

# VariLift<sup>®</sup>-IX

## Interbody Fusion Device

The Solution for Expandable Stand-Alone Lumbar Interbody Fusion

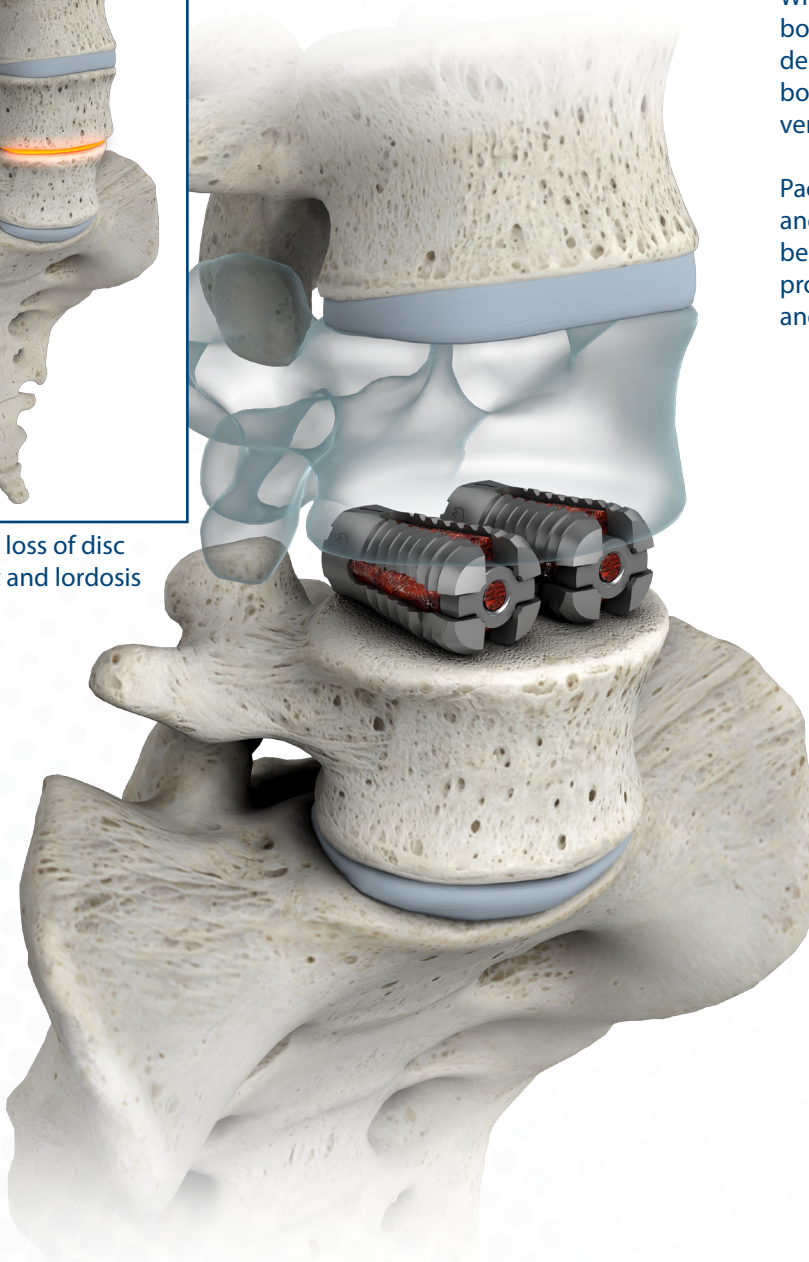




## The Solution for Expandable Stand-Alone Lumbar Interbody Fusion



Preoperative loss of disc space height and lordosis



### Generous Graft Chamber

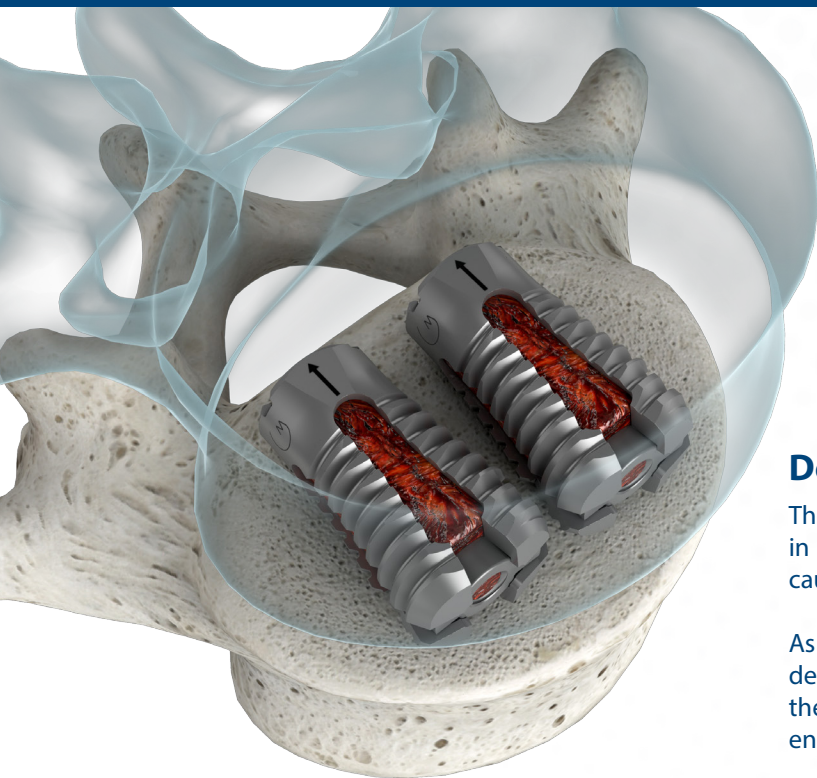
With four large fenestrations and a generous bone graft chamber, VariLift-LX devices are designed to allow maximum contact between bone graft and endplates to promote vertebral fusion.

