

VERTICALE[®] POSTERIOR SPINAL FIXATION SYSTEM

INSTRUMENTATION GUIDE



MADE IN GERMANY

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NOTE: This Guide describes the use of the VERTICALE posterior spinal fixation instrument set. This guide does not replace briefing by a physician experienced in the instrumentation used in spinal surgery.

We would be happy to assist you in finding a hospital that provides an opportunity to observe surgical procedures.

PREFACE

VERTICALE[®] – THE POSTERIOR SPINAL FIXATION SYSTEM

VERTICALE is a posterior double rod fixation system for stabilizing the thoracic and lumbar spine.

The system was developed in close cooperation with experienced and qualified spinal surgeons as well as specialist staff from OR and sterilization departments. As a result, the VERTICALE System is a well-designed, modular, and versatile fixation system.

The VERTICALE System is made up of polyaxial, monoaxial, uniplanar, and iliac screws that are available as short head and long head screws (reduction screws). This range of pedicle screws, in either solid or cannulated and fenestrated versions, combined with 5.5-mm titanium or cobalt chromium rods means that the VERTICALE System is suitable for a wide range of indications. Degenerative spinal diseases can be stabilized in a controlled manner and deformities can be comfortably corrected.

Special attention was paid to structuring the system ergonomically. Particular emphasis was placed on a modular design and clear structure for the VERTICALE instruments. Routine use of the system is facilitated by bi-functional 2-in-1 instruments and modular handle options, along with individually customizable screw trays.

Like all other implants and instruments developed by Silony Medical, the VERTICALE System is a living system. Whether instrument or implant—we are constantly working to expand and improve the system in order to optimally meet the needs of patients, physicians, and nursing staff.





Indications

The VERTICALE System is indicated for use in the thoracic and lumbar spine and for iliosacral fixation procedures (T1–S2 / ilium). This includes all kinds of thoracic and lumbar instabilities that require comprehensive posterior pedicle screw fixation:

- Degenerative disc diseases
- Spondylolisthesis of all etiologies
- Stenosis
- Deformities such as scoliosis and kyphosis
- Fractures
- Spondylitis
- Tumors
- Revisions
- Pseudarthrosis

NOTE: Anterior, interbody support in the form of an intervertebral implant device, such as a ROCCIA Cage, is recommended for treating instabilities of the anterior spine and is used at the discretion of the operating surgeon and in accordance with the respective indication.

Contraindications

Under certain circumstances, implantation is contraindicated or associated with substantial risks, even though it may be indicated. These include in particular:

- Anticipated or documented allergy or intolerance to the materials used (e.g. titanium or cobalt chromium)
- Any case in which the chosen implants would be too large or too small to achieve a successful result
- Any patient for whom the use of the implant would conflict with anatomical structures
- Missing bony structures, which would render solid anchoring of the implant impossible (e.g., in the case of fractures, tumors, or osteoporosis).

NOTE: Please also note the Instructions for Use provided with each product. They may include additional advice that leads to exclusion of the implant procedure.

VERTICALE[®] STANDARD INSTRUMENTATION

In the following section, we begin by describing a monosegmental posterior VERTICALE standard instrumentation that forms the basis for all subsequent steps with additional instruments and implant devices. Multisegmental instrumentations are also performed according to these instructions.

Position and approach

The patient is positioned in the prone position, as is common for the posterior approach. The skin incision is performed medially above the spinous processes corresponding to the spinal segments to be treated. After that, the soft tissue is dissected until the anatomical structures of the spinal column can be clearly seen.

Opening the pedicle

VI-1010
VERTICALE Triangular Awl



The desired screw insertion point into the pedicle is defined by means of anatomical landmarks and under X-ray control. The cortex is subsequently opened with the VERTICALE Triangular Awl (Fig. 1). For safety reasons, the awl has a depth stop after 10 mm (Fig. 2).

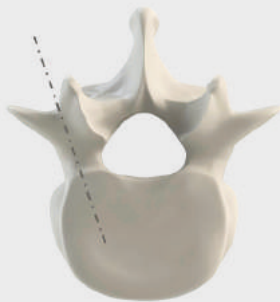


Fig. 1 Pedicle screws trajectory



Fig. 2 Opening the pedicle with the VERTICALE Triangular Awl

VI-1020*
VERTICALE Probe



To further open up the pedicle down to the cancellous bone of the vertebral body, the corresponding VERTICALE Probe is used (Fig. 3).

* Further probes are shown in the chapter "Instruments".

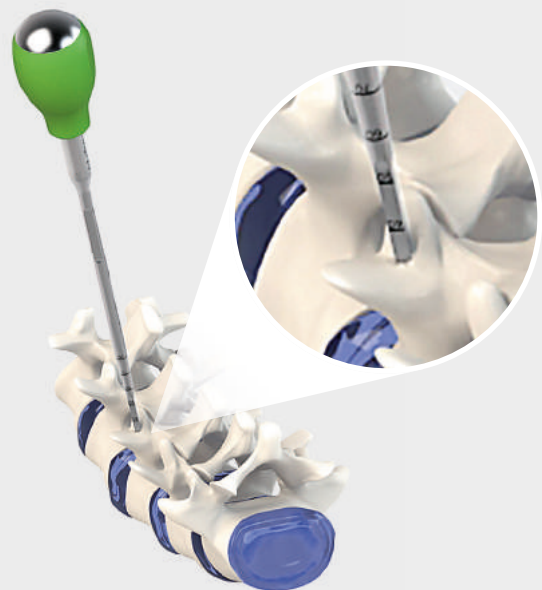


Fig. 3 Preparing the screw channel with the awl

Probing the pedicle

VI-1040*
VERTICALE Pedicle Feeler
(double-probe)



The dual-ended VERTICALE Pedicle Feeler can be used to check the prepared screw channel for possible perforations (Fig. 4).

* Further pedicle feeler are shown in the chapter "Instruments".

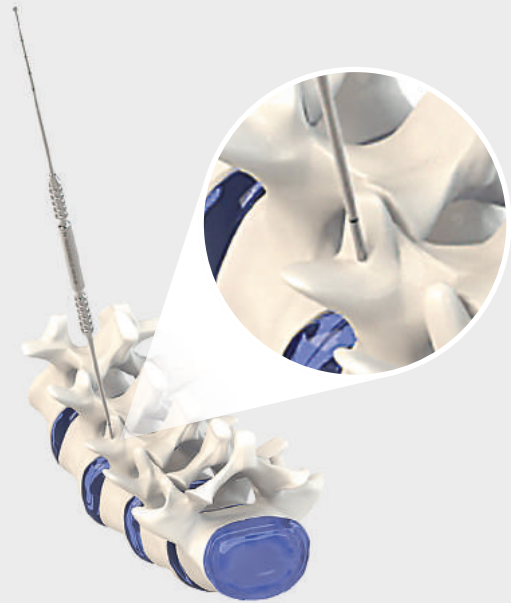


Fig. 4 Probing the pedicle with the pedicle feeler

Determining the screw lengths

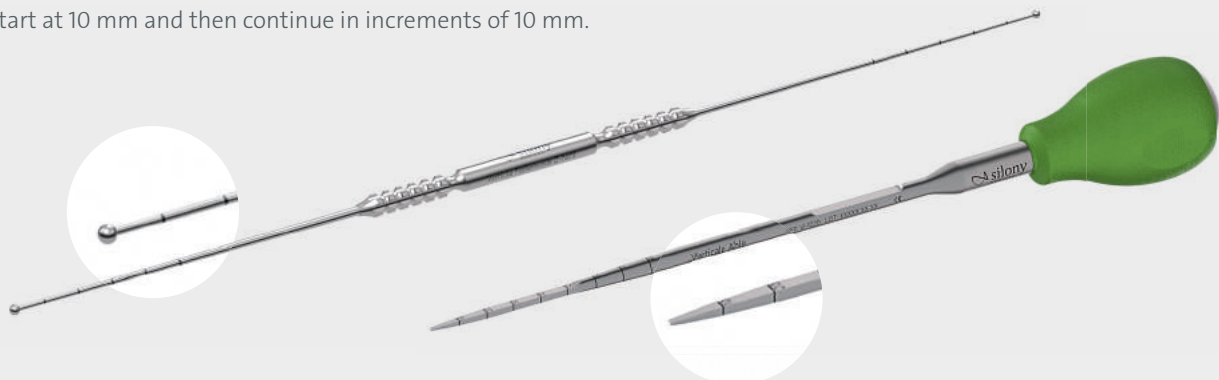
VI-1020**
VERTICALE Probe



VI-1040*
VERTICALE Pedicle Probe
(double-probe)



Using the markings on the VERTICALE Probes and on the dual-ended VERTICALE Pedicle Feeler, the length of the pedicle screw can be determined (Fig. 5). Feeler markings start at 10 mm and then continue in increments of 10 mm.



* Further pedicle feelers are shown in the chapter "Instruments".
* Further probes are shown in the chapter "Instruments".

Fig. 5 Markings help to determine the length of the screws

Tapping (optional)

GI-3111*
Ratchet T-Handle



VI-1045**
VERTICALE Tap 4.5 + 5.2 mm



VI-1067**
VERTICALE Tap 6.2 + 7.2 mm



Certain VERTICALE Pedicle Screws have a self-tapping thread. Very hard bone structures (e.g., sclerotic bone) may make it necessary to pre-tap the thread. Two taps for the screws with a diameter of 4.5 and 5.2 mm or 6.2 and 7.2 mm are available for this. Taps with corresponding diameters (8.2 and 9.2 as well as 10.2 mm) are also available for the preparation for iliac and revision screws.

After selecting the appropriate modular and cannulated handle (T-handle, straight handle, palm handle, with or without ratchet mechanism), the latter is connected to the corresponding VERTICALE Tap by locking into place.

The screw channel is prepared clockwise. Laser markings on the tap make it easy to read off the current depth of the thread (Fig. 6).

The thread on the VERTICALE Tap has a length of 25 mm. The laser markings start at 30 mm and all further markings are at increments of 5 mm (Fig. 7). After cutting, the tap is disengaged by turning it counterclockwise.

Cannulated taps are available for guided insertion using a guide wire (less than 1.6 mm). See appendix with VERTICALE instruments.

* Further handle options are shown in the chapter "General Instruments".

* Further taps are shown in the chapter "Instruments".



Fig. 6 Optional tapping



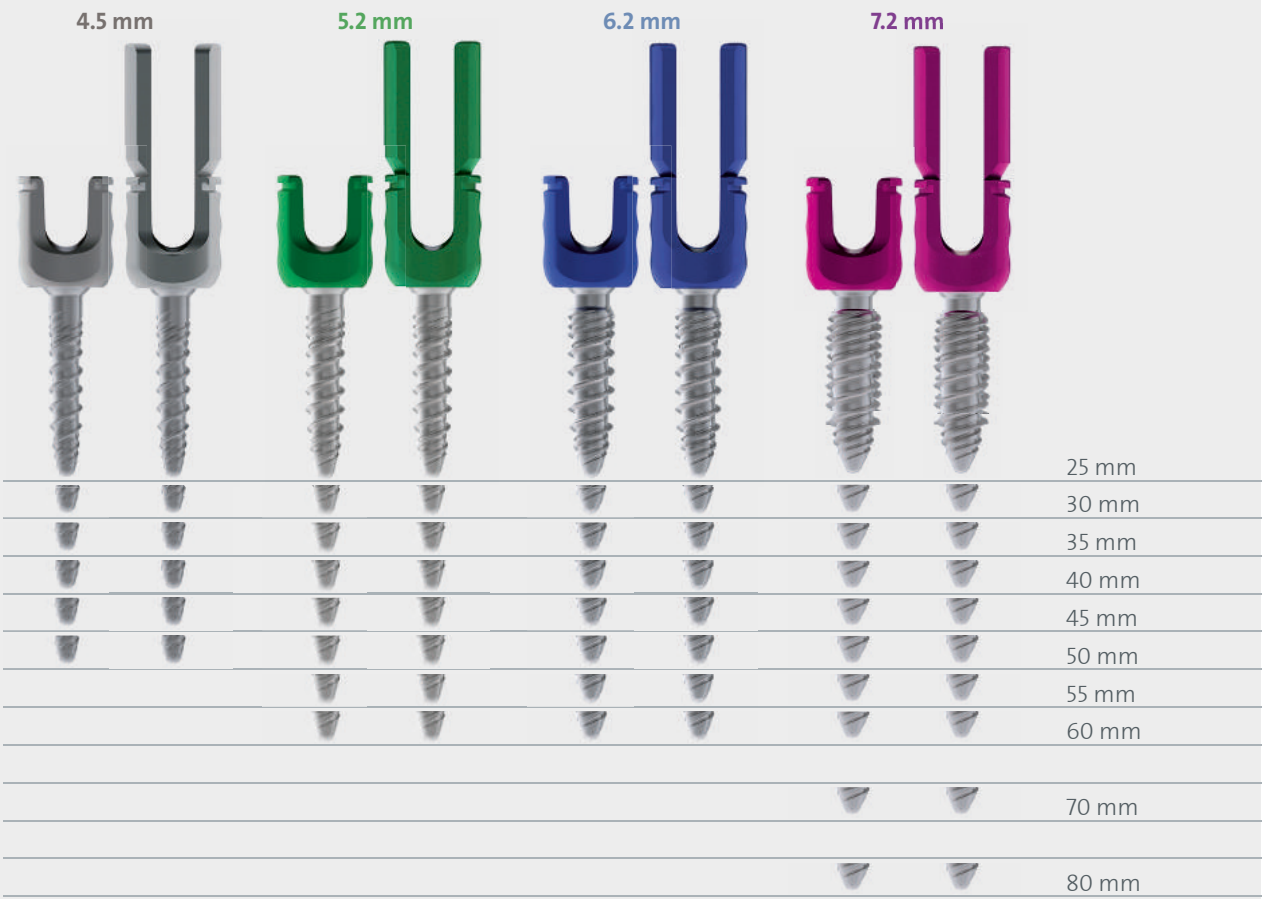
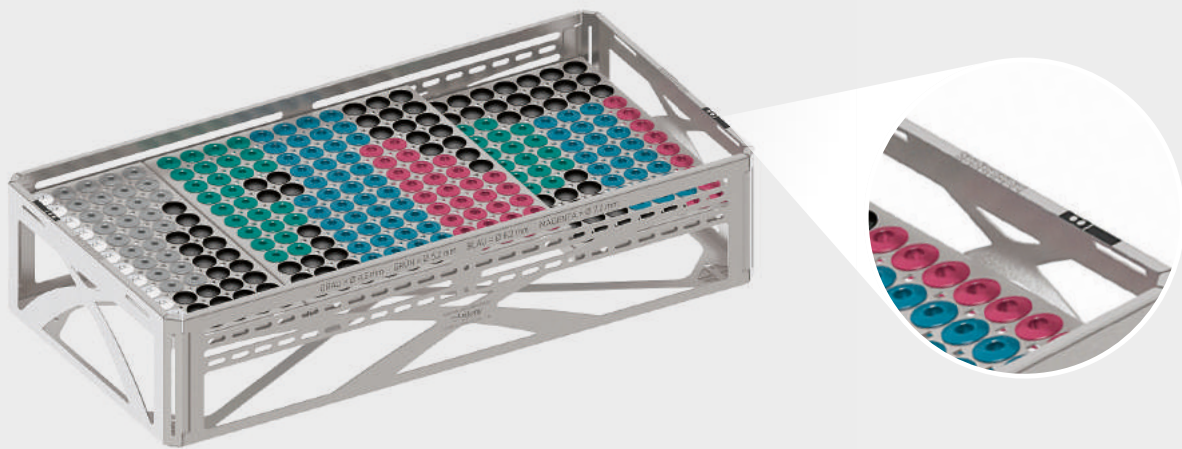
Fig. 7 Laser marking

Selection of pedicle screws

To enable faster and easier identification, all VERTICALE Pedicle Screws are color coded by diameter. The lengths vary by 5 mm increments.

The side of the VERTICALE Screw Tray has a scale to verify the correct length of the pedicle screw.

NOTE: Using the A-P X-ray image, choose pedicle screws according to the pedicle diameter with the largest possible diameter. The length of the screw should be such that it reaches at least 2/3 of the diameter of the vertebral body, and in the best case the anterior edge of the vertebral body. A sacral screw fixation should be barely bicortical (perforation of the anterior cortex with at most one thread).



Preparing the Screw Driver

GI-3111*
Ratchet T-Handle



VI-1130**
VERTICALE Screw Driver T25



The VERTICALE Screw Driver is used to screw in the VERTICALE Pedicle Screws.

To ensure better protection of the tissue, the VERTICALE Screw Driver is equipped with a removable protection sleeve (Fig. 8a). The sleeve is attached, as shown, until it clicks into position (Fig. 8b).

It is mounted onto the desired handle using the quick coupling on the handle (Fig. 8b).

The modular handles are available for use with the screwdrivers (T-handle, straight handle, palm handle, with or without ratchet mechanism).



Fig. 8a Removable tissue protector

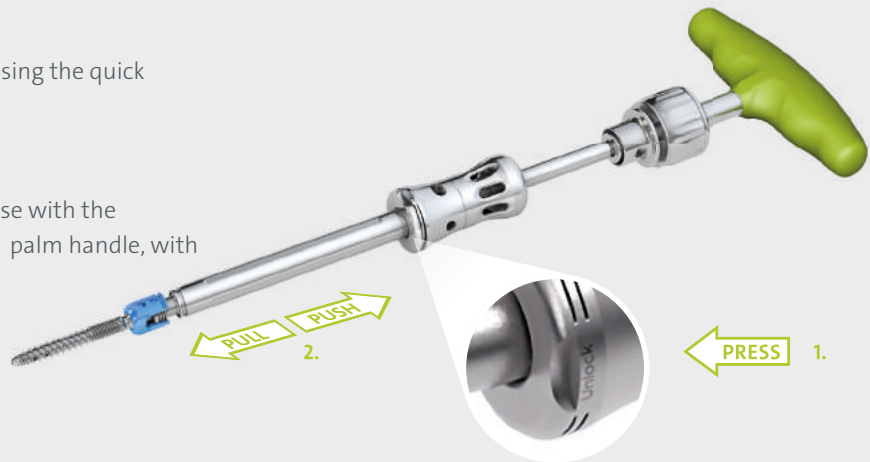


Fig. 8b Assembling the Screw Driver with the outer sleeve

The VERTICALE Screw Driver is a 2-in-1 instrument and can be used for both long head and short head pedicle screws with just one simple adjustment (Fig. 9a and 9b).

