



VENUS[®]navi

Surgical technique

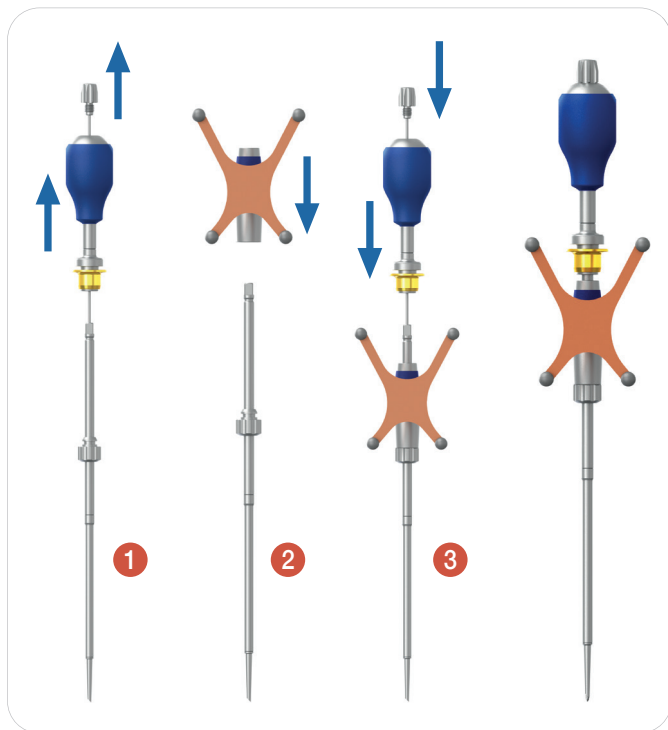


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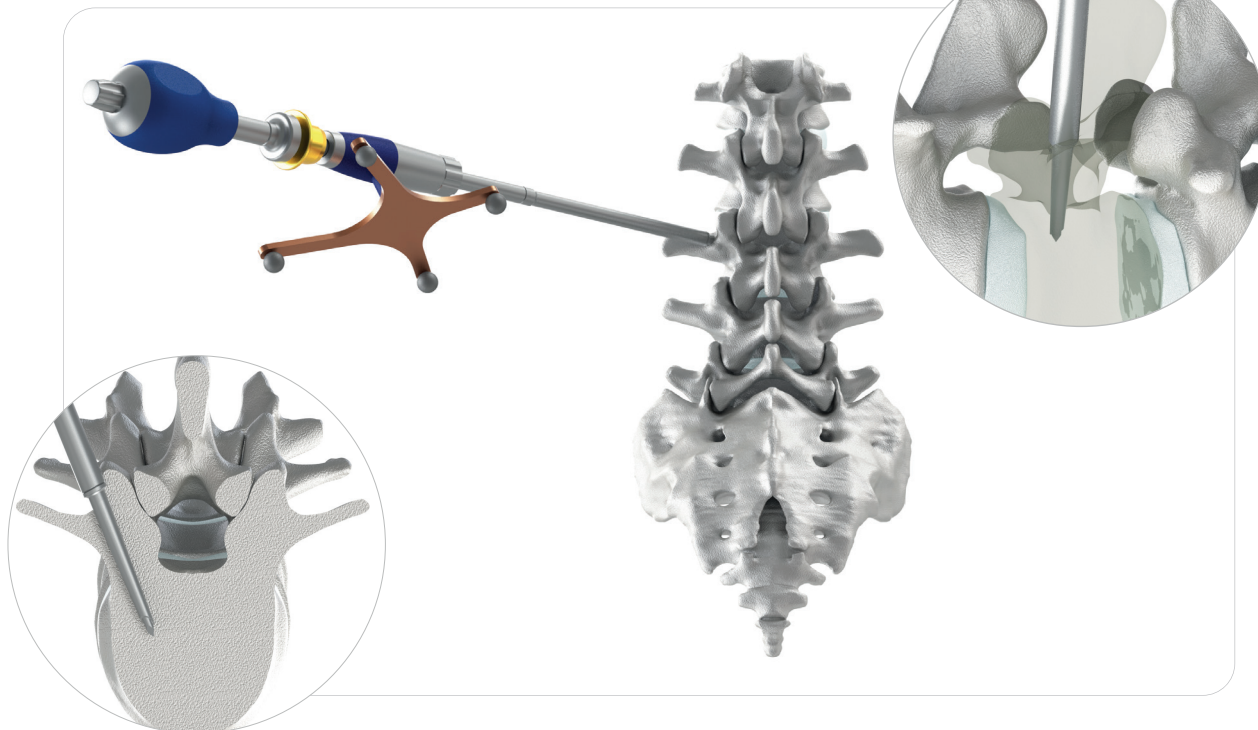
VENUSnavi

