

HOLZ RUBBER NON-METALLIC EXPANSION JOINTS
TABLE 3: LENGTHS • MOVEMENTS • FORCES • DIMENSIONS

NOMINAL PIPE SIZE I.D. OF EXP. JOINT	HOLZ STYLES: 200-215-300-3000										HOLZ SINGLE OPEN ARCH STYLES: 200-300				HOLZ STYLES: 200-215-300 420-430-3000			
	(F) RECOMMENDED LENGTH Ⓢ "FACE TO FACE" DIMENSION IN INCHES					MOVEMENT CAPABILITY Ⓢ BASED ON ONE SINGLE OPEN ARCH					LOAD REQUIRED FOR FULL DEFLECTION TOTAL FORCE POUNDS Ⓢ				FLANGE DIMENSIONS & DRILLING EXPANSION JOINT • RINGS • RODS Ⓢ			
	SINGLE ARCH	MULTIPLE ARCHES MORE MOVEMENTS			MINIMUM LENGTH 1-ARCH	IN. OF AXIAL COMPRESSION	IN. OF AXIAL EXTENSION	IN. OF LATERAL DEFLECTION	ANGULAR (DEGREES) Ⓢ	TORSIONAL (DEGREES) Ⓢ	LBS. MAX. COMPRESSION	LBS. MAX. EXTENSION	LBS. MAX. DEFLECTION	FT. LBS. MAX ANGULAR	THRUST FACTOR Ⓢ	BOLT CIRCLE	NUMBER OF HOLES	SIZE OF HOLES ★
		TWO ARCH	THREE ARCH	FOUR ARCH														
1/2	★6	★10	★12	★14	4 3/4	★1/2	★1/4	★1/2	★30.0	★3	80	50	60	1	5	2 3/8	4	5/8
3/4	★6	★10	★12	★14	4 7/8	★1/2	★1/4	★1/2	★30.0	★3	100	65	75	1	6	2 3/4	4	5/8
1	★6	★10	★12	★14	5	★1/2	★1/4	★1/2	★27.5	★3	115	75	90	1	7	3 1/8	4	5/8
1 1/4	6	10	★12	★14	5	★1/2	★1/4	★1/2	★22.0	★3	130	85	100	2	8	3 1/2	4	5/8
1 1/2	6	10	★12	★14	5 1/8	★1/2	★1/4	★1/2	★18.5	★3	195	125	155	3	13	3 7/8	4	5/8
2	6	10	★12	★14	5 1/4	1/2	1/4	1/2	14.5	3	210	140	175	4	16	4 3/4	4	3/4
2 1/2	6	10	12	★14	5 1/4	1/2	1/4	1/2	11.5	3	260	175	220	6	20	5 1/2	4	3/4
3	6	10	12	★14	5 1/4	1/2	1/4	1/2	10.0	3	315	210	265	8	24	6	4	3/4
3 1/2	6	10	12	★14	5 1/4	1/2	1/4	1/2	8.3	3	380	245	310	11	29	7	8	3/4
4	6	10	12	14	5 1/4	1/2	1/4	1/2	7.5	3	425	285	355	14	34	7 1/2	8	3/4
5	6	10	12	14	5 1/4	1/2	1/4	1/2	6.0	3	530	355	445	22	45	8 1/2	8	7/8
6	6	10	12	16	5 1/2	1/2	1/4	1/2	5.0	3	635	425	530	32	57	9 1/2	8	7/8
8	6	10	14	16	5 3/4	3/4	3/8	1/2	5.5	3	1060	710	710	70	96	11 3/4	8	7/8
10	8	12	14	16	6	3/4	3/8	1/2	4.5	3	1325	885	690	109	133	14 1/4	12	1
12	8	12	14	16	6	3/4	3/8	1/2	3.8	3	1590	1060	825	158	177	17	12	1
14	8	12	16	20	7	3/4	3/8	1/2	3.3	2	1390	925	965	160	254	18 3/4	12	1 1/8
16	8	12	16	20	7	3/4	3/8	1/2	2.8	2	1590	1060	1100	209	315	21 1/4	16	1 1/8
18	8	12	16	20	7 1/2	3/4	3/8	1/2	2.5	1	1785	1090	1240	266	381	22 3/4	16	1 1/4
20	8	12	16	20	8	7/8	7/16	1/2	2.5	1	2320	1545	1380	381	453	25	20	1 1/4
22	10	14	18	22	8	7/8	7/16	1/2	2.3	1	2550	1700	1240	463	531	27 1/4	20	1 3/8
24	10	14	18	22	8	7/8	7/16	1/2	2.0	1	2780	1855	1355	549	616	29 1/2	20	1 3/8
26	10	14	18	22	8	1	1/2	1/2	2.3	1	3060	2040	1465	659	731	31 3/4	24	1 3/8
28	10	14	18	22	8	1	1/2	1/2	2.0	1	3295	2195	1580	765	830	34	28	1 3/8
30	10	14	18	22	8	1	1/2	1/2	2.0	1	3530	2355	1690	879	935	36	28	1 3/8
32	10	14	18	22	8 1/4	1	1/2	1/2	1.8	1	3770	2515	1805	1020	1047	38 1/2	28	1 5/8
34	10	14	18	22	8 1/2	1	1/2	1/2	1.8	1	4000	2665	1915	1130	1165	40 1/2	32	1 5/8
36	10	14	18	22	8 1/2	1	1/2	1/2	1.5	1	4240	2825	2030	1266	1289	42 3/4	32	1 5/8
38	10	14	18	22	8 1/2	1	1/2	1/2	1.5	1	4480	2985	2145	1438	1419	45 1/4	32	1 5/8
40	10	14	18	22	8 1/2	1	1/2	1/2	1.5	1	4710	3140	2255	1563	1556	47 1/4	36	1 5/8
42	12	14	18	24	8 3/4	1 1/8	1/2	1/2	1.5	1	5010	3340	2005	1745	1736	49 1/2	36	1 5/8
44	12	14	18	24	8 3/4	1 1/8	9/16	1/2	1.5	1	5250	3500	2100	1906	1886	51 3/4	40	1 5/8
46	12	14	18	24	8 3/4	1 1/8	9/16	1/2	1.3	1	5495	3665	2200	2135	2044	53 3/4	40	1 5/8
48	12	14	18	24	8 3/4	1 1/8	9/16	1/2	1.3	1	5725	3820	2290	2282	2207	56	44	1 5/8
50	12	14	18	24	9	1 1/8	9/16	1/2	1.3	1	5965	3975	2385	2460	2377	58 1/4	44	1 7/8
52	12	14	18	24	9	1 1/8	9/16	1/2	1.3	1	6210	4140	2480	2725	2553	60 1/2	44	1 7/8
54	12	14	18	24	9	1 1/8	9/16	1/2	1.3	1	6445	4295	2575	2885	2735	62 3/4	44	1 7/8
56	12	14	18	24	9	1 1/8	9/16	1/2	1.3	1	6680	4455	2670	3081	2923	65	48	1 7/8
58	12	14	18	24	9	1 1/8	9/16	1/2	1.0	1	6925	4620	2765	3395	3118	67 1/4	48	1 7/8
60	12	14	18	24	9	1 1/8	9/16	1/2	1.0	1	7160	4775	2860	3537	3319	69 1/4	52	1 7/8
66	12	14	18	24	9	1 1/8	9/16	1/2	1.0	1	7875	5250	3150	4288	3960	76	52	1 7/8
72	12	14	18	24	9	1 1/8	9/16	1/2	0.9	1	8590	5725	3435	5113	4658	82 1/2	60	1 7/8
78	12	16	18	24	9 1/4	1 1/8	9/16	1/2	0.9	1	9305	6205	3720	5959	5412	89	64	2 1/8
84	12	16	18	24	9 1/4	1 1/8	9/16	1/2	0.8	1	10020	6680	4005	6932	6222	95 1/2	64	2 1/8
90	12	16	18	24	9 1/4	1 1/8	9/16	1/2	0.7	1	10775	7185	4310	8193	7090	102	68	2 3/8
96	12	16	18	24	9 1/4	1 1/8	9/16	1/2	0.7	1	11455	7635	4580	9128	8013	108 1/2	68	2 3/8
102	12	16	20	24	11 1/4	2	1	3/4	1.1	1	20880	13435	7000	17363	9078	114 1/2	72	2 5/8
108	12	16	20	24	11 1/4	2	1	3/4	1.0	1	22915	14905	7725	20394	10120	120 3/4	72	2 5/8

