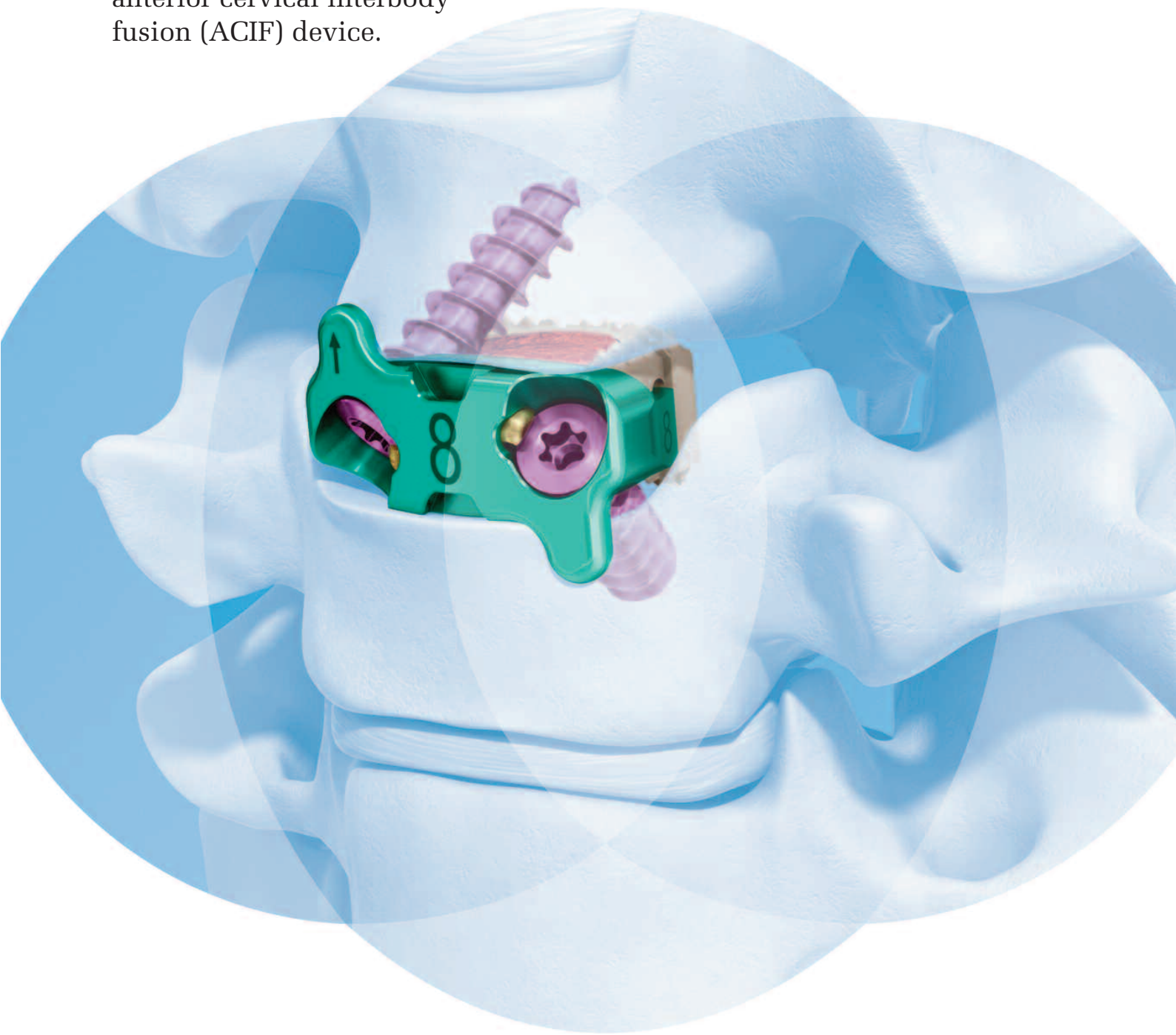
DePuy Synthes
COMPANIES OF Johnson & Johnson

ZERO-P VA

Variable angle zero-profile anterior cervical interbody fusion (ACIF) device.



Instruments and implants approved by the AO Foundation.
This publication is not intended for distribution in the USA.

SURGICAL TECHNIQUE

Image intensifier control

Warning
This description alone does not provide sufficient background for direct use of DePuy Synthes products. Instruction by a surgeon experienced in handling these products is highly recommended.

Processing, Reprocessing, Care and Maintenance
For general guidelines, function control and dismantling of multi-part instruments, as well as processing guidelines for implants, please contact your local sales representative or refer to:
http://emea.depuysynthes.com/hcp/reprocessing-care-maintenance
For general information about reprocessing, care and maintenance of Synthes reusable devices, instrument trays and cases, as well as processing of Synthes non-sterile implants, please consult the Important Information leaflet (SE_023827) or refer to:
http://emea.depuysynthes.com/hcp/reprocessing-care-maintenance

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Zero-P VA. Variable angle zero-profile anterior cervical interbody fusion (ACIF) device.

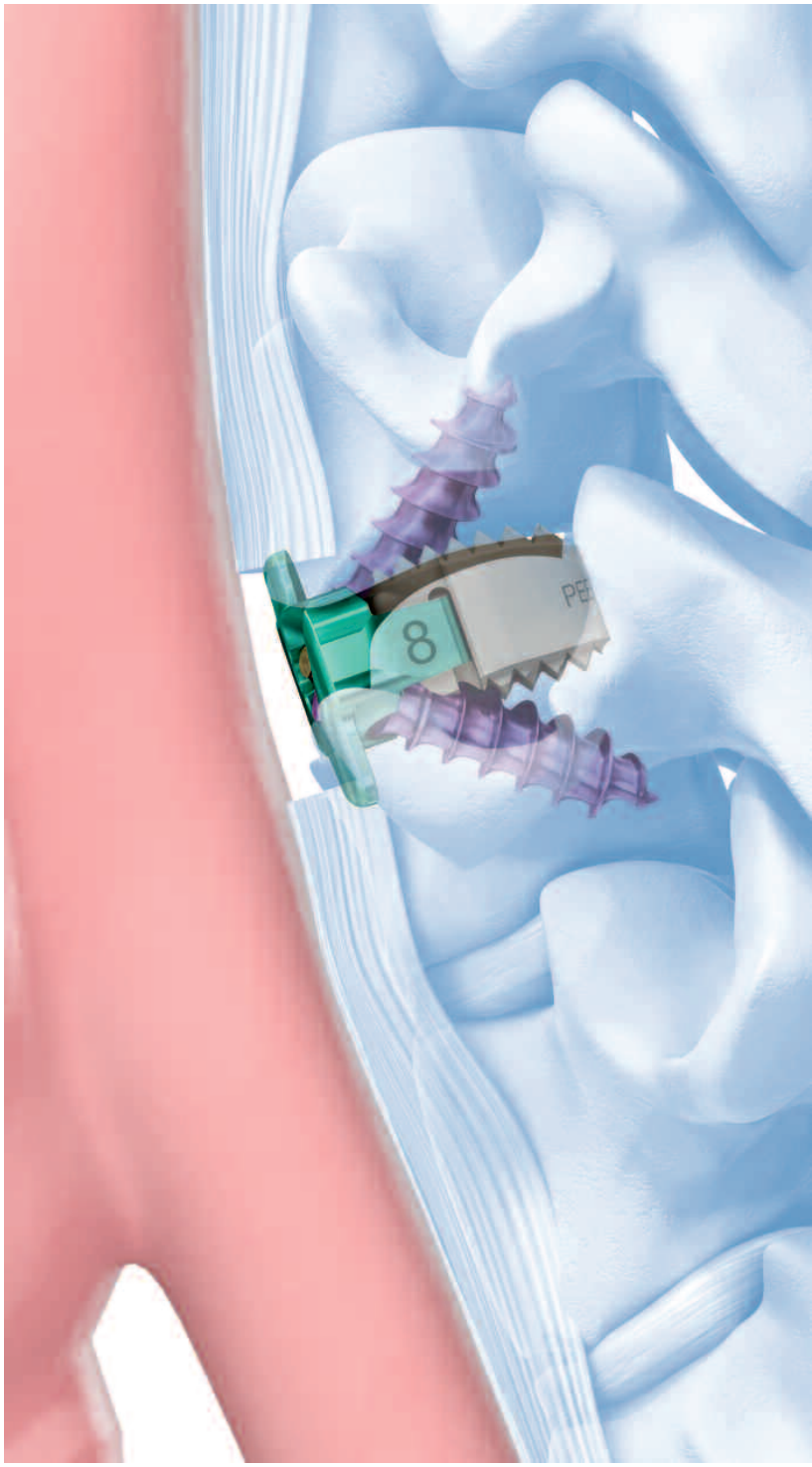
The Zero-P VA implant is a stand-alone implant for use in cervical interbody fusion [1–6], which combines the functionality of a cervical interbody spacer and benefits of an anterior cervical plate.

Zero-profile midline

Designed to minimize the risk of contacting local anatomical structures
The Zero-P VA implant does not extend beyond the confines of the intervertebral space midline, limiting risk of contact with vessels and adjacent soft tissues.

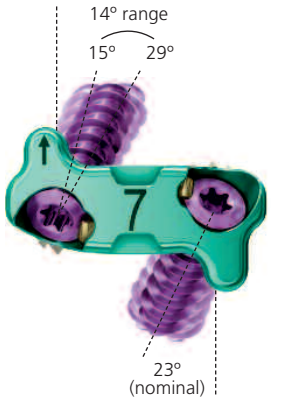
Prevents adjacent level ossification
It has been shown that cervical plates placed near adjacent level discs can contribute to bone formation near or around the adjacent level which may lead to future complications[7]. Zero-P minimizes this risk, as it remains as far as possible from the adjacent level disc spaces.

Ease of use
- Variable angle screws, designed with a wide range of allowable screw trajectories, potentially facilitate screw insertion.
- One-step blocking mechanism features audible, tactile and visual cues to confirm screw is blocked upon insertion. Because the interbody plate with stops is pre-attached to the spacer, the interbody plate with stops is automatically aligned upon implant insertion. This avoids the process of aligning and realigning an anterior cervical plate.
- Zero-P VA may be used to facilitate surgeries where Zero-P VA is implanted adjacent to a previous fusion. Zero-P VA potentially decreases surgery time and patient complications by reducing the need for removal of existing hardware from the previous fusion.
- Small incision sizes are possible in comparison to plate and spacer usage.



