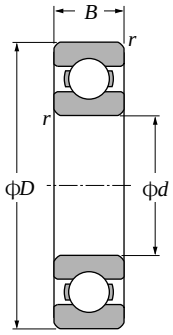
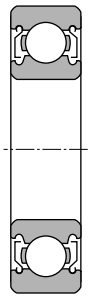
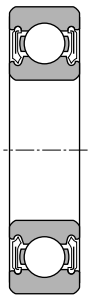


Open type



Shielded type (ZZ)



Non-contact sealed type (LLB, LLF)

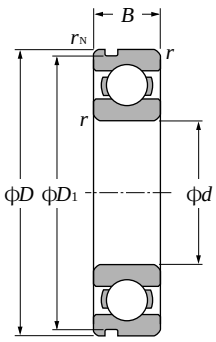
Low torque sealed type (LLH)

Contact sealed type (LLU)

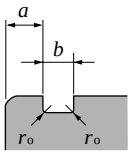
d 10～20mm

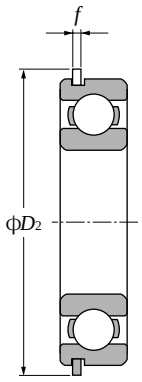
Boundary dimensions					Basic load ratings				Factor	Limiting speeds				Bearing numbers				
					dynamic	static	dynamic	static								non-contact	low torque	
	mm				kN		kgf			grease	oil					sealed	sealed	contact sealed
d	*D*	*B*	$r_{s\,min}$[1]	r_{NS} min	C_r	C_{or}	C_r	C_{or}	f_o	open type ZZ LLB	open type Z LB	LLH	LLU	open type	shielded type			
10	15	3	0.1	—	0.855	0.435	87	44	15.7	10 000	12 000	—	—	**6700**	—	—	—	—
	19	5	0.3	—	1.83	0.925	187	94	14.8	32 000	38 000	—	24 000	**6800**	ZZ	LLB	—	LLU
	22	6	0.3	0.3	2.7	1.27	275	129	14.0	30 000	36 000	—	21 000	**6900**	ZZ	LLB	—	LLU
	26	8	0.3	—	4.55	1.96	465	200	12.4	29 000	34 000	25 000	21 000	**6000**	ZZ	LLB	LLH	LLU
	30	9	0.6	0.5	5.10	2.39	520	244	13.2	25 000	30 000	21 000	18 000	**6200**	ZZ	LLB	LLH	LLU
	35	11	0.6	0.5	8.20	3.50	835	355	11.4	23 000	27 000	20 000	16 000	**6300**	ZZ	LLB	LLH	LLU
12	18	4	0.2	—	0.930	0.530	95	54	16.2	8 300	9 500	—	—	**6701**	—	LLF	—	—
	21	5	0.3	—	1.92	1.04	195	106	15.3	29 000	35 000	—	20 000	**6801**	ZZ	LLB	—	LLU
	24	6	0.3	0.3	2.89	1.46	295	149	14.5	27 000	32 000	—	19 000	**6901**	ZZ	LLB	—	LLU
	28	7	0.3	—	5.10	2.39	520	244	13.2	26 000	30 000	—	—	**16001**	—	—	—	—
	28	8	0.3	—	5.10	2.39	520	244	13.2	26 000	30 000	21 000	18 000	**6001**	ZZ	LLB	LLH	LLU
	32	10	0.6	0.5	6.10	2.75	620	280	12.7	22 000	26 000	20 000	16 000	**6201**	ZZ	LLB	LLH	LLU
	37	12	1	0.5	9.70	4.20	990	425	11.1	20 000	24 000	19 000	15 000	**6301**	ZZ	LLB	LLH	LLU
