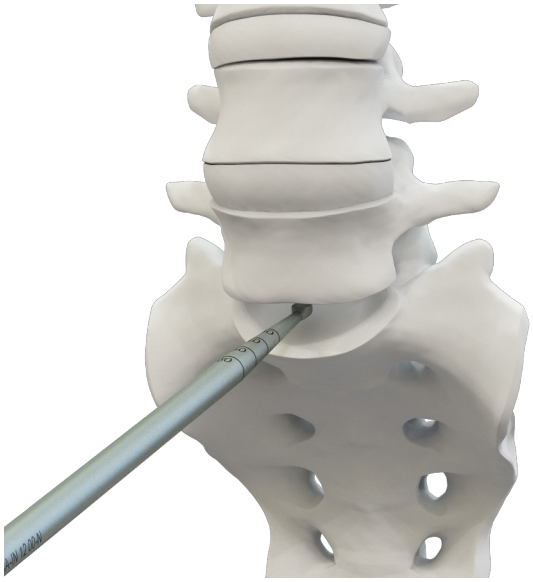
Determine surgical approach (anterior or anterolateral) based on the surgeon preference.

Through a standard retroperitoneal approach, dissect and retract the soft tissue to reach the operative disc level.

Cut an appropriately sized window through the anterior longitudinal ligament and the annulus fibrosus, to access the target disc space.

_STEP 2

DISCECTOMY AND DISTRACTION



Begin discectomy and endplate preparation with a **Curette**.
Use a **Cobb** elevator to clearly define the endplates.
Distract the discectomy site, using the **Parallel Distractor** and/or **Paddle Distractors**.

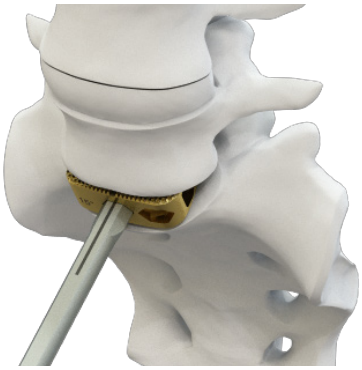
Complete endplate preparation with the **Rasp** and **Disc Shavers**. Care must be taken to ensure excessive bone is not removed, which may weaken the endplate.

INSTRUMENT	REFERENCE
STRAIGHT RING CURETTE, 15MM	SCA-IN 09 02-N
ANGLED RING CURETTE, 15MM	SCA-IN 09 03-N
CUP CURETTE, STRAIGHT, SIZE «2»	SCA-IN 12 00-N
CUP CURETTE, STRAIGHT, SIZE «4»	SCA-IN 24 00-N
CUP CURETTE, ANGLED, DOWN, SIZE «2»	SCA-IN 12 01-N
CUP CURETTE, ANGLED, DOWN, SIZE «4»	SCA-IN 24 01-N
FLAT COBB, 30MM	SCA-IN 10 02-N
COBB, 25MM, 10° UP	SCA-IN 10 01-N
PARALLEL DISTRACTOR	ELL-IN 01 07-N
DISTRACTOR PARALLEL INTERSOMATIC ENDTIP	SCA-IN 01 00-N
PADDLE DISTRACTOR HOLDER	SCA-IN 15 00-N
PADDLE DISTRACTORS H07 TO H16	SCA-IN 15 07-N TO SCA-IN 15 16-N
RASP, STRAIGHT, 14MM	SCA-IN 08 00-N
DISC SHAVERS	SCA-IN 14 08-N TO SCA-IN 14 16-N
BAYONETED PENFIELD #4, TOE IN	JLL-IN 00 01-N
T-HANDLE	HAN-SI MH TE-N

