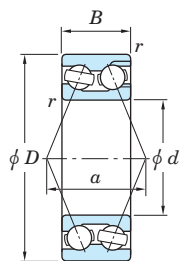
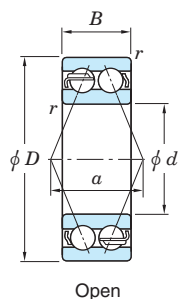


Double-row angular contact ball bearings

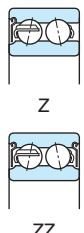
d 10 ~ (40) mm



32, 33 series
(With filling slot)



Open



Z

ZZ

Shielded

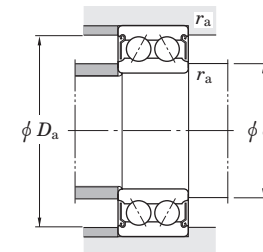
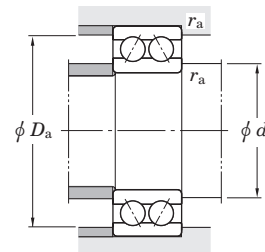


RS

2RS

Contact sealed

52, 53 series
(Without filling slot)



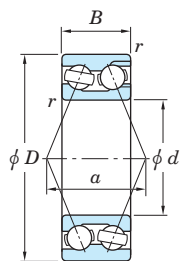
Boundary dimensions (mm)				Basic load ratings (kN)				Limiting speeds (min ⁻¹)			Bearing No.			Load center spread (mm)	Mounting dimensions ¹⁾ (mm)				(Refer.) Mass (kg)
d	D	B	$r_{min.}$	Open		Shielded/sealed		Grease lub.		Oil lub.	Sealed	Open	Shielded	Open α	Mounting dimensions ¹⁾ (mm)				Mass (kg)
				C_r	C_{0r}	C_r	C_{0r}	[Open Z, ZZ]	(RS, 2RS)	[Open Z]					min.	max.	D_a max.	r_a max.	
10	30	14.3	0.6	7.35	5.35	—	—	15 000	—	20 000	3200	—	—	19.5	14.5	—	25.5	0.6	0.052
12	32	15.9	0.6	9.70	7.15	—	—	14 000	—	18 000	3201	—	—	21.7	16.5	—	27.5	0.6	0.063
15	35	15.9	0.6	9.70	7.45	—	—	12 000	—	16 000	3202	—	—	23.6	19.5	—	30.5	0.6	0.072
	42	19	1	15.2	11.9	—	—	10 000	—	14 000	3302	—	—	27.6	20.5	—	36.5	1	0.132
17	40	17.5	0.6	13.8	10.8	—	—	11 000	—	14 000	3203	—	—	26.6	21.5	—	35.5	0.6	0.100
	40	17.5	0.6	13.2	8.15	12.7	8.35	11 000	11 000	14 000	5203	5203 ZZ	5203 2RS	20.0	21.5	23.5	35.5	0.6	0.091
	47	22.2	1	21.7	17.1	—	—	9 400	—	13 000	3303	—	—	31.0	22.5	—	41.5	1	0.192
20	47	20.6	1	17.2	15.0	—	—	9 000	—	12 000	3204	—	—	31.5	25.5	—	41.5	1	0.170
	47	20.6	1	19.7	12.5	16.0	10.8	8 800	8 800	12 000	5204	5204 ZZ	5204 2RS	23.5	25.5	26.6	41.5	1	0.120
	52	22.2	1.1	20.8	18.4	—	—	8 200	—	11 000	3304	—	—	33.8	27	—	45	1	0.230
	52	22.2	1.1	24.7	15.0	19.8	12.8	8 300	8 300	11 000	5304	5304 ZZ	5304 2RS	25.9	27	28.3	45	1	0.230
25	52	20.6	1	18.9	18.2	—	—	7 800	—	10 000	3205	—	—	34.4	30.5	—	46.5	1	0.190
	52	20.6	1	21.4	14.8	18.9	13.8	7 700	7 700	10 000	5205	5205 ZZ	5205 2RS	26.1	30.5	32.3	46.5	1	0.190
	62	25.4	1.1	28.9	26.5	—	—	6 800	—	9 100	3305	—	—	40.5	32	—	55	1	0.369
	62	25.4	1.1	32.7	20.8	27.5	18.5	6 900	6 900	9 200	5305	5305 ZZ	5305 2RS	31.1	32	33.4	55	1	0.340
30	62	23.8	1	27.3	27.0	—	—	6 500	—	8 700	3206	—	—	40.7	35.5	—	56.5	1	0.320
	62	23.8	1	29.7	21.3	25.4	18.3	6 400	6 400	8 600	5206	5206 ZZ	5206 2RS	30.8	35.5	38.6	56.5	1	0.290
	72	30.2	1.1	38.1	36.1	—	—	5 800	—	7 800	3306	—	—	47.2	37	—	65	1	0.585
	72	30.2	1.1	41.0	28.5	34.3	25.2	5 800	5 800	7 700	5306	5306 ZZ	5306 2RS	36.2	37	41.3	65	1	0.510
35	72	27	1.1	36.8	37.5	—	—	5 600	—	7 500	3207	—	—	46.9	42	—	65	1	0.480
	72	27	1.1	39.2	29.0	31.7	24.6	5 500	5 500	7 300	5207	5207 ZZ	5207 2RS	36.1	42	43.9	65	1	0.430
	80	34.9	1.5	48.6	46.8	—	—	5 200	—	7 000	3307	—	—	53.4	43.5	—	71.5	1.5	0.816
	80	34.9	1.5	51.2	36.2	46.1	32.8	5 100	5 100	6 800	5307	5307 ZZ	5307 2RS	41.0	43.5	45.5	71.5	1.5	0.790
40	80	30.2	1.1	42.0	43.9	—	—	5 000	—	6 700	3208	—	—	52.6	47	—	73	1	0.650