15	21	4	0.2	—	0.940	0.585	96	59	16.5	6 600	7 600	—	—	**6702**	—	LLF	—	—
	24	5	0.3	—	2.08	1.26	212	128	15.8	26 000	31 000	—	17 000	**6802**	ZZ	LLB	—	LLU
	28	7	0.3	0.3	3.65	2.00	375	204	14.8	24 000	28 000	—	16 000	**6902**	ZZ	LLB	—	LLU
	32	8	0.3	—	5.60	2.83	570	289	13.9	22 000	26 000	—	—	**16002**	—	—	—	—
	32	9	0.3	0.3	5.60	2.83	570	289	13.9	22 000	26 000	18 000	15 000	**6002**	ZZ	LLB	LLH	LLU
	35	11	0.6	0.5	7.75	3.60	790	365	12.7	19 000	23 000	18 000	15 000	**6202**	ZZ	LLB	LLH	LLU
	42	13	1	0.5	11.4	5.45	1 170	555	12.3	17 000	21 000	15 000	12 000	**6302**	ZZ	LLB	LLH	LLU
17	23	4	0.2	—	1.00	0.660	102	67	16.3	5 000	6 700	—	—	**6703**	—	LLF	—	—
	26	5	0.3	—	2.23	1.46	227	149	16.1	24 000	28 000	—	15 000	**6803**	ZZ	LLB	—	LLU
	30	7	0.3	0.3	4.65	2.58	475	263	14.7	22 000	26 000	—	14 000	**6903**	ZZ	LLB	—	LLU
	35	8	0.3	—	6.80	3.35	695	345	13.6	20 000	24 000	—	—	**16003**	—	—	—	—
	35	10	0.3	0.3	6.80	3.35	695	345	13.6	20 000	24 000	16 000	14 000	**6003**	ZZ	LLB	LLH	LLU
	40	12	0.6	0.5	9.60	4.60	980	465	12.8	18 000	21 000	15 000	12 000	**6203**	ZZ	LLB	LLH	LLU
	47	14	1	0.5	13.5	6.55	1 380	665	12.2	16 000	19 000	14 000	11 000	**6303**	ZZ	LLB	LLH	LLU
	62	17	1.1	—	22.7	10.8	2 320	1 100	11.1	14 000	16 000	—	—	**6403**	—	—	—	—
20	27	4	0.2	—	1.04	0.730	106	74	16.1	5 000	5 700	—	—	**6704**	—	LLF	—	—
	32	7	0.3	0.3	4.00	2.47	410	252	15.5	21 000	25 000	—	13 000	**6804**	ZZ	LLB	—	LLU
	37	9	0.3	0.3	6.40	3.70	650	375	14.7	19 000	23 000	—	12 000	**6904**	ZZ	LLB	—	LLU
	42	8	0.3	—	7.90	4.50	810	455	14.5	18 000	21 000	—	—	**16004**	—	—	—	—
	42	12	0.6	0.5	9.40	5.05	955	515	13.9	18 000	21 000	13 000	11 000	**6004**	ZZ	LLB	LLH	LLU
	47	14	1	0.5	12.8	6.65	1 310	680	13.2	16 000	18 000	12 000	10 000	**6204**	ZZ	LLB	LLH	LLU
	52	15	1.1	0.5	15.9	7.90	1 620	805	12.4	14 000	17 000	12 000	10 000	**6304**	ZZ	LLB	LLH	LLU