Application of cannulated awl



Assembly of the Cannulated Awl Navi

Unscrew the trocar wire of the cannulated awl (Cannulated Awl Navi) by turning the knurled grip element counter clockwise and pull it out backwards. Afterwards, pull the handle upwards by unlocking the coupling element (1). Mount the navigation adapter on the shaft of the awl from above (2). Replace the grip piece and insert the trocar wire into the cannulation and screw it into the grip piece by turning it clockwise (3). The pre-assembled instrument is automatically recognised by the navigation system after the instrument check and is immediately prepared for navigated use.



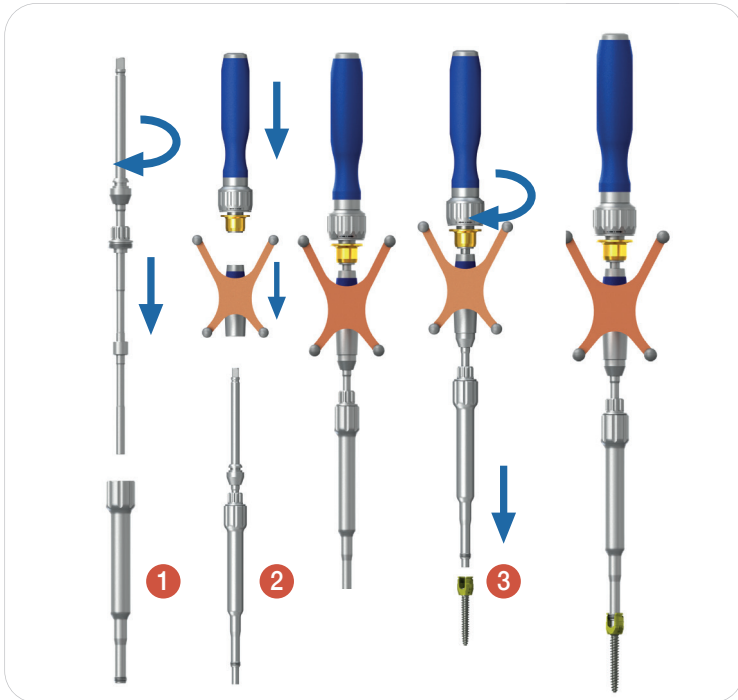
Preparation of the pedicle when using the Cannulated Awl Navi

The cannulated awl (Cannulated Awl Navi) is inserted until the tip rests on the bony anatomy. The pedicle entry point is determined by gentle hammer strikes. The tip of the awl should be inserted in as far as it can go. The movements of the cannulated awl can be closely monitored on the screen. Once the corresponding awl is securely placed in the pedicle, the trocar wire is removed by turning the knurled grip element counter clockwise and then pulling it backwards. The guide wire (K-Wire) is inserted into the cannulated awl and pushed beyond the tip of the awl to ensure adequate fixation in cancellous bone. Once the guide wire has been placed at the desired depth, the cannulated awl is carefully removed, holding the guide wire in position. All further surgical steps are described in the corresponding brochure.

Attention:

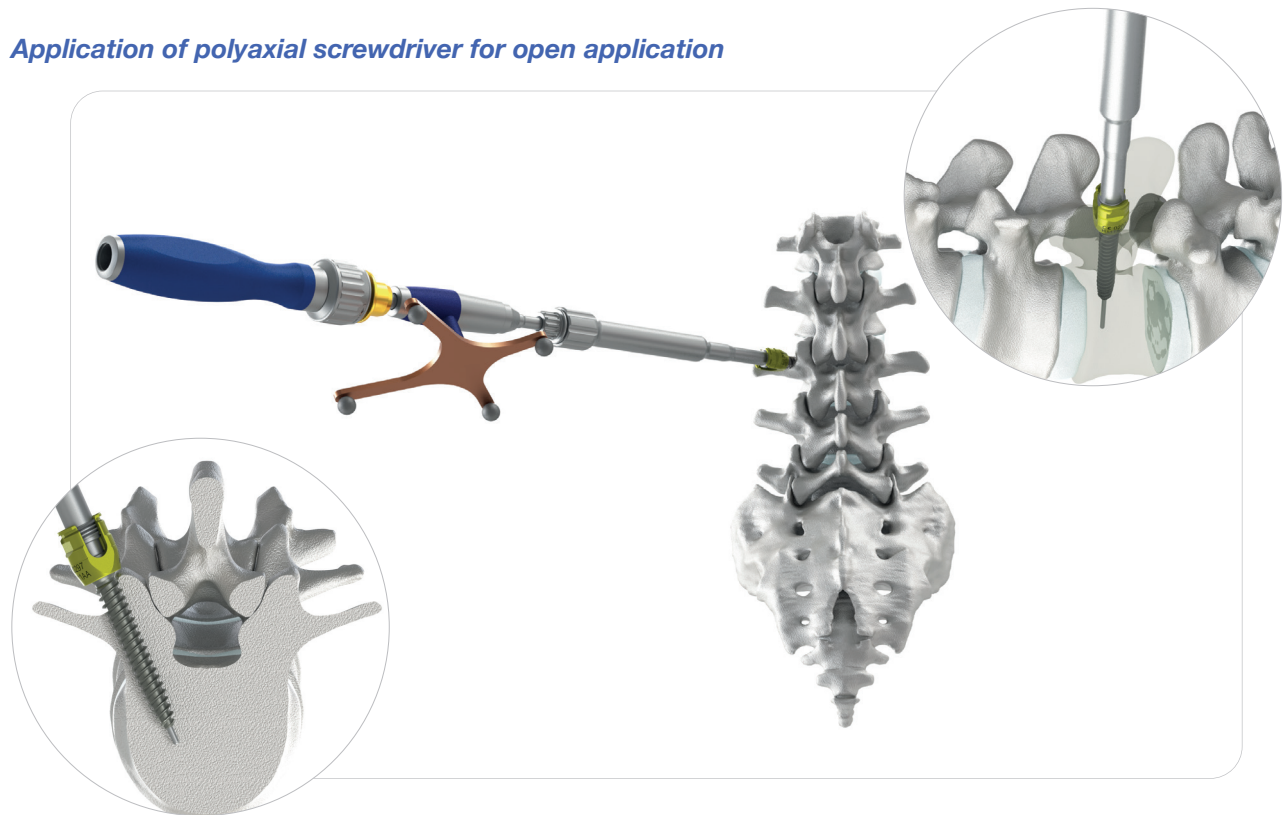
The trocar wire must be completely screwed in during the insertion of the Cannulated Awl Navi. Bent or kinked guide wires must be discarded.

Application of polyaxial screwdriver for open application



Assembly of the MIS Polyaxial Screwdriver 2.0 - Navi and connecting the polyaxial pedicle screw

Insert the MIS Polyaxial Screwdriver (MIS Polyaxial Screwdriver 2.0 - Navi), hexagon first, from above into the sleeve (Sleeve for MIS PSD 2.0 - Navi) and screw the connecting screw into the sleeve by turning it clockwise (1). Insert the navigation adapter and a handle from above onto the MIS polyaxial screwdriver (2). The pre-assembled instrument is automatically recognised by the navigation system after the instrument check and is immediately prepared for navigated use. Place the tip of the screwdriver on the outer hexagon of the shaft of the polyaxial pedicle screw under slight pressure and slight rotation and screw the polyaxial screwdriver into the screw head (3).



Implantation of the polyaxial pedicle screw

The polyaxial pedicle screw is implanted over the inserted guide wire. The movement of the polyaxial pedicle screw is shown on the screen. The guide wire can be removed once the screw is in its final position. The other screws are implanted in the same manner. The polyaxial screwdriver can be removed by loosening the sleeve. All further surgical steps are described in the corresponding brochure.

