

# METRIC DISC SPRING WASHERS

## Stock sizes in high carbon or chrome vanadium

Manufactured for general purpose use. These items are manufactured under strict quality control to meet the physical dimensions listed in the following tables (pages 105-108). Our SPEC disc spring washers are ideal for general purpose applications where a tight load tolerance is not required. These parts have been set out to minimize height loss after compression.

## Stacked disc springs

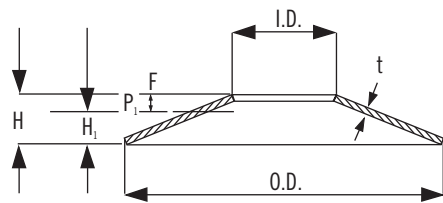
Additional load or deflection can be obtained by stacking disc springs in series or in parallel. See charts below.

## Material

Thickness less than 1.25mm: Carbon Steel per C1074-1075.

Thickness 1.25 mm and up: Carbon Steel per C1074-1075 or

Chrome Vanadium per SAE 6150.



O.D.= Outside Diameter

I.D.= Inside Diameter

t= Thickness

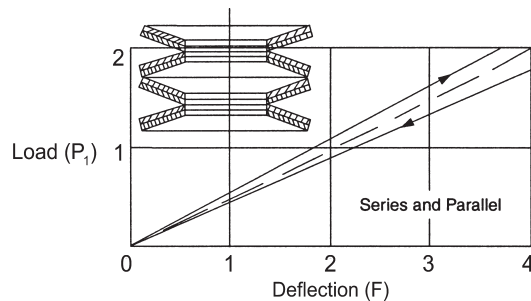
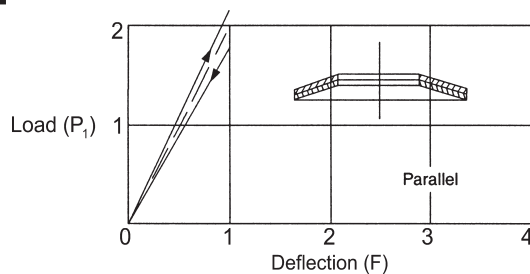
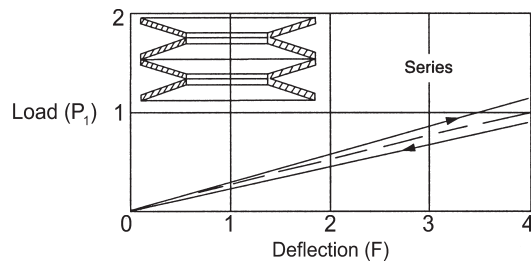
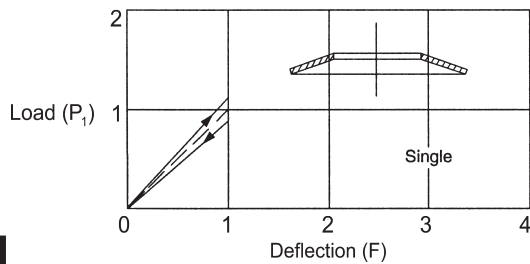
H= Approx. Free height

H<sub>1</sub>= Loaded Height

P<sub>1</sub>= Load at deflection F (Reference only)

F= Deflection H-H<sub>1</sub>

Shown below are the comparative force/deflection graphs for the alternative methods of stacking.