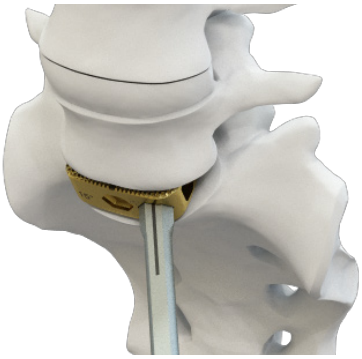
INSTRUMENT	REFERENCE
CASPAR EXPLOR.HOOK MED - TIP90DG 245MM	BT089R[2]
PITUITARY RONGEUR, STRAIGHT, 5MM	SCA-IN 21 00-N[1]
PITUITARY RONGEUR, STRAIGHT, 3MM	SCA-IN 22 00-N[1]
PITUITARY RONGEUR, 3MM, UP	SCA-IN 21 01-N[1]
PITUITARY RONGEUR, 5MM, UP	SCA-IN 22 01-N[1]
KERRISON RONGEUR, 3MM, 40DEG UP	SCA-IN 23 00-N[1]
KERRISON RONGEUR, 5MM, 40DEG UP	JLL-IN 14 05-N[1]
LEKSELL DOUBLE-ACTION RONGEUR, 8MM	SCA-IN 13 00-N
HUDSON CONNECTOR	SCA-IN 17 00-N
THREADED SHAFT	SCA-IN 18 00-N
CUP CURETTE, ANGLED, DOWN, SIZE «0» (OPTIONAL)	SCA-IN 11 01-N
CUP CURETTE, STRAIGHT, SIZE «0» (OPTIONAL)	SCA-IN 11 00-N
STRAIGHT RING CURETTE, 11MM (OPTIONAL)	SCA-IN 09 00-N
ANGLED RING CURETTE, 11M (OPTIONAL)	SCA-IN 09 01-N

1 & 2: Refer to the GENERAL INFORMATION, page 35 of this guide

_STEP 3



ANTERIOR APPROACH



ANTEROLATERAL APPROACH

INSTRUMENT	REFERENCE
TRIAL INSERTER	SCA-IN 05 00-N
THREADED SHAFT	SCA-IN 18 00-N
HUDSON CONNECTOR	SCA-IN 17 00-N
STRAIGHT HANDLE (HUDSON CONNECTION)	HAN-SI MH SM-N
TRIAL SMALL H10 TO H16 LORDOSIS 10°	SCA-TS 10 10-N TO SCA-TS 10 16-N
TRIAL SMALL H10 TO H16 LORDOSIS 15°	SCA-TS 15 10-N TO SCA-TS 15 16-N
TRIAL MEDIUM H10 TO H16 LORDOSIS 10°	SCA-TM 10 10-N TO SCA-TM 10 16-N
TRIAL MEDIUM H12 TO H16 LORDOSIS 15°	SCA-TM 15 12-N TO SCA-TM 15 16-N
TRIAL LARGE H10 TO H16 LORDOSIS 10°	SCA-TL 10 10-N TO SCA-TL 10 16-N
TRIAL LARGE H12 TO H16 LORDOSIS 15°	SCA-TL 15 12-N TO SCA-TL 15 16-N
SLAP HAMMER	JLL-IN 12 00-N

SELECTION OF THE IMPLANT SIZE

The selection of the implant's size and lordosis (10° or 15°), depends on the intervertebral space, patient anatomy, preparation technique and surgeon's preference.

Selection of the approach (anterior or anterolateral) depends on the patient's anatomy and surgeon's preference.

Straight Anterior Approach:
Thread the **Trial Implant** onto the **Trial Inserter** using the midline hole of the **Trial Implant**.

NOTE : **Trials** are color coded in yellow (small), green (medium) and blue (large) according to their footprint.

Anterolateral Approach:
Thread the **Trial Implant** onto the **Trial Inserter** using the appropriate lateral hole of the **Trial Implant**.

Insert the **Trial Implant** into the intervertebral space to determine the cage height, footprint and lordosis.

If the chosen **Trial Implant** is too small, use incrementally larger **Trials** until a tight fit is achieved.

A mallet may be used to gently insert the **Trial**. Verify correct size with AP and Lateral imaging.

Once the size is assessed, gently remove the **Trial**, and select the cage corresponding in height, footprint, and lordosis.

