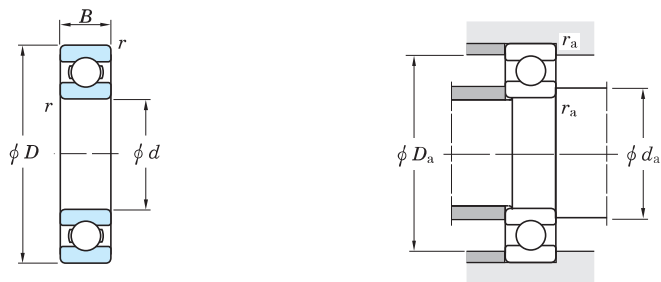


Single-row deep groove ball bearings
open type

d 10 ~ (17) mm



d (17) ~ 28 mm

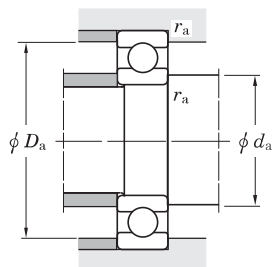
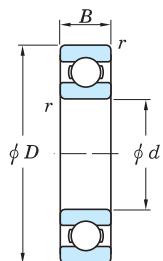
Boundary dimensions (mm)				Basic load ratings (kN)		Fatigue load limit (kN)	Factor	Limiting speeds (min ⁻¹)		Bearing No.	Mounting dimensions (mm)			(Refer.) Mass (kg)
d	D	B	r _{min.}	C _r	C _{0r}	C _u	f ₀	Grease lub.	Oil lub.		d _{a min.}	D _{a max.}	r _{a max.}	
10	15	3	0.1	1.05	0.430	0.020	15.7	39 000	47 000	6700	10.8	14.2	0.1	0.002
	19	5	0.3	2.15	0.840	0.030	14.8	37 000	43 000	6800	12	17	0.3	0.005
	22	6	0.3	3.35	1.25	0.070	14.0	34 000	41 000	6900	12	20	0.3	0.010
	26	8	0.3	5.70	1.95	0.100	12.3	31 000	36 000	6000	12	24	0.3	0.019
	30	9	0.6	6.40	2.40	0.120	13.2	24 000	29 000	6200	14	26	0.6	0.032
	35	11	0.6	10.1	3.45	0.270	11.2	22 000	27 000	6300	14	31	0.6	0.053
12	18	4	0.2	1.15	0.530	0.023	16.2	34 000	41 000	6701	13.6	16.4	0.2	0.003
	21	5	0.3	2.40	1.05	0.040	15.3	33 000	39 000	6801	14	19	0.3	0.006
	24	6	0.3	3.60	1.45	0.080	14.5	31 000	36 000	6901	14	22	0.3	0.011
	28	7	0.3	6.40	2.40	0.120	13.2	27 000	32 000	16001	14	26	0.3	0.024
	28	8	0.3	6.40	2.40	0.120	13.2	27 000	32 000	6001	14	26	0.3	0.022
	32	10	0.6	8.50	3.05	0.240	12.3	22 000	27 000	6201	16	28	0.6	0.037
	37	12	1	12.1	4.20	0.420	11.1	20 000	25 000	6301	17	32	1	0.060
	15	21	4	0.2	1.15	0.580	0.024	16.7	29 000	35 000	6702	16.6	19.4	0.2
24		5	0.3	2.60	1.25	0.050	15.8	28 000	33 000	6802	17	22	0.3	0.007
28		7	0.3	5.40	2.25	0.120	14.3	26 000	30 000	6902	17	26	0.3	0.017
32		8	0.3	7.00	2.85	0.150	13.9	23 000	28 000	16002	17	30	0.3	0.025
32		9	0.3	7.00	2.85	0.150	13.9	23 000	27 000	6002	17	30	0.3	0.030
35		11	0.6	9.55	3.75	0.290	13.2	20 000	24 000	6202	19	31	0.6	0.045
42		13	1	14.3	5.45	0.460	12.3	17 000	20 000	6302	20	37	1	0.082
17		23	4	0.2	1.25	0.660	0.027	16.9	27 000	32 000	6703	18.6	21.4	0.2
	26	5	0.3	3.30	1.55	0.060	15.7	26 000	30 000	6803	19	24	0.3	0.008
	30	7	0.3	5.75	2.55	0.130	14.7	23 000	28 000	6903	19	28	0.3	0.018
	35	8	0.3	7.50	3.25	0.170	14.4	21 000	25 000	16003	19	33	0.3	0.032
	35	10	0.3	7.50	3.25	0.170	14.4	21 000	25 000	6003	19	33	0.3	0.039
	40	12	0.6	12.0	4.80	0.370	13.2	17 000	21 000	6203	21	36	0.6	0.065
	47	14	1	17.0	6.65	0.550	12.4	15 000	18 000	6303	22	42	1	0.115
	47	14	1	19.6	7.60	0.680	12.0	15 000	18 000	6303R	22	42	1	0.121

[Remark] Standard cage types used for the above bearings are described earlier in this section.

Boundary dimensions (mm)				Basic load ratings (kN)		Fatigue load limit (kN)	Factor	Limiting speeds (min ⁻¹)		Bearing No.	Mounting dimensions (mm)			(Refer.) Mass (kg)
d	D	B	r _{min.}	C _r	C _{0r}	C _u	f ₀	Grease lub.	Oil lub.		d _{a min.}	D _{a max.}	r _{a max.}	
17	62	17	1.1	25.9	9.85	0.920	11.6	13 000	15 000	6403	23.5	55.5	1	0.270
	20	27	4	0.2	1.30	0.730	0.030	16.1	23 000	27 000	6704	21.6	25.4	0.2
32		7	0.3	5.00	2.45	0.100	15.5	21 000	25 000	6804	22	30	0.3	0.018
37		9	0.3	7.95	3.70	0.190	14.7	19 000	23 000	6904	22	35	0.3	0.036
42		8	0.3	9.90	4.50	0.290	14.4	17 000	21 000	16004	22	40	0.3	0.050
42		12	0.6	11.7	5.05	0.350	13.9	17 000	21 000	6004	24	38	0.6	0.069
42		12	0.6	14.4	5.85	0.460	13.0	18 000	21 000	6004R	24	38	0.6	0.073
47		14	1	16.0	6.65	0.510	13.2	15 000	17 000	6204	25	42	1	0.106
47		14	1	19.6	7.60	0.680	12.0	15 000	18 000	6204R	25	42	1	0.114
52		15	1.1	19.9	7.85	0.660	12.3	14 000	17 000	6304	26.5	45.5	1	0.144
52		15	1.1	22.6	8.95	0.790	12.0	14 000	16 000	6304R	26.5	45.5	1	0.151
72	19	1.1	38.7	15.2	1.50	11.1	11 000	13 000	6404	26.5	65.5	1	0.400	
22	44	12	0.6	11.7	5.15	0.350	14.1	17 000	20 000	60/22	26	40	0.6	0.073
	50	14	1	16.0	6.65	0.510	13.2	15 000	17 000	62/22	27	45	1	0.118
	56	16	1.1	23.1	9.40	0.770	12.6	13 000	15 000	63/22	28.5	49.5	1	0.201
25	32	4	0.2	1.35	0.840	0.035	15.8	19 000	22 000	6705	26.6	30.4	0.2	0.006
	37	7	0.3	5.40	2.95	0.120	16.0	18 000	21 000	6805	27	35	0.3	0.022
	42	9	0.3	8.75	4.55	0.230	15.4	16 000	19 000	6905	27	40	0.3	0.041
	47	8	0.3	11.1	5.60	0.340	15.1	15 000	18 000	16005	27	45	0.3	0.060
	47	12	0.6	12.6	5.85	0.380	14.5	15 000	18 000	6005	29	43	0.6	0.080
	52	15	1	17.5	7.85	0.550	13.9	13 000	15 000	6205	30	47	1	0.128
	52	15	1	22.1	9.30	0.740	12.8	13 000	16 000	6205R	30	47	1	0.138
	62	17	1.1	25.7	11.3	0.860	13.2	11 000	13 000	6305	31.5	55.5	1	0.232
	62	17	1.1	32.7	13.4	1.20	11.9	11 000	14 000	6305R	31.5	55.5	1	0.255
	80	21	1.5	45.2	19.4	1.65	12.2	9 100	11 000	6405	33	72	1.5	0.530
28	52	12	0.6	15.6	7.40	0.480	14.5	14 000	16 000	60/28	32	48	0.6	0.097
	58	16	1	22.4	9.75	0.720	13.4	12 000	14 000	62/28	33	53	1	0.173
	68	18	1.1	29.4	13.1	0.990	13.3	10 000	12 000	63/28	34.5	61.5	1	0.328

Single-row deep groove ball bearings
open type

d 30 ~ (40) mm



d (40) ~ (60) mm

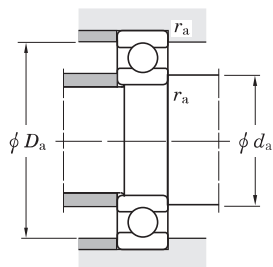
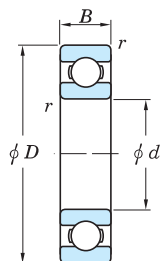
Boundary dimensions (mm)				Basic load ratings (kN)		Fatigue load limit (kN)	Factor	Limiting speeds (min ⁻¹)		Bearing No.	Mounting dimensions (mm)			(Refer.) Mass (kg)
d	D	B	r _{min.}	C _r	C _{0r}	C _u	f ₀	Grease lub.	Oil lub.		d _{a min.}	D _{a max.}	r _{a max.}	
30	37	4	0.2	1.45	0.950	0.040	15.7	16 000	19 000	6706	31.6	35.4	0.2	0.008
	42	7	0.3	5.65	3.40	0.140	16.4	15 000	18 000	6806	32	40	0.3	0.026
	47	9	0.3	9.05	5.00	0.260	15.8	14 000	17 000	6906	32	45	0.3	0.045
	55	9	0.3	14.1	7.35	0.440	15.2	13 000	15 000	16006	32	53	0.3	0.085
	55	13	1	16.5	8.25	0.530	14.7	13 000	15 000	6006	35	50	1	0.116
	62	16	1	24.3	11.3	0.800	13.9	11 000	13 000	6206	35	57	1	0.199
	62	16	1	29.2	12.8	1.00	13.0	11 000	13 000	6206R	35	57	1	0.212
	72	19	1.1	33.3	15.0	1.15	13.3	9 600	12 000	6306	36.5	65.5	1	0.346
	72	19	1.1	41.7	17.7	1.55	12.0	9 800	12 000	6306R	36.5	65.5	1	0.379
	90	23	1.5	54.2	23.9	2.05	12.3	8 100	9 700	6406	38	82	1.5	0.735
32	58	13	1	18.8	9.15	0.600	14.5	12 000	14 000	60/32	37	53	1	0.127
	65	17	1	29.4	13.1	0.990	13.3	10 000	12 000	62/32	37	60	1	0.228
	75	20	1.1	37.6	16.2	1.30	12.7	9 300	11 000	63/32	38.5	68.5	1	0.437
35	47	7	0.3	5.95	3.85	0.160	16.5	13 000	16 000	6807	37	45	0.3	0.030
	55	10	0.6	13.6	7.75	0.440	15.7	12 000	14 000	6907	39	51	0.6	0.073
	62	9	0.3	15.3	8.85	0.500	15.7	11 000	13 000	16007	37	60	0.3	0.110
	62	14	1	19.9	10.3	0.640	14.9	11 000	13 000	6007	40	58	1	0.155
	72	17	1.1	32.1	15.4	1.10	13.9	9 200	11 000	6207	41.5	65.5	1	0.288
	72	17	1.1	38.7	17.5	1.40	12.9	9 300	11 000	6207R	41.5	65.5	1	0.309
	80	21	1.5	41.7	19.3	1.45	13.2	8 500	10 000	6307	43	72	1.5	0.457
	80	21	1.5	50.0	21.7	1.90	12.1	8 700	10 000	6307R	43	72	1.5	0.494
	100	25	1.5	68.8	31.0	2.65	12.2	7 200	8 600	6407	43	92	1.5	0.952
	40	52	7	0.3	6.15	4.20	0.180	16.3	12 000	14 000	6808	42	50	0.3
62		12	0.6	17.1	9.95	0.570	15.6	11 000	13 000	6908	44	58	0.6	0.112
68		9	0.3	15.8	9.65	0.530	16.0	9 800	12 000	16008	42	66	0.3	0.125
68		15	1	20.9	11.5	0.690	15.2	10 000	12 000	6008	45	63	1	0.192
80		18	1.1	36.4	17.8	1.25	14.0	8 300	10 000	6208	46.5	73.5	1	0.366
90		23	1.5	50.9	24.0	1.85	13.2	7 700	9 200	6308	48	82	1.5	0.633

[Remark] Standard cage types used for the above bearings are described earlier in this section.

Boundary dimensions (mm)				Basic load ratings (kN)		Fatigue load limit (kN)	Factor	Limiting speeds (min ⁻¹)		Bearing No.	Mounting dimensions (mm)			(Refer.) Mass (kg)
d	D	B	r _{min.}	C _r	C _{0r}	C _u	f ₀	Grease lub.	Oil lub.		d _{a min.}	D _{a max.}	r _{a max.}	
40	110	27	2	79.6	36.6	3.15	12.3	6 600	7 900	6408	49	101	2	1.23
45	58	7	0.3	7.75	5.40	0.230	16.3	11 000	13 000	6809	47	56	0.3	0.040
	68	12	0.6	17.7	10.9	0.600	15.9	9 700	11 000	6909	49	64	0.6	0.132
	75	10	0.6	19.4	12.3	0.670	16.0	8 900	10 000	16009	49	71	0.6	0.170
	75	16	1	26.2	15.1	0.900	15.3	9 200	11 000	6009	50	70	1	0.245
	85	19	1.1	40.9	20.3	1.40	14.0	7 700	9 200	6209	51.5	78.5	1	0.407
	100	25	1.5	61.1	29.5	2.25	13.3	6 800	8 100	6309	53	92	1.5	0.833
50	120	29	2	96.5	45.1	3.90	12.2	6 000	7 200	6409	54	111	2	1.53
	65	7	0.3	8.20	6.10	0.260	16.1	9 600	11 000	6810	52	63	0.3	0.052
	72	12	0.6	18.2	11.7	0.640	16.1	9 000	11 000	6910	54	68	0.6	0.133
	80	10	0.6	20.0	13.3	0.710	16.2	8 200	9 700	16010	54	76	0.6	0.180
	80	16	1	27.3	16.6	0.960	15.6	8 400	9 900	6010	55	75	1	0.261
	90	20	1.1	43.9	23.3	1.55	14.4	7 100	8 500	6210	56.5	83.5	1	0.463
	90	20	1.1	50.5	25.5	1.80	13.9	7 100	8 600	6210R	56.5	83.5	1	0.487
	110	27	2	77.5	38.3	2.90	13.2	6 100	7 300	6310	59	101	2	1.07
	130	31	2.1	104	49.5	4.10	12.5	5 500	6 600	6410	61	119	2	1.88
	55	72	9	0.3	11.0	8.10	0.420	16.2	8 700	10 000	6811	57	70	0.3
80		13	1	20.8	14.1	0.760	16.2	8 100	9 600	6911	60	75	1	0.185
90		11	0.6	24.2	16.3	0.880	16.2	7 400	8 800	16011	59	86	0.6	0.260
90		18	1.1	35.3	21.2	1.25	15.3	7 600	8 900	6011	61.5	83.5	1	0.385
100		21	1.5	54.2	29.4	1.95	14.4	6 300	7 600	6211	63	92	1.5	0.607
120		29	2	89.5	45.0	3.45	13.2	5 600	6 700	6311	64	111	2	1.37
60	140	33	2.1	126	62.3	5.35	12.2	5 000	6 000	6411	66	129	2	2.29
	78	10	0.3	14.3	10.6	0.550	16.3	8 000	9 400	6812	62	76	0.3	0.104
	85	13	1	25.2	17.3	0.940	16.2	7 500	8 900	6912	65	80	1	0.192
	95	11	0.6	24.8	17.6	0.930	16.4	6 900	8 100	16012	64	91	0.6	0.280
95	18	1.1	36.8	23.2	1.35	15.6	7 100	8 400	6012	66.5	88.5	1	0.415	

