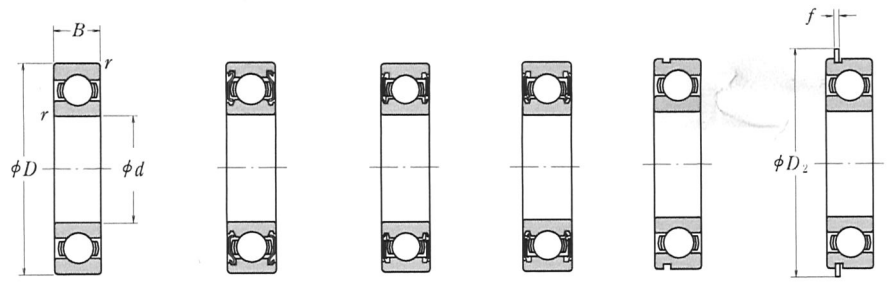
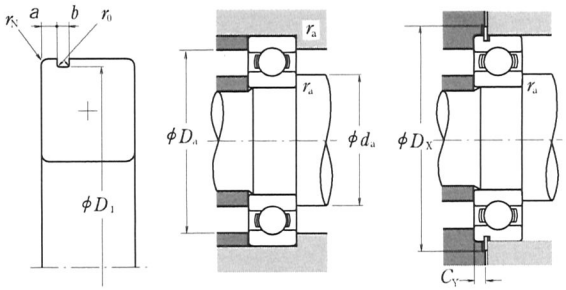
SINGLE-ROW DEEP GROOVE BALL BEARINGS

Bore Diameter 10 – 17 mm



Open Type | Shielded Type ZZ | Non-Contact Sealed Type VV | Contact Sealed Type DD · DDU | With Snap Ring Groove N | With Snap Ring NR



Dynamic Equivalent Load

$P = XF_r + YF_a$

$\frac{f_0 F_a}{C_{0r}}$	e	$\frac{F_a}{F_r} \leqq e$		$\frac{F_a}{F_r} > e$	
		X	Y	X	Y
0.172	0.19	1	0	0.56	2.30
0.345	0.22	1	0	0.56	1.99
0.689	0.26	1	0	0.56	1.71
1.03	0.28	1	0	0.56	1.55
1.38	0.30	1	0	0.56	1.45
2.07	0.34	1	0	0.56	1.31
3.45	0.38	1	0	0.56	1.15
5.17	0.42	1	0	0.56	1.04
6.89	0.44	1	0	0.56	1.00

