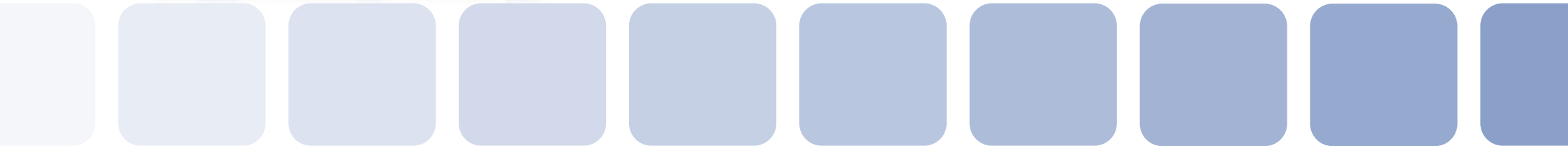




VENUS[®] mini

Minimally invasive fixation system



The VENUS®mini pedicle screw fixation system allows minimally invasive, percutaneous correction and stabilisation of the spine in the thoracic, lumbar and sacral area. It is the logical further development of the innovative design properties of the standard screw system.

It facilitates accurate positioning of the pedicle screws. The screw head holders are fixed to the screw heads and thus permit uncomplicated, safe guidance during implantation. The rod inserter provides full control and reliable insertion of the rod into the correct position.

Simple reductioning/repositioning expands the variability and intraoperative flexibility.

The instruments are very clearly arranged and ergonomic. The apparatus comprises consistently MIS-adapted, cannulated instruments that allow the insertion of the implants through a very small incision, guided by K-wires and special instruments for percutaneous applications.

This allows the surgeon to dissect the area safely and atraumatically, and provides efficient and stable guidance of the instrumentation, protecting the ligaments and muscles.

safe

- Safe positioning of the rods through the guidance holes in the head holders
- Extensive options for reposition without enlargement of the incision
- Integrated reposition mechanism for easy manoeuvring of the rod

anatomical

- Minimal muscle trauma thanks to percutaneous technique
- Self-tapping threads without trauma to cutting flutes

transparent

- Colour-coded screws
- Clearly arranged and simple instruments

stable

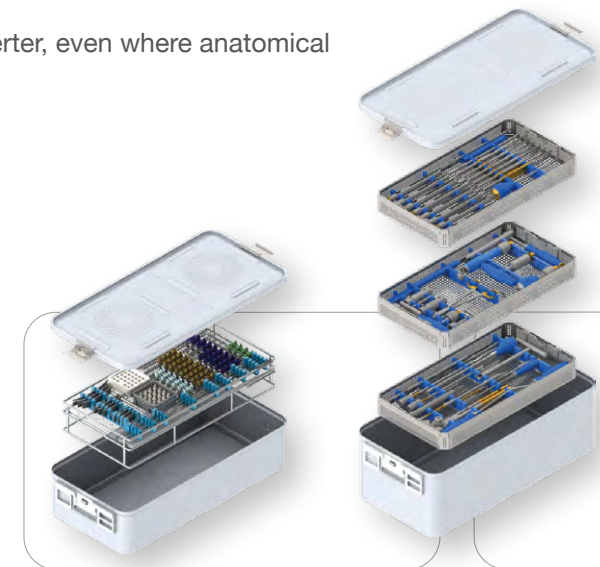
- Load-optimised implant design
- Head holder and rod holder are designed in such a way that they can withstand the forces required to correct deformities.

flexible

- Versatile application and techniques
- Large selection of implants
- Different spinal segments
- Optimum adaptability to anatomy
- Can be combined with almost all VENUS® implants
- Numerous rod options for different lengths

Four outstanding product features

- 1 No additional skin incision needed to insert the rods
- 2 Pull-out resistance of screw head holder > 400 N
- 3 Assembly of screw head holder possible in situ (e.g. during revision surgery)
- 4 Easy removal of the rod inserter, even where anatomical space is limited

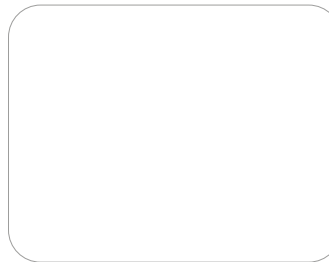
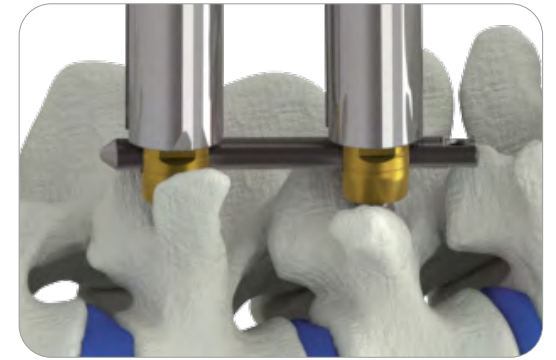
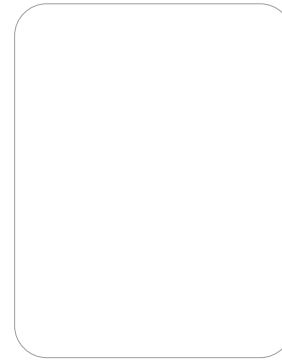
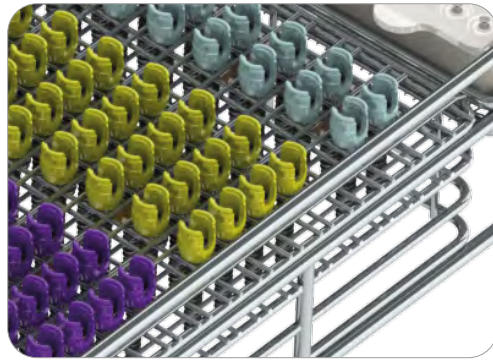
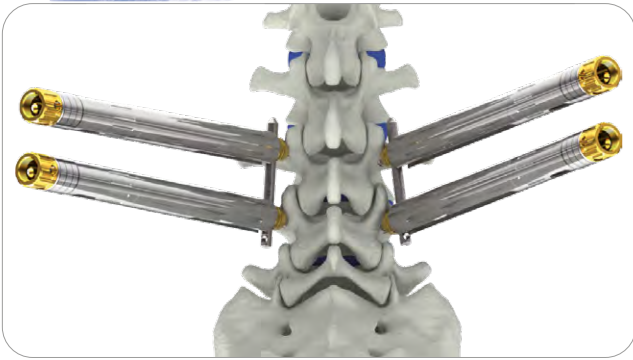




