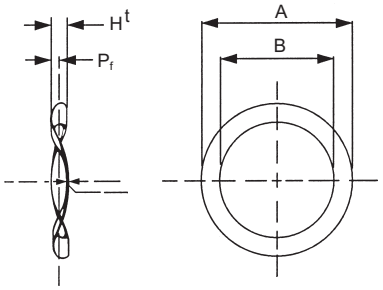
WAVE SPRING WASHERS-COMPRESSION TYPE
波状弹簧垫圈 – 压缩型

Stock sizes in high steel
Compression type wave washers are normally used in thrust loading applications for medium deflections. These washers have a higher free height and load than precision wave washers listed in the previous section. During initial installation the compression washers will take a slight set. Subsequent set after initial is minimal.

Material
AISI 1070 Carbon Steel.

Certificate of conformance available upon request.
Certificate of material analysis is not available.

Finish
Washers are carried in stock in plain finish suitable for various types of finishes:
either electroplated or mechanically plated, a process which reduces the possibility of hydrogen embritllement. Please call us for recommendations on special or specific applications.



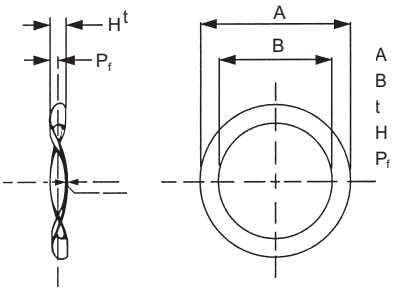
A = Outside diameter
B = Inside diameter
t = Thickness
H = Free Height (reference only)
P_f = Approximate load at Flat

高碳钢材质的常备元件
压缩型波状垫圈通常用于变形量为中等的推力负荷应用场合。这些垫圈的自由高度与负载比前面章节中介绍的精密波状弹簧垫圈要大。初次安装时，压缩型波状弹簧垫圈需要稍微进行调整，初次安装之后几乎不需要调整。