NOTES:

- ① Lengths shown are for new design. Replacement parts should be ordered to the exact "F" dimension. ★ Items are not normally supplied in multiple "open" arches, as squirm can occur. Minimum length of "face to face" can be reduced by eliminating the arch. Specify Styles 420-430. Number of arches required depends upon anticipated total movement of the expansion joint. See Movement Capability heading.
- ② Multiple arch movement = above movement x no. of arches. "Filled Arch" construction reduces movements by 50%. ★ Items are normally furnished with "Filled Arch" and movement shown should be reduced accordingly.
- ③ The degree of angular movement is based on the maximum extension, as shown.
- ④ Torsional movement is expressed when the expansion joint is at neutral length.
- ⑤ Forces are based on one single open arch at zero pressure conditions, therefore should be considered only as approximate. Contact Holz for forces of multiple and filled arch products. For Style 215, use 0.8 multiplier, for Style 3000 use 1.3 multiplier to compute movement force. Angular force is expressed in "foot pounds". For "spring rates" contact Holz.
- ⑥ Thrust factor times maximum operating pressure equals total end thrust in pounds. Applies to Holz open arch styles.
- ⑦ Flange dimensions shown are in accordance with 125/150 pound standards of ANSI B16.1, B16.5, AWWA C-207 Table 3 Class E, AWWA C-207 Table 1 and 2 Class D. Retaining ring width is 3/8" all sizes. Flange thickness is Holz' standard.