SPIRA®-C

OPEN MATRIX CERVICAL INTERBODY

SURFACE BY DESIGN™

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LIFE UPRIGHT™

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SPIRA®-C

OPEN MATRIX CERVICAL INTERBODY

Titanium Open Architecture cervical interbody with *Surface By Design*™ technology to optimize bone growth.

- Engineered to:
  - Decrease Subsidence
  - Maximize Graft Volume
- 3D printed Titanium Alloy TI-6AL-4V (Grade 23) per ASTM F3001-14
- Offered in three different footprint sizes to accommodate patient anatomy
- Graft volume ranges from .3 cc in the smallest size up to 1.2 cc's in the largest size

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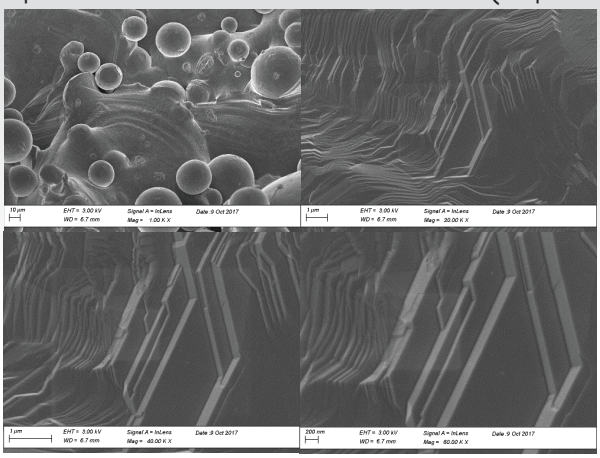
Sizing:
Lordosis 7°; Heights of 5 to 12mm (1mm increments);
Footprints of 12 x 14.5, 12.5 x 16, 13 x 18 (depth x width, mm)

SURFACE BY DESIGN™

- Provides immediate stability with surface features designed for significant friction to help prevent motion
- Encourages bone cell proliferation with roughened titanium surface[1,2]
- Promotes "*mechanical fusion*" bone ingrowth for short-term stability, using trabecular, bone-like surface design, with an average pore diameter of 500µm



SEM Analysis: 1000, 20,000, 40,000 and 60,000x Magnification

- **SPIRA®'s open architecture, arched design** has large openings for significant graft packing. It decreases the risk of subsidence due to the design's "snowshoe effect" and provides good visibility for fusion.
- Newly-forming bone grows onto and through the multiple roughened titanium arches to achieve maximum stability and complete endplate-to-endplate arthrodesis
- The implant enables easy insertion with a smooth leading edge and pockets that interlock with the inserter to provide rotational stability.
- The arched design enables a distribution of load and stress throughout the cage, which is known from Wolff's law to enhance fusion, and protects fusion zones from excessive stress.

Surface By Design™ together with the Spira® open architecture arched design enables the goal of endplate-to-endplate fusion and long-term stability.

[1] Deligianni, D. D., et al. "Effect of surface roughness of the titanium alloy Ti–6Al–4V on human bone marrow cell response and on protein adsorption." Biomaterials 22.11 (2001): 1241-1251.
[2] Martin, J. Y., et al. "Effect of titanium surface roughness on proliferation, differentiation, and protein synthesis of human osteoblast-like cells (MG63)." Journal of biomedical materials research 29.3 (1995): 389-401.

SPIRA® Technology: U.S. Patent 9,918,849 B2 Granted on March 20, 2018