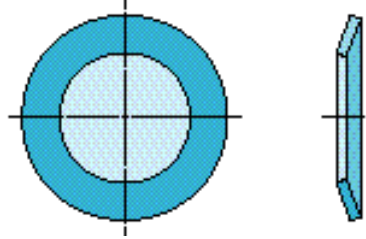


# Pre-Load Disc Springs

## Plain Type

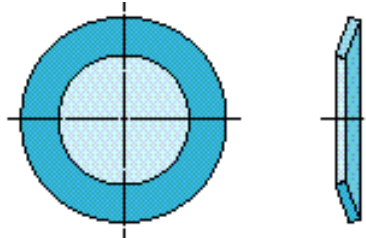


Brg. Ref. No.	Disc Spring Code No.	Outer Dia. (De) mm	Inner Dia. (Di) mm	Thick. (t) mm	Cone Ht. (ho) mm	Ov'll Ht. (lo) mm	Cone Ht. Thick. Ratio	Force (N) 75% Defl.	Wt. per 1000 pcs.
623	P986202	9.8	6.2	0.20	0.20	0.40	1.00	23	0.07
624	P12872025	12.8	7.2	0.25	0.25	0.50	1.00	29	0.16
625 634	P15882025	15.8	8.2	0.25	0.30	0.55	1.20	23	0.26
626 635	P1889203	18.8	9.2	0.30	0.35	0.65	1.17	31	0.47
607	P188102035	18.8	10.2	0.35	0.35	0.70	1.00	51	0.51
608 627	P218123035	21.8	12.3	0.35	0.40	0.75	1.14	46	0.66
609	P23714304	23.7	14.3	0.40	0.50	0.90	1.25	81	0.83
6000 629	P25714304	25.7	14.3	0.40	0.50	0.90	1.25	63	1.10
6001	P27717304	27.7	17.3	0.40	0.60	1.00	1.50	80	1.10
6200	P29717404	29.7	17.4	0.40	0.70	1.10	1.75	83	1.40
6002 6201	P31720404	31.7	20.4	0.40	0.70	1.10	1.75	81	1.40
6300	P34620404	34.6	20.4	0.40	0.70	1.10	1.75	61	1.80
6003 6202	P34622405	34.6	22.4	0.50	0.70	1.20	1.40	118	2.00
6301	P36620405	36.6	20.4	0.50	0.80	1.30	1.60	110	270
6203	P39625505	39.6	25.5	0.50	0.80	1.30	1.60	110	2.70
6004 6302	P41625505	41.6	25.5	0.50	0.90	1.40	1.80	113	3.10
6005 6204 6303	P46530506	46.5	30.5	0.60	0.90	1.50	1.50	153	4.30
6205 6304	P51535506	51.5	35.5	0.60	0.90	1.50	1.50	135	4.80
6006	P54540506	54.5	40.5	0.60	0.90	1.50	1.50	141	4.60
6007 6206 6305	P61540507	61.5	40.5	0.70	1.10	1.80	1.57	176	8.70

Brg. Ref. No.	Disc Spring Code No.	Outer Dia. (De) mm	Inner Dia. (Di) mm	Thick. (t) mm	Cone Ht. (ho) mm	Ov'll Ht. (lo) mm	Cone Ht. Thick. Ratio	Force (N) 75% Defl.	Wt. per 1000 pcs.
6008	P67550507	67.5	50.5	0.70	1.00	1.70	1.43	161	8.10
6306	P71545507	71.5	45.5	0.70	1.40	2.10	2.00	185	12.0
6207	P7155057	71.5	50.5	0.70	1.40	2.10	2.00	218	10.0
6009	P74555508	74.5	55.5	0.80	1.10	1.90	1.38	211	11.0
6307	P79550508	79.5	50.5	0.80	1.50	2.30	1.88	227	17.0
6010 6208	P79555508	79.5	55.5	0.80	1.50	2.30	1.88	263	15.0
6209	P84560509	84.5	60.5	0.90	1.60	2.50	1.78	359	18.0
6308	P89560509	89.5	60.5	0.90	1.60	2.50	1.78	288	23.0
6011 6210	P89565509	89.5	65.5	0.90	1.60	2.50	1.78	335	19.0
6012	P9457551	94.5	75.5	1.00	1.20	2.20	1.20	325	19.0
6309	P996551	99.0	65.5	1.00	1.60	2.60	1.60	292	32.0
6013 6211	P997051	99.0	70.5	1.00	1.60	2.60	1.60	332	28.0
6310	P109705125	109.0	70.5	1.25	1.45	2.70	1.16	357	50.0
6014 6212	P109755125	109.0	75.5	1.25	1.45	2.70	1.16	398	45.0
6015	P114905125	114.0	90.5	1.25	1.20	2.45	0.96	398	35.0
6311	P119755125	119.0	75.5	1.25	1.55	2.80	1.24	320	61.0
6213	P119855125	119.0	85.5	1.25	1.55	2.80	1.24	392	50.0
6016 6214	P124905125	124.0	90.5	1.25	1.75	3.00	1.40	445	52.0
6312	P129855125	129.0	85.5	1.25	1.95	3.20	1.56	405	68.0
6017 6215	P129955125	129.0	95.5	1.25	1.95	3.20	1.56	500	54.0