Single-row deep groove ball bearings
open type

d (60) ~ (80) mm



d (80) ~ (100) mm

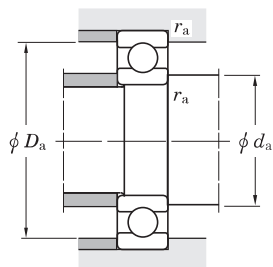
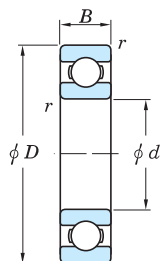
Boundary dimensions (mm)				Basic load ratings (kN)		Fatigue load limit (kN)	Factor	Limiting speeds (min ⁻¹)		Bearing No.	Mounting dimensions (mm)			(Refer.) Mass (kg)
d	D	B	$r_{min.}$	C_r	C_{0r}	C_u	f_0	Grease lub.	Oil lub.		d_a min.	D_a max.	r_a max.	
60	110	22	1.5	65.6	36.2	2.40	14.4	5 700	6 900	6212	68	102	1.5	0.783
	130	31	2.1	102	52.2	3.95	13.2	5 200	6 200	6312	71	119	2	1.70
	150	35	2.1	137	70.8	5.75	12.4	4 600	5 500	6412	71	139	2	2.77
65	85	10	0.6	14.9	11.5	0.590	16.2	7 300	8 600	6813	69	81	0.6	0.126
	90	13	1	21.7	16.1	0.830	16.6	7 100	8 400	6913	70	85	1	0.211
	100	11	0.6	21.4	16.0	0.830	16.5	6 600	7 800	16013	69	96	0.6	0.300
	100	18	1.1	38.1	25.2	1.40	15.8	6 600	7 800	6013	71.5	93.5	1	0.435
	120	23	1.5	71.5	40.1	2.65	14.4	5 400	6 400	6213	73	112	1.5	0.990
	140	33	2.1	116	59.9	4.50	13.2	4 800	5 800	6313	76	129	2	2.08
	160	37	2.1	148	79.2	6.20	12.4	4 300	5 200	6413	76	149	2	3.30
70	90	10	0.6	15.1	11.9	0.620	16.1	6 800	8 100	6814	74	86	0.6	0.134
	100	16	1	29.7	21.2	1.10	16.3	6 400	7 600	6914	75	95	1	0.342
	110	13	0.6	37.6	25.6	1.40	16.0	6 100	7 200	16014	74	106	0.6	0.433
	110	20	1.1	47.6	30.9	1.80	15.6	6 100	7 200	6014	76.5	103.5	1	0.602
	125	24	1.5	77.8	44.1	2.90	14.5	5 100	6 100	6214	78	117	1.5	1.07
	150	35	2.1	130	68.2	4.95	13.2	4 500	5 400	6314	81	139	2	2.52
	180	42	3	181	104	10.2	12.2	3 900	4 600	6414	83	167	2.5	4.83
	75	95	10	0.6	15.7	12.9	0.660	16.0	6 400	7 600	6815	79	91	0.6
105		16	1	30.5	22.6	1.20	16.5	6 100	7 200	6915	80	100	1	0.363
115		13	0.6	34.4	25.3	1.35	16.4	5 700	6 700	16015	79	111	0.6	0.457
115		20	1.1	49.4	33.5	1.90	15.8	5 700	6 800	6015	81.5	108.5	1	0.638
130		25	1.5	84.3	48.3	3.10	14.5	4 800	5 800	6215	83	122	1.5	1.18
160		37	2.1	142	77.2	5.40	13.2	4 200	5 000	6315	86	149	2	3.02
190		45	3	192	115	10.9	12.3	3 600	4 400	6415	88	177	2.5	5.87
80		100	10	0.6	15.9	13.3	0.690	16.0	6 100	7 200	6816	84	96	0.6
	110	16	1	31.2	24.0	1.25	16.6	5 700	6 800	6916	85	105	1	0.382
	125	14	0.6	39.7	29.7	1.50	16.4	5 200	6 100	16016	84	121	0.6	0.597

[Remark] Standard cage types used for the above bearings are described earlier in this section.

Boundary dimensions (mm)				Basic load ratings (kN)		Fatigue load limit (kN)	Factor	Limiting speeds (min ⁻¹)		Bearing No.	Mounting dimensions (mm)			(Refer.) Mass (kg)
d	D	B	$r_{min.}$	C_r	C_{0r}	C_u	f_0	Grease lub.	Oil lub.		d_a min.	D_a max.	r_a max.	
80	125	22	1.1	59.5	39.8	2.25	15.6	5 300	6 300	6016	86.5	118.5	1	0.850
	140	26	2	90.9	53.0	3.25	14.6	4 500	5 400	6216	89	131	2	1.40
	170	39	2.1	154	86.7	5.85	13.3	3 900	4 700	6316	91	159	2	3.59
	200	48	3	205	125	11.5	12.3	3 400	4 100	6416	93	187	2.5	6.84
85	110	13	1	23.4	19.0	0.980	16.2	5 600	6 600	6817	90	105	1	0.266
	120	18	1.1	39.9	29.6	1.55	16.4	5 300	6 300	6917	91.5	113.5	1	0.535
	130	14	0.6	40.8	31.7	1.55	16.5	4 900	5 800	16017	89	126	0.6	0.626
	130	22	1.1	61.8	43.1	2.35	15.8	5 000	5 900	6017	91.5	123.5	1	0.890
	150	28	2	105	61.9	3.70	14.5	4 200	5 000	6217	94	141	2	1.79
	180	41	3	166	96.8	6.35	13.3	3 700	4 400	6317	98	167	2.5	4.23
	210	52	4	217	136	12.2	12.3	3 300	3 900	6417	101	194	3	8.07
90	115	13	1	23.8	19.7	1.00	16.1	5 300	6 300	6818	95	110	1	0.279
	125	18	1.1	41.0	31.6	1.60	16.5	5 100	6 000	6918	96.5	118.5	1	0.565
	140	16	1	49.9	37.0	1.85	16.3	4 700	5 600	16018	95	135	1	0.848
	140	24	1.5	72.8	49.7	2.65	15.6	4 700	5 600	6018	98	132	1.5	1.16
	160	30	2	120	71.5	4.20	14.5	3 900	4 700	6218	99	151	2	2.15
	190	43	3	178	107	8.80	13.3	3 500	4 200	6318	103	177	2.5	4.91
	225	54	4	230	149	12.7	12.5	3 100	3 700	6418	106	209	3	9.78
95	130	18	1.1	42.1	33.5	1.65	16.6	4 800	5 700	6919	101.5	123.5	1	0.705
	145	16	1	51.5	39.6	1.90	16.4	4 500	5 300	16019	100	140	1	0.885
	145	24	1.5	75.5	53.9	2.75	15.8	4 400	5 200	6019	103	137	1.5	1.21
	170	32	2.1	136	81.9	4.65	14.4	3 700	4 400	6219	106	159	2	2.62
	200	45	3	191	119	9.45	13.3	3 300	4 000	6319	108	187	2.5	5.67
100	125	13	1	24.5	21.2	1.05	16.0	4 800	5 700	6820	105	120	1	0.309
	140	20	1.1	56.2	41.9	2.05	16.2	4 500	5 300	6920	106.5	133.5	1	0.960
	150	16	1	53.0	42.1	1.95	16.5	4 300	5 100	16020	105	145	1	0.910
	150	24	1.5	75.2	54.2	2.70	15.9	4 300	5 100	6020	108	142	1.5	1.25

Single-row deep groove ball bearings
open type

d (100) ~ (140) mm



d (140) ~ (190) mm

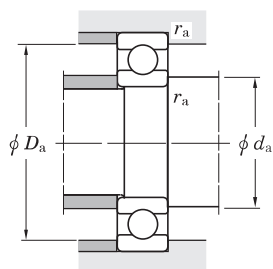
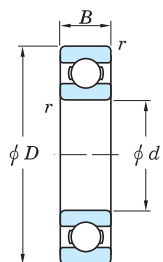
Boundary dimensions (mm)				Basic load ratings (kN)		Fatigue load limit (kN)	Factor	Limiting speeds (min ⁻¹)		Mounting dimensions (mm)	(Refer.) Mass (kg)	
d	D	B	$r_{min.}$	C_r	C_{0r}	C_u	f_0	Grease lub.	Oil lub.			Bearing No.
100	180	34	2.1	153	93.1	5.15	14.4	3 500	4 200	6220	111 169 2	3.14
	215	47	3	216	141	10.9	13.2	3 000	3 600	6320	113 202 2.5	7.00
105	145	20	1.1	58.1	44.8	2.10	16.4	4 300	5 100	6921	111.5 138.5 1	1.00
	160	18	1	52.3	42.2	1.90	16.5	4 100	4 800	16021	110 155 1	1.20
	160	26	2	90.4	65.8	3.20	15.8	4 000	4 700	6021	114 151 2	1.59
	190	36	2.1	166	105	5.70	14.4	3 300	3 900	6221	116 179 2	3.70
	225	49	3	230	153	11.7	13.2	2 900	3 500	6321	118 212 2.5	8.05
110	140	16	1	35.1	30.7	1.40	16.1	4 300	5 100	6822	115 135 1	0.606
	150	20	1.1	59.9	47.8	2.20	16.4	4 100	4 900	6922	116.5 143.5 1	1.04
	170	19	1	71.8	56.7	2.55	16.3	3 800	4 500	16022	115 165 1	1.46
	170	28	2	103	73.0	3.55	15.6	3 800	4 500	6022	119 161 2	1.96
	200	38	2.1	180	117	6.20	14.4	3 100	3 700	6222	121 189 2	4.36
	240	50	3	257	180	13.3	13.2	2 700	3 200	6322	123 227 2.5	9.54
120	150	16	1	36.2	33.0	1.45	16.0	4 000	4 700	6824	125 145 1	0.655
	165	22	1.1	71.6	56.9	2.50	16.4	3 800	4 400	6924	126.5 158.5 1	1.41
	180	19	1	79.0	63.3	2.75	16.4	3 600	4 200	16024	125 175 1	1.80
	180	28	2	106	79.3	3.60	15.9	3 600	4 200	6024	129 171 2	2.07
	215	40	2.1	194	131	6.65	14.4	2 900	3 400	6224	131 204 2	5.15
	260	55	3	258	185	12.6	13.5	2 500	3 000	6324	133 247 2.5	12.5
130	165	18	1.1	46.1	41.2	1.75	16.1	3 600	4 300	6826	136.5 158.5 1	0.939
	180	24	1.5	86.9	67.4	3.00	16.3	3 400	4 100	6926	138 172 1.5	1.86
	200	22	1.1	89.1	74.8	3.05	11.2	3 000	3 600	16026	136.5 193.5 1	2.69
	200	33	2	133	101	4.45	15.8	3 200	3 800	6026	139 191 2	3.16
	230	40	3	209	146	9.15	14.5	2 700	3 200	6226	143 217 2.5	5.82
	280	58	4	287	214	14.1	13.6	2 300	2 700	6326	146 264 3	15.1
140	175	18	1.1	47.8	44.4	1.85	16.0	3 400	4 000	6828	146.5 168.5 1	1.00
	190	24	1.5	89.1	74.8	3.05	16.5	3 200	3 800	6928	148 182 1.5	1.98
	210	22	1.1	82.2	71.1	2.80	16.5	2 900	3 400	16028	146.5 203.5 1	2.86

[Remark] Standard cage types used for the above bearings are described earlier in this section.

Boundary dimensions (mm)				Basic load ratings (kN)		Fatigue load limit (kN)	Factor	Limiting speeds (min ⁻¹)		Mounting dimensions (mm)	(Refer.) Mass (kg)	
d	D	B	$r_{min.}$	C_r	C_{0r}	C_u	f_0	Grease lub.	Oil lub.			Bearing No.
140	210	33	2	137	109	4.55	15.9	3 000	3 600	6028	149 201 2	3.55
	250	42	3	208	150	8.65	14.8	2 400	2 900	6228	153 237 2.5	7.45
	300	62	4	316	246	15.6	13.6	2 100	2 500	6328	156 284 3	19.4
150	190	20	1.1	59.7	54.9	2.20	16.1	3 100	3 700	6830	156.5 183.5 1	1.40
	210	28	2	117	94.3	3.75	16.2	2 900	3 400	6930	159 201 2	3.05
	225	24	1.1	114	99.3	3.70	16.6	2 700	3 100	16030	156.5 218.5 1	3.58
	225	35	2.1	157	126	5.10	16.0	2 800	3 300	6030	161 214 2	4.22
	270	45	3	220	168	9.05	15.1	2 200	2 700	6230	163 257 2.5	9.41
	320	65	4	343	284	16.6	13.9	1 900	2 300	6330	166 304 3	26.2
160	200	20	1.1	60.5	56.9	2.20	16.1	2 900	3 400	6832	166.5 193.5 1	1.45
	220	28	2	120	101	3.85	16.4	2 700	3 200	6932	169 211 2	3.20
	240	25	1.5	124	108	3.95	16.5	2 600	3 100	16032	168 232 1.5	4.25
	240	38	2.1	171	135	5.30	15.9	2 600	3 000	6032	171 229 2	5.22
	290	48	3	231	186	9.45	15.4	2 100	2 500	6232	173 277 2.5	14.3
	340	68	4	347	286	16.4	13.9	1 800	2 200	6332	176 324 3	29.0
170	215	22	1.1	74.8	70.5	2.60	16.1	2 700	3 200	6834	176.5 208.5 1	1.90
	230	28	2	124	108	3.95	16.5	2 600	3 100	6934	179 221 2	3.35
	260	28	1.5	142	127	4.45	16.5	2 300	2 700	16034	178 252 1.5	5.75
	260	42	2.1	201	161	6.20	15.8	2 400	2 800	6034	181 249 2	6.80
	310	52	4	265	223	11.1	15.3	1 900	2 300	6234	186 294 3	17.5
	360	72	4	408	355	20.5	13.6	1 700	2 000	6334	186 344 3	38.6
180	225	22	1.1	75.8	73.1	2.65	16.1	2 600	3 000	6836	186.5 218.5 1	2.00
	250	33	2	153	129	4.70	16.3	2 400	2 800	6936	189 241 2	4.90
	280	31	2	169	148	5.15	16.4	2 100	2 500	16036	189 271 2	7.55
	280	46	2.1	227	194	7.15	15.8	2 200	2 600	6036	191 269 2	10.3
	320	52	4	284	241	12.0	15.1	1 800	2 200	6236	196 304 3	18.3
	380	75	4	443	407	22.1	13.9	1 600	1 900	6336	196 364 3	44.7
190	240	24	1.5	91.4	88.1	3.10	16.1	2 400	2 800	6838	198 232 1.5	2.60

