Single Direction Thrust Ball Bearings



The single direction thrust ball bearings consist of two washers with raceways for one row of balls with a cage. The washers have flat seating surfaces. They must be supported in order to spread the load on the balls evenly. These bearings are designed to carry axial forces acting in one direction only. They cannot carry radial forces.

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Dimensions						Bearing designation	Basic load ratings		Fatigue load limit	Limiting speeds for lubrication with		Mass
							dynamic	static				
d	D	d_1	D_1	H	$r_{s\ min}$		C_r	C_{or}	C_u	grease	oil	
mm							kN			min^{-1}		kg
10	24	24	11	9	0.3	51100	10.0	14.0	0.64	6300	9000	0.020
10	26	26	12	11	0.6	51200	12.7	17.0	0.77	6000	8000	0.030
12	26	26	13	9	0.3	51101	10.3	15.2	0.69	6000	8500	0.022
12	28	28	14	11	0.6	51201	13.2	19.0	0.86	5300	7500	0.032
15	28	28	16	9	0.3	51102	10.5	16.8	0.76	5600	8000	0.024
15	32	32	17	12	0.6	51202	16.5	24.8	1.13	4800	6700	0.044
17	30	30	18	9	0.3	51103	10.8	18.2	0.83	5300	7500	0.028
17	35	35	19	12	0.6	51203	17.2	27.2	1.24	4500	6300	0.051
20	35	35	21	10	0.3	51104	14.2	24.5	1.11	4800	6700	0.040
20	40	40	22	14	0.6	51204	22.3	37.5	1.71	3800	5300	0.073
25	42	42	26	11	0.6	51105	15.4	30.2	1.37	4300	6000	0.060
25	47	47	27	15	0.6	51205	27.8	50.5	2.30	3400	4800	0.110
25	52	52	27	18	1.0	51305	35.7	61.5	2.80	3000	4300	0.171
25	60	60	27	24	1.0	51405	55.5	89.2	4.06	2200	3400	0.340
30	47	47	32	11	0.6	51106	16.0	34.2	1.55	4000	5600	0.068
30	52	52	32	16	0.6	51206	28.1	54.2	2.46	3200	4500	0.138
30	60	60	32	21	1.0	51306	42.8	78.5	3.58	2400	3600	0.265
30	70	70	32	28	1.0	51406	72.7	125.8	5.73	1900	3000	0.360
35	52	52	37	12	0.6	51107	18.5	41.5	1.89	3800	5300	0.090
35	62	62	37	18	1.0	51207	39.2	78.2	3.55	2800	4000	0.220
35	68	68	37	24	1.0	51307	55.4	105.0	4.77	2000	3200	0.378
35	80	80	37	32	1.1	51407	86.8	155.2	7.05	1700	2600	0.820
40	60	60	42	13	0.6	51108	26.8	62.8	2.86	3400	4800	0.110
40	68	68	42	19	1.0	51208	47.0	98.2	4.46	2400	3600	0.270
40	78	78	42	26	1.0	51308	69.2	135.0	6.14	1900	3000	0.550
40	90	90	42	36	1.1	51408	112.4	205.3	9.32	1500	2200	1.180
45	65	65	47	14	0.6	51109	27.0	66.0	3.00	3200	4500	0.150
45	73	73	47	20	1.0	51209	47.8	105.0	4.77	2200	3400	0.320
45	85	85	47	28	1.0	51309	75.8	150.0	6.82	1700	2600	0.690
45	100	100	47	39	1.1	51409	140.7	262.4	11.93	1400	2000	1.640