Static Equivalent Load

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

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

Boundary Dimensions (mm)				Basic Load Ratings (N)		Factor	Limiting Speeds (min⁻¹) Grease		Limiting Speeds (min⁻¹) Oil	Bearing Numbers						Snap Ring Groove Dimensions (1) (mm)					Snap Ring (1) Dimensions (mm)		Abutment and Fillet Dimensions (mm)						Mass (kg)
d	D	B	r min.	C_r	C_{0r}	f_0	Open Z · ZZ V · VV	DU DDU	Open Z	Open	Shielded	Sealed			With Snap Ring Groove	With Snap Ring	a max.	b min.	D_1 max.	r_0 max.	r_N min.	D_2 max.	f max.	d_a(2) min.	d_a(2) max.	D_a(2) max.	r_a max.	D_X min.	C_Y max.	approx.
10	19	5	0.3	1 720	840	14.8	34 000	24 000	40 000	6800	ZZ	VV	DD		—	—	—	—	—	—	—	—	—	12	12	17	0.3	—	—	0.005
	22	6	0.3	2 700	1 270	14.0	32 000	22 000	38 000	6900	ZZ	VV	DD		N(3)	NR(3)	1.05	0.8	20.8	0.2	0.2	24.8	0.7	12	12.5	20	0.3	25.5	1.5	0.009
	26	8	0.3	4 550	1 970	12.4	30 000	22 000	36 000	6000	ZZ	VV	DDU		N(4)	NR(4)	1.35	0.87	24.5	0.2	0.3	28.7	0.84	12	13	24	0.3	29.4	1.9	0.018
	30	9	0.6	5 350	2 390	13.2	28 000	18 000	34 000	* 6200	ZZ	VV	DDU		—	—	—	—	—	—	—	—	—	14	16	26	0.6	—	—	0.032
	30	9	0.6	5 100	2 390	13.2	24 000	18 000	30 000	6200	ZZ	VV	DDU		N	NR	2.06	1.35	28.17	0.4	0.5	34.7	1.12	14	16	26	0.6	35.5	2.9	0.032
	35	11	0.6	8 500	3 450	11.2	26 000	17 000	30 000	* 6300	ZZ	VV	DDU		—	—	—	—	—	—	—	—	—	14	16.5	31	0.6	—	—	0.052
	35	11	0.6	8 100	3 450	11.2	22 000	17 000	26 000	6300	ZZ	VV	DDU		N	NR	2.06	1.35	33.17	0.4	0.5	39.7	1.12	14	16.5	31	0.6	40.5	2.9	0.052
12	21	5	0.3	1 920	1 040	15.3	32 000	20 000	38 000	6801	ZZ	VV	DD		—	—	—	—	—	—	—	—	—	14	14	19	0.3	—	—	0.006
	24	6	0.3	2 890	1 460	14.5	30 000	20 000	36 000	6901	ZZ	VV	DD		N(3)	NR(3)	1.05	0.8	22.8	0.2	0.2	26.8	0.7	14	14.5	22	0.3	27.5	1.5	0.010
	28	7	0.3	5 100	2 370	13.0	28 000	—	32 000	16001	—	—	—		—	—	—	—	—	—	—	—	—	14	—	26	0.3	—	—	0.019
	28	8	0.3	5 350	2 370	13.0	32 000	18 000	38 000	* 6001	ZZ	VV	DDU		—	—	—	—	—	—	—	—	—	14	15.5	26	0.3	—	—	0.022
	28	8	0.3	5 100	2 370	13.0	28 000	18 000	32 000	6001	ZZ	VV	DDU		N(4)	NR(4)	1.35	0.87	26.5	0.2	0.3	30.7	0.84	14	15.5	26	0.3	31.4	1.9	0.022
	32	10	0.6	7 150	3 050	12.3	26 000	17 000	32 000	* 6201	ZZ	VV	DDU		—	—	—	—	—	—	—	—	—	16	17	28	0.6	—	—	0.037
	32	10	0.6	6 800	3 050	12.3	22 000	17 000	28 000	6201	ZZ	VV	DDU		N	NR	2.06	1.35	30.15	0.4	0.5	36.7	1.12	16	17	28	0.6	37.5	2.9	0.037
	37	12	1	10 200	4 200	11.1	24 000	16 000	28 000	* 6301	ZZ	VV	DDU		—	—	—	—	—	—	—	—	—	17	18	32	1	—	—	0.060
	37	12	1	9 700	4 200	11.1	20 000	16 000	24 000	6301	ZZ	VV	DDU		N	NR	2.06	1.35	34.77	0.4	0.5	41.3	1.12	17	18	32	1	42	2.9	0.060
