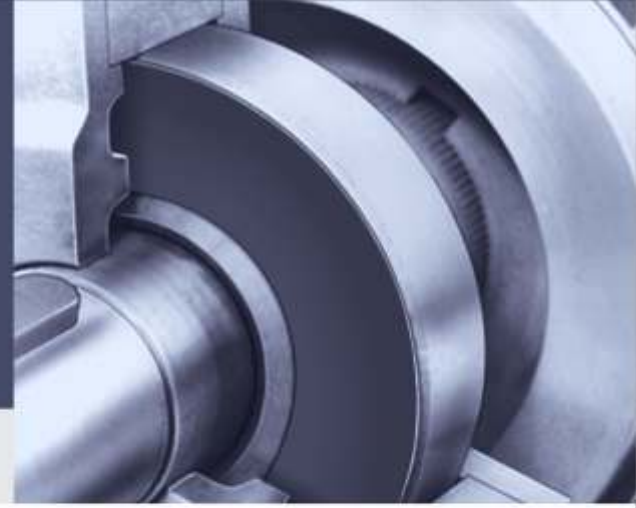




**Bearing Series**

**Disc Springs**

## About Gala



Gala Precision is the Asia's largest Disc springs manufacturer with TS 16949 certified plants in India and offices in Germany & China.

Our Disc springs are successfully tested & approved by Global OEMs like Dana, Valeo, ABB, Eaton, John Deere, Siemens, Areva, Alstom, Vestas, Suzlon, Antec Brakes, etc.

We offer Disc springs as per DIN 2093 standard, Bearing Series & customised with variety of raw materials & surface coating options.

60% of our sales is contributed by exports to countries like Germany, France, USA, Italy, Czech Republic, Singapore, Indonesia, China, Spain, etc.

Bearing Series Disc Springs are specially designed as preload springs for use with radial ball bearings. They help maintain positioning accuracy of the bearing with no end play. They also minimize vibration and shaft deflection. Proper preloading will increase bearing rigidity and eliminate excessive running noise. It also ensures backlash compensation for ball bearings.

### The Ball Bearing Disc Springs are available in two different types

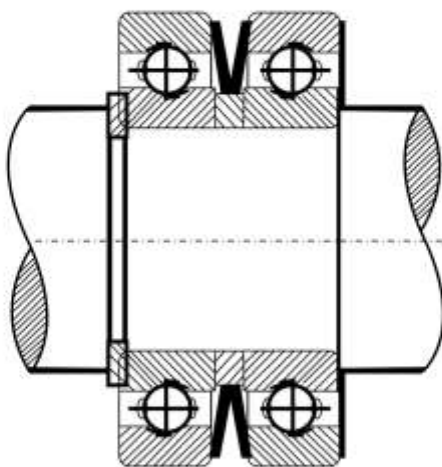
We offer Ball Bearing Disc Springs in two types

#### Plain Ball Bearing Disc Springs

- Disc springs with high force, low deflection and pronounced regressive spring characteristics
- It provides for backlash compensation, silencing and protection of ball bearings
- The pre-load variation changes little within a wide range of deflection.
- Outside diameters OD ranging from 9.8-358mm (0.386" - 14.1")

#### Slotted Ball Bearing Disc Springs

- Disc springs with low force and large deflection characteristic
- Required for use with small size ball bearings



Preloading Outer Race

## Bearing Series Disc Springs

The Gala Bearing Series Disc Spring Sizes listed in the following table comply with the ball bearing series EL, R, 62 and 63 which are most frequently used. Springs can also be supplied to other series of ball bearings.

In the table are shown all the springs of our standard production. The loads and deflections given are at spring deflections of 75% of free height  $h_0$ , which is the recommended preload.

Slotted Bearing Series Disc Springs details available on request.