1）Smallest allowable dimension for chamfer dimension *r*.

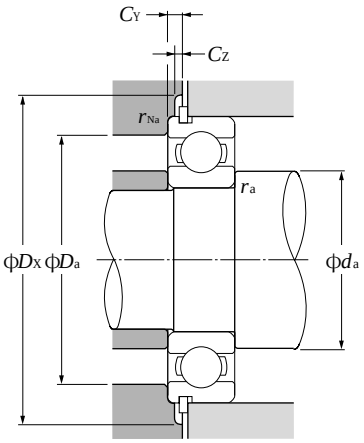


With snap ring groove





With snap ring



Dynamic equivalent radial load

$P_r = XF_r + YF_a$

$\frac{f_o \cdot F_a}{C_{or}}$	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				1.99
0.689	0.26				1.71
1.03	0.28				1.55
1.38	0.30				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

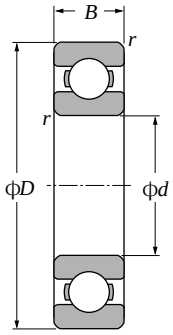
Static equivalent radial load

$P_{or} = 0.6F_r + 0.5F_a$

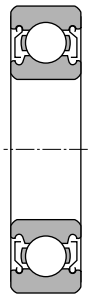
When $P_{or} < F_r$ use $P_{or} = F_r$

Bearing numbers		Snap ring groove dimensions mm				Snap ring dimensions mm		Abutment and fillet dimensions mm							Mass[4] kg
snap[2] ring groove	snap[2] ring	D_1 max	a max	b min	r_o max	D_2 max	f max	d_a min	d_a max[3]	D_a max	D_X (approx.)	C_Y max	C_Z min	r_{as} max	r_{Nas} max	(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
—[5]	—[5]	—	—	—	—	—	—	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
—[5]	—[5]	—	—	—	—	—	—	14	16	26	—	—	—	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	—	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

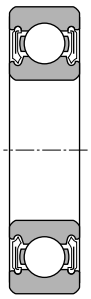
2) Sealed and shielded bearings are also available. 3) This dimension applies to sealed and shielded bearings. 4) Does not include bearings with snap rings. 5) See page B-40.