Implant size selection is dependent on the intervertebral space, patient anatomy and technical preparation.

With appropriate size verified, open the corresponding cage footprint and height and thread it onto the implant holder.

_STEP 4

CAGE ASSEMBLY AND PREPARATION

The **Implant Holder** is selected based on the footprint and the height of the selected implant. Every **Implant Holder** is laser marked with the correct footprint and size.

NOTE : The lordosis of the implant does not impact the selection of the **Implant Holder.**

Straight Anterior Approach:
Once the proper **Implant Holder** is selected, a threaded shaft is inserted in the **Implant Holder.**

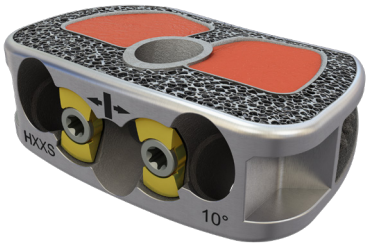
The **Hudson Connector** is then added to allow the attachment of the handle.

NOTE : Please refer to the instrument assembly section, page 22-23 of this guide, to determine proper handle selection and assembly instructions.

Secure the cage by turning the **Threaded Shaft** into the cage.

NOTE : The black marking of the **Implant Holder** needs to be aligned with the black marking of the cage.

SURGICAL TECHNIQUE



Anterolateral Approach :
Once the proper size of the **Implant Holder** is chosen secure the cage using the **Lateral Holder Screw**. Secure it using the **Straight Screwdriver**.

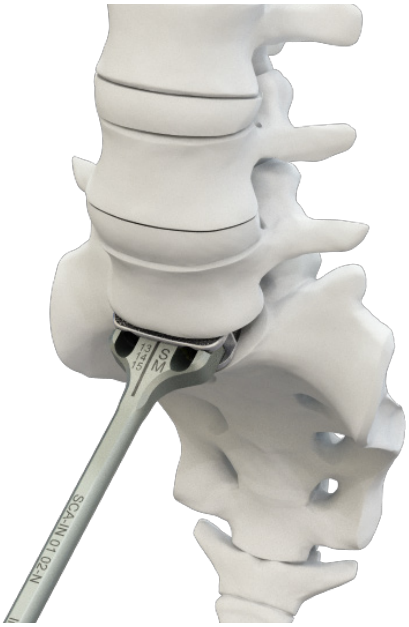
Place the cage onto the **Compaction Base** and fill it with bone graft.

* SCARLET® AL-T cages are to be filled with bone graft before implantation. Filling spinal cages with either autogenous or allogenous bone graft is a common practice for surgeons. The use of the allogenous bone grafts has to be approved (CE marked) for this specific intended purpose. We do not recommend any particular grafts.

INSTRUMENT	REFERENCE
IMPLANT HOLDER SMALL/ MEDIUM H10-H12	SCA-IN 01 01-N
IMPLANT HOLDER SMALL/ MEDIUM H13-H15	SCA-IN 01 02-N
IMPLANT HOLDER SMALL/ MEDIUM H16-H18	SCA-IN 01 03-N
IMPLANT HOLDER LARGE H10-H12	SCA-IN 02 00-N
IMPLANT HOLDER LARGE H13-H15	SCA-IN 02 01-N
IMPLANT HOLDER LARGE H16-H18	SCA-IN 02 02-N
LATERAL IMPLANT HOLDER SMALL/MEDIUM H10-H12	SCA-IN 03 00-N
LATERAL IMPLANT HOLDER SMALL/MEDIUM H13-H15	SCA-IN 03 01-N
LATERAL IMPLANT HOLDER SMALL/MEDIUM H16-H18	SCA-IN 03 02-N
LATERAL IMPLANT HOLDER LARGE H10-H12	SCA-IN 04 00-N

