

SINGLE-ROW DEEP GROOVE BALL BEARINGS

Bore Diameter 50 – 60 mm

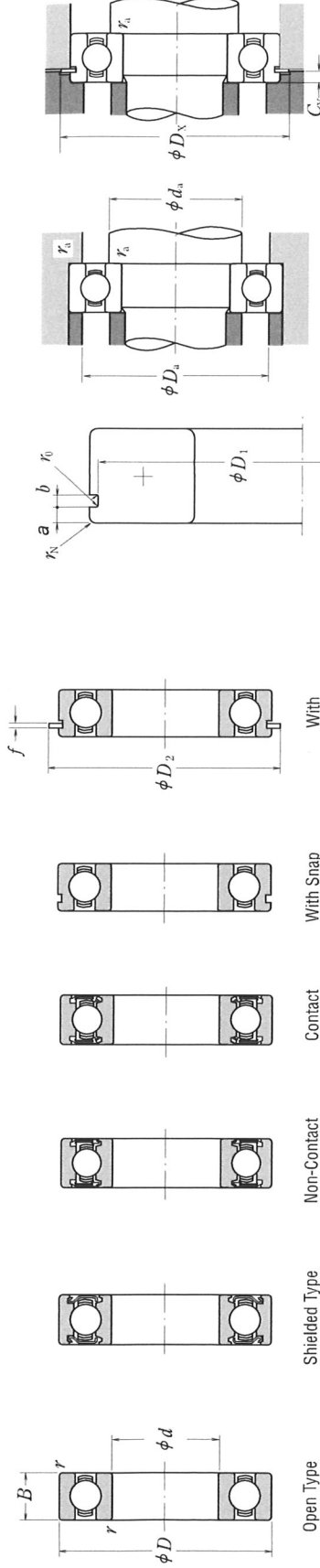
Dynamic Equivalent Load

$$P = X F_r + Y F_a$$

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

Static Equivalent Load

$$\begin{aligned} F_r &> 0.8, P_0 = 0.6 F_r + 0.5 F_a \\ F_r &\leq 0.8, P_0 = F_r \end{aligned}$$