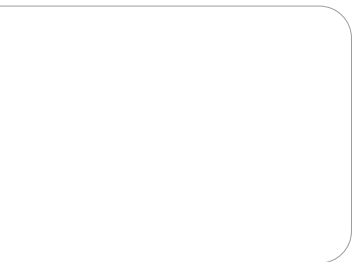
Minimally invasive fixation system

VENUSmini

Product-specific advantages



- anatomical
- transparent
- stable
- flexible
- safe





Preparing the pedicle using the cannulated awl

A longitudinal incision of approx. 2.5 cm in length is made through the skin and fascia. The cannulated awl is inserted into the incision until the tip rests on the bony anatomy of the target segment. The pedicle entry point is penetrated with light hammer blows. In the case of the cannulated awl, the tip of the awl should be driven in as far as the stop. In the case of the optional cannulated awl without a stop, the tip of the awl should be inserted at a depth of around 25 mm in the pedicle. The trocar wire is removed once the awl is positioned securely in the pedicle.



Preparing the pedicle using a Jamshidi needle

A longitudinal incision of approx. 2.5 cm in length is made through the skin and fascia. The Jamshidi needle is inserted into the incision until the tip rests on the bony anatomy of the target segment. It is advanced to the pedicle at the junction of the facet to the transverse process. The tip of the needle should be located at the centre of the lateral margin of the pedicle on the AP X-ray image. The needle is hammered in lightly so that the trocar tip is fixed in the pedicle. This should be driven through the pedicle no more than $\frac{3}{4}$ of the distance from the margin of the pedicle. It is then further advanced until it penetrates the vertebral body. The internal trocar is withdrawn from the needle.



Preparing the pedicle using the goniometer awl

A longitudinal incision of approx. 2.5 cm in length is made through the skin and fascia. The goniometer awl is inserted into the incision until the tip rests on the bony anatomy of the target segment. The MRI section images form the basis for the insertion angle. Setting the angle that has been measured on the goniometer is accomplished through tilting the awl laterally. The desired angle is shown on the dial at the tip of the pendulum. Penetrate the pedicle entrance point with light blows of a hammer. The tip of the awl should be at a depth of around 25 mm in the pedicle. The trocar wire is removed once the awl is positioned securely in the pedicle.



Positioning the guide wire when using a Jamshidi needle

The guide wire is inserted into the Jamshidi needle and advanced through the tip of the Jamshidi needle to ensure adequate fixing in the spongiosa. The Jamshidi needle is carefully removed once the guide wire has been positioned at the desired depth; during this process, the guide wire is held firmly in place.

Note:

As a rule, **all** guide wires should be positioned before insertion of the pedicle screws.
 Guide wire \varnothing 1.3 mm for all \varnothing 4.8 mm screws
 Guide wire \varnothing 1.7 mm for all other screws
 The position markings affixed on the guide wire should point in the distal direction. This is also the case when using the cannulated awl / cannulated awl without stop or the goniometer awl.



Dilating and determining the screw length

In order to gently expand the tissue, the soft tissues dilator (MIS tissue dilator) is advanced over the guide wire until its tip touches the pedicle. On the dial of the MIS tissue dilator, the screw length to be used can be read using the penetration depth of the guide wire.

Caution:

Following this, the screw length must be examined using X-ray imaging.

Note:

The exact position can be checked on an X-ray image via the integral metal tip in the tissue dilator.



Removing the dilator and inserting the MIS protective sleeve

Remove the MIS tissue dilator while holding the guide wire firmly in place.

Preparing for tapping: Insert the MIS protective sleeve over the guide wire.



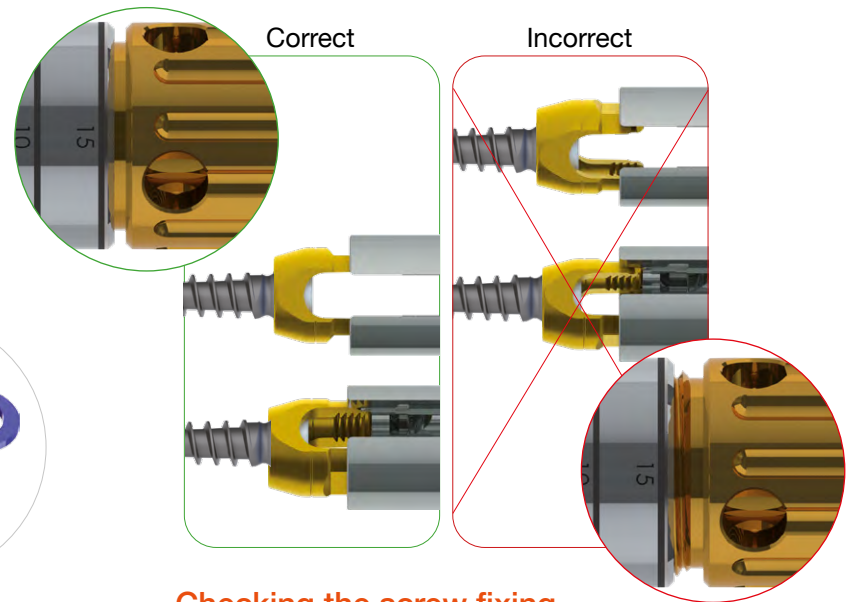
Tapping

The appropriate cannulated tap is screwed into the pedicle over the guide wire and through the MIS protective sleeve. Ensure that the guide wire is not inadvertently pushed forward or twisted by mistake during tapping. The tap is pushed forward only as far as the tip of the guide wire. On removal of the tap, ensure that the guide wire is not removed. Two different types of tap are available for the fenestrated 6T screws. One for the two-threaded section of the cannulated 6T tap and one for the four-threaded section of the cannulated 6T tap 4T screw, which must be fitted with a stop to prevent deep pre-tapping of the four-threaded section in the pedicle.



Assembling the screws on the screw head holder

Select screws with the right lengths and diameters. Open the golden fixing screw. Slide the MIS head holder over the head of the screw as far as the stop until the notch for the rod holder on the screw head is turned 90° in relation to the slots on the MIS head holder. Then it must be rotated 90° to ensure that the notch for the rod holder on the screw head is aligned with the slots of the MIS head holder and the retaining ring of the MIS head holder is screwed onto the ring nut of the screw head. Then lock the connection between the instrument and the implant by finally tightening the golden fixing screw.