Interbody Spacer

- Spacer component is made of a biocompatible radiolucent polymer (PEEK*) which allows visualization and assessment of the bones to be fused.
- Teeth on the implant surface provide initial stability
- Radiopaque marker for posterior visualization during imaging

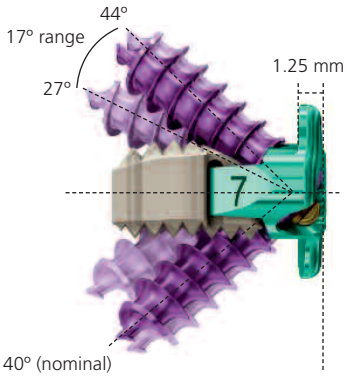


Interbody plate with stops

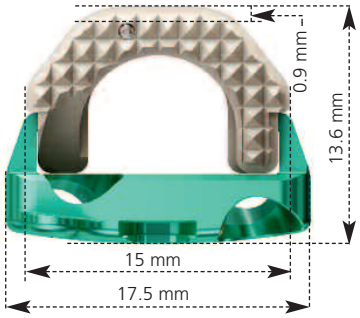
- Titanium alloy interbody plate provides a stable fixation with screws
- Stresses in the interbody plate with stops are decoupled from the spacer through an innovative interface
- Contralateral safety stops designed to prevent over insertion and align with the anterior surface of the vertebral bodies

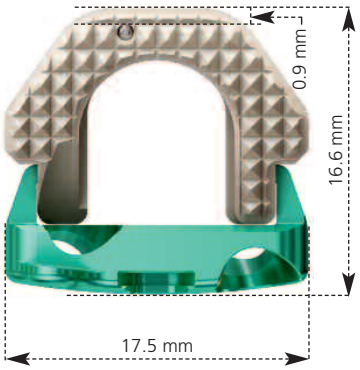
Variable angle screws

- Self-drilling and self-tapping screws
- Screws can an be inserted 27°– 44° (17° range) in cranial-caudal direction and 15°– 29° (14° range) in medial-lateral direction
- Designed to help prevent graft expulsion
- Screws are allowed to toggle postoperatively within vertebral bodies, which may potentially prevent load shielding of the graft in the event of graft subsidence



*Polyetheretherketone





AO Principles

In 1958, the AO formulated four basic principles, which have become the guidelines for internal fixation.[8]
They are:
– Anatomic reduction
– Stable fixation
– Preservation of blood supply
– Early, active mobilization

The fundamental aims of fracture treatment in the limbs and the fusion of the spine are the same. A specific goal in the spine is returning as much function as possible to the neural elements.[8,9]

Indications and Contraindications

The Zero-P VA system is intended for use following anterior cervical discectomy for reduction and stabilization of the cervical spine (C2–C7).

Indications
- Degenerative disc disease (DDD, defined as neck pain of discogenic origin with degeneration of the disc confirmed by history and radiographic studies)
- Spinal stenosis
- Failed previous fusions
- Pseudoarthrosis

Contraindications
- Spinal fracture
- Spinal tumor
- Severe osteoporosis
- Spinal infection

Preparation

Preparation Set	
01.647.002	Zero-P VA Standard Set Implants and Instruments Optional sets

Optionales Set	
187.797	Cervical Retractors and Distractors

Have all the necessary imaging studies readily available to plan implant placement and visualise individual patient anatomy.

Have all necessary sets readily available prior to surgery.

Considerations for Use Adjacent to Prior Fusion

If a Zero-P VA implant is intended to be placed adjacent to a prior fusion, care must be taken to avoid placement of Zero-P VA implant and screws in direct contact of previously placed hardware.

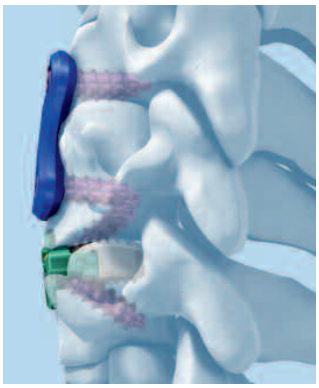
Precaution: Placement of Zero-P VA adjacent to a previous, multi-level fusion can result in excessive loading. Supplemental fixation should be considered in cases where Zero-P VA is placed adjacent to a previous, multi-level fusion.

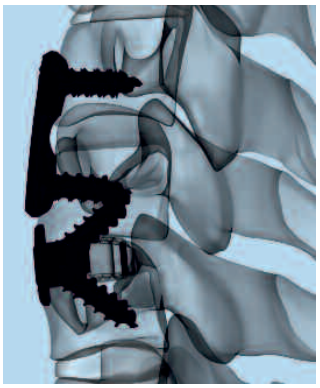
As necessary, remove components of the implanted hardware associated with the previously fused level that may prevent Zero-P VA from being properly implanted per recommended techniques as described in pages 8–35.

Important: Verify final implant position relative to the vertebral bodies in the AP and lateral direction and remaining implanted hardware associated with the previously fused level with the help of an intraoperative x-ray.

Warnings:

1. If adjacent hardware prevents both Zero-P VA screws from being implanted, a different device should be used, as excessive loading may be placed on the implant leading to potential post-op device failure or migration, leading to patient harm.
2. If any screw cannot be inserted at the correct trajectory or blocked by the interbody plate per one of the recommended techniques as described in pages 15–31, a different device should be used to avoid the risk of screw back-out.
3. Confirm that the Zero-P VA implant is not placed in direct contact with implanted hardware associated with the previously fused level. If the Zero-P VA implant remains in direct contact with hardware associated with the previously fused level, excessive loading may be placed on the Zero-P VA implant leading to potential post-op device failure or migration, leading to patient harm.





Patient Positioning, Exposure and Disectomy

Using the standard surgical approach, expose the vertebral bodies to be fused. Prepare the fusion site following the appropriate technique for the given indication.

1
Patient Positioning

Position the patient in a supine position on a radiolucent operating table. Ensure that the neck of the patient is in a sagittally neutral position and supported by a cushion. When treating C6–C7 make sure that the shoulders do not limit the x-ray monitoring. For all cases, both vertebrae should be completely visible.

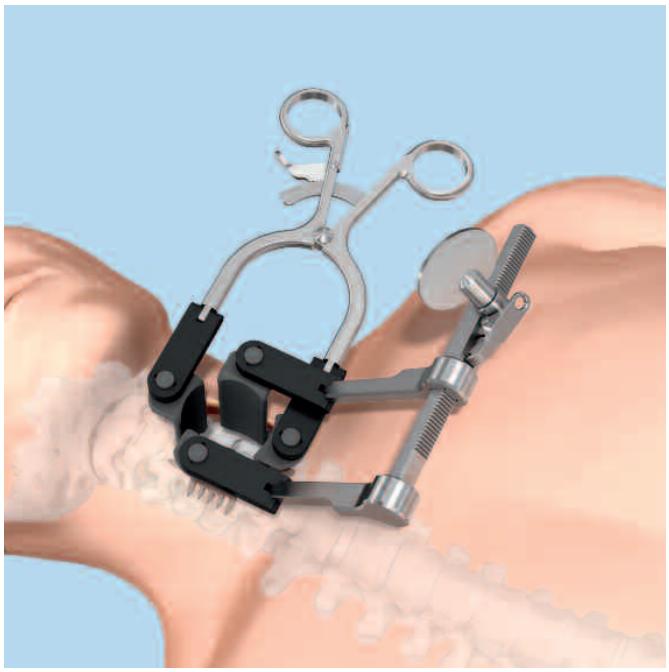
2
Access

Optional set	
187.797	Cervical Retractors and Distractors

Precaution: Locate the correct operative level under radiographic control and incise.

Expose the intervertebral disc and the adjacent vertebral bodies through a standard anterior approach to the cervical spine.

Precaution: Careful positioning of the retractor is required to avoid soft tissue damage.



3
Discectomy

Prepare the fusion site following the appropriate technique for the given indication.

Optional set

187.797	Cervical Retractors and Distractors

Perform segmental distraction.

Note: Distraction of the segment is essential for restoring disc height and for providing good access to the inter-vertebral space.

1
Determine appropriate implant

Instruments	
03.647.720 – 03.647.729	Zero-P VA Trial Spacers, parallel, heights 5 – 12 mm, purple
03.647.750 – 03.647.759	Zero-P VA Trial Spacers, lordotic, heights 5 – 12 mm, blue
03.647.780 – 03.647.789	Zero-P VA Trial Spacers, convex, heights 5 – 12 mm, gold
03.647.730 – 03.647.739	Zero-P VA Trial Spacers, large, parallel, heights 5 – 12 mm, purple
03.647.760 – 03.647.769	Zero-P VA Trial Spacers, large, lordotic, heights 5 – 12 mm, blue
03.647.790 – 03.647.799	Zero-P VA Trial Spacers, large, convex, heights 5 – 12 mm, gold

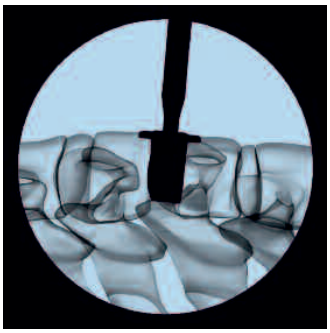
Optional instruments	
03.820.113	Mallet
03.617.940	Handle with Large Quick Coupling

Choose a parallel, lordotic or convex trial spacer of the appropriate height and depth. Selection of the trial spacer depends on the height and depth of the intervertebral space, the preparation technique, and patient anatomy.

Position the trial spacer in the correct cranial/caudal alignment and carefully insert it into the disc space.

The mallet can be used to help insert and/or remove the trial spacer.

Trial spacers have depth stops corresponding to the depth stops of the Zero-P VA implant.