Attention:

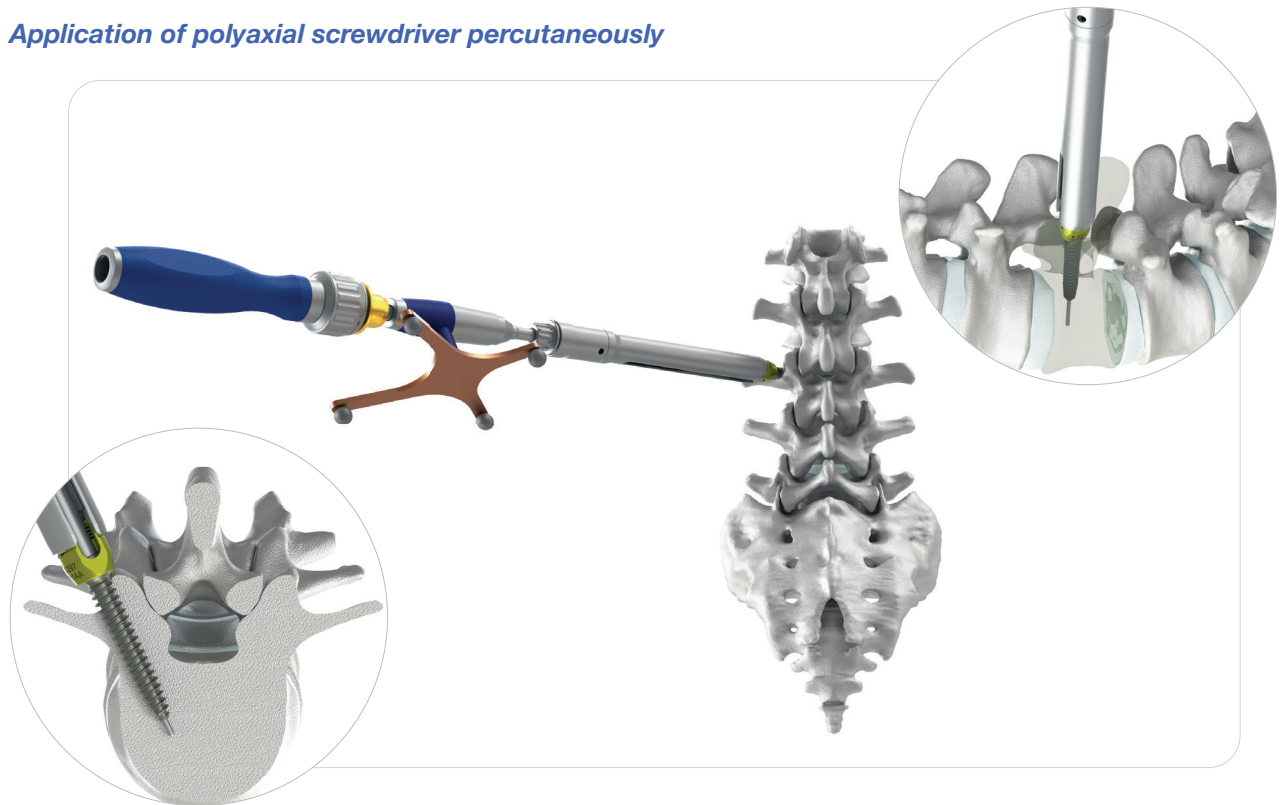
The guide wire must be held in position so that it is not pushed forward when the screw is inserted! In order to retain the polyaxiality, the screw head may not rest on the bone.

Application of polyaxial screwdriver percutaneously



Assembly of the MIS Polyaxial Screwdriver 2.0 - Navi, MIS Tower and polyaxial pedicle screw

Insert the navigation adapter and a handle from above onto the MIS polyaxial screwdriver (1). The pre-assembled instrument is automatically recognised by the navigation system after the instrument check and is immediately prepared for navigated use. Mount the polyaxial pedicle screw onto the MIS Tower using the assembly aid located in the VENUSmini 2.0 system (see VENUSmini 2.0 brochure) and insert the MIS polyaxial screw driver (MIS Polyaxial Screwdriver 2.0 - Navi) from above into the MIS Tower and place it on the outer hexagon of the screw shaft of the polyaxial pedicle screw while applying slight pressure and rotating it slightly. Then screw the connecting screw of the MIS polyaxial pedicle screwdriver into the MIS Tower by turning it clockwise (2).



Implantation of the polyaxial pedicle screw

The polyaxial pedicle screw is implanted over the inserted guide wire. The movement of the polyaxial pedicle screw is shown on the screen. The guide wire can be removed once the screw is in its final position. The other screws are implanted in the same manner. The polyaxial screwdriver can be removed by loosening the connecting screw. All further surgical steps are described in the corresponding brochure.