**METRIC DISC SPRING WASHERS**

Catalog Number	Min I.D.		Max O.D.		Thickness (t)		Free Height (H)		Loaded Height (H <sub>L</sub> )		Load at H <sub>L</sub> (P <sub>L</sub> ) (Reference Only)	
	in	mm	in	mm	in	mm	in	mm	in	mm	lb	N
	BD006-030	0.126	3.2	0.236	6	0.0118	0.30	0.0177	0.45	0.0134	0.34	26.8
BD008-020-0032	0.126	3.2	0.315	8	0.0079	0.20	0.0157	0.40	0.0098	0.25	5.8	26
BD008-030-0032	0.126	3.2	0.315	8	0.0118	0.30	0.0216	0.55	0.0142	0.36	23.4	104
BD008-040-0032	0.126	3.2	0.315	8	0.0157	0.40	0.0236	0.60	0.0177	0.45	41.6	185
BD008-050-0032	0.126	3.2	0.315	8	0.0197	0.50	0.0276	0.70	0.0217	0.55	80.3	357
BD008-020	0.165	4.2	0.315	8	0.0080	0.20	0.0180	0.45	0.0102	0.26	8.8	39
BD008-030	0.165	4.2	0.315	8	0.0120	0.30	0.0220	0.55	0.0142	0.36	26.8	119
BD008-040	0.165	4.2	0.315	8	0.0160	0.40	0.0240	0.60	0.0177	0.45	47.2	210
BD010-030	0.126	3.2	0.394	10	0.0118	0.30	0.0256	0.65	0.0154	0.39	22.0	98
BD010-040-0032	0.126	3.2	0.394	10	0.0157	0.40	0.0276	0.70	0.0189	0.48	40.2	179
BD010-050-0032	0.126	3.2	0.394	10	0.0197	0.50	0.0295	0.75	0.0220	0.56	62.5	278
BD010-040-0042	0.165	4.2	0.394	10	0.0157	0.40	0.0276	0.70	0.0189	0.48	42.5	189
BD010-050-0042	0.165	4.2	0.394	10	0.0197	0.50	0.0295	0.75	0.0220	0.56	66.1	294
BD010-060-0042	0.165	4.2	0.394	10	0.0236	0.60	0.0335	0.85	0.0260	0.66	112.8	502
BD010-025	0.205	5.2	0.394	10	0.0100	0.25	0.0220	0.55	0.0130	0.33	13	58
BD010-040	0.205	5.2	0.394	10	0.0160	0.40	0.0280	0.70	0.0189	0.48	47.9	213
BD010-050	0.205	5.2	0.394	10	0.0200	0.50	0.0300	0.75	0.0220	0.56	74	329
BD012-040-0042	0.165	4.2	0.472	12	0.0157	0.40	0.0315	0.80	0.0197	0.50	40.0	178
BD012-050-0042	0.165	4.2	0.472	12	0.0197	0.50	0.0335	0.85	0.0232	0.59	63.8	284
BD012-060-0042	0.165	4.2	0.472	12	0.0236	0.60	0.0394	1.00	0.0276	0.70	125.0	556
BD012-050-0052	0.205	5.2	0.472	12	0.0197	0.50	0.0354	0.90	0.0236	0.60	78.5	349
BD012-060-0052	0.205	5.2	0.472	12	0.0236	0.60	0.0374	0.95	0.0272	0.69	113.7	506
BD012-050	0.244	6.2	0.472	12	0.0197	0.50	0.0335	0.85	0.0232	0.59	73.3	326
BD012-060	0.244	6.2	0.472	12	0.0236	0.60	0.0374	0.95	0.0272	0.69	123.9	551
BD013-050-0052	0.205	5.2	0.492	12.5	0.0197	0.50	0.0335	0.85	0.0232	0.59	61.1	272
BD013-035	0.244	6.2	0.492	12.5	0.0140	0.35	0.0310	0.80	0.0181	0.46	34.2	152
BD013-050	0.244	6.2	0.492	12.5	0.0200	0.50	0.0330	0.85	0.0232	0.59	65.4	291
BD013-070	0.244	6.2	0.492	12.5	0.0280	0.70	0.0390	1.00	0.0307	0.78	151.3	673
BD014-035	0.283	7.2	0.551	14	0.0140	0.35	0.0310	0.80	0.0181	0.46	27.7	123
BD014-050	0.283	7.2	0.551	14	0.0200	0.50	0.0350	0.90	0.0236	0.6	62.7	279
BD014-080	0.283	7.2	0.551	14	0.0310	0.80	0.0430	1.10	0.0343	0.87	182.8	813