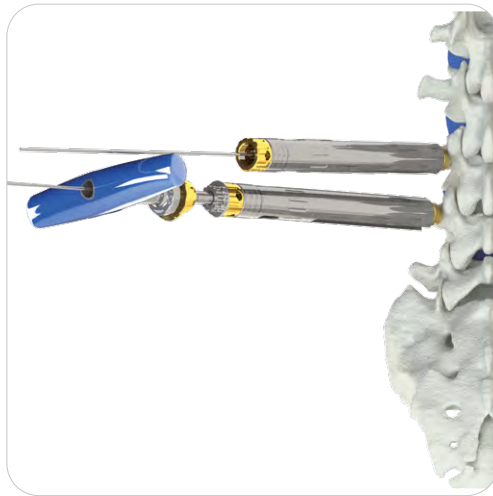
Checking the screw fixing

Check that the screw head is solidly anchored in the head holder. Check that the fixing has been carried out correctly by examining the slot width between the fixing screw and the base unit of the head holder. Then check to ensure proper fixing by opening the locking screw by half a turn. It must not be possible to turn the head of the pedicle screw in the head holder. If this is ensured, the position is correct and the fixing screw can be fully tightened again. If one of the two tests show that the fixing has not been carried out properly, load the pedicle screw again and repeat the checks. While working with the MIS head holder, ensure that the fixing screw is not loosened because otherwise the connection between the MIS head holder and the pedicle screw could be lost.



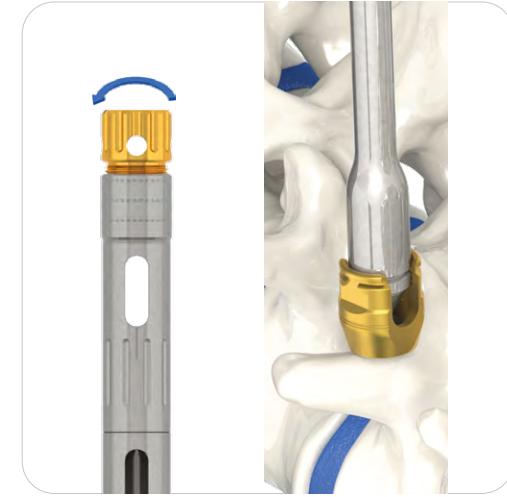
Pre-assembly of the MIS polyaxial screwdriver

Insert the MIS polyaxial screwdriver shaft into the assembled MIS head holder and attach it to the external hex of the screw shaft. Affix the screwdriver shaft using the connecting screw which is located at the rear end. Check that the screw is fixed.



Inserting the screw

Guide the construction made up of the screw, head holder and polyaxial screwdriver shaft along the guide wire to the pedicle. Screw the polyaxial screw into the pedicle while checking the image converter. Remove the guide wire as soon as the screw is in its final position. To guarantee its continued full polyaxial nature, ensure that the screw head is not in direct contact with the bone. Remove the screw driver shaft by loosening the connecting screw. The golden fixing screw on the screw head holder must not be loosened during this procedure. If the connecting screw is difficult to open, the MIS key can be fitted from behind. Hold the fixing screw in place using the MIS release shaft. Align all MIS head holders in such a way that the holes are in one line. Here the long holes must point in the direction in which the rod is to be inserted.



Reattachment of head holder I

If reconnection is necessary in the event of revision surgery or if the head holder is accidentally loosened from the head of the pedicle screw during the following manoeuvre, the head holder can be subsequently reconnected to the implant using a connection aid (MIS head holder reassembler). For this purpose, ensure that the golden locking screw is opened by three turns on the head holder. Then guide the head holder reassembler into the screw head of the previously inserted screw. Here, the nose of the reassembler must latch into the rod holder of the screw head.



Reattachment of head holder II

Then attach the head holder over the positioned reassembler. In doing so, the rod holders must be aligned parallel to the milled surfaces on the reassembler (marked red at the top). If the head holder is in the correct position, the wording “START” will be fully visible in the longitudinal slots of the head holder (if necessary, readjust the position). Then hold the reassembler, if necessary by attaching a handle, and turn the head holder by 90°, making sure that the reassembler does not turn together with the head holder. The wording “END” must be clearly visible on the end position. Lock the connection by tightening the golden fixing screw.



Reattachment of head holder III

Check to ensure the correct connection by opening the golden locking screw by half a turn. Hold the reassembler in position and attempt to turn the head holder. If it is not possible to turn the head holder, then this is connected correctly and the golden locking screw can then be fully locked again. Otherwise, reopen the golden nut and align the head holder in the correct position.

To finish, pull on the head holder to make sure it is fitted tightly. Then remove the reassembler.



Selecting the rod length

The rod length can be selected using the distance between the MIS head holders as an aid. For this purpose, the head holder can be aligned axially and the corresponding rod inserted in the slotted holes on the upper end of the head holder. During this process, the markings on the rod must be positioned at least level with the external wall of the head holder, in such a way that the rod’s instrument holder and the front insertion tip lie outside the head holder.

Caution:

The selected rod length must be checked using X-ray imaging. In doing so, ensure that both ends of the rod protrude by at least 3 mm at the tip and by 7 mm at the instrument holder.

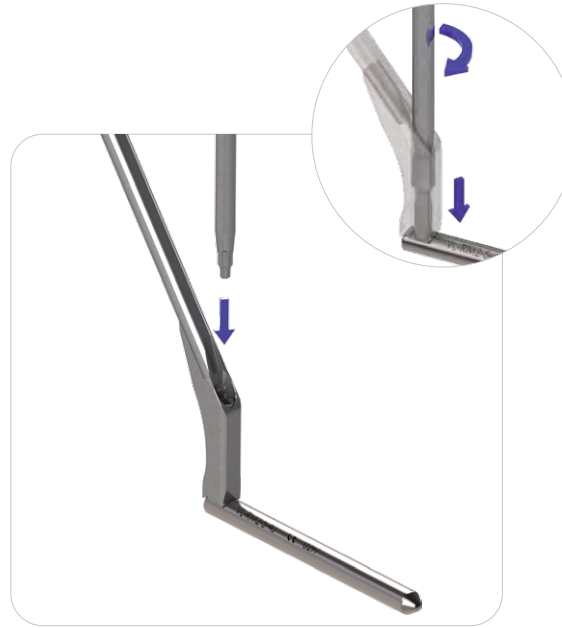


Inserting MIS rod holder I

Attach the selected rod to the MIS rod holder. In doing so, ensure that the longitudinal marking on the rod is pointing upwards.

