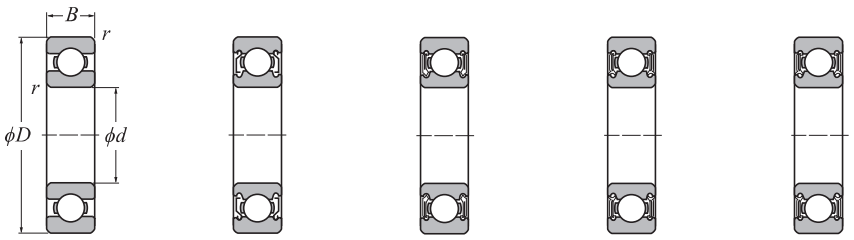
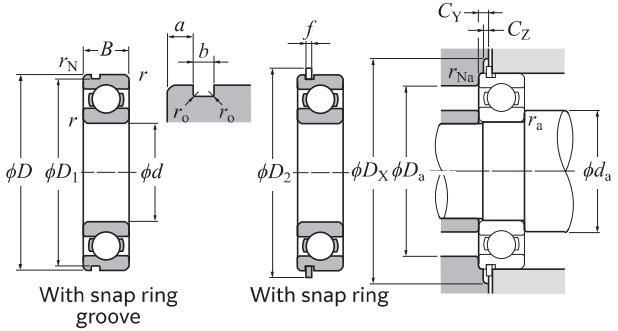


Open type | Shielded type (ZZ) | Non-contact sealed type (LLB, LLF) | Low torque sealed type (LLH) | Contact sealed type (LLU)