Attention:

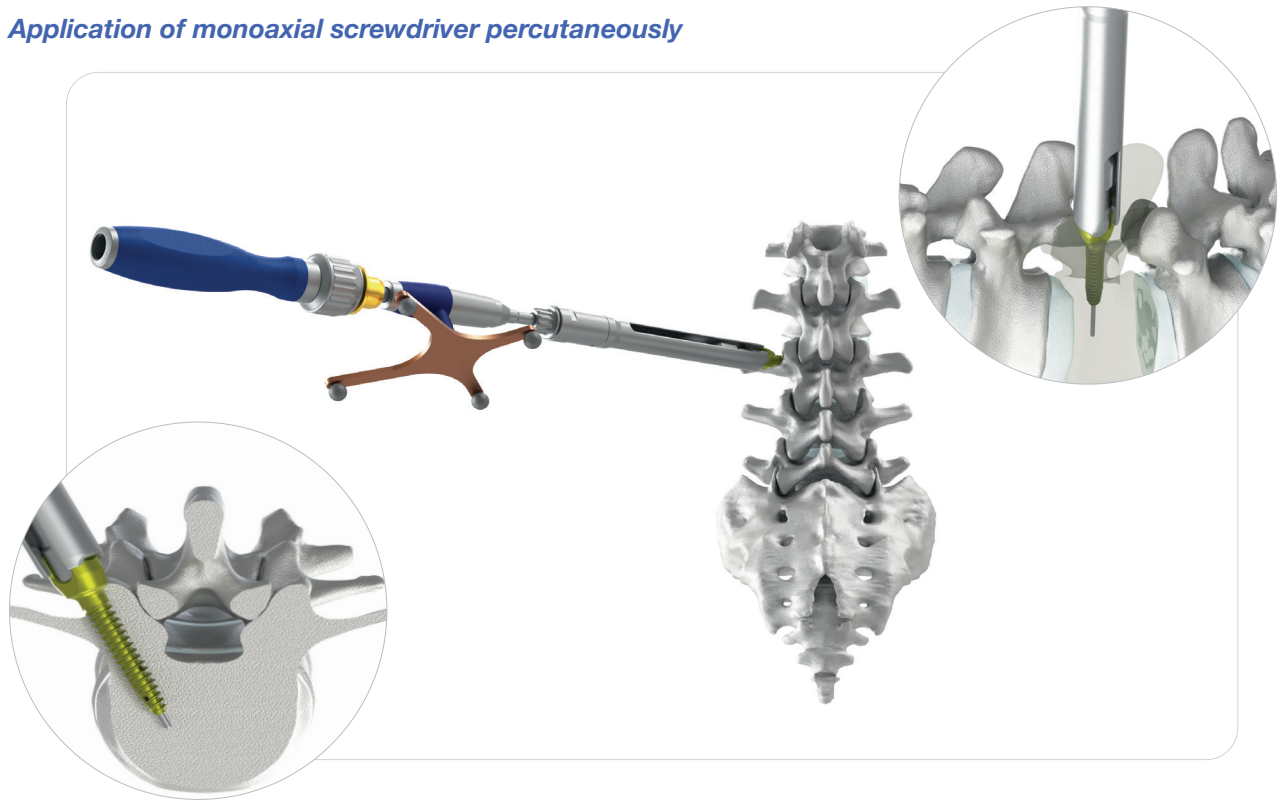
The guide wire must be held in position so that it is not pushed forward when the screw is inserted! In order to retain the polyaxiality, the screw head may not rest on the bone.

Application of monoaxial screwdriver percutaneously



Assembly of the MIS Monoaxial Screwdriver 2.0 - Navi, MIS Fracture Tower and monoaxial pedicle screw

Insert the navigation adapter and a handle from above onto the MIS monoaxial screwdriver (1). The pre-assembled instrument is automatically recognised by the navigation system after the instrument check and is immediately prepared for navigated use. Mount the monoaxial pedicle screw on the MIS Fracture Tower using the assembly aid located in the VENUSmini 2.0 system (see VENUSmini 2.0 Fracture - brochure) and insert the MIS monoaxial screw driver (MIS Monoaxial Screwdriver 2.0 - Navi) from above into the MIS Fracture Tower and insert it while applying slight pressure and rotating it slightly into the screw head of the mono screw. Then screw the connecting screw of the MIS monoaxial screwdriver into the MIS Fracture Tower by turning it clockwise (2).



