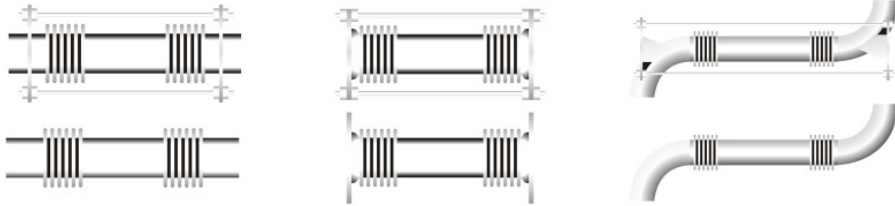


**UNIVERSAL EXPANSION JOINTS**

**84- THRU 144-INCH  
NOMINAL DIAMETER**



S I Z E	P R E S S U R E	NON-CONCURRENT MOVEMENTS/SPRING RATES							
		LATERAL MOVEMENT/SPRING RATES						AXIAL	
		60 IN O.A.L		72 IN O.A.L		84 IN O.A.L		M O V E M E N T	S P R I N G R A T E
		1524 MM O.A.L		1829 MM O.A.L		2134 MM O.A.L			
		MOVEMENT	SPRING RATE	MOVEMENT	SPRING RATE	MOVEMENT	SPRING RATE		
PSIG	IN	LB/IN	IN	LB/IN	IN	LB/IN	IN	LB/IN	
KG/ CM <sup>2</sup>	MM	KG/MM	MM	KG/MM	MM	KG/MM	MM	KG/MM	
84	45	1.10	17326	1.84	7437	2.59	4096	5.65	2358
	3.2	28	310.1	47	133.09	66	73.30	144	42
96	40	0.97	24772	1.60	10757	2.24	5963	5.45	2699
	2.8	25	443.3	41	192.50	57	106.71	138	48
108	35	0.88	36505	1.46	15669	2.06	8631	5.74	3040
	2.5	22	653.3	37	280.40	52	154.46	146	54
120	30	0.67	65983	1.19	25681	1.74	13488	5.79	3380
	2.1	17	1180.8	30	459.57	44	241.37	147	60
132	25	0.61	87604	1.09	34096	1.59	17908	5.82	3721
	1.8	15	1567.7	28	610.16	40	320.47	148	67
144	25	0.46	156468	0.89	53883	1.34	26764	5.82	4062
	1.8	12	2800.1	23	964.26	34	478.95	148	73

**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 80.
3. To increase cycle life or movements, please refer to graph on page 79.
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. Tabulated values are for tied joints, with butt weld ends. Performance of joints with flanged ends, and unrestrained joints, will exceed tabulated values.
6. Maximum test pressure: 1.5 X rated working pressure.
7. Bellows are rated for 650°F: See page 31 for appropriate flange temperature/pressure ratings.
8. Pressure thrust load applied to adjacent pipe anchors/equipment when unrestrained expansion joints are used.
9. Please refer to page 81 for part number example.

**MATERIALS**

**BELLOWS:** A240-T304. Alternate materials available upon request. Refer to page 33.  
**FLANGES:** ASTM A105.  
 40-45 psig Series: (96" and 84" dia) 125 lb Lt/Wt/FFSO.  
 25-30 psig Series: (108" and 144" dia) customer to specify actual flanges required. Plate flanges and angle flanges available for low pressure systems. Please refer to page 32.  
**PIPE:** ASTM A-285-C.  
 25-45 psig Series: 0.375-inch wall.  
**LINERS:** A240-T304.  
**COVERS:** Carbon steel.  
**TIE RODS, HINGES, GIMBALS:** Carbon steel