[Note] 1) The maximum value of d_a is applied to shielded and sealed type bearings.

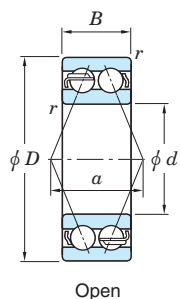
[Remark] Standard cage types used for the above bearings are described earlier in this section.

Double-row angular contact ball bearings

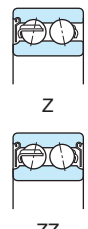
d (40) ~ (70) mm



32, 33 series
(With filling slot)



Open

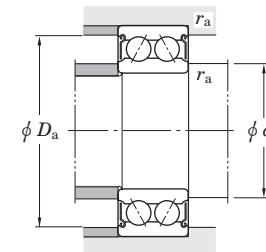
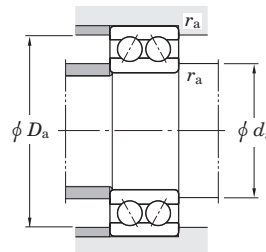


Shielded

52, 53 series
(Without filling slot)



Contact sealed



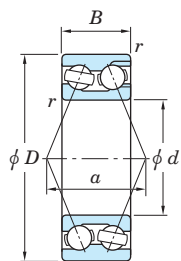
Boundary dimensions (mm)				Basic load ratings (kN)				Limiting speeds (min ⁻¹)			Bearing No.			Load center spread (mm)	Mounting dimensions ¹⁾ (mm)				(Refer.) Mass (kg)
d	D	B	$r_{min.}$	Open		Shielded/sealed		Grease lub.		Oil lub.	Sealed	Open	Shielded	Open α	d_a		D_a max.	r_a max.	Mass (kg)
				C_r	C_{0r}	C_r	C_{0r}	[Open Z, ZZ]	(RS, 2RS)	[Open Z]					min.	max.			
40	80	30.2	1.1	44.4	33.6	36.5	29.1	5 000	5 000	6 700	5208	5208 ZZ		39.2	47	49.5	73	1	0.570
	90	36.5	1.5	54.1	53.8	—	—	4 600	—	6 100	3308	—		58.9	48.5	—	81.5	1.5	1.07
	90	36.5	1.5	62.7	45.4	51.4	37.8	4 600	4 600	6 100	5308	5308 ZZ	5308 2RS	44.9	48.5	52.1	81.5	1.5	1.05
45	85	30.2	1.1	45.4	51.4	—	—	4 600	—	6 100	3209	—		56.3	52	—	78	1	0.710
	85	30.2	1.1	49.9	38.4	41.7	33.9	4 600	4 600	6 100	5209	5209 ZZ	5209 2RS	42.2	52	55.3	78	1	0.620
	100	39.7	1.5	66.1	67.3	—	—	4 100	—	5 500	3309	—		65.6	53.5	—	91.5	1.5	1.42
	100	39.7	1.5	75.1	55.7	68.9	51.4	4 100	4 100	5 500	5309	5309 ZZ	5309 2RS	51.0	53.5	58.2	91.5	1.5	1.42
50	90	30.2	1.1	45.1	52.1	—	—	4 300	—	5 700	3210	—		58.8	57	—	83	1	0.760