Single-row deep groove ball bearings
open type

d (190) ~ (260) mm



d (260) ~ (360) mm

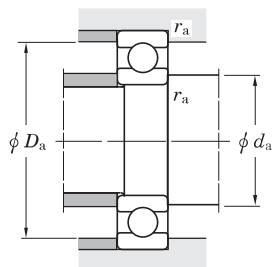
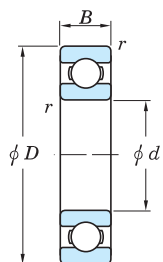
Boundary dimensions (mm)				Basic load ratings (kN)		Fatigue load limit (kN) C_u	Factor f_0	Limiting speeds (min ⁻¹)		Mounting dimensions (mm)	(Refer.) Mass (kg)			
d	D	B	$r_{min.}$	C_r	C_{0r}			Grease lub.	Oil lub.			d_a min.	D_a max.	r_a max.
190	260	33	2	158	138	4.85	16.4	2 300	2 700	6938	199	251	2	5.20
	290	31	2	173	158	5.20	16.6	2 000	2 400	16038	199	281	2	7.85
	290	46	2.1	235	201	7.35	15.8	2 100	2 500	6038	201	279	2	10.8
	340	55	4	319	281	13.7	15.0	1 700	2 000	6238	206	324	3	23.0
	400	78	5	443	415	21.3	14.1	1 500	1 800	6338	210	380	4	51.5
200	250	24	1.5	97.6	93.6	3.20	16.1	2 300	2 700	6840	208	242	1.5	2.70
	280	38	2.1	196	168	5.80	16.2	2 100	2 500	6940	211	269	2	7.30
	310	34	2	201	180	5.95	16.4	1 900	2 300	16040	209	301	2	10.1
	310	51	2.1	272	243	11.3	15.6	1 900	2 300	6040	211	299	2	14.0
	360	58	4	336	311	14.4	15.2	1 600	1 900	6240	216	344	3	28.2
220	270	24	1.5	101	101	3.35	16.0	2 000	2 400	6844	228	262	1.5	3.00
	300	38	2.1	201	180	5.85	16.4	1 900	2 200	6944	231	289	2	7.90
	340	37	2.1	225	217	6.65	16.5	1 700	2 000	16044	231	329	2	13.2
	340	56	3	294	271	12.0	15.6	1 700	2 000	6044	233	327	2.5	18.3
	400	65	4	389	376	16.8	15.1	1 400	1 700	6244	236	384	3	37.0
240	300	28	2	135	135	4.25	16.1	1 800	2 100	6848	249	291	2	4.50
	320	38	2.1	205	192	5.95	16.5	1 700	2 000	6948	251	309	2	8.50
	360	37	2.1	230	228	6.75	16.5	1 600	1 800	16048	251	349	2	14.1
	360	56	3	305	296	12.3	15.9	1 600	1 900	6048	253	347	2.5	19.7
	440	72	4	424	431	18.2	15.2	1 200	1 500	6248	256	424	3	51.0
260	320	28	2	141	146	4.40	16.0	1 700	2 000	6852	269	311	2	4.80
	360	46	2.1	266	263	10.2	16.3	1 500	1 800	6952	271	349	2	14.4
	400	44	3	295	310	11.5	16.4	1 400	1 600	16052	273	387	2.5	21.6
	400	65	4	364	377	15.0	15.8	1 400	1 700	6052	276	384	3	29.3
	480	80	5	502	541	22.2	15.1	1 100	1 300	6252	280	460	4	68.2

[Remark] Standard cage types used for the above bearings are described earlier in this section.

Boundary dimensions (mm)				Basic load ratings (kN)		Fatigue load limit (kN) C_u	Factor f_0	Limiting speeds (min ⁻¹)		Mounting dimensions (mm)	(Refer.) Mass (kg)			
d	D	B	$r_{min.}$	C_r	C_{0r}			Grease lub.	Oil lub.			d_a min.	D_a max.	r_a max.
260	540	102	6	663	741	32.4	14.2	990	1 200	6352	284	516	5	116
	280	350	33	2	179	183	5.35	16.1	1 500	1 800	6856	289	341	2
380		46	2.1	273	283	10.5	16.5	1 400	1 700	6956	291	369	2	15.1
420		44	3	302	331	11.7	14.7	1 300	1 500	16056	293	407	2.5	22.9
420		65	4	377	408	15.5	16.0	1 300	1 500	6056	296	404	3	31.0
500		80	5	529	599	23.2	15.3	1 000	1 200	6256	300	480	4	71.8
300	580	108	6	711	845	33.9	14.5	880	1 100	6356	304	556	5	145
	380	38	2.1	224	230	6.45	16.2	1 400	1 600	6860	311	369	2	10.5
	420	56	3	345	377	13.7	16.2	1 300	1 500	6960	313	407	2.5	24.1
	460	50	4	355	405	14.0	16.4	1 100	1 400	16060	316	447	3	32.2
	460	74	4	444	482	18.4	15.6	1 200	1 400	6060	316	444	3	44.0
320	540	85	5	551	663	23.5	15.6	880	1 100	6260	320	520	4	89.5
	620	109	7.5	741	886	35.0	14.4	810	970	6360	332	588	6	169
	400	38	2.1	227	239	6.50	16.1	1 300	1 500	6864	331	389	2	11.0
	440	56	3	356	404	14.1	16.4	1 200	1 400	6964	333	427	2.5	25.5
	480	50	4	364	432	14.3	16.5	1 100	1 300	16064	336	467	3	33.9
340	480	74	4	441	487	17.8	15.7	1 100	1 300	6064	336	464	3	46.0
	580	92	5	612	745	26.7	15.4	840	1 000	6264	340	560	4	113
	670	112	7.5	793	1 010	36.9	14.8	720	870	6364	352	638	6	207
	420	38	2.1	231	249	6.60	16.1	1 200	1 400	6868	351	409	2	11.5
	460	56	3	352	407	13.7	16.5	1 100	1 300	6968	353	447	2.5	26.8
360	520	57	4	419	512	16.8	16.4	980	1 200	16068	356	507	3	46.8
	520	82	5	552	661	23.7	15.6	980	1 200	6068	360	500	4	61.8
	620	92	6	639	817	27.7	15.6	760	910	6268	364	596	5	131
	710	118	7.5	880	1 160	41.7	14.7	660	790	6368	372	678	6	238
	440	38	2.1	240	268	6.95	16.0	1 100	1 300	6872	371	429	2	12.0
360	480	56	3	362	432	14.0	16.5	1 000	1 200	6972	373	467	2.5	28.2
	540	57	4	431	546	17.2	16.5	900	1 100	16072	376	527	3	49.0

Single-row deep groove ball bearings
open type

d (360) ~ (500) mm



d (500) mm

Boundary dimensions (mm)				Basic load ratings (kN)		Fatigue load limit (kN)	Factor	Limiting speeds (min ⁻¹)		Bearing No.	Mounting dimensions (mm)			(Refer.) Mass (kg)
d	D	B	$r_{min.}$	C_r	C_{0r}	C_u	f_0	Grease lub.	Oil lub.		d_a min.	D_a max.	r_a max.	
360	540	82	5	548	668	23.0	15.7	920	1 100	6072	380	520	4	64.7
	650	95	6	696	904	30.4	15.4	700	840	6272	384	626	5	144
380	480	46	2.1	305	359	8.95	16.2	980	1 200	6876	391	469	2	20.0
	520	65	4	440	552	17.6	16.4	920	1 100	6976	396	504	3	40.8
	560	82	5	572	725	24.1	15.9	860	1 000	6076	400	540	4	67.6
	680	95	6	730	990	31.9	15.6	650	780	6276	404	656	5	162
400	500	46	2.1	311	374	9.10	16.1	920	1 100	6880	411	489	2	20.5
	540	65	4	453	588	18.1	16.5	860	1 000	6980	416	524	3	42.7
	600	63	5	447	587	17.5	16.5	780	920	16080	420	580	4	65.0
	600	90	5	635	824	27.0	15.7	780	920	6080	420	580	4	87.7
	720	103	6	785	1 080	34.2	15.5	590	710	6280	424	696	5	197
420	520	46	2.1	316	389	9.25	16.1	860	1 000	6884	431	509	2	21.5
	560	65	4	449	588	17.7	16.5	810	950	6984	436	544	3	43.5
	620	63	5	459	617	18.0	16.4	740	870	16084	440	600	4	69.9
	620	90	5	663	894	28.3	15.8	740	870	6084	440	600	4	91.2
440	540	46	2.1	321	404	9.40	16.0	810	950	6888	451	529	2	22.5
	600	74	4	529	676	21.4	16.4	740	870	6988	456	584	3	61.3
	650	67	5	508	710	20.2	16.5	680	810	16088	460	630	4	81.7
460	580	56	3	393	517	11.7	16.2	740	870	6892	473	567	2.5	35.0
	620	74	4	509	711	20.3	16.5	690	820	6992	476	604	3	61.7
	680	71	5	539	767	21.4	16.5	630	750	16092	480	660	4	91.2
480	600	56	3	401	539	12.0	16.1	690	820	6896	493	587	2.5	36.5
	650	78	5	540	768	21.5	16.5	640	760	6996	500	630	4	72.5
	700	71	5	554	807	22.1	16.5	600	710	16096	500	680	4	98.5
500	620	56	3	409	561	12.2	16.1	650	770	68/500	513	607	2.5	37.5
	670	78	5	556	807	22.2	16.5	610	720	69/500	520	650	4	75.2

Boundary dimensions (mm)				Basic load ratings (kN)		Fatigue load limit (kN)	Factor	Limiting speeds (min ⁻¹)		Bearing No.	Mounting dimensions (mm)			(Refer.) Mass (kg)
d	D	B	$r_{min.}$	C_r	C_{0r}	C_u	f_0	Grease lub.	Oil lub.		d_a min.	D_a max.	r_a max.	
500	720	71	5	568	846	22.7	16.4	560	660	160/500	520	700	4	102
	720	100	6	749	1 100	31.3	16.0	570	670	60/500	524	696	5	128

[Remark] Standard cage types used for the above bearings are described earlier in this section.

Single-row deep groove ball bearings
shielded type
sealed type

d 10 ~ (20) mm

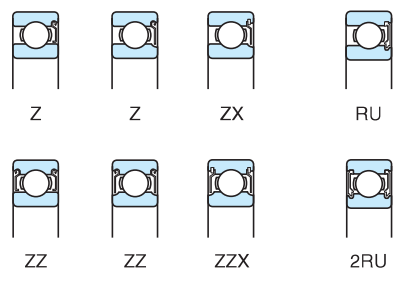
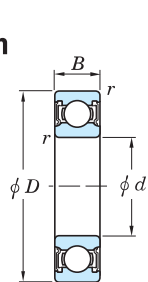


Boundary dimensions (mm)			Basic load ratings (kN)		Fatigue load limit (kN) C_u	Factor f_0	Limiting speeds (min^{-1})			Oil lub. (Z)	Bearing No.				Mounting dimensions (mm)				(Refer.) Mass Open type (kg)	
d	D	r_{min}	C_r	C_{0r}			Grease lub.				Shielded	Non-contact sealed	Extremely light contact sealed	Contact sealed	d_a		D_a	r_a		
					[Z, ZZ RU, 2RU]	(RD, 2RD)	(RS, 2RS)		min.	max.					max.	max.				
10	19	5	0.3	2.15	0.840	0.030	14.8	37 000	—	22 000	43 000	6800 ZZ	6800 2RU	—	6800 2RS	12	12	17	0.3	0.005
	22	6	0.3	3.35	1.25	0.070	14.0	34 000	—	21 000	41 000	6900 ZZ	6900 2RU	—	6900 2RS	12	12.5	20	0.3	0.010
	26	8	0.3	5.70	1.95	0.100	12.3	31 000	28 000	19 000	36 000	6000 ZZ	6000 2RU	6000 2RD	6000 2RS	12	13	24	0.3	0.019
	30	9	0.6	6.40	2.40	0.120	13.2	24 000	22 000	16 000	29 000	6200 ZZ	6200 2RU	6200 2RD	6200 2RS	14	15	26	0.6	0.032
	35	11	0.6	10.1	3.45	0.270	11.2	22 000	20 000	16 000	27 000	6300 ZZ	6300 2RU	6300 2RD	6300 2RS	14	16	31	0.6	0.053
12	18	4	0.2	1.15	0.530	0.023	16.2	34 000	—	20 000	41 000	6701 ZZ	6701 2RU	—	6701 2RS	13.6	—	16.4	0.2	0.003
	21	5	0.3	2.40	1.05	0.040	15.3	33 000	30 000	20 000	39 000	6801 ZZ	6801 2RU	6801 2RD	6801 2RS	14	14	19	0.3	0.006
	24	6	0.3	3.60	1.45	0.080	14.5	31 000	28 000	18 000	36 000	6901 ZZ	6901 2RU	6901 2RD	6901 2RS	14	14	22	0.3	0.011
	28	8	0.3	6.40	2.40	0.120	13.2	27 000	24 000	17 000	32 000	6001 ZZ	6001 2RU	6001 2RD	6001 2RS	14	15	26	0.3	0.022
	32	10	0.6	8.50	3.05	0.240	12.3	22 000	20 000	15 000	27 000	6201 ZZ	6201 2RU	6201 2RD	6201 2RS	16	16.5	28	0.6	0.037
	37	12	1	12.1	4.20	0.420	11.1	20 000	18 000	15 000	25 000	6301 ZZ	6301 2RU	6301 2RD	6301 2RS	17	17.5	32	1	0.060
15	21	4	0.2	1.15	0.580	0.024	16.7	29 000	—	16 000	35 000	6702 ZZ	6702 2RU	—	6702 2RS	16.6	—	19.4	0.2	0.004
	24	5	0.3	2.60	1.25	0.050	15.8	28 000	—	16 000	33 000	6802 ZZ	6802 2RU	—	6802 2RS	17	17	22	0.3	0.007
	28	7	0.3	5.40	2.25	0.120	14.3	26 000	23 000	15 000	30 000	6902 ZZ	6902 2RU	6902 2RD	6902 2RS	17	18	26	0.3	0.017
	32	9	0.3	7.00	2.85	0.150	13.9	23 000	21 000	14 000	27 000	6002 ZZ	6002 2RU	6002 2RD	6002 2RS	17	18.5	30	0.3	0.030
	35	11	0.6	9.55	3.75	0.290	13.2	20 000	18 000	13 000	24 000	6202 ZZ	6202 2RU	6202 2RD	6202 2RS	19	19.5	31	0.6	0.045
	42	13	1	14.3	5.45	0.460	12.3	17 000	15 000	12 000	20 000	6302 ZZ	6302 2RU	6302 2RD	6302 2RS	20	21.5	37	1	0.082
17	23	4	0.2	1.25	0.660	0.027	16.9	27 000	—	15 000	32 000	6703 ZZ	6703 2RU	—	6703 2RS	18.6	—	21.4	0.2	0.005
	26	5	0.3	3.30	1.55	0.060	15.7	26 000	—	14 000	30 000	6803 ZZ	6803 2RU	—	6803 2RS	19	19	24	0.3	0.008
	30	7	0.3	5.75	2.55	0.130	14.7	23 000	21 000	13 000	28 000	6903 ZZ	6903 2RU	6903 2RD	6903 2RS	19	19.5	28	0.3	0.018
	35	10	0.3	7.50	3.25	0.170	14.4	21 000	19 000	12 000	25 000	6003 ZZ	6003 2RU	6003 2RD	6003 2RS	19	21	33	0.3	0.039
	40	12	0.6	12.0	4.80	0.370	13.2	17 000	15 000	12 000	21 000	6203 ZZ	6203 2RU	6203 2RD	6203 2RS	21	22	36	0.6	0.065
	47	14	1	17.0	6.65	0.550	12.4	15 000	14 000	10 000	18 000	6303 ZZ	6303 2RU	6303 2RD	6303 2RS	22	24.3	42	1	0.115
20	27	4	0.2	1.30	0.730	0.030	16.1	23 000	—	12 000	27 000	6704 ZZ	6704 2RU	—	6704 2RS	21.6	—	25.4	0.2	0.006
	32	7	0.3	5.00	2.45	0.100	15.5	21 000	—	12 000	25 000	6804 ZZ	6804 2RU	—	6804 2RS	22	22.5	30	0.3	0.018
	37	9	0.3	7.95	3.70	0.190	14.7	19 000	17 000	11 000	23 000	6904 ZZ	6904 2RU	6904 2RD	6904 2RS	22	23.5	35	0.3	0.036
	42	12	0.6	11.7	5.05	0.350	13.9	17 000	15 000	10 000	21 000	6004 ZZ	6004 2RU	6004 2RD	6004 2RS	24	25	38	0.6	0.069
	47	14	1	16.0	6.65	0.510	13.2	15 000	14 000	9 700	17 000	6204 ZZ	6204 2RU	6204 2RD	6204 2RS	25	26.5	42	1	0.106

[Remark] Standard cage types used for the above bearings are described earlier in this section.