Dimensions				Deflection $s$ and Spring Load $F$				Ball-Bearing Type	
$D_e$ [mm]	$D_i$ [mm]	$t$ [mm]	$l_0$ [mm]	$h_0$ [mm]	$h_0/t$	at $s = 0.75h_0$			
						$s$ [mm]	$F$ [N]		
9.8	6.2	0.2	0.4	0.20	1.00	0.15	23	623(EL3)	
12.8	7.2	0.25	0.5	0.25	1.00	0.19	29	624(EL4)	
15.8	8.2	0.25	0.55	0.30	1.20	0.23	23	625(EL5)	634(R4)
18.8	9.2	0.3	0.65	0.35	1.17	0.26	31	626(EL6)	635(R5)
18.8	10.2	0.35	0.7	0.35	1.00	0.26	51	607(EL7)	
21.8	12.3	0.35	0.75	0.40	1.14	0.30	46	608(EL8)	627(R7)
23.7	14.3	0.4	0.9	0.50	1.25	0.38	81	609(EL9)	
25.7	14.3	0.4	0.9	0.50	1.25	0.38	63	6000	629(R9)
27.7	17.3	0.4	1.0	0.60	1.50	0.45	80	6001	
29.7	17.4	0.4	1.1	0.70	1.75	0.53	83		6200
31.7	20.4	0.4	1.1	0.70	1.75	0.53	81	6002	6201
34.6	20.4	0.4	1.1	0.70	1.75	0.53	61		6300
34.6	22.4	0.5	1.2	0.70	1.40	0.53	118	6003	6202
36.6	20.4	0.5	1.3	0.80	1.60	0.60	110		6301
39.6	25.5	0.5	1.3	0.80	1.60	0.60	110		6203
41.6	25.5	0.5	1.4	0.90	1.80	0.68	113	6004	6302
46.5	30.5	0.6	1.5	0.90	1.50	0.68	153	6005	6204 6303
51.5	35.5	0.6	1.5	0.90	1.50	0.68	135		6205 6304
54.5	40.5	0.6	1.5	0.90	1.50	0.68	141	6006	
61.5	40.5	0.7	1.8	1.10	1.57	0.83	176	6007	6206 6305
67.5	50.5	0.7	1.7	1.00	1.43	0.75	161	6008	
71.5	45.5	0.7	2.1	1.40	2.00	1.05	185		6306
71.5	50.5	0.7	2.1	1.40	2.00	1.05	218		6207
74.5	55.5	0.8	1.9	1.10	1.38	0.83	211	6009	
79.5	50.5	0.8	2.3	1.50	1.88	1.13	228		6307
79.5	55.5	0.8	2.3	1.50	1.88	1.13	263	6010	6208
84.5	60.5	0.9	2.5	1.60	1.78	1.20	359		6209
89.5	60.5	0.9	2.5	1.60	1.78	1.20	288		6308
89.5	65.5	0.9	2.5	1.60	1.78	1.20	335	6011	6210
94.5	75.5	1	2.2	1.20	1.20	0.90	325	6012	
99	65.5	1	2.6	1.60	1.60	1.20	292		6309
99	70.5	1	2.6	1.60	1.60	1.20	332	6013	6211
109	70.5	1.25	2.7	1.45	1.16	1.09	357		6310
109	75.5	1.25	2.7	1.45	1.16	1.09	398	6014	6212
114	90.5	1.25	2.45	1.20	0.96	0.90	398	6015	
119	75.5	1.25	2.8	1.55	1.24	1.16	320		6311
119	85.5	1.25	2.8	1.55	1.24	1.16	393		6213
124	90.5	1.25	3	1.75	1.40	1.31	445	6016	6214
129	85.5	1.25	3.2	1.95	1.56	1.46	405		6312
129	95.5	1.25	3.2	1.95	1.56	1.46	500	6017	6215
139	90.5	1.25	3.25	2.00	1.60	1.50	354		6313
139	101	1.25	3.25	2.00	1.60	1.50	429	6018	6216
149	95.5	1.5	3.2	1.70	1.13	1.28	379		6314
149	106	1.5	3.2	1.70	1.13	1.28	450	6020	6217

Dimensions						Deflection $s$ and Spring Load $F$		Ball-Bearing Type		
$D_o$ [mm]	$D_i$ [mm]	$t$ [mm]	$l_o$ [mm]	$h_o$ [mm]	$h_o/t$	at $s = 0.75h_o$ $s$ [mm] $F$ [N]				
159	101	1.5	3.5	2.00	1.33	1.50	412			6315
159	111	1.5	3.5	2.00	1.33	1.50	477	6021	6218	
169	111	1.5	3.8	2.30	1.53	1.73	470			6316
169	121	1.5	3.8	2.30	1.53	1.73	546	6022	6219	
179	121	2	4.2	2.20	1.10	1.65	864			6317
179	126	2	4.2	2.20	1.10	1.65	928	6024	6220	
189	121	2	4.3	2.30	1.15	1.73	759			6318
189	131	2	4.3	2.30	1.15	1.73	858		6221	
198	131	2	4.5	2.50	1.25	1.88	812			6319
198	141	2	4.5	2.50	1.25	1.88	923	6026	6222	
213	151	2.25	4.5	2.25	1.00	1.69	941		6224	6320
223	161	2.25	4.6	2.35	1.04	1.76	942	6030		6321
228	161	2.25	4.95	2.70	1.20	2.03	1036		6226	
238	161	2.25	5.25	3.00	1.33	2.25	1021	6032		6322
248	171	2.5	5	2.50	1.00	1.88	1005		6228	
258	171	2.5	5.5	3.00	1.20	2.25	1106	6034		6324
268	181	2.5	5.7	3.20	1.28	2.40	1155		6230	
278	181	2.5	6	3.50	1.40	2.63	1155	6036		6326
288	191	2.75	5.75	3.00	1.09	2.25	1145	6038	6232	
298	191	2.75	6.35	3.60	1.31	2.70	1307			6328
308	202	3	6.1	3.10	1.03	2.33	1300	6040	6234	
318	212	3	6.2	3.20	1.07	2.40	1302		6236	6330
338	232	3	6.6	3.60	1.20	2.70	1415	6044	6238	6332
358	242	3	7	4.00	1.33	3.00	1424	6048	6240	6334

$D_o$  : Outside Diameter

$D_i$  : Inside Diameter

$t$  : Thickness

$l_o$  : Overall Height

$h_o$  : Free Height of cone frustum of unload disc spring mm

**Material : Spring Steel Ck75 / 50CrV4 and Stainless Steel.**



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