BD015-040-0052	0.205	5.2	0.591	15	0.0157	0.40	0.0374	0.95	0.0213	0.54	39.3	175
BD015-050-0052	0.205	5.2	0.591	15	0.0197	0.50	0.0394	1.00	0.0248	0.63	62.5	278
BD015-060-0052	0.205	5.2	0.591	15	0.0236	0.60	0.0413	1.05	0.0280	0.71	91.5	407
BD015-070-0052	0.205	5.2	0.591	15	0.0276	0.70	0.0433	1.10	0.0315	0.80	124.8	555
BD015-050-0062	0.244	6.2	0.591	15	0.0197	0.50	0.0394	1.00	0.0248	0.63	65.0	289
BD015-060-0062	0.244	6.2	0.591	15	0.0236	0.60	0.0413	1.05	0.0280	0.71	95.1	423
BD015-070-0062	0.244	6.2	0.591	15	0.0276	0.70	0.0433	1.10	0.0315	0.80	129.7	577
BD015-050	0.323	8.2	0.591	15	0.0197	0.50	0.0394	1.00	0.0248	0.63	74.9	333
BD015-070	0.323	8.2	0.591	15	0.0276	0.70	0.0433	1.10	0.0315	0.80	149.5	665
BD015-080	0.323	8.2	0.591	15	0.0315	0.80	0.0472	1.20	0.0354	0.90	220.8	982
BD016-040	0.323	8.2	0.63	16	0.0160	0.40	0.0350	0.90	0.0209	0.53	34.8	155
BD016-060	0.323	8.2	0.63	16	0.0240	0.60	0.0410	1.05	0.0280	0.71	92.6	412
BD016-070	0.323	8.2	0.63	16	0.0276	0.70	0.0453	1.15	0.0319	0.81	143.2	637
BD016-080	0.323	8.2	0.63	16	0.0315	0.80	0.0472	1.20	0.0354	0.90	185.5	825
BD016-090	0.323	8.2	0.63	16	0.0350	0.90	0.0490	1.25	0.0390	0.99	225	1000
BD018-040-0062	0.244	6.2	0.709	18	0.0157	0.40	0.0394	1.00	0.0217	0.55	31.2	139
BD018-050-0062	0.244	6.2	0.709	18	0.0197	0.50	0.0433	1.10	0.0256	0.65	55.1	245
BD018-060-0062	0.244	6.2	0.709	18	0.0236	0.60	0.0472	1.20	0.0295	0.75	89.9	400
BD018-070-0062	0.244	6.2	0.709	18	0.0276	0.70	0.0492	1.25	0.0331	0.84	124.1	552
BD018-080-0062	0.244	6.2	0.709	18	0.0315	0.80	0.0512	1.30	0.0362	0.92	163.0	725
BD018-050-0082	0.323	8.2	0.709	18	0.0197	0.50	0.0433	1.10	0.0256	0.65	59.6	265
BD018-070-0082	0.323	8.2	0.709	18	0.0276	0.70	0.0492	1.25	0.0331	0.84	134.0	596
BD018-080-0082	0.323	8.2	0.709	18	0.0315	0.80	0.0512	1.30	0.0362	0.92	130.8	582
BD018-100-0082	0.323	8.2	0.709	18	0.0394	1.00	0.0551	1.40	0.0433	1.10	265.5	1181
BD018-045	0.362	9.2	0.709	18	0.0180	0.45	0.0410	1.05	0.0236	0.6	48.1	214
BD018-070	0.362	9.2	0.709	18	0.0280	0.70	0.0470	1.20	0.0327	0.83	128.6	572
BD018-100	0.362	9.2	0.709	18	0.0390	1.00	0.0550	1.40	0.0433	1.1	281	1250
BD020-060-0082	0.323	8.2	0.787	20	0.0236	0.60	0.0512	1.30	0.0303	0.77	92.6	412
BD020-070-0082	0.323	8.2	0.787	20	0.0276	0.70	0.0531	1.35	0.0339	0.86	127.7	568
BD020-080-0082	0.323	8.2	0.787	20	0.0315	0.80	0.0551	1.40	0.0374	0.95	168.8	751
BD020-090-0082	0.323	8.2	0.787	20	0.0354	0.90	0.0571	1.45	0.0409	1.04	214.2	953
BD020-100-0082	0.323	8.2	0.787	20	0.0394	1.00	0.0610	1.55	0.0449	1.14	290.9	1294
BD020-050	0.402	10.2	0.787	20	0.0200	0.50	0.0450	1.15	0.0260	0.66	57.1	254