Precaution: Anterior osteophytes in the surgical site that prevent desired positioning of a trial spacer will likely prevent desired positioning of the Zero-P VA implant. It is recommended to remove interfering anterior osteophytes before implant insertion.
The trial spacer should fit tightly and accurately between the endplates.

Notes:
- Trial spacers are color-coded by shape. The height of the trial spacer is 0.8 mm less than that of the corresponding implant to account for penetration of the teeth into the vertebral end plate.
- Trial spacers are not for implantation and must be removed before insertion of the Zero-P VA implant.
- To minimize potential risk of injuring the patient, it is recommended to trial with smaller height trial spacers before trialing with taller height trial spacers.
- Trial with standard footprint size trial spacers before trialing with large footprint size trial spacers.

Important: Although the trial spacers have depth stops, use of an image intensifier is recommended to check the position during insertion. With the segment fully distracted, the trial spacer must fit tightly and accurately between the end plates.

2
Pack implant with bone graft

Instruments	
03.647.970	Cancellous Bone Impactor
03.647.984	Packing Block for Zero-P VA

It is recommmended to pack the Zero-P VA implant with autologeous bone or bone graft subsitute.

Place the Zero-P VA implant into the packing block.

Use the cancellous bone impactor to firmly pack the graft material into the implant cavity.

Notes:
- To ensure optimal contact with the vertebral endplates, it is important to fill the implant until the graft material protrudes from the lumen in the spacer.
- The bone impactor and the packing block can only be used with the standard size footprints of Zero-P VA.

3
Implant insertion

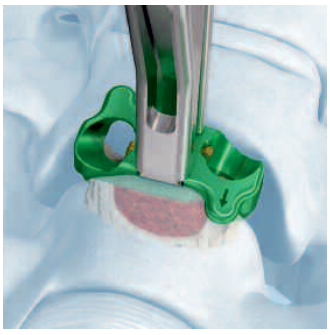
Instrument	
03.647.963	Insertion Device for Zero-P VA

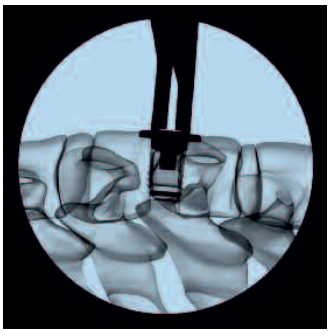
Optional instruments	
03.617.981	Impactor, flat
03.647.980	Implant Holder for Zero-P VA
03.647.982	Impactor with ball tip for Zero-P VA

Use the insertion device or implant holder to introduce the implant into the disc space.

Using the insertion device
Attach the insertion device to the implant by aligning the recessed grooves located midline on the anterior face of the implant with the pronged tabs of the device tip. Squeeze the insertion device handles to secure the implant; the thumb nut on the insertion device may then be advanced clockwise to affix the implant to the insertion device.

Carefully insert the implant into the distracted segment. Advance the implant until the implant stops rest on the anterior surface of the vertebral body. The implant should fit tightly and accurately between the endplates.





If necessary, the top of the insertion device can be tapped with a mallet to advance the implant into the disc space. If distraction has been applied, release the distraction, leaving the insertion device attached to the implant.

Using the implant holder

Alternatively, the implant can be carefully inserted into the disc space with the forceps-style implant holder. Attach the implant holder to the implant by aligning the recessed grooves located midline on the anterior face of the implant with the ends of the implant holder. Once the implant is partially introduced into the disc space, the implant can be advanced using the flat and/or ball tip impactors.

Note: The Zero-P VA interbody plate is marked with an arrow to indicate implant orientation. When inserting the Zero-P VA implant, the arrow should point to the cranial vertebral body upon insertion.

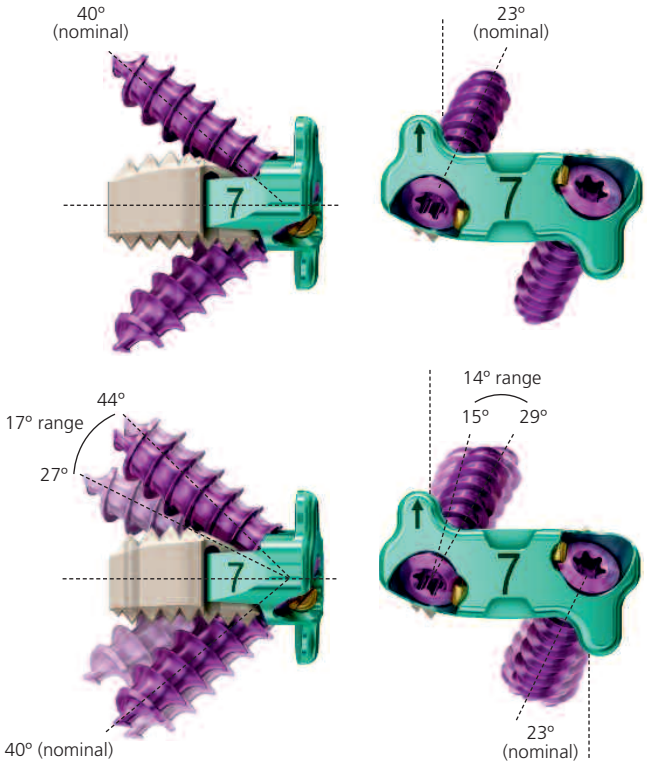
Important: Verify final implant position relative to the vertebral bodies in the AP and lateral directions with the help of an intraoperative x-ray. A posterior x-ray marker incorporated in the PEEK spacer enables accurate intraoperative radiographic assessment of implant position.

Screw Fixation

The Zero-P VA system is only intended to be implanted with two Zero-P VA screws, forming a stand-alone interbody fusion construct. By design, the Zero-P VA system enables insertion of Zero-P VA screws within a range of acceptable trajectories.

Using an instrument to prepare screw holes is recommended; these instruments are designed to facilitate subsequent placement of screws at the desired trajectory.

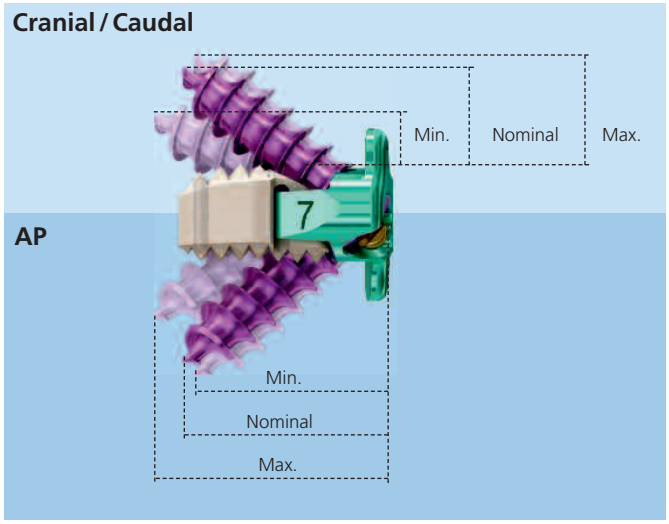
The screw trajectory achieved during screw insertion will result in varied screw penetration into the vertebral bodies.



Screw Penetration (mm)

Screw Length	AP			Cranial / Caudal		
	Min.	Nominal	Max.	Min.	Nominal	Max.
14 mm	11.3	12.9	14.0	3.1	5.9	6.3
16 mm	12.7	14.3	15.7	4.0	7.2	7.7
18 mm	14.1	15.3	17.5	4.9	8.0	9.0

Precaution: Depending on the selected combination of implant, screw length, trajectory and instrumentation used, the screws may extend beyond the posterior edge of the implant.



Option A: Awl and Self-drilling Screws

A recommended screw fixation technique is to create pilot holes and then insert self-drilling screws.

1

Create first pilot hole

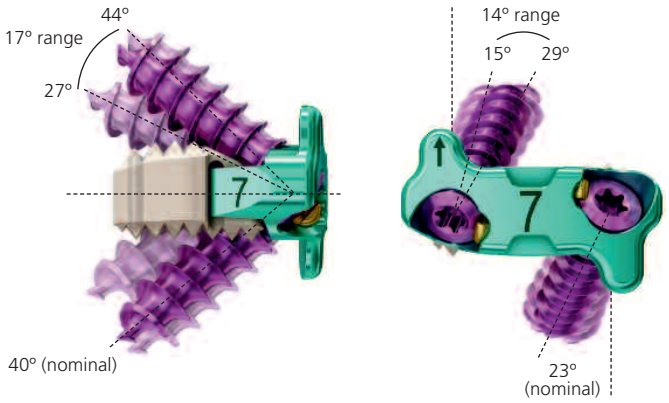
Instruments	
03.647.963	Insertion Device for Zero-P VA
03.647.990	Awl ∅ 2.5 mm, with Sleeve

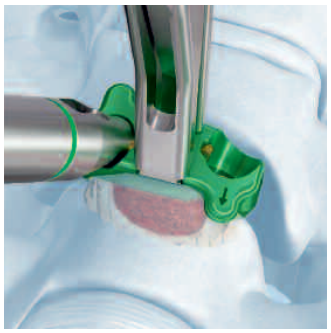
Optional instrument	
03.647.980	Implant Holder for Zero-P VA

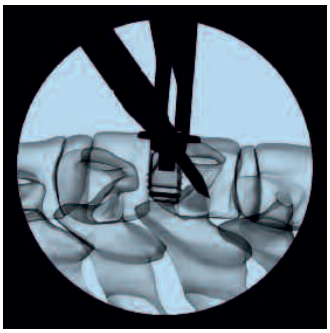
It is recommended to create the first hole for the caudally aimed screw.

Determine the entry point and trajectory for the first screw. The correct angulations for the screws range between 27°–44° cranial/caudal and 15°–29° medial/lateral.

Insert the awl into the first screw hole of the interbody plate. To ensure proper angle of the pilot hole, fully seat the outer sleeve tip of the awl into the interbody plate. To fully seat the outer sleeve of the awl it is required to push and hold the sleeve at the same time.







Once the sleeve is fully seated and the correct trajectory is confirmed, push down on the ball handle of the awl while simultaneously twisting the handle to advance the awl. Remove the awl while maintaining alignment of the hole and implant.