d 10–20 mm

Boundary dimensions mm				Basic load rating dynamic kN	static kN	Fatigue load limit kN	Factor	Allowable speed min^{-1} Grease Open type ZZ, LLB, LLF Z, LB, LF	Oil Open type Z, LB, LF	LLH LH	LLU LU	Bearing number Open type	Shielded or sealed type 2) (See drawings)			
d	D	B	$r_{s\,min}$ 1)	r_{Ns} Min.	C_r	C_{0r}	C_u	f_0								
10	15	3	0.1	—	0.950	0.435	0.018	15.7	10 000	12 000	—	—	6700	—	—	—	—
	19	5	0.3	—	2.03	0.925	0.072	14.8	32 000	38 000	—	24 000	6800	ZZ	LLB	—	LLU
	22	6	0.3	0.3	2.99	1.27	0.099	14.0	30 000	36 000	25 000	21 000	6900	ZZ	LLB	LLH	LLU
	26	8	0.3	—	5.05	1.96	0.138	12.4	29 000	34 000	25 000	21 000	6000	ZZ	LLB	LLH	LLU
	30	9	0.6	0.5	5.65	2.39	0.182	13.2	25 000	30 000	21 000	18 000	6200	ZZ	LLB	LLH	LLU
	35	11	0.6	0.5	9.10	3.50	0.273	11.4	23 000	27 000	20 000	16 000	6300	ZZ	LLB	LLH	LLU
12	18	4	0.2	—	1.03	0.530	0.021	16.2	8 300	9 500	—	—	6701	—	LLF	—	—
	21	5	0.3	—	2.12	1.04	0.080	15.3	29 000	35 000	—	20 000	6801	ZZ	LLB	—	LLU
	24	6	0.3	0.3	3.20	1.46	0.115	14.5	27 000	32 000	22 000	19 000	6901	ZZ	LLB	LLH	LLU
	28	7	0.3	—	5.65	2.39	0.187	13.2	26 000	30 000	—	—	16001JRX	—	—	—	—
	28	8	0.3	—	5.65	2.39	0.182	13.2	26 000	30 000	21 000	18 000	6001JRX	ZZ	LLB	LLH	LLU
	32	10	0.6	0.5	6.75	2.75	0.214	12.7	22 000	26 000	20 000	16 000	6201	ZZ	LLB	LLH	LLU
	37	12	1	0.5	10.8	4.20	0.325	11.1	20 000	24 000	19 000	15 000	6301	ZZ	LLB	LLH	LLU
15	21	4	0.2	—	1.04	0.585	0.024	16.5	6 600	7 600	—	—	6702	—	LLF	—	—
	24	5	0.3	—	2.30	1.26	0.091	15.8	26 000	31 000	—	17 000	6802	ZZ	LLB	—	LLU
	28	7	0.3	0.3	4.05	2.00	0.157	14.8	24 000	28 000	—	16 000	6902	ZZ	LLB	—	LLU
	32	8	0.3	—	6.20	2.84	0.222	13.9	22 000	26 000	—	—	16002	—	—	—	—
	32	9	0.3	0.3	6.20	2.84	0.199	13.9	22 000	26 000	18 000	15 000	6002	ZZ	LLB	LLH	LLU
	35	11	0.6	0.5	8.60	3.60	0.279	12.7	19 000	23 000	18 000	15 000	6202	ZZ	LLB	LLH	LLU
	42	13	1	0.5	12.7	5.45	0.425	12.3	17 000	21 000	15 000	12 000	6302	ZZ	LLB	LLH	LLU
17	23	4	0.2	—	1.11	0.660	0.027	16.3	5 000	6 700	—	—	6703	—	LLF	—	—
	26	5	0.3	—	2.47	1.46	0.102	16.1	24 000	28 000	—	15 000	6803	ZZ	LLB	—	LLU
	30	7	0.3	0.3	5.15	2.58	0.202	14.7	22 000	26 000	—	14 000	6903JRX	ZZ	LLB	—	LLU
	35	8	0.3	—	7.55	3.35	0.263	13.6	20 000	24 000	—	—	16003	—	—	—	—
	35	10	0.3	0.3	7.55	3.35	0.243	13.6	20 000	24 000	16 000	14 000	6003	ZZ	LLB	LLH	LLU
	40	12	0.6	0.5	10.6	4.60	0.355	12.8	18 000	21 000	15 000	12 000	6203	ZZ	LLB	LLH	LLU
	47	14	1	0.5	15.0	6.55	0.510	12.2	16 000	19 000	14 000	11 000	6303	ZZ	LLB	LLH	LLU
	62	17	1.1	—	25.2	10.8	0.840	11.1	14 000	16 000	—	—	6403	ZZ	—	—	—
20	27	4	0.2	—	1.15	0.730	0.031	16.1	5 000	5 700	—	—	6704	—	LLF	—	—
	32	7	0.3	0.3	4.45	2.47	0.185	15.5	21 000	25 000	—	13 000	6804JR	ZZ	LLB	—	LLU
	37	9	0.3	0.3	7.05	3.70	0.288	14.7	19 000	23 000	—	12 000	6904	ZZ	LLB	—	LLU
	42	8	0.3	—	8.75	4.50	0.350	14.5	18 000	21 000	—	—	16004	—	—	—	—
	42	12	0.6	0.5	10.4	5.05	0.355	13.9	18 000	21 000	13 000	11 000	6004	ZZ	LLB	LLH	LLU
	47	14	1	0.5	14.2	6.65	0.505	13.2	16 000	18 000	12 000	10 000	6204	ZZ	LLB	LLH	LLU
	52	15	1.1	0.5	17.6	7.90	0.615	12.4	14 000	17 000	12 000	10 000	6304	ZZ	LLB	LLH	LLU

1) Smallest allowable dimension for chamfer dimension r. 2) This bearing number is for double sealed and double shielded type bearings, but single sealed and single shielded type are also available.



With snap ring groove | With snap ring

Dynamic equivalent radial load

$P_r = XF_r + YF_a$

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

Static equivalent radial load

$P_{0r} = 0.6F_r + 0.5F_a$

When $P_{0r} < F_r$ use $P_{0r} = F_r$.