# Pre-Load Disc Springs

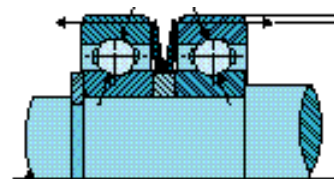
## Plain Type



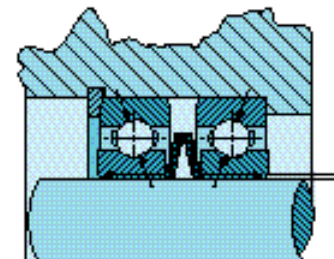
Brg. Ref. No.	Disc Spring Code No.	Outer Dia. (De) mm	Inner Dia. (Di) mm	Thick. (t) mm	Cone Ht. (ho) mm	Ov'll Ht. (lo) mm	Cone Ht. Thick. Ratio	Force (N) 75% Defl.	Wt. per 1000 pcs.
6313	P139905125	139.0	90.5	1.25	2.00	3.25	1.60	353	81.0
6018 6216	P139101125	139.0	101.0	1.25	2.00	3.25	1.60	429	66.0
6314	P14995515	149.0	95.5	1.50	1.70	3.20	1.13	379	114.0
6020 6217	P14910615	149.0	106.0	1.50	1.70	3.20	1.13	450	95.0
6315	P15910115	159.0	101.0	1.50	2.00	3.50	1.33	412	131
6021 6218	P15911115	159.0	111.0	1.50	2.00	3.50	1.33	477	113
6316	P16911115	169.0	111.0	1.50	2.30	3.80	1.53	470	141
6022 6219	P16912115	169.0	121.0	1.50	2.30	3.80	1.53	546	121
6317	P1791212	179.0	121.0	2.00	2.20	4.20	1.10	864	202
6024 6220	P1791262	179.0	126.0	2.00	2.20	4.20	1.10	928	187
6318	P1891212	189.0	121.0	2.00	2.30	4.30	1.15	758	244
6221	P1891312	189.0	131.0	2.00	2.30	4.30	1.15	858	215
6319	P1981312	198.0	131.0	2.00	2.50	4.50	1.25	811	256
6026 6222	P1981412	198.0	141.0	2.00	2.50	4.50	1.25	922	224
6224 6320	P213151225	213.0	151.0	2.25	2.25	4.50	1.00	941	294
6030 6321	P223161225	223.0	161.0	2.25	2.35	4.60	1.04	942	310
6226	P228161225	228.0	161.0	2.25	2.70	4.95	1.20	1036	340
6032 6322	P238161225	238.0	161.0	2.25	3.00	5.25	1.33	1020	401
6228	P24817125	248.0	171.0	2.50	2.50	5.00	1.00	1004	467
6034 6324	P25817125	258.0	171.0	2.50	3.00	5.50	1.20	1106	541

Brg. Ref. No.	Disc Spring Code No.	Outer Dia. (De) mm	Inner Dia. (Di) mm	Thick. (t) mm	Cone Ht. (ho) mm	Ov'll Ht. (lo) mm	Cone Ht. Thick. Ratio	Force (N) 75% Defl.	Wt. per 1000 pcs.
6230	P26818125	268.0	181.0	2.50	3.20	5.70	1.28	1154	566.0
6036 6326	P27818125	278.0	181.0	2.50	3.50	6.00	1.40	1154	645.0
6038 6232	P288191275	288.0	191.0	2.75	3.00	5.75	1.09	1145	741.0
6328	P298191275	298.0	191.0	2.75	3.60	6.35	1.31	1306	834.0
6040 6234	P3082023	308.0	202.0	3.00	3.10	6.10	1.03	1299	940.0
6236 6330	P3182123	318.0	212.0	3.00	3.20	6.20	1.07	1301	977.0
6044 6238 6332	P3382323	338.0	232.0	3.00	3.60	6.60	1.20	1414	1050.0
6048 6240 6334	P3582423	358.0	242.0	3.00	4.00	7.00	1.33	1424	1210.0