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**METRIC DISC SPRING WASHERS**

Catalog Number	Min I.D.		Max O.D.		Thickness (t)		Free Height (H)		Loaded Height (H <sub>L</sub> )		Load at H <sub>L</sub> (P <sub>L</sub> ) (Reference Only)	
	in	mm	in	mm	in	mm	in	mm	in	mm	lb	N
BD020-080	0.402	10.2	0.787	20	0.0310	0.80	0.0530	1.35	0.0370	0.94	167.5	745
BD020-090	0.402	10.2	0.787	20	0.0354	0.90	0.0571	1.45	0.0409	1.04	235.8	1049
BD020-100	0.402	10.2	0.787	20	0.0394	1.00	0.0610	1.55	0.0449	1.14	320.1	1424
BD020-110	0.402	10.2	0.787	20	0.0430	1.10	0.0610	1.55	0.0476	1.21	343.9	1530
BD020-125	0.402	10.2	0.787	20	0.0492	1.25	0.0689	1.75	0.0543	1.38	556.4	2475
BD020-150	0.402	10.2	0.787	20	0.0591	1.50	0.0709	1.80	0.0622	1.58	566.5	2520
BD023-060	0.441	11.2	0.886	23	0.0240	0.60	0.0550	1.40	0.0315	0.8	95.8	426
BD023-080	0.441	11.2	0.886	23	0.0310	0.80	0.0570	1.45	0.0378	0.96	159.6	710
BD023-125	0.441	11.2	0.886	23	0.0490	1.25	0.0690	1.75	0.0543	1.38	438.4	1950
BD023-070-0082	0.323	8.2	0.906	23	0.0276	0.70	0.0591	1.50	0.0354	0.90	122.1	543
BD023-080-0082	0.323	8.2	0.906	23	0.0315	0.80	0.0610	1.55	0.0390	0.99	161.4	718
BD023-090-0082	0.323	8.2	0.906	23	0.0354	0.90	0.0630	1.60	0.0421	1.07	206.4	918
BD023-100-0082	0.323	8.2	0.906	23	0.0394	1.00	0.0669	1.70	0.0461	1.17	278.5	1239
BD023-090-0102	0.402	10.2	0.906	23	0.0354	0.90	0.0650	1.65	0.0429	1.09	237.6	1057
BD023-100-0102	0.402	10.2	0.906	23	0.0394	1.00	0.0669	1.70	0.0461	1.17	295.6	1315
BD023-125-0102	0.402	10.2	0.906	23	0.0492	1.25	0.0748	1.90	0.0555	1.41	458.1	2038
BD023-125-0122	0.48	12.2	0.906	23	0.0492	1.25	0.0728	1.85	0.0551	1.40	523.8	2330
BD023-150-0122	0.48	12.2	0.906	23	0.0591	1.50	0.0787	2.00	0.0642	1.63	740.7	3295
BD025-100-0102	0.402	10.2	0.984	25	0.0394	1.00	0.0689	1.75	0.0469	1.19	263.2	1171
BD025-070	0.48	12.2	0.984	25	0.0280	0.70	0.0630	1.60	0.0362	0.92	135.1	601
BD025-090	0.48	12.2	0.984	25	0.0350	0.90	0.0630	1.60	0.0421	1.07	195.1	868
BD025-100	0.48	12.2	0.984	25	0.0394	1.00	0.0709	1.80	0.0472	1.20	305.3	1358
BD025-125	0.48	12.2	0.984	25	0.0492	1.25	0.0768	1.95	0.0559	1.42	497.5	2213
BD025-150	0.48	12.2	0.984	25	0.0590	1.50	0.0810	2.05	0.0646	1.64	654	2910
BD028-080-0102	0.402	10.2	1.1	28	0.0315	0.80	0.0689	1.75	0.0409	1.04	148.6	661
BD028-100-0102	0.402	10.2	1.1	28	0.0394	1.00	0.0748	1.90	0.0484	1.23	253.8	1129
BD028-125-0102	0.402	10.2	1.1	28	0.0492	1.25	0.0807	2.05	0.0571	1.45	416.3	1852
BD028-150-0102	0.402	10.2	1.1	28	0.0591	1.50	0.0886	2.25	0.0657	1.67	611.7	2721
BD028-100-0122	0.48	12.2	1.1	28	0.0394	1.00	0.0768	1.95	0.0488	1.24	284.8	1267
BD028-125-0122	0.48	12.2	1.1	28	0.0492	1.25	0.0827	2.10	0.0575	1.46	467.8	2081