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	r	C _r	C _{0r}	f ₀	Open Z ₁ V	Grease DU V V	Oil Open Z	Open	Shielded	Sealed	a	b	D ₁	r ₀	r _N	D ₂	f	d _a ⁽²⁾	max.	D _a ⁽²⁾	r _a	D _x	C _y	max.
50	65	7	0.3	6 400	6 200	17.2	9 500	5 300	11 000	11 000	6810	VV	DDU	1.30	0.95	63.7	0.25	0.3	67.8	0.85	52	52.5	63	0.3	68.5	1.8
	72	12	0.6	14 500	11 700	16.1	9 000	5 300	11 000	11 000	6910	VV	DDU	1.70	0.95	70.7	0.25	0.5	74.8	0.85	54	55	68	0.6	76	2.3
	80	10	0.6	15 400	12 400	16.1	8 500	—	10 000	—	16010	—	—	—	—	—	—	—	—	—	54	—	76	0.6	—	—
	80	16	1	22 900	16 600	15.6	9 500	4 800	11 000	11 000	* 6010	VV	DDU	—	—	—	—	—	—	—	55	58.5	75	1	—	—
	80	16	1	21 800	16 600	15.6	8 500	4 800	10 000	10 000	* 6010	VV	DDU	2.49	1.9	76.81	0.6	0.5	86.6	1.7	55	58.5	75	1	88	3.8
55	90	20	1.1	37 000	23 200	14.4	8 000	4 800	10 000	10 000	* 6210	VV	DDU	—	—	—	—	—	—	—	56.5	60	83.5	1	—	—
	90	20	1.1	35 000	23 200	14.4	7 100	4 800	8 500	8 500	6210	VV	DDU	3.28	2.7	86.79	0.6	0.5	96.5	2.46	56.5	60	83.5	1	98	5.4
	110	27	2	65 000	38 500	13.2	7 100	4 300	8 500	8 500	* 6310	VV	DDU	—	—	—	—	—	—	—	59	68	101	2	—	—
	110	27	2	62 000	38 500	13.2	6 000	4 300	7 500	7 500	6310	VV	DDU	3.28	2.7	106.81	0.6	0.5	116.6	2.46	59	68	101	2	118	5.4
	120	29	2	8 500	8 500	17.0	8 500	4 800	10 000	10 000	6811	VV	DDU	1.70	0.95	70.7	0.25	0.3	74.8	0.85	57	59	70	0.3	76	2.3
60	80	13	1	16 000	13 300	16.2	8 000	4 500	9 500	9 500	6911	VV	DDU	2.10	1.3	77.9	0.4	0.5	84.4	1.12	60	61.5	75	1	86	2.9
	90	11	0.6	19 400	16 300	16.2	7 500	—	9 000	9 000	16011	—	—	—	—	—	—	—	—	—	59	—	86	0.6	—	—
	90	18	1.1	29 700	21 200	15.3	8 500	4 500	10 000	10 000	* 6011	VV	DDU	—	—	—	—	—	—	—	61.5	64	83.5	1	—	—
	90	18	1.1	28 300	21 200	15.3	7 500	4 500	9 000	9 000	6011	VV	DDU	2.87	2.7	86.79	0.6	0.5	96.5	2.46	61.5	64	83.5	1	98	5
	100	21	1.5	45 500	29 300	14.3	7 500	4 300	9 000	9 000	* 6211	VV	DDU	—	—	—	—	—	—	—	63	66.5	92	1.5	—	—
60	100	21	1.5	43 500	29 300	14.3	6 300	4 300	7 500	7 500	6211	VV	DDU	3.28	2.7	96.8	0.6	0.5	106.5	2.46	63	66.5	92	1.5	108	5.4
	120	29	2	75 000	44 500	13.1	6 700	4 000	8 000	8 000	* 6311	VV	DDU	—	—	—	—	—	—	—	64	72.5	111	2	—	—
	120	29	2	71 500	44 500	13.1	5 600	4 000	6 700	6 700	6311	VV	DDU	4.06	3.1	115.21	0.6	0.5	129.7	2.82	64	72.5	111	2	131.5	6.5
	78	10	0.3	11 500	10 900	16.9	8 000	4 500	9 500	9 500	6812	VV	DD	1.70	1.3	76.2	0.4	0.3	82.7	1.12	62	64	76	0.3	84	2.5
	85	13	1	19 400	16 300	16.2	7 500	4 300	9 000	9 000	6912	VV	DDU	2.10	1.3	82.9	0.4	0.5	89.4	1.12	65	66	80	1	91	2.9
60	95	11	0.6	20 000	17 500	16.3	7 100	—	8 500	8 500	16012	—	—	—	—	—	—	—	—	—	64	—	91	0.6	—	—
	95	18	1.1	31 000	23 200	15.6	8 000	4 000	9 500	9 500	* 6012	VV	DDU	—	—	—	—	—	—	—	66.5	69	88.5	1	—	—
	95	18	1.1	29 500	23 200	15.6	7 100	4 000	8 500	8 500	6012	VV	DDU	2.87	2.7	91.82	0.6	0.5	101.6	2.46	66.5	69	88.5	1	103	5
	110	22	1.5	55 000	36 000	14.3	6 700	3 800	8 000	8 000	* 6212	VV	DDU	—	—	—	—	—	—	—	68	74.5	102	1.5	—	—
	110	22	1.5	52 500	36 000	14.3	5 600	3 800	7 100	7 100	6212	VV	DDU	3.28	2.7	106.81	0.6	0.5	116.6	2.46	68	74.5	102	1.5	118	5.4
60	130	31	2.1	86 000	52 000	13.1	6 000	3 600	7 100	7 100	* 6312	VV	DDU	4.06	3.1	125.22	0.6	0.5	139.7	2.82	71	79	119	2	—	—
	130	31	2.1	82 000	52 000	13.1	5 300	3 600	6 300	6 300	6312	VV	DDU	—	—	—	—	—	—	—	71	79	119	2	141.5	6.5

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

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