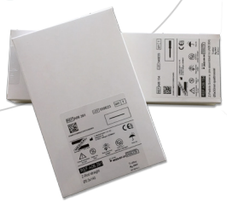
## Patented Pedicle Screw

The innovative screw design offers the possibility of a direct manipulation without an assembly of additional instruments.

* Easy handling
* Reduces OR-steps
* Uniplanar screw for fracture and deformity treatment



## Sterile Packaging

All implants are single sterile packaged and ready for surgery.

* Maximizing safety for surgeons and patients
* No contamination and damages to implants
* Full traceability of implants

## MIS Z-Pedicle Screw

| | |
|---|---|
| Screw [Ø]: | 5 / 6 / 7 / 8 mm |
| Length [mm]: | 35 / 40 / 45 / 50 / 55 mm |
| Rod [Ø]: | 5.5 mm |

Axialities:

* Polyaxial (PA)
* Quattroaxial (QA) for fractures & spondylolisthesis
* Quattroaxial-trans. (QA trans) for deformity treatments
* Monoaxial (MA)

This flyer is just for understanding the specific product features. Please refer to the MIS Z-Pedicle Screw Instruction for Use and Surgical Technique for complete description, indication and warnings!

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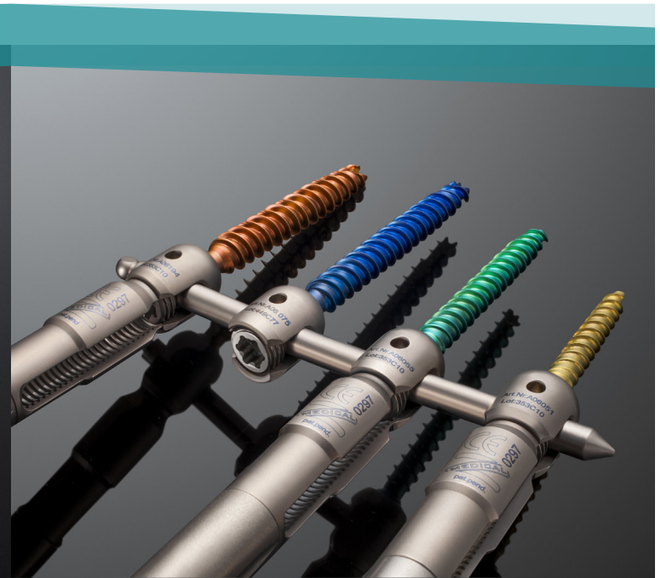


SURGICAL
INNOVATIONS

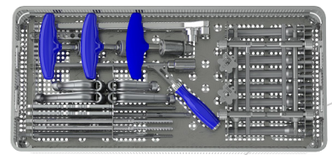
TECHNICAL DATA SHEET
**MIS Z-PEDICLE SCREW SYSTEM**

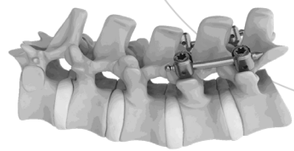


## Instrument Set

The MIS Z-Pedicle Screw System offer surgeons an ideal solution for their indication specific needs.

* Only one basic instrument set
* High versatility
* Intraoperative control features
* Significant timesaver on logistics & reprocessing





## Indication

The multifunctional system enables surgeons to efficiently and cost effectively address the most common pathologies.

* Approved for degenerative, trauma, tumor and deformity application
* Ideal treatment option for spondylolisthesis

## Innovative Implant Design

**Multifunctional Lengthening Shaft**

› Ø 12mm

**Pre-Assembled Ini (Set-Screw)**

› No cross-threading

**Reduction Thread**

› 45mm

**Patented SnapOff-Technique**

› Rigid connection between the shaft and the implant

› Burr-free separation

## Screw Design

**Patented Screw(head)design**

› 4 axialities

**Double thread with high pitch**

› Faster insertion time
› Strong purchase in the bone

**Cannulated and fenestrated**

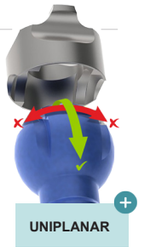
› Guided MIS screw insertion
› For dye or saline injections

**Thread features**

› Self-drilling & Self-tapping
› Fast initial bone grip

## Quattroaxial Screw

The Quattroaxial Screw allows shorter instrumentation and simplifies reposition.




**Degree of freedom:**

› Medial-Lateral: moving freely
› Cranio-Caudal: blocked

**Advantages vs. Polyaxial Screw:**

› No anterior height loss due to 2-3 times higher angular stability

› No sliding of screw head due to the tongue and groove feature

**Advantages vs. Monoaxial Screw:**

› Facilitates the rod insertion and minimizes undesired tension

## Reduction / Reposition

› Easy alignment after surgical reduction of spondylolisthesis

› Without additional instruments

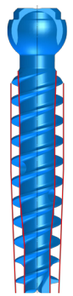
› Directly achieved with the pre-assembled set-screw and the long reduction thread

## Thread Design

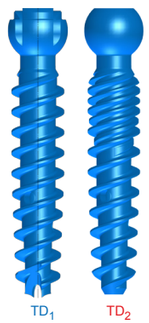
**Advantages:**

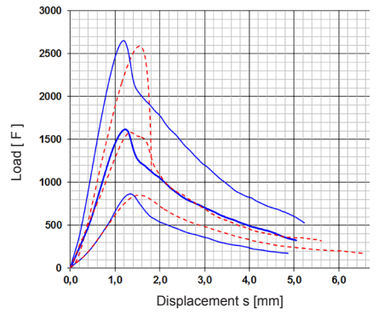
› The multi-conical double thread design increases stability and pullout resistance in the pedicle and offers ease of insertion.

› The conical outlet section of the core additionally stabilises at the pedicle entry and strengthens the purchase by the compression of the bone.



## Pullout Strength



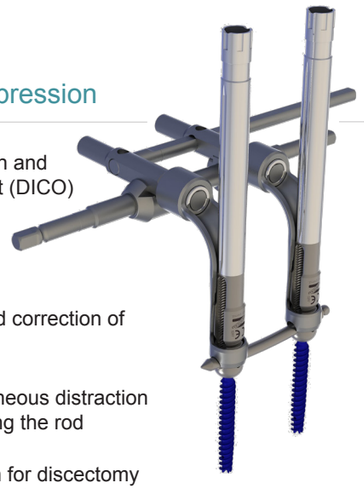

TD1= Z-Medical thread design, self-drilling and -tapping
TD2= Competitor thread design of a common screw with cortical and cancellous threads sections.

Results are based on mechanical tests performed by an independent testing laboratory, the Steinbeis Transfer Center BWF Esslingen. Tested in accordance with ASTM F543 [4].

| Manufacturer | Foam density [ PCF ] | Maximum Pullout Load $F_{max}$ [N] |
|---|---|---|
| Z-Medical $TD_1$ | 10 | 867 |
| | 15 | 1620 |
| | 20 | 2652 |
| Competitor $TD_2$ | 10 | 853 |
| | 15 | 1588 |
| | 20 | 2590 |

## Distraction / Compression

The universal distraction and compression instrument (DICO) enables:



› A direct and controlled correction of complex fractures

› An open and percutaneous distraction and compression along the rod

› Segmental distraction for discectomy and/ or insertion of an interbody device

› Same approach as MIS screw, application via the lengthening shaft