

SINGLE-ROW DEEP GROOVE BALL BEARINGS

Bore Diameter 50 – 60 mm

Dynamic Equivalent Load

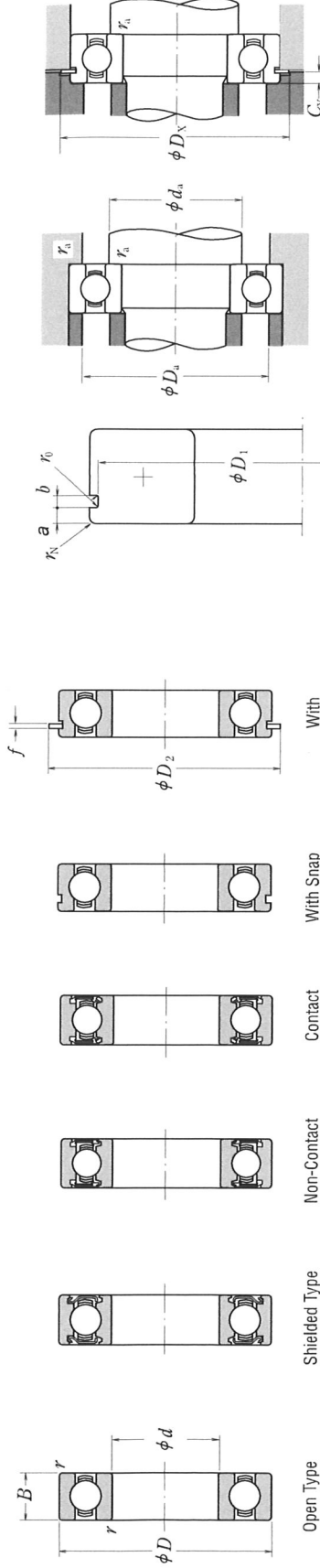
$$P = X F_r + Y F_a$$

$\frac{f_0 F_a}{C_{0r}}$	e	$\frac{F_a}{F_r} \leq e$		X	Y	$\frac{F}{F_r}$
		X	Y			
0.172	0.19	1	0	0.56		
0.345	0.22	1	0	0.56		
0.689	0.26	1	0	0.56		
1.03	0.28	1	0	0.56		
1.38	0.30	1	0	0.56		
2.07	0.34	1	0	0.56		
3.45	0.38	1	0	0.56		
5.17	0.42	1	0	0.56		
6.89	0.44	1	0	0.56		