INSTRUMENT	REFERENCE
LATERAL IMPLANT HOLDER LARGE H13-H15	SCA-IN 04 01-N
LATERAL IMPLANT HOLDER LARGE H16-H18	SCA-IN 04 02-N
U-JOINT SCREWDRIVER	SJT-IN 03 01-N
STRAIGHT SCREWDRIVER	SJT-IN 03 00-N
THREADED SHAFT	SCA-IN 18 00-N
LATERAL IMPLANT HOLDER SCREW M4X0.7	SCA-IN 16 00-N
COMPACTION BASE	SCA-IN 07 00-N
COMPACTOR	SCA-IN 19 00-N
HUDSON CONNECTOR	SCA-IN 17 00-N
STRAIGHT HANDLE (HUDSON CONNECTION)	HAN-SI MH SM-N

_STEP 5



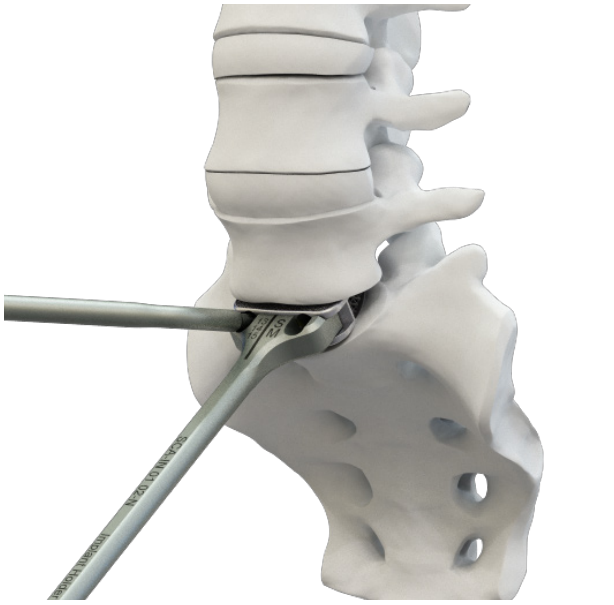
INSERTION OF THE FINAL IMPLANT

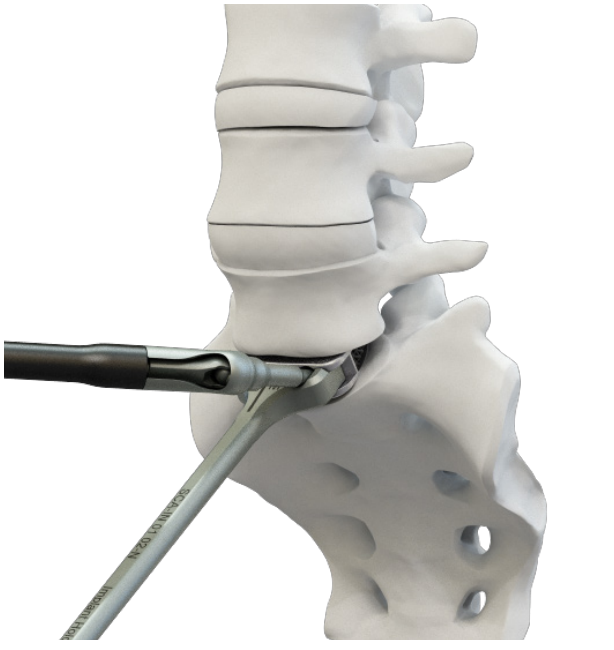
Insert the cage into the intervertebral space, according to preferred approach technique of the surgeon.

A mallet may be used to gently insert the final implant.