The adjustment is made by pressing the button on the middle part of the handle of the instrument. For pedicle screws with a short head, it is moved downward (2). For pedicle screws with a long head, the middle part of the handle has to be released by pressing the button (1). After this, the Torx can be inserted deeply into the long head screws (Fig. 10).



Fig. 9a Pedicle screw, short head



Fig. 9b Pedicle screw, long head

* Further handle options are shown in the chapter "General Instruments".

** Further screwdrivers are shown in the chapter "Instruments".

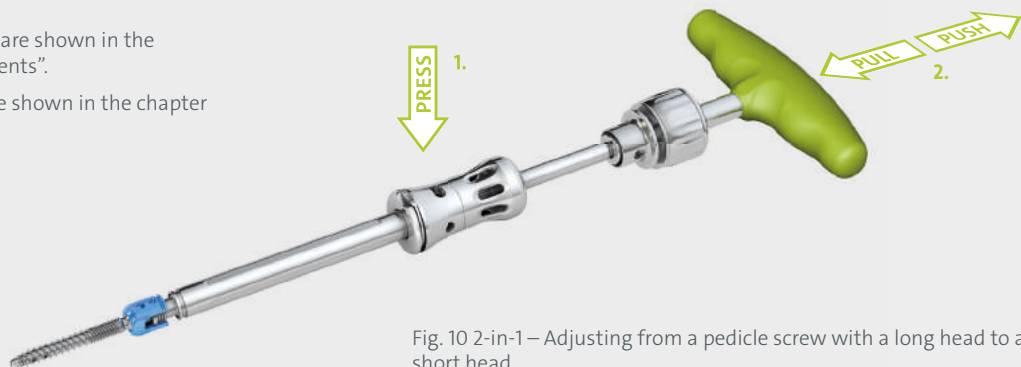


Fig. 10 2-in-1 – Adjusting from a pedicle screw with a long head to a short head

Picking up the screws

GI-3111*
Ratchet T-Handle



VI-1130**
VERTICALE Screw Driver T25



The pedicle screws can be picked up inside or outside of the screw tray. Care must be taken to ensure an orthograde alignment between the screw head and screw shaft. When screws are picked up directly from the tray, orthograde alignment is generally assured. The VERTICALE Screw Driver is first inserted deeply into the inner Torx of the screw shaft.

After that, the internal thread of the screw head is connected to the external thread of the instrument by rotating to the right and applying mild downward force with the instrument shaft (Fig. 11). Please make sure the connection is secure.

* Further handle options are shown in the chapter “General Instruments”.

** Further screwdrivers are shown in the chapter “Instruments”.

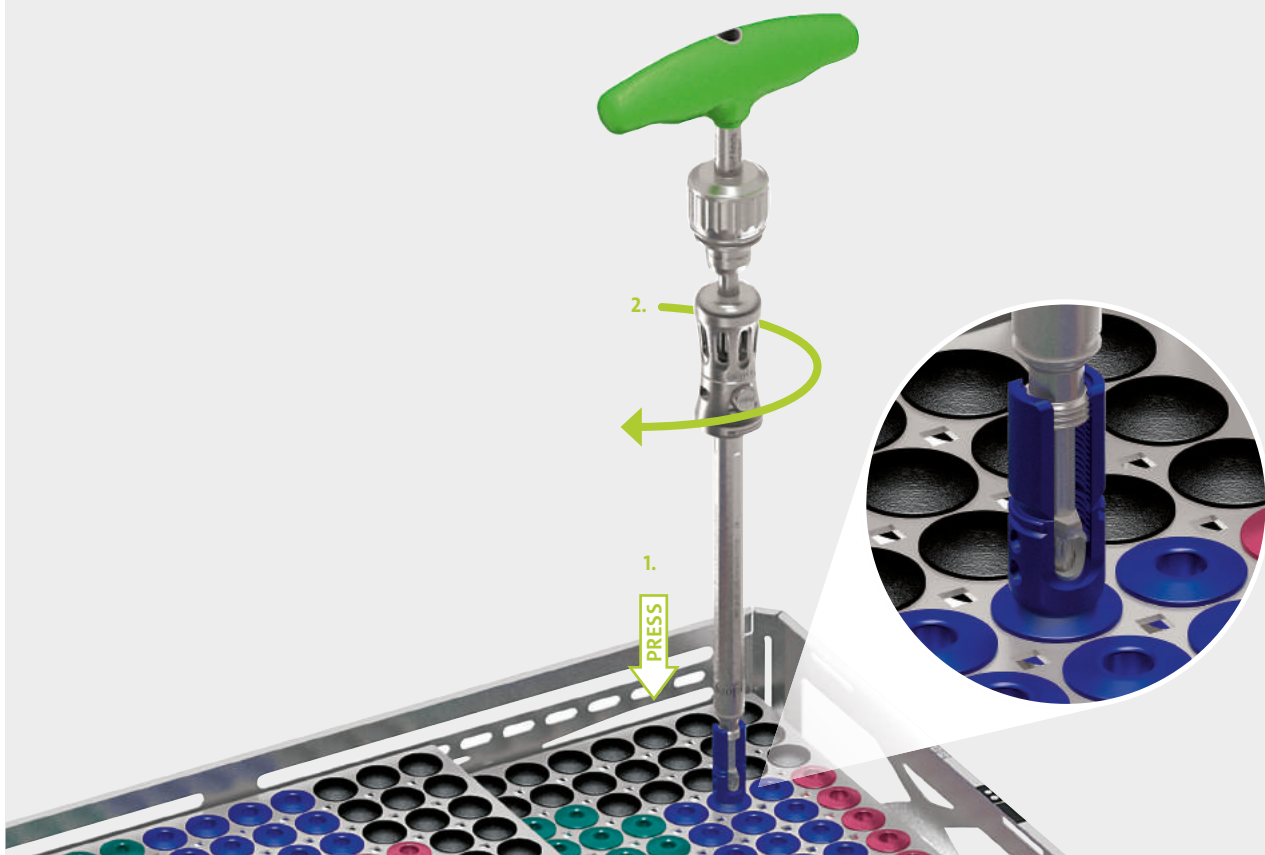


Fig. 11 Connecting the Screw Driver with a screw

Pedicle screw insertion

GI-3111*
Ratchet T-Handle



VI-1130**
VERTICALE Screw Driver T25



The VERTICALE Pedicle Screws are screwed into the prepared screw channel until the screw shaft is fully inserted into the pedicle (Fig. 12). Screwing too far into the pedicle can restrict the mobility of the head and makes it difficult to insert the rod later.

The instrument is then disengaged from the pedicle screw by rotating the middle part of the handle counterclockwise. This process is repeated until all pedicle screws have been inserted. Verifying the correct positioning of the pedicle screws by means of an image intensifier in frontal and sagittal projection is strongly recommended.

* Further handle options are shown in the chapter "General Instruments".

** Further screwdrivers are shown in the chapter "Instruments".

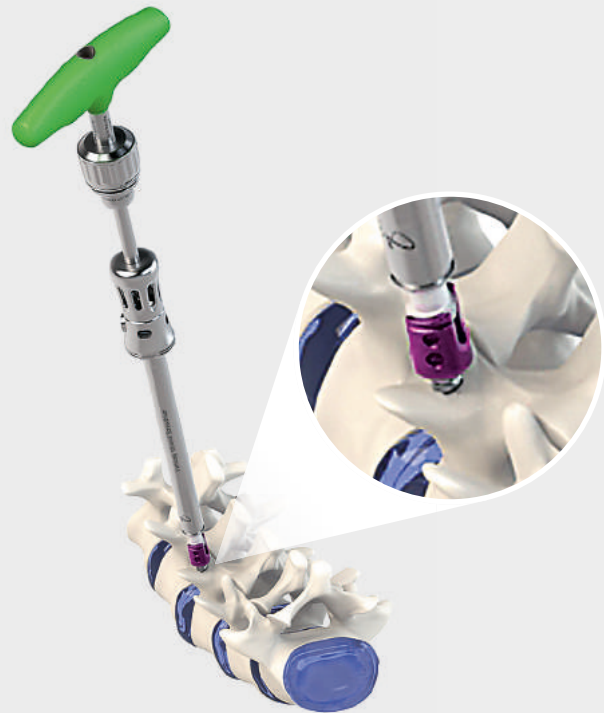


Fig. 12 Inserting the pedicle screw into the bone

NOTE: In the case of polyaxial screws, it is important that the polyaxiality of the screw head not be blocked. When using monoaxial screws, it must be ensured that the screw head is positioned in a superior-inferior direction. If necessary, the screw must be turned back a little.

Countersinking the pedicle screw

GI-3111*
Ratchet T-Handle



VI-1445**
VERTICALE T25 Screwdriver
Shaft



The VERTICALE T25 Screwdriver Shaft with a handle is available for countersinking the pedicle screws (Fig. 13).

* Further handle options are shown in the chapter "General Instruments".

** Further screwdriver shafts are shown in the chapter "Instruments".

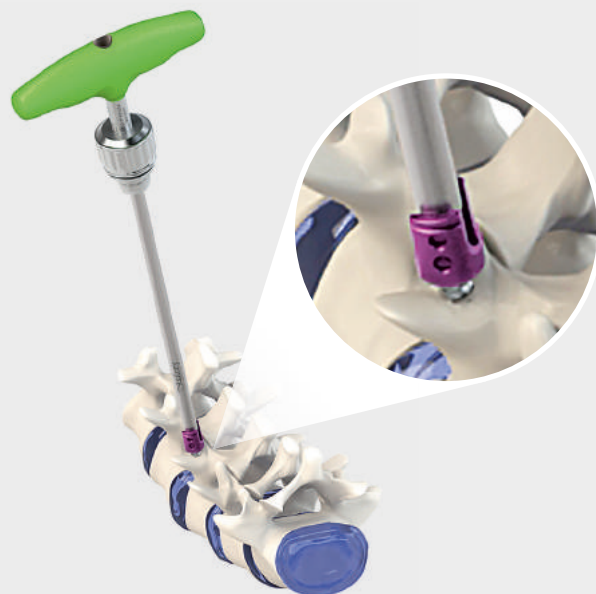


Fig. 13 Countersinking the pedicle screw

Aligning the screw heads

VI-1340
VERTICALE Rod and Tulip
Adjuster



The VERTICALE Pedicle Screw heads are adjusted with the VERTICALE Rod and Tulip Adjuster. The adjuster is placed into the screw head and can then be used to align the screw depending on how the rod will subsequently be inserted (Fig. 14).



Fig. 14 Aligning the pedicle screw heads with the rod and tulip adjuster

Selecting and sizing the rods

VI-1270
VERTICALE French Bender



Various rod lengths with a diameter of 5.5 mm are available. Details can be found in the appended product information sheets.

By default, the system comes with straight and pre-curved titanium rods and straight CoCr rods.

All curved rods have a decagonal end on one side and all straight rods on both sides (Fig. 16). This makes it easier to perform necessary rotations. For individual anatomic adjustment of the rod, you can use the VERTICALE French Bender or the in-situ VERTICALE Rod Bender (Fig. 15). For 'Rotating the rod' and 'In-situ bending', see the chapter on VERTICALE instrumental reduction. Rods that are too long can be shortened using a rod cutter. When selecting the rod connection, make sure the rod length is adequate.



Fig. 15 Bending the rod with the VERTICALE French Bender

Fig. 16 Decagonal rod end for rotations



NOTE: Any bending back of the rod decreases the fatigue life of the material and should be avoided. For this reason, bending of the rod should be performed gradually until the desired curvature is attained.

Inserting the rods

VI-1320*
VERTICALE Rod Holder



The rods are inserted using the VERTICALE Rod Holder (Fig. 17).

* Further rod holders are shown in the chapter "Instruments".

NOTE: Please note that the ends of the rods will protrude by 3 to 5 mm over the last pedicle screw head. The decagonal end must be fully visible. If necessary, a new rod length will have to be selected.

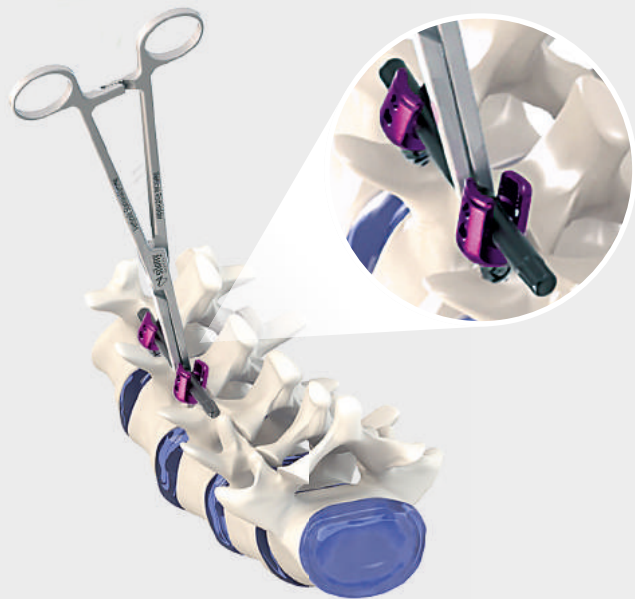


Fig. 17 Inserting the rod with the rod holder

Positioning the rods in the screw head

VI-1340
VERTICALE Rod and Tulip
Adjuster



VI-1420*
VERTICALE Set Screw Starter



If the rod is not placed deep enough into the pedicle screw head, it can be maneuvered into the correct position with the VERTICALE Rod and Tulip Adjuster (Fig. 18).

The VERTICALE Rod and Tulip Adjuster can be used to insert the rod into the screw head.

* Further set screw starters are shown in the chapter "Instruments".



Fig. 18 Positioning the rod with the rod and tulip adjuster and the set screw starter

Temporarily fixing the set screw

VI-1420*
VERTICALE Set Screw Starter



VI-1410
VERTICALE Protection Sleeve



The set screw is inserted with the VERTICALE Set Screw Starter. To do this, it is inserted into the Torx of the set screw (self-retaining). The rod is temporarily fixed by gently turning the set screw (Fig. 19a).

The VERTICALE Protection Sleeve can be used for guided insertion of the set screws. It is mounted onto the pedicle screw head and onto the rod (Fig. 19b) and fits onto both the pedicle screw head of the short head and long head screws.

NOTE: Set screws should always be inserted with a smooth clockwise rotation. To prevent tilting, a brief prior counterclockwise rotation can facilitate insertion of the set screw into the first thread.

VI-1450
VERTICALE Counter Torque



A VERTICALE Counter Torque is available to prevent rotation when tightening the set screw. The torque can be comfortably mounted parallel or at right angles to the rod (Fig. 20).

* Further set screw starters are shown in the chapter "Instruments".



Fig. 19a Set screw starter



Fig. 19b Set screw starter with protection sleeve

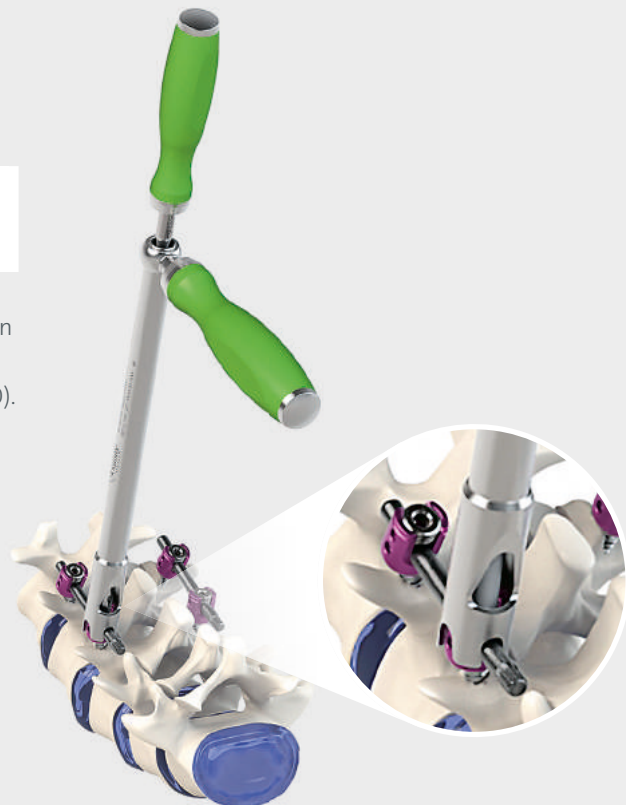


Fig. 20 Set screw starter with counter torque

Compression and distraction

VI-1620*
VERTICALE Distraction Pliers



VI-1625
VERTICALE Parallel Distractor



To compress or distract the pedicle screws, the VERTICALE Distraction or Compression Pliers are attached to the rod. The desired maneuver is performed by squeezing the respective pliers (Fig. 21a and 21b). The set screws are then tightened with the VERTICALE T25 Screwdriver to secure the result of the compression or distraction maneuver.

