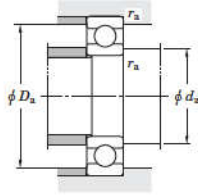
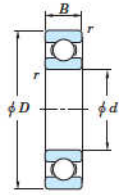


Single-row deep groove ball bearings  
open type

$d$  (30) ~ (45) mm



Boundary dimensions (mm)	Basic load ratings (kN)		Factor $f_0$	Limiting speeds (min <sup>-1</sup> )		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.
30	72	19	1.1	26.7	15.0	13.3	9 600	12 000	36.5	65.5	1	0.346	
	72	19	1.1	33.4	17.7	12.0	9 800	12 000	36.5	65.5	1	0.379	
	90	23	1.5	43.4	23.9	12.3	8 100	9 700	38	82	1.5	0.735	
32	58	13	1	15.0	9.15	14.5	12 000	14 000	37	53	1	0.127	
	65	17	1	23.5	13.1	13.3	10 000	12 000	37	60	1	0.228	
	75	20	1.1	30.1	16.2	12.7	9 300	11 000	38.5	68.5	1	0.437	
35	47	7	0.3	4.75	3.85	16.5	13 000	16 000	37	45	0.3	0.030	
	55	10	0.6	10.9	7.75	15.7	12 000	14 000	39	51	0.6	0.073	
	62	9	0.3	12.2	8.85	15.7	11 000	13 000	37	60	0.3	0.110	
	62	14	1	15.9	10.3	14.9	11 000	13 000	40	58	1	0.155	
	72	17	1.1	25.7	15.4	13.9	9 200	11 000	41.5	65.5	1	0.288	
	72	17	1.1	31.0	17.5	12.9	9 300	11 000	41.5	65.5	1	0.309	
	80	21	1.5	33.4	19.3	13.2	8 500	10 000	43	72	1.5	0.457	
	80	21	1.5	40.0	21.7	12.1	8 700	10 000	43	72	1.5	0.494	
	100	25	1.5	55.0	31.0	12.2	7 200	8 600	43	92	1.5	0.952	
	40	52	7	0.3	4.95	4.20	16.3	12 000	14 000	42	50	0.3	0.033
62		12	0.6	13.7	9.95	15.6	11 000	13 000	44	58	0.6	0.112	
68		9	0.3	12.6	9.65	16.0	9 800	12 000	42	66	0.3	0.125	
68		15	1	16.7	11.5	15.2	10 000	12 000	45	63	1	0.192	
80		18	1.1	29.1	17.8	14.0	8 300	10 000	46.5	73.5	1	0.366	
90		23	1.5	40.7	24.0	13.2	7 700	9 200	48	82	1.5	0.633	
110		27	2	63.7	36.6	12.3	6 600	7 900	49	101	2	1.23	
45		58	7	0.3	6.20	5.40	16.3	11 000	13 000	47	56	0.3	0.040
		68	12	0.6	14.1	10.9	15.9	9 700	11 000	49	64	0.6	0.132
		75	10	0.6	15.5	12.3	16.0	8 900	10 000	49	71	0.6	0.170
	75	16	1	21.0	15.1	15.3	9 200	11 000	50	70	1	0.245	
	85	19	1.1	32.7	20.3	14.0	7 700	9 200	51.5	78.5	1	0.407	
	100	25	1.5	48.9	29.5	13.3	6 800	8 100	53	92	1.5	0.833	

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

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$d$  (45) ~ (65) mm

Boundary dimensions (mm)	Basic load ratings (kN)		Factor $f_0$	Limiting speeds (min <sup>-1</sup> )		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.
45	120	29	2	77.2	45.1	12.2	6 000	7 200	6409	54	111	2	1.53	
50	65	7	0.3	6.60	6.10	16.1	9 600	11 000	6810	52	63	0.3	0.052	
	72	12	0.6	14.5	11.7	16.1	9 000	11 000	6910	54	68	0.6	0.133	
	80	10	0.6	16.0	13.3	16.2	8 200	9 700	16010	54	76	0.6	0.180	
	80	16	1	21.8	16.6	15.6	8 400	9 900	6010	55	75	1	0.261	
	90	20	1.1	35.1	23.3	14.4	7 100	8 500	6210	56.5	83.5	1	0.463	
	90	20	1.1	40.4	25.5	13.9	7 100	8 600	6210R	56.5	83.5	1	0.487	
	110	27	2	62.0	38.3	13.2	6 100	7 300	6310	59	101	2	1.07	
	130	31	2.1	83.0	49.5	12.5	5 500	6 600	6410	61	119	2	1.88	
	55	72	9	0.3	8.80	8.10	16.2	8 700	10 000	6811	57	70	0.3	0.083
		80	13	1	16.6	14.1	16.2	8 100	9 600	6911	60	75	1	0.185
90		11	0.6	19.3	16.3	16.2	7 400	8 800	16011	59	86	0.6	0.260	
90		18	1.1	28.3	21.2	15.3	7 600	8 900	6011	61.5	83.5	1	0.385	
100		21	1.5	43.4	29.4	14.4	6 300	7 600	6211	63	92	1.5	0.607	
120		29	2	71.6	45.0	13.2	5 600	6 700	6311	64	111	2	1.37	
60	140	33	2.1	100	62.3	12.2	5 000	6 000	6411	66	129	2	2.29	
	78	10	0.3	11.5	10.6	16.3	8 000	9 400	6812	62	76	0.3	0.104	
	85	13	1	20.2	17.3	16.2	7 500	8 900	6912	65	80	1	0.192	
	95	11	0.6	19.8	17.6	16.4	6 900	8 100	16012	64	91	0.6	0.280	
	95	18	1.1	29.4	23.2	15.6	7 100	8 400	6012	66.5	88.5	1	0.415	
65	110	22	1.5	52.4	36.2	14.4	5 700	6 900	6212	68	102	1.5	0.783	
	130	31	2.1	81.9	52.2	13.2	5 200	6 200	6312	71	119	2	1.70	
	150	35	2.1	110	70.8	12.4	4 600	5 500	6412	71	139	2	2.77	
	85	10	0.6	11.9	11.5	16.2	7 300	8 600	6813	69	81	0.6	0.126	
	90	13	1	17.4	16.1	16.6	7 100	8 400	6913	70	85	1	0.211	
100	11	0.6	17.1	16.0	16.5	6 600	7 800	16013	69	96	0.6	0.300		
	18	1.1	30.5	25.2	15.8	6 600	7 800	6013	71.5	93.5	1	0.435		

B 11

# NOMENCLATURE

## Ball Bearings

Basic Type & Series	
<b>1200:</b>	Metric, Self-aligning Light Series
<b>1300:</b>	Metric, Self-aligning Medium Series
<b>3200:</b>	Metric, 32° Double Row Angular Contact Light Series
<b>3300:</b>	Metric, 32° Double Row Angular Contact Medium Series
<b>5200:</b>	Metric, 24° Double Row Angular Contact Light Series
<b>5300:</b>	Metric, 24° Double Row Angular Contact Medium Series
<b>6800:</b>	Metric, Single Row Ultra Light Series
<b>6900:</b>	Metric, Single Row Extremely Light Series
<b>6000:</b>	Metric, Single Row Extra Light Series
<b>6200:</b>	Metric, Single Row Light Series
<b>6300:</b>	Metric, Single Row Medium Series
<b>6400:</b>	Metric, Single Row Heavy Series
<b>3NC:</b>	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

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**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			Interchange							
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	DbI 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