INSTRUMENT	REFERENCE
IMPLANT HOLDER SMALL/MEDIUM H10-H12	SCA-IN 01 01-N
IMPLANT HOLDER SMALL/MEDIUM H13-H15	SCA-IN 01 02-N
IMPLANT HOLDER SMALL/MEDIUM H16-H18	SCA-IN 01 03-N
IMPLANT HOLDER LARGE H10-H12	SCA-IN 02 00-N
IMPLANT HOLDER LARGE H13-H15	SCA-IN 02 01-N
IMPLANT HOLDER LARGE H16-H18	SCA-IN 02 02-N
LATERAL IMPLANT HOLDER SMALL/MEDIUM H10-H12	SCA-IN 03 00-N
LATERAL IMPLANT HOLDER SMALL/MEDIUM H13-H15	SCA-IN 03 01-N
LATERAL IMPLANT HOLDER SMALL/MEDIUM H16-H18	SCA-IN 03 02-N
LATERAL IMPLANT HOLDER LARGE H10-H12	SCA-IN 04 00-N
LATERAL IMPLANT HOLDER LARGE H13-H15	SCA-IN 04 01-N
LATERAL IMPLANT HOLDER LARGE H16-H18	SCA-IN 04 02-N
U-JOINT SCREWDRIVER	SJT-IN 03 01-N
STRAIGHT SCREWDRIVER	SJT-IN 03 00-N
THREADED SHAFT	SCA-IN 18 00-N
STRAIGHT HANDLE (HUDSON CONNECTION)	HAN-SI MH SM-N
HUDSON CONNECTOR	SCA-IN 17 00-N
LATERAL IMPLANT HOLDER SCREW M4X0.7	SCA-IN 16 00-N

_STEP 6





PREPARATION OF LATERAL SCREW HOLES

The SCARLET® AL-T system offers four instruments for screw hole preparation:

- **Straight square awl light**
- **Angled square awl**
- **Straight drill**
- **U-Joint drill**

NOTE: Straight and angled hole preparation instruments can be used interchangeably according to surgeon preference. Refer to the instrument assembly section, page 23 of this guide, to check U-joint instruments assembly.

Begin hole preparation with the two lateral screw holes.

Insert preferred instrument into the guide hole of the implant holder to prepare each lateral screw hole.

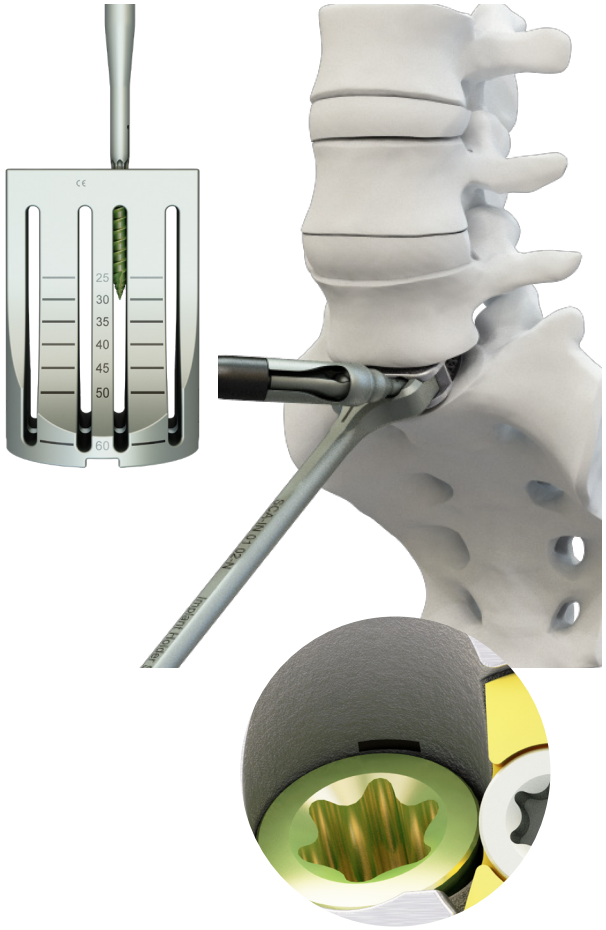
The **U-joint Guide** may also be used during screw hole preparation to provide correct trajectory.

NOTE: The screw hole preparation instruments have a tip length of 25mm, which represents the shortest length screw available. Lateral imaging during hole creation may assist with determining the appropriate screw length.