Important: Intraoperative imaging should be used to verify awl position.

Notes:
- When using the awl, the insertion device and/or implant holder should be used to minimize implant movement.
- The tip of the awl fits into the screw hole of the interbody plate to produce the correct angle.
- The upper shaft of the awl, near the awl handle, is marked with two black rings. When advancing the awl, the appropriate depth has been reached when the end of the outer sleeve falls between the two black rings.

Precaution: Do not use the awl without the sleeve; it may cause injury to the patient.

2
Insert first screw

Instruments	
03.617.902	Screwdriver Shaft Stardrive, T8, self-holding
03.647.903	Handle, small, with Quick Coupling
03.647.963	Insertion Device for Zero-P VA

Optional instruments	
03.617.901	Holding Sleeve for Screws for use with No. 03.617.902
03.647.980	Implant Holder for Zero-P VA

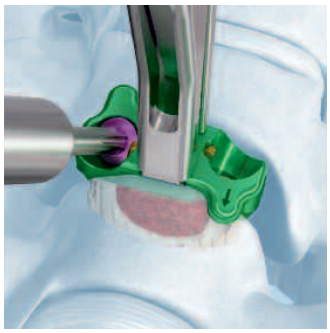
Select the appropriate screw length according to the pre-operative plan and intraoperative findings.

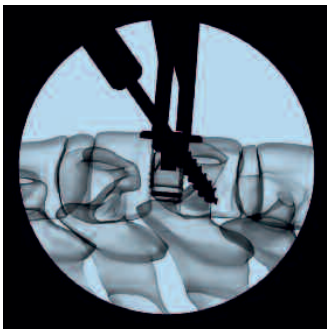
Attach the screwdriver shaft to the handle then load the selected screw to the assembled driver. The screw will self-retain on the driver, but the holding sleeve may be used for additional screw retention.

Advance the screw until the screw head passes beyond the blocking feature of the interbody plate. Confirm visually that the blocking feature covers the screw head.

Note: When inserting screws, the insertion device and/or implant holder should be used to minimize implant movement.

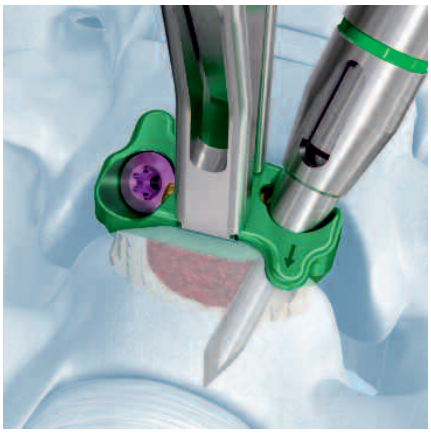
Important: Intraoperative imaging should be used to verify screw position and to verify the screw follows the trajectory of the pilot hole created by the awl.

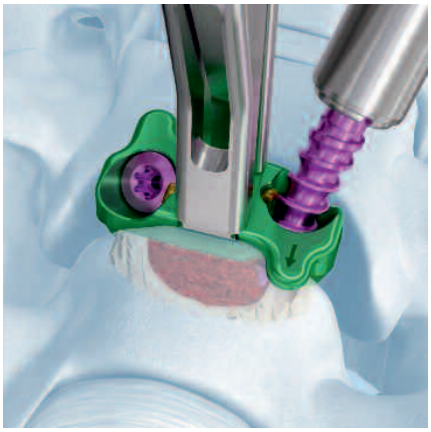


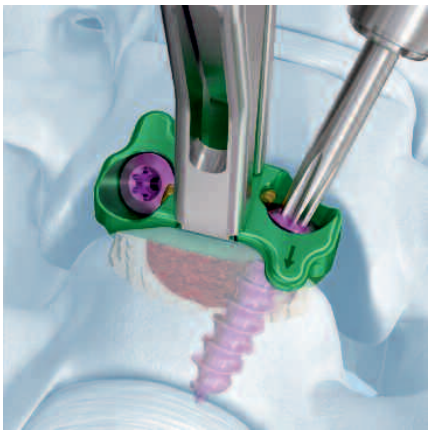


3
Insert second screw

Repeat steps 1 and 2 for the second screw.







4
Tighten screws (optional)

Instruments	
03.617.902	Screwdriver Shaft Stardrive, T8, self-holding
03.647.903	Handle, small, with Quick Coupling
03.647.963	Insertion Device for Zero-P VA

Optional instrument	
03.647.980	Implant Holder for Zero-P VA

If necessary use the screwdriver to advance each screw another ¼–½ turn. This tightening step lags the stops of the interbody plate to the anterior surface of the vertebral bodies and increases the apposition of the implant to the vertebral body endplates.

Note: When tightening screws, the insertion device and/or implant holder should be used to minimize implant movement.

Precaution: Do not continue advancing any screw after the stops of the interbody plate are lagged to the anterior surface of the vertebral bodies and do not advance any screw more than ½ turn during tightening. Over-tightening may strip bone and compromise fixation of the implant in vertebral bodies.

Option B: Drill Guide

Alternatively, use a drill guide and drill to create a pilot hole. Then insert the screws.

1

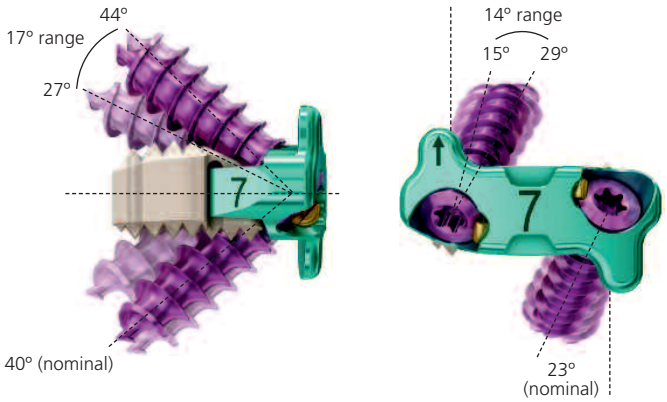
Drill first pilot hole

Instruments	
03.617.912	Drill Bit ∅ 2.0 mm, drilling depth 12 mm, 3-flute, for Quick Coupling
03.617.914	Drill Bit ∅ 2.0 mm, drilling depth 14 mm, 3-flute, for Quick Coupling
03.617.916	Drill Bit ∅ 2.0 mm, drilling depth 16 mm, 3-flute, for Quick Coupling
03.647.903	Handle, small, with Quick Coupling
03.647.962	Drill Guide with Handle
03.647.963	Insertion Device for Zero-P VA

Optional instrument	
03.647.980	Implant Holder for Zero-P VA

It is recommended to create the first hole for the caudally aimed screw.

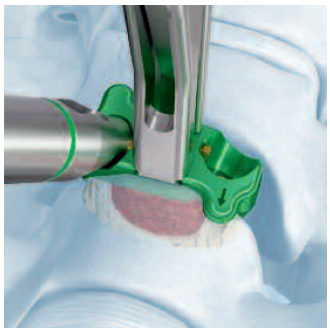
Determine the entry point and trajectory for the first screw. The correct angulations for the screws range between 27°–44° cranial/caudal and 15°–29° medial/lateral.

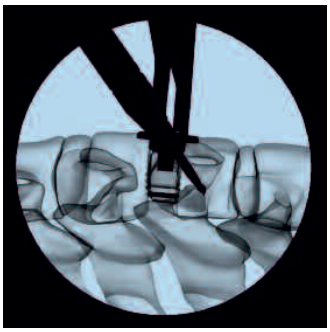


Select a drill bit of appropriate length and assemble the drill bit to the handle.

Insert the drill guide into the screw hole of the interbody plate. To ensure proper angle of the pilot hole, fully seat the tip of the drill guide into the interbody plate and confirm correct trajectory. Insert the drill bit into the guide and drill until the stop of the drill contacts the guide.

Remove the drill bit and drill guide.





Important: Intraoperative imaging should be used to verify drill bit position.

Notes:
- The drill bits are marked with a colored ring corresponding to the color-coded screw lengths. When the ring is flush with the top of the drill guide, the appropriate depth has been reached.
- When inserting screws, the insertion device and/or implant holder should be used to minimize implant movement.

Precaution: When drilling, make sure to drill on-axis, in the same trajectory as the drill guide. Applying side loads and/or levering off-axis during drilling may result in broken or damaged instruments which may potentially cause harm to the patient.

2
Insert first screw

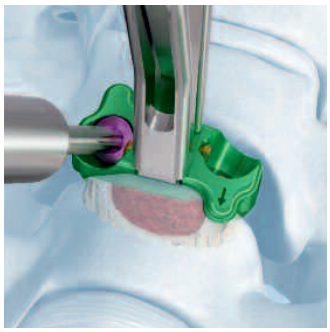
Instruments	
03.617.902	Screwdriver Shaft Stardrive, T8, self-holding
03.647.903	Handle, small, with Quick Coupling
03.647.963	Insertion Device for Zero-P VA

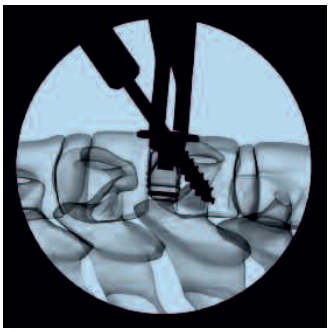
Optional instruments	
03.617.901	Holding Sleeve for Screws for use with No. 03.617.902
03.647.980	Implant Holder for Zero-P VA

Select the appropriate screw length according to the preoperative plan and intraoperative findings.

Attach the screwdriver shaft to the handle, then load the selected screw to the assembled driver. The screw will self-retain to the driver, but the holding sleeve may be used for additional screw retention.

Advance the screw until the screw head passes beyond the blocking feature of the interbody plate. Confirm visually that the blocking feature covers the screw head.



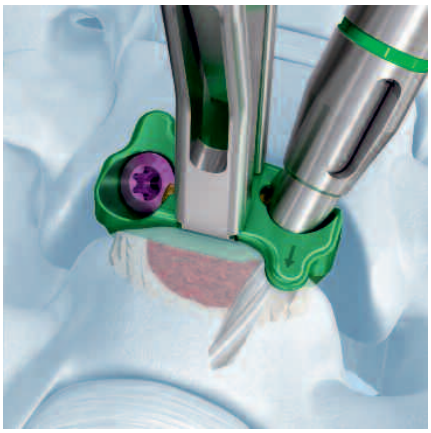


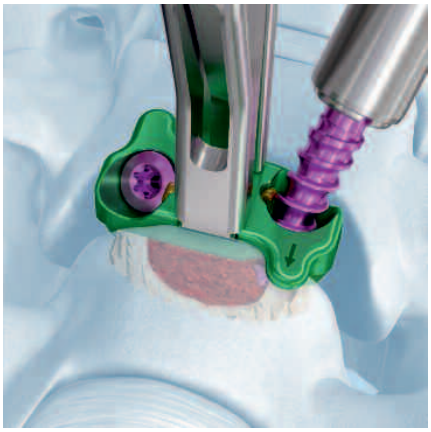
Note: When inserting screws, the insertion device and/or implant holder should be used to minimize implant movement.

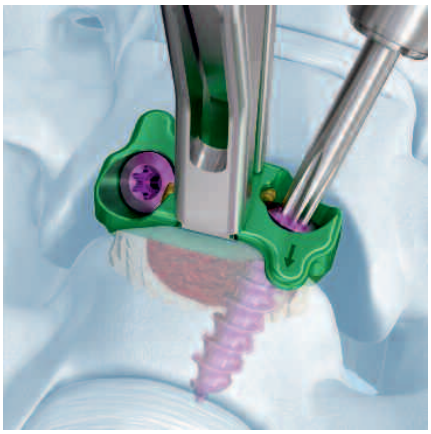
Important: Intraoperative imaging should be used to verify screw position and to verify the screw follows the trajectory of the pilot hole created by the drill.

3
Insert second screw

Repeat steps 1 and 2 for the second screw.







4
Tighten screws (optional)

Instruments	
03.617.902	Screwdriver Shaft Stardrive, T8, self-holding
03.647.903	Handle, small, with Quick Coupling
03.647.963	Insertion Device for Zero-P VA
Optional instrument	
03.647.980	Implant Holder for Zero-P VA

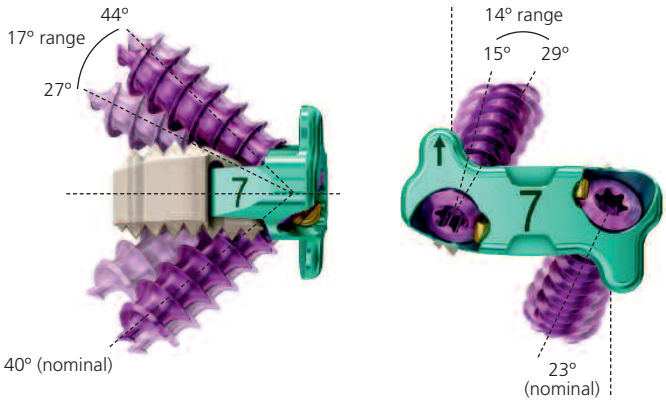
If necessary use the screwdriver to advance each screw another ¼–½ turn. This tightening step lags the stops of the interbody plate to the anterior surface of the vertebral bodies and increases the apposition of the implant to the vertebral body endplates.

Note: When tightening screws, the insertion device and/or implant holder should be used to minimize implant movement.

Precaution: Do not continue advancing any screw after the stops of the interbody plate are lagged to the anterior surface of the vertebral bodies and do not advance any screw more than ½ turn during tightening. Over-tightening may strip bone and compromise fixation of the implant in vertebral bodies.

Option C: Angled Instruments

When screws holes are difficult to prepare or screws difficult to insert due to interfering anatomy, the angled awl and angled screwdriver may be used.



1

Create first pilot hole

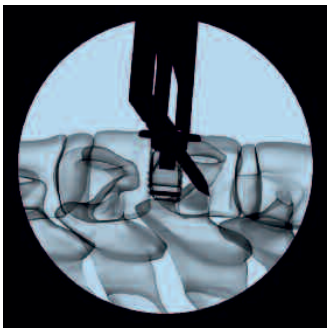
Instruments	
03.647.963	Insertion Device for Zero-P VA
03.647.993	Awl ∅ 2.5 mm, angled
03.820.113	Mallet

Optional instrument	
03.647.980	Implant Holder for Zero-P VA

It is recommended to create the first hole for the caudally aimed screw.

Determine the entry point and trajectory for the screw. The correct angulations for the screws range between 27°–44° cranial/caudal and 15°–29° medial/lateral.

Insert the awl at the appropriate angle into the first screw hole of the plate and tap with the mallet until the awl is seated. Remove the awl while maintaining alignment of the hole and implant.



Important: Intraoperative imaging should be used to verify awl position.

Note: When using the angled awl, the insertion device and/or implant holder should be used to minimize implant movement.

2
Insert first screw

Instrument	
03.617.900	Screwdriver Stardrive, T8, self-holding, angled, with Sleeve

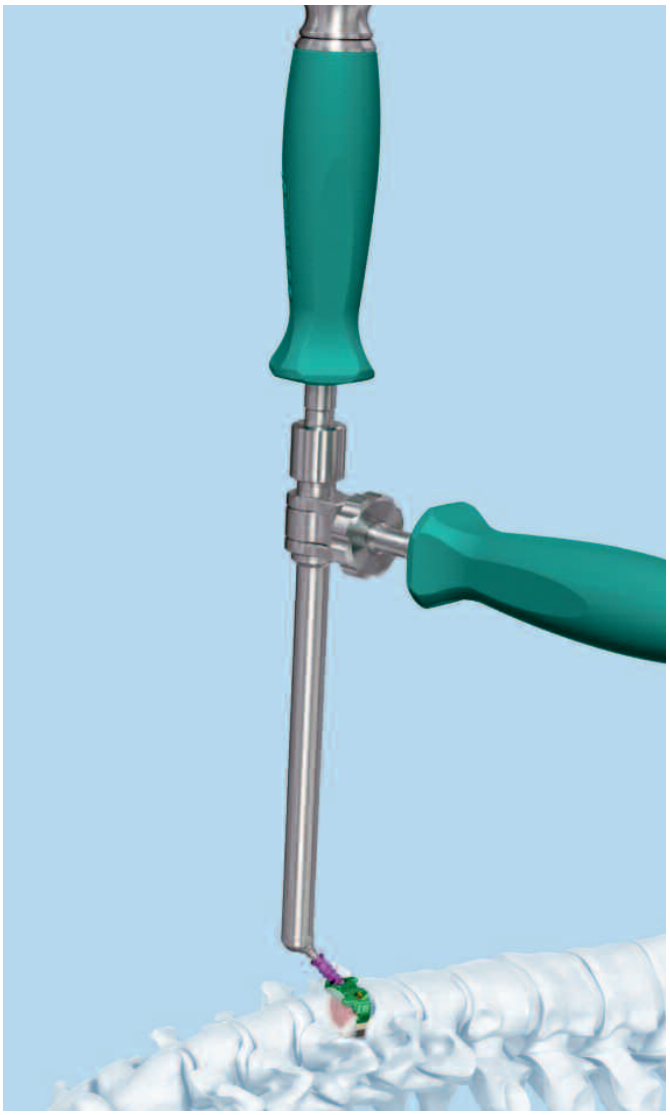
Optional instruments	
03.617.905	Shaft for angled Screwdriver, with Quick Coupling
03.647.903	Handle, small, with Quick Coupling

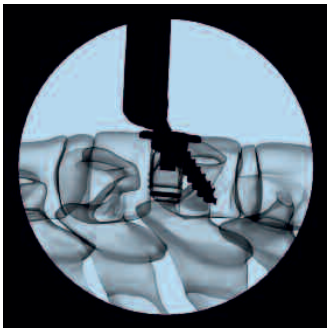
Select the appropriate screw length according to the pre-operative plan and intraoperative findings.

Load the selected screw onto the angled screwdriver. Advance the screw until the screw head passes beyond the blocking feature of the interbody plate. Confirm visually that the blocking feature covers the screw head.

Important: Intraoperative imaging should be used to verify screw position and to verify the screw follows the trajectory of the pilot hole created by the angled awl.

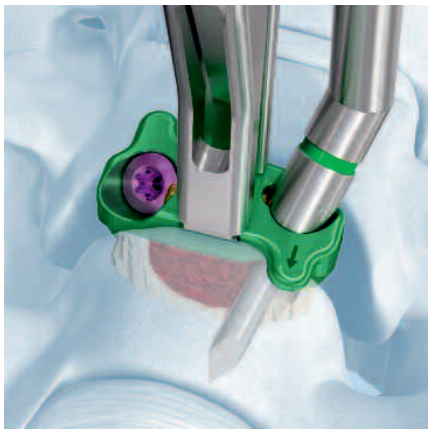
Note: When inserting screws, the insertion device and/or implant holder should be used to minimize implant movement.





3
Insert second screw

Repeat steps 1 and 2 for the second screw.



4
Tighten screws (optional)

Instruments	
03.617.900	Screwdriver Stardrive, T8, self-holding, angled, with Sleeve
03.647.963	Insertion Device for Zero-P VA
Optional Instruments	
03.647.980	Implant Holder for Zero-P VA
03.617.905	Shaft for angled Screwdriver, with Quick Coupling
03.647.903	Handle, small, with Quick Coupling

If necessary use the angled screwdriver to advance each screw another ¼–½ turn. This tightening step lags the stops of the interbody plate to the anterior surface of the vertebral bodies and increases the apposition of the implant to the vertebral body endplates.

Note: When tightening screws, the insertion device and/or implant holder should be used to minimize implant movement.

Precaution: Do not continue advancing any screw after the stops of the interbody plate are lagged to the anterior surface of the vertebral bodies and do not advance any screw more than ½ turn during tightening. Over-tightening may strip bone and compromise fixation of the implant in vertebral bodies.

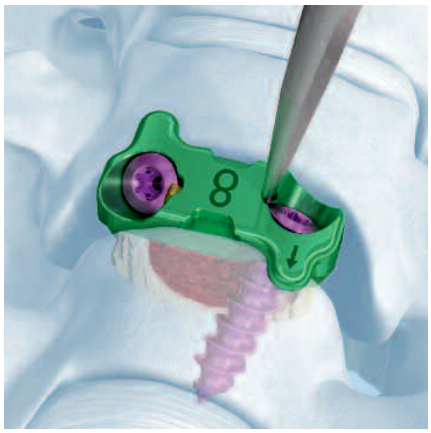
Implant Removal

If a Zero-P VA implant must be removed, the following technique is recommended.

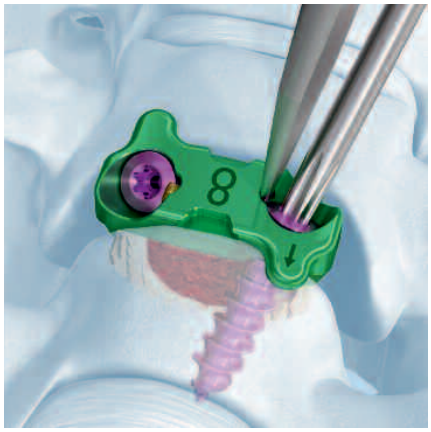
1

Remove screws

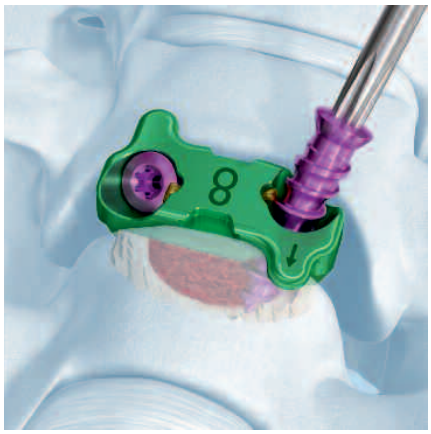
Instruments	
03.617.902	Screwdriver Shaft Stardrive, T8, self-holding
03.647.903	Handle, small, with Quick Coupling
03.647.985	Screw Removal Blade



Engage the tip of the screw removal blade with the blocking mechanism of the plate corresponding to the screw to be removed. Attach the handle to the screwdriver shaft, then engage the assembled driver into the first screw to be removed. While pressing the blocking mechanism toward the midline with the removal blade, turn the assembled driver counterclockwise to remove the screw.



Repeat this step with the other screw.

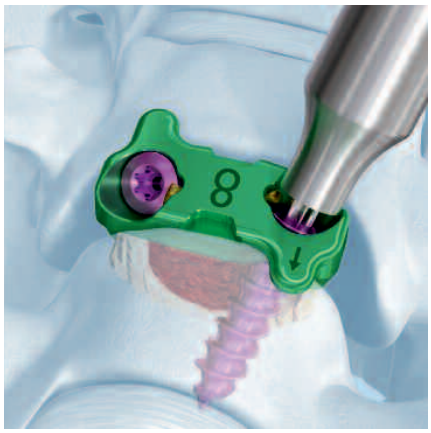


Alternative technique

Instrument	
03.647.971	Screw Removal Screwdriver

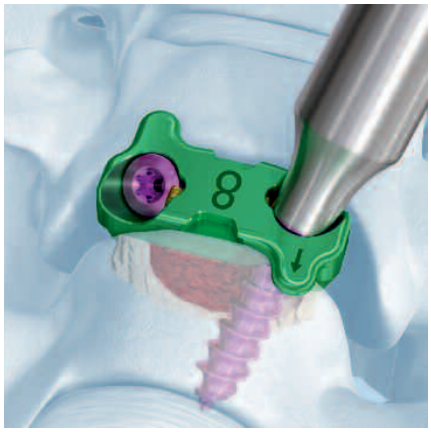
Engage the tip of the removal screwdriver in the drive recess of the first screw to be removed. Turn the top knob of the removal driver counterclockwise to fully engage the inner shaft into the screw. Lower the outer sleeve of the removal driver by turning clockwise until the sleeve retracts the blocking mechanism in the interbody plate. Finally, turn the middle section counterclockwise to remove the screw.

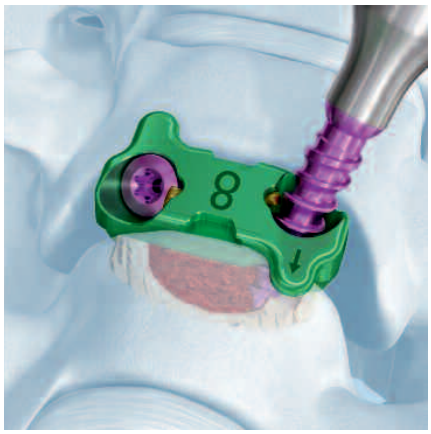
Repeat this step with the second screw.



Precautions:

- If the inner shaft is not fully engaged or the outer sleeve not fully seated prior to attempting subsequent screw removal technique steps, breakage of the driver may occur and could potentially harm the patient.
- The removal screwdriver should only be used for screw removal; use of the removal screwdriver for screw insertion may lead to driver and/or implant breakage.



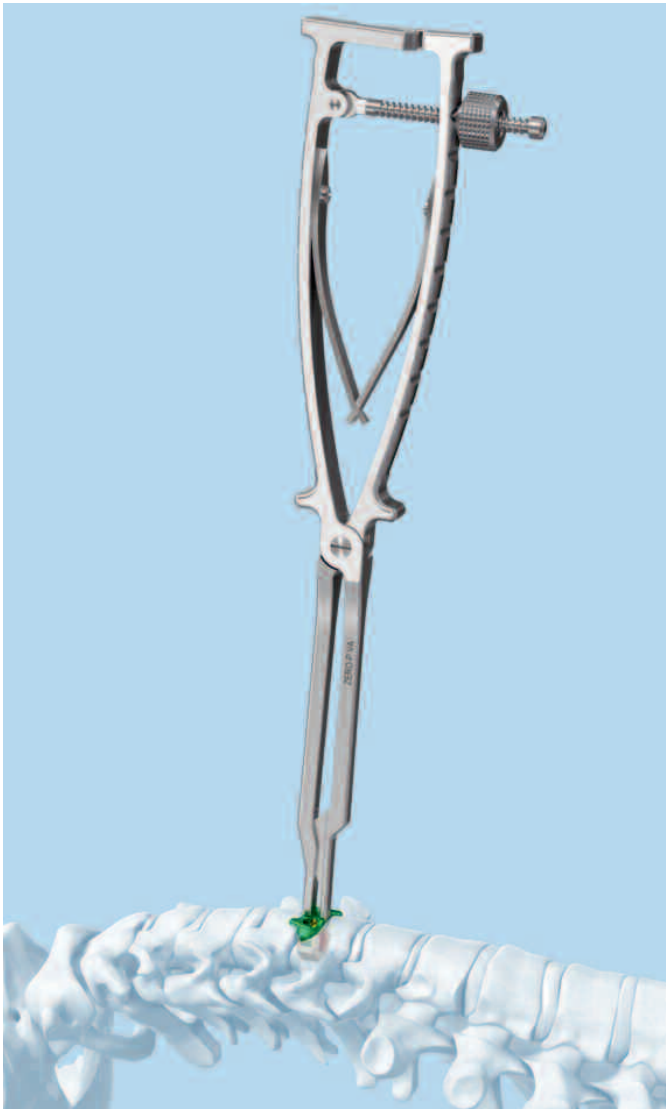


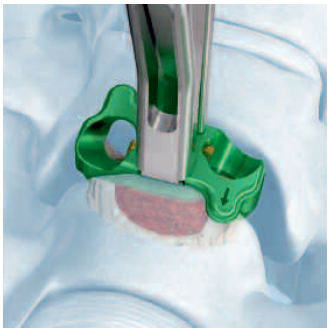
2
Extract Implant

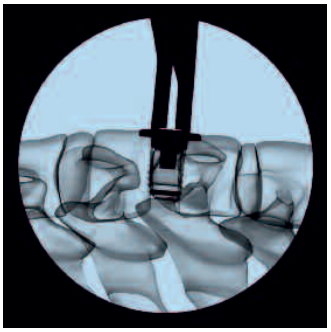
Instrument	
03.647.963	Insertion Device for Zero-P VA

Optional Instrument	
03.647.980	Implant Holder for Zero-P VA

Once the screws are removed, remove the Zero-P VA implant using the insertion device. Engage the insertion device to the implant by first aligning the recessed grooves located midline on the anterior face of the implant with the pronged tabs of the device tip.





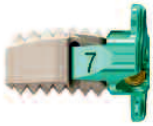


Implants

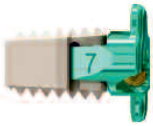
Zero-P VA Implants
- Supplied sterile and preassembled (spacer with plate)
- Available in 3 different shapes: convex, lordotic, parallel
- Spacer component: PEEK Optima®
- Plate component: Titanium alloy (Ti-6Al-7Nb and Ti-6Al-4V)
- Blocking mechanism: Elgiloy® (40Co-20Cr-16FE-15Ni-7Mo) and Titanium alloy (Ti-6Al-7Nb)

Standard

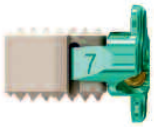
Convex	Lordotic	Parallel	Height
04.647.135S	04.647.125S	04.647.115S	5 mm
04.647.136S	04.647.126S	04.647.116S	6 mm
04.647.137S	04.647.127S	04.647.117S	7 mm
04.647.138S	04.647.128S	04.647.118S	8 mm
04.647.139S	04.647.129S	04.647.119S	9 mm
04.647.130S	04.647.120S	04.647.110S	10 mm
04.647.131S	04.647.121S	04.647.111S	11 mm
04.647.132S	04.647.122S	04.647.112S	12 mm



Convex



Lordotic



Parallel

Large

Convex	Lordotic	Parallel	Height
04.647.235S	04.647.225S	04.647.215S	5 mm
04.647.236S	04.647.226S	04.647.216S	6 mm
04.647.237S	04.647.227S	04.647.217S	7 mm
04.647.238S	04.647.228S	04.647.218S	8 mm
04.647.239S	04.647.229S	04.647.219S	9 mm
04.647.230S	04.647.220S	04.647.210S	10 mm
04.647.231S	04.647.221S	04.647.211S	11 mm
04.647.232S	04.647.222S	04.647.212S	12 mm

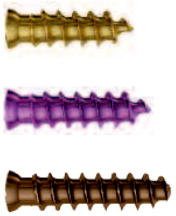
Convex

Lordotic

Parallel

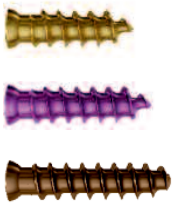
Cervical Spine Screws ∅ 3.7 mm
– Titanium alloy (Ti-6Al-7Nb)
– Color-coded by screw length

		Length	Color
04.647.834	Self-drilling	14 mm	Gold
04.647.836	Self-drilling	16 mm	Purple
04.647.878	Self-tapping	18 mm	Brown



All screws are available non-sterile packed

		Length	Color	Units
04.647.834S	Self-drilling	14 mm	Gold	pack of 1 unit, sterile
04.647.836S	Self-drilling	16 mm	Purple	pack of 1 unit, sterile
04.647.878S	Self-tapping	18 mm	Brown	pack of 1 unit, sterile



Instruments

03.617.900	Screwdriver Stardrive, T8, self-holding, angled, with Sleeve	
03.617.905	Shaft for angled Screwdriver, with Quick Coupling	
03.617.902	Screwdriver Shaft Stardrive, T8, self-holding	
03.617.912	Drill Bit ∅ 2.0 mm, drilling depth 12 mm, 3-flute, for Quick Coupling	
03.617.914	Drill Bit ∅ 2.0 mm, drilling depth 14 mm, 3-flute, for Quick Coupling	
03.617.916	Drill Bit ∅ 2.0 mm, drilling depth 16 mm, 3-flute, for Quick Coupling	
03.617.981	Impactor, flat	

03.647.725– 03.647.729	Zero-P VA Trial Spacers, parallel, heights 5–9 mm
03.647.720– 03.647.722	Zero-P VA Trial Spacers, parallel, heights 10–12 mm

03.647.755– 03.647.759	Zero-P VA Trial Spacers, lordotic, heights 5–9 mm
03.647.750– 03.647.752	Zero-P VA Trial Spacers, convex, heights 10–12 mm

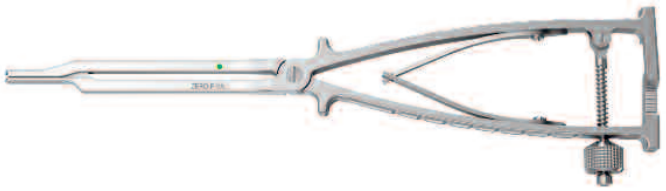
03.647.785– 03.647.789	Zero-P VA Trial Spacers, convex, heights 5–9 mm
03.647.780– 03.647.782	Zero-P VA Trial Spacers, convex, heights 10–12 mm

03.647.735– 03.647.739	Zero-P VA Trial Spacers, large, parallel, heights 5–9 mm
03.647.730– 03.647.732	Zero-P VA Trial Spacers, large, parallel, heights 10–12 mm

03.647.765– 03.647.769	Zero-P VA Trial Spacers, large, lordotic, heights 5–9 mm
03.647.760– 03.647.762	Zero-P VA Trial Spacers, large, lordotic, heights 10–12 mm

03.647.795– 03.647.799	Zero-P VA Trial Spacers, large, convex, heights 5–9 mm
03.647.790– 03.647.792	Zero-P VA Trial Spacers, large, convex, heights 10–12 mm

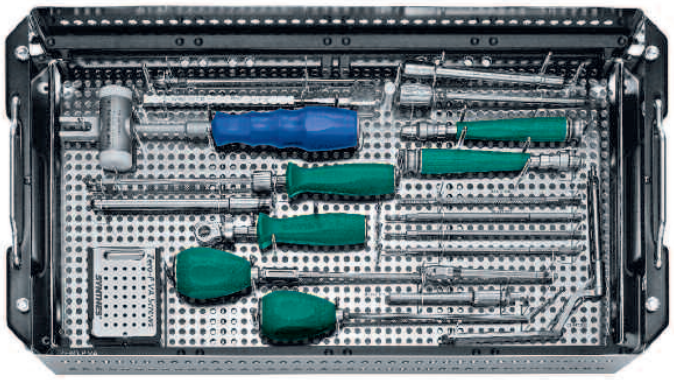
03.647.901	Holding Sleeve for Screws for No. 03.617.902	
03.647.903	Handle, small, with Quick Coupling	
03.647.962	Drill Guide with Handle	

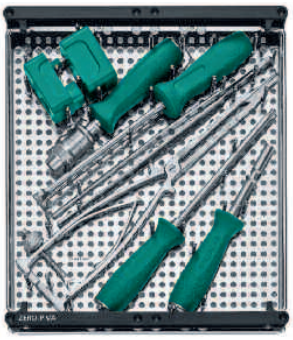
03.647.963	Insertion Device for Zero-P VA	
03.647.970	Cancellous Bone Impactor	
03.647.971	Screw Removal Screwdriver	
03.647.972	Inner Shaft for Screw Removal Screwdriver	
03.647.980	Implant Holder for Zero-P VA	
03.647.982	Impactor, ball tip	

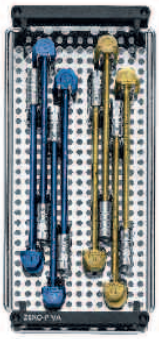
03.647.984	Packing Block for Zero-P VA	
03.647.985	Screw Removal Blade	
03.647.990	Awl ∅ 2.5 mm, with Sleeve	
03.647.993	Awl ∅ 2.5 mm, angled	
03.820.113	Mallet	

Set

68.647.000	Vario Case for Zero-P VA, without Contents
68.647.001	Zero-P VA Module for Screws
68.647.002	Zero-P VA Module for Trial Spacers
68.647.000.001	Zero-P VA, Module for Instruments, size 1/1
68.647.000.002	Zero-P VA, Module for Instruments, size 1/2

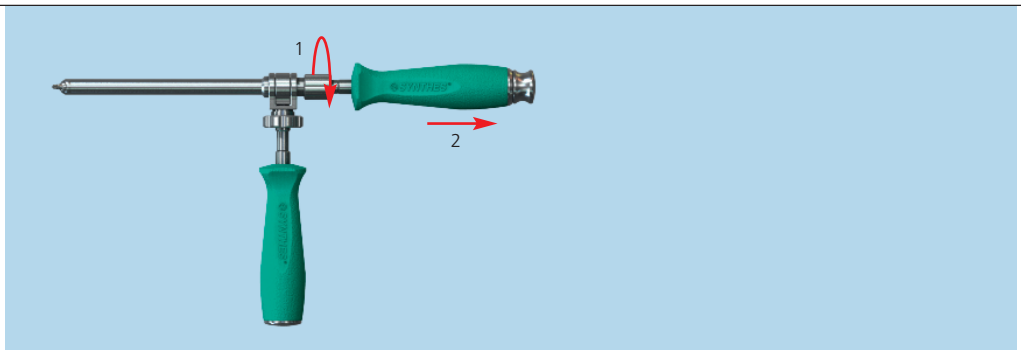






Screwdriver Stardrive, T8, self-holding, angled, with Sleeve

1



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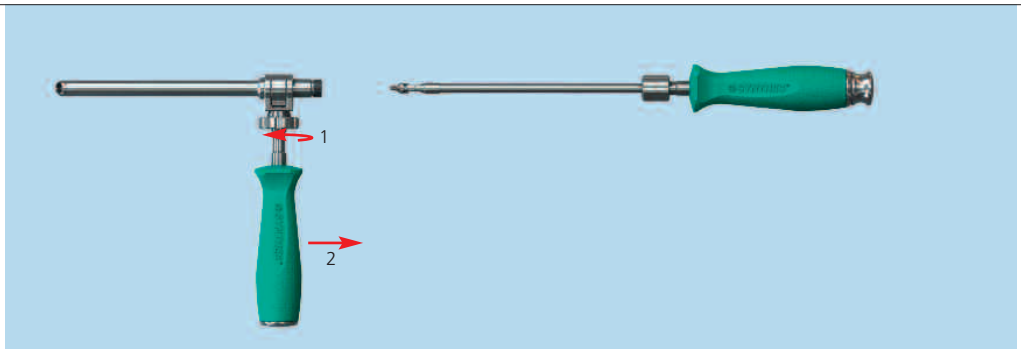

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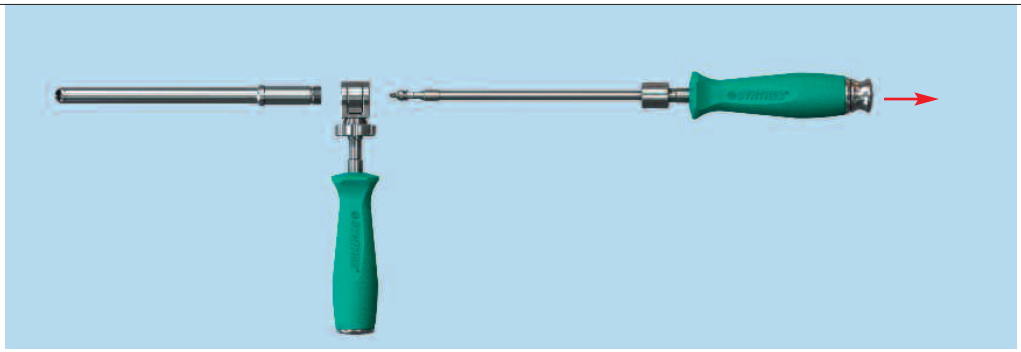

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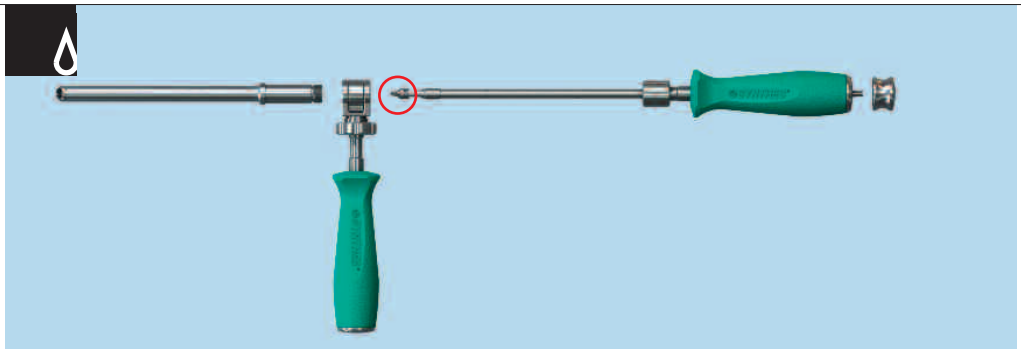
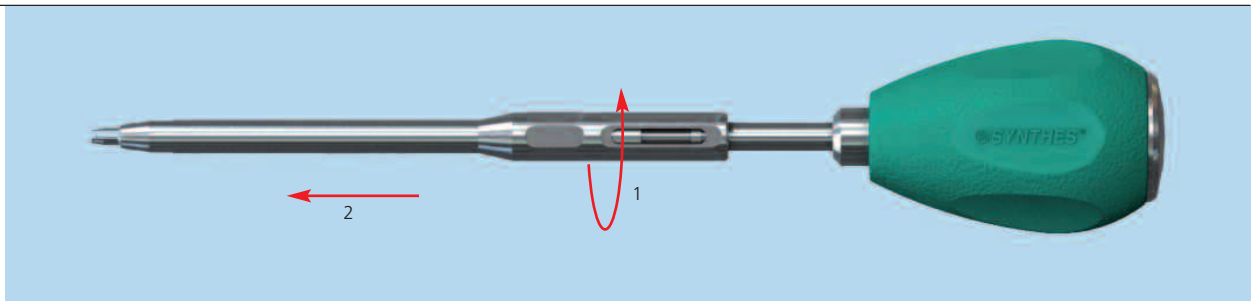


Awl ∅ 2.5 mm, with Sleeve

1



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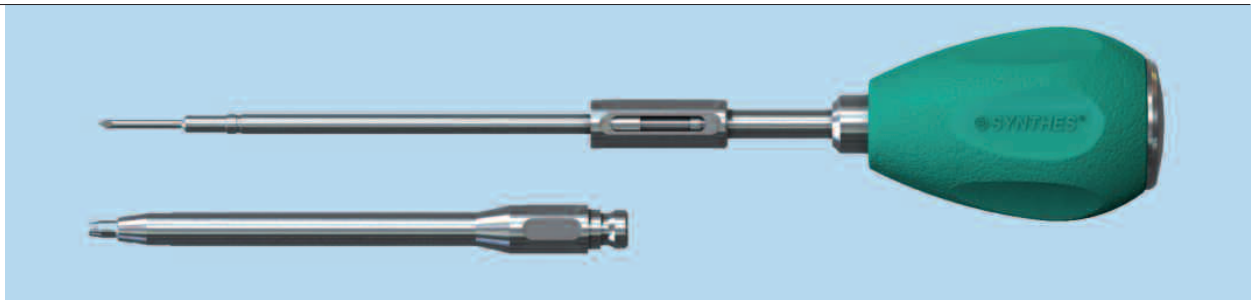
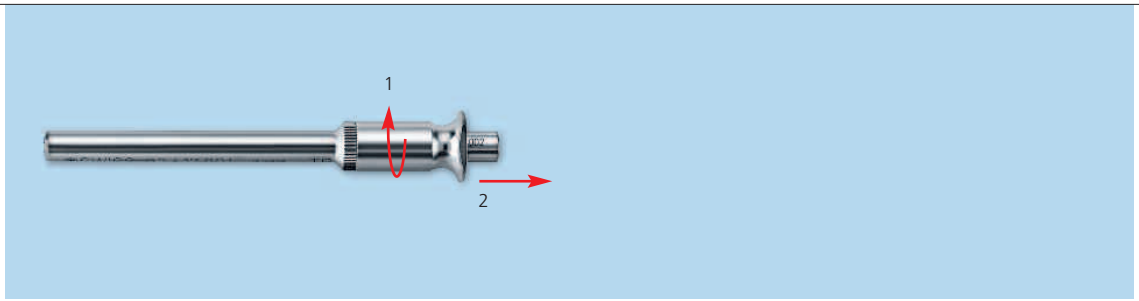


Holding Sleeve for Screws for use with No. 03.617.902

1



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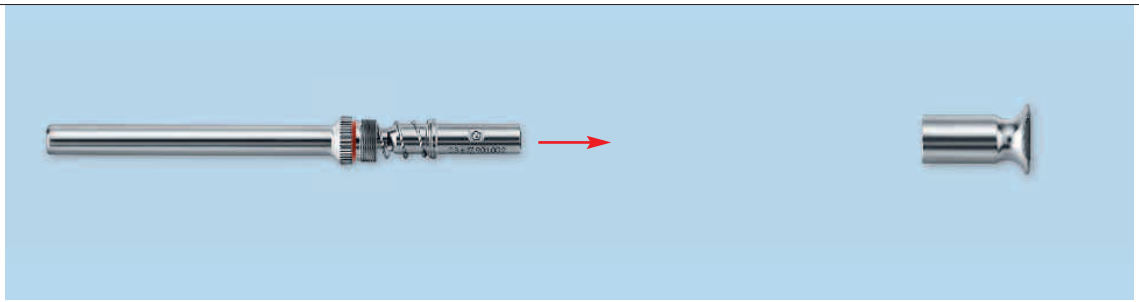
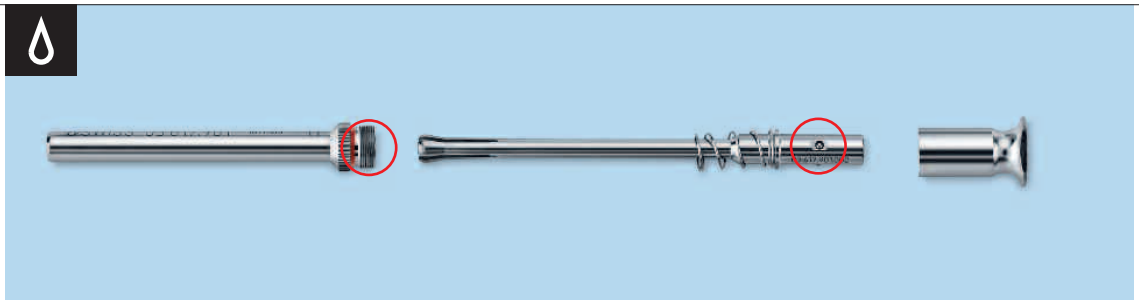
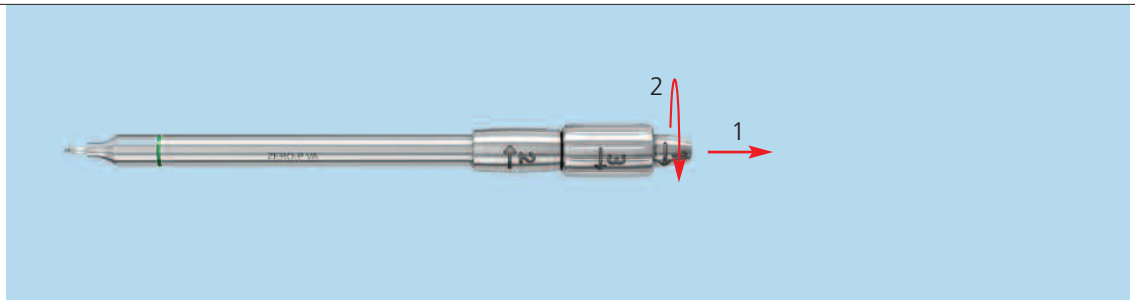


3



Screw Removal Screwdriver

1



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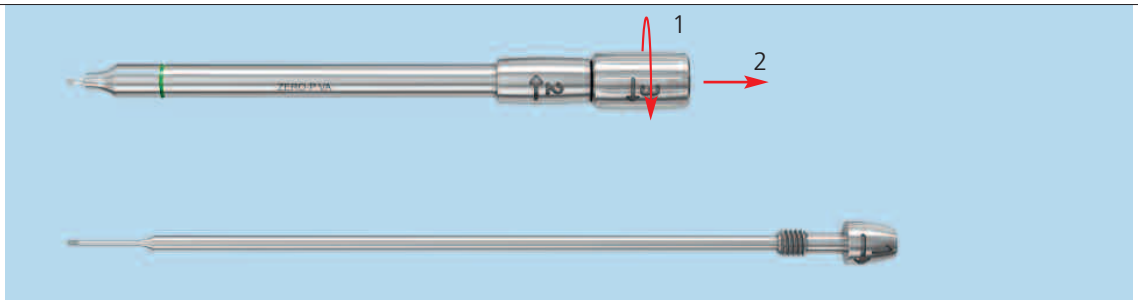

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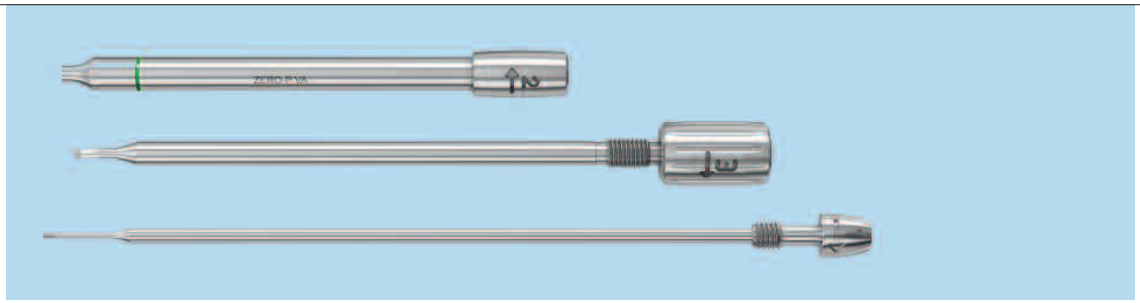

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