

TEFBELLOWS

PTFE Lined Metal Expansion Joints



The TEFBellow series is an expansion joint that combines the properties of metal and PTFE into the most advanced, versatile expansion joint on the market today.

Unlike ordinary solid PTFE or Elastomeric type expansion joints, should up-set conditions exceeding 500°F occur, the TEFBellows will maintain its pressure carrying capacity up to 1200°F, adequate time for system shut-down and replacement.



Safety

The Tefbellow series PTFE or FEP tubes are formed into a Stainless Steel, Inconel®, Monel®, or Hastelloy® corrugated tube.

Additional Types of Expansion Joints: Lined, Hinged, Dual and Universal Tied

Note: For environmentally corrosive applications; laminated, (multi-ply) bellows as well as the optional features listed below are available.

- Highly corrosive chemical-petrochemical systems
- Abrasive industrial process piping systems
- Power generating and waste water treatment plants
- Pulp/paper systems and marine services
- Pollution control systems

Optional Testing Procedures

- Radiography of longitudinal bellows seam weld
- (PMI) Positive Material Identification of Bellows
- Optional Coatings
- Four-part epoxy coating for flanges
- Fluoropolymer coated flanges, threaded rod and nuts

The TEFBellow Series will:

- Absorb pipe movement and stress
- Isolate mechanical vibration
- Reduce system noise
- Protect against surge forces

Standard Testing Procedures

- Dye penetrant test of all pressure boundary welds
- Spark test at 30,000 volts, exceeds industry standard of 10,000 volts
- Hydro test at 1.5 times the design pressure for 10 minutes

Optional Features

- Special flange construction, configuration and materials
- Internal vacuum rings for full vacuum service constructed of Stainless Steel, Nickel Alloys and Tantalum
- Protective covers available in Stainless Steel and Nickel Alloys
- Internal flow liners available in Stainless Steel, Nickel Alloys and PTFE

Working temperature from -300°F to +400°F

Working Pressure: 50, 150 and 300 PSIG (please specify). For pressure above 300 PSIG, consult factory.



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Design Movements

Movements as described are for axial compression and extension. For lateral movements, consult factory.

Movements-Bellows Corrugation Count/Number of Convolutions																		
Size I.D. (in.)	4		5		6		7		8		9		10		11		12	
	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

Note: Axial extension may be increased by reducing compression, consult factory

Face-to-Face Dimensions									
Size N.D. In.	4 Conv.	5 Conv.	6 Conv.	7 Conv.	8 Conv.	9 Conv.	10 Conv.	11 Conv.	12 Conv.
1-1/2"	4	4.5	5	5.5	6	6.5	7	7.5	8
2"	4	4.5	5	5.5	6	6.5	7	7.5	8
3"	4.75	5.3125	5.875	6.4375	7	7.5625	8.125	8.6875	9.25
4"	5.125	5.75	6.375	7	7.625	8.25	8.875	9.5	10.125
6"	5.75	6.5	7.25	8	8.75	9.5	10.25	11	11.75
8"	6.5	7.3125	8.125	8.9375	9.75	10.563	11.375	12.1875	13
10"	7	7.875	8.75	9.625	10.5	11.375	12.25	13.125	14
12"	7.75	8.75	9.75	10.75	11.75	12.75	13.75	14.75	15.75
14"	8.75	9.9375	11.125	12.313	13.5	14.688	15.875	17.063	18.25
16"	9.25	10.5	11.75	13	14.25	15.5	16.75	18	19.25
18"	9.75	11	12.25	13.5	14.75	16	17.25	18.5	19.75
20"	10.5	11.875	13.25	14.625	16	17.375	18.75	20.125	21.5
24"	11.25	12.688	14.125	15.563	17	18.438	19.875	21.313	22.75

Note: Standard face-to-face dimensions as shown. Other dimensions available on request, consult factory

*Deflection Force/Spring Rate

Consult factory

WARNINGS: Safety shields must be used at all times in hazardous services to protect against serious personal injury in the event of expansion joint failure. Liner sleeves must be used in abrasive service or where sharp-edged solids are or may be present.