INSTRUMENT	REFERENCE
ANGLED SQUARE AWL	SJT-IN 01 01-N
STRAIGHT SQUARE AWL LIGHT	SJT-IN 01 03-N
STRAIGHT DRILL	SJT-IN 02 00-N
U-JOINT DRILL	SJT-IN 02 01-N
UNIVERSAL-JOINT TUBE	SJT-IN 06 00-N
U-JOINT GUIDE	SJT-IN 05 00-N
STRAIGHT RATCHETING HANDLE	HAN-SI RA ST-N

_STEP 7

IMPLANTATION OF THE LATERAL SCREWS



Laser mark should be visible

Load the screw into the **Screw Loader**. It will facilitate a secure connection between the screw and the screwdriver. It also provides a verification of screw length.

While keeping the implant holder in place, insert the first lateral screw using the **Straight** or **U-joint Screwdriver**.

AP and Lateral images may be used to verify screw position.

Repeat this step to insert the second lateral screw.

For visual confirmation of correct screw depth, a laser mark is positioned within the screw holes. The head of the screw should be inserted beyond this landmark.

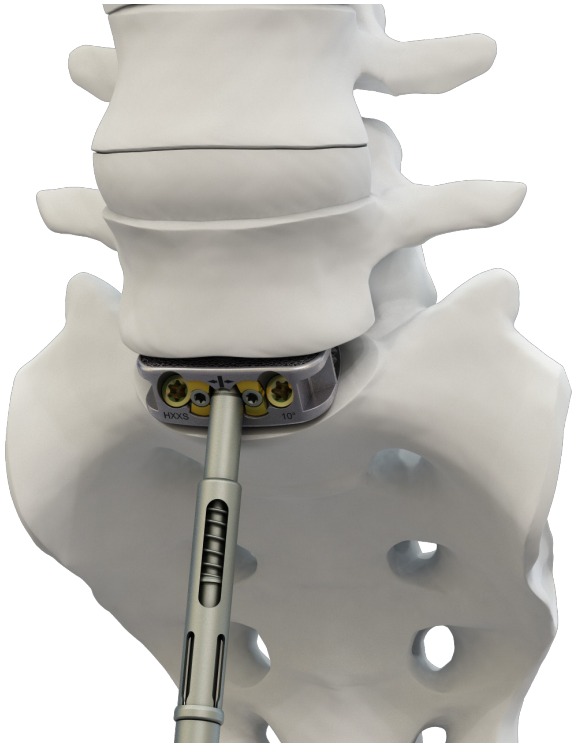
Screws are available in two diameters: 5.0 mm (SJT-LS 50 XX-S) and 5.5 mm (SJT-LS 55 XX-S).

SJT-LS 50 XX-S

SJT-LS 55 XX-S

INSTRUMENT	REFERENCE
SCREW LOADER	SJT-IN 04 00-N
STRAIGHT SCREWDRIVER	SJT-IN 03 00-N
U-JOINT SCREWDRIVER	SJT-IN 03 01-N
U-JOINT GUIDE	SJT-IN 05 00-N
UNIVERSAL-JOINT TUBE	SJT-IN 06 00-N
STRAIGHT RATCHETING HANDLE	HAN-SI RA ST-N

_STEP 8



PREPARATION OF THE CENTRAL SCREW HOLE

Remove the implant holder.

Straight Anterior approach :
Unscrew the threaded shaft from the cage to release the implant.

Anterolateral Approach :
Use the **U-joint Screwdriver** to release the lateral implant holder screw from the cage and implant holder.

Prepare the central screw hole of the vertebra using the preferred instruments of the surgeon. The **U-Joint Guide** may also be used during central screw hole creation to provide correct trajectory of central screw hole.

INSTRUMENT	REFERENCE
ANGLED SQUARE AWL	SJT-IN 01 01-N
STRAIGHT SQUARE AWL	SJT-IN 01 00-N
STRAIGHT SQUARE AWL LIGHT	SJT-IN 01 03-N
STRAIGHT DRILL	SJT-IN 02 00-N
U-JOINT DRILL	SJT-IN 02 01-N
UNIVERSAL-JOINT TUBE	SJT-IN 06 00-N
U-JOINT GUIDE	SJT-IN 05 00-N
U-JOINT SCREWDRIVER	SJT-IN 03 01-N
STRAIGHT SCREWDRIVER	SJT-IN 03 00-N
STRAIGHT RATCHETING HANDLE	HAN-SI RA ST-N

SURGICAL TECHNIQUE

_STEP 9

IMPLANTATION OF THE CENTRAL SCREW

Insert the central screw using the **Straight** or **U-joint Screwdriver**.