15	24	5	0.3	2 070	1 260	15.8	28 000	17 000	34 000	6802	ZZ	VV	DD		—	—	—	—	—	—	—	—	—	17	17	22	0.3	—	—	0.007
	28	7	0.3	4 350	2 260	14.3	26 000	17 000	30 000	6902	ZZ	VV	DD		N(3)	NR(3)	1.30	0.95	26.7	0.25	0.3	30.8	0.85	17	17	26	0.3	31.5	1.8	0.015
	32	8	0.3	5 600	2 830	13.9	24 000	—	28 000	16002	—	—	—		—	—	—	—	—	—	—	—	—	17	—	30	0.3	—	—	0.027
	32	9	0.3	5 850	2 830	13.9	26 000	15 000	32 000	* 6002	ZZ	VV	DDU		—	—	—	—	—	—	—	—	—	17	19	30	0.3	—	—	0.031
	32	9	0.3	5 600	2 830	13.9	24 000	15 000	28 000	6002	ZZ	VV	DDU		N	NR	2.06	1.35	30.15	0.4	0.3	36.7	1.12	17	19	30	0.3	37.5	2.9	0.031
	35	11	0.6	8 000	3 750	13.2	22 000	14 000	28 000	* 6202	ZZ	VV	DDU		—	—	—	—	—	—	—	—	—	19	20.5	31	0.6	—	—	0.045
	35	11	0.6	7 650	3 750	13.2	20 000	14 000	24 000	6202	ZZ	VV	DDU		N	NR	2.06	1.35	33.17	0.4	0.5	39.7	1.12	19	20.5	31	0.6	40.5	2.9	0.045
	42	13	1	12 000	5 450	12.3	19 000	13 000	24 000	* 6302	ZZ	VV	DDU		—	—	—	—	—	—	—	—	—	20	22.5	37	1	—	—	0.083
	42	13	1	11 400	5 450	12.3	17 000	13 000	20 000	6302	ZZ	VV	DDU		N	NR	2.06	1.35	39.75	0.4	0.5	46.3	1.12	20	22.5	37	1	47	2.9	0.083
17	26	5	0.3	2 630	1 570	15.7	26 000	15 000	30 000	6803	ZZ	VV	DD		—	—	—	—	—	—	—	—	—	19	19	24	0.3	—	—	0.007
	30	7	0.3	4 600	2 550	14.7	24 000	15 000	28 000	6903	ZZ	VV	DDU		N(3)	NR(3)	1.30	0.95	28.7	0.25	0.3	32.8	0.85	19	19.5	28	0.3	33.5	1.8	0.017
	35	8	0.3	6 000	3 250	14.4	22 000	—	26 000	16003	—	—	—		—	—	—	—	—	—	—	—	—	19	—	33	0.3	—	—	0.033
	35	10	0.3	6 300	3 250	14.4	24 000	13 000	28 000	* 6003	ZZ	VV	DDU		—	—	—	—	—	—	—	—	—	19	21.5	33	0.3	—	—	0.041
	35	10	0.3	6 000	3 250	14.4	22 000	13 000	26 000	6003	ZZ	VV	DDU		N	NR	2.06	1.35	33.17	0.4	0.3	39.7	1.12	19	21.5	33	0.3	40.5	2.9	0.041
	40	12	0.6	10 100	4 800	13.2	20 000	12 000	24 000	* 6203	ZZ	VV	DDU		—	—	—	—	—	—	—	—	—	21	23.5	36	0.6	—	—	0.067
	40	12	0.6	9 550	4 800	13.2	17 000	12 000	20 000	6203	ZZ	VV	DDU		N	NR	2.06	1.35	38.1	0.4	0.5	44.6	1.12	21	23.5	36	0.6	45.5	2.9	0.067
	47	14	1	14 300	6 650	12.4	17 000	11 000	20 000	* 6303	ZZ	VV	DDU		—	—	—	—	—	—	—	—	—	22	25.5	42	1	—	—	0.113
	47	14	1	13 600	6 650	12.4	15 000	11 000	18 000	6303	ZZ	VV	DDU		N	NR	2.46	1.35	44.6	0.4	0.5	52.7	1.12	22	25.5	42	1	53.5	3.3	0.113

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.
(3) Ring types N and NR applicable only to open-type bearings. Please consult NSK about the snap ring groove dimensions of sealed or shielded bearings.
(4) Snap ring groove dimensions and snap ring dimensions are not conformed to ISO15.

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 rings.
3. The bearings denoted by an asterisk(*) are NSKHPS™ Deep groove ball bearings.