Static Equivalent Load

$$\frac{F_r}{F_r} > 0.8, P_0 = 0.6 F_r + 0.5 F_a$$

$$\frac{F_a}{F_r} \leq 0.8, P_0 = F_r$$



Boundary Dimensions (mm)			Basic Load Ratings (N)		Factor	Limiting Speeds (min ⁻¹)				Bearing Numbers		Snap Ring Groove Dimensions (mm)			Snap Ring Dimensions (mm)		Abutment and Fillet Dimensions (mm)		
d	D	B	C _r	C _{0r}		Open Z	Grease V, VV	Oil Z	Open Z	Open	Sealed	a	b	D ₁	D ₂	f	d _a ⁽²⁾	r _a	C _y max.
50	65	7	6 400	6 200	17.2	9 500	5 300	11 000	11 000	6810	ZZ	1.30	0.95	63.7	67.8	0.85	52	63	1.8
	72	12	14 500	11 700	16.1	9 000	5 300	11 000	11 000	6910	ZZ	1.70	0.95	70.7	74.8	0.85	54	68	2.3
	80	10	15 400	12 400	16.1	8 500	—	10 000	—	16010	—	—	—	—	—	—	54	76	—
	80	16	22 900	16 600	15.6	9 500	4 800	11 000	11 000	* 6010	ZZ	—	—	—	—	—	55	75	—
	80	16	21 800	16 600	15.6	8 500	4 800	10 000	10 000	* 6210	ZZ	2.49	1.9	76.81	86.6	1.7	55	75	—
55	90	20	37 000	23 200	14.4	8 000	4 800	10 000	10 000	* 6210	ZZ	—	—	—	—	—	56.5	83.5	—
	90	20	35 000	23 200	14.4	7 100	4 800	8 500	8 500	6210	ZZ	3.28	2.7	86.79	96.5	2.46	56.5	83.5	—
	110	27	65 000	38 500	13.2	7 100	4 300	8 500	8 500	* 6310	ZZ	—	—	—	—	—	59	101	—
	110	27	62 000	38 500	13.2	6 000	4 300	7 500	7 500	6310	ZZ	3.28	2.7	106.81	116.6	2.46	59	101	—
	120	29	8 800	8 500	17.0	8 500	4 800	10 000	10 000	6811	ZZ	1.70	0.95	70.7	74.8	0.95	57	70	0.3
60	80	13	16 000	13 300	16.2	8 000	4 500	9 500	9 500	6911	ZZ	2.10	1.3	77.9	84.4	1.12	60	75	2.3
	90	11	19 400	16 300	16.2	7 500	—	9 000	9 000	16011	—	—	—	—	—	—	59	86	—
	90	18	29 700	21 200	15.3	8 500	4 500	10 000	10 000	* 6011	ZZ	—	—	—	—	—	61.5	83.5	—
	90	18	28 300	21 200	15.3	7 500	4 500	9 000	9 000	6011	ZZ	2.87	2.7	86.79	96.5	2.46	61.5	83.5	—
	100	21	45 500	29 300	14.3	7 500	4 300	9 000	9 000	* 6211	ZZ	—	—	—	—	—	63	92	1.5
60	100	21	43 500	29 300	14.3	6 300	4 300	7 500	7 500	6211	ZZ	3.28	2.7	96.8	106.5	2.46	63	92	1.5
	120	29	75 000	44 500	13.1	6 700	4 000	8 000	8 000	* 6311	ZZ	—	—	—	—	—	64	111	2
	120	29	71 500	44 500	13.1	5 600	4 000	6 700	6 700	6311	ZZ	4.06	3.1	115.21	129.7	2.82	64	111	2
	78	10	11 500	10 900	16.9	8 000	4 500	9 500	9 500	6812	ZZ	1.70	1.3	76.2	82.7	1.12	62	76	0.3
	85	13	19 400	16 300	16.2	7 500	4 300	9 000	9 000	6912	ZZ	2.10	1.3	82.9	89.4	1.12	65	80	2.5
60	95	11	20 000	17 500	16.3	7 100	—	8 500	8 500	16012	—	—	—	—	—	—	64	91	—
	95	18	31 000	23 200	15.6	8 000	4 000	9 500	9 500	* 6012	ZZ	—	—	—	—	—	66.5	88.5	—
	95	18	29 500	23 200	15.6	7 100	4 000	8 500	8 500	6012	ZZ	2.97	2.7	91.82	101.6	2.46	66.5	88.5	—
	110	22	55 000	36 000	14.3	6 700	3 800	8 000	8 000	* 6212	ZZ	—	—	—	—	—	68	102	1.5
	110	22	52 500	36 000	14.3	5 600	3 800	7 100	7 100	6212	ZZ	3.28	2.7	106.81	116.6	2.46	68	102	1.5
60	130	31	86 000	52 000	13.1	6 000	3 600	7 100	7 100	* 6312	ZZ	4.06	3.1	125.22	139.7	2.82	71	119	2
	130	31	82 000	52 000	13.1	5 300	3 600	6 300	6 300	6312	ZZ	—	—	—	—	—	71	119	2
	130	31	82 000	52 000	13.1	5 300	3 600	6 300	6 300	6312	ZZ	—	—	—	—	—	71	119	2
	130	31	82 000	52 000	13.1	5 300	3 600	6 300	6 300	6312	ZZ	—	—	—	—	—	71	119	2
	130	31	82 000	52 000	13.1	5 300	3 600	6 300	6 300	6312	ZZ	—	—	—	—	—	71	119	2

Notes (1) For tolerances for the snap ring grooves and snap ring dimensions, refer to Pages A116 to A119.

(2) When heavy axial loads are applied, increase d_a and decrease D_a from the above values.

Remarks

1. Diameter Series 7 (extra thin section bearings) are also available, please contact NSK.
2. When using bearings with rotating outer rings, contact NSK if they are sealed, shielded, or have snap ring.
3. Please consult NSK about the snap ring groove dimensions of sealed and shielded bearings when the dian