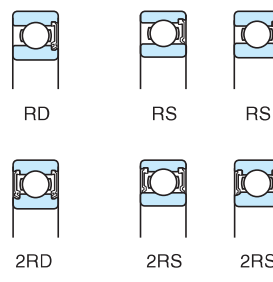
Single-row deep groove ball bearings
shielded type
sealed type

d (20) ~ 35 mm



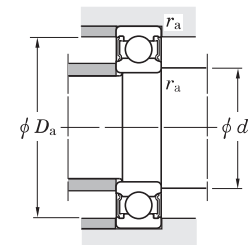
Shielded

Non-contact sealed



Extremely light contact sealed

Contact sealed



Boundary dimensions (mm)				Basic load ratings (kN)		Fatigue load limit (kN) C_u	Factor f_0	Limiting speeds (min^{-1})			Oil lub. (Z)	Bearing No.				Mounting dimensions (mm)				(Refer.) Mass Open type (kg)
d	D	B	r_{min}	C_r	C_{0r}			Grease lub.				Shielded	Non-contact sealed	Extremely light contact sealed	Contact sealed	d_a min.	d_a max.	D_a max.	r_a max.	
20	52	15	1.1	19.9	7.85	0.660	12.3	14 000	13 000	9 500	17 000	6304 ZZ	6304 2RU	6304 2RD	6304 2RS	26.5	27	45.5	1	0.144
22	44	12	0.6	11.7	5.15	0.350	14.1	17 000	15 000	9 900	20 000	60/22 ZZ	60/22 2RU	60/22 2RD	60/22 2RS	26	26.5	40	0.6	0.073
	50	14	1	16.0	6.65	0.510	13.2	15 000	14 000	9 700	17 000	62/22 ZZ	62/22 2RU	62/22 2RD	62/22 2RS	27	27	45	1	0.118
	56	16	1.1	23.1	9.40	0.770	12.6	13 000	12 000	8 600	15 000	63/22 ZZ	63/22 2RU	63/22 2RD	63/22 2RS	28.5	29	49.5	1	0.201
25	32	4	0.2	1.35	0.840	0.035	15.8	19 000	—	10 000	22 000	6705 ZZ	6705 2RU	—	6705 2RS	26.6	—	30.4	0.2	0.006
	37	7	0.3	5.40	2.95	0.120	16.0	18 000	—	10 000	21 000	6805 ZZ	6805 2RU	—	6805 2RS	27	27.5	35	0.3	0.022
	42	9	0.3	8.75	4.55	0.230	15.4	16 000	14 000	9 300	19 000	6905 ZZ	6905 2RU	6905 2RD	6905 2RS	27	29	40	0.3	0.041
	47	12	0.6	12.6	5.85	0.380	14.5	15 000	14 000	9 000	18 000	6005 ZZ	6005 2RU	6005 2RD	6005 2RS	29	29.5	43	0.6	0.080
	52	15	1	17.5	7.85	0.550	13.9	13 000	12 000	8 400	15 000	6205 ZZ	6205 2RU	6205 2RD	6205 2RS	30	31.5	47	1	0.128
	62	17	1.1	25.7	11.3	0.860	13.2	11 000	9 900	7 500	13 000	6305 ZZ	6305 2RU	6305 2RD	6305 2RS	31.5	34	55.5	1	0.232
28	52	12	0.6	15.6	7.40	0.480	14.5	14 000	13 000	8 100	16 000	60/28 ZZ	60/28 2RU	60/28 2RD	60/28 2RS1	32	33	48	0.6	0.097
	58	16	1	22.4	9.75	0.720	13.4	12 000	11 000	7 600	14 000	62/28 ZZ	62/28 2RU	62/28 2RD	62/28 2RS	33	35	53	1	0.173
	68	18	1.1	29.4	13.1	0.990	13.3	10 000	9 000	6 900	12 000	63/28 ZZ	63/28 2RU	63/28 2RD	63/28 2RS	34.5	37.5	61.5	1	0.328
30	37	4	0.2	1.45	0.950	0.040	15.7	16 000	—	8 800	19 000	6706 ZZ	6706 2RU	—	6706 2RS	31.6	—	35.4	0.2	0.008
	42	7	0.3	5.65	3.40	0.140	16.4	15 000	—	8 600	18 000	6806 ZZ	6806 2RU	—	6806 2RS	32	32.5	40	0.3	0.026
	47	9	0.3	9.05	5.00	0.260	15.8	14 000	13 000	8 200	17 000	6906 ZZ	6906 2RU	6906 2RD	6906 2RS	32	33	45	0.3	0.045
	55	13	1	16.5	8.25	0.530	14.7	13 000	12 000	7 500	15 000	6006 ZZ	6006 2RU	6006 2RD	6006 2RS	35	36	50	1	0.116
	62	16	1	24.3	11.3	0.800	13.9	11 000	9 900	7 000	13 000	6206 ZZ	6206 2RU	6206 2RD	6206 2RS	35	37.5	57	1	0.199
	72	19	1.1	33.3	15.0	1.15	13.3	9 600	8 600	6 400	12 000	6306 ZZ	6306 2RU	6306 2RD	6306 2RS	36.5	40	65.5	1	0.346
32	58	13	1	18.8	9.15	0.600	14.5	12 000	11 000	7 200	14 000	60/32 ZZ	60/32 2RU	60/32 2RD	60/32 2RS	37	38	53	1	0.127
	65	17	1	29.4	13.1	0.990	13.3	10 000	9 000	6 900	12 000	62/32 ZZ	62/32 2RU	62/32 2RD	62/32 2RS	37	38.5	60	1	0.228
	75	20	1.1	37.6	16.2	1.30	12.7	9 300	8 400	6 400	11 000	63/32 ZZ	63/32 2RU	63/32 2RD	63/32 2RS	38.5	41	68.5	1	0.437
35	47	7	0.3	5.95	3.85	0.160	16.5	13 000	—	7 400	16 000	6807 ZZ	6807 2RU	—	6807 2RS	37	37.5	45	0.3	0.030
	55	10	0.6	13.6	7.75	0.440	15.7	12 000	11 000	6 800	14 000	6907 ZZ	6907 2RU	6907 2RD	6907 2RS	39	40	51	0.6	0.073
	62	14	1	19.9	10.3	0.640	14.9	11 000	9 900	6 500	13 000	6007 ZZ	6007 2RU	6007 2RD	6007 2RS	40	42	58	1	0.155
	72	17	1.1	32.1	15.4	1.10	13.9	9 200	8 300	6 000	11 000	6207 ZZ	6207 2RU	6207 2RD	6207 2RS	41.5	43.5	65.5	1	0.288
	80	21	1.5	41.7	19.3	1.45	13.2	8 500	7 700	5 700	10 000	6307 ZZ	6307 2RU	6307 2RD	6307 2RS	43	46	72	1.5	0.457

[Remark] Standard cage types used for the above bearings are described earlier in this section.

Single-row deep groove ball bearings
shielded type
sealed type

d 40 ~ (65) mm

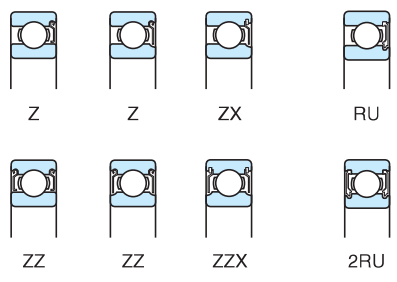
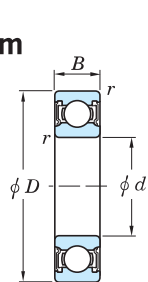


Boundary dimensions (mm)			Basic load ratings (kN)		Fatigue load limit (kN) C _u	Factor f ₀	Limiting speeds (min ⁻¹) Grease lub.			Oil lub. (Z)	Bearing No.				Mounting dimensions (mm)			(Refer.) Mass Open type (kg)		
d	D	r min.	C _r	C _{0r}			[Z, ZZ RU, 2RU]	(RD, 2RD)	(RS, 2RS)			Shielded	Non-contact sealed	Extremely light contact sealed	Contact sealed	d _a min.	d _a max.		D _a max.	r _a max.
40	52	7	0.3	6.15	4.20	0.180	16.3	12 000	11 000	6 700	14 000	6808 ZZ	6808 2RU	6808 2RD	6808 2RS	42	42	50	0.3	0.033
	62	12	0.6	17.1	9.95	0.570	15.6	11 000	9 900	6 100	13 000	6908 ZZ	6908 2RU	6908 2RD	6908 2RS	44	44.5	58	0.6	0.112
	68	15	1	20.9	11.5	0.690	15.2	10 000	9 000	5 800	12 000	6008 ZZ	6008 2RU	6008 2RD	6008 2RS	45	46.5	63	1	0.192
	80	18	1.1	36.4	17.8	1.25	14.0	8 300	7 500	5 400	10 000	6208 ZZ	6208 2RU	6208 2RD	6208 2RS	46.5	49	73.5	1	0.366
	90	23	1.5	50.9	24.0	1.85	13.2	7 700	6 900	5 100	9 200	6308 ZZ	6308 2RU	6308 2RD	6308 2RS	48	51.5	82	1.5	0.633
45	58	7	0.3	7.75	5.40	0.230	16.3	11 000	9 900	5 900	13 000	6809 ZZ	6809 2RU	6809 2RD	6809 2RS	47	47	56	0.3	0.040
	68	12	0.6	17.7	10.9	0.600	15.9	9 700	8 700	5 500	11 000	6909 ZZ	6909 2RU	6909 2RD	6909 2RS	49	50	64	0.6	0.132
	75	16	1	26.2	15.1	0.900	15.3	9 200	8 300	5 300	11 000	6009 ZZ	6009 2RU	6009 2RD	6009 2RS	50	51.5	70	1	0.245
	85	19	1.1	40.9	20.3	1.40	14.0	7 700	6 900	5 100	9 200	6209 ZZ	6209 2RU	6209 2RD	6209 2RS	51.5	53.5	78.5	1	0.407
	100	25	1.5	61.1	29.5	2.25	13.3	6 800	6 100	4 500	8 100	6309 ZZ	6309 2RU	6309 2RD	6309 2RS	53	59.5	92	1.5	0.833
50	65	7	0.3	8.20	6.10	0.260	16.1	9 600	8 600	5 200	11 000	6810 ZZ	6810 2RU	6810 2RD	6810 2RS	52	53	63	0.3	0.052
	72	12	0.6	18.2	11.7	0.640	16.1	9 000	—	5 000	11 000	6910 ZZ	6910 2RU	—	—	54	55.5	68	0.6	0.133
	80	16	1	27.3	16.6	0.960	15.6	8 400	7 600	4 800	9 900	6010 ZZ	6010 2RU	6010 2RD	6010 2RS	55	57	75	1	0.261
	90	20	1.1	43.9	23.3	1.55	14.4	7 100	6 400	4 600	8 500	6210 ZZ	6210 2RU	6210 2RD	6210 2RS	56.5	59	83.5	1	0.463
	110	27	2	77.5	38.3	2.90	13.2	6 100	5 500	4 100	7 300	6310 ZZ	6310 2RU	6310 2RD	6310 2RS	59	66.5	101	2	1.07
55	72	9	0.3	11.0	8.10	0.420	16.2	8 700	7 800	—	10 000	6811 ZZ	6811 2RU	6811 2RD	—	57	58.5	70	0.3	0.083
	80	13	1	20.8	14.1	0.760	16.2	8 100	7 300	4 500	9 600	6911 ZZ	6911 2RU	6911 2RD	6911 2RS	60	60.5	75	1	0.185
	90	18	1.1	35.3	21.2	1.25	15.3	7 600	6 800	4 300	8 900	6011 ZZ	6011 2RU	6011 2RD	6011 2RS	61.5	62	83.5	1	0.385
	100	21	1.5	54.2	29.4	1.95	14.4	6 300	5 700	4 100	7 600	6211 ZZ	6211 2RU	6211 2RD	6211 2RS	63	66	92	1.5	0.607
	120	29	2	89.5	45.0	3.45	13.2	5 600	—	3 700	6 700	6311 ZZ	6311 2RU	—	6311 2RS	64	74.5	111	2	1.37
60	78	10	0.3	14.3	10.6	0.550	16.3	8 000	7 200	—	9 400	6812 ZZ	6812 2RU	6812 2RD	—	62	63	76	0.3	0.104
	85	13	1	25.2	17.3	0.940	16.2	7 500	—	—	8 900	6912 ZZ	6912 2RU	—	—	65	66	80	1	0.192
	95	18	1.1	36.8	23.2	1.35	15.6	7 100	—	4 000	8 400	6012 ZZ	6012 2RU	—	6012 2RS	66.5	68.5	88.5	1	0.415
	110	22	1.5	65.6	36.2	2.40	14.4	5 700	5 100	3 700	6 900	6212 ZZ	6212 2RU	6212 2RD	6212 2RS	68	72.5	102	1.5	0.783
	130	31	2.1	102	52.2	3.95	13.2	5 200	—	3 500	6 200	6312 ZZ	6312 2RU	—	6312 2RS	71	80	119	2	1.70
65	85	10	0.6	14.9	11.5	0.590	16.2	7 300	6 600	—	8 600	6813 ZZ	6813 2RU	6813 2RD	—	69	69	81	0.6	0.126
	90	13	1	21.7	16.1	0.830	16.6	7 100	6 400	3 900	8 400	6913 ZZ	6913 2RU	6913 2RD	6913 2RS	70	71	85	1	0.211

[Remark] Standard cage types used for the above bearings are described earlier in this section.