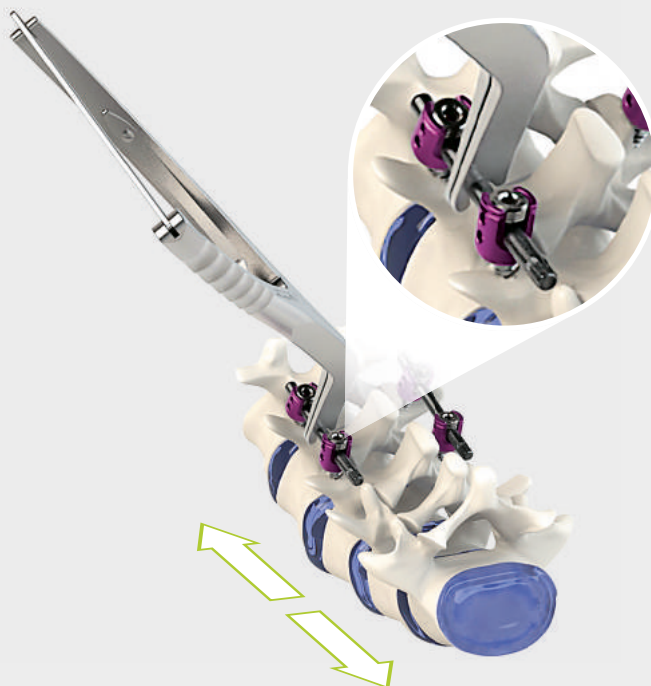


Fig. 21a Distraction with the distraction pliers

VI-1630*
VERTICALE Compression Pliers



VI-1635
VERTICALE Parallel Compressor



* Further distraction and compression pliers are shown in the chapter "Instruments".

NOTE: The set screws, at least one in the segment being corrected, must not be closed tightly during the maneuver.

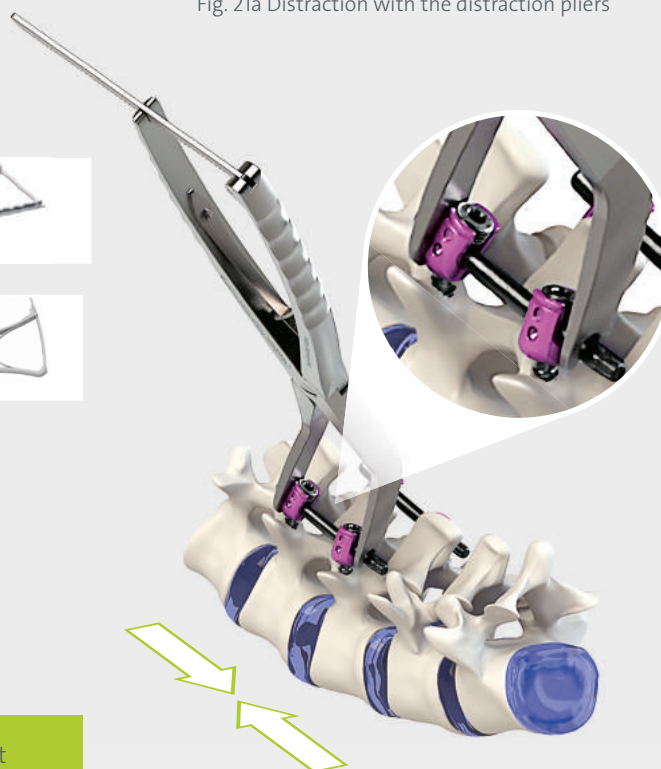


Fig. 21b Compression with the compression pliers

Final tightening using the counter torque

VI-2440*
VERTICALE T25 Torque Limiter
10 Nm



VI-1450
VERTICALE Counter Torque



The VERTICALE Counter Torque is used to stabilize the rotation when tightening the set screw in both the short and long head screw. In order to insert the set screw with guidance, the counter torque is placed directly onto the screw head. The VERTICALE T25 Torque Limiter can then be guided by the counter torque (Fig. 22) and the set screw tightened in its final position with a torque of 10 Nm (an audible click indicates that the torque has been reached).

The same procedure must be repeated with all other set screws.

We recommend ensuring that the screw is correctly seated by repeatedly tightening with the torque limiter. This is confirmed by two clicking sounds.

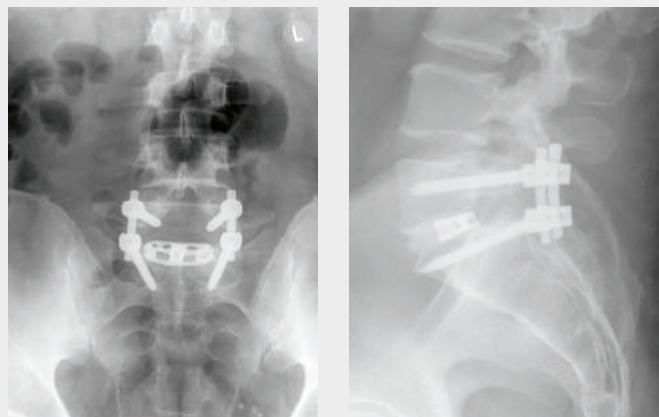
* Other torque limiters are shown in the chapter "Instruments".



Fig. 22 Final tightening with the counter torque

VERIFICATION

The result of the instrumentation is verified using images in two planes from an image intensifier.



VERTICALE® INSTRUMENTAL REDUCTION AND CORRECTION OPTIONS

It is often necessary to perform intraoperative reductions and corrections of the implant devices with the help of VERTICALE instruments in one or more segments. These instruments are described in the next chapter.

Reduction with the reduction instrument

GI-3111*
Ratchet T-Handle



VI-1360
VERTICALE Reduction
Instrument



VI-1361
VERTICALE Reduction Insert



VI-1362
VERTICALE Reduction
Torx Adapter



VI-1363
VERTICALE Reduction Counter
Handle



The VERTICALE Reduction Instrument is used to push the rod with the reduction insert into the base of the pedicle screw head. It is form-locked onto the screw head. The VERTICALE Reduction Insert is inserted into the reduction instrument while making sure that movement is not restricted. The rod is introduced into the screw head by turning the handle on the insert (Fig. 23). At the same time, the position of the vertebral body is corrected to posterior.

An option for more difficult reduction maneuvers is to attach a handle onto the VERTICALE Reduction Insert using the VERTICALE Torx Adapter. The handle enables the user to apply more force onto the reduction insert. The reduction counter handle can be used to counteract rotational forces.

* Further handle options are shown in the chapter "General Instruments".

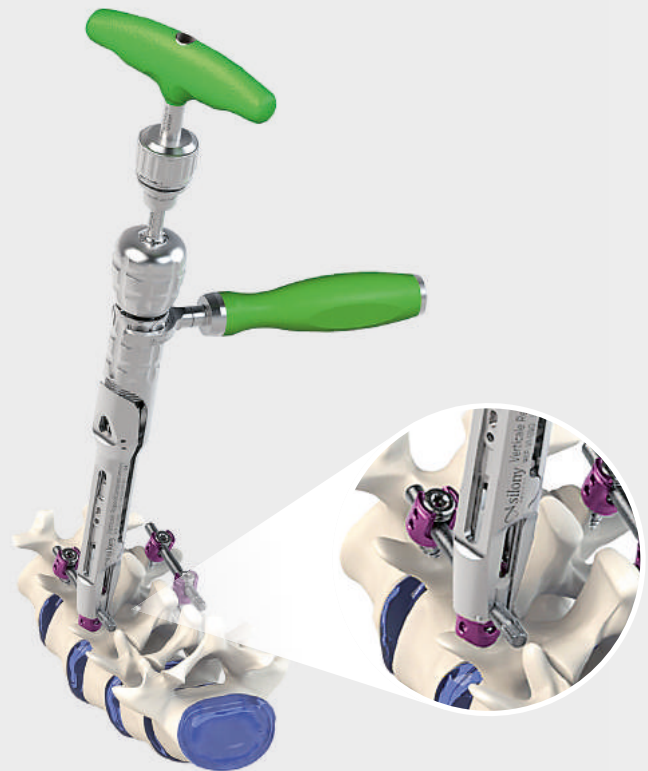


Fig. 23 Reduction with the reduction instrument with reduction insert, T-handle, and reduction counter handle

NOTE: When using monoaxial screws it may be more difficult to assemble multiple reduction instruments because these must always be aligned in an orthograde position to the pedicle screw. In the event of severe lordosis, for example, the alignment of the reduction instrument may prevent the application of a second reduction instrument.

Reduction with the reduction instrument, compact

VI-1365
VERTICALE Reduction
Instrument, compact



VI-1366
VERTICALE Reduction Insert,
compact



The VERTICALE Reduction Instrument is first placed on the screw head. The upper end must be pressed downward which causes the clamp on the lower end to open (Fig. 1). Ensure that the instrument is correctly aligned before it is closed over the screw head. The VERTICALE Reduction Insert is then inserted into the VERTICALE Reduction Instrument (Fig. 2).

Turning the VERTICALE Reduction Insert (Fig. 3) creates a firm connection between the pedicle screw and the instrument, which is important for the reduction maneuver.



Fig. 1 Placement of the reduction instrument on the screw head

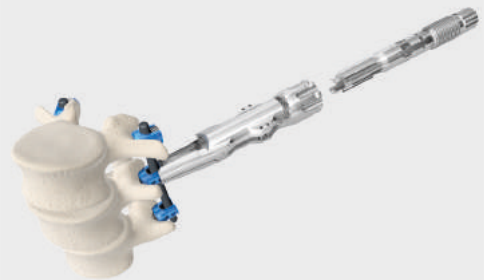


Fig. 2 Insertion of the reduction insert in the reduction instrument

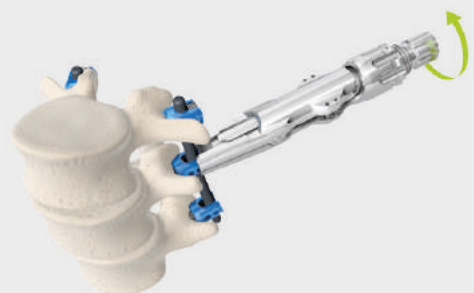


Fig. 3 Screwing in of the reduction insert

Reduction with the reduction instrument, compact

VI-1367
VERTICALE Reduction
Torx Adapter, compact



VI-1368
VERTICALE Reduction Counter
Handle, compact



The VERTICALE Reduction Counter Handle is placed on the VERTICALE Reduction Instrument. More reduction force can be applied using the Torx adapter and the counter handle. The VERTICALE Reduction Torx Adapter grips into the insert and the rod is introduced into the screw head by turning the handle (Fig. 4). At the same time, the position of the vertebral body is corrected to posterior.



Fig. 4 Reduction maneuver with the reduction instrument using the counter handle

Fixing the rod in place with the reduction instrument

VI-1420*
VERTICALE Set Screw Starter



VI-1360
VERTICALE Reduction Instrument



VI-1361
VERTICALE Reduction Insert



Fixation of the rod is achieved using the VERTICALE Set Screw. It is inserted with the VERTICALE Set Screw Starter. To do this, the set screw is attached to the self-retaining Torx on the VERTICALE Set Screw Starter (Fig. 24). The rod is temporarily fixed by turning the set screw.

* Further set screw starters are shown in the chapter "Instruments".

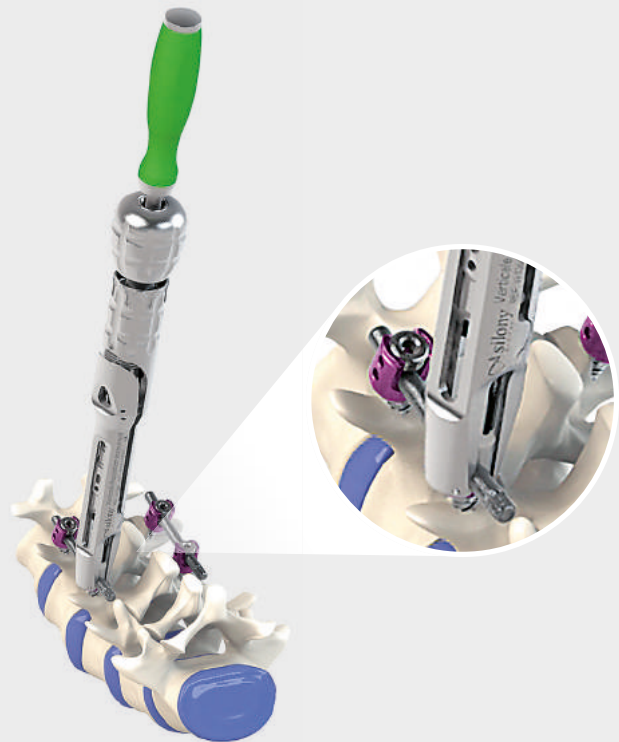


Fig. 24 Fixation with the reduction instrument and set screw starter

Reduction with the rocker instrument

VI-1370
VERTICALE Rocker



To reduce the rod, the VERTICALE Rocker instrument is hooked into the lateral drill holes on the screw head. By pushing down the rocker in the direction of the arrows, the rod is levered into the screw head (Fig. 25). The set screw is inserted with the VERTICALE Set Screw Starter.

NOTE: Set screws should always be inserted with a smooth clockwise rotation. To prevent tilting, a brief prior counterclockwise rotation can facilitate insertion of the set screw into the first thread.

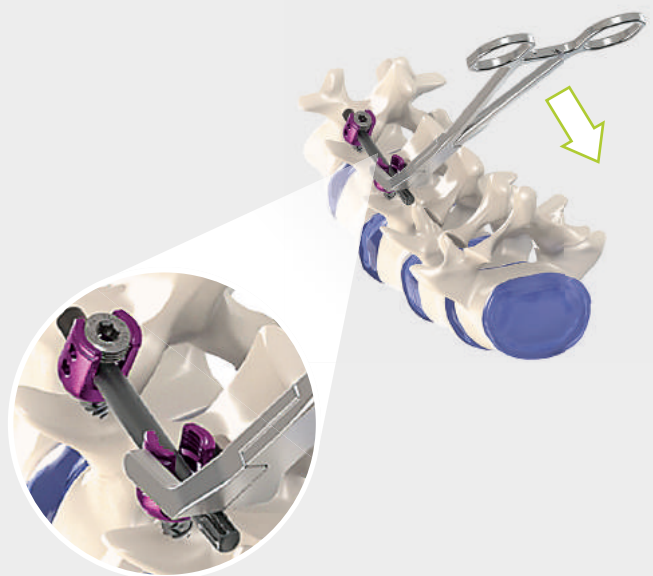


Fig. 25 Reduction with the rocker instrument

Correction aids

The following additional instruments are available as correction aids:

VI-1340
VERTICALE Rod and Tulip
Adjuster



VERTICALE Rod and Tulip Adjuster

The rod and tulip adjuster can also be used to lever the rod into the pedicle screws.

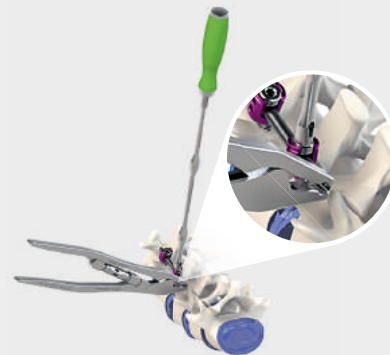


VI-1530
VERTICALE Rod Gripper



VERTICALE Rod Grippers

The rod can be securely and stably fixed during correction maneuvers using the VERTICALE Rod Grippers.



VI-1510
VERTICALE Rod Rotation
Wrench



VERTICALE Rod Rotation Wrench

A rod rotation wrench is available for comfortable and gradual rotation of the rod (e.g., for derotation of scoliosis). This is attached to the decagonal end of the rod.



VI-1610
VERTICALE Rod Bender



Shaping rods with the VERTICALE Rod Benders (in-situ bending)

The VERTICALE Rod Benders are used to curve the rods in-situ.



REDUCTION WITH THE VERTICALE® REDUCTION SCREWS

The extended head profile of the reduction screw (long head) facilitates reduction of the rod with no need for special reduction instruments. These screws allow for correction maneuvers such as derotation of the vertebral bodies as well as distraction, compression, lordosis, and kyphosis.

The instrumentation workflow when using the VERTICALE Reduction Screws is the same as that for pedicle screws; however, when fixing the screws into place, the VERTICALE Screw Driver has to be brought into the position for reduction screws (see the section on preparing the Screw Driver). They are particularly well suited for deformities and spondylolisthesis because they make it easier to insert the rod into the screw head.

Inserting the set screw into the reduction screw

VI-1420*
VERTICALE Set Screw Starter



VI-1410
VERTICALE Protection Sleeve



In order to prevent spreading of the tabs when inserting the set screw, the VERTICALE Protection Sleeve has to be placed onto the reduction screw beforehand (Fig. 26).

* Further set screw starters are shown in the chapter "Instruments".

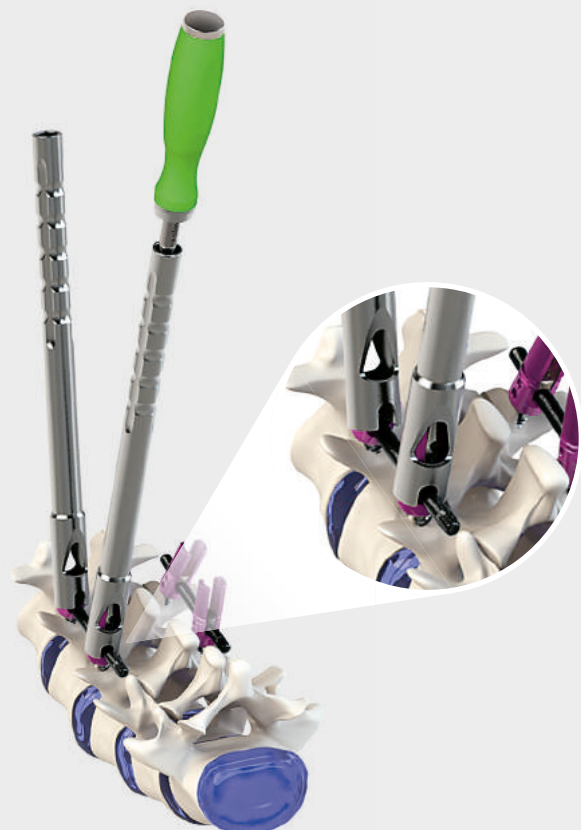


Fig. 26 Attaching the VERTICALE Protection Sleeve to protect the screw tabs.