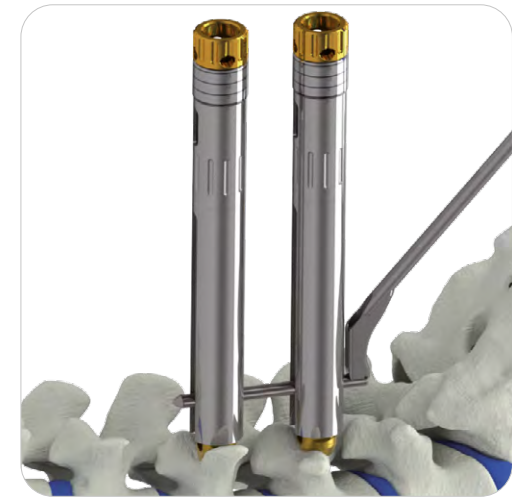
Note:

The rod holder is available in a range of different variants (see Instrument Overview on page 22). These differ in the length of the anterior holder element (MIS rod holder multilevel 2 and MIS rod holder multilevel 3). In another available variant, the angulation of the handle is adjustable (MIS rod holder 2).



Inserting MIS rod holder II

Screw the rod onto the instrument using the torx key (MIS ML2 locking screwdriver). Then tighten the fixing screw using the MIS ML2 Locking Screw Driver to make sure that the instrument is firmly seated on the rod.



Inserting the rod

Position the MIS rod holder vertically next to the MIS head holder so that the tip of the rod is pointing downwards. Insert the rod in a vertical position to below the fascia. Direct and guide the rod into the MIS head holder in the next segment by raising the MIS rod holder. The holder element of the MIS rod holder must be parallel to the MIS head holder once it is in its final position. During this process, the rod must be guided between the muscles thus avoiding any trauma. Check on correct positioning of the rod using the image converter. While doing so, also ensure that the rod tip protrudes by at least 3 mm and the rod end by at least 7 mm over the head of the screw.



Fitting the MIS set screw onto the MIS set screw inserter

Fit the MIS set screw onto the torx of the MIS set screw inserter. Fix the MIS set screw using the threaded rod in the instrument.

Caution:

Only tighten the threaded rod by hand, as otherwise complications can arise when loosening the MIS set screw afterwards.



Inserting the MIS set screw inserter

The MIS set screw inserter is guided into the MIS head holder with the fitted MIS set screw until it sits on the rod.

Caution!

Be sure to only screw in the MIS set screw loosely. The final torque must be applied using the MIS set screwdriver.

Note:

We recommend affixing the MIS set screws on the opposite side of the MIS rod holder first.



Attaching the MIS counter holder

If the MIS set screw cannot be affixed, the rod must be pressed down using the MIS rod pusher. Then gently tighten the MIS set screw using the MIS set screw inserter. Alternatively, attach the MIS counter holder using the MIS head holder. Using a gentle back and forth movement, ensure that the notches at the distal end of the MIS counter holder take up the inserted rod.



Attaching and tightening the MIS adapter screw

The MIS adapter screw is guided to the MIS head holder and tightened.

Caution:

The MIS Counter Holder must be already attached (as seen in the picture), before screwing on the MIS Adapter Screw.



Fitting the MIS pusher handle

The MIS pusher handle is guided onto the MIS adapter screw. Combined with the MIS counter holder, it is used to push the rod down into the screw head. Screw the MIS pusher handle downwards and tighten. In the final position, the marking line in the viewing window of the MIS counter holder must correspond to the lowest marking line (0 position) on the MIS head holder.



Inserting the MIS set screw

After positioning the rod in the implant screw, the MIS set screw is then screwed into the head of the implant screw.

Caution!

Only tighten the MIS set screw lightly. For the final torque use the MIS set screwdriver.



Removing the MIS counter holder

First the MIS pusher handle (1) should be removed, followed by the MIS adapter screw (2) and then the MIS counter holder.

Note:

Sometimes the adapter screw is fitted too tight to be loosened by hand. In this case, first remove the set screw inserter (2) as described in the following step and then use the MIS key and the MIS release shaft.



Removing the MIS set screw inserter

To remove the MIS set screw inserter, the threaded rod must first be loosened by turning. If the connection between the threaded rod and the MIS set screw is very tight, the MIS ML2 locking screwdriver can be introduced into the MIS set screw inserter from the rear. Then the MIS set screw inserter can be removed.

Note:

This procedure is repeated for each pedicle screw.



Removing the MIS rod holder

A final check on the correct positioning of the rods should be made before the MIS rod holder is removed. While doing so, the rod tip should protrude by at least 3 mm and the rod end by at least 7 mm over the head of the screw. Loosen the MIS rod holder using the MIS ML2 locking screw driver. You must be able to feel that the MIS locking screw driver is locked in place in the torx of the connecting screw.

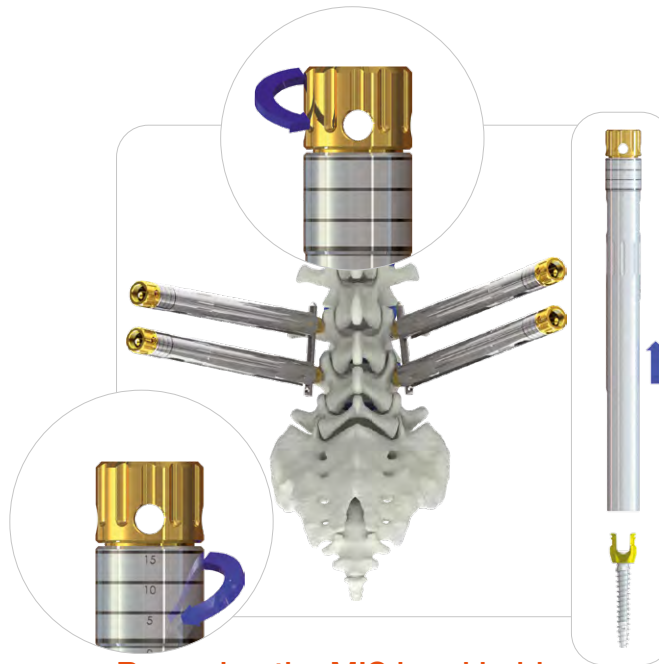


Final tightening of the set screws

The MIS counter holder is guided over the MIS Head Holder and pushed all the way onto the rod. Using a gentle back and forth movement, ensure that the notches at the distal end of the MIS counter holder take up the inserted rod. Couple the MIS set screw driver and torque driver 12. Insert the assembled instruments into the MIS head holder opening. Tighten the set screw in a clockwise direction. Same approach for all other MIS set screws.