	90	30.2	1.1	53.3	43.6	44.1	37.9	4 300	4 300	5 600	5210	5210 ZZ	5210 2RS	44.5	57	58.9	83	1	0.670
	110	44.4	2	86.1	88.6	—	—	3 800	—	5 000	3310	—		71.7	60	—	100	2	1.95
	110	44.4	2	88.5	67.0	81.8	62.2	3 600	3 600	4 800	5310	5310 ZZ	5310 2RS	56.6	60	64.4	100	2	1.93
55	100	33.3	1.5	50.9	60.2	—	—	3 900	—	5 100	3211	—		65.0	63.5	—	91.5	1.5	1.05
	100	33.3	1.5	65.9	55.2	52.9	44.7	3 800	3 800	5 100	5211	5211 ZZ	5211 2RS	50.2	63.5	66.2	91.5	1.5	0.960
	120	49.2	2	101	106	—	—	3 400	—	4 500	3311	—		79.3	65	—	110	2	2.53
	120	49.2	2	110	85.1	95.7	74.3	3 300	3 300	4 500	5311	5311 ZZ	5311 2RS	61.6	65	71.8	110	2	2.30
60	110	36.5	1.5	64.0	76.8	—	—	3 500	—	4 700	3212	—		71.3	68.5	—	101.5	1.5	1.40
	110	36.5	1.5	74.4	60.8	62.6	55.9	3 500	3 500	4 700	5212	5212 ZZ	5212 2RS	53.8	68.5	74.1	101.5	1.5	1.36
	130	54	2.1	125	132	—	—	3 100	—	4 200	3312	—		87.4	72	—	118	2	3.24
	130	54	2.1	126	98.7	110	87.1	3 100	3 100	4 100	5312	5312 ZZ	5312 2RS	67.2	72	79.2	118	2	3.16
65	120	38.1	1.5	76.4	97.4	—	—	3 200	—	4 300	3213	—		76.8	73.5	—	111.5	1.5	1.75
	120	38.1	1.5	86.9	75.3	69.2	63.1	3 200	3 200	4 300	5213	5213 ZZ	5213 2RS	58.8	73.5	79.0	111.5	1.5	1.66
	140	58.7	2.1	142	153	—	—	2 900	—	3 900	3313	—		92.7	77	—	128	2	4.08
	140	58.7	2.1	142	113	142	113	2 900	2 900	3 900	5313	5313 ZZ	5313 2RS	70.9	77	85.9	128	2	3.91
70	125	39.7	1.5	77.9	96.4	—	—	3 100	—	4 100	3214	—		80.7	78.5	—	116.5	1.5	1.92
	125	39.7	1.5	94.5	82.6	76.3	70.3	3 100	3 100	4 100	5214	5214 ZZ	5214 2RS	61.4	78.5	83.5	116.5	1.5	1.81
	150	63.5	2.1	151	160	—	—	2 700	—	3 600	3314	—		99.7	82	—	138	2	5.04

[Note] 1) The maximum value of d_a is applied to shielded and sealed type bearings.