BD028-150-0122	0.48	12.2	1.1	28	0.0591	1.50	0.0886	2.25	0.0665	1.69	691.3	3075
BD028-080	0.559	14.2	1.1	28	0.0310	0.80	0.0710	1.80	0.0413	1.05	180.1	801
BD028-100	0.559	14.2	1.1	28	0.0390	1.00	0.0710	1.80	0.0472	1.2	247.7	1102
BD028-125	0.559	14.2	1.1	28	0.0492	1.25	0.0827	2.10	0.0575	1.46	503.1	2238
BD028-150	0.559	14.2	1.1	28	0.0590	1.50	0.0850	2.15	0.0654	1.66	641	2850
BD032-150-0122	0.48	12.2	1.240	31.5	0.0591	1.50	0.0925	2.35	0.0673	1.71	603.8	2686
BD032-080	0.642	16.3	1.24	31.5	0.0310	0.80	0.0730	1.85	0.0417	1.06	154.4	687
BD032-125	0.642	16.3	1.24	31.5	0.0490	1.25	0.0850	2.15	0.0583	1.48	430	1912
BD032-150	0.642	16.3	1.240	31.5	0.0591	1.50	0.0945	2.40	0.0681	1.73	725.7	3228
BD032-175	0.642	16.3	1.24	31.5	0.0690	1.75	0.0960	2.45	0.0756	1.92	876.7	3900
BD032-200	0.642	16.3	1.240	31.5	0.0787	2.00	0.1083	2.75	0.0862	2.19	1387.0	6170
BD034-100-0122	0.48	12.2	1.340	34	0.0394	1.00	0.0886	2.25	0.0516	1.31	263.5	1172
BD034-125-0122	0.48	12.2	1.340	34	0.0492	1.25	0.0925	2.35	0.0602	1.53	407.8	1814
BD034-150-0122	0.48	12.2	1.340	34	0.0591	1.50	0.0984	2.50	0.0689	1.75	611.2	2719
BD034-125-0143	0.563	14.3	1.340	34	0.0492	1.25	0.0945	2.40	0.0606	1.54	446.9	1988
BD034-150-0143	0.563	14.3	1.340	34	0.0591	1.50	0.1004	2.55	0.0693	1.76	670.4	2982
BD034-150	0.642	16.3	1.340	34	0.0591	1.50	0.1004	2.55	0.0693	1.76	708.8	3153
BD034-200	0.642	16.3	1.340	34	0.0787	2.00	0.1122	2.85	0.0870	2.21	1299.1	5779
BD036-090	0.72	18.3	1.398	35.5	0.0350	0.90	0.0810	2.05	0.0469	1.19	186.8	831
BD036-125	0.72	18.3	1.398	35.5	0.0490	1.25	0.0890	2.25	0.0591	1.5	382	1700
BD036-200	0.72	18.3	1.398	35.5	0.0790	2.00	0.1100	2.80	0.0866	2.2	1167	5190
BD040-125-0142	0.563	14.2	1.570	40	0.0492	1.25	0.1043	2.65	0.0630	1.60	399.9	1779
BD040-150-0142	0.563	14.2	1.570	40	0.0591	1.50	0.1083	2.75	0.0713	1.81	571.9	2544
BD040-200-0142	0.563	14.2	1.570	40	0.0787	2.00	0.1201	3.05	0.0890	2.26	1071.4	4766
BD040-150-0163	0.642	16.3	1.570	40	0.0591	1.50	0.1102	2.80	0.0720	1.83	617.8	2748
BD040-200-0163	0.642	16.3	1.570	40	0.0787	2.00	0.1220	3.10	0.0898	2.28	1161.3	5166
BD040-200-0183	0.72	18.3	1.570	40	0.0787	2.00	0.1240	3.15	0.0902	2.29	1270.8	5653
BD040-100	0.803	20.4	1.570	40	0.0390	1.00	0.0910	2.30	0.0524	1.33	228	1016
BD040-150	0.803	20.4	1.570	40	0.0590	1.50	0.1040	2.65	0.0705	1.79	589	2620
BD040-200	0.803	20.4	1.570	40	0.0787	2.00	0.1220	3.10	0.0898	2.28	1280.9	5698
BD040-225	0.803	20.4	1.570	40	0.0890	2.25	0.1240	3.15	0.0976	2.48	1461	6497
BD040-250	0.803	20.4	1.570	40	0.0984	2.50	0.1358	3.45	0.1079	2.74	2109.5	9384
BD045-125	0.882	22.4	1.770	45	0.0490	1.25	0.1120	2.85	0.0650	1.65	425	1890
BD045-175	0.882	22.4	1.770	45	0.0690	1.75	0.1200	3.05	0.0819	2.08	819	3644



