

Ultralon PTFE Lined Metal Bellows Expansion Joints

The unique **ULTRALON PTFE Lined** stainless steel bellows expansion joints combine the desirable properties of both stainless steel and PTFE into the most advanced, versatile expansion joint on the market today. **ULTRALON** was designed to meet the process piping needs of the chemical/petrochemical, power generation, wastewater treatment, pulp & paper, high-technology, and other demanding needs. The **ULTRALON** expansion joint is versatile and will:

- *Absorb pipe movements and stress*
- *Isolate mechanical vibration*
- *Reduce systems noise*
- *Protect against surge forces*
- *Handle high pressures and high temperatures simultaneously*



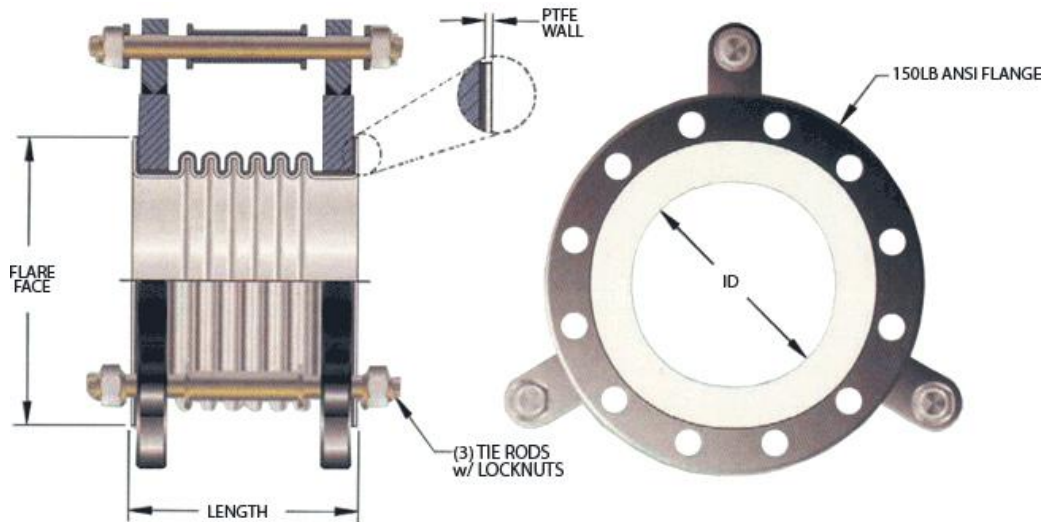
ULTRALON is a problem solving product in many high temperature applications. Unlike ordinary molded PTFE bellows expansion joints or PTFE lined elastomeric expansion joints, should occasional conditions exceeding 500°F. occur, **ULTRALON** will maintain its pressure carrying capacity up to 1200°F.—providng adequate time for system shut-down and replacement.

The construction of the **ULTRALON** expansion joint utilizes a stainless steel, Inconel, or Hastelloy bellows in combination with a blow-molded PTFE tube or lining formed into the bellows during manufacture. This is not a “spray-in” liner, but a thick PTFE molded interior, following the corrugations of the expansion joint. **ULTRALON** expansion joints can offer working temperatures from -300°F. to +400°F., and a choice of bellows rated for working pressures of 50, 150, or 300 PSIG. Bellows can be single or multiply. Gimbal, hinged, dual, and universal tied styles are construction options. Flanges are available in carbon steel, stainless steel, epoxy coated, or PTFE encapsulated. Vanstone ends where all wetted surfaces are lined with PTFE are common. **ULTRALON** expansion joints can be manufactured in custom overall lengths and in custom movement capabilities. Consult Unisource for information on the special construction you need for your application.

Options include radiography of longitudinal bellows seam weld, PMI (Positive Material Identification of bellows, dye penetrant testing, spark testing at 30,000 volts, and hydro-testing at 1.5 times with working pressure. In addition, internal vacuum rings can be added, protective covers are available, and internal flow liners can be installed in the bellows.

Sizes range from 1-1/2” to 24” diameter. Bellows are built in lengths from four convolutions to 12 convolutions, depending on the movements desired. For handling just equipment vibration and surge forces, choose a multiply bellows in one of the shorter overall lengths. To absorb large amounts of pipe growth, choose more convolutions to absorb the needed pipe growth. As in all expansion joint applications, adequate main anchors are required and pipe alignment guides may be needed to prevent pipe buckling due to thrust forces and spring loads.

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MOVEMENT CAPABILITIES

ULTRALON MOVEMENTS (Inches) / EXTENSION & COMPRESSION																		
Size (In)	4 Corrugation		5 Corrugation		6 Corrugation		7 Corrugation		8 Corrugation		9 Corrugation		10 Corrugation		11 Corrugation		12 Corrugation	
	Ext	Com	Ext	Com	Ext	Com	Ext	Com	Ext	Com	Ext	Com	Ext	Com	Ext	Com	Ext	Com
1-1/2	0.10	0.40	0.13	0.54	0.17	0.67	0.20	0.81	0.24	0.94	0.27	1.08	0.30	1.21	0.34	1.34	0.37	1.48
2	0.10	0.39	0.13	0.52	0.16	0.66	0.20	0.79	0.23	0.92	0.26	1.05	0.30	1.18	0.33	1.31	0.36	1.44
3	0.10	0.39	0.13	0.53	0.16	0.66	0.20	0.79	0.23	0.92	0.26	1.05	0.30	1.18	0.33	1.32	0.36	1.45
4	0.11	0.42	0.14	0.56	0.18	0.70	0.21	0.84	0.25	0.98	0.28	1.12	0.32	1.26	0.35	1.40	0.39	1.54
6	0.14	0.55	0.18	0.73	0.23	0.91	0.27	1.09	0.32	1.28	0.36	1.46	0.41	1.64	0.46	1.82	0.50	2.01
8	0.14	0.55	0.18	0.73	0.23	0.91	0.27	1.10	0.32	1.28	0.37	1.46	0.41	1.65	0.46	1.83	0.50	2.01
10	0.14	0.55	0.18	0.73	0.23	0.92	0.27	1.10	0.32	1.28	0.37	1.47	0.41	1.65	0.46	1.83	0.50	2.02
12	0.17	0.67	0.22	0.90	0.28	1.12	0.34	1.34	0.39	1.57	0.45	1.79	0.50	2.02	0.56	2.24	0.62	2.46
14	0.24	0.94	0.31	1.26	0.39	1.57	0.47	1.89	0.55	2.20	0.63	2.52	0.71	2.83	0.79	3.15	0.87	3.46
16	0.21	0.85	0.28	1.14	0.36	1.42	0.43	1.71	0.50	1.99	0.57	2.28	0.64	2.56	0.71	2.85	0.78	3.13
18	0.21	0.85	0.28	1.14	0.36	1.42	0.43	1.71	0.50	1.99	0.57	2.28	0.64	2.56	0.71	2.85	0.78	3.13
20	0.23	0.91	0.30	1.22	0.38	1.52	0.46	1.83	0.53	2.13	0.61	2.44	0.69	2.74	0.76	3.05	0.84	3.35
24	0.27	1.06	0.35	1.42	0.44	1.77	0.53	2.13	0.62	2.48	0.71	2.84	0.80	3.19	0.89	3.55	0.98	3.90