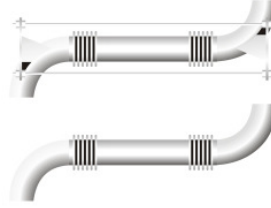
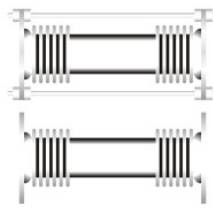
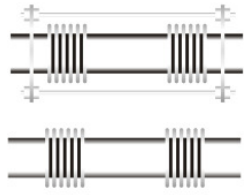


UNIVERSAL EXPANSION JOINTS



28- / 30- / 32-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	
		48 IN O.A.L.		60 IN O.A.L.		72 IN O.A.L.		M O V E M E N T	S P R I N G R A T E
		1219 MM O.A.L.		1524 MM O.A.L.		1829 MM O.A.L.			
		MOVEMENT	SPRING RATE	MOVEMENT	SPRING RATE	MOVEMENT	SPRING RATE		
		PSIG	IN	LB/IN	IN	LB/IN	IN	LB/IN	IN
KG/CM <sup>2</sup>	MM	KG/MM	MM	KG/MM	MM	KG/MM	MM	KG/MM	
28	50	3.61	333	6.36	132	9.22	70	7.36	311
	3.5	92	6.0	162	2.36	234	1.25	187	6
	160	1.74	1801	3.17	675	4.67	348	3.85	1437
	11.2	44	32.2	81	12.08	119	6.23	98	26
	315	1.45	4512	2.82	1554	4.25	772	3.71	2881
	22.1	37	80.7	72	27.81	108	13.82	94	52
30	50	3.65	316	6.41	126	9.30	67	7.96	257
	3.5	93	5.7	163	2.25	236	1.20	202	5
	135	1.91	1708	3.48	640	5.13	330	4.53	1185
	9.5	49	30.6	88	11.45	130	5.91	115	21
	290	1.55	4276	3.00	1473	4.52	731	4.23	2376
	20.4	39	76.5	76	26.36	115	13.08	107	43
32	50	3.43	382	6.03	152	8.75	80	7.96	274
	3.5	87	6.8	153	2.72	222	1.43	202	5
	135	1.79	2062	3.27	773	4.82	399	4.53	1266
	9.5	45	36.5	83	13.83	122	7.14	115	23
	290	1.45	5163	2.81	1778	4.25	883	4.23	2537
	20.4	37	92.4	71	31.82	108	15.80	107	45

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.  
 50 psig Series: 125 lb L/Wt FFSO.  
 For 135-160 psig Series and 290-315 psig Series: Customer to specify actual flanges required.  
 Plate flanges and angle flanges available for low pressure systems. Please refer to page 32.  
 PIPE: ASTM A-53/APJ-5L/A-285-C.  
 50 psig Series: 0.375-inch wall.  
 135-160 psig Series: 0.375-inch wall.  
 290-315 psig Series: 0.500-inch wall.  
 LINERS: A240-T304.  
 COVERS: Carbon steel.  
 TIE RODS, HINGES, GIMBALS: Carbon steel