## Typical Application



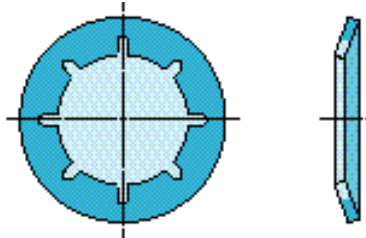
Preloading outer race



Preloading inner race

# Pre-Load Disc Springs

## Slotted Type



Brg. Ref. No.	Disc Spring Code No.	Outer Dia. (De) mm	Inner Dia. (Di) mm	Thick. (t) mm	Cone Ht. (ho) mm	Ov'll Ht. (lo) mm	Cone Ht. Thick. Ratio	Force (N) 75% Defl.	Wt. per 1000 pcs.
623	P9862015	9.8	6.2	0.15	0.45	0.60	3.00	13	0.05
624	P1287202	12.8	7.2	0.20	0.45	0.65	2.25	18	0.13
625 634	P15882025	15.8	8.2	0.25	0.50	0.75	2.00	20	0.28
626 635	P18892025	18.8	9.2	0.25	0.75	1.00	3.00	20	0.44
607	P188102025	18.8	10.2	0.25	0.80	1.05	3.20	24	0.32
608 627	P218123025	21.8	12.3	0.25	1.00	1.25	4.00	24	0.42
609	P23714303	23.7	14.3	0.30	1.00	1.30	3.33	26	0.66
6000 629	P25714303	25.7	14.3	0.30	1.10	1.40	3.66	29	0.70
6001	P277173035	27.7	17.3	0.35	1.10	1.45	3.14	32	0.79
6200	P297174035	29.7	17.4	0.35	1.20	1.55	3.43	33	1.20
6002 6201	P317204035	31.7	20.4	0.35	1.20	1.55	3.43	34	1.00
6300	P346204035	34.6	20.4	0.35	1.30	1.65	3.71	33	1.70
6003 6202	P346224035	34.6	22.4	0.35	1.20	1.55	3.43	33	1.50
6301	P36620404	36.6	20.4	0.40	1.50	1.90	3.75	36	2.30
6203	P39625504	39.6	25.5	0.40	1.50	1.90	3.75	39	1.90
6004 6302	P416255045	41.6	25.5	0.45	1.60	2.05	3.55	40	2.50
6005 6204 6303	P465305045	46.5	30.5	0.45	1.60	2.05	3.55	45	2.80
6205 6304	P515355045	51.5	35.5	0.45	1.65	2.10	3.55	48	3.10
6006	P545405045	54.5	40.5	0.45	1.70	2.15	3.78	54	3.20
6007 6206 6305	P615405053	61.5	40.5	0.55	2.00	2.55	3.64	55	6.10

Brg. Ref. No.	Disc Spring Code No.	Outer Dia. (De) mm	Inner Dia. (Di) mm	Thick. (t) mm	Cone Ht. (ho) mm	Ov'll Ht. (lo) mm	Cone Ht. Thick. Ratio	Force (N) 75% Defl.	Wt. per 1000 pcs.
6008	67550505	67.5	50.5	0.50	2.10	2.60	4.20	80	5.50
6306	P71545506	71.5	45.5	0.60	2.30	2.90	3.83	75	9.60
6207	P71550508	71.5	50.5	0.60	2.30	2.90	3.83	130	8.20
6009	P74555506	74.5	55.5	0.60	2.30	2.90	3.83	93	7.60
6307	P79550507	79.5	50.5	0.70	2.40	3.10	3.43	85	16.30
6010 6208	P79555507	79.5	55.5	0.70	2.20	2.90	3.14	130	14.50
6209	P845605075	84.5	60.5	0.75	2.40	3.15	3.20	80	13.00
6308	P89560508	89.5	60.5	0.80	2.50	3.30	3.12	106	18.10
6011 6210	P89565508	89.5	65.5	0.80	2.60	3.40	3.25	193	16.00
6012	P94575508	94.5	75.5	0.80	2.65	3.45	3.31	210	13.30

Pre-Load Disc Springs are designed for use with radial ball-bearings. They assist in maintaining positioning accuracy of the bearing, with no end play. They also minimise vibration and shaft deflections. Proper pre-loading will increase bearing rigidity, and also eliminate excessive running noise.

**MATERIAL:-**Both "Plain" & "Slotted" types are manufactured and stocked in CK75 Carbon Steel (DIN 1.1248), FINISH : Phosphated & Oiled.

**NOTE:-** The Pre-Load types of disc spring may also prove useful in other applications, e.g. Light duty linkages or mechanisms, particularly in view of the relatively low forces when compared with other ranges of disc springs. However, caution should be exercised when considering columns of these springs as a ratio of cone height/thickness in excess of 1.50 may lead to inversion of springs and column collapse.