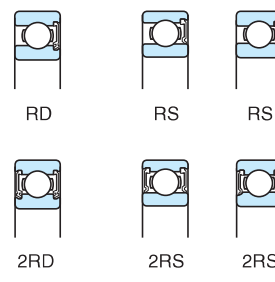
Single-row deep groove ball bearings
shielded type
sealed type

d (65) ~ (90) mm



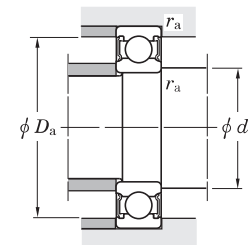
Shielded

Non-contact sealed



Extremely light contact sealed

Contact sealed



Boundary dimensions (mm)				Basic load ratings (kN)		Fatigue load limit (kN) C _u	Factor f ₀	Limiting speeds (min ⁻¹)			Oil lub. (Z)	Bearing No.				Mounting dimensions (mm)				(Refer.) Mass Open type (kg)
d	D	B	r _{min.}	C _r	C _{0r}			Grease lub.				Shielded	Non-contact sealed	Extremely light contact sealed	Contact sealed	d _a min.	d _a max.	D _a max.	r _a max.	
65	100	18	1.1	38.1	25.2	1.40	15.8	6 600	—	3 700	7 800	6013 ZZ	6013 2RU	—	6013 2RS	71.5	74.5	93.5	1	0.435
	120	23	1.5	71.5	40.1	2.65	14.4	5 400	—	3 500	6 400	6213 ZZ	6213 2RU	—	6213 2RS	73	79	112	1.5	0.990
	140	33	2.1	116	59.9	4.50	13.2	4 800	—	3 200	5 800	6313 ZZ	6313 2RU	—	6313 2RS	76	86	129	2	2.08
70	90	10	0.6	15.1	11.9	0.620	16.1	6 800	6 100	—	8 100	6814 ZZ	6814 2RU	6814 2RD	—	74	74	86	0.6	0.134
	100	16	1	29.7	21.2	1.10	16.3	6 400	5 800	3 600	7 600	6914 ZZ	6914 2RU	6914 2RD	6914 2RS	75	76.5	95	1	0.342
	110	20	1.1	47.6	30.9	1.80	15.6	6 100	—	3 500	7 200	6014 ZZ	6014 2RU	—	6014 2RS	76.5	79.5	103.5	1	0.602
	125	24	1.5	77.8	44.1	2.90	14.5	5 100	—	3 300	6 100	6214 ZZ	6214 2RU	—	6214 2RS	78	84	117	1.5	1.07
	150	35	2.1	130	68.2	4.95	13.2	4 500	—	3 000	5 400	6314 ZZ	6314 2RU	—	6314 2RS	81	92	139	2	2.52
75	95	10	0.6	15.7	12.9	0.660	16.0	6 400	5 800	—	7 600	6815 ZZ	6815 2RU	6815 2RD	—	79	79	91	0.6	0.142
	105	16	1	30.5	22.6	1.20	16.5	6 100	—	—	7 200	6915 ZZ	6915 2RU	—	—	80	82.5	100	1	0.363
	115	20	1.1	49.4	33.5	1.90	15.8	5 700	—	3 300	6 800	6015 ZZ	6015 2RU	—	6015 2RS	81.5	84.5	108.5	1	0.638
	130	25	1.5	84.3	48.3	3.10	14.5	4 800	—	3 100	5 800	6215 ZZ	6215 2RU	—	6215 2RS	83	88.5	122	1.5	1.18
	160	37	2.1	142	77.2	5.40	13.2	4 200	—	2 800	5 000	6315 ZZ	6315 2RU	—	6315 2RS	86	97.5	149	2	3.02
80	100	10	0.6	15.9	13.3	0.690	16.0	6 100	5 500	—	7 200	6816 ZZ	6816 2RU	6816 2RD	—	84	84	96	0.6	0.150
	110	16	1	31.2	24.0	1.25	16.6	5 700	5 100	3 200	6 800	6916 ZZ	6916 2RU	6916 2RD	6916 2RS	85	86.5	105	1	0.382
	125	22	1.1	59.5	39.8	2.25	15.6	5 300	—	3 100	6 300	6016 ZZ	6016 2RU	—	6016 2RS	86.5	90	118.5	1	0.850
	140	26	2	90.9	53.0	3.25	14.6	4 500	—	2 900	5 400	6216 ZZ	6216 2RU	—	6216 2RS	89	93	131	2	1.40
	170	39	2.1	154	86.7	5.85	13.3	3 900	—	2 700	4 700	6316 ZZ	6316 2RU	—	6316 2RS	91	105	159	2	3.59
85	110	13	1	23.4	19.0	0.980	16.2	5 600	5 000	—	6 600	6817 ZZ	6817 2RU	6817 2RD	—	90	90.5	105	1	0.266
	120	18	1.1	39.9	29.6	1.55	16.4	5 300	4 800	3 000	6 300	6917 ZZ	6917 2RU	6917 2RD	6917 2RS	91.5	92.5	113.5	1	0.535
	130	22	1.1	61.8	43.1	2.35	15.8	5 000	—	2 900	5 900	6017 ZZ	6017 2RU	—	6017 2RS	91.5	96.5	123.5	1	0.890
	150	28	2	105	61.9	3.70	14.5	4 200	—	2 700	5 000	6217 ZZ	6217 2RU	—	6217 2RS	94	102	141	2	1.79
	180	41	3	166	96.8	6.35	13.3	3 700	—	2 500	4 400	6317 ZZ	6317 2RU	—	6317 2RS	98	111	167	2.5	4.23
90	115	13	1	23.8	19.7	1.00	16.1	5 300	4 800	—	6 300	6818 ZZ	6818 2RU	6818 2RD	—	95	95.5	110	1	0.279
	125	18	1.1	41.0	31.6	1.60	16.5	5 100	4 600	2 800	6 000	6918 ZZ	6918 2RU	6918 2RD	6918 2RS	96.5	97.5	118.5	1	0.565
	140	24	1.5	72.8	49.7	2.65	15.6	4 700	—	2 700	5 600	6018 ZZ	6018 2RU	—	6018 2RS	98	100.5	132	1.5	1.16
	160	30	2	120	71.5	4.20	14.5	3 900	—	2 600	4 700	6218 ZZ	6218 2RU	—	6218 2RS	99	108.5	151	2	2.15

[Remark] Standard cage types used for the above bearings are described earlier in this section.

Single-row deep groove ball bearings
shielded type
sealed type

d (90) ~ (130) mm



Boundary dimensions (mm)			Basic load ratings (kN)		Fatigue load limit (kN) C_u	Factor f_0	Limiting speeds (min^{-1})			Oil lub. (Z)	Bearing No.				Mounting dimensions (mm)				(Refer.) Mass Open type (kg)		
d	D	r_{min}	C_r	C_{0r}			Grease lub.		Oil lub. (Z)		Shielded	Non-contact sealed	Extremely light contact sealed	Contact sealed	d_a min.	d_a max.	D_a max.	r_a max.			
90	190	43	3	178	107	8.80	13.3	3 500		—	2 400	4 200	6318 ZZ	6318 2RU	—	6318 2RS	103	117	177	2.5	4.91
	95	130	18	1.1	42.1	33.5	1.65	16.6	4 800	4 300	2 700	5 700	6919 ZZ	6919 2RU	6919 2RD	6919 2RS	101.5	102	123.5	1	0.705
		145	24	1.5	75.5	53.9	2.75	15.8	4 400	—	2 500	5 200	6019 ZZ	6019 2RU	—	6019 2RS	103	107.5	137	1.5	1.21
		170	32	2.1	136	81.9	4.65	14.4	3 700	—	2 400	4 400	6219 ZZ	6219 2RU	—	6219 2RS	106	113	159	2	2.62
200	45	3	191	119	9.45	13.3	3 300	—	2 200	4 000	6319 ZZ	6319 2RU	—	6319 2RS	108	122	187	2.5	5.67		
100	125	13	1	24.5	21.2	1.05	16.0	4 800	4 300	—	5 700	6820 ZZ	6820 2RU	6820 2RD	—	105	105.5	120	1	0.309	
	140	20	1.1	51.5	39.6	1.90	16.2	4 500	—	—	5 300	6920-1 ZZ	6920-1 2RU	—	—	106.5	110.5	133.5	1	0.960	
	150	24	1.5	75.2	54.2	2.70	15.9	4 300	—	2 500	5 100	6020 ZZ	6020 2RU	—	6020 2RS	108	112	142	1.5	1.25	
	180	34	2.1	153	93.1	5.15	14.4	3 500	—	2 300	4 200	6220 ZZ	6220 2RU	—	6220 2RS	111	122	169	2	3.14	
	215	47	3	216	141	10.9	13.2	3 000	—	2 100	3 600	6320 ZZ	6320 2RU	—	6320 2RS	113	131	202	2.5	7.00	
105	145	20	1.1	53.0	42.1	1.95	16.4	4 300	—	2 400	5 100	6921-1 ZZ	6921-1 2RU	—	6921-1 2RS	111.5	115	138.5	1	1.00	
	160	26	2	90.4	65.8	3.20	15.8	4 000	—	2 300	4 700	6021 ZZ	6021 2RU	—	6021 2RS	114	119	151	2	1.59	
	190	36	2.1	166	105	5.70	14.4	3 300	—	2 200	3 900	6221 ZZ	6221 2RU	—	6221 2RS	116	127	179	2	3.70	
	225	49	3	230	153	11.7	13.2	2 900	—	2 000	3 500	6321 ZZ	6321 2RU	—	6321 2RS	118	136	212	2.5	8.05	
110	140	16	1	35.1	30.7	1.40	16.1	4 300	3 900	—	5 100	6822 ZZ	6822 2RU	6822 2RD	—	115	116.5	135	1	0.606	
	150	20	1.1	59.9	47.8	2.20	16.4	4 100	—	—	4 900	6922 ZZ	6922 2RU	—	—	116.5	119.5	143.5	1	1.04	
	170	28	2	103	73.0	3.55	15.6	3 800	—	2 200	4 500	6022 ZZ	6022 2RU	—	6022 2RS	119	123	161	2	1.96	
	200	38	2.1	180	117	6.20	14.4	3 100	—	2 000	3 700	6222 ZZ	6222 2RU	—	6222 2RS	121	136.5	189	2	4.36	
	240	50	3	257	180	13.3	13.2	2 700	—	1 900	3 200	6322 ZZ	6322 2RU	—	6322 2RS	123	146.5	227	2.5	9.54	
120	150	16	1	36.2	33.0	1.45	16.0	4 000	—	—	4 700	6824 ZZ	6824 2RU	—	—	125	128.5	145	1	0.655	
	165	22	1.1	71.6	56.9	2.50	16.4	3 800	—	—	4 400	6924 ZZ	6924 2RU	—	—	126.5	131.5	158.5	1	1.41	
	180	28	2	106	79.3	3.60	15.9	3 600	—	2 100	4 200	6024 ZZ	6024 2RU	—	6024 2RS	129	136	171	2	2.07	
	215	40	2.1	194	131	6.65	14.4	2 900	—	1 900	3 400	6224 ZZ	6224 2RU	—	6224 2RS	131	144	204	2	5.15	
	260	55	3	258	185	12.6	13.5	2 500	—	—	3 000	6324 ZZ	—	—	—	133	158	247	2.5	12.5	
130	165	18	1.1	46.1	41.2	1.75	16.1	3 600	—	—	4 300	6826 ZZ	6826 2RU	—	—	136.5	139.5	158.5	1	0.939	
	180	24	1.5	81.5	67.4	2.85	16.3	3 400	—	—	4 100	6926-1 ZZ	6926-1 2RU	—	—	138	144	172	1.5	1.86	

[Remark] Standard cage types used for the above bearings are described earlier in this section.

Single-row deep groove ball bearings
shielded type
sealed type

d (130) ~ 220 mm

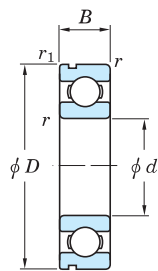


Boundary dimensions (mm)			Basic load ratings (kN)		Fatigue load limit (kN) C_u	Factor f_0	Limiting speeds (min^{-1})			Oil lub. (Z)	Bearing No.				Mounting dimensions (mm)			(Refer.) Mass Open type (kg)		
d	D	r_{min}	C_r	C_{0r}			Grease lub.		Shielded		Non-contact sealed	Extremely light contact sealed	Contact sealed	d_a	D_a	r_a				
															min.	max.	max.	max.		
130	200	33	2	133	101	4.45	15.8	3 200	—	1 900	3 800	6026 ZZ	6026 2RU	—	6026 2RS	139	146.5	191	2	3.16
	230	40	3	209	146	9.15	14.5	2 700	—	1 800	3 200	6226 ZZ	6226 2RU	—	6226 2RS	143	157	217	2.5	5.82
	280	58	4	287	214	14.1	13.6	2 300	—	—	2 700	6326 ZZ	—	—	—	146	171	264	3	15.1
140	175	18	1.1	47.8	44.4	1.85	16.0	3 400	3 100	—	4 000	6828 ZZ	—	6828 2RD	—	146.5	148	168.5	1	1.00
	190	24	1.5	83.3	71.6	2.90	16.5	3 200	—	—	3 800	6928-1 ZZ	6928-1 2RU	—	—	148	153	182	1.5	1.98
	210	33	2	137	109	4.55	15.9	3 000	—	1 800	3 600	6028 ZZ	6028 2RU	—	6028 2RS	149	158.5	201	2	3.55
	250	42	3	208	150	8.65	14.8	2 400	—	1 600	2 900	6228 ZZ	6228 2RU	—	6228 2RS	153	169	237	2.5	7.45
	300	62	4	316	246	15.6	13.6	2 100	—	—	2 500	6328 ZZ	—	—	—	156	184	284	3	19.4
150	210	28	2	117	94.3	3.75	16.2	2 900	—	1 700	3 400	6930 ZZ	6930 2RU	—	6930 2RS	159	165.5	201	2	3.05
	225	35	2.1	157	126	5.10	16.0	2 800	—	1 600	3 300	6030 ZZ	6030 2RU	—	6030 2RS	161	168.5	214	2	4.22
	270	45	3	220	168	9.05	15.1	2 200	—	—	2 700	6230 ZZ	—	—	—	163	183.5	257	2.5	9.41
160	200	20	1.1	60.5	56.9	2.20	16.1	2 900	2 600	—	3 400	6832 ZZ	—	6832 2RD	—	166.5	168.5	193.5	1	1.45
	240	38	2.1	171	135	5.30	15.9	2 600	—	1 500	3 000	6032 ZZ	6032 2RU	—	6032 2RS	171	178.5	229	2	5.22
	290	48	3	231	186	9.45	15.4	2 100	—	—	2 500	6232 ZZ	—	—	—	173	198	277	2.5	14.3
170	215	22	1.1	74.8	70.5	2.60	16.1	2 700	—	—	3 200	6834 ZZ	—	—	—	176.5	182.5	208.5	1	1.90
	260	42	2.1	201	161	6.20	15.8	2 400	—	—	2 800	6034 ZZ	6034 2RU	—	—	181	194	249	2	6.80
	310	52	4	265	223	11.1	15.3	1 900	—	—	2 300	6234 ZZ	—	—	—	186	210.5	294	3	17.5
180	225	22	1.1	75.8	73.1	2.65	16.1	2 600	2 300	—	3 000	6836 ZZ	—	6836 2RD	—	186.5	189.5	218.5	1	2.00
	280	46	2.1	227	194	7.15	15.8	2 200	—	—	2 600	6036 ZZ	6036 2RU	—	—	191	209.5	269	2	10.3
	320	52	4	264	226	10.8	15.1	1 800	—	—	2 200	6236-1 ZZ	—	—	—	196	220.5	304	3	18.3
190	240	24	1.5	91.4	88.1	3.10	16.1	2 400	—	—	2 800	6838 ZZ	—	—	—	198	202	232	1.5	2.60
	290	46	2.1	235	201	7.35	15.8	2 100	—	—	2 500	6038 ZZ	—	—	—	201	215	279	2	10.8
200	310	51	2.1	272	243	11.3	15.6	1 900	—	—	2 300	6040 ZZ	—	—	—	211	228	299	2	14.0
	360	58	4	314	293	13.1	15.2	1 600	—	—	1 900	6240-1 ZZ	—	—	—	216	250	344	3	28.2
220	340	56	3	294	271	12.0	15.6	1 700	—	—	2 000	6044 ZZ	—	—	—	233	251	327	2.5	18.3

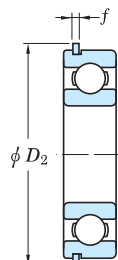
[Remark] Standard cage types used for the above bearings are described earlier in this section.

