

## Stainless Steel Bellows

### OVERVIEW

Stainless steel bellows offer the best price to performance ratio of any material. Stainless steel bellows maintain their high strength capability and custom design with varying thicknesses. BellowsTech has superior welding practices to ensure that the bellows assembly performs to our customers' requirements. Within the stainless steel bellows family, BellowsTech offers AM350\*, 316L, 347, 321 and 304L SS.

AM350 is a high-strength alloy that produces highly accurate and repeatable results with an operating range from -100°F to 800°F. The metal is slightly magnetic and is used in non-acidic environments.

For cryogenic and non-magnetic applications, BellowsTech prefers 316L stainless steel material. It operates from -420° up to 800°F. 316L material also offers better corrosion resistance for acidic applications. 321, 347 and 304L stainless steels are available through BellowsTech, yet are typically used for legacy, drop in replacement applications.

BellowsTech manufactures its bellows by stamping metal diaphragms, welding inside diameters to form convolutions, and finally welding the outside diameters. This creates a very strong, yet flexible mechanical conduit compatible with liquids and gases. Various diaphragm thickness are available as well as two-ply construction for higher pressures.

BellowsTech can build its assemblies using stainless steel from ultra-high vacuum (UHV) to positive pressures. Whether our customer requires an actuator, volume compensator, expansion joint, or flexible seal, BellowsTech can design and manufacture to customer specifications.

SPECIFICATIONS	
<b>Material</b>	304L, 347, AM350, or 316L SS
<b>Thickness</b>	0.002" and up every 0.001"
<b>Standard Leak Rate</b>	$<1 \times 10^{-9}$ std CC He/sec
<b>Size Ranges:</b>	
Outside Diameter	0.358" (9.0932mm) to 22.205" (564mm)*
Inside Diameter	0.198" (5.029mm) to 19.921" (505.99mm)*
<b>Shapes:</b>	Round
	Non-Round Available; Contact Factory.



### TYPICAL INDUSTRIES

Semiconductor

Industrial & Test Equipment

Chemical Processing

### BENEFITS

Price to Performance Ratio

Thickness Capability

Low Leak Rate

### 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.