材质
AISI 1070 碳钢

根据客户要求提供产品合格证书。
不提供材料分析证书。

末道漆层
这种垫圈为光面，适合各种类型的漆层，根据客户的特殊要求，也可以采用电镀或者机械镀层，以降低氢引起的脆性。需要特殊或者指定应用场合的部件，请联系我们。



A = 外径
B = 内径
t = 垫圈厚度
H = 自由高度（仅供参考）
P_f = 压平载荷（估算）

WAVE SPRING WASHERS
波状弹簧垫圈

Catalog Number 编号	Ball Bearing Size (O.D.) 滚珠轴承直径（外径）		Outside Diameter (A) 外径 (A)		Inside Diameter (B) 内径(B)		Stock Thickness (t) 垫圈厚度(t)		Height (H) Approximate 高度（H）（估算）		Rate 弹性系数		Approximate Load @ Flat (P_f) 压平载荷（P_f）（估算）		Number of Waves 波数
	in	mm	in	mm	in	mm	in	mm	in	mm	lbs./in	N/mm	lb	N	
W0386-008	0.394	10	0.386	9.8	0.244	6.2	0.008	0.20	0.047	1.2	136.6	23.9	5.4	23.9	3
W0472-008	0.512	13	0.472	12.0	0.283	7.2	0.008	0.20	0.055	1.4	728.0	127.5	44.1	196.1	3
W0622-006	0.630	16	0.622	15.8	0.413	10.5	0.006	0.15	0.053	1.4	728.0	127.5	37.5	166.7	3
W0622-012	0.630	16	0.622	15.8	0.413	10.5	0.012	0.30	0.059	1.5	1316.0	230.5	77.2	343.2	3
W0669-012	0.709	18	0.669	17.0	0.472	12.0	0.012	0.30	0.059	1.5	672.0	117.7	35.3	156.9	3
W0740-008	0.748	19	0.740	18.8	0.520	13.2	0.008	0.20	0.063	1.6	364.0	63.7	55.1	245.2	3
W0740-012	0.748	19	0.740	18.8	0.449	11.4	0.012	0.30	0.063	1.6	1680.0	294.2	110.3	490.3	3
W0858-008	0.866	22	0.858	21.8	0.622	15.8	0.008	0.20	0.098	2.5	168.0	29.4	88.2	392.3	3
W0858-008A	0.866	22	0.858	21.8	0.622	15.8	0.008	0.20	0.063	1.6	252.0	44.1	25.4	112.8	3
W0858-010	0.866	22	0.858	21.8	0.622	15.8	0.010	0.25	0.118	3.0	168.0	29.4	33.1	147.1	3
W0858-012	0.866	22	0.858	21.8	0.551	14.0	0.012	0.30	0.063	1.6	840.0	147.1	77.2	343.2	3
W0858-012A	0.866	22	0.858	21.8	0.622	15.8	0.012	0.30	0.093	2.35	224.0	39.2	88.2	392.3	3
W0937-008	0.945	24	0.937	23.8	0.689	17.5	0.008	0.20	0.067	1.7	196.0	34.3	26.5	117.7	3
W0937-012	0.945	24	0.937	23.8	0.689	17.5	0.012	0.30	0.067	1.7	560.0	98.1	40.8	181.4	3
W1016-012	1.024	26	1.016	25.8	0.760	19.3	0.012	0.30	0.067	1.7	448.0	78.5	39.7	176.5	3
W1016-020	1.024	26	1.016	25.8	0.760	19.3	0.020	0.50	0.067	1.7	1680.0	294.2	101.4	451.1	3
W1094-012	1.102	28	1.094	27.8	0.827	21.0	0.012	0.30	0.067	1.7	308.0	53.9	24.3	107.9	3
W1094-012F	1.102	28	1.094	27.8	0.787	20.0	0.012	0.30	0.118	3.0	308.0	53.9	39.7	176.5	3
W1094-020	1.102	28	1.094	27.8	0.827	21.0	0.020	0.50	0.067	1.7	1680.0	294.2	121.3	539.4	3
W1169-008	1.181	30	1.169	29.7	0.886	22.5	0.008	0.20	0.067	1.7	95.2	16.7	8.8	39.2	3
W1169-012	1.181	30	1.169	29.7	0.886	22.5	0.012	0.30	0.071	1.8	308.0	53.9	28.7	127.5	3
W1169-016	1.181	30	1.169	29.7	0.886	22.5	0.016	0.40	0.063	1.6	1092.0	191.2	58.4	259.9	3
W1169-020	1.181	30	1.169	29.7	0.886	22.5	0.020	0.50	0.079	2.0	1316.0	230.5	125.7	559.0	3
W1220-012	1.260	32	1.220	31	1.043	26.5	0.012	0.30	0.106	2.7	140.0	24.5	33.1	147.1	3
W1220-016	1.260	32	1.220	31.0	1.043	26.5	0.016	0.40	0.079	2.0	280.0	49.0	46.3	205.9	3
W1248-014	1.260	32	1.248	31.7	0.965	24.5	0.014	0.35	0.087	2.2	308.0	53.9	57.3	255.0	3
W1248-016	1.260	32	1.248	31.7	1.043	26.5	0.016	0.40	0.079	2.0	252.0	44.1	37.5	166.7	3
W1248-020	1.260	32	1.248	31.7	1.043	26.5	0.020	0.50	0.094	2.4	560.0	98.1	86.0	382.5	3
W1252-012	1.260	32	1.252	31.8	0.906	23.0	0.012	0.30	0.138	3.5	308.0	53.9	48.5	215.7	3
W1358-016	1.378	35	1.358	34.5	1.102	28.0	0.016	0.40	0.118	3.0	336.0	58.8	121.3	539.4	3
W1358-016F	1.378	35	1.358	34.5	1.114	28.3	0.016	0.40	0.157	4.0	252.0	44.1	99.2	441.3	3
W1358-020	1.378	35	1.358	34.5	0.965	24.5	0.020	0.50	0.098	2.5	3360.0	588.4	264.6	1176.8	4
W1358-020B	1.378	35	1.358	34.5	1.102	28.0	0.020	0.50	0.118	3.0	588.0	103.0	121.3	539.4	3
W1374-012	1.378	35	1.374	34.9	0.984	25.0	0.012	0.30	0.079	2.0	952.0	166.7	86.0	382.5	4
W1437-012	1.457	37	1.437	36.5	1.189	30.2	0.012	0.30	0.098	2.5	308.0	53.9	33.1	147.1	4