Single-row deep groove ball bearings
snap ring groove type
locating snap ring type

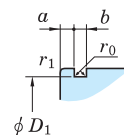
d 95 ~ 130 mm



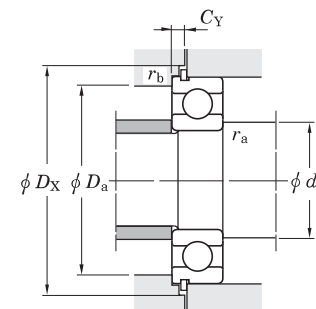
N
With snap ring groove



NR
With locating snap ring



Snap ring groove details



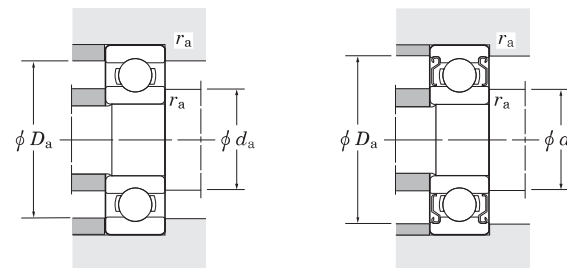
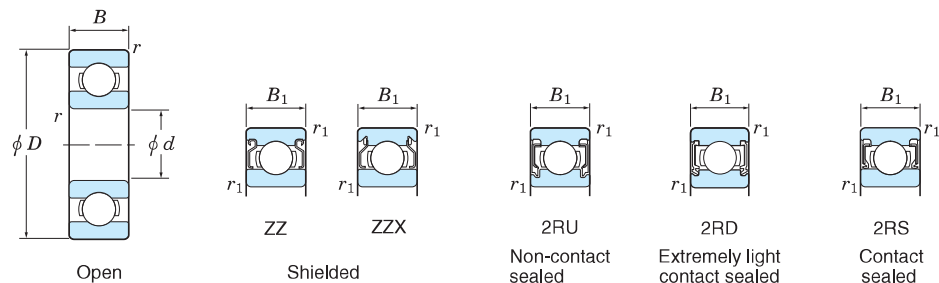
With locating snap ring and one shield

Boundary dimensions (mm)					Basic load ratings (kN)		Fatigue load limit (kN)	Factor	Limiting speeds (min ⁻¹)		Bearing No.		Dimensions of snap ring groove (mm)				Dimensions of locating snap ring (mm)		Mounting dimensions (mm)						(Refer.) Mass (kg)	(Refer.) Bearing No.
d	D	B	r min.	r1 min.	Cr	C0r	Cu	f0	Grease lub.	Oil lub.	With snap ring groove	With locating snap ring	D1 max.	a max.	b ±0.15	r0 max.	D2 max.	f ±0.05	da min.	Da max.	Dx min.	Cy max.	ra max.	rb max.		
95	145	24	1.5	0.5	75.5	53.9	2.75	15.8	4 400	5 200	6019N	6019NR	140.23	3.71	3.25	0.6	154.7	2.77	103	137	157	6.17	1.5	0.5	1.21	6019N
	170	32	2.1	0.5	136	81.9	4.65	14.4	3 700	4 400	6219N	6219NR	163.65	5.69	3.65	0.6	182.9	3.05	106	159	185	8.44	2	0.5	2.62	6219N
	200	45	3	0.5	191	119	9.45	13.3	3 300	4 000	6319N	6319NR	193.65	5.69	3.65	0.6	212.9	3.05	108	187	215	8.44	2.5	0.5	5.67	6319N
100	150	24	1.5	0.5	75.2	54.2	2.70	15.9	4 300	5 100	6020N	6020NR	145.24	3.71	3.25	0.6	159.7	2.77	108	142	162	6.17	1.5	0.5	1.25	6020N
	180	34	2.1	0.5	153	93.1	5.15	14.4	3 500	4 200	6220N	6220NR	173.66	5.69	3.65	0.6	192.9	3.05	111	169	195	8.44	2	0.5	3.14	6220N
105	160	26	2	0.5	90.4	65.8	3.20	15.8	4 000	4 700	6021N	6021NR	155.22	3.71	3.25	0.6	169.7	2.77	114	151	172	6.17	2	0.5	1.59	6021N
	190	36	2.1	0.5	166	105	5.70	14.4	3 300	3 900	6221N	6221NR	183.64	5.69	3.65	0.6	202.9	3.05	116	179	205	8.44	2	0.5	3.70	6221N
110	170	28	2	0.5	103	73.0	3.55	15.6	3 800	4 500	6022N	6022NR	163.65	3.71	3.65	0.6	182.9	3.05	119	161	185	6.45	2	0.5	1.96	6022N
	200	38	2.1	0.5	180	117	6.20	14.4	3 100	3 700	6222N	6222NR	193.65	5.69	3.65	0.6	212.9	3.05	121	189	215	8.44	2	0.5	4.36	6222N
120	180	28	2	0.5	106	79.3	3.60	15.9	3 600	4 200	6024N	6024NR	173.66	3.71	3.65	0.6	192.9	3.05	129	171	195	6.45	2	0.5	2.07	6024N
130	200	33	2	0.5	133	101	4.45	15.8	3 200	3 800	6026N	6026NR	193.65	5.69	3.65	0.6	212.9	3.05	139	191	215	8.44	2	0.5	3.16	6026N

[Remark] Standard cage types used for the above bearings are described earlier in this section.

Extra-small ball bearings, miniature ball bearings

d 1 ~ (4) mm

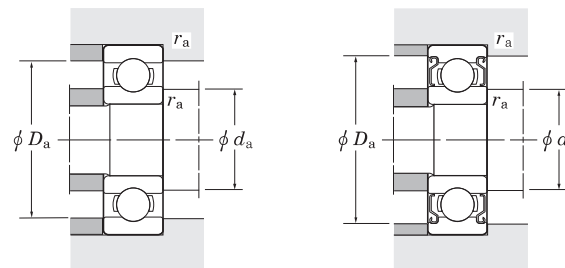
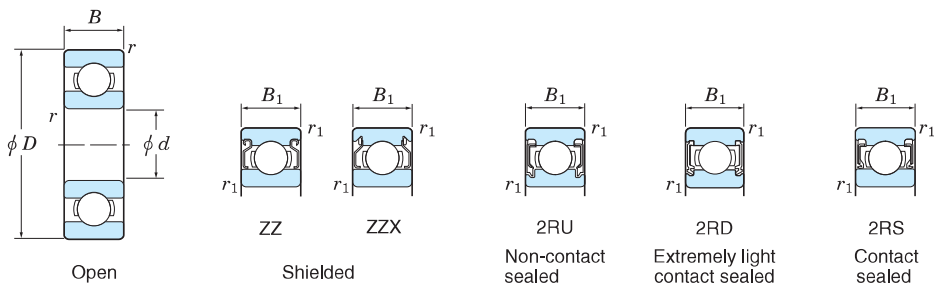


Boundary dimensions (mm)						Basic load ratings (kN)		Fatigue load limit (kN)	Factor	Limiting speeds (min ⁻¹)				Bearing No.					Mounting dimensions (mm)			(Refer.) Mass (g)
d	D	B	B ₁	r ¹⁾ _{min.}	r ¹⁾ _{min.}	C _r	C _{0r}	C _u	f ₀	[Open ZZ, 2RU]	(2RD)	(2RS)	[Open Z]	Open	Shielded	Non-contact sealed	Extremely light shielded	Contact sealed	d _a min.	D _a max.	r _a max.	Mass
1	3	1	—	0.07	—	0.120	0.03	0.0007	11.6	130 000	—	—	150 000	681	—	—	—	—	1.6	2.4	0.05	0.03
	3	1.5	—	0.08	—	0.100	0.02	0.0006	12.8	130 000	—	—	150 000	ML1003	—	—	—	—	1.6	2.4	0.07	0.05
	4	1.6	—	0.1	—	0.170	0.04	0.001	11.4	120 000	—	—	140 000	691	—	—	—	—	1.8	3.2	0.1	0.1
1.2	4	1.8	—	0.08	—	0.140	0.03	0.0009	11.4	120 000	—	—	140 000	ML1204	—	—	—	—	1.8	3.4	0.07	0.1
1.5	4	1.2	2	0.1	0.1	0.140	0.03	0.0009	13.2	120 000	—	—	140 000	68/1.5	W68/1.5 ZZ	—	—	—	2.3	3.2	0.1	0.1
	5	2	2.6	0.15	0.15	0.300	0.07	0.002	13.3	110 000	—	—	130 000	69/1.5	W69/1.5 ZZ	—	—	—	2.7	3.8	0.15	0.1
	6	2.5	3	0.1	0.1	0.410	0.10	0.003	11.4	86 000	—	—	100 000	ML1506	WML1506 ZZ	—	—	—	2.3	5.2	0.1	0.3
2	5	1.5	2.3	0.1	0.1	0.210	0.05	0.001	13.3	98 000	—	—	110 000	682	W682 ZZ	—	—	—	2.8	4.4	0.1	0.1
	5	2	2.5	0.1	0.08	0.210	0.05	0.001	13.3	98 000	—	—	110 000	ML2005	WML2005 ZZ	—	—	—	2.6	4.2	0.07	0.1
	6	2.3	3	0.15	0.1	0.410	0.10	0.003	11.4	86 000	—	—	100 000	692	W692 ZZ	—	—	—	3.2	4.8	0.1	0.2
	6	2.5	3	0.1	0.1	0.410	0.10	0.003	11.4	86 000	—	—	100 000	ML2006	WML2006 ZZ	—	—	—	2.8	5.2	0.1	0.3
	7	2.5	3	0.15	0.15	0.480	0.13	0.003	12.6	67 000	—	—	79 000	ML2007	WML2007 ZZ	—	—	—	3.2	5.8	0.15	0.4
	7	2.8	3.5	0.15	0.15	0.480	0.13	0.003	12.6	67 000	—	—	79 000	602	W602 ZZ	—	—	—	3.2	5.8	0.15	0.5
2.5	6	1.8	2.6	0.1	0.1	0.240	0.06	0.002	14.3	75 000	—	—	89 000	68/2.5	W68/2.5 ZZ	—	—	—	3.3	5.2	0.1	0.2
	7	2.5	3.5	0.15	0.15	0.390	0.11	0.003	13.7	66 000	—	—	79 000	69/2.5	W69/2.5 ZZ	—	—	—	3.7	5.8	0.15	0.4
	8	2.5	—	0.1	—	0.540	0.15	0.004	13.4	63 000	—	—	75 000	ML2508/1B	—	—	—	3.3	7.2	0.1	0.6	
	8	2.8	4	0.15	0.1	0.680	0.17	0.005	11.5	64 000	—	—	76 000	ML2508	WML2508 ZZ	—	—	—	3.7	6.8	0.1	0.6
3	6	2	2.5	0.08	0.05	0.240	0.06	0.002	14.3	75 000	—	—	89 000	ML3006	WML3006 ZZ	—	—	—	3.6	5.4	0.05	0.2
	7	2	3	(0.15)	(0.15)	0.390	0.11	0.003	13.7	66 000	—	—	79 000	683	W683 ZZ	—	—	—	4.2	5.8	0.1	0.3
	8	2.5	—	0.1	—	0.490	0.14	0.004	13.4	63 000	—	—	75 000	ML3008	—	—	—	3.8	7.2	0.1	0.5	
	8	3	4	0.15	0.15	0.680	0.17	0.005	11.5	64 000	—	—	76 000	693	W693 ZZ	—	—	—	4.2	6.8	0.15	0.6
	9	3	5	0.15	0.15	0.540	0.16	0.004	14.0	60 000	—	—	72 000	603	W603 ZZ	—	—	—	4.2	7.8	0.15	0.9
	10	4	4	0.15	0.15	0.800	0.22	0.006	12.8	52 000	—	44 000	63 000	623	623 ZZ	—	—	623 2RS	4.2	8.8	0.15	1.6
	13	5	5	0.2	0.2	1.65	0.49	0.01	12.3	44 000	—	—	54 000	633	633 ZZ	—	—	—	4.6	11.4	0.2	3.0
4	7	2	2.5	0.08	0.05	0.320	0.11	0.003	15.1	64 000	—	—	76 000	ML4007	WML4007 ZZ	—	—	—	4.6	6.4	0.05	0.2
	8	2	3	0.1	0.08	0.490	0.14	0.004	14.6	61 000	—	—	73 000	ML4008	WML4008 ZZ	—	—	—	4.8	7.2	0.08	0.4
	9	2.5	4	(0.15)	(0.15)	0.800	0.23	0.006	12.8	59 000	—	—	70 000	684	W684 ZZ	—	—	—	5.2	7.8	0.1	0.6

[Note] 1) Numerical values in () do not conform to JIS B 1521.

