

NOMENCLATURE

Ball Bearings

Basic Type & Series

1200: Metric, Self-aligning Light Series
1300: Metric, Self-aligning Medium Series
3200: Metric, 32° Double Row Angular Contact Light Series
3300: Metric, 32° Double Row Angular Contact Medium Series
5200: Metric, 24° Double Row Angular Contact Light Series
5300: Metric, 24° Double Row Angular Contact Medium Series
6800: Metric, Single Row Ultra Light Series
6900: Metric, Single Row Extremely Light Series
6000: Metric, Single Row Extra Light Series
6200: Metric, Single Row Light Series
6300: Metric, Single Row Medium Series
6400: Metric, Single Row Heavy Series
3NC: Ceramic Rolling Elements

Internal Clearance

C1: Smaller than C2
C2: Smaller than Standard
No code: Standard
C3: Greater than Standard
C4: Greater than C3
CD2: Smaller than Standard (Double Row BB)
No code: Standard (Double Row BB)
CD3: Greater than Standard (Double Row BB)

Tolerance Code

No Code: ABEC 1 Precision
P6: ABEC 3 Precision
P5: ABEC 5 Precision

62

05

RSH2

ZZ

C3

FY

P5

XM

Bore Size

For bore series 04 and above,
 Bore Diameter = Bore Series
 X 5
 Bore Series Bore Diameter

00:	10 mm
01:	12 mm
02:	15 mm
03:	17 mm
04:	20 mm
05:	25 mm
10:	50 mm
12:	60 mm
18:	90 mm

Internal Design Material Code

R Increased Capacity
SH2 Special Heat Treatment on Inner Ring

Retainer Codes

No Code: Pressed Steel Retainer
FY: Machined Brass Retainer
FG: Polyamide (Nylon) Retainer

Grease Code	Grease Trade Name	Operating Temperature Range
XM	Polyrex EM	-22° F to 338° F (-30 to 170 °C)
SR	Multemp SRL	-40° F to 266° F (-40 to 130 °C)
A2	Alvania #2	14° F to 212° F (-10 to 100 °C)
P2	Multemp PS2	-58° F to 266° F (-50 to 130 °C)

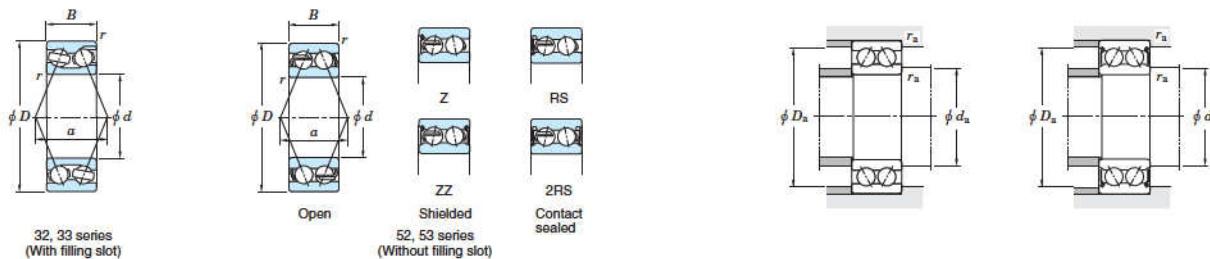
Shield / Seal/ Snap Ring Codes

One Side	Both Sides	Description	FAG	MRC	Nachi	NSK	NTN	SNR	SKF	Torrington/ Fafnir
Z	ZZ	Fixed Shield(s)	Z/ZZ	F/FF	Z/ZZ	Z/ZZ	Z/ZZ	Z/ZZ	Z/ZZ	D/DD
ZX	ZZX	Removable Shield(s)	N/A	L/LL	ZS/ZZS	ZS/ZZS	ZA/ZZA	N/A	N/A	N/A
RU	2RU	Non-contact Seal(s)	RSD/2RSD	N/A	NKE/2NKE	V/VV	LB/LLB	N/A	RZ/2RZ	PL/PPL
RS	2RS	Contact Seal(s)	RS/2RS	Z/ZZ	NSL/2NSL	DU/DDU	LU/LLU	E/EE	RS/2RS	P/PP
RK	2RK	Dbl lip Contact Seal(s)	N/A	N/A	N/A	N/A	LC/LLC	E10/EE10	N/A	Y/YY
RD	2RD	Extremely Light Contact Seal(s)	N/A	N/A	NSE/2NSE	N/A	LH/LLH	N/A	N/A	V/VV
RDT	2RDT	Same as 2RD - for Large Size Ball Bearings	N/A	N/A	NSE/2NSE	N/A	LH/LLH	N/A	N/A	V/VV
NR:		Snap Ring on Outer Ring O.D.	NR	G	NR	NR	NR	NR	NR	G

Interchange

Double-row angular contact ball bearings

d (40) ~ (70) mm



32, 33 series
(With filling slot)

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.			Open	Shielded	Sealed		d _a		D _a max.	r _a max.	
				C _r	C _{0r}	C _r	C _{0r}	[Open Z, ZZ]	[RS, 2RS]	[Open Z]				Open	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	5208 2RS	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.