WAVE SPRING WASHERS
波状弹簧垫圈

Catalog Number 编号	Ball Bearing Size (O.D.) 滚珠轴承直径（外径）		Outside Diameter (A) 外径 (A)		Inside Diameter (B) 内径(B)		Stock Thickness (t) 垫圈厚度(t)		Height (H) Approximate 高度（H）（估算）		Rate 弹性系数		Approximate Load @ Flat (P_f) 压平载荷（P_f）（估算）		Number of Waves 波数
	in	mm	in	mm	in	mm	in	mm	in	mm	lbs./in	N/mm	lb	N	
W1437-020	1.457	37	1.437	36.5	1.189	30.2	0.020	0.50	0.098	2.5	840.0	147.1	110.3	490.3	4
W1539-016	1.575	40	1.539	39.1	1.299	33.0	0.016	0.40	0.106	2.7	616.0	107.9	77.2	343.2	4
W1539-020	1.575	40	1.539	39.1	1.299	33.0	0.020	0.50	0.118	3.0	896.0	156.9	143.3	637.4	4
W1539-020A	1.575	40	1.539	39.1	1.299	33.0	0.020	0.50	0.157	4.0	1064.0	186.3	149.9	666.9	4
W1567-012	1.575	40	1.567	39.8	1.311	33.3	0.012	0.30	0.118	3.0	252.0	44.1	50.7	225.6	4
W1567-016	1.575	40	1.567	39.8	1.181	30.0	0.016	0.40	0.197	5.0	280.0	49.0	97.0	431.5	3
W1575-020	1.654	42	1.575	40.0	1.181	30.0	0.020	0.50	0.118	3.0	1176.0	205.9	152.1	676.7	4
W1614-014	1.654	42	1.614	41.0	1.358	34.5	0.014	0.35	0.118	3.0	336.0	58.8	57.3	255.0	4
W1772-020F	1.850	47	1.772	45.0	1.457	37.0	0.020	0.50	0.118	3.0	1428.0	250.1	158.8	706.1	5
W1772-020	1.850	47	1.772	45	1.457	37	0.020	0.50	0.118	3.0	840.0	147.1	143.3	637.4	4
W1831-016	1.850	47	1.831	46.5	1.575	40.0	0.016	0.40	0.118	3.0	392.0	68.6	75.0	333.4	4
W1831-020	1.850	47	1.831	46.5	1.575	40	0.020	0.50	0.118	3.0	784.0	137.3	121.3	539.4	4
W1846-020	1.850	47	1.846	46.9	1.457	37.0	0.020	0.50	0.079	2.0	1344.0	235.4	189.6	843.4	4
W2008-016	2.047	52	2.008	51	1.654	42	0.016	0.40	0.138	3.5	756.0	132.4	157.7	701.2	4
W2008-016H	2.047	52	2.008	51	1.732	44	0.016	0.40	0.138	3.5	308.0	53.9	77.2	343.2	4
W2008-020	2.047	52	2.008	51	1.654	42	0.020	0.50	0.138	3.5	1204.0	210.8	286.7	1274.9	5
W2039-016G	2.047	52	2.039	51.8	1.614	41	0.016	0.40	0.157	4.0	560.0	98.1	143.3	637.4	4
W2039-016	2.047	52	2.039	51.8	1.614	41	0.016	0.40	0.079	2.0	476.0	83.4	40.8	181.4	4
W2039-020E	2.047	52	2.039	51.8	1.614	41	0.020	0.50	0.138	3.5	1848.0	323.6	209.5	931.6	5
W2039-020	2.047	52	2.039	51.8	1.614	41	0.020	0.50	0.079	2.0	728.0	127.5	50.7	225.6	4
W2157-020	2.165	55	2.157	54.8	1.846	46.9	0.020	0.50	0.079	2.0	280.0	49.0	72.8	323.6	4
W2157-020A	2.165	55	2.157	54.8	1.846	46.9	0.020	0.50	0.138	3.5	392.0	68.6	79.4	353.0	4
W2244-020	2.283	58	2.244	57	1.890	48	0.020	0.50	0.138	3.5	896.0	156.9	110.3	490.3	4
W2402-016	2.441	62	2.402	61	2.008	51	0.016	0.40	0.138	3.5	728.0	127.5	83.8	372.7	4
W2402-020	2.441	62	2.402	61	2.008	51	0.020	0.50	0.138	3.5	1792.0	313.8	209.5	931.6	5
W2402-020A	2.441	62	2.402	61	2.008	51	0.020	0.50	0.157	4.0	560.0	98.1	125.7	559.0	4
W2402-024	2.441	62	2.402	61	2.008	51	0.024	0.60	0.138	3.5	1792.0	313.8	286.7	1274.9	5
W2437-020	2.441	62	2.437	61.9	1.969	50	0.020	0.50	0.157	4.0	784.0	137.3	253.6	1127.8	4