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	in	mm	in	mm	in	mm	in	mm	in	mm	lb	N
	BD045-250	0.882	22.4	1.770	45	0.0980	2.50	0.1380	3.50	0.1083	2.75	1735
BD050-150-0183	0.724	18.3	1.970	50	0.0591	1.50	0.1299	3.30	0.0768	1.95	584.9	2602
BD050-200-0183	0.724	18.3	1.970	50	0.0787	2.00	0.1378	3.50	0.0937	2.38	1026.0	4564
BD050-250-0183	0.724	18.3	1.970	50	0.0984	2.50	0.1614	4.10	0.1142	2.90	2090.6	9300
BD050-300-0183	0.724	18.3	1.970	50	0.1181	3.00	0.1732	4.40	0.1319	3.35	3072.1	13666
BD050-200-0204	0.803	20.4	1.970	50	0.0787	2.00	0.1378	3.50	0.0937	2.38	1053.2	4685
BD050-250-0204	0.803	20.4	1.970	50	0.0984	2.50	0.1516	3.85	0.1118	2.84	1779.3	7915
BD050-200-0224	0.882	22.4	1.970	50	0.0787	2.00	0.1417	3.60	0.0945	2.40	1173.2	5219
BD050-250-0224	0.882	22.4	1.970	50	0.0984	2.50	0.1535	3.90	0.1122	2.85	1911.9	8505
BD050-125	1	25.4	1.970	50	0.0490	1.25	0.1120	2.85	0.0650	1.65	348	1550
BD050-200	1	25.4	1.970	50	0.0790	2.00	0.1340	3.40	0.0925	2.35	1070	4760
BD050-250	1	25.4	1.970	50	0.0984	2.50	0.1535	3.90	0.1122	2.85	2036.2	9058
BD050-300	1	25.4	1.970	50	0.1180	3.00	0.1610	4.10	0.1291	3.28	2691	11970
BD056-150	1.122	28.5	2.205	56	0.0590	1.50	0.1360	3.45	0.0783	1.99	589	2620
BD056-200	1.122	28.5	2.205	56	0.0790	2.00	0.1420	3.60	0.0945	2.4	998	4440
BD056-300	1.122	28.5	2.205	56	0.1180	3.00	0.1690	4.30	0.1311	3.33	2559	11382
BD060-200-0205	0.807	20.5	2.360	60	0.0787	2.00	0.1614	4.10	0.0992	2.52	1062.0	4724
BD060-250-0205	0.807	20.5	2.360	60	0.0984	2.50	0.1693	4.30	0.1161	2.95	1639.5	7293
BD060-300-0205	0.807	20.5	2.360	60	0.1181	3.00	0.1850	4.70	0.1346	3.42	2599.4	11563
BD060-250-0255	1.004	25.5	2.360	60	0.0984	2.50	0.1832	4.65	0.1169	2.97	1834.1	8159
BD060-300-0255	1.004	25.5	2.360	60	0.1181	3.00	0.1831	4.65	0.1343	3.41	2644.1	11762
BD060-250	1.201	30.5	2.360	60	0.0984	2.50	0.1693	4.30	0.1161	2.95	1874.2	8337
BD060-300	1.201	30.5	2.360	60	0.1181	3.00	0.1850	4.70	0.1346	3.42	2971.6	13219
BD060-350	1.201	30.5	2.360	60	0.1378	3.50	0.1969	5.00	0.1528	3.88	4078.5	18143
BD063-180	1.22	31.0	2.48	63	0.0710	1.80	0.1630	4.15	0.0941	2.39	953	4240
BD063-250	1.22	31.0	2.48	63	0.0980	2.50	0.1670	4.25	0.1157	2.94	1614	7180
BD063-300	1.22	31.0	2.480	63	0.1181	3.00	0.1890	4.80	0.1358	3.45	2816.7	12530
BD063-350	1.22	31.0	2.48	63	0.1380	3.50	0.1930	4.90	0.1516	3.85	3372	15000
BD070-200-0255	1.004	25.5	2.760	70	0.0787	2.00	0.1772	4.50	0.1035	2.63	997.0	4435
BD070-250-0305	1.201	30.5	2.760	70	0.0984	2.50	0.1929	4.90	0.1220	3.10	1804.2	8026
BD070-300-0305	1.201	30.5	2.760	70	0.1181	3.00	0.2008	5.10	0.1386	3.52	2567.2	11420
BD070-300	1.398	35.5	2.760	70	0.1181	3.00	0.2008	5.10	0.1386	3.52	2760.8	12281