Removing the tabs

VI-1160
VERTICALE Break-Off Tool



After a reduction maneuver, the protruding tabs of the head profile of the reduction screws are broken off by gently tilting them using the VERTICALE Break-Off Tool (Fig. 27). The break-off tool can hold up to six tabs in its reservoir before it has to be emptied.

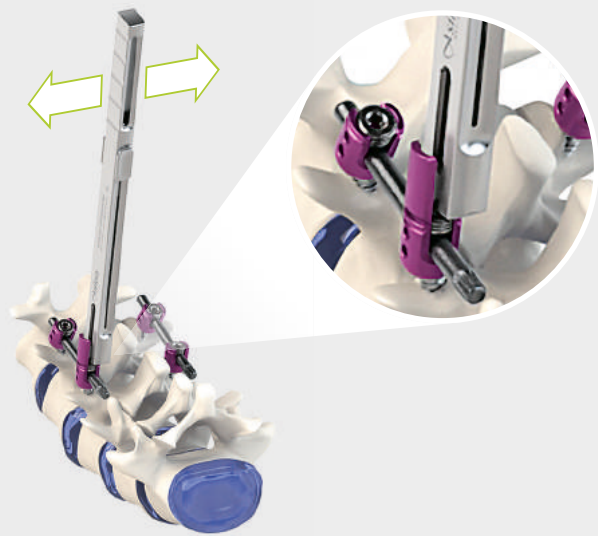


Fig. 27 Breaking off the tabs with the tab remover

The reservoir is emptied by pushing the slider forward (Fig. 28).



Fig. 28 Tab remover with tab ejector

INSTRUMENTATION WITH THE VERTICALE[®] CONNECTORS

VERTICALE Cross Connectors are recommended to improve rotational stability, especially for instrumentations spanning long segments.

Inserting the cross connectors

VI-1810
VERTICALE T20 Screwdriver
7 Nm



VI-1830
VERTICALE Rod and Cross
Connector Holder



The VERTICALE Cross Connector Hook is engaged with the VERTICALE Rod and Cross Connector Holder and placed onto the first VERTICALE Cross Connector Rod (Fig. 29).

First, the blue set screws are inserted loosely into the cross connector hooks using the VERTICALE T20 Screwdriver 7 Nm.

After that, the cross connector rod is engaged with the VERTICALE Rod and Cross Connector Holder and inserted between the first hook and the first long rod. The cross rod then has to be positioned as far laterally until the second hook can be placed onto the contralateral long rod. If necessary, the first hook can be provisionally tightened with the VERTICALE T20 Screwdriver 7 Nm.

When inserting the second hook, the set screw of the first hook has to be loosened, if necessary, in order to be able to push the cross connector rod under the second hook and position it in the middle.

After that, the set screws are tightened in the cross connector hook using the VERTICALE T20 Screwdriver 7 Nm (Fig. 30).

We recommend ensuring that the screw is correctly seated by repeatedly tightening with the torque limiter. This is confirmed by two clicking sounds.



Fig. 29 Attaching the connector hook

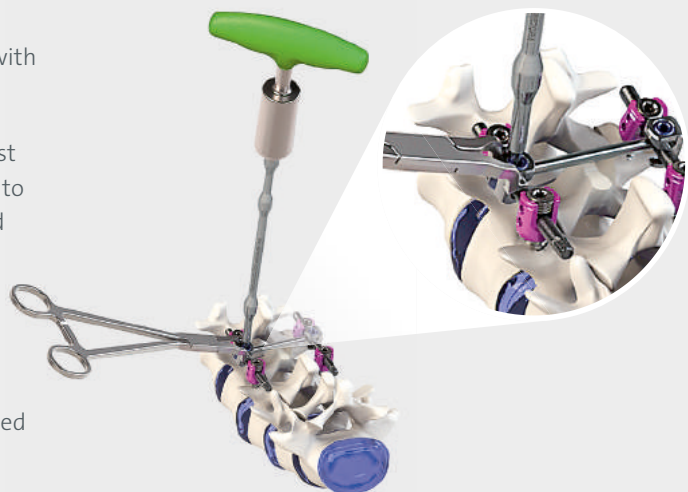


Fig. 30 Inserting a cross connector

Inserting the lengthwise connectors

VI-1820
VERTICALE Domino Holder



VI-1830
VERTICALE Rod and Cross Connector Holder



VERTICALE Domino (side-to-side) and Inline Rod Connectors are available for connecting the VERTICALE 5.5-mm Rods lengthwise in order to enable a connection to be made between a new segment and a previously treated fusion segment using 5.5-mm cross connector rods.

The blue set screws are first inserted loosely into the cross connectors with the VERTICALE T20 Screwdriver 7 Nm.

The VERTICALE Rod and Cross Connector Holder is used to engage the inline rod connectors (Fig. 31) while the VERTICALE Domino Holder is used to engage the VERTICALE Domino Rod Connector (Fig. 32). Before the set screws are tightened, the rods have to be inserted into the rod connectors as deeply as possible. This can be checked in the viewing panel of the respective inline rod connector. The final fixing into place is done by tightening the set screws with the VERTICALE T20 Screwdriver 7 Nm to a specified torque of 7 Nm.



Fig. 31 Inserting a VERTICALE Inline Rod Connector

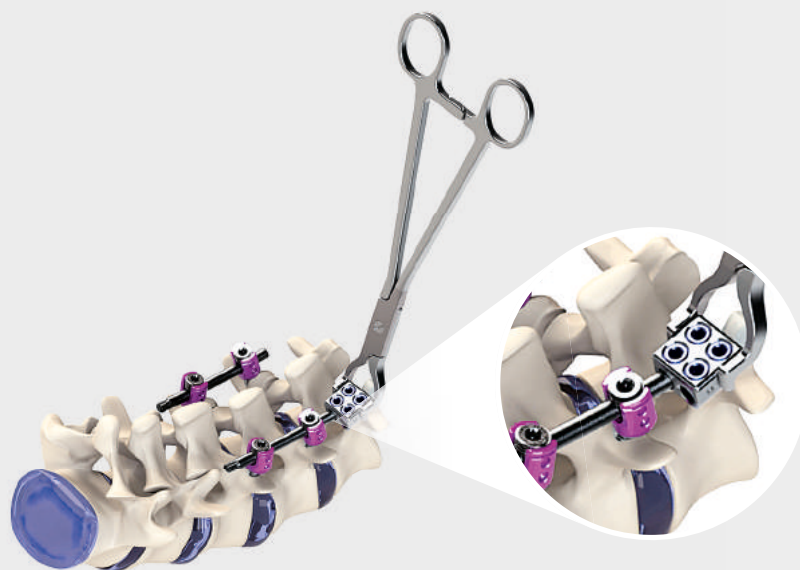


Fig. 32 Rod and cross connector holder with rod connector (side-to-side)

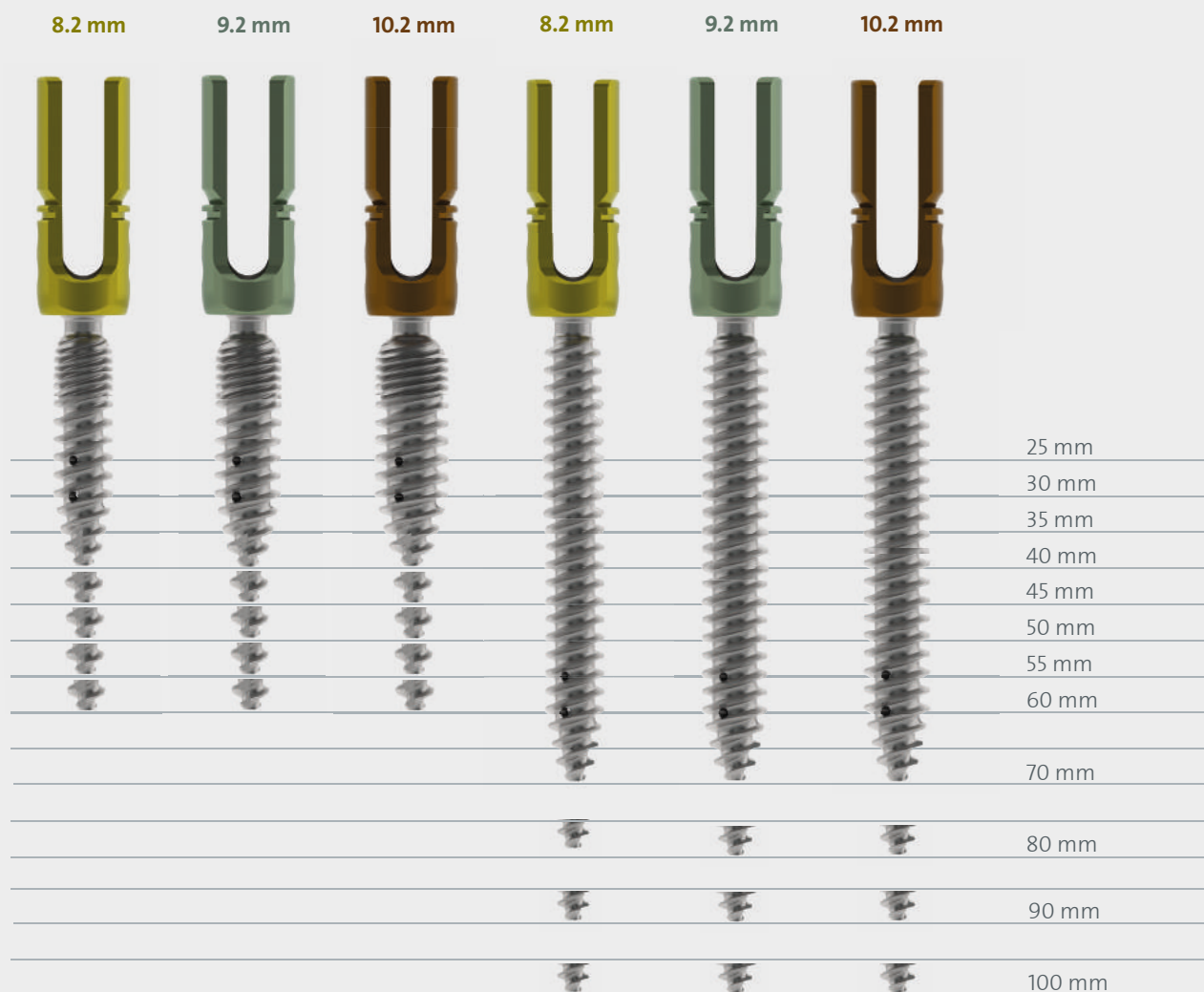
Selection of iliac screws

Using a large screw diameter can lead to torque forces during implantation that are too high and these may possibly affect the stability and use of the instruments, particularly the screwdriver. The following information highlights important details for implantation or explanation of screws with large diameters in order to eliminate potential problems.

Silony provides a comprehensive screw portfolio for spinal surgery, including large diameters of 8.2, 9.2, and 10.2 mm and lengths from 25 mm to 100 mm. These screws were specifically constructed for applications with large pedicles, iliac screw connections, and revisions.

The design includes the same product properties as for screw types with the smaller diameter, that is, self-tapping shaft tips and shaft cannulation for simplified positioning and insertion.

Larger screw diameters often require a higher torque during implantation compared to smaller screw types. Therefore, very high forces can be exerted on the instrument/implant connection which increase the risk of material wear or of a component defect developing in the screwdriver or screw head.



Preparation and explantation

Thread pre-tapping

Before the implantation of large screw diameters, it is recommended that the thread is prepared with the associated taps in the same manner as recommended for smaller diameters. If the screw requires unusually high forces for further screwing in after partial insertion, it is recommended to remove the screw using either the VI-1445 VERTICALE T25 Screwdriver Shaft or VI-1446 VERTICALE T25 SD Shaft Bullet Head. The thread should be cut again and the screw should then be implanted with the VI-1130 screwdriver. If necessary, selecting a better screw could be an alternative.

Explantation of large screw diameter

If a screw with a large diameter has to be removed, preferably use either the instrument VI-1445 or VI-1446. These instruments were specifically designed for higher torques and tolerate them much better. It should be noted that these instruments do not ensure mechanical stability for their instrument/implant connection as provided by the VI-1130 VERTICALE Screw Driver. These instruments are therefore optimally designed for the explantation of large screw diameters.

Handles

For screw implantation it is highly recommended to use the straight or palm handle. The use of T-handles (that is, GI-1TRK, GI-1TOK, GI-3111, GI-3101, GI-2111, or GI-2101) is not recommended because T-handles can generate a larger torque without providing the desired tactile feedback about the applied torque.

Inserting the iliac connector

VI-1700
VERTICALE Iliac Connector
Gauge



VI-1530
VERTICALE Rod Gripper



VI-1800
VERTICALE Counter Torque Iliac
Connector



VI-2440
VERTICALE T25 Torque Limiter
10 Nm



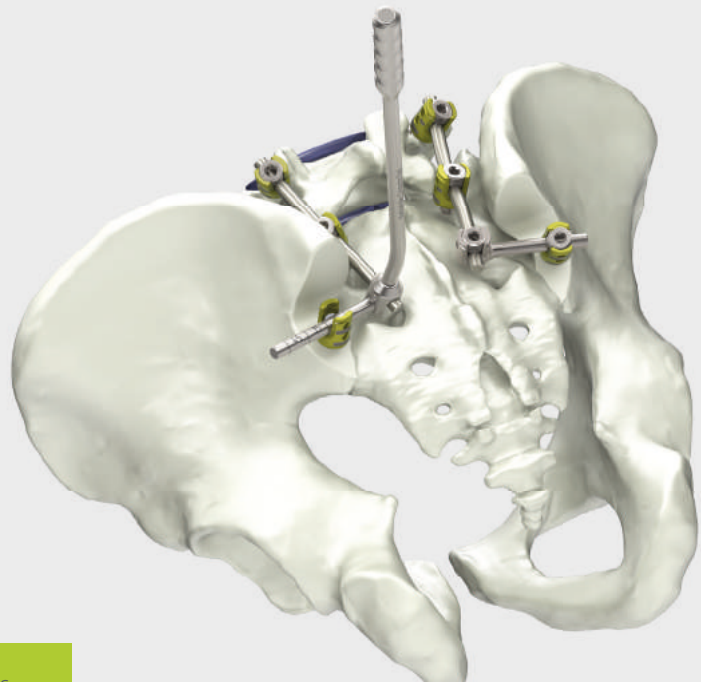
The iliac connector can be used to connect the iliac screw with the rod.

The gauge can be used to determine the correct length of the iliac connector.

The iliac connector is grasped with the rod gripper. The head of the connector is inserted on the rod and fixed loosely with a set screw.

Afterwards, the other end is placed into the screw head of the iliac screw. The set screw should only be tightened with the VERTICALE T25 Screwdriver and the VERTICALE Counter Torque when the positioning is fully completed.

If necessary, shorten the rod to the right length before screwing together.



NOTE: The distances marked on the template correspond to the implant size (mm).

Removing the implants

To remove an implant, carry out the following steps as described. Pay attention to the loosened implant and screws during the procedures.

STEP 1: Remove the cross connector

Use the VERTICALE T20 Screwdriver or the VI-1446 VERTICALE Screwdriver Shaft to loosen the set screws on both sides of the cross connector hook by turning the handle counterclockwise. As soon as the screws are loosened, use the VERTICALE Rod and Cross Connector Holder to grasp the cross connector and remove it from the hook. Then use the VERTICALE Rod and Cross Connector Holder to remove the hook from the cross connector rod.

STEP 2: Remove the set screws

Insert the VERTICALE T25 Screwdriver or the VI-1446 VERTICALE Screwdriver Shaft and turn the set screw counterclockwise until it is loosened. The VERTICALE Counter Torque is used to stabilize the rotation when loosening the set screw. Repeat this step until all the set screws have been loosened.

Remove the VERTICALE T25 Screwdriver or the VI-1446 VERTICALE Screwdriver Shaft and place the VERTICALE Set Screw Starter into the screw. The set screw is tightened with the Torx of the basic core and secured using the internal groove. Repeat the procedure until all set screws have been removed.

STEP 3: Remove the rod and/or the rod connector

As soon as all set screws have been removed, grasp the rod with the VERTICALE Rod Holder and lift it to remove the rod from the screw heads. To remove a rod-to-rod connector, the VERTICALE Domino, use the VERTICALE T20 Screwdriver or the VI-1446 VERTICALE Screwdriver Shaft to loosen the fixation screws of the VERTICALE Domino by rotating counterclockwise. Use the VERTICALE Domino Holder and the VERTICALE Rod and Cross Connector Holder to remove the VERTICALE Domino and the rod by lifting them.

STEP 4: Remove the pedicle screw

The VERTICALE T25 Screwdriver or the VI-1446 VERTICALE Screwdriver Shaft is used to remove the pedicle screws. The VERTICALE T25 Screwdriver is inserted deeply into the internal Torx of the screw for fixation and turned inward over the sleeve of the Screw Driver. Turn the screwdriver or the screwdriver shaft counterclockwise until the pedicle screw has been completely removed from the bone.