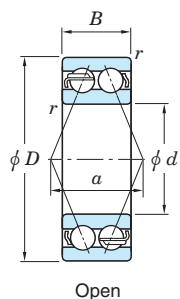
[Remark] Standard cage types used for the above bearings are described earlier in this section.

Double-row angular contact ball bearings

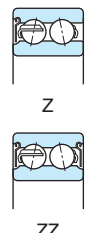
d (70) ~ 110 mm



32, 33 series
(With filling slot)



Open



Z

ZZ

Shielded

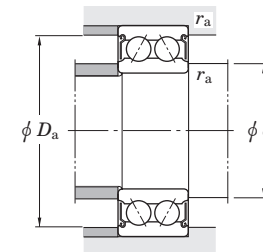
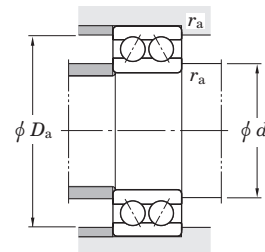


RS

2RS

Contact sealed

52, 53 series
(Without filling slot)



Boundary dimensions (mm)				Basic load ratings (kN)				Limiting speeds (min ⁻¹)			Bearing No.			Load center spread (mm)	Mounting dimensions ¹⁾ (mm)				(Refer.) Mass (kg)
d	D	B	$r_{min.}$	Open		Shielded/sealed		Grease lub.		Oil lub.	Sealed		Open α		d_a		D_a	r_a	
				C_r	C_{0r}	C_r	C_{0r}	[Open Z, ZZ]	(RS, 2RS)	[Open Z]	Open	Shielded			min.	max.	max.	max.	
70	150	63.5	2.1	160	129	160	129	2 700	2 700	3 600	5314	5314 ZZ	5314 2RS	76.0	82	92.9	138	2	4.89
75	130	41.3	1.5	92.4	120	—	—	2 900	—	3 900	3215	—	—	84.7	83.5	—	121.5	1.5	2.10
	160	68.3	2.1	169	189	—	—	2 500	—	3 300	3315	—	—	108.7	87	—	148	2	6.16
	160	68.3	2.1	174	147	174	147	2 500	2 500	3 300	5315	5315 ZZ	5315 2RS	81.5	87	99.6	148	2	5.97
80	140	44.4	2	97.5	121	—	—	2 700	—	3 600	3216	—	—	90.7	90	—	130	2	2.64
	170	68.3	2.1	184	213	—	—	2 400	—	3 100	3316	—	—	113.1	92	—	158	2	6.93
85	150	49.2	2	114	143	—	—	2 500	—	3 400	3217	—	—	98.4	95	—	140	2	3.39
	180	73	3	188	219	—	—	2 200	—	3 000	3317	—	—	118.8	99	—	166	2.5	8.30
90	160	52.4	2	132	167	—	—	2 400	—	3 100	3218	—	—	104.1	100	—	150	2	4.14
	190	73	3	205	242	—	—	2 100	—	2 800	3318	—	—	125.5	104	—	176	2.5	9.23
95	170	55.6	2.1	152	193	—	—	2 200	—	3 000	3219	—	—	110.6	107	—	158	2	5.00
	200	77.8	3	218	270	—	—	2 000	—	2 600	3319	—	—	132.2	109	—	186	2.5	10.9
100	180	60.3	2.1	172	221	—	—	2 100	—	2 800	3220	—	—	116.8	112	—	168	2	6.10
	215	82.6	3	249	324	—	—	1 800	—	2 500	3320	—	—	140.4	114	—	201	2.5	13.5
105	190	65.1	2.1	182	237	—	—	2 000	—	2 600	3221	—	—	124.2	117	—	178	2	7.37
	225	87.3	3	265	354	—	—	1 800	—	2 300	3321	—	—	148.1	119	—	211	2.5	15.6
110	200	69.8	2.1	201	263	—	—	1 900	—	2 500	3222	—	—	131.4	122	—	188	2	8.80
	240	92.1	3	281	388	—	—	1 600	—	2 200	3322	—	—	156.4	124	—	226	2.5	18.9

[Note] 1) The maximum value of d_a is applied to shielded and sealed type bearings.

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