BD070-400	1.398	35.5	2.760	70	0.1575	4.00	0.2283	5.80	0.1752	4.45	5375.0	23910
BD070-400-0405	1.595	40.5	2.760	70	0.1575	4.00	0.2205	5.60	0.1732	4.40	5246.4	23338
BD070-500-0405	1.595	40.5	2.760	70	0.1968	5.00	0.2441	6.20	0.2087	5.30	7565.2	33653
BD071-200	1.417	36.0	2.795	71	0.0790	2.00	0.1810	4.60	0.1043	2.65	1156	5140
BD071-250	1.417	36.0	2.795	71	0.0980	2.50	0.1770	4.50	0.1181	3	1513	6730
BD071-400	1.417	36.0	2.795	71	0.1570	4.00	0.2200	5.60	0.1732	4.4	4608	20500
BD080-250-0310	1.22	31.0	3.150	80	0.0984	2.50	0.2087	5.30	0.1260	3.20	1626.4	7235
BD080-300-0310	1.22	31.0	3.150	80	0.1181	3.00	0.2165	5.50	0.1429	3.63	2325.8	10346
BD080-400-0310	1.22	31.0	3.150	80	0.1575	4.00	0.2402	6.10	0.1780	4.52	4357.5	19384
BD080-300-0360	1.42	36.0	3.150	80	0.1181	3.00	0.2244	5.70	0.1445	3.67	2677.8	11912
BD080-400-0360	1.42	36.0	3.150	80	0.1575	4.00	0.2441	6.20	0.1791	4.55	4808.0	21388
BD080-225	1.614	41.0	3.15	80	0.0890	2.25	0.2050	5.20	0.1177	2.99	1486	6610
BD080-300	1.614	41.0	3.15	80	0.1180	3.00	0.2090	5.30	0.1409	3.58	2360	10500
BD080-400	1.61	41.0	3.150	80	0.1575	4.00	0.2441	6.20	0.1791	4.55	5139.2	22861
BD080-500	1.614	41.0	3.15	80	0.1970	5.00	0.2640	6.70	0.2134	5.42	7576	33700
BD090-250	1.811	46.0	3.543	90	0.0980	2.50	0.2240	5.70	0.1299	3.3	1727	7680
BD090-350	1.811	46.0	3.543	90	0.1380	3.50	0.2360	6.00	0.1626	4.13	3192	14200
BD090-500	1.811	46.0	3.543	90	0.1970	5.00	0.2760	7.00	0.2165	5.5	7059	31400
BD090-400-0410	1.61	41.0	3.940	100	0.1575	4.00	0.2835	7.20	0.1890	4.80	4550.0	20240
BD090-500-0410	1.61	41.0	3.940	100	0.1968	5.00	0.3051	7.75	0.2240	5.69	7270.9	32344
BD100-270	2.008	51.0	3.940	100	0.1060	2.70	0.2440	6.20	0.1409	3.58	1936	8610
BD100-350	2.008	51.0	3.940	100	0.1380	3.50	0.2480	6.30	0.1654	4.2	2945	13100
BD100-400	2.01	51.0	3.940	100	0.1575	4.00	0.2756	7.00	0.1870	4.75	4644.8	20662
BD100-500	2.01	51.0	3.940	100	0.1968	5.00	0.3071	7.80	0.2244	5.70	8164.5	36319
BD100-600	2.008	51.0	3.940	100	0.2360	6.00	0.3230	8.20	0.2579	6.55	10790	48000
BD112-300	2.24	57.0	4.41	112	0.1181	3.00	0.2717	6.90	0.1563	3.97	2356.6	10483
BD112-400	2.24	57.0	4.41	112	0.1575	4.00	0.2835	7.20	0.1917	4.87	3988.6	17743
BD112-600	2.24	57.0	4.41	112	0.2362	6.00	0.3346	8.50	0.2610	6.63	9819.9	43683
BD125-400-0410	1.61	41.0	4.92	125	0.1575	4.00	0.3228	8.20	0.1988	5.05	3897.1	17336
BD125-400-0510	2.01	51.0	4.92	125	0.1575	4.00	0.3346	8.50	0.2020	5.13	4452.4	19806
BD125-500-0510	2.01	51.0	4.92	125	0.1968	5.00	0.3504	8.90	0.2350	5.97	6890.6	30652
BD125-600-0510	2.01	51.0	4.92	125	0.2362	6.00	0.3701	9.40	0.2697	6.85	9954.8	44283

