

AT THE HEART OF ADVANCING MEDICAL TECHNOLOGY

Senior Metal Bellows is an engineered solutions provider to the medical equipment and device community known for unparalleled performance and reliability displacing conventional approaches in design, development and manufacturing.

Our engineering expertise and familiarity with industry specification requirements along with an innovative approach and breadth of knowledge throughout the design and manufacturing process has earned us the reputation of a trusted partner in life-critical applications.

MEDICAL DESIGN, MANUFACTURING AND ENGINEERING CAPABILITIES



Structural Analysis Stress Analysis Optimization for Reduced Parts Count
Fatigue Analysis Design for Manufacturability Component Miniaturization

THE EDGE-WELDED METAL BELLOWS ADVANTAGE

REPEATABLE PERFORMANCE

NO STICTION

CUSTOMIZED SPRING RATE

HERMETICALLY SEALED

LONG CYCLE LIFE

NO DEAD VOLUME

FABRICATION AND ASSEMBLY TO YOUR SPECIFICATIONS

We can custom design and manufacture a bellows or higher level assembly to meet your specific needs and then use our precision metal joining and fabrication capabilities to provide you with world-class products with the highest quality.

● **LET'S TALK!** For any questions or to engage with our technical team, please contact us at

Solutions@metalbellows.com

METAL BELLOWS TECHNOLOGY

ALREADY EMBEDDED IN BREAKTHROUGH MEDICAL APPLICATIONS

Radiation Therapy Equipment Welded Metal Bellows Dynamic Seal

Radiation therapy equipment uses a welded metal bellows hermetic seal in its beam alignment mechanism. The welded metal bellows allows for a range of axial and angular motion while maintaining a hermetic seal. Welded metal bellows can provide this range of motion in a small package and are capable of a very high cycle life.



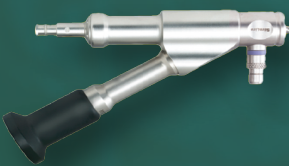
Hyperbaric Chamber Welded Metal Bellows Compressor

Our pumps and compressors provide for zero leakage, hermetic operation. All wetted surfaces are stainless steel and there are no wearing surfaces and no lubrication required.

This results in maintenance free, clean operation, long life and high reliability.

Implantable Drug Pump Welded Metal Bellows Reservoir

Extremely thin gauge titanium welded bellows are used in the peristaltic pump device as the main drug reservoir. This pump is used to combat chronic pain as well as other therapies. The bellows provides a flexible boundary between the medication and the gas pressure used to deliver the dosage to the pump. The benefits include a long cycle life as well as leak free operation - critical to the pump's success.



Medical Instruments Precision Welding and Metal Joining

Surgical instruments require precision metal joining of very thin gauge metals. Materials include stainless steel, titanium and other alloys. The same precision metal joining processes used for metal bellows assemblies can be applied to non-bellows thin gauge metal joining. Processes include TIG and laser welding as well as vacuum furnace brazing.

For larger, heavier gauge medical welding we also have electron beam welding capabilities.