



## Mechanical Feedthroughs

### OVERVIEW

Edge welded bellows act as a flexible seal when designed as a mechanical feedthrough, allowing movement of a tool within a sealed environment under vacuum or positive pressure. Linear and angular motion for “wobble stick” applications is also available. Metal bellows are also used within a bearing housing to translate rotation from an input shaft to a co-linear output shaft while sealing hermetically, eliminating the need for a dynamic seal.

Edge welded bellows provide the greatest flexibility and motion of any bellows technology, reaching a 90% stroke length. Edge welded metal bellows can be exposed to extreme temperatures and media with a wide selection of materials. Both the inside and outside of the bellows can be exposed liquids and gases as well. By changing the diaphragm thickness or creating a mutli-ply assembly, BellowsTech can reach higher pressure ranges than ever thought possible with a welded assembly. Bellows can be manufactured for positive pressures as well as ultra high vacuum (UHV).

With a high level of expertise in design and manufacturing, BellowsTech can build the assembly to customer specified prints. With expertise in specialty welding, lean manufacturing practices, and tight machining tolerances, bellows assembly services create a cost effect, reliable feedthrough solution.



### TYPICAL INDUSTRIES

Semiconductor

Cryogenic

Automation

### BENEFITS

All Metal Seal

Flex Distance

Rotational Capability

### SPECIFICATIONS

<b>Material</b>	Stainless Steels, Alloys, & Titanium available. Consult Factory.
<b>Thickness</b>	From 0.002” and up every 0.001”
<b>Standard Leak Rate</b>	From $<1 \times 10^{-9}$ std CC He/sec (check material)
<b>Size Ranges</b>	
Outside Diameter	0.358" (9.0932mm) to 22.205" (564mm)
Inside Diameter	.198" (5.029mm) to 19.921" (505.99mm)
<b>Shapes</b>	Round; Non-Round avail. Contact Factory
<b>Length</b>	Up to 96" (244 cm)

### Why Choose Edge Welded Bellows?

Of the three major metal bellows technologies, edge welded metal bellows have the highest stroke length, reaching 90% of its free length. This flexibility allows for increased expansion and contraction of the bellows. Edge welded bellows can be exposed to extreme temperatures and media with a wide selection of materials. Both the inside and outside of the bellows can be exposed liquids and gases. Edge welded metal bellows also have a high cycle life to produce repeatable results and round or square shapes.