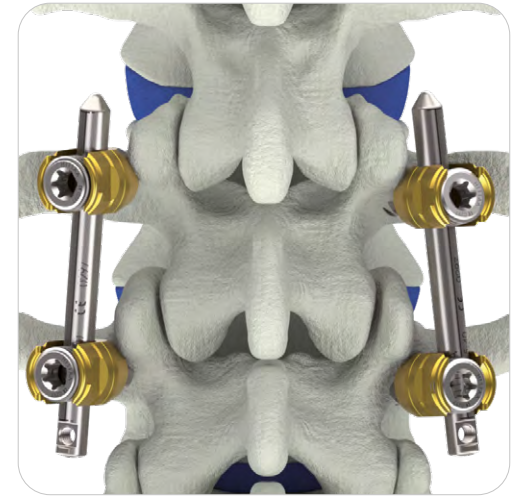
Note:

The full torque of 12 Nm is reached when you hear a clicking sound in the torque wrench.



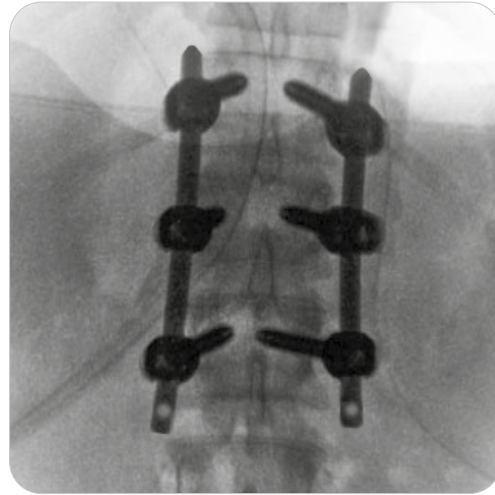
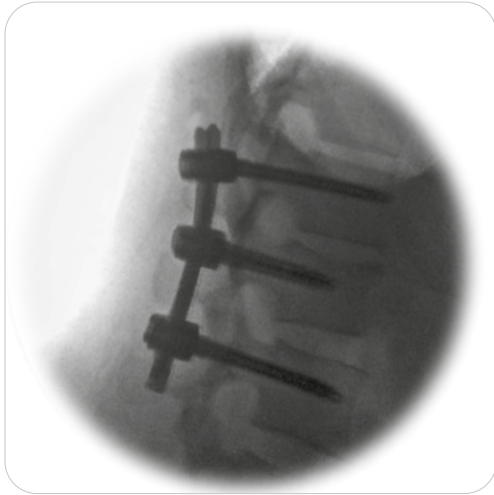
Removing the MIS head holder

A final check on the correct positioning of the fixing mechanism should be made using the image converter before the MIS head holders are removed. Unlock the MIS head holder by turning the fixing screw that is located at the upper end. If this is difficult to open, the MIS key or the MIS release shaft can be used to open the fixing screw. Release the MIS head holder from the screw head by turning it by 90° around its longitudinal axis.



Final construction

Cleanse the surgical area and close the wound.



Final construction

Final check on the structure with X-ray control images taken in two planes.



Minimally invasive fixation system

VENUSmini



Applying and inserting cement adapter I

If the screws are in place and the polyaxial screwdriver and guide wires are removed, there is the option to apply the cement via the fenestrated screws. In order to do so, push the cement adapter in over the guide wire on the cement adapter inserter and then lock it into the instrument holder. Insert the equipped cement adapter inserter into the cannula of the pedicle screw through the MIS head holder and over the guide wire. Turn the inserter a half rotation to the left and screw the cement adapter in fully until it reaches the final position in the polyaxial head. If the polyaxial head cannot move freely, use the MIS head holder and turning motions to allow the polyaxial head to be aligned with the screw.

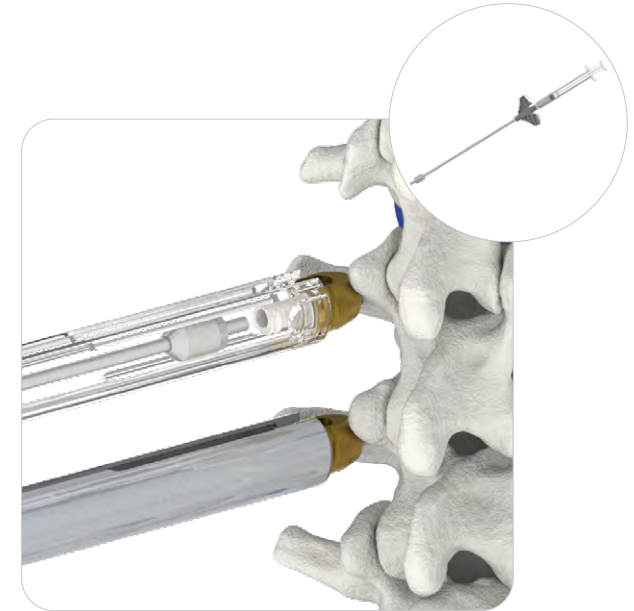
Note:

Never use the cement adapter inserter here, as in this case, the guide wire may bend and the cement adapter cannot be positioned correctly.



Applying and inserting cement adapter II

Ensure the correct axial alignment of the head holder with the screw shaft whilst turning (check the X-ray image if necessary). You must be able to screw in the cement adapter without using force. With the cement adapter attached, any tilting movement of the head holder must be avoided, otherwise deformations can occur in the sealing area of the adapter, which can create a leak at the connection.



Filling and applying the bone filler

Mix the bone cement as per the manufacturer's instructions for use and fill the cement applicator (bone filler) using a syringe.

Recommendation:

Use a moderate to high viscose bone cement with a quick curing time. We recommend the use of OSTEOPAL® Plus bone cement.

Insert the bone filler through the MIS head holder and screw the bone filler onto the cement adapter.