Extra-small ball bearings, miniature ball bearings

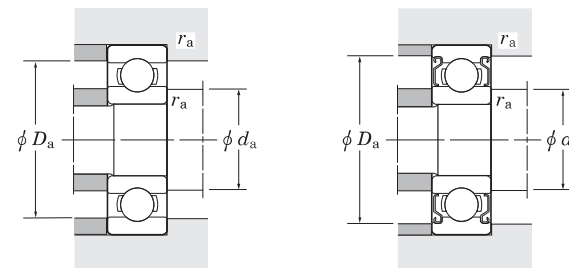
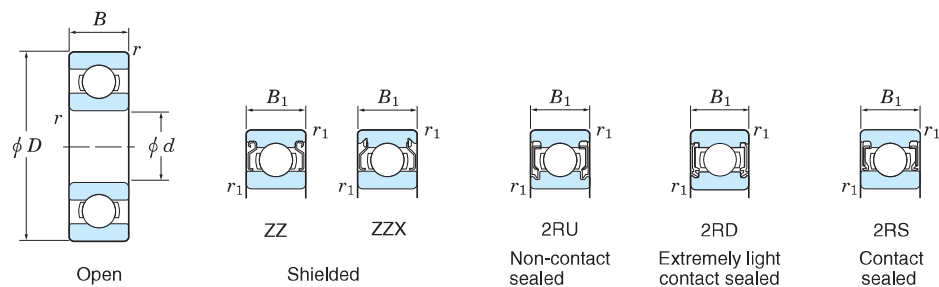
d (4) ~ (7) mm



d	Boundary dimensions (mm)					Basic load ratings (kN)		Fatigue load limit (kN) C _u	Factor f ₀	Limiting speeds (min ⁻¹)				Bearing No.					Mounting dimensions (mm)			(Refer.) Mass (g)
	D	B	B ₁	r _{min.}	r _{1 min.}	C _r	C _{0r}			Grease lub.	Oil lub.	Open [ZZ, 2RU]	(2RD)	(2RS)	Open [Z]	Open	Shielded	Non-contact sealed	Extremely light shielded	Contact sealed	d _{a min.}	
4	10	3	4	0.15	0.1	0.810	0.23	0.006	13.3	56 000	—	—	67 000	ML4010	WML4010 ZZ	—	—	—	5.2	8.8	0.1	1.0
	11	4	4	0.15	0.15	1.20	0.35	0.009	12.4	54 000	—	44 000	65 000	694	694 ZZ	694 2RU	—	694 2RS	5.2	9.8	0.15	1.8
	12	4	4	0.2	0.2	1.20	0.35	0.009	12.4	53 000	—	—	63 000	604	604 ZZ	—	—	—	5.6	10.4	0.2	2.1
	13	5	5	0.2	0.2	1.65	0.48	0.010	12.3	44 000	—	39 000	54 000	624	624 ZZ	624 2RU	—	624 2RS	5.6	11.4	0.2	2.9
	16	5	5	0.3	0.3	1.70	0.52	0.010	12.4	40 000	—	—	49 000	634	634 ZZ	—	—	—	6	14	0.3	5.3
5	8	2	2.5	0.08	0.05	0.270	0.09	0.002	15.7	59 000	—	—	70 000	ML5008	WML5008 ZZ	—	—	—	5.6	7.4	0.05	0.3
	9	2.5	3	0.1	0.08	0.540	0.17	0.004	15.3	56 000	—	—	67 000	ML5009	WML5009 ZZ	—	—	—	5.8	8.2	0.08	0.5
	10	3	4	0.1	0.1	0.540	0.17	0.005	14.8	55 000	—	—	65 000	ML5010	WML5010 ZZ	—	—	—	5.8	9	0.1	0.9
	11	3	5	0.15	0.15	0.890	0.28	0.007	12.8	53 000	—	—	63 000	685	W685 ZZ	—	—	—	6.2	9.8	0.15	1.0
	13	4	4	0.2	0.2	1.35	0.43	0.010	12.3	50 000	45 000	42 000	60 000	695	695 ZZ	695 2RU	695 2RD	695 2RS	6.6	11.4	0.2	2.2
	14	5	5	0.2	0.2	1.65	0.49	0.010	12.3	50 000	—	—	60 000	605	605 ZZ	—	—	—	6.6	12.4	0.2	3.5
	16	5	5	0.3	0.3	2.15	0.67	0.030	12.4	40 000	36 000	33 000	49 000	625	625 ZZ	625 2RU	—	625 2RS	7	14	0.3	5.0
	19	6	6	0.3	0.3	2.90	0.89	0.040	12.3	35 000	32 000	27 000	43 000	635	635 ZZ	635 2RU	—	635 2RS	7	17	0.3	8.5
6	10	2.5	3	0.1	0.08	0.620	0.22	0.006	15.7	53 000	—	—	63 000	ML6010	WML6010 ZZ	—	—	—	6.8	9.2	0.08	0.6
	12	3	4	0.15	0.1	0.890	0.29	0.008	14.5	49 000	—	37 000	59 000	ML6012	WML6012 ZZ	—	—	WML6012 2RS	7.2	10.8	0.1	1.3
	13	3.5	5	0.15	0.15	1.35	0.44	0.010	13.7	48 000	43 000	36 000	57 000	686	W686 ZZ	—	—	W686 2RS	7.2	11.8	0.15	1.8
	15	5	5	0.2	0.2	1.70	0.52	0.010	12.4	45 000	41 000	32 000	54 000	696	696 ZZ	696 2RU	696 2RD	696 2RS	7.6	13.4	0.2	3.9
	17	6	6	0.3	0.3	2.45	0.74	0.030	12.2	43 000	39 000	—	51 000	606	606 ZZ	606 2RU	606 2RD	—	8	15	0.3	5.8
	19	6	6	0.3	0.3	2.90	0.89	0.040	12.3	35 000	32 000	27 000	43 000	626	626 ZZ	626 2RU	626 2RD	626 2RS	8	17	0.3	8.1
	19	8	8	0.3	0.3	3.25	1.05	0.04	12.3	40 000	—	—	47 000	ML6019	ML6019 ZZ	—	—	—	7	18	0.3	9.0
	22	7	7	0.3	0.3	4.10	1.35	0.060	12.4	31 000	—	23 000	37 000	636	636 ZZ	—	—	636 2RS	8	20	0.3	13
7	11	2.5	3	0.1	0.08	0.540	0.23	0.006	16.1	49 000	—	—	59 000	ML7011	WML7011 ZZ	—	—	—	7.8	10.2	0.08	0.7
	13	3	4	0.15	0.15	0.680	0.28	0.007	14.9	47 000	—	—	55 000	ML7013	WML7013 ZZ	—	—	—	8.2	11.8	0.15	1.4
	14	3.5	5	0.15	0.15	1.45	0.51	0.010	14.2	45 000	—	—	54 000	687	W687 ZZ	—	—	—	8.2	12.8	0.15	2.0
	17	5	5	0.3	0.3	2.00	0.71	0.02	14.0	42 000	—	28 000	50 000	697	697 ZZ	—	—	697 2RS	9	15	0.3	5.3
	19	6	6	0.3	0.3	2.95	0.89	0.040	12.3	40 000	36 000	27 000	47 000	607	607 ZZ	607 2RU	607 2RD	607 2RS	9	17	0.3	7.6
	22	7	7	0.3	0.3	4.10	1.35	0.060	12.4	31 000	28 000	23 000	37 000	627	627 ZZ	627 2RU	627 2RD	627 2RS	9	20	0.3	13
	22	8	8	0.3	0.3	4.10	1.35	0.06	12.4	34 000	—	—	41 000	ML7022	ML7022 ZZ	—	—	—	9	20	0.3	14

Extra-small ball bearings, miniature ball bearings

d (7) ~ 9 mm

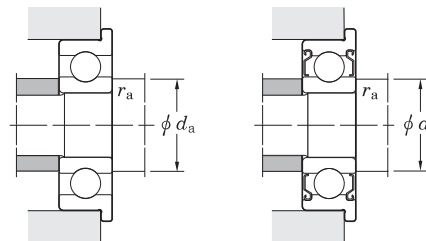
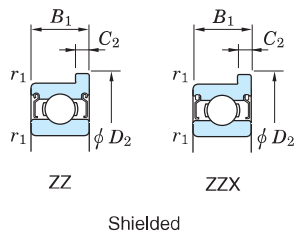
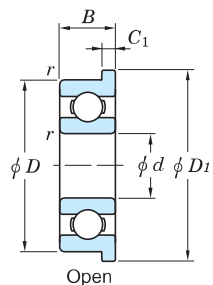


d	Boundary dimensions (mm)					Basic load ratings (kN)		Fatigue load limit (kN) C_u	Factor f_0	Limiting speeds (min^{-1})				Bearing No.					Mounting dimensions (mm)			(Refer.) Mass (g)
	D	B	B_1	$r_1^{(1)}$ min.	$r_1^{(1)}$ min.	C_r	C_{0r}			[Open ZZ, 2RU]	(2RD)	(2RS)	[Open Z]	Open	Shielded	Non-contact sealed	Extremely light shielded	Contact sealed	d_a min.	D_a max.	r_a max.	
7	26	9	9	0.3	0.3	5.65	1.95	0.100	12.3	26 000	—	—	32 000	637	637 ZZ	—	—	—	9	24	0.3	24
8	12	2.5	3.5	0.1	0.08	0.680	0.27	0.007	16.4	47 000	—	—	55 000	ML8012	WML8012 ZZ	—	—	—	8.8	11.2	0.08	0.8
	14	3.5	4	0.15	0.15	1.00	0.39	0.010	15.3	44 000	—	—	52 000	ML8014	WML8014 ZZ	—	—	—	9.2	12.8	0.15	1.8
	16	4	5	0.2	0.2	1.55	0.59	0.020	14.0	42 000	38 000	28 000	50 000	688	W688 ZZ	W688 2RU	W688 2RD	W688 2RS	9.6	14.4	0.2	3.2
	19	6	6	0.3	0.3	2.80	0.91	0.040	12.9	39 000	35 000	27 000	46 000	698	698 ZZ	—	698 2RD	698 2RS	10	17	0.3	7.2
	22	7	7	0.3	0.3	4.10	1.35	0.060	12.4	34 000	31 000	23 000	41 000	608	608 ZZ	608 2RU	608 2RD	608 2RS	10	20	0.3	12
	24	8	8	0.3	0.3	4.15	1.40	0.060	12.8	28 000	—	22 000	35 000	628	628 ZZ	628 2RU	—	628 2RS	10	22	0.3	18
	28	9	9	0.3	0.3	5.65	1.95	0.100	12.3	26 000	23 000	—	32 000	638	638 ZZ	—	638 2RD	—	10	26	0.3	29
9	17	4	5	0.2	0.2	1.65	0.66	0.020	14.9	39 000	35 000	—	46 000	689	W689 ZZ	W689 2RU	W689 2RD	—	10.6	15.4	0.2	3.5
	20	6	6	0.3	0.3	3.10	1.05	0.040	13.3	35 000	32 000	25 000	42 000	699	699 ZZ	—	699 2RD	699 2RS	11	18	0.3	7.5
	24	7	7	0.3	0.3	4.15	1.40	0.060	12.8	33 000	30 000	22 000	40 000	609	609 ZZ	609 2RU	609 2RD	609 2RS	11	22	0.3	15
	26	8	8	(0.6)	(0.6)	5.70	1.95	0.100	12.4	27 000	24 000	19 000	33 000	629	629 ZZ	629 2RU	629 2RD	629 2RS	12.1	22	0.3	20
	30	10	10	0.6	0.6	7.50	2.65	0.210	12.3	24 000	—	—	29 000	639	639 ZZ	—	—	—	13	26	0.6	35

[Note] 1) Numerical values in () do not conform to JIS B 1521.

Extra-small ball bearings, miniature ball bearings
flanged type

d 1 ~ (4) mm

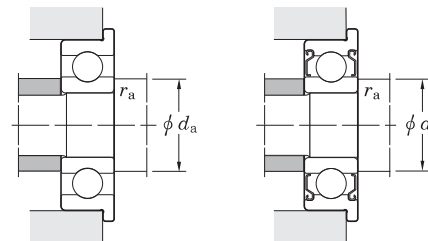
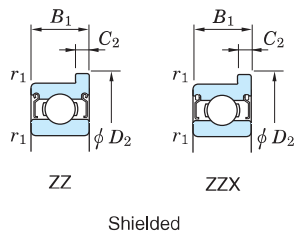
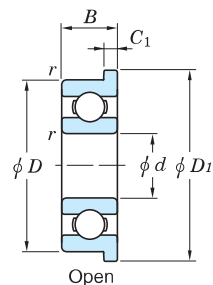


d	Boundary dimensions (mm)					Basic load ratings (kN)		Fatigue load limit (kN) C_u	Factor f_0	Limiting speeds (min^{-1})		Bearing No.	Dimensions of flange (mm)				Mounting dimensions (mm)		(Refer.) Mass (g)		
	D	B	B_1	$r_1^{1)}$ min.	$r_1^{1)}$ min.	C_r	C_{0r}			Grease lub.	Oil lub.		Open [ZZ, ZZX]	Open [Z, ZX]	D_1	D_2	C_1	C_2		d_a min.	r_a max.
1	3	1	—	0.07	—	0.120	0.03	0.0007	11.6	130 000	150 000	F681 F691	—	—	3.8	—	0.3	—	1.6	0.05	0.03
	4	1.6	—	0.1	—	0.170	0.04	0.001	11.4	120 000	140 000		—	—	5	—	0.5	—	1.8	0.1	0.1
1.5	4	1.2	2	0.1	0.1	0.140	0.03	0.0009	13.2	120 000	140 000	F68/1.5 F69/1.5 MLF1506	—	WF68/1.5 ZZ WF69/1.5 ZZ WMLF1506 ZZ	5	5	0.4	0.6	2.3	0.1	0.1
	5	2	2.6	0.15	0.15	0.300	0.07	0.002	12.9	110 000	120 000		—	—	6.5	6.5	0.6	0.8	2.7	0.15	0.2
	6	2.5	3	0.1	0.1	0.410	0.10	0.003	11.4	86 000	100 000		—	—	7.5	7.5	0.6	0.8	2.3	0.1	0.4
2	5	1.5	2.3	0.1	0.1	0.210	0.05	0.001	13.3	99 000	120 000	F682 MLF2005 F692	—	WF682 ZZ WMLF2005 ZZ WF692 ZZ	6.1	6.1	0.5	0.6	2.8	0.1	0.1
	5	2	2.5	0.1	0.08	0.210	0.05	0.001	12.9	99 000	120 000		—	—	6.2	6.2	0.6	0.6	2.8	0.07	0.2
	6	2.3	3	0.15	0.1	0.410	0.10	0.003	11.4	86 000	100 000		—	—	7.5	7.5	0.6	0.8	3.2	0.1	0.3
	6	2.5	3	0.1	0.1	0.410	0.10	0.003	11.4	86 000	100 000	MLF2006 MLF2007 F602	—	WMLF2006 ZZ WMLF2007 ZZ WF602 ZZ	7.2	7.2	0.6	0.6	2.8	0.1	0.4
	7	2.5	3	0.15	0.15	0.480	0.13	0.003	12.6	67 000	79 000		—	—	8.2	8.2	0.6	0.6	3.2	0.15	0.5
	7	2.8	3.5	0.15	0.15	0.480	0.13	0.003	12.6	67 000	79 000		—	—	8.5	8.5	0.7	0.9	3.2	0.15	0.6
	6	1.8	2.6	0.1	0.1	0.260	0.07	0.002	14.3	69 000	82 000		F68/2.5 F69/2.5 MLF2508/1B MLF2508	—	WF68/2.5 ZZ WF69/2.5 ZZ — WMLF2508 ZZ	7.1	7.1	0.5	0.8	3.3	0.1
7	2.5	3.5	0.15	0.15	0.480	0.13	0.003	12.7	66 000	79 000	—	—		8.5	8.5	0.7	0.9	3.7	0.15	0.5	
8	2.5	—	0.1	—	0.680	0.17	0.005	11.7	63 000	75 000	—	—		9.2	—	0.6	—	3.5	0.1	0.7	
8	2.8	4	0.15	0.1	0.680	0.17	0.005	11.5	63 000	75 000	—	—		9.5	9.5	0.7	0.9	3.7	0.1	0.7	
3	6	2	2.5	0.08	0.05	0.260	0.07	0.002	14.3	69 000	82 000	MLF3006 F683 MLF3008	—	WMLF3006 ZZ WF683 ZZ —	7.2	7.2	0.6	0.6	3.6	0.05	0.2
	7	2	3	(0.15)	(0.15)	0.390	0.11	0.003	14.0	65 000	78 000		—	—	8.1	8.1	0.5	0.8	4.2	0.1	0.4
	8	2.5	—	0.1	—	0.490	0.14	0.004	13.4	61 000	72 000		—	—	9.2	—	0.6	—	4.0	0.1	0.6
	8	3	4	0.15	0.15	0.690	0.18	0.005	11.9	63 000	75 000	F693 F603 F623	—	WF693 ZZ WF603 ZZ F623 ZZ	9.5	9.5	0.7	0.9	4.2	0.15	0.7
	9	3	5	0.15	0.15	0.710	0.19	0.005	12.4	60 000	72 000		—	—	10.5	10.5	0.7	1	4.2	0.15	1.0
	10	4	4	0.15	0.15	0.800	0.22	0.006	12.4	61 000	72 000		—	—	11.5	11.5	1	1	4.2	0.15	1.8
4	7	2	2.5	0.08	0.05	0.320	0.11	0.003	15.1	63 000	75 000	MLF4007 MLF4008 F684	—	WMLF4007 ZZ WMLF4008 ZZ WF684 ZZ	8.2	8.2	0.6	0.6	4.6	0.05	0.3
	8	2	3	0.1	0.08	0.490	0.14	0.004	13.9	61 000	72 000		—	—	9.2	9.2	0.6	0.6	4.8	0.08	0.5
	9	2.5	4	(0.15)	(0.15)	0.800	0.23	0.006	12.8	59 000	70 000		—	—	10.3	10.3	0.6	1	5.2	0.1	0.7
	10	3	4	0.15	0.1	0.880	0.27	0.007	13.5	56 000	66 000	MLF4010 F694 F604	—	WMLF4010 ZZ F694 ZZ F604 ZZ	11.2	11.6	0.6	0.8	5.2	0.1	1.1
	11	4	4	0.15	0.15	1.20	0.35	0.009	12.4	54 000	65 000		—	—	12.5	12.5	1	1	5.2	0.15	2.0
	12	4	4	0.2	0.2	1.20	0.35	0.009	12.4	54 000	65 000		—	—	13.5	13.5	1	1	5.6	0.2	2.3