W2476-016	2.441	62	2.476	62.9	2.134	54.2	0.016	0.40	0.146	3.7	336.0	58.8	77.2	343.2	4
W2657-024	2.677	68	2.657	67.5	2.165	55	0.024	0.60	0.157	4.0	840.0	147.1	147.7	657.0	4
W2795-016	2.835	72	2.795	71	2.402	61	0.016	0.40	0.138	3.5	476.0	83.4	72.8	323.6	5
W2795-020A	2.835	72	2.795	71	2.402	61	0.020	0.50	0.157	4.0	336.0	58.8	82.7	367.7	4
W2795-020	2.835	72	2.795	71	2.402	61	0.020	0.50	0.138	3.5	700.0	122.6	125.7	559.0	5
W2795-031	2.835	72	2.795	71	2.402	61	0.031	0.80	0.157	4.0	2912.0	509.9	385.9	1716.2	5
W2827-024	2.835	72	2.827	71.8	2.283	58	0.024	0.60	0.157	4.0	952.0	166.7	154.4	686.5	4
W2945-024	2.953	75	2.945	74.8	2.598	66	0.024	0.60	0.157	4.0	420.0	73.5	77.2	343.2	4
W3110-020	3.150	80	3.110	79	2.795	71	0.020	0.50	0.138	3.5	392.0	68.6	57.3	255.0	5
W3110-024	3.150	80	3.110	79	2.795	71	0.024	0.60	0.138	3.5	1512.0	264.8	194.0	863.0	6
W3110-031	3.150	80	3.110	79	2.795	71	0.031	0.80	0.157	4.0	2912.0	509.9	385.9	1716.2	6
W3142-028	3.150	80	3.142	79.8	2.520	64	0.028	0.70	0.157	4.0	1456.0	255.0	220.5	980.7	4
W3307-020	3.346	85	3.307	84	2.913	74	0.020	0.50	0.142	3.6	420.0	73.5	72.8	323.6	5
W3307-024	3.346	85	3.307	84	2.913	74	0.024	0.60	0.138	3.5	1596.0	279.5	242.6	1078.7	6
W3504-020	3.543	90	3.504	89	3.110	79	0.020	0.50	0.138	3.5	896.0	156.9	121.3	539.4	6
W3504-024	3.543	90	3.504	89	3.110	79	0.024	0.60	0.138	3.5	1400.0	245.2	172.0	764.9	6
W3535-031	3.543	90	3.535	89.8	2.835	72	0.031	0.80	0.157	4.0	1904.0	333.4	297.7	1323.9	4
W3898-020	3.937	100	3.898	99	3.504	89	0.020	0.50	0.157	4.0	560.0	98.1	101.4	451.1	6
W3898-024	3.937	100	3.898	99	3.504	89	0.024	0.60	0.138	3.5	1120.0	196.1	145.5	647.2	6
W3929-035	3.937	100	3.929	99.8	3.228	82	0.035	0.90	0.157	4.0	1960.0	343.2	242.6	1078.7	4
W4291-020	4.331	110	4.291	109	3.898	99	0.020	0.50	0.177	4.5	840.0	147.1	143.3	637.4	7
W4291-024	4.331	110	4.291	109	3.898	99	0.024	0.60	0.177	4.5	1316.0	230.5	258.0	1147.4	7
W4291-028	4.331	110	4.291	109	3.898	99	0.028	0.70	0.177	4.5	1848.0	323.6	374.9	1667.1	7
W4291-039	4.331	110	4.291	109	3.543	90	0.039	1.00	0.157	4.0	1260.0	220.6	275.6	1225.8	4
W4685-031	4.724	120	4.685	119	4.094	104	0.031	0.80	0.157	4.0	2744.0	480.5	385.9	1716.2	6
W4921-031	4.921	125	4.921	125	4.291	109	0.031	0.80	0.157	4.0	2520.0	441.3	330.8	1471.0	6
W5079-031	5.118	130	5.079	129	4.331	110	0.031	0.80	0.157	4.0	2520.0	441.3	330.8	1471.0	6
W5472-035	5.512	140	5.472	139	4.764	121	0.035	0.90	0.157	4.0	2408.0	421.7	352.8	1569.1	6
W5866-035	5.906	150	5.866	149	4.961	126	0.035	0.90	0.157	4.0	2800.0	490.3	330.8	1471.0	6
W6260-039	6.299	160	6.260	159	5.394	137	0.039	1.00	0.157	4.0	2296.0	402.1	363.8	1618.1	6
W6654-039	6.693	170	6.654	169	5.787	147	0.039	1.00	0.157	4.0	3248.0	568.8	385.9	1716.2	6