Open type



Shielded type (ZZ)



Non-contact sealed type (LLB, LLF)

Low torque sealed type (LLH)

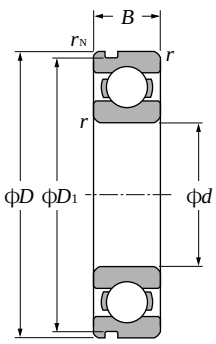
Contact sealed type (LLU)

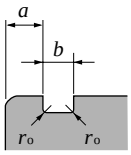
d 20～35mm

Boundary dimensions					Basic load ratings				Factor	Limiting speeds				Bearing numbers				
					dynamic	static	dynamic	static										
	mm				kN		kgf			grease	oil	min^{-1}						
d	*D*	*B*	$r_{s\,min}$[1]	r_{NS} min	C_r	C_{or}	C_r	C_{or}	f_o	open type ZZ LLB	open type Z LB	LLH	LLU	open type	shielded type	non-contact sealed type	low torque sealed type	contact sealed type
20	72	19	1.1	—	28.5	13.9	2 900	1 420	11.4	12 000	14 000	—	—	**6404**	—	—	—	—
22	44	12	0.6	0.5	9.40	5.05	955	515	13.9	17 000	20 000	13 000	10 000	**60/22ZZ**	**LLB**	**LLH**	**LLU**	
	50	14	1	0.5	12.9	6.80	1 320	690	13.5	14 000	17 000	12 000	9 700	**62/22**	**ZZ**	**LLB**	**LLH**	**LLU**
	56	16	1.1	0.5	18.4	9.25	1 880	945	12.4	13 000	15 000	11 000	9 200	**63/22**	**ZZ**	**LLB**	**LLH**	**LLU**
25	32	4	0.2	—	1.10	0.840	112	86	15.8	4 000	4 600	—	—	**6705**	—	**LLF**	—	—
	37	7	0.3	0.3	4.30	2.95	435	300	16.1	18 000	21 000	—	10 000	**6805**	**ZZ**	**LLB**	—	**LLU**
	42	9	0.3	0.3	7.05	4.55	715	460	15.4	16 000	19 000	—	9 800	**6905**	**ZZ**	**LLB**	—	**LLU**
	47	8	0.3	—	8.35	5.10	855	520	15.1	15 000	18 000	—	—	**16005**	—	—	—	—
	47	12	0.6	0.5	10.1	5.85	1 030	595	14.5	15 000	18 000	11 000	9 400	**6005**	**ZZ**	**LLB**	**LLH**	**LLU**
	52	15	1	0.5	14.0	7.85	1 430	800	13.9	13 000	15 000	11 000	8 900	**6205**	**ZZ**	**LLB**	**LLH**	**LLU**
	62	17	1.1	0.5	21.2	10.9	2 160	1 110	12.6	12 000	14 000	9 700	8 100	**6305**	**ZZ**	**LLB**	**LLH**	**LLU**
	80	21	1.5	—	34.5	17.5	3 550	1 780	11.6	10 000	12 000	—	—	**6405**	—	—	—	—
28	52	12	0.6	0.5	12.5	7.40	1 270	755	14.5	14 000	16 000	10 000	8 400	**60/28**	**ZZ**	**LLB**	**LLH**	**LLU**
	58	16	1	0.5	17.9	9.75	1 830	995	13.4	12 000	14 000	9 700	8 100	**62/28**	**ZZ**	**LLB**	**LLH**	**LLU**
	68	18	1.1	0.5	26.7	14.0	2 730	1 430	12.4	11 000	13 000	8 900	7 400	**63/28**	**ZZ**	**LLB**	**LLH**	**LLU**
30	37	4	0.2	—	1.14	0.950	117	97	15.7	3 300	3 800	—	—	**6706**	—	**LLF**	—	—
	42	7	0.3	0.3	4.70	3.65	480	370	16.5	15 000	18 000	—	8.800	**6806**	**ZZ**	**LLB**	—	**LLU**
	47	9	0.3	0.3	7.25	5.00	740	510	15.8	14 000	17 000	—	8 400	**6906**	**ZZ**	**LLB**	—	**LLU**
	55	9	0.3	—	11.2	7.35	1 150	750	15.2	13 000	15 000	—	—	**16006**	—	—	—	—
	55	13	1	0.5	13.2	8.3	1 350	845	14.8	13 000	15 000	9 200	7 700	**6006**	**ZZ**	**LLB**	**LLH**	**LLU**
	62	16	1	0.5	19.5	11.3	1 980	1 150	13.8	11 000	13 000	8 800	7 300	**6206**	**ZZ**	**LLB**	**LLH**	**LLU**
	72	19	1.1	0.5	26.7	15.0	2 720	1 530	13.3	10 000	12 000	7 900	6 600	**6306**	**ZZ**	**LLB**	**LLH**	**LLU**
	90	23	1.5	—	43.5	23.9	4 400	2 440	12.3	8 800	10 000	—	—	**6406**	—	—	—	—
32	58	13	1	0.5	11.8	8.05	1 200	820	15.4	12 000	15 000	8 700	7 200	**60/32**	**ZZ**	**LLB**	**LLH**	**LLU**
	65	17	1	0.5	20.7	11.6	2 110	1 190	13.6	11 000	12 000	8 400	7 100	**62/32**	**ZZ**	**LLB**	**LLH**	**LLU**
	75	20	1.1	0.5	29.8	16.9	3 050	1 730	13.1	9 500	11 000	7 700	6 500	**63/32**	**ZZ**	**LLB**	**LLH**	**LLU**
35	47	7	0.3	0.3	4.90	4.05	500	410	16.4	13 000	16 000	—	7 600	**6807**	**ZZ**	**LLB**	—	**LLU**
	55	10	0.6	0.5	9.55	6.85	975	695	15.8	12 000	15 000	—	7 100	**6907**	**ZZ**	**LLB**	—	**LLU**
	62	9	0.3	—	11.7	8.20	1 190	835	15.6	12 000	14 000	—	—	**16007**	—	—	—	—
	62	14	1	0.5	16.0	10.3	1 630	1 050	14.8	12 000	14 000	8 200	6 800	**6007**	**ZZ**	**LLB**	**LLH**	**LLU**
	72	17	1.1	0.5	25.7	15.3	2 620	1 560	13.8	9 800	11 000	7 600	6 300	**6207**	**ZZ**	**LLB**	**LLH**	**LLU**
	80	21	1.5	0.5	33.5	19.1	3 400	1 950	13.1	8 800	10 000	7 300	6 000	**6307**	**ZZ**	**LLB**	**LLH**	**LLU**
	100	25	1.5	—	55.0	31.0	5 600	3 150	12.3	7 800	9 100	—	—	**6407**	—	—	—	—