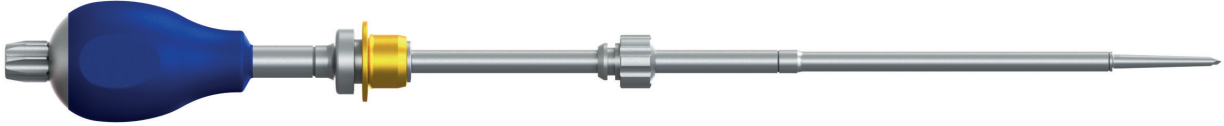

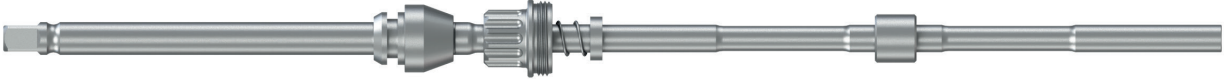
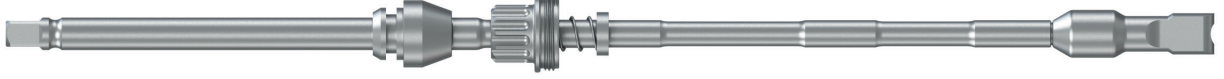
Implantation of the monoaxial pedicle screw

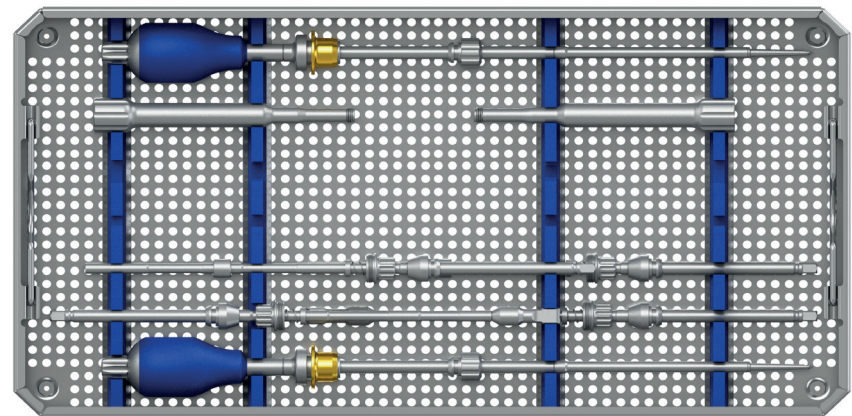
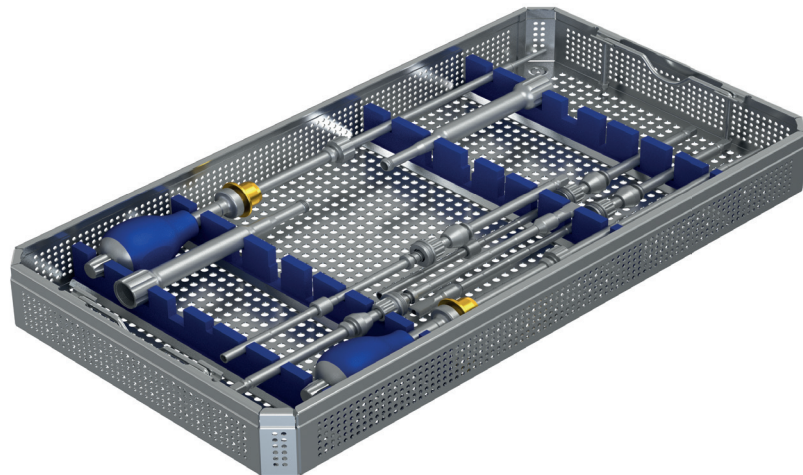
The monoaxial pedicle screw is implanted over the inserted guide wire. The movement of the monoaxial pedicle screw is depicted on the screen. The guide wire can be removed once the screw is in its final position. The other screws are implanted in the same manner. The monoaxial screwdriver can be removed by loosening the connecting screw. All further surgical steps are described in the corresponding brochure.