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**METRIC DISC SPRING WASHERS**

Catalog Number	Min I.D.		Max O.D.		Thickness (t)		Free Height (H)		Loaded Height (H <sub>L</sub> )		Load at H <sub>L</sub> (P <sub>L</sub> ) (Reference Only)	
	in	mm	in	mm	in	mm	in	mm	in	mm	lb	N
BD125-500-0061	2.4	61.0	4.92	125	0.1968	5.00	0.3543	9.00	0.2362	6.00	7631.3	33947
BD125-600-0061	2.4	61.0	4.92	125	0.2362	6.00	0.3780	9.60	0.2717	6.90	11396.0	50694
BD125-750-0061	2.4	61.0	4.92	125	0.2950	7.50	0.4291	10.90	0.3433	8.72	21024.6	93526
BD125-350	2.52	64.0	4.92	125	0.1378	3.50	0.3150	8.00	0.1823	4.63	3463.5	15407
BD125-500	2.52	64.0	4.92	125	0.1968	5.00	0.3346	8.50	0.2315	5.88	6719.7	29892
BD125-750	2.52	64.0	4.92	125	0.2950	7.50	0.4173	10.60	0.3406	8.65	19305.6	85879
BD125-600-0710	2.8	71.0	4.92	125	0.2362	6.00	0.3661	9.30	0.2709	6.88	11507.3	51189
BD125-750-0710	2.8	71.0	4.92	125	0.2913	7.50	0.4094	10.40	0.3386	8.60	19208.5	85447
BD125-930-0710	2.8	71.0	4.92	125	0.3622	9.30	0.4646	11.80	0.4114	10.45	27887.8	124056
BD140-380	2.84	72.0	5.51	140	0.1570	3.80	0.3300	8.38	0.1976	5.02	3863.4	17186
BD140-500	2.84	72.0	5.51	140	0.1968	5.00	0.3543	9.00	0.2362	6.00	6273.0	27905
BD140-750	2.84	72.0	5.51	140	0.2950	7.50	0.4409	11.20	0.3465	8.80	19153.9	85204
BD150-500-0610	2.4	61.0	5.91	150	0.1968	5.00	0.4055	10.30	0.2709	6.88	6974.2	31024
BD150-600-0610	2.4	61.0	5.91	150	0.2362	6.00	0.4252	10.80	0.2835	7.20	10224.1	45481
BD150-600	2.8	71.0	5.91	150	0.2362	6.00	0.4252	10.80	0.2835	7.20	10819.4	48129
BD150-750	2.8	71.0	5.91	150	0.2950	7.50	0.4724	12.00	0.3543	9.00	20187.5	89802
BD150-750-0810	3.19	81.0	5.91	150	0.2950	7.50	0.4606	11.70	0.3512	8.92	20115.8	89483
BD150-940-0810	3.19	81.0	5.91	150	0.3661	9.40	0.5118	13.00	0.4232	10.75	31258.7	139051
BD160-430	3.23	82.0	6.30	160	0.1693	4.30	0.3898	9.90	0.2244	5.70	4907.6	21831
BD160-600	3.23	82.0	6.30	160	0.2362	6.00	0.4134	10.50	0.2807	7.13	9213.4	40985
BD160-940	3.23	82.0	6.30	160	0.3700	9.40	0.5315	13.50	0.4283	10.88	31079.7	138255
BD180-480-0920	3.62	92.0	7.09	180	0.1890	4.80	0.4331	11.00	0.2500	6.35	5950.0	26468
BD180-600-0920	3.62	92.0	7.09	180	0.2362	6.00	0.4370	11.10	0.2862	7.27	8425.7	37481
BD180-940-0920	3.62	92.0	7.09	180	0.3700	9.40	0.5512	14.00	0.4331	11.00	28178.5	125349
BD200-760-0820	3.23	82.0	7.87	200	0.2992	7.60	0.5591	14.20	0.3760	9.55	17532.6	77992
BD200-960-0820	3.23	82.0	7.87	200	0.3780	9.60	0.6102	15.50	0.4480	11.38	29083.3	129374
BD200-1150-0820	3.23	82.0	7.87	200	0.4528	11.50	0.6535	16.60	0.5177	13.15	41056.8	182637
BD200-950-0920	3.62	92.0	7.87	200	0.3740	9.50	0.6142	15.60	0.4488	11.40	30935.2	137612
BD200-1140-0920	3.62	92.0	7.87	200	0.4488	11.40	0.6614	16.80	0.5197	13.20	44771.2	199160
BD200-1320-0920	3.62	92.0	7.87	200	0.5160	13.20	0.7126	18.10	0.5913	15.02	60039.8	267081
BD200-600	4.02	102.0	7.87	200	0.2360	6.00	0.4920	12.50	0.2854	7.25	8113.5	36092
BD200-750	4.02	102.0	7.87	200	0.2950	7.50	0.5354	13.60	0.3701	9.40	17160.3	76336
BD200-950	4.02	102.0	7.87	200	0.3700	9.50	0.6142	15.60	0.4488	11.40	32658.3	145277
BD200-1140	4.02	102.0	7.87	200	0.4430	11.40	0.6375	16.19	0.5138	13.05	41120.4	182920
BD200-1310	4.02	102.0	7.87	200	0.5160	13.10	0.7165	18.20	0.5925	15.05	64972.4	289023
BD200-1140-1120	4.41	112.0	7.87	200	0.4370	11.40	0.6378	16.20	0.5138	13.05	43998.5	195723
BD200-1310-1120	4.41	112.0	7.87	200	0.5079	13.10	0.6890	17.50	0.5858	14.88	57687.7	256618
BD200-1470-1120	4.41	112.0	7.87	200	0.5827	14.70	0.7402	18.80	0.6575	16.70	68549.2	304934
BD225-620	4.41	112.0	8.86	225	0.2441	6.20	0.5354	13.60	0.3256	8.27	10016.2	44556
BD225-750	4.41	112.0	8.86	225	0.2950	7.50	0.5709	14.50	0.3791	9.63	15895.6	70710
BD225-1130	4.41	112.0	8.86	225	0.4430	11.30	0.6693	17.00	0.5217	13.25	38423.5	170923
BD250-970-1020	4.02	102.0	9.84	250	0.3780	9.70	0.7087	18.00	0.4724	12.00	28396.3	126318
BD250-1130-1020	4.02	102.0	9.84	250	0.4528	11.30	0.7480	19.00	0.5413	13.75	41107.4	182862
BD250-650	5	127.0	9.84	250	0.2638	6.50	0.5827	14.80	0.3524	8.95	11338.5	50438
BD250-940	5	127.0	9.84	250	0.3700	9.40	0.6693	17.00	0.4626	11.75	26748.5	118988
BD250-1130-1030	5	127.0	9.84	250	0.4430	11.30	0.7598	19.30	0.5441	13.82	47363.3	210691
BD250-1310	5	127.0	9.84	250	0.5160	13.10	0.7717	19.60	0.6063	15.40	55906.0	248692
BD250-1510	5	127.0	9.84	250	0.5910	15.10	0.8583	21.80	0.6870	17.45	86055.0	382807

**SPEC**

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