AP and Lateral images may be used to verify screw position.

INSTRUMENT	REFERENCE
SCREW LOADER	SJT-IN 04 00-N
STRAIGHT SCREWDRIVER	SJT-IN 03 00-N
U-JOINT SCREWDRIVER	SJT-IN 03 01-N
U-JOINT GUIDE	SJT-IN 05 00-N
UNIVERSAL-JOINT TUBE	SJT-IN 06 00-N
STRAIGHT RATCHETING HANDLE	HAN-SI RA ST-N

_STEP 10

Figure 10a

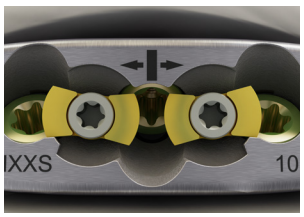


Figure 10b

SECURING OF THE SCREWS

The screws are secured with cam locks.

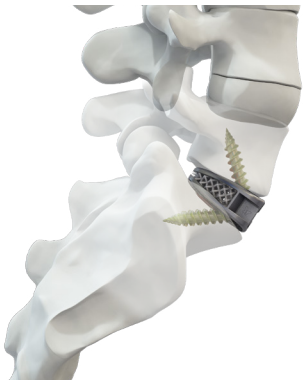
The cage is delivered with the cams unlocked in the open position (Figure 10a).

Using the **Camlocker Driver** with the **Torque Limiting Handle** the cam locking mechanism is activated by rotating the cams in the direction indicated by the arrows laser marked on the front of the cage. The cams are now locked in the closed position (Figure 10b).

INSTRUMENT	REFERENCE
CAMLOCKER DRIVER	SCA-IN 06 00-N
TORQUE LIMITING HANDLE (1Nm)	HAN-SI AO PA-N

SURGICAL TECHNIQUE

_FINAL CONSTRUCT



_REVISION

In the case of a revision, unlock the cam locks using the **Camlocker Driver** and **Torque Limiting Handle**.

Remove the screws using the **Revision Screwdriver**.

Screw the **Revision Screwdriver** counter clockwise into the screw while taking it out.

Connect the corresponding **Implant Holder** to remove the implant.

Gently pull the implant out of the vertebral space.

INSTRUMENT	REFERENCE
REVISION SCREWDRIVER	SJT-IN 03 02-N
CAMLOCKER DRIVER	SCA-IN 06 00-N
TORQUE LIMITING HANDLE (1Nm)	HAN-SI AO PA-N
STRAIGHT HANDLE (HUDSON CONNECTION)	HAN-SI MH SM-N
IMPLANT HOLDERS (see page 20)	

GENERAL INFORMATION

PRODUCT TYPE	NOTIFIED BODY CE N°	MANUFACTURER	DISTRIBUTOR
Implants SCARLET® AL-T	CE 0123	SPINEART SA CHEMIN DU PRÉ-FLEURI 3 1228 PLAN-LES-OUATES SWITZERLAND	-
Surgical Reusable Instruments	CE 0123		
Instruments box/trays/containers	CE		
Surgical Instruments intended to select correct implant size	CE 0123		
Rongeur[1]	CE	ACCURATUS AG HOLLIGENSTRASSE 94 3008 BERN SWITZERLAND	SPINEART SA CHEMIN DU PRÉ-FLEURI 3 1228 PLAN-LES-OUATES SWITZERLAND
BT089R[2]	CE	MANUFACTURER AESCULAP AG AM AESCULAP-PLATZ 78532 TUTTLINGEN GERMANY	SPINEART SA CHEMIN DU PRÉ-FLEURI 3 1228 PLAN-LES-OUATES SWITZERLAND
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