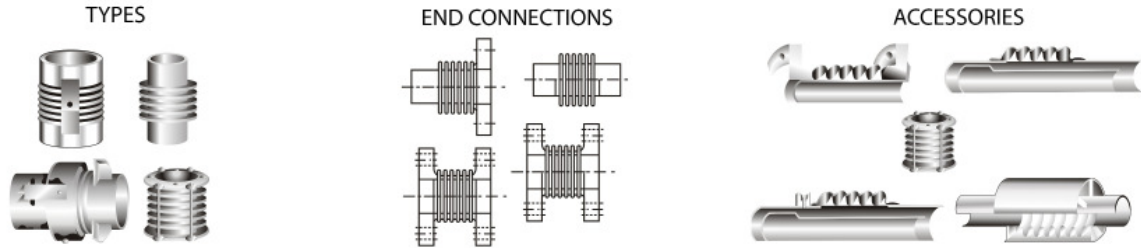


**SINGLE EXPANSION JOINTS**

**3-INCH NOMINAL DIAMETER**

Effective (Thrust) Area: 12.76 in<sup>2</sup> (82.32 cm<sup>2</sup>)



D I A M E T E R	P R E S S U R E	OVERALL LENGTH AND WEIGHT						NON-CONCURRENT MOVEMENTS			SPRING RATES			
		FLANGED ENDS		WELD ENDS		COMBINATION ENDS		AXIAL	L A T E R A L	A N G U L A R	A X I A L	L A T E R A L	A N G U L A R	T O R S I O N A L
		O.A.L.	WT.	O.A.L.	WT.	O.A.L.	WT.							
		PSIG	IN	LB	IN	LB	IN	LB	IN	IN	DEG	LB/IN	LB/IN	IN-LB/DEG
KG/CM <sup>2</sup>	MM	KG	MM	KG	MM	KG	MM	MM	GRAD	KG/MM	KG/MM	N-M/GRAD	N-M/GRAD x 10 <sup>5</sup>	
3	170	6	7	12	6	9	7	0.92	0.28	10	304	560	11	0.0087
	11.9	152	3.18	305	2.73	229	3.18	23.4	7.11	11	5	10	1.1	0.0088
	90	9	7	15	7	12	7	1.87	1.03	10	169	93	6	0.0048
	6.3	229	3.18	381	3.18	305	3.18	47.5	26.2	11	3	2	0.6	0.0049
	40	12	8	18	7	15	8	2.84	2.27	10	117	31	4	0.0033
	2.8	305	3.64	457	3.18	381	3.64	72.1	57.7	11	2	1	0.4	0.0034
3	500	6	27	12	6	9	17	0.36	0.08	10	2020	7142	72	0.0214
	35.1	152	12.3	305	2.73	229	7.73	9.14	2.03	11	36	128	7.3	0.0217
	500	9	28	15	7	12	18	0.77	0.36	10	943	726	33	0.0100
	35.1	229	12.7	381	3.18	305	8.18	19.6	9.14	11	17	13	3.4	0.0101
	250	12	29	18	8	15	19	1.3	0.93	10	615	201	22	0.0065
	17.6	305	13.2	457	3.64	381	8.64	33	23.6	11	11	4	2.2	0.0066

**GENERAL NOTES**

1. Rated life cycle at 650°F is 3000 cycles for any one tabulated movement.
2. To combine axial, lateral and angular movements, please refer to page 43.
3. To increase cycle life or movements, please refer to graph on page 42.
4. Rated bellows extension is equal to rated axial movement. Provided bellows is precompressed the amount of design extension. Installed O.A.L. will decrease by the amount of precompression.
5. Maximum test pressure: 1.5 X rated working pressure.
6. Bellows rated for 650°F: See page 31 for appropriate flange temperature/pressure ratings.
7. Torsional spring rate data provided only for modeling expansion joints on computer stress programs. Please consult factory for allowable torsional loadings.
8. Overall lengths and weights for unrestrained expansion joints only. Consult factory for information regarding tied, hinged, or gimbal expansion joints.
9. Pressure thrust load applied to adjacent pipe anchors/equipment when unrestrained expansion joints are used.

**MATERIALS**

**BELLOWS:** A240-T304. Alternate materials available upon request. Refer to page 33.  
**FLANGES:** ASTM A105.  
 40-170 psig Series: 150 lb ANSI B16.5 RFSO.  
 250-500 psig Series: 300 lb ANSI B16.5 RFSO  
 Plate flanges and angle flanges available for low pressure systems. Please refer to page 32.  
**PIPE:** ASTM A53/A106.  
 40-70 psig Series: Std. Wt. Pipe.  
 250-500 psig Series: Std. Wt. Pipe.  
**LINERS:** A240-T304.  
**COVERS:** Carbon steel.  
**TIE RODS, HINGES, GIMBALS:** Carbon steel