Cement application

When applying the cement using the bone filler, a predefined amount (1.5 cm) is applied. Only one bone filler may be used for each cement adapter and screw. Screwing a bone filler into the cement adapter a second time or screwing the cement adapter into the screw a second time can result in unwanted cement discharge in the region of the polyaxial head.

Note:

Once the cement has been applied, an X-ray check is required to check the volume of injected cement.

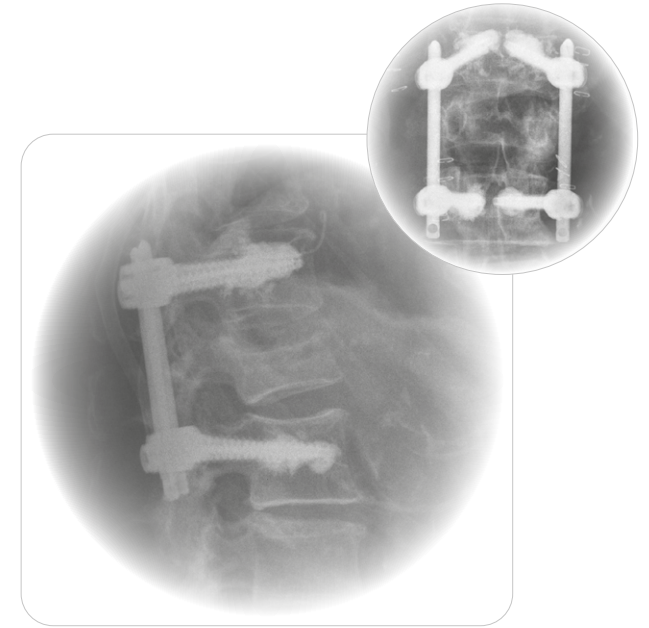


Removing the cement adapter

Remove the bone filler and unscrew the cement adapter using the cement adapter extractor immediately after applying the cement.

Note:

The cement adapter is intended for single use only (disposable).



Final structure

Final check of the structure with X-ray control images taken in two planes. Cleanse the surgical area and close the wound.

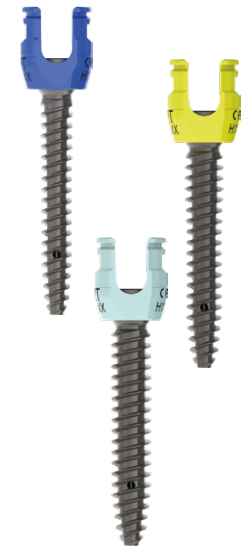
Cannulated 2T Screws

Item No.	Description	
4000014825	2T Cannulated Screw Ø 4.8 x 25mm	Ø 4,8
4000014830	2T Cannulated Screw Ø 4.8 x 30mm	
4000014835	2T Cannulated Screw Ø 4.8 x 35mm	
4000014840	2T Cannulated Screw Ø 4.8 x 40mm	
4000014845	2T Cannulated Screw Ø 4.8 x 45mm	
4000015525	2T Cannulated Screw Ø 5.5 x 25 mm	Ø 5,5
4000015530	2T Cannulated Screw Ø 5.5 x 30 mm	
4000015535	2T Cannulated Screw Ø 5.5 x 35 mm	
4000015540	2T Cannulated Screw Ø 5.5 x 40 mm	
4000015545	2T Cannulated Screw Ø 5.5 x 45 mm	
4000015550	2T Cannulated Screw Ø 5.5 x 50 mm	Ø 6,5
4000015555	2T Cannulated Screw Ø 5.5 x 55 mm	
4000016525	2T Cannulated Screw Ø 6.5 x 25 mm	
4000016530	2T Cannulated Screw Ø 6.5 x 30 mm	
4000016535	2T Cannulated Screw Ø 6.5 x 35 mm	
4000016540	2T Cannulated Screw Ø 6.5 x 40 mm	Ø 7,2
4000016545	2T Cannulated Screw Ø 6.5 x 45 mm	
4000016550	2T Cannulated Screw Ø 6.5 x 50 mm	
4000016555	2T Cannulated Screw Ø 6.5 x 55 mm	
4000017235	2T Cannulated Screw Ø 7.2 x 35 mm	
4000017240	2T Cannulated Screw Ø 7.2 x 40 mm	
4000017245	2T Cannulated Screw Ø 7.2 x 45 mm	
4000017250	2T Cannulated Screw Ø 7.2 x 50 mm	
4000017255	2T Cannulated Screw Ø 7.2 x 55 mm	
4000017260	2T Cannulated Screw Ø 7.2 x 60 mm	



Fenestrated 2T Screws

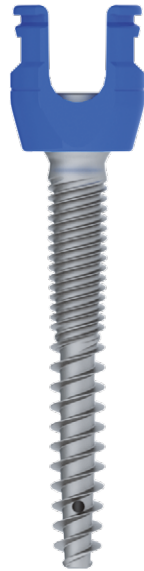
Item No.	Description	
4000045540	2T Fenestrated Screw Ø 5.5 x 40 mm	Ø 5,5
4000045545	2T Fenestrated Screw Ø 5.5 x 45 mm	
4000045550	2T Fenestrated Screw Ø 5.5 x 50 mm	
4000045555	2T Fenestrated Screw Ø 5.5 x 55 mm	
4000046540	2T Fenestrated Screw Ø 6.5 x 40 mm	
4000046545	2T Fenestrated Screw Ø 6.5 x 45 mm	Ø 6,5
4000046550	2T Fenestrated Screw Ø 6.5 x 50 mm	
4000046555	2T Fenestrated Screw Ø 6.5 x 55 mm	
4000047240	2T Fenestrated Screw Ø 7.2 x 40 mm	
4000047245	2T Fenestrated Screw Ø 7.2 x 45 mm	
4000047250	2T Fenestrated Screw Ø 7.2 x 50 mm	Ø 7,2
4000047255	2T Fenestrated Screw Ø 7.2 x 55 mm	