Packed with bone graft after implantation and expansion, the VariLift-LX devices can be over-packed. Over-packing the device provides additional endplate-to-graft contact and can increase rates of bony fusion.

- Stand-Alone Device
- True Zero-Profile Construct, No Screws or Rods
- Unilateral TLIF or Bilateral PLIF Placement
- Expands *In Situ*
- Zero Impact Insertion
- Immediate and Long-term Stability
- Large Fenestrations for Fusion Assessment
- Generous Graft Chamber
- Restores up to 8-9° of Lordosis

### Proven Mechanical Strength

Pre-clinical, biomechanical testing demonstrated that the VariLift-LX can withstand loads that exceed expected in-vivo conditions.<sup>(1)</sup>



## Designed to Resist Migration and Subsidence

The VariLift-LX surgical technique advances the device into the disc in a manner that preserves the endplate cortical bone and limits causes of subsidence.

As the VariLift-LX is expanded, the near cylindrical shape of the device becomes wedged with 8-9° of lordosis. The grooves on the surface of the device provide stable primary fixation with the endplate surface to resist migration.<sup>(1)</sup>

## Titanium Alloy

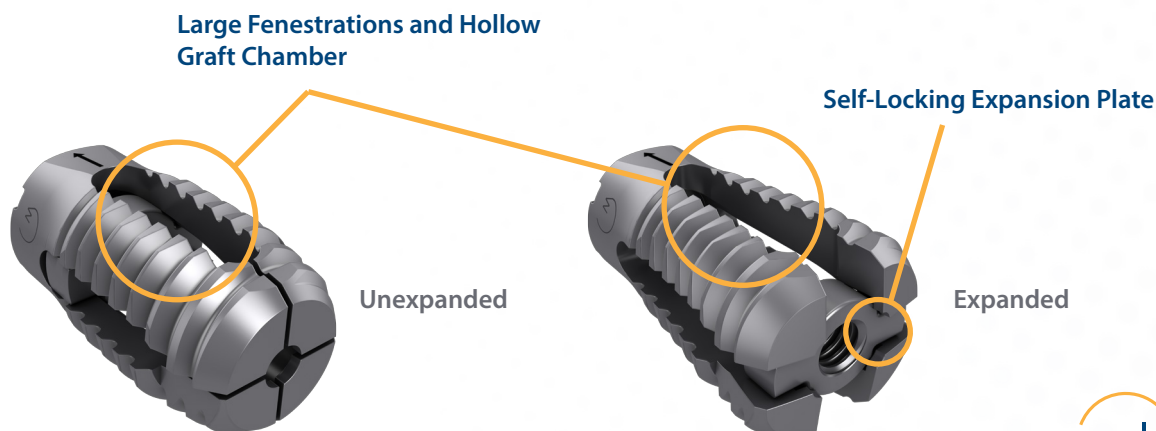
Titanium alloy (Ti-6Al-4V) is a high-performance material well known for its strength and biocompatibility in orthopedic applications.<sup>(4)</sup> It is considered the “gold standard” for achieving secondary fixation in bone-contacting orthopedic applications.

### The Material Properties of Titanium Alloy Allow the VariLift-LX Device to:

- Provide *in situ* expansion
- Meet the biomechanical demands of stand-alone use
- Include large fenestrations and a generous bone graft chamber

## Expands *In Situ*

The VariLift-LX is designed to be introduced into the disc space as a near cylindrical device and expanded *in situ*. The expansion causes the device edges to gain further purchase into the cortical endplates and provide immediate stability.



The stand-alone VariLift-LX Interbody Fusion device is a simplified approach to lumbar fixation. With a no-impact insertion procedure and an innovative expanding design, the VariLift-LX provides a true zero-profile, stand-alone solution to lumbar fusion.

## REFERENCES

- (1) Test reports on file with Wenzel Spine and are available upon request.
- (2) Oxland TR, Grant JP, Dvorak MF, Fisher CG. Effects of Endplate Removal on the Structural Properties of the Lower Lumbar Vertebral Bodies. *Spine* 2003;28(8): 771 -777.
- (3) Lowe TG, Hashim S, Wilson LA, O'Brien MF, Smith DA, Diekmann MJ, Trommter J. A Biomechanical Study of Regional Endplate Strength and Cage Morphology as It Relates to Structural Interbody Support. *Spine* 2004; 29(21):2389-94.
- (4) Yoshiki O. *Bioscience and bioengineering of titanium materials*. Elsevier: Amsterdam, 2007.
- (5) Kieswetter K, et al. The role of implant surface characteristics in the healing of bone, *Crit Rev Oral Biol Med* (1996), 7(4): 329-345
- (6) Benezel EC. *Biomechanics of spine stabilization*. Thieme New York, 2001.
- (7) Korovessis PG, Deligianni DP. Role of surface roughness of titanium versus hydroxyapatite on human bone marrow cells response. *Journal of Spinal Disorders and Techniques* (2002) 15(2): 175-183

Please Refer to the IFU for additional information.



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