VERTICALE® PRODUCT INFORMATION

| | |
|---|------------|
| VERTICALE Implants by article number | PI 02 – 15 |
| VERTICALE Instruments by article number | PI 16 – 20 |
| VERTICALE General Instruments by article number | PI 20 |
| VERTICALE Accessories by article num..... | PI 20 |
| VERTICALE Alphabetical Index | PI 21–22 |

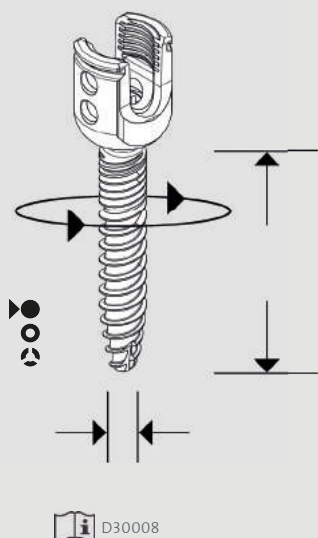
VERTICALE® Implants

System:
VERTICALE

Implant type:
Pedicle screw

Typing:
Polyaxial, solid shaft

Material:
Ti6Al4V ELI



| Article number | Description | Illustration |
|----------------|---|--------------|
| VPS-4525-S1 | VERTICALE Poly Screw 4.5 x 25 mm, solid | |
| VPS-4530-S1 | VERTICALE Poly Screw 4.5 x 30 mm, solid | |
| VPS-4535-S1 | VERTICALE Poly Screw 4.5 x 35 mm, solid | |
| VPS-4540-S1 | VERTICALE Poly Screw 4.5 x 40 mm, solid | |
| VPS-4545-S1 | VERTICALE Poly Screw 4.5 x 45 mm, solid | |
| VPS-4550-S1 | VERTICALE Poly Screw 4.5 x 50 mm, solid | |
| VPS-5225-S1 | VERTICALE Poly Screw 5.2 x 25 mm, solid | |
| VPS-5230-S1 | VERTICALE Poly Screw 5.2 x 30 mm, solid | |
| VPS-5235-S1 | VERTICALE Poly Screw 5.2 x 35 mm, solid | |
| VPS-5240-S1 | VERTICALE Poly Screw 5.2 x 40 mm, solid | |
| VPS-5245-S1 | VERTICALE Poly Screw 5.2 x 45 mm, solid | |
| VPS-5250-S1 | VERTICALE Poly Screw 5.2 x 50 mm, solid | |
| VPS-5255-S1 | VERTICALE Poly Screw 5.2 x 55 mm, solid | |
| VPS-5260-S1 | VERTICALE Poly Screw 5.2 x 60 mm, solid | |
| VPS-6225-S1 | VERTICALE Poly Screw 6.2 x 25 mm, solid | |
| VPS-6230-S1 | VERTICALE Poly Screw 6.2 x 30 mm, solid | |
| VPS-6235-S1 | VERTICALE Poly Screw 6.2 x 35 mm, solid | |
| VPS-6240-S1 | VERTICALE Poly Screw 6.2 x 40 mm, solid | |
| VPS-6245-S1 | VERTICALE Poly Screw 6.2 x 45 mm, solid | |
| VPS-6250-S1 | VERTICALE Poly Screw 6.2 x 50 mm, solid | |
| VPS-6255-S1 | VERTICALE Poly Screw 6.2 x 55 mm, solid | |
| VPS-6260-S1 | VERTICALE Poly Screw 6.2 x 60 mm, solid | |
| VPS-6265-S1 | VERTICALE Poly Screw 6.2 x 65 mm, solid | |
| VPS-6270-S1 | VERTICALE Poly Screw 6.2 x 70 mm, solid | |
| VPS-7225-S1 | VERTICALE Poly Screw 7.2 x 25 mm, solid | |
| VPS-7230-S1 | VERTICALE Poly Screw 7.2 x 30 mm, solid | |
| VPS-7235-S1 | VERTICALE Poly Screw 7.2 x 35 mm, solid | |
| VPS-7240-S1 | VERTICALE Poly Screw 7.2 x 40 mm, solid | |
| VPS-7245-S1 | VERTICALE Poly Screw 7.2 x 45 mm, solid | |
| VPS-7250-S1 | VERTICALE Poly Screw 7.2 x 50 mm, solid | |
| VPS-7255-S1 | VERTICALE Poly Screw 7.2 x 55 mm, solid | |
| VPS-7260-S1 | VERTICALE Poly Screw 7.2 x 60 mm, solid | |
| VPS-7270-S1 | VERTICALE Poly Screw 7.2 x 70 mm, solid | |
| VPS-7280-S1 | VERTICALE Poly Screw 7.2 x 80 mm, solid | |

VERTICALE® Implants

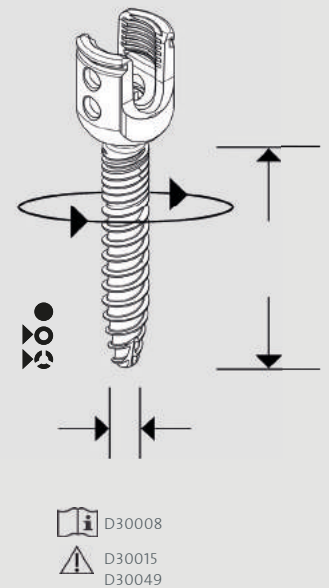
System:
VERTICALE

Implant type:
Pedicule screw

Typing:
Polyaxial, cannulated
and fenestrated shaft

Material:
Ti6Al4V ELI

| Article number | Description | Illustration |
|----------------|---|--------------|
| VPS-4525-K1 | VERTICALE Poly Screw 4.5 x 25 mm, can | |
| VPS-4530-K1 | VERTICALE Poly Screw 4.5 x 30 mm, can | |
| VPS-4535-K1 | VERTICALE Poly Screw 4.5 x 35 mm, can | |
| VPS-4540-K1 | VERTICALE Poly Screw 4.5 x 40 mm, can | |
| VPS-4545-K1 | VERTICALE Poly Screw 4.5 x 45 mm, can | |
| VPS-4550-K1 | VERTICALE Poly Screw 4.5 x 50 mm, can | |
| VPS-5225-K1 | VERTICALE Poly Screw 5.2 x 25 mm, can | |
| VPS-5230-K1 | VERTICALE Poly Screw 5.2 x 30 mm, can | |
| VPS-5235-KF1 | VERTICALE Poly Screw 5.2 x 35 mm, can+fen | |
| VPS-5240-KF1 | VERTICALE Poly Screw 5.2 x 40 mm, can+fen | |
| VPS-5245-KF1 | VERTICALE Poly Screw 5.2 x 45 mm, can+fen | |
| VPS-5250-KF1 | VERTICALE Poly Screw 5.2 x 50 mm, can+fen | |
| VPS-5255-KF1 | VERTICALE Poly Screw 5.2 x 55 mm, can+fen | |
| VPS-5260-KF1 | VERTICALE Poly Screw 5.2 x 60 mm, can+fen | |
| VPS-6225-K1 | VERTICALE Poly Screw 6.2 x 25 mm, can | |
| VPS-6230-K1 | VERTICALE Poly Screw 6.2 x 30 mm, can | |
| VPS-6235-KF1 | VERTICALE Poly Screw 6.2 x 35 mm, can+fen | |
| VPS-6240-KF1 | VERTICALE Poly Screw 6.2 x 40 mm, can+fen | |
| VPS-6245-KF1 | VERTICALE Poly Screw 6.2 x 45 mm, can+fen | |
| VPS-6250-KF1 | VERTICALE Poly Screw 6.2 x 50 mm, can+fen | |
| VPS-6255-KF1 | VERTICALE Poly Screw 6.2 x 55 mm, can+fen | |
| VPS-6260-KF1 | VERTICALE Poly Screw 6.2 x 60 mm, can+fen | |
| VPS-7225-K1 | VERTICALE Poly Screw 7.2 x 25 mm, can | |
| VPS-7230-K1 | VERTICALE Poly Screw 7.2 x 30 mm, can | |
| VPS-7235-KF1 | VERTICALE Poly Screw 7.2 x 35 mm, can+fen | |
| VPS-7240-KF1 | VERTICALE Poly Screw 7.2 x 40 mm, can+fen | |
| VPS-7245-KF1 | VERTICALE Poly Screw 7.2 x 45 mm, can+fen | |
| VPS-7250-KF1 | VERTICALE Poly Screw 7.2 x 50 mm, can+fen | |
| VPS-7255-KF1 | VERTICALE Poly Screw 7.2 x 55 mm, can+fen | |
| VPS-7260-KF1 | VERTICALE Poly Screw 7.2 x 60 mm, can+fen | |
| VPS-7270-KF1 | VERTICALE Poly Screw 7.2 x 70 mm, can+fen | |
| VPS-7280-KF1 | VERTICALE Poly Screw 7.2 x 80 mm, can+fen | |



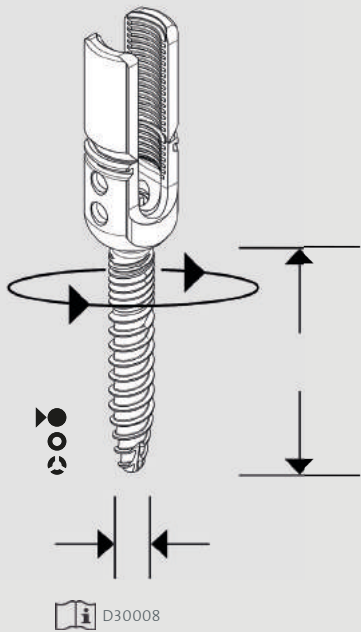
VERTICALE® Implants

System:
VERTICALE

Implant type:
Pedicle screw

Typing:
Polyaxial, reduction,
solid shaft

Material:
Ti6Al4V ELI



| Article number | Description | Illustration |
|----------------|--|--------------|
| VPS-4525-RS2 | VERTICALE Reduction Screw 4.5 x 25 mm, solid | |
| VPS-4530-RS2 | VERTICALE Reduction Screw 4.5 x 30 mm, solid | |
| VPS-4535-RS2 | VERTICALE Reduction Screw 4.5 x 35 mm, solid | |
| VPS-4540-RS2 | VERTICALE Reduction Screw 4.5 x 40 mm, solid | |
| VPS-4545-RS2 | VERTICALE Reduction Screw 4.5 x 45 mm, solid | |
| VPS-4550-RS2 | VERTICALE Reduction Screw 4.5 x 50 mm, solid | |
| VPS-5225-RS2 | VERTICALE Reduction Screw 5.2 x 25 mm, solid | |
| VPS-5230-RS2 | VERTICALE Reduction Screw 5.2 x 30 mm, solid | |
| VPS-5235-RS2 | VERTICALE Reduction Screw 5.2 x 35 mm, solid | |
| VPS-5240-RS2 | VERTICALE Reduction Screw 5.2 x 40 mm, solid | |
| VPS-5245-RS2 | VERTICALE Reduction Screw 5.2 x 45 mm, solid | |
| VPS-5250-RS2 | VERTICALE Reduction Screw 5.2 x 50 mm, solid | |
| VPS-5255-RS2 | VERTICALE Reduction Screw 5.2 x 55 mm, solid | |
| VPS-5260-RS2 | VERTICALE Reduction Screw 5.2 x 60 mm, solid | |
| VPS-6225-RS2 | VERTICALE Reduction Screw 6.2 x 25 mm, solid | |
| VPS-6230-RS2 | VERTICALE Reduction Screw 6.2 x 30 mm, solid | |
| VPS-6235-RS2 | VERTICALE Reduction Screw 6.2 x 35 mm, solid | |
| VPS-6240-RS2 | VERTICALE Reduction Screw 6.2 x 40 mm, solid | |
| VPS-6245-RS2 | VERTICALE Reduction Screw 6.2 x 45 mm, solid | |
| VPS-6250-RS2 | VERTICALE Reduction Screw 6.2 x 50 mm, solid | |
| VPS-6255-RS2 | VERTICALE Reduction Screw 6.2 x 55 mm, solid | |
| VPS-6260-RS2 | VERTICALE Reduction Screw 6.2 x 60 mm, solid | |
| VPS-7225-RS2 | VERTICALE Reduction Screw 7.2 x 25 mm, solid | |
| VPS-7230-RS2 | VERTICALE Reduction Screw 7.2 x 30 mm, solid | |
| VPS-7235-RS2 | VERTICALE Reduction Screw 7.2 x 35 mm, solid | |
| VPS-7240-RS2 | VERTICALE Reduction Screw 7.2 x 40 mm, solid | |
| VPS-7245-RS2 | VERTICALE Reduction Screw 7.2 x 45 mm, solid | |
| VPS-7250-RS2 | VERTICALE Reduction Screw 7.2 x 50 mm, solid | |
| VPS-7255-RS2 | VERTICALE Reduction Screw 7.2 x 55 mm, solid | |
| VPS-7260-RS2 | VERTICALE Reduction Screw 7.2 x 60 mm, solid | |
| VPS-7270-RS2 | VERTICALE Reduction Screw 7.2 x 70 mm, solid | |
| VPS-7280-RS2 | VERTICALE Reduction Screw 7.2 x 80 mm, solid | |

VERTICALE® Implants

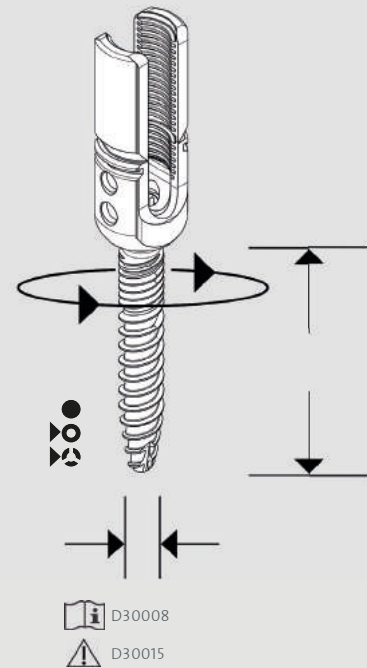
| Article number | Description | Illustration | |
|----------------|--|--------------|--|
| VPS-4525-RK2 | VERTICALE Reduction Screw 4.5 x 25 mm, can | | |
| VPS-4530-RK2 | VERTICALE Reduction Screw 4.5 x 30 mm, can | | |
| VPS-4535-RK2 | VERTICALE Reduction Screw 4.5 x 35 mm, can | | |
| VPS-4540-RK2 | VERTICALE Reduction Screw 4.5 x 40 mm, can | | |
| VPS-4545-RK2 | VERTICALE Reduction Screw 4.5 x 45 mm, can | | |
| VPS-4550-RK2 | VERTICALE Reduction Screw 4.5 x 50 mm, can | | |
| VPS-5225-RK2 | VERTICALE Reduction Screw 5.2 x 25 mm, can | | |
| VPS-5230-RK2 | VERTICALE Reduction Screw 5.2 x 30 mm, can | | |
| VPS-5235-RF2 | VERTICALE Reduction Screw 5.2 x 35 mm, can+fen | | |
| VPS-5240-RF2 | VERTICALE Reduction Screw 5.2 x 40 mm, can+fen | | |
| VPS-5245-RF2 | VERTICALE Reduction Screw 5.2 x 45 mm, can+fen | | |
| VPS-5250-RF2 | VERTICALE Reduction Screw 5.2 x 50 mm, can+fen | | |
| VPS-5255-RF2 | VERTICALE Reduction Screw 5.2 x 55 mm, can+fen | | |
| VPS-5260-RF2 | VERTICALE Reduction Screw 5.2 x 60 mm, can+fen | | |
| VPS-6225-RK2 | VERTICALE Reduction Screw 6.2 x 25 mm, can | | |
| VPS-6230-RK2 | VERTICALE Reduction Screw 6.2 x 30 mm, can | | |
| VPS-6235-RF2 | VERTICALE Reduction Screw 6.2 x 35 mm, can+fen | | |
| VPS-6240-RF2 | VERTICALE Reduction Screw 6.2 x 40 mm, can+fen | | |
| VPS-6245-RF2 | VERTICALE Reduction Screw 6.2 x 45 mm, can+fen | | |
| VPS-6250-RF2 | VERTICALE Reduction Screw 6.2 x 50 mm, can+fen | | |
| VPS-6255-RF2 | VERTICALE Reduction Screw 6.2 x 55 mm, can+fen | | |
| VPS-6260-RF2 | VERTICALE Reduction Screw 6.2 x 60 mm, can+fen | | |
| VPS-7225-RK2 | VERTICALE Reduction Screw 7.2 x 25 mm, can | | |
| VPS-7230-RK2 | VERTICALE Reduction Screw 7.2 x 30 mm, can | | |
| VPS-7235-RF2 | VERTICALE Reduction Screw 7.2 x 35 mm, can+fen | | |
| VPS-7240-RF2 | VERTICALE Reduction Screw 7.2 x 40 mm, can+fen | | |
| VPS-7245-RF2 | VERTICALE Reduction Screw 7.2 x 45 mm, can+fen | | |
| VPS-7250-RF2 | VERTICALE Reduction Screw 7.2 x 50 mm, can+fen | | |
| VPS-7255-RF2 | VERTICALE Reduction Screw 7.2 x 55 mm, can+fen | | |
| VPS-7260-RF2 | VERTICALE Reduction Screw 7.2 x 60 mm, can+fen | | |
| VPS-7270-RF2 | VERTICALE Reduction Screw 7.2 x 70 mm, can+fen | | |
| VPS-7280-RF2 | VERTICALE Reduction Screw 7.2 x 80 mm, can+fen | | |

System:
VERTICALE

Implant type:
Pedicle screw

Typing:
Polyaxial, reduction,
cannulated and
fenestrated shaft

Material:
Ti6Al4V ELI



VERTICALE® Implants

System:
VERTICALE

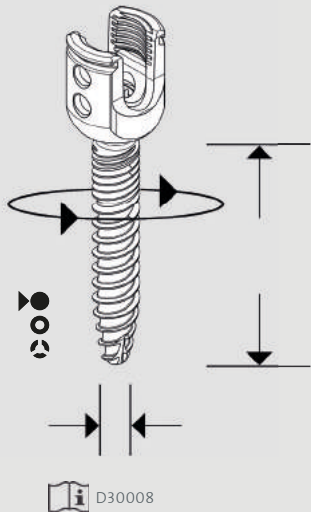
Implant type:
Pedicle screw

Typing:
Polyaxial ST, solid shaft

Material:
Ti6Al4V ELI

All articles are also available as a sterile variant.