[Note] 1) Numerical values in () do not conform to JIS B 1521.

Extra-small ball bearings, miniature ball bearings
flanged type

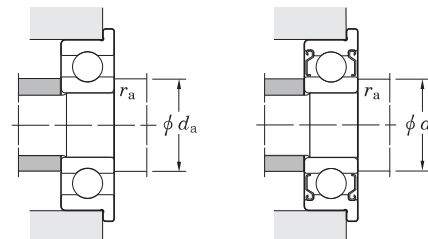
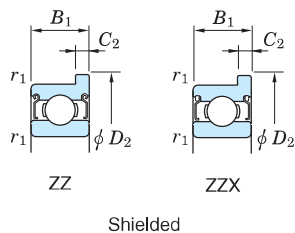
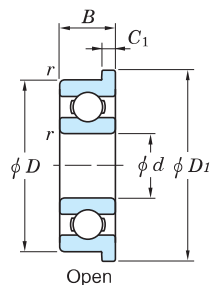
d (4) ~ 8 mm



d	Boundary dimensions (mm)					Basic load ratings (kN)		Fatigue load limit (kN) C_u	Factor f_0	Limiting speeds (min^{-1})		Bearing No.		Dimensions of flange (mm)				Mounting dimensions (mm)		(Refer.) Mass (g)
	D	B	B_1	r_{min}	r_1 r_{min}	C_r	C_{0r}			Grease lub.	Oil lub.	Open [ZZ, ZX]	Shielded [Z, ZX]	D_1	D_2	C_1	C_2	d_a min.	r_a max.	
4	13	5	5	0.2	0.2	0.010	0.48	1.65	12.2	50 000	60 000	F624	F624 ZZ	15	15	1	1	5.6	0.2	3.3
	16	5	5	0.3	0.3	0.010	0.52	1.70	13.0	47 000	55 000	F634	F634 ZZ	18	18	1	1	6	0.3	5.7
5	8	2	2.5	0.08	0.05	0.270	0.09	0.002	15.8	59 000	70 000	MLF5008	WMLF5008 ZZ	9.2	9.2	0.6	0.6	5.6	0.05	0.4
	9	2.5	3	0.1	0.08	0.540	0.17	0.004	14.6	57 000	67 000	MLF5009	WMLF5009 ZZ	10.2	10.2	0.6	0.6	5.8	0.08	0.6
	10	3	4	0.1	0.1	0.540	0.17	0.005	14.8	57 000	67 000	MLF5010	WMLF5010 ZZ	11.2	11.6	0.6	0.8	5.8	0.1	1.0
	11	3	5	0.15	0.15	0.890	0.28	0.007	14.0	53 000	63 000	F685	WF685 ZZ	12.5	12.5	0.8	1	6.2	0.15	1.1
	13	4	4	0.2	0.2	1.35	0.43	0.010	13.4	49 000	59 000	F695	F695 ZZ	15	15	1	1	6.6	0.2	2.5
	14	5	5	0.2	0.2	1.65	0.51	0.01	12.3	48 000	57 000	F605	F605 ZZ	16	16	1	1	6.6	0.2	3.9
	16	5	5	0.3	0.3	2.15	0.67	0.03	12.4	45 000	54 000	F625	F625 ZZ	18	18	1	1	7	0.3	5.4
19	6	6	0.3	0.3	2.90	0.89	0.04	12.3	40 000	47 000	F635	F635 ZZ	22	22	1.5	1.5	7	0.3	9.7	
6	10	2.5	3	0.1	0.08	0.620	0.22	0.006	15.2	53 000	63 000	MLF6010	WMLF6010 ZZ	11.2	11.2	0.6	0.6	6.8	0.08	0.7
	12	3	4	0.15	0.1	0.890	0.29	0.008	14.5	49 000	59 000	MLF6012	WMLF6012 ZZ	13.2	13.6	0.6	0.8	7.2	0.1	1.4
	13	3.5	5	0.15	0.15	1.35	0.44	0.010	13.7	48 000	57 000	F686	WF686 ZZ	15	15	1	1.1	7.2	0.15	2.1
	15	5	5	0.2	0.2	1.70	0.52	0.01	13.0	47 000	55 000	F696	F696 ZZ	17	17	1.2	1.2	7.6	0.2	4.3
	17	6	6	0.3	0.3	2.85	0.84	0.03	11.4	43 000	52 000	F606	F606 ZZ	19	19	1.2	1.2	8	0.3	6.3
	19	6	6	0.3	0.3	2.90	0.89	0.04	12.3	40 000	47 000	F626	F626 ZZ	22	22	1.5	1.5	8	0.3	9.2
	22	7	7	0.3	0.3	4.10	1.35	0.06	12.4	34 000	41 000	F636	F636 ZZ	25	25	1.5	1.5	8	0.3	14
7	11	2.5	3	0.1	0.08	0.570	0.20	0.005	15.6	49 000	59 000	MLF7011	WMLF7011 ZZ	12.2	12.2	0.6	0.6	7.8	0.08	0.8
	13	3	4	0.15	0.15	0.680	0.28	0.007	16.0	46 000	55 000	MLF7013	WMLF7013 ZZ	14.2	14.6	0.6	0.8	8.2	0.15	1.5
	14	3.5	5	0.15	0.15	1.45	0.51	0.010	14.2	45 000	54 000	F687	WF687 ZZ	16	16	1	1.1	8.2	0.15	2.4
	17	5	5	0.3	0.3	2.00	0.71	0.02	14.0	42 000	50 000	F697	F697 ZZ	19	19	1.2	1.2	9	0.3	5.8
	19	6	6	0.3	0.3	2.95	0.89	0.04	12.1	40 000	47 000	F607	F607 ZZ	22	22	1.5	1.5	9	0.3	8.7
	22	7	7	0.3	0.3	4.10	1.35	0.06	12.4	34 000	41 000	F627	F627 ZZ	25	25	1.5	1.5	9	0.3	14
8	12	2.5	3.5	0.1	0.08	0.680	0.27	0.007	15.9	47 000	55 000	MLF8012	WMLF8012 ZZ	13.2	13.6	0.6	0.8	8.8	0.08	0.9
	14	3.5	4	0.15	0.15	1.00	0.42	0.01	15.3	44 000	52 000	MLF8014	WMLF8014 ZZ	15.6	15.6	0.8	0.8	9.2	0.15	2.0
	16	4	5	0.2	0.2	1.55	0.59	0.020	14.8	42 000	50 000	F688	WF688 ZZ	18	18	1	1.1	9.6	0.2	3.6
	19	6	6	0.3	0.3	2.80	0.91	0.040	12.9	39 000	46 000	F698	F698 ZZ	22	22	1.5	1.5	10	0.3	8.3
	22	7	7	0.3	0.3	4.10	1.35	0.060	12.4	34 000	41 000	F608	F608 ZZ	25	25	1.5	1.5	10	0.3	13

Extra-small ball bearings, miniature ball bearings
flanged type

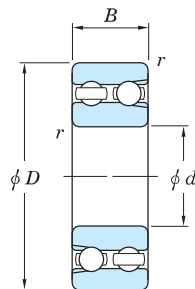
d 9 mm



d	Boundary dimensions (mm)				Basic load ratings (kN)		Fatigue load limit (kN) C_u	Factor f_0	Limiting speeds (min^{-1})		Bearing No.	Dimensions of flange (mm)				Mounting dimensions (mm)		(Refer.) Mass (g)
	D	B	B_1	$r_{\text{min.}}$	$r_{1\text{ min.}}$	C_r			C_{0r}	Grease lub.		Oil lub.	D_1	D_2	C_1	C_2	d_a min.	
9	17	4	5	0.2	0.2	1.65	0.66	0.020	15.1	39 000	46 000	F689						3.9
	20	6	6	0.3	0.3	3.10	1.05	0.04	13.3	37 000	44 000	F699						8.7
	24	7	7	0.3	0.3	4.15	1.45	0.06	12.8	32 000	38 000	F609						16

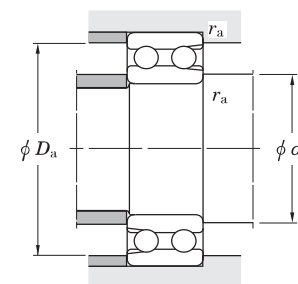
Double-row deep groove ball bearings

d 10 ~ (60) mm



Boundary dimensions (mm)				Basic load ratings (kN)		Fatigue load limit (kN) C_u	Factor f_0	Limiting speeds (min^{-1})		Bearing No.	Mounting dimensions (mm)			(Refer.) Mass (kg)
d	D	B	r_{min}	C_r	C_{0r}			Grease lub.	Oil lub.		d_a min.	D_a max.	r_a max.	
10	30	14	0.6	9.61	5.90	0.300	13.0	15 000	20 000	4200	14	26	0.6	0.057
12	32	14	0.6	9.71	6.15	0.320	13.6	14 000	18 000	4201	16	28	0.6	0.062
15	35	14	0.6	12.2	9.00	0.460	14.2	12 000	16 000	4202	19	31	0.6	0.071
	42	17	1	16.4	11.7	0.830	13.7	11 000	14 000	4302	20	37	1	0.123
17	40	16	0.6	14.6	10.4	0.710	14.1	11 000	14 000	4203	21	36	0.6	0.106
	47	19	1	20.6	15.0	1.05	13.7	9 400	13 000	4303	22	42	1	0.171
20	47	18	1	20.5	16.0	1.10	14.2	9 000	12 000	4204	25	42	1	0.165
	52	21	1.1	24.3	17.0	1.25	13.5	8 300	11 000	4304	26.5	45.5	1	0.227
25	52	18	1	20.4	16.9	1.05	15.0	7 500	9 900	4205	30	47	1	0.189
	62	24	1.1	32.9	25.7	1.75	14.1	6 700	9 000	4305	31.5	55.5	1	0.365
30	62	20	1	27.4	24.7	1.50	15.1	6 400	8 500	4206	35	57	1	0.298
	72	27	1.1	44.4	35.9	2.45	14.0	5 700	7 600	4306	36.5	65.5	1	0.542
35	72	23	1.1	33.0	30.7	1.85	15.2	5 600	7 400	4207	41.5	65.5	1	0.460
	80	31	1.5	50.7	41.8	2.85	14.1	5 200	7 000	4307	43	72	1.5	0.752
40	80	23	1.1	42.2	42.4	2.50	15.5	4 700	6 300	4208	46.5	73.5	1	0.558
	90	33	1.5	57.5	48.8	3.25	14.7	4 600	6 100	4308	48	82	1.5	1.01
45	85	23	1.1	39.8	43.9	2.45	15.8	4 600	6 100	4209	51.5	78.5	1	0.605
	100	36	1.5	72.0	62.4	4.20	14.3	4 100	5 500	4309	53	92	1.5	1.35
50	90	23	1.1	39.2	44.6	2.45	16.1	4 200	5 600	4210	56.5	83.5	1	0.651
	110	40	2	88.0	77.7	5.25	14.2	3 700	5 000	4310	59	101	2	1.80
55	100	25	1.5	46.5	54.1	2.95	16.1	3 800	5 000	4211	63	92	1.5	0.882
	120	43	2	105	94.4	6.40	14.2	3 400	4 600	4311	64	111	2	2.29
60	110	28	1.5	59.9	67.6	3.80	15.9	3 500	4 700	4212	68	102	1.5	1.20

d (60) ~ 75 mm



Boundary dimensions (mm)				Basic load ratings (kN)		Fatigue load limit (kN) C_u	Factor f_0	Limiting speeds (min^{-1})		Bearing No.	Mounting dimensions (mm)			(Refer.) Mass (kg)
d	D	B	r_{min}	C_r	C_{0r}			Grease lub.	Oil lub.		d_a min.	D_a max.	r_a max.	
60	130	46	2.1	124	113	7.70	14.1	3 100	4 200	4312	71	119	2	2.87
65	120	31	1.5	68.3	78.5	4.35	15.9	3 200	4 300	4213	73	112	1.5	1.59
	140	48	2.1	134	124	8.20	14.3	2 900	3 900	4313	76	129	2	3.46
70	125	31	1.5	77.7	89.8	5.05	15.8	3 100	4 100	4214	78	117	1.5	1.68
	150	51	2.1	144	136	8.55	14.4	2 700	3 600	4314	81	139	2	4.21
75	130	31	1.5	77.0	90.7	4.95	16.0	2 900	3 900	4215	83	122	1.5	1.77
	160	55	2.1	166	158	9.70	14.4	2 500	3 400	4315	86	149	2	5.15