6T fenestrated screws

Item no.	Name
1010045540	Fenestrated 6T screw Ø 5.5 x 40 mm
1010045545	Fenestrated 6T screw Ø 5.5 x 45 mm
1010045550	Fenestrated 6T screw Ø 5.5 x 50 mm
1010045555	Fenestrated 6T screw Ø 5.5 x 55 mm
1010046540	Fenestrated 6T screw Ø 6.5 x 40 mm
1010046545	Fenestrated 6T screw Ø 6.5 x 45 mm
1010046550	Fenestrated 6T screw Ø 6.5 x 50 mm
1010046555	Fenestrated 6T screw Ø 6.5 x 55 mm
1010047240	Fenestrated 6T screw Ø 7.2 x 40 mm
1010047245	Fenestrated 6T screw Ø 7.2 x 45 mm
1010047250	Fenestrated 6T screw Ø 7.2 x 50 mm
1010047255	Fenestrated 6T screw Ø 7.2 x 55 mm
1010047260	Fenestrated 6T screw Ø 7.2 x 60 mm

Ø 7.2
Ø 6.5
Ø 5.5



6T revision screws

Item no.	Description
1006098535	Cannulated revision screw 6T Ø 8.5 mm x 35 mm
1006098540	Cannulated revision screw 6T Ø 8.5 mm x 40 mm
1006098545	Cannulated revision screw 6T Ø 8.5 mm x 45 mm
1006098550	Cannulated revision screw 6T Ø 8.5 mm x 50 mm
1006098555	Cannulated revision screw 6T Ø 8.5 mm x 55 mm
1006098560	Cannulated revision screw 6T Ø 8.5 mm x 60 mm

Ø 8.5



Mini rods

Item no.	Name
VL-RM2-5-40	Rod Mini2 Ø 5.5 mm x 40 mm
VL-RM2-5-45	Rod Mini2 Ø 5.5 mm x 45 mm
VL-RM2-5-50	Rod Mini2 Ø 5.5 mm x 50 mm
VL-RM2-5-60	Rod Mini2 Ø 5.5 mm x 60 mm
VL-RM2-5-70	Rod Mini2 Ø 5.5 mm x 70 mm
VL-RM2-5-80	Rod Mini2 Ø 5.5 mm x 80 mm
VL-RM2-5-90	Rod Mini2 Ø 5.5 mm x 90 mm
VL-RM2-5-100	Rod Mini2 Ø 5.5 mm x 100 mm
VL-RM2-5-110	Rod Mini2 Ø 5.5 mm x 110 mm
VL-RM2-5-130	Rod Mini2 Ø 5.5 mm x 130 mm
VL-RM2-5-150	Rod Mini2 Ø 5.5 mm x 150 mm
VL-RM2-5-170	Rod Mini2 Ø 5.5 mm x 170 mm
VL-RM2-5-190	Rod Mini2 Ø 5.5 mm x 190 mm



Item no.	Name
VL-RMC2-5-40	Rod Mini curved 2 Ø 5.5 mm x 40 mm
VL-RMC2-5-45	Rod Mini Curved 2 Ø 5.5 mm x 45 mm
VL-RMC2-5-50	Rod Mini curved 2 Ø 5.5 mm x 50 mm
VL-RMC2-5-60	Rod Mini curved 2 Ø 5.5 mm x 60 mm
VL-RMC2-5-70	Rod Mini curved 2 Ø 5.5 mm x 70 mm
VL-RMC2-5-80	Rod Mini curved 2 Ø 5.5 mm x 80 mm
VL-RMC2-5-90	Rod Mini curved 2 Ø 5.5 mm x 90 mm
VL-RMC2-5-100	Rod Mini curved 2 Ø 5.5 mm x 100 mm
VL-RMC2-5-110	Rod Mini curved 2 Ø 5.5 mm x 110 mm




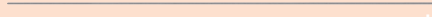









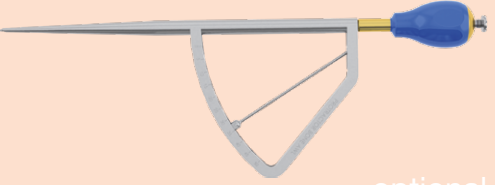
Mini setscrew






Item no.	Name
VL-PMS-M3	MIS setscrew

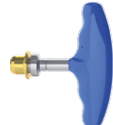

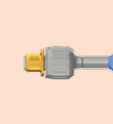
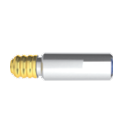










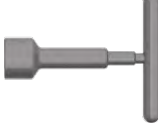
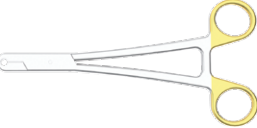

Instruments


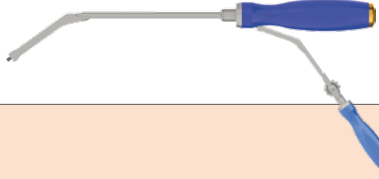



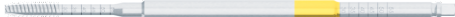


Item no.	Name	
1008010002	MIS Tissue Dilator	
1008010001	MIS Protective Sleeve	
33.2513.400	Guide wire Ø 1.3 x 400 mm, round	 optional
33.2517.400	Guide wire Ø 1.7 x 400 mm, round	 optional
33.2513.480	Guide wire Ø 1.3 x 480 mm, round	
33.2517.480	Guide wire Ø 1.7 x 480 mm, round	
1006020606	Jamshidi Needle Trokacut	
BMHN 1104 VX	Jamshidi Needle	





Item no.	Name	
1001010079	Cannulated Awl 30	
1106011101	Cannulated Awl without stop	 optional
1108010023	MIS ML2 Locking Screw Driver	
1101010006	Goniometer awl	 optional

Item no.	Name	
1008010007	Schraubendreherschaft (MIS Shaft Cannulated Polyaxial Screw Driver)	
1008010015	Setzschraubeneinsetzer (MIS Set Screw Inserter)	
1008010014	Setzschraubendreher (MIS Set Screw Driver)	
1008010006	Gegenhalter (MIS Counter Holder)	
1008010004	Gegenhalter ohne Griffstück (MIS Counter Holder without Handle)	

Item no.	Name	
1006010600	Kanülierter T-Griff (T-Handle Cannulated)	
1006010700	Kanülierter Ratschen T-Griff (Ratchet T-Handle Cannulated)	
1006010701	Kanülierter Ratschen T-Griff T-30 (Ratchet T-Handle Cannulated T30)	 optional
1001012000	Drehmomentschlüssel (Torque Driver-12)	
1006010900	Kanülierter gerader Griff (Handle Straight Cannulated)	
1006010800	Kanülierter gerader Ratschengriff (Ratchet Handle Straight Cannulated)	
1006010801	Kanülierter gerader Ratschengriff T-30 (Ratchet Handle Straight Cannulated T30)	 optional