The article number is then preceded by the prefix S-.



| Article number | Description | Illustration |
|----------------|--|--------------|
| VPS-4525-S2 | VERTICALE Poly screw ST 4.5 x 25 mm, solid | |
| VPS-4530-S2 | VERTICALE Poly screw ST 4.5 x 30 mm, solid | |
| VPS-4535-S2 | VERTICALE Poly screw ST 4.5 x 35 mm, solid | |
| VPS-4540-S2 | VERTICALE Poly screw ST 4.5 x 40 mm, solid | |
| VPS-4545-S2 | VERTICALE Poly screw ST 4.5 x 45 mm, solid | |
| VPS-4550-S2 | VERTICALE Poly screw ST 4.5 x 50 mm, solid | |
| VPS-5225-S2 | VERTICALE Poly screw ST 5.2 x 25 mm, solid | |
| VPS-5230-S2 | VERTICALE Poly screw ST 5.2 x 30 mm, solid | |
| VPS-5235-S2 | VERTICALE Poly screw ST 5.2 x 35 mm, solid | |
| VPS-5240-S2 | VERTICALE Poly screw ST 5.2 x 40 mm, solid | |
| VPS-5245-S2 | VERTICALE Poly screw ST 5.2 x 45 mm, solid | |
| VPS-5250-S2 | VERTICALE Poly screw ST 5.2 x 50 mm, solid | |
| VPS-5255-S2 | VERTICALE Poly screw ST 5.2 x 55 mm, solid | |
| VPS-5260-S2 | VERTICALE Poly screw ST 5.2 x 60 mm, solid | |
| VPS-6225-S2 | VERTICALE Poly screw ST 6.2 x 25 mm, solid | |
| VPS-6230-S2 | VERTICALE Poly screw ST 6.2 x 30 mm, solid | |
| VPS-6235-S2 | VERTICALE Poly screw ST 6.2 x 35 mm, solid | |
| VPS-6240-S2 | VERTICALE Poly screw ST 6.2 x 40 mm, solid | |
| VPS-6245-S2 | VERTICALE Poly screw ST 6.2 x 45 mm, solid | |
| VPS-6250-S2 | VERTICALE Poly screw ST 6.2 x 50 mm, solid | |
| VPS-6255-S2 | VERTICALE Poly screw ST 6.2 x 55 mm, solid | |
| VPS-6260-S2 | VERTICALE Poly screw ST 6.2 x 60 mm, solid | |
| VPS-7225-S2 | VERTICALE Poly screw ST 7.2 x 25 mm, solid | |
| VPS-7230-S2 | VERTICALE Poly screw ST 7.2 x 30 mm, solid | |
| VPS-7235-S2 | VERTICALE Poly screw ST 7.2 x 35 mm, solid | |
| VPS-7240-S2 | VERTICALE Poly screw ST 7.2 x 40 mm, solid | |
| VPS-7245-S2 | VERTICALE Poly screw ST 7.2 x 45 mm, solid | |
| VPS-7250-S2 | VERTICALE Poly screw ST 7.2 x 50 mm, solid | |
| VPS-7255-S2 | VERTICALE Poly screw ST 7.2 x 55 mm, solid | |
| VPS-7260-S2 | VERTICALE Poly screw ST 7.2 x 60 mm, solid | |
| VPS-7270-S2 | VERTICALE Poly screw ST 7.2 x 70 mm, solid | |
| VPS-7280-S2 | VERTICALE Poly screw ST 7.2 x 80 mm, solid | |

VERTICALE® Implants

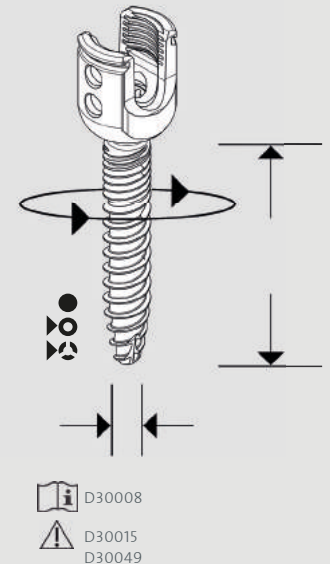
System:
VERTICALE

Implant type:
Pedicule screw

Typing:
Polyaxial ST, cannulated
and fenestrated shaft

Material:
Ti6Al4V ELI

All articles are also
available as a sterile
variant.
The article number is
then preceded by the
prefix S-.



| Article number | Description | Illustration |
|----------------|--|--------------|
| VPS-4525-K2 | VERTICALE Poly Screw ST 4.5 x 25 mm, can | |
| VPS-4530-K2 | VERTICALE Poly Screw ST 4.5 x 30 mm, can | |
| VPS-4535-K2 | VERTICALE Poly Screw ST 4.5 x 35 mm, can | |
| VPS-4540-K2 | VERTICALE Poly Screw ST 4.5 x 40 mm, can | |
| VPS-4545-K2 | VERTICALE Poly Screw ST 4.5 x 45 mm, can | |
| VPS-4550-K2 | VERTICALE Poly Screw ST 4.5 x 50 mm, can | |
| VPS-5225-K2 | VERTICALE Poly Screw ST 5.2 x 25 mm, can | |
| VPS-5230-K2 | VERTICALE Poly Screw ST 5.2 x 30 mm, can | |
| VPS-5235-KF2 | VERTICALE Poly Screw ST 5.2 x 35 mm, can+fen | |
| VPS-5240-KF2 | VERTICALE Poly Screw ST 5.2 x 40 mm, can+fen | |
| VPS-5245-KF2 | VERTICALE Poly Screw ST 5.2 x 45 mm, can+fen | |
| VPS-5250-KF2 | VERTICALE Poly Screw ST 5.2 x 50 mm, can+fen | |
| VPS-5255-KF2 | VERTICALE Poly Screw ST 5.2 x 55 mm, can+fen | |
| VPS-5260-KF2 | VERTICALE Poly Screw ST 5.2 x 60 mm, can+fen | |
| VPS-6225-K2 | VERTICALE Poly Screw ST 6.2 x 25 mm, can | |
| VPS-6230-K2 | VERTICALE Poly Screw ST 6.2 x 30 mm, can | |
| VPS-6235-KF2 | VERTICALE Poly Screw ST 6.2 x 35 mm, can+fen | |
| VPS-6240-KF2 | VERTICALE Poly Screw ST 6.2 x 40 mm, can+fen | |
| VPS-6245-KF2 | VERTICALE Poly Screw ST 6.2 x 45 mm, can+fen | |
| VPS-6250-KF2 | VERTICALE Poly Screw ST 6.2 x 50 mm, can+fen | |
| VPS-6255-KF2 | VERTICALE Poly Screw ST 6.2 x 55 mm, can+fen | |
| VPS-6260-KF2 | VERTICALE Poly Screw ST 6.2 x 60 mm, can+fen | |
| VPS-7225-K2 | VERTICALE Poly Screw ST 7.2 x 25 mm, can | |
| VPS-7230-K2 | VERTICALE Poly Screw ST 7.2 x 30 mm, can | |
| VPS-7235-KF2 | VERTICALE Poly Screw ST 7.2 x 35 mm, can+fen | |
| VPS-7240-KF2 | VERTICALE Poly Screw ST 7.2 x 40 mm, can+fen | |
| VPS-7245-KF2 | VERTICALE Poly Screw ST 7.2 x 45 mm, can+fen | |
| VPS-7250-KF2 | VERTICALE Poly Screw ST 7.2 x 50 mm, can+fen | |
| VPS-7255-KF2 | VERTICALE Poly Screw ST 7.2 x 55 mm, can+fen | |
| VPS-7260-KF2 | VERTICALE Poly Screw ST 7.2 x 60 mm, can+fen | |
| VPS-7270-KF2 | VERTICALE Poly Screw ST 7.2 x 70 mm, can+fen | |
| VPS-7280-KF2 | VERTICALE Poly Screw ST 7.2 x 80 mm, can+fen | |

VERTICALE® Implants

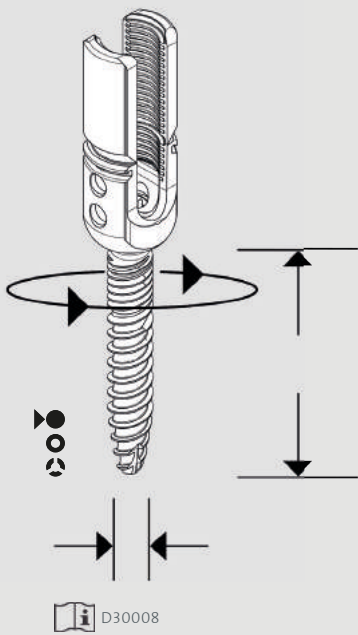
System:
VERTICALE

Implant type:
Pedicle screw

Typing:
Polyaxial ST, reduction,
solid shaft

Material:
Ti6Al4V ELI

All articles are also available as a sterile variant. The article number is then preceded by the prefix S-.



| Article number | Description | Illustration |
|----------------|---|--------------|
| VPS-4525-RS3 | VERTICALE Reduction Screw ST 4.5 x 25 mm, solid | |
| VPS-4530-RS3 | VERTICALE Reduction Screw ST 4.5 x 30 mm, solid | |
| VPS-4535-RS3 | VERTICALE Reduction Screw ST 4.5 x 35 mm, solid | |
| VPS-4540-RS3 | VERTICALE Reduction Screw ST 4.5 x 40 mm, solid | |
| VPS-4545-RS3 | VERTICALE Reduction Screw ST 4.5 x 45 mm, solid | |
| VPS-4550-RS3 | VERTICALE Reduction Screw ST 4.5 x 50 mm, solid | |
| VPS-5225-RS3 | VERTICALE Reduction Screw ST 5.2 x 25 mm, solid | |
| VPS-5230-RS3 | VERTICALE Reduction Screw ST 5.2 x 30 mm, solid | |
| VPS-5235-RS3 | VERTICALE Reduction Screw ST 5.2 x 35 mm, solid | |
| VPS-5240-RS3 | VERTICALE Reduction Screw ST 5.2 x 40 mm, solid | |
| VPS-5245-RS3 | VERTICALE Reduction Screw ST 5.2 x 45 mm, solid | |
| VPS-5250-RS3 | VERTICALE Reduction Screw ST 5.2 x 50 mm, solid | |
| VPS-5255-RS3 | VERTICALE Reduction Screw ST 5.2 x 55 mm, solid | |
| VPS-5260-RS3 | VERTICALE Reduction Screw ST 5.2 x 60 mm, solid | |
| VPS-6225-RS3 | VERTICALE Reduction Screw ST 6.2 x 25 mm, solid | |
| VPS-6230-RS3 | VERTICALE Reduction Screw ST 6.2 x 30 mm, solid | |
| VPS-6235-RS3 | VERTICALE Reduction Screw ST 6.2 x 35 mm, solid | |
| VPS-6240-RS3 | VERTICALE Reduction Screw ST 6.2 x 40 mm, solid | |
| VPS-6245-RS3 | VERTICALE Reduction Screw ST 6.2 x 45 mm, solid | |
| VPS-6250-RS3 | VERTICALE Reduction Screw ST 6.2 x 50 mm, solid | |
| VPS-6255-RS3 | VERTICALE Reduction Screw ST 6.2 x 55 mm, solid | |
| VPS-6260-RS3 | VERTICALE Reduction Screw ST 6.2 x 60 mm, solid | |
| VPS-7225-RS3 | VERTICALE Reduction Screw ST 7.2 x 25 mm, solid | |
| VPS-7230-RS3 | VERTICALE Reduction Screw ST 7.2 x 30 mm, solid | |
| VPS-7235-RS3 | VERTICALE Reduction Screw ST 7.2 x 35 mm, solid | |
| VPS-7240-RS3 | VERTICALE Reduction Screw ST 7.2 x 40 mm, solid | |
| VPS-7245-RS3 | VERTICALE Reduction Screw ST 7.2 x 45 mm, solid | |
| VPS-7250-RS3 | VERTICALE Reduction Screw ST 7.2 x 50 mm, solid | |
| VPS-7255-RS3 | VERTICALE Reduction Screw ST 7.2 x 55 mm, solid | |
| VPS-7260-RS3 | VERTICALE Reduction Screw ST 7.2 x 60 mm, solid | |
| VPS-7270-RS3 | VERTICALE Reduction Screw ST 7.2 x 70 mm, solid | |
| VPS-7280-RS3 | VERTICALE Reduction Screw ST 7.2 x 80 mm, solid | |

VERTICALE® Implants

System:
VERTICALE

Implant type:
Pedicle screw

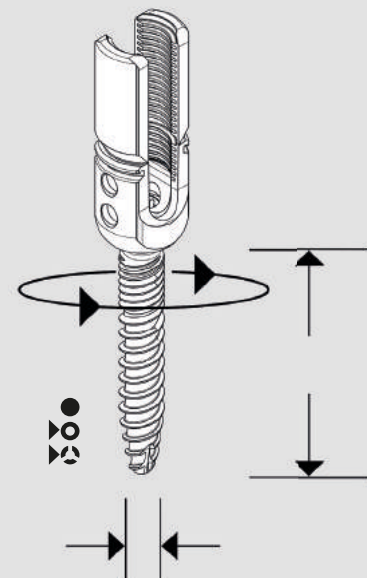
Typing:
Polyaxial ST,
reduction, cannulated
and fenestrated shaft

Material:
Ti6Al4V ELI

All articles are also
available as a sterile
variant.

The article number is
then preceded by the
prefix S-.

| Article number | Description | Illustration |
|----------------|---|--------------|
| VPS-4525-RK3 | VERTICALE Reduction Screw ST 4.5 x 25 mm, can | |
| VPS-4530-RK3 | VERTICALE Reduction Screw ST 4.5 x 30 mm, can | |
| VPS-4535-RK3 | VERTICALE Reduction Screw ST 4.5 x 35 mm, can | |
| VPS-4540-RK3 | VERTICALE Reduction Screw ST 4.5 x 40 mm, can | |
| VPS-4545-RK3 | VERTICALE Reduction Screw ST 4.5 x 45 mm, can | |
| VPS-4550-RK3 | VERTICALE Reduction Screw ST 4.5 x 50 mm, can | |
| VPS-5225-RK3 | VERTICALE Reduction Screw ST 5.2 x 25 mm, can | |
| VPS-5230-RK3 | VERTICALE Reduction Screw ST 5.2 x 30 mm, can | |
| VPS-5235-RF3 | VERTICALE Reduction Screw ST 5.2 x 35 mm, can+fen | |
| VPS-5240-RF3 | VERTICALE Reduction Screw ST 5.2 x 40 mm, can+fen | |
| VPS-5245-RF3 | VERTICALE Reduction Screw ST 5.2 x 45 mm, can+fen | |
| VPS-5250-RF3 | VERTICALE Reduction Screw ST 5.2 x 50 mm, can+fen | |
| VPS-5255-RF3 | VERTICALE Reduction Screw ST 5.2 x 55 mm, can+fen | |
| VPS-5260-RF3 | VERTICALE Reduction Screw ST 5.2 x 60 mm, can+fen | |
| VPS-6225-RK3 | VERTICALE Reduction Screw ST 6.2 x 25 mm, can | |
| VPS-6230-RK3 | VERTICALE Reduction Screw ST 6.2 x 30 mm, can | |
| VPS-6235-RF3 | VERTICALE Reduction Screw ST 6.2 x 35 mm, can+fen | |
| VPS-6240-RF3 | VERTICALE Reduction Screw ST 6.2 x 40 mm, can+fen | |
| VPS-6245-RF3 | VERTICALE Reduction Screw ST 6.2 x 45 mm, can+fen | |
| VPS-6250-RF3 | VERTICALE Reduction Screw ST 6.2 x 50 mm, can+fen | |
| VPS-6255-RF3 | VERTICALE Reduction Screw ST 6.2 x 55 mm, can+fen | |
| VPS-6260-RF3 | VERTICALE Reduction Screw ST 6.2 x 60 mm, can+fen | |
| VPS-7225-RK3 | VERTICALE Reduction Screw ST 7.2 x 25 mm, can | |
| VPS-7230-RK3 | VERTICALE Reduction Screw ST 7.2 x 30 mm, can | |
| VPS-7235-RF3 | VERTICALE Reduction Screw ST 7.2 x 35 mm, can+fen | |
| VPS-7240-RF3 | VERTICALE Reduction Screw ST 7.2 x 40 mm, can+fen | |
| VPS-7245-RF3 | VERTICALE Reduction Screw ST 7.2 x 45 mm, can+fen | |
| VPS-7250-RF3 | VERTICALE Reduction Screw ST 7.2 x 50 mm, can+fen | |
| VPS-7255-RF3 | VERTICALE Reduction Screw ST 7.2 x 55 mm, can+fen | |
| VPS-7260-RF3 | VERTICALE Reduction Screw ST 7.2 x 60 mm, can+fen | |
| VPS-7270-RF3 | VERTICALE Reduction Screw ST 7.2 x 70 mm, can+fen | |
| VPS-7280-RF3 | VERTICALE Reduction Screw ST 7.2 x 80 mm, can+fen | |



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VERTICALE® Implants

System:
VERTICALE

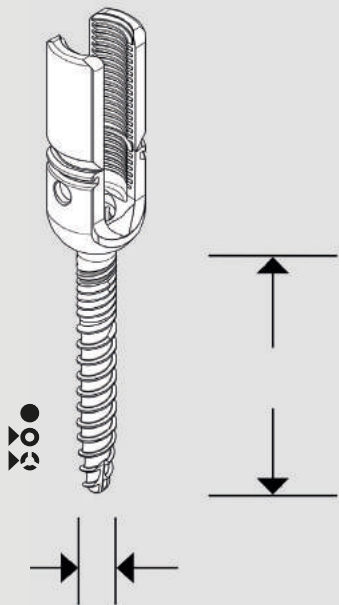
Implant type:
Pedicle screw

Typing:
Monoaxial, reduction, cannulated and fenestrated shaft

Material:
Ti6Al4V ELI

All articles are also available as a sterile variant.
The article number is then preceded by the prefix S-.