Dimensions						Bearing designation	Basic load ratings		Fatigue load limit	Limiting speeds for lubrication with		Mass
							dynamic	static				
d	D	d_1	D_1	H	$r_{s\ min}$		C_r	C_{or}	C_u	grease	oil	
mm							kN			min^{-1}		kg
50	70	70	52	14	0.6	51110	27.1	69.2	3.15	3000	4300	0.160
50	78	78	52	22	1.0	51210	48.5	112.0	5.09	2000	3200	0.390
50	95	95	52	31	1.1	51310	96.5	202.0	9.18	1600	2400	1.000
50	110	110	52	43	1.5	51410	160.0	302.0	13.73	1300	1900	1.860
55	78	78	57	16	0.6	51111	33.8	89.2	4.05	2800	4000	0.240
55	90	90	57	25	1.0	51211	67.7	158.0	7.23	1900	3000	0.620
55	105	105	57	35	1.1	51311	114.5	242.0	11.10	1500	2200	1.340
55	120	120	57	48	1.5	51411	182.5	355.0	16.14	1100	1700	2.640
60	85	85	62	17	1.0	51112	40.3	108.0	4.91	2600	3800	0.290
60	95	95	62	26	1.0	51212	73.5	178.0	8.09	1800	2800	0.690
60	110	110	62	35	1.1	51312	118.0	262.0	11.91	1400	2000	1.390
60	130	130	62	51	1.5	51412	200.0	395.0	17.95	1000	1600	3.310
65	90	90	67	18	1.0	51113	40.5	112.0	5.09	2400	3600	0.340
65	100	100	67	27	1.0	51213	74.8	188.0	8.59	1700	2600	0.750
65	115	115	67	36	1.1	51313	138.9	262.0	11.91	1300	1900	1.570
65	140	140	68	56	2.0	51413	232.0	448.0	20.36	900	1400	3.910
70	95	95	72	18	1.0	51114	40.8	115.0	5.23	2200	3400	0.360
70	105	105	72	27	1.0	51214	73.5	188.0	8.55	1600	2400	0.790
70	125	125	72	40	1.1	51314	148.3	340.0	15.50	1200	1800	1.980
70	150	150	73	60	2.0	51414	257.0	565.0	24.56	850	1300	4.850
75	100	100	77	19	1.0	51115	48.2	140.0	6.36	2000	3200	0.390
75	110	110	77	27	1.0	51215	74.8	198.0	9.00	1500	2200	0.820
75	135	135	77	44	1.5	51315	163.4	380.0	16.89	1100	1700	2.700
75	160	160	78	65	2.0	51415	268.0	615.0	26.74	800	1200	6.080
80	105	105	82	19	1.0	51116	48.8	145.0	6.59	1900	3000	0.430
80	115	115	82	28	1.0	51216	83.8	222.0	10.09	1400	2000	0.925
80	140	140	82	44	1.5	51316	161.1	380.0	16.89	1000	1600	2.800
80	170	170	83	68	2.1	51416	292.0	635.0	25.81	750	1100	7.120
85	110	110	87	19	1.0	51117	49.2	150.0	6.82	1800	2800	0.460
85	125	125	88	31	1.0	51217	103.4	280.0	12.73	1300	1900	1.300

Dimensions						Bearing designation	Basic load ratings		Fatigue load limit	Limiting speeds for lubrication with		Mass
							dynamic	static				
d	D	d_1	D_1	H	$r_{s\ min}$		C_r	C_{or}	C_u	grease	oil	
mm							kN			min^{-1}		kg
85	150	150	88	49	1.5	51317	209.1	495.0	20.80	950	1500	3.700
85	180	180	88	72	2.1	51417	318.0	782.0	31.28	700	1000	8.280
90	120	120	92	22	1.0	51118	65.0	208.0	9.24	1700	2600	0.680
90	135	135	93	35	1.1	51218	115.0	315.0	14.00	1200	1800	1.770
90	155	155	93	50	1.5	51318	229.8	556.4	24.38	900	1400	3.900
90	190	190	93	77	2.1	51418	325.0	825.0	31.73	670	950	9.860
100	135	135	102	25	1.0	51120	85.0	268.0	11.20	1600	2400	0.950
100	150	150	103	38	1.1	51220	132.0	375.0	15.62	1100	1700	2.400
100	170	170	103	55	1.5	51320	236.5	595.0	23.31	800	1200	5.100
100	210	210	103	85	3.0	51420	400.0	1080.0	39.42	600	850	13.300
110	145	145	112	25	1.0	51122	87.0	288.0	11.60	1500	2200	1.080
110	160	160	113	38	1.1	51222	138.0	412.0	16.48	1000	1600	2.600
110	190	190	113	63	2.0	51322	278.0	755.0	27.96	700	1100	7.900
120	155	155	122	25	1.0	51124	89.0	310.0	12.01	1400	2000	1.200
120	170	170	123	39	1.1	51224	154.0	470.0	17.74	950	1500	2.900
130	170	170	132	30	1.0	51126	104.0	350.0	12.99	1300	1900	1.800
130	190	187	133	45	1.5	51226	191.0	565.0	20.30	900	1400	4.320
140	180	178	142	31	1	51128	107.0	375.0	13.47	1200	1800	2.100
140	200	197	143	46	1.5	51228	193.0	595.0	20.74	850	1300	4.600
150	190	188	152	31	1	51130	109.0	400.0	13.94	1100	1700	2.200
150	215	212	153	50	1.5	51230	220.0	685.0	23.04	800	1200	6.100
160	200	198	162	31	1	51132	112.0	425.0	14.40	1000	1600	2.300
160	225	222	163	51	1.5	51232	223.0	720.0	23.59	750	1100	6.700