Item no.	Name	
1008010010	MIS Head Holder	
1008010025	MIS Head Holder Reassembler	
1008010017	MIS Pusher Handle	
1008010016	MIS Adapter Screw	
1008010019	MIS Release Shaft	
1008010018	MIS Key	
1001010052	Rod Inserter	
055069	Stabbiagezange (Rod Bender)	

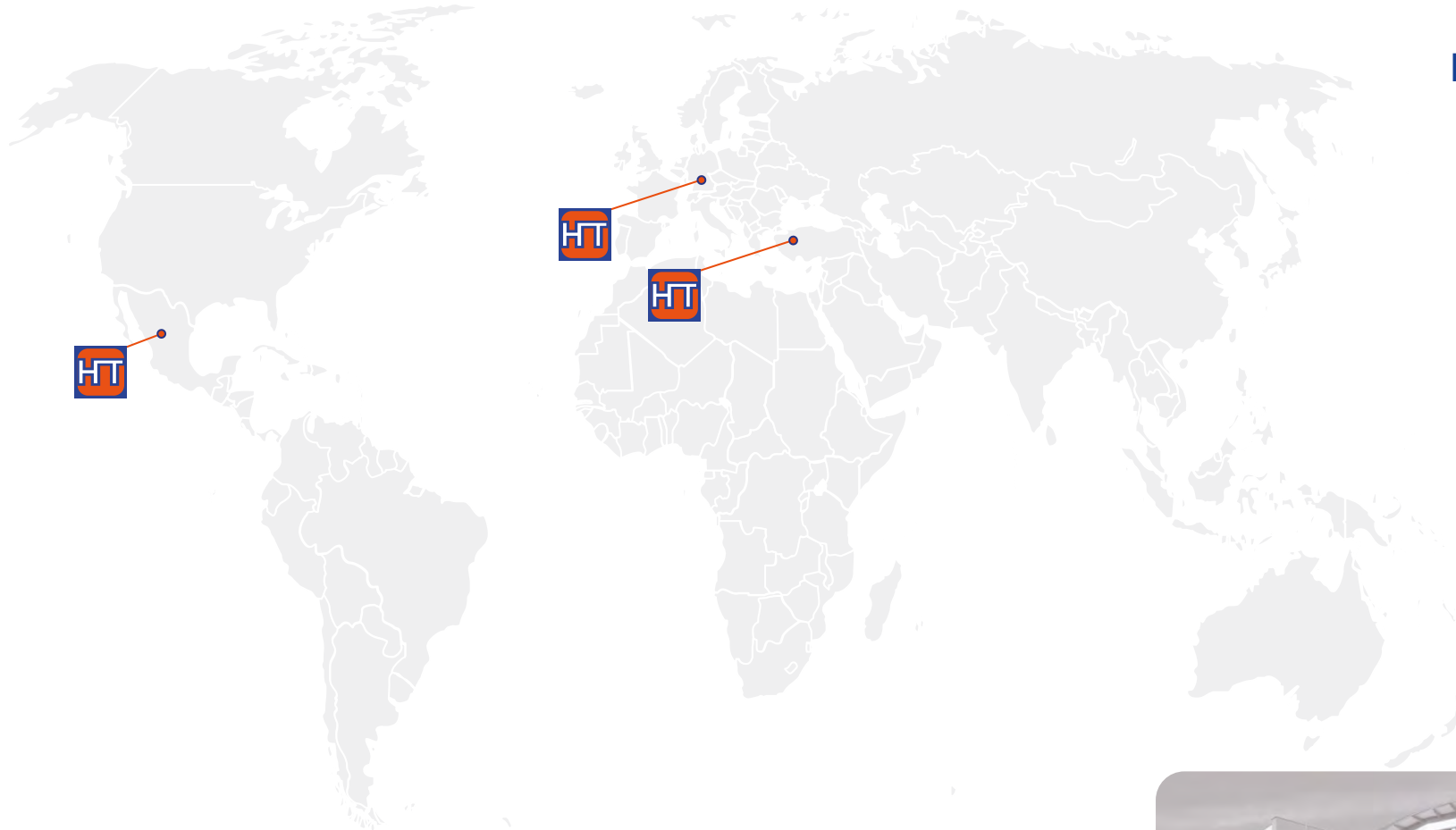
Item no.	Name	
1008010022	MIS Rod Holder short	
1008010024	MIS Rod Holder long	
1008010030	MIS Rod Holder 2	 optional
1008010005	MIS Rod Pusher	
1006011203 1006011200 1006011201 1006011202	Cannulated Tap 4.8 Cannulated Tap 5.5 Cannulated Tap 6.5 Cannulated Tap 7.2	
1010030015 1010030012 1010030013 1010030014	Cannulated 6T Tap 4.8 Cannulated 6T Tap 5.5 Cannulated 6T Tap 6.5 Cannulated 6T Tap 7.2	
1010030019 1010030016 1010030017 1010030018	Cannulated 6T Tap 4.8 4T Cannulated 6T Tap 5.5 4T Cannulated 6T Tap 6.5 4T Cannulated 6T Tap 7.2 4T	
1008018118	MIS Pusher handle bar	

Item no.	Name	
1006020600	Cement adapter	
1006020603	Bone Filler	
1006020601	Cementadapter Inserter	
1006020602	Cementadapter Extractor	



Minimally invasive fixation system

VENUSmini



Manufacturing and sales

HumanTech Spine GmbH

Gewerbestr. 5
D-71144 Steinenbronn

Germany

Phone: +49 (0) 7157/5246-71
Fax: +49 (0) 7157/5246-66
sales@humantech-spine.de
www.humantech-spine.de

Middle East sales

HumanTech Med. Sag. Tic. Ltd.

İkitelli OSB Tümsan 2. Kısım
C-Blok No: 47
TR-34306 Başakşehir İstanbul

Turkey

Phone: +90 (0) 212/485 6675
Fax: +90 (0) 212/485 6674
info@humantech.com.tr
www.humantech-spine.de

Sales Latin America

HumanTech Mexico, S. DE R.L. DE C.V.

Rio Mixcoac No. 212-3
Acacias del Valle
Del. Benito Juárez
C.P. 03240 Mexico, D.F.
Mexico

Phone: +52 (0) 55/5534 5645
Fax: +52 (0) 55/5534 4929
info@humantech-solutions.mx
www.humantech-spine.de



Follow us on:

