

## 42HPW - WIDE ARCH

Thorburn's 42HPW is a wide arch design 42HP Series Rubber Expansion Joint. This high quality expansion joint has been completely re-engineered to do everything the traditional 42HP series can while providing improved strength, flexibility, movement and spring rate capabilities.

Thorburn Old Part No. TM20

### Advantages:

- 25% Less Force for Given Movement
- 40% More Movement
- Available in Filled and Open Single or Multi Arch Design
- Self-Cleaning Wide Arch
- Wide Variety of Elastomers
- Low Turbulance



Full Vacuum for all Sizes

Available in sizes up to 144 inches

Nominal Pipe Size Exp. Jt. I.D.	"Face to Face" Minimum Recommended Length			Working Pressure @ 180°F	Single Arch Non-Concurrent Movement Capability					Spring Rates Zero Pressure Conditions				Thrust Factor Inches Squared
	Single Arch	Two Arch	Three Arch		Inches of axial compression	Inches of axial extension	Inches of lateral deflection	Degrees of angular movement	Torsional Rotation Degrees	Force pounds for 1" compression mov.	Force pounds for 1" extension mov.	Force pounds for 1" lateral deflection	Force foot lbs For 1° Angular Movement	
1	6	10	14	150	1	0.5	0.5	50.2	2.0	176	228	263	0.03	5.12
1 1/4	6	10	14	150	1	0.5	0.5	43.8	2.0	220	287	329	0.075	6.20
1 1/2	6	10	14	150	1	0.5	0.5	38.6	2.0	264	344	393	0.113	7.44
2	6	10	14	150	1	0.5	0.5	34.2	2.0	318	414	525	0.23	12.40
2 1/2	6	10	14	150	1	0.5	0.5	28.5	2.0	398	517	572	0.38	15.66
3	6	10	14	150	1	0.5	0.5	24.4	2.0	476	621	618	0.6	19.38
4	6	10	14	150	1	0.5	0.5	18.8	2.0	636	828	714	1.4	27.90
5	6	10	14	150	1	0.5	0.5	15.2	2.0	794	1032	819	2.8	38.13
6	6	10	16	150	1	0.5	0.5	12.8	2.0	953	1239	926	4.8	49.91
8	8	12	16	150	1	0.5	0.75	9.7	2.0	1059	1378	1130	9.5	77.97
10	8	12	16	150	1.25	0.75	0.75	9.1	2.0	1324	1722	1214	18.2	119.97
12	8	12	16	150	1.25	0.75	0.75	7.6	2.0	1589	2066	1422	31.6	161.98
14	8	12	20	150	1.25	0.75	0.75	6.5	2.0	1390	1808	1676	44.4	210.18
16	8	12	20	150	1.25	0.75	0.75	5.7	2.0	1589	2066	1929	57	264.74
18	8	12	20	150	1.25	0.75	0.75	5.1	2.0	1787	2326	2130	80	325.50
20	8	12	20	150	1.25	0.75	0.75	5.6	2.0	1987	2580	2382	114	392.62
22	10	14	22	110	1.25	0.75	1.0	5.2	2.0	2185	2838	2472	154	481.12
24	10	14	22	110	1.75	0.75	1.0	4.8	2.0	2382	2985	2559	206	562.03
26	10	14	22	75	1.75	0.75	1.0	4.4	2.0	2295	3098	2743	219	649.14
28	10	14	22	75	1.75	0.75	1.0	4.1	2.0	2472	3215	2928	287	742.45
30	10	14	22	75	1.75	0.75	1.0	3.8	2.0	2649	3446	3113	328	842.27
32	10	14	22	75	1.75	0.75	1.0	3.6	2.0	2827	3674	3657	417	948.29
34	10	14	22	75	1.75	0.75	1.0	3.4	2.0	3002	4202	4202	484	1060.51
36	10	14	22	75	1.75	0.75	1.0	3.2	2.0	3179	4134	4746	633	1179.09
40	10	14	22	75	1.75	0.75	1.0	3.0	2.0	3531	4593	5007	782	1434.99
42	12	14	24	75	2	0.75	1.0	2.9	2.0	3339	4337	5135	872	1628.28
48	12	14	24	75	2	0.75	1.0	2.8	2.0	3815	4956	5799	1369	2085.53
50	12	14	24	75	2	0.75	1.0	2.7	2.0	3975	5163	6018	1476	2250.45
54	12	14	24	75	2	0.75	1.0	2.6	2.0	4293	5576	6455	1604	2599.35
56	12	14	24	75	2	0.75	1.0	2.5	2.0	4452	5788	6672	1731	2931.67
60	12	14	24	75	2	0.75	1.0	2.3	2.0	4770	6201	7104	2653	3208.97
66	12	14	24	75	2	0.75	1.0	2.1	2.0	5247	6821	7662	3002	3839.51
72	12	14	24	75	2	0.75	1.0	1.9	2.0	5724	7442	8215	4261	4226.62

**Special notes on movement capability:** 1) Filled arch construction reduces above movements by 50%. 2) To calculate movement of multiple arch type for compression extension and lateral movements, take movement shown in the above table and multiply by the number of arches. 3) The degree of angular movement is based on the maximum extension shown. 4) Movement capability shown is non-concurrent percentage used in one movement position must be deducted from the other movement position so that sum of movements don't exceed 100%. 5) Movements shown are based on proper installation practices. See Thorburn installation maintenance guide for details.

**Special notes on force Pounds / Spring Rates:** 1) Forces required to move Thorburn Mighty-Spool Model 42HPW are based on zero pressure conditions and room temperature in the pipeline. 2) These forces should be considered only as approximates, compensation must be made for more accurate forces based on materials of construction and actual service conditions. 3) Filled arch spring rates are approximately 4 times that of a single open arch. 4) Multi-arch spring rates are equal to single arch divided by number of arches.