Bearing number Groove / Snap ring 3) (See drawings)		Snap ring groove dimensions mm D_1 Max.	a Max.	b Min.	r_o Max.	Snap ring dimensions mm D_2 Max.	f Max.	Installation-related dimensions mm d_a Min.	d_a Max.4)	D_a Max.	D_X (approx.)	C_Y Max.	C_Z Min.	r_{as} Max.	r_{Nas} Max.	Mass 5) kg (approx.)
—	—	—	—	—	—	—	—	10.8	—	14.2	—	—	—	0.1	—	0.0015
—	—	—	—	—	—	—	—	12	12.5	17	—	—	—	0.3	—	0.005
N	NR	20.8	1.05	0.8	0.2	24.8	0.7	12	13	20	25.5	1.5	0.7	0.3	0.3	0.009
—6)	—6)	—	—	—	—	—	—	12	13.5	24	—	—	—	0.3	—	0.019
N	NR	28.17	2.06	1.35	0.4	34.7	1.12	14	16	26	35.5	2.9	1.2	0.6	0.5	0.032
N	NR	33.17	2.06	1.35	0.4	39.7	1.12	14	17	31	40.5	2.9	1.2	0.6	0.5	0.053
—	—	—	—	—	—	—	—	13.6	13.8	16.4	—	—	—	0.2	—	0.002
—	—	—	—	—	—	—	—	14	14.5	19	—	—	—	0.3	—	0.006
N	NR	22.8	1.05	0.8	0.2	26.8	0.7	14	15	22	27.5	1.5	0.7	0.3	0.3	0.011
—	—	—	—	—	—	—	—	14	—	26	—	—	—	0.3	—	0.019
NX2	NX2RX3	26.44	2.20	0.90	0.3	32.7	0.85	14	16	26	33.4	2.8	0.9	0.3	0.3	0.021
N	NR	30.15	2.06	1.35	0.4	36.7	1.12	16	17	28	37.5	2.9	1.2	0.6	0.5	0.037
N	NR	34.77	2.06	1.35	0.4	41.3	1.12	17	18.5	32	42	2.9	1.2	1	0.5	0.06
—	—	—	—	—	—	—	—	16.6	16.8	19.4	—	—	—	0.2	—	0.0025
—	—	—	—	—	—	—	—	17	17.5	22	—	—	—	0.3	—	0.007
N	NR	26.7	1.3	0.95	0.25	30.8	0.85	17	17.5	26	31.5	1.9	0.9	0.3	0.3	0.016
—	—	—	—	—	—	—	—	17	—	30	—	—	—	0.3	—	0.025
N	NR	30.15	2.06	1.35	0.4	36.7	1.12	17	19	30	37.5	2.9	1.2	0.3	0.3	0.03
N	NR	33.17	2.06	1.35	0.4	39.7	1.12	19	20	31	40.5	2.9	1.2	0.6	0.5	0.045
N	NR	39.75	2.06	1.35	0.4	46.3	1.12	20	23	37	47	2.9	1.2	1	0.5	0.082
—	—	—	—	—	—	—	—	18.6	18.8	21.4	—	—	—	0.2	—	0.0025
—	—	—	—	—	—	—	—	19	19.5	24	—	—	—	0.3	—	0.008
N	NR	28.7	1.3	0.95	0.25	32.8	0.85	19	20	28	33.5	1.9	0.9	0.3	0.3	0.018
—	—	—	—	—	—	—	—	19	—	33	—	—	—	0.3	—	0.032
N	NR	33.17	2.06	1.35	0.4	39.7	1.12	19	21	33	40.5	2.9	1.2	0.3	0.3	0.039
N	NR	38.1	2.06	1.35	0.4	44.6	1.12	21	23	36	45.5	2.9	1.2	0.6	0.5	0.066
N	NR	44.6	2.46	1.35	0.4	52.7	1.12	22	25	42	53.5	3.3	1.2	1	0.5	0.115
—	—	—	—	—	—	—	—	23.5	30	55.5	—	—	—	1	—	0.27
—	—	—	—	—	—	—	—	21.6	22.3	25.4	—	—	—	0.2	—	0.0045
N	NR	30.7	1.3	0.95	0.25	34.8	0.85	22	22.5	30	35.5	1.9	0.9	0.3	0.3	0.019
N	NR	35.7	1.7	0.95	0.25	39.8	0.85	22	24	35	40.5	2.3	0.9	0.3	0.3	0.036
—	—	—	—	—	—	—	—	22	—	40	—	—	—	0.3	—	0.051
N	NR	39.75	2.06	1.35	0.4	46.3	1.12	24	26	38	47	2.9	1.2	0.6	0.5	0.069
N	NR	44.6	2.46	1.35	0.4	52.7	1.12	25	28	42	53.5	3.3	1.2	1	0.5	0.106
N	NR	49.73	2.46	1.35	0.4	57.9	1.12	26.5	28.5	45.5	58.5	3.3	1.2	1	0.5	0.144

3) Sealed and shielded bearings are also available. 4) This dimension applies to sealed and shielded bearings.
5) Does not include bearings with snap rings. 6) Refer to page B-54.