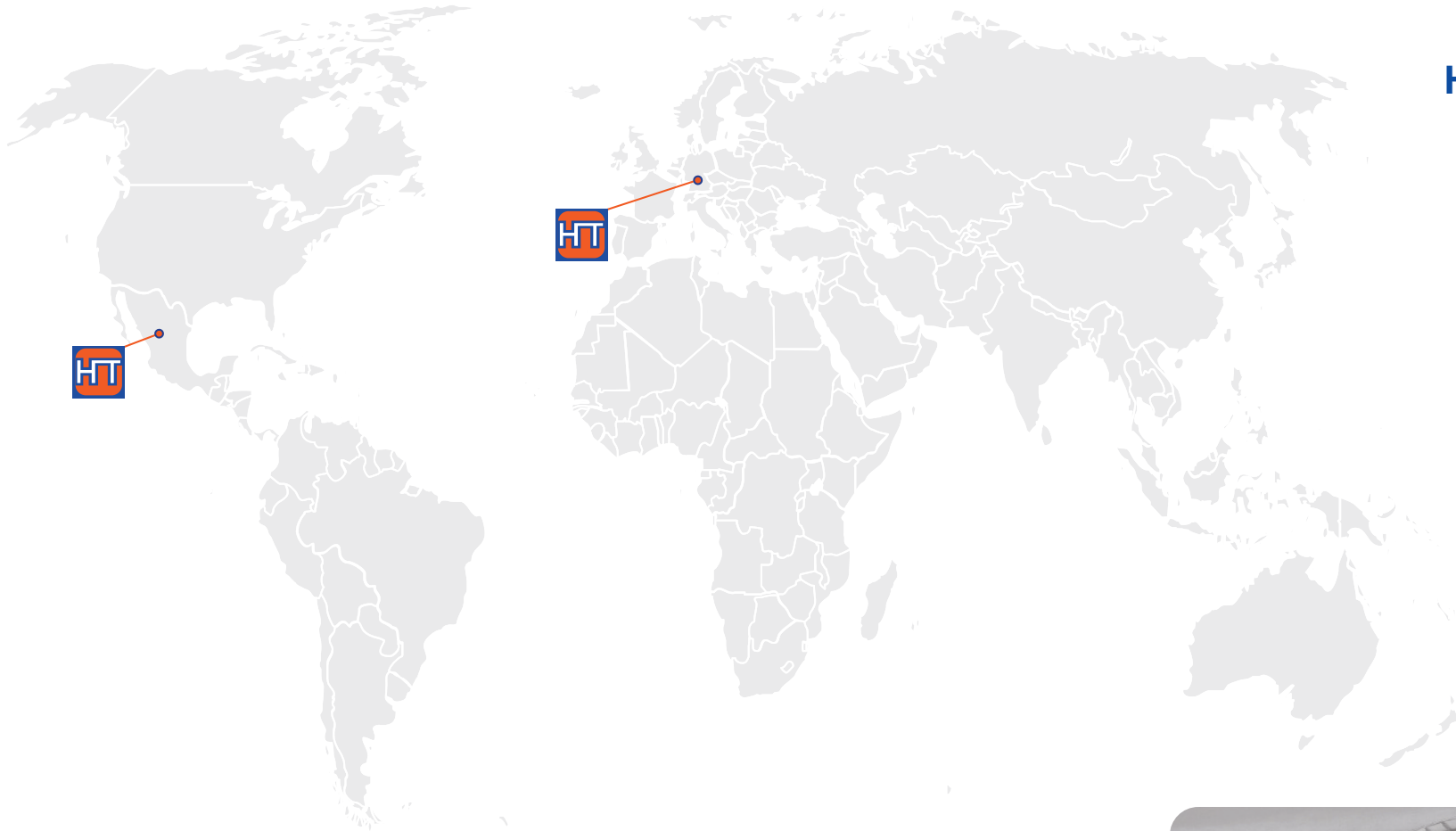
Attention:

The guide wire must be held in position so that it is not pushed forward when the screw is inserted! Given the design as a monoaxial pedicle screw, it is important to ensure that the long holes for the rods are aligned to accept the pedicle screws or the fracture towers. They must be aligned with each other before removing the MIS monoaxial screwdriver.

Instruments

Item no.	Name	
1014010000	Cannulated Awl Navi (kanülierter Pfriem)	
1014010005	Sleeve for MIS PSD 2.0 – Navi (Hülse)	
1014010003	MIS Polyaxial Screwdriver 2.0-Navi (MIS Polyaxialschraubendreher)	
1014010004	MIS Monoaxial Screwdriver 2.0-Navi (MIS Monoaxialschraubendreher)	





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