| Article number | Description | Illustration |
|----------------|---|--------------|
| VFS-4525-RK2 | VERTICALE Mono Reduction Screw 4.5 x 25 mm, can | |
| VFS-4530-RK2 | VERTICALE Mono Reduction Screw 4.5 x 30 mm, can | |
| VFS-4535-RK2 | VERTICALE Mono Reduction Screw 4.5 x 35 mm, can | |
| VFS-4540-RK2 | VERTICALE Mono Reduction Screw 4.5 x 40 mm, can | |
| VFS-4545-RK2 | VERTICALE Mono Reduction Screw 4.5 x 45 mm, can | |
| VFS-4550-RK2 | VERTICALE Mono Reduction Screw 4.5 x 50 mm, can | |
| VFS-5225-RK2 | VERTICALE Mono Reduction Screw 5.2 x 25 mm, can | |
| VFS-5230-RK2 | VERTICALE Mono Reduction Screw 5.2 x 30 mm, can | |
| VFS-5235-RF2 | VERTICALE Mono Reduction Screw 5.2 x 35 mm, can+fen | |
| VFS-5240-RF2 | VERTICALE Mono Reduction Screw 5.2 x 40 mm, can+fen | |
| VFS-5245-RF2 | VERTICALE Mono Reduction Screw 5.2 x 45 mm, can+fen | |
| VFS-5250-RF2 | VERTICALE Mono Reduction Screw 5.2 x 50 mm, can+fen | |
| VFS-5255-RF2 | VERTICALE Mono Reduction Screw 5.2 x 55 mm, can+fen | |
| VFS-5260-RF2 | VERTICALE Mono Reduction Screw 5.2 x 60 mm, can+fen | |
| VFS-6225-RK2 | VERTICALE Mono Reduction Screw 6.2 x 25 mm, can | |
| VFS-6230-RK2 | VERTICALE Mono Reduction Screw 6.2 x 30 mm, can | |
| VFS-6235-RF2 | VERTICALE Mono Reduction Screw 6.2 x 35 mm, can+fen | |
| VFS-6240-RF2 | VERTICALE Mono Reduction Screw 6.2 x 40 mm, can+fen | |
| VFS-6245-RF2 | VERTICALE Mono Reduction Screw 6.2 x 45 mm, can+fen | |
| VFS-6250-RF2 | VERTICALE Mono Reduction Screw 6.2 x 50 mm, can+fen | |
| VFS-6255-RF2 | VERTICALE Mono Reduction Screw 6.2 x 55 mm, can+fen | |
| VFS-6260-RF2 | VERTICALE Mono Reduction Screw 6.2 x 60 mm, can+fen | |
| VFS-7225-RK2 | VERTICALE Mono Reduction Screw 7.2 x 25 mm, can | |
| VFS-7230-RK2 | VERTICALE Mono Reduction Screw 7.2 x 30 mm, can | |
| VFS-7235-RF2 | VERTICALE Mono Reduction Screw 7.2 x 35 mm, can+fen | |
| VFS-7240-RF2 | VERTICALE Mono Reduction Screw 7.2 x 40 mm, can+fen | |
| VFS-7245-RF2 | VERTICALE Mono Reduction Screw 7.2 x 45 mm, can+fen | |
| VFS-7250-RF2 | VERTICALE Mono Reduction Screw 7.2 x 50 mm, can+fen | |
| VFS-7255-RF2 | VERTICALE Mono Reduction Screw 7.2 x 55 mm, can+fen | |
| VFS-7260-RF2 | VERTICALE Mono Reduction Screw 7.2 x 60 mm, can+fen | |
| VFS-7270-RF2 | VERTICALE Mono Reduction Screw 7.2 x 70 mm, can+fen | |
| VFS-7280-RF2 | VERTICALE Mono Reduction Screw 7.2 x 80 mm, can+fen | |



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VERTICALE® Implants

System:
VERTICALE

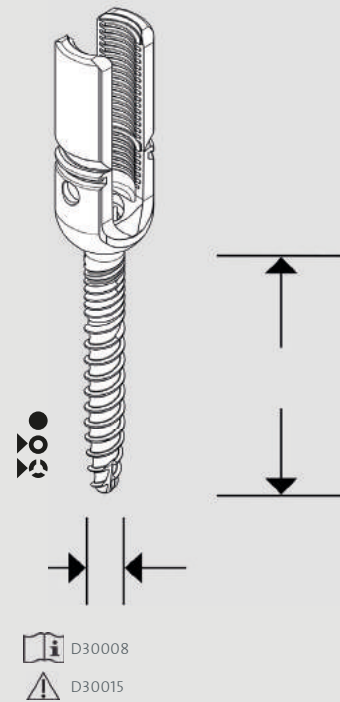
Implant type:
Pedicule screw

Typing:
Monoaxial,
reduction, cannulated
and fenestrated shaft

Material:
Ti6Al4V ELI

All articles are also
available as a sterile
variant.
The article number is
then preceded by the
prefix S-.

| Article number | Description | Illustration |
|----------------|---|--------------|
| VFS-8225-RK2 | VERTICALE Mono Reduction Screw 8.2 x 25 mm, can+fen | |
| VFS-8230-RK2 | VERTICALE Mono Reduction Screw 8.2 x 30 mm, can+fen | |
| VFS-8235-RF2 | VERTICALE Mono Reduction Screw 8.2 x 35 mm, can+fen | |
| VFS-8240-RF2 | VERTICALE Mono Reduction Screw 8.2 x 40 mm, can+fen | |
| VFS-8245-RF2 | VERTICALE Mono Reduction Screw 8.2 x 45 mm, can+fen | |
| VFS-8250-RF2 | VERTICALE Mono Reduction Screw 8.2 x 50 mm, can+fen | |
| VFS-8255-RF2 | VERTICALE Mono Reduction Screw 8.2 x 55 mm, can+fen | |
| VFS-8260-RF2 | VERTICALE Mono Reduction Screw 8.2 x 60 mm, can+fen | |
| VFS-8270-RF2 | VERTICALE Mono Reduction Screw 8.2 x 70 mm, can+fen | |
| VFS-8280-RF2 | VERTICALE Mono Reduction Screw 8.2 x 80 mm, can+fen | |
| VFS-8290-RF2 | VERTICALE Mono Reduction Screw 8.2 x 90 mm, can+fen | |
| VFS-8210-RF2 | VERTICALE Mono Reduction Screw 8.2 x 100 mm, can+fen | |
| VFS-9225-RK2 | VERTICALE Mono Reduction Screw 9.2 x 25 mm, can+fen | |
| VFS-9230-RK2 | VERTICALE Mono Reduction Screw 9.2 x 30 mm, can+fen | |
| VFS-9235-RF2 | VERTICALE Mono Reduction Screw 9.2 x 35 mm, can+fen | |
| VFS-9240-RF2 | VERTICALE Mono Reduction Screw 9.2 x 40 mm, can+fen | |
| VFS-9245-RF2 | VERTICALE Mono Reduction Screw 9.2 x 45 mm, can+fen | |
| VFS-9250-RF2 | VERTICALE Mono Reduction Screw 9.2 x 50 mm, can+fen | |
| VFS-9255-RF2 | VERTICALE Mono Reduction Screw 9.2 x 55 mm, can+fen | |
| VFS-9260-RF2 | VERTICALE Mono Reduction Screw 9.2 x 60 mm, can+fen | |
| VFS-9270-RF2 | VERTICALE Mono Reduction Screw 9.2 x 70 mm, can+fen | |
| VFS-9280-RF2 | VERTICALE Mono Reduction Screw 9.2 x 80 mm, can+fen | |
| VFS-9290-RF2 | VERTICALE Mono Reduction Screw 9.2 x 90 mm, can+fen | |
| VFS-9210-RF2 | VERTICALE Mono Reduction Screw 9.2 x 100 mm, can+fen | |
| VFS-0225-RF2 | VERTICALE Mono Reduction Screw 10.2 x 25 mm, can+fen | |
| VFS-0230-RF2 | VERTICALE Mono Reduction Screw 10.2 x 30 mm, can+fen | |
| VFS-0235-RF2 | VERTICALE Mono Reduction Screw 10.2 x 35 mm, can+fen | |
| VFS-0240-RF2 | VERTICALE Mono Reduction Screw 10.2 x 40 mm, can+fen | |
| VFS-0245-RF2 | VERTICALE Mono Reduction Screw 10.2 x 45 mm, can+fen | |
| VFS-0250-RF2 | VERTICALE Mono Reduction Screw 10.2 x 50 mm, can+fen | |
| VFS-0255-RF2 | VERTICALE Mono Reduction Screw 10.2 x 55 mm, can+fen | |
| VFS-0260-RF2 | VERTICALE Mono Reduction Screw 10.2 x 60 mm, can+fen | |
| VFS-0270-RF2 | VERTICALE Mono Reduction Screw 10.2 x 70 mm, can+fen | |
| VFS-0280-RF2 | VERTICALE Mono Reduction Screw 10.2 x 80 mm, can+fen | |
| VFS-0290-RF2 | VERTICALE Mono Reduction Screw 10.2 x 90 mm, can+fen | |
| VFS-0210-RF2 | VERTICALE Mono Reduction Screw 10.2 x 100 mm, can+fen | |



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VERTICALE® Implants

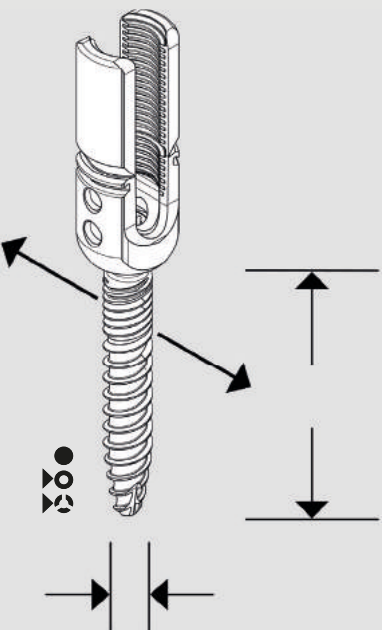
System:
VERTICALE



Implant type:
Pedicle screw

Typing:
Uniplanar, reduction,
cannulated and fe-
nestrated shaft

Material:
Ti6Al4V ELI




All articles are also
available as a sterile
variant.
The article number is
then preceded by the
prefix S-



 D30008
 D30015

| Article number | Description | Illustration |
|----------------|--|---|
| VUS-4525-RK2 | VERTICALE Uni Reduction Screw 4.5 x 25 mm, can |  |
| VUS-4530-RK2 | VERTICALE Uni Reduction Screw 4.5 x 30 mm, can | |
| VUS-4535-RK2 | VERTICALE Uni Reduction Screw 4.5 x 35 mm, can | |
| VUS-4540-RK2 | VERTICALE Uni Reduction Screw 4.5 x 40 mm, can | |
| VUS-4545-RK2 | VERTICALE Uni Reduction Screw 4.5 x 45 mm, can | |
| VUS-4550-RK2 | VERTICALE Uni Reduction Screw 4.5 x 50 mm, can |  |
| VUS-5225-RK2 | VERTICALE Uni Reduction Screw 5.2 x 25 mm, can | |
| VUS-5230-RK2 | VERTICALE Uni Reduction Screw 5.2 x 30 mm, can | |
| VUS-5235-RF2 | VERTICALE Uni Reduction Screw 5.2 x 35 mm, can+fen | |
| VUS-5240-RF2 | VERTICALE Uni Reduction Screw 5.2 x 40 mm, can+fen | |
| VUS-5245-RF2 | VERTICALE Uni Reduction Screw 5.2 x 45 mm, can+fen | |
| VUS-5250-RF2 | VERTICALE Uni Reduction Screw 5.2 x 50 mm, can+fen |  |
| VUS-5255-RF2 | VERTICALE Uni Reduction Screw 5.2 x 55 mm, can+fen | |
| VUS-5260-RF2 | VERTICALE Uni Reduction Screw 5.2 x 60 mm, can+fen | |
| VUS-6225-RK2 | VERTICALE Uni Reduction Screw 6.2 x 25 mm, can | |
| VUS-6230-RK2 | VERTICALE Uni Reduction Screw 6.2 x 30 mm, can | |
| VUS-6235-RF2 | VERTICALE Uni Reduction Screw 6.2 x 35 mm, can+fen | |
| VUS-6240-RF2 | VERTICALE Uni Reduction Screw 6.2 x 40 mm, can+fen |  |
| VUS-6245-RF2 | VERTICALE Uni Reduction Screw 6.2 x 45 mm, can+fen | |
| VUS-6250-RF2 | VERTICALE Uni Reduction Screw 6.2 x 50 mm, can+fen | |
| VUS-6255-RF2 | VERTICALE Uni Reduction Screw 6.2 x 55 mm, can+fen | |
| VUS-6260-RF2 | VERTICALE Uni Reduction Screw 6.2 x 60 mm, can+fen | |
| VUS-7225-RF2 | VERTICALE Uni Reduction Screw 7.2 x 25 mm, can+fen | |
| VUS-7230-RF2 | VERTICALE Uni Reduction Screw 7.2 x 30 mm, can+fen |  |
| VUS-7235-RF2 | VERTICALE Uni Reduction Screw 7.2 x 35 mm, can+fen | |
| VUS-7240-RF2 | VERTICALE Uni Reduction Screw 7.2 x 40 mm, can+fen | |
| VUS-7245-RF2 | VERTICALE Uni Reduction Screw 7.2 x 45 mm, can+fen | |
| VUS-7250-RF2 | VERTICALE Uni Reduction Screw 7.2 x 50 mm, can+fen | |
| VUS-7255-RF2 | VERTICALE Uni Reduction Screw 7.2 x 55 mm, can+fen | |
| VUS-7260-RF2 | VERTICALE Uni Reduction Screw 7.2 x 60 mm, can+fen | |
| VUS-7270-RF2 | VERTICALE Uni Reduction Screw 7.2 x 70 mm, can+fen | |
| VUS-7280-RF2 | VERTICALE Uni Reduction Screw 7.2 x 80 mm, can+fen | |

VERTICALE® Implants

| Article number | Description | Illustration | |
|----------------|--|--|--|
| VPS-8225-RF3 | VERTICALE Reduction Screw ST 8.2 x 25 mm, can+fen |  | |
| VPS-8230-RF3 | VERTICALE Reduction Screw ST 8.2 x 30 mm, can+fen | | |
| VPS-8235-RF3 | VERTICALE Reduction Screw ST 8.2 x 35 mm, can+fen | | |
| VPS-8240-RF3 | VERTICALE Reduction Screw ST 8.2 x 40 mm, can+fen | | |
| VPS-8245-RF3 | VERTICALE Reduction Screw ST 8.2 x 45 mm, can+fen | | |
| VPS-8250-RF3 | VERTICALE Reduction Screw ST 8.2 x 50 mm, can+fen | | |
| VPS-8255-RF3 | VERTICALE Reduction Screw ST 8.2 x 55 mm, can+fen | | |
| VPS-8260-RF3 | VERTICALE Reduction Screw ST 8.2 x 60 mm, can+fen | | |
| VPS-9225-RF3 | VERTICALE Reduction Screw ST 9.2 x 25 mm, can+fen | |  |
| VPS-9230-RF3 | VERTICALE Reduction Screw ST 9.2 x 30 mm, can+fen | | |
| VPS-9235-RF3 | VERTICALE Reduction Screw ST 9.2 x 35 mm, can+fen | | |
| VPS-9240-RF3 | VERTICALE Reduction Screw ST 9.2 x 40 mm, can+fen | | |
| VPS-9245-RF3 | VERTICALE Reduction Screw ST 9.2 x 45 mm, can+fen | | |
| VPS-9250-RF3 | VERTICALE Reduction Screw ST 9.2 x 50 mm, can+fen | | |
| VPS-9255-RF3 | VERTICALE Reduction Screw ST 9.2 x 55 mm, can+fen | | |
| VPS-0225-RF3 | VERTICALE Reduction Screw ST 10.2 x 25 mm, can+fen |  | |
| VPS-0230-RF3 | VERTICALE Reduction Screw ST 10.2 x 30 mm, can+fen | | |
| VPS-0235-RF3 | VERTICALE Reduction Screw ST 10.2 x 35 mm, can+fen | | |
| VPS-0240-RF3 | VERTICALE Reduction Screw ST 10.2 x 40 mm, can+fen | | |
| VPS-0245-RF3 | VERTICALE Reduction Screw ST 10.2 x 45 mm, can+fen | | |
| VPS-0250-RF3 | VERTICALE Reduction Screw ST 10.2 x 50 mm, can+fen | | |
| VPS-0255-RF3 | VERTICALE Reduction Screw ST 10.2 x 55 mm, can+fen | | |
| VPS-0260-RF3 | VERTICALE Reduction Screw ST 10.2 x 60 mm, can+fen | | |

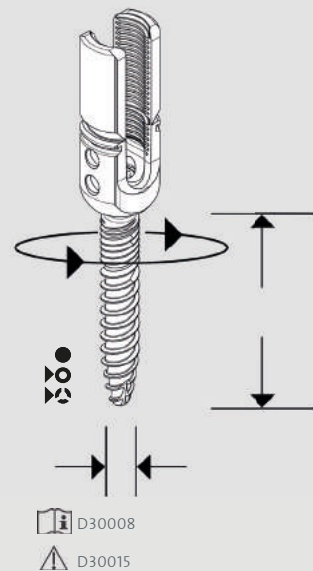
System:
VERTICALE

Implant type:
Pedicle screw

Typing:
Polyaxial ST,
reduction, cannulated
and fenestrated shaft

Material:
Ti6Al4V ELI

All articles are also
available as a sterile
variant.
The article number is
then preceded by the
prefix S-.



VERTICALE® Implants

System:
VERTICALE

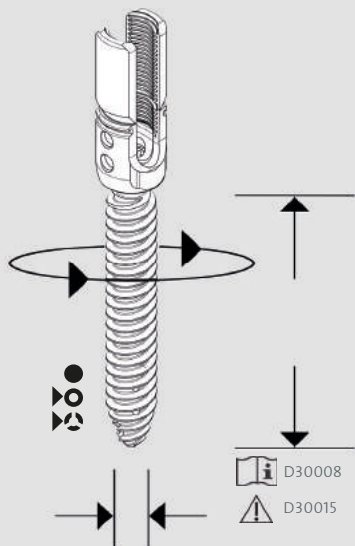
Implant type:
Iliac screw

Typing:
Ilium reduction, solid,
cannulated and
fenestrated shaft


Material:
Ti6Al4V ELI

All articles are also
available as a sterile
variant.
The article number is
then preceded by the
prefix S-

| Article number | Description | Illustration |
|----------------|--|---|
| VIS-8270-RF2 | VERTICALE Iliac Reduction Screw 8.2 x 70 mm, can+fen |  |
| VIS-8280-RF2 | VERTICALE Iliac Reduction Screw 8.2 x 80 mm, can+fen | |
| VIS-8290-RF2 | VERTICALE Iliac Reduction Screw 8.2 x 90 mm, can+fen | |
| VIS-8210-RF2 | VERTICALE Iliac Reduction Screw 8.2 x 100 mm, can+fen | |
| VIS-9270-RF2 | VERTICALE Iliac Reduction Screw 9.2 x 70 mm, can+fen |  |
| VIS-9280-RF2 | VERTICALE Iliac Reduction Screw 9.2 x 80 mm, can+fen | |
| VIS-9290-RF2 | VERTICALE Iliac Reduction Screw 9.2 x 90 mm, can+fen | |
| VIS-9210-RF2 | VERTICALE Iliac Reduction Screw 9.2 x 100 mm, can+fen |  |
| VIS-0270-RF2 | VERTICALE Iliac Reduction Screw 10.2 x 70 mm, can+fen | |
| VIS-0280-RF2 | VERTICALE Iliac Reduction Screw 10.2 x 80 mm, can+fen | |
| VIS-0290-RF2 | VERTICALE Iliac Reduction Screw 10.2 x 90 mm, can+fen | |
| VIS-0210-RF2 | VERTICALE Iliac Reduction Screw 10.2 x 100 mm, can+fen | |
| VIV-5535-S1 | VERTICALE Iliac Connector 5.5 x 35 mm, solid |  |
| VIV-5545-S1 | VERTICALE Iliac Connector 5.5 x 45 mm, solid |  |
| VMS-2025 | VERTICALE Set Screw 1S Torx 25 |  |



VERTICALE® Implants

| Article number | Description | Illustration |
|----------------|-------------------------------------|--|
| VST-0040-T | VERTICALE Rod curved 5.5 / 40 mm Ti |  |
| VST-0045-T | VERTICALE Rod curved 5.5 / 45 mm Ti | |
| VST-0050-T | VERTICALE Rod curved 5.5 / 50 mm Ti | |
| VST-0055-T | VERTICALE Rod curved 5.5 / 55 mm Ti | |
| VST-0065-T | VERTICALE Rod curved 5.5 / 65 mm Ti | |
| VST-0075-T | VERTICALE Rod curved 5.5 / 75 mm Ti | |
| VST-0085-T | VERTICALE Rod curved 5.5 / 85 mm Ti | |
| VST-0095-T | VERTICALE Rod curved 5.5 / 95 mm Ti | |

System:
VERTICALE


Implant type:
Rod

Typing:
curved


Material:
Ti6Al4V ELI

All articles are also available as a sterile variant.

The article number is then preceded by the prefix S-.

| | | |
|------------|--|--|
| VST-0200-T | VERTICALE Rod straight 5.5 / 200 mm Ti |  |
| VST-0300-T | VERTICALE Rod straight 5.5 / 300 mm Ti | |
| VST-0470-T | VERTICALE Rod straight 5.5 / 470 mm Ti | |

Material:
Ti6Al4V ELI

| | | |
|------------|--|--|
| VST-0300-C | VERTICALE Rod straight 5.5 / 300 mm CoCr |  |
| VST-0470-C | VERTICALE Rod straight 5.5 / 470 mm CoCr | |

Material:
CoCr

Note:

All curved VERTICALE Rods have a decagonal end on one side.

The straight VERTICALE Rods have decagonal ends on both sides.






| Article number | Description | Illustration |
|----------------|---|---|
| VQV-0001 | VERTICALE Cross Connector incl. Set Screw |  |
| VQS-0050 | VERTICALE CC Rod 50 mm |  |
| VQS-0060 | VERTICALE CC Rod 60 mm | |
| VQS-0070 | VERTICALE CC Rod 70 mm | |
| VQS-0080 | VERTICALE CC Rod 80 mm | |
| VQS-0090 | VERTICALE CC Rod 90 mm | |

System:
VERTICALE

Implant type:
Connector

Typing:
Cross connector, rod connector

Material:
Ti6Al4V ELI

| | | |
|--------------|--|---|
| VSV-5555-INK | VERTICALE RC Inline short 5.5 / 5.5 mm* |  |
| VSV-5555-INL | VERTICALE RC Inline long 5.5 / 5.5 mm* |  |
| VSV-5555-DO | VERTICALE RC Domino 5.5 / 5.5 mm* |  |
| VSV-5555-INM | VERTICALE RC Inline medium 5.5 / 5.5 mm* |  |
| VSV-5555-KM | VERTICALE RC Kyphosis medium 5.5 / 5.5 mm* |  |

* includes VMS-7020 Set Screws

All articles are also available as a sterile variant.

The article number is then preceded by the prefix S-.

| | | |
|----------|--------------------------------|---|
| VMS-2025 | VERTICALE Set Screw 1S Torx 20 |  |
|----------|--------------------------------|---|

VERTICALE® Instruments

| Article number | Description | Illustration | Page |
|----------------|--|---|----------|
| VI-1010 | VERTICALE Triangular Awl |  | 8 |
| VI-1020 | VERTICALE Probe |  | 8, 9 |
| VI-1022 | VERTICALE Probe, blunt |  | 8, 9 |
| VI-1024 | VERTICALE Probe, blunt + curved |  | 8, 9 |
| VI-1025 | VERTICALE Probe, narrow |  | 8, 9 |
| VI-1026 | VERTICALE Probe, square end + straight |  | 8, 9 |
| VI-1027 | VERTICALE Probe, heptagon end + straight |  | 8, 9 |
| VI-1028 | VERTICALE Probe, square end + curved |  | 8, 9 |
| VI-1029 | VERTICALE Probe, heptagon end + curved |  | 8, 9 |
| VI-1030 | VERTICALE Iliac Probe |  | 8, 9, 29 |
| VI-1034 | VERTICALE Tap 4.5 mm |  | 10 |
| VI-1035 | VERTICALE Tap 5.2 mm |  | 10 |
| VI-1036 | VERTICALE Tap 6.2 mm |  | 10 |
| VI-1037 | VERTICALE Tap 7.2 mm |  | 10 |
| VI-1040 | VERTICALE Pedicle Feeler (double-probe) |  | 9 |
| VI-1043 | VERTICALE Pedicle Feeler 2.3 mm |  | 9 |
| VI-1045 | VERTICALE Tap 4.5 + 5.2 mm |  | 10 |

| Article number | Description | Illustration | Page |
|----------------|--|---|------------|
| VI-1048 | VERTICALE Pedicle Feeler 2.8 mm |  | 9 |
| VI-1060 | VERTICALE Guide Wire Diamond Tip | No image | |
| VI-1067 | VERTICALE Tap 6.2 + 7.2 mm |  | 10 |
| VI-1070 | VERTICALE Guide Wire Round Tip | No image | |
| VI-1089 | VERTICALE Tap 8.2 + 9.2 mm |  | 10 |
| VI-1102 | VERTICALE Tap 10.2 mm |  | 10 |
| VI-1110 | VERTICALE Polyaxial Screwdriver |  | 12, 13, 14 |
| VI-1130 | VERTICALE Screw Driver T25 |  | 12, 13, 14 |
| VI-1135 | VERTICALE SD Disassembly Tool |  | See D30030 |
| VI-1145 | VERTICALE Tap 4.5 + 5.2 mm, cannulated |  | 10 |
| VI-1160 | VERTICALE Break-Off Tool |  | 26 |
| VI-1167 | VERTICALE Tap 6.2 + 7.2 mm, cannulated |  | 10 |
| VI-1189 | VERTICALE Tap 8.2 + 9.2 mm, cannulated |  | 10, 29 |
| VI-1202 | VERTICALE Tap 10.2 mm, cannulated |  | 10, 29 |
| VI-1260 | VERTICALE Rod Cutter, compact, 5.5 mm |  | 17 |
| VI-1270 | VERTICALE French Bender |  | 15 |
| VI-1320 | VERTICALE Rod Holder |  | 18 |

VERTICALE® Instruments

| Article number | Description | Illustration | Page |
|----------------|---|---|----------------|
| VI-1330 | VERTICALE Rod Holder, short |  | 18 |
| VI-1340 | VERTICALE Rod and Tulip Adjuster |  | 15, 18, 24 |
| VI-1360 | VERTICALE Reduction Instrument |  | 22, 23 |
| VI-1361 | VERTICALE Reduction Insert |  | 22, 23 |
| VI-1362 | VERTICALE Reduction Torx Adapter |  | 22, 23 |
| VI-1363 | VERTICALE Reduction Counter Handle |  | 22 |
| VI-1365 | VERTICALE Reduction Instrument, compact |  | 22 |
| VI-1366 | VERTICALE Reduction Insert, compact |  | 22 |
| VI-1367 | VERTICALE Reduction Torx Adapter, compact |  | 22 |
| VI-1368 | VERTICALE Reduction Counter Handle, compact |  | 22 |
| VI-1370 | VERTICALE Rocker |  | 23 |
| VI-1410 | VERTICALE Protection Sleeve |  | 19, 25 |
| VI-1420 | VERTICALE Set Screw Starter |  | 18, 19, 23, 25 |
| VI-1430 | VERTICALE Set Screw Starter, short, AO |  | 18, 19, 23, 25 |
| VI-1431 | VERTICALE Set Screw Starter, long, AO |  | 18, 19, 23, 25 |
| VI-1445 | VERTICALE T25 Screwdriver Shaft |  | 14 |
| VI-1446 | VERTICALE T25 SD Shaft bullet head |  | 14 |

| Article number | Description | Illustration | Page |
|----------------|--|---|--------|
| VI-1450 | VERTICALE Counter Torque |  | 19, 21 |
| VI-1510 | VERTICALE Rod Rotation Wrench |  | 24 |
| VI-1530 | VERTICALE Rod Gripper |  | 26 |
| VI-1610 | VERTICALE Rod Bender |  | 15, 24 |
| VI-1620 | VERTICALE Distraction Pliers |  | 22 |
| VI-1622 | VERTICALE Distraction Pliers, sym. tips |  | 20 |
| VI-1625 | VERTICALE Parallel Distractor |  | 20 |
| VI-1630 | VERTICALE Compression Pliers |  | 20 |
| VI-1632 | VERTICALE Compression Pliers, sym. tips |  | 20 |
| VI-1635 | VERTICALE Parallel Compressor |  | 20 |
| VI-1700 | VERTICALE Iliac Connector Gauge |  | 29 |
| VI-1800 | VERTICALE Counter Torque Iliac Connector |  | 29 |
| VI-1810 | VERTICALE T20 Screwdriver 7 Nm |  | 27, 28 |
| VI-1820 | VERTICALE Domino Holder |  | 28 |
| VI-1830 | VERTICALE Rod and Cross Connector Holder |  | 27, 28 |
| VI-2440 | VERTICALE T25 Torque Limiter 10 Nm |  | 21 |
| VI-2442 | VERTICALE T25 Torque Limiter 10 Nm, Org |  | 21 |

VERTICALE® General Instruments

| Article number | Description | Illustration | Page |
|----------------|----------------------------|---|-------------------|
| GI-3111 | Ratchet T-Handle |  | 10, 12, 13, 14 |
| GI-3101 | T-Handle |  | 10, 12, 13, 14 |
| GI-3211 | Ratchet Straight Handle |  | 10, 12, 13, 14 |
| GI-3201 | Straight Handle |  | 10, 12, 13, 14 |
| GI-3311 | Ratchet Palm Handle |  | 10, 12, 13, 14 |
| GI-3301 | Palm Handle |  | 10, 12, 13, 14 |
| GI-2111 | Ratchet T-Handle, short |  | 10, 12, 13, 14 |
| GI-2101 | T-Handle, short |  | 10, 12, 13, 14 |
| GI-2311 | Ratchet Palm Handle, short |  | 10, 12, 13, 14 |
| GI-2301 | Palm Handle, short |  | 10, 12, 13, 14 |

VERTICALE® Accessories

| Article number | Description |
|----------------|---|
| KG.065.01* | Hand Drilling Chuck Ergo small, free passage 2.5 mm |
| P-1215.001_A** | Power Grip Pliers |
| P-1216.001_A** | Pistol Approximator |

* Manufacturer: MEDE Technik

** Manufacturer: BAAT Medical GmbH

VERTICALE® Alphabetical Index

| A-Z | Description | Article number | Page |
|-----|-----------------------------------|----------------|--------------------------|
| A | Probe | VI-1020 | 6, 7, PI 16 |
| | Probe, heptagon tip, straight | VI-1027 | PI 16 |
| | Probe, heptagon tip, curved | VI-1029 | PI 16 |
| | Probe, narrow | VI-1025 | 6, 7, PI 16 |
| | Probe, blunt | VI-1022 | 6, 7, PI 16 |
| | Probe, blunt + curved | VI-1024 | 6, 7, PI 16 |
| | Probe, square end + curved | VI-1028 | 6, 7, PI 16 |
| | Probe, square end + straight | VI-1026 | 6, 7, PI 16 |
| B | Break-off tool | VI-1160 | 24, PI 17 |
| C | Compression Pliers | VI-1630 | 16, PI 19 |
| | Compression Pliers, sym. tips | VI-1632 | 16, PI 19 |
| | Counter Torque | VI-1450 | 15, 17, PI 19 |
| | Counter Torque Iliac Connector | VI-1800 | 29, PI 19 |
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| | Distraction Pliers, sym. tips | VI-1622 | 16, PI 19 |
| | Domino Holder | VI-1820 | 26, PI 06, PI 19 |
| F | French Bender | VI-1270 | 13, PI 17 |
| G | Guide Wire Round Tip | VI-1070 | PI 17 |
| | Guide Wire Awl Tip | VI-1060 | PI 17 |
| H | Straight Handl | GI-3201 | 8, 10, 11, 12, 22, PI 20 |
| I | Iliac Probe | VI-1030 | 6, 7, PI 16 |
| | Iliac Connector Gauge | VI-1700 | 29, PI 19 |
| P | Palm Handle | GI-3301 | 8, 10, 11, 22, PI 20 |
| | Palm Handle, short | GI-2301 | 8, 10, 11, 22, PI 20 |
| | Parallel Distractor | VI-1625 | 16, PI 19 |
| | Parallel Compressor | VI-1635 | 16, PI 19 |
| | Pedicle Feeler 2.3 mm | VI-1043 | 7, PI 16 |
| | Pedicle Feeler 2.8 mm | VI-1048 | 7, PI 17 |
| | Pedicle Feeler (double-probe) | VI-1040 | 7, PI 16 |
| | Screw Driver T25 | VI-1130 | 10, 11, 12, PI 17 |
| | Polyaxial Screwdriver | VI-1110 | 10, 11, 12, PI 17 |
| | Protection Sleeve | VI-1410 | 15, 23, PI 18 |
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| | Reduction Counter Handle, compact | VI-1368 | 20, PI 18 |
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| | Reduction Insert, compact | VI-1366 | 19, PI 18 |
| | Reduction Instrument | VI-1360 | 18, 21, PI 18 |
| | Reduction Instrument, compact | VI-1365 | 19, PI 18 |
| | Reduction Torx Adapter | VI-1362 | 18, PI 18 |
| | Reduction Torx Adapter, compact | VI-1367 | 20, PI 18 |
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| | Ratchet Palm Handle | GI-3311 | 8, 10, 11, 22, PI 20 |

VERTICALE® Alphabetical Index

| A-Z | Description | Article number | Page |
|------------------------------|---------------------------------------|---------------------|-----------------------|
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| | Tap 6.2 + 7.2 mm, cannulated | VI-1167 | 8, 27, PI 17 |
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| | T-Handle, short | GI-2101 | 8, 10, 11, 22, PI 20 |
| | Triangular Awl | VI-1010 | 6, PI 16 |

Notes

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Notes

A series of horizontal dotted lines for writing notes.

Distributed in:

Germany, Netherlands and Belgium

Silony Medical Europe GmbH

Bahnhofstraße 1
28195 Bremen, Germany
Phone +49 421 24 69 56 0
Fax +49 421 24 69 56 55

United Kingdom

Silony Medical Ltd.

5 The Beacons
Beaconsfield Road
Hatfield, Herts, AL10 8RS, UK
Phone +44 (0)1707 32 84 77
Fax +44 (0)1707 37 60 73



www.silony-medical.com

 **Silony Medical International AG**

Bahnhofplatz 75a
8500 Frauenfeld, Switzerland
Phone +41 52 72 83 000
Fax +41 52 72 83 009

 **Silony Medical GmbH**

Leinfelder Strasse 60
70771 Leinfelden-Echterdingen, Germany
Phone +49 711 78 25 25 0
Fax +49 711 78 25 25 11