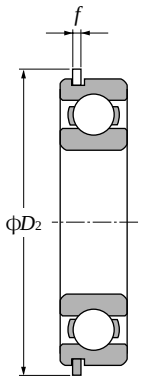
1）Smallest allowable dimension for chamfer dimension *r*.

Deep Groove Ball Bearings

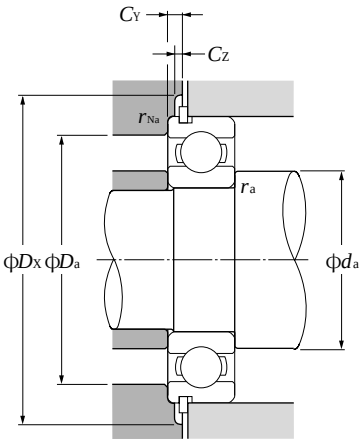




With snap ring groove



With snap ring



Dynamic equivalent radial load

$P_r = XF_r + YF_a$

$\frac{f_o \cdot F_a}{C_{or}}$	e	$\frac{F_a}{F_r} \leqq e$		$\frac{F_a}{F_r} > e$	
		X	Y	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

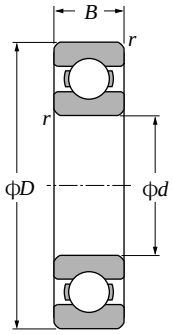
Static equivalent radial load

$P_{or} = 0.6F_r + 0.5F_a$

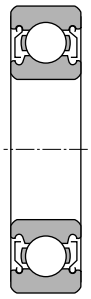
When $P_{or} < F_r$ use $P_{or} = F_r$

Bearing numbers		Snap ring groove dimensions mm				Snap ring dimensions mm		Abutment and fillet dimensions mm								Mass[4] kg
snap[2] ring groove	snap[2] ring	D_1 max	a max	b min	r_o max	D_2 max	f max	d_a min	d_a max[3]	D_a max	D_X (approx.)	C_Y max	C_Z min	r_{as} max	r_{Nas} max	(approx.)
—	—	—	—	—	—	—	—	26.5	—	65.5	—	—	—	**1**	—	0.4
N	**NR**	41.75	2.06	1.35	0.4	48.3	1.12	26	26.5	40	49	2.9	1.2	0.6	0.5	0.074
N	**NR**	47.6	2.46	1.35	0.4	55.7	1.12	27	29.5	45	56.5	3.3	1.2	1	0.5	0.117
N	**NR**	53.6	2.46	1.35	0.4	61.7	1.12	28.5	31	49.5	62.5	3.3	1.2	1	0.5	0.176
—	—	—	—	—	—	—	—	26.6	27.3	30.4	—	—	—	0.2	—	0.005
N	**NR**	35.7	1.3	0.95	0.25	39.8	0.85	27	28	35	40.5	1.9	0.9	0.3	0.3	0.022
N	**NR**	40.7	1.7	0.95	0.25	44.8	0.85	27	29	40	45.5	2.3	0.9	0.3	0.3	0.042
—	—	—	—	—	—	—	—	27	—	45.0	—	—	—	0.3	—	0.06
N	**NR**	44.6	2.06	1.35	0.4	52.7	1.12	29	30.5	43	53.5	2.9	1.2	0.6	0.5	0.08
N	**NR**	49.73	2.46	1.35	0.4	57.9	1.12	30	32	47	58.5	3.3	1.2	1	0.5	0.128
N	**NR**	59.61	3.28	1.9	0.6	67.7	1.7	31.5	35	55.5	68.5	4.6	1.7	1	0.5	0.232
—	—	—	—	—	—	—	—	33	—	72	—	—	—	1.5	—	0.53
N	**NR**	49.73	2.06	1.35	0.4	57.9	1.12	32	34	48	58.5	2.9	1.2	0.6	0.5	0.098
N	**NR**	55.6	2.46	1.35	0.4	63.7	1.12	33	35.5	53	64.5	3.3	1.2	1	0.5	0.171
N	**NR**	64.82	3.28	1.9	0.6	74.6	1.7	34.5	38.5	61.5	76	4.6	1.7	1	0.5	0.284
—	—	—	—	—	—	—	—	31.6	32.3	35.4	—	—	—	0.2	—	0.006
N	**NR**	40.7	1.3	0.95	0.25	44.8	0.85	32	33	40	45.5	1.9	0.9	0.3	0.3	0.026
N	**NR**	45.7	1.7	0.95	0.25	49.8	0.85	32	34	45	50.5	2.3	0.9	0.3	0.3	0.048
—	—	—	—	—	—	—	—	32	—	53	—	—	—	0.3	—	0.091
N	**NR**	52.6	2.08	1.35	0.4	60.7	1.12	35	37	50	61.5	2.9	1.2	1	0.5	0.116
N	**NR**	59.61	3.28	1.9	0.6	67.7	1.7	35	39	57	68.5	4.6	1.7	1	0.5	0.199
N	**NR**	68.81	3.28	1.9	0.6	78.6	1.7	36.5	43	65.5	80	4.6	1.7	1	0.5	0.36
—	—	—	—	—	—	—	—	38	—	82	—	—	—	1.5	—	0.735
N	**NR**	55.6	2.08	1.35	0.4	63.7	1.12	37	39	53	64.5	2.9	1.2	1	0.5	0.129
N	**NR**	62.6	3.28	1.9	0.6	70.7	1.7	37	40	60	71.5	4.6	1.7	1	0.5	0.226
N	**NR**	71.83	3.28	1.9	0.6	81.6	1.7	38.5	43.5	68.5	83	4.6	1.7	1	0.5	0.382
N	**NR**	45.7	1.3	0.95	0.25	49.8	0.85	37	38	45	50.5	1.9	0.9	0.3	0.3	0.029
N	**NR**	53.7	1.7	0.95	0.25	57.8	0.85	39	40	51	58.5	2.3	0.9	0.6	0.5	0.074
—	—	—	—	—	—	—	—	37	—	60	—	—	—	0.3	—	0.11
N	**NR**	59.61	2.08	1.9	0.6	67.7	1.7	40	42	57	68.5	3.4	1.7	1	0.5	0.155
N	**NR**	68.81	3.28	1.9	0.6	78.6	1.7	41.5	45	65.5	80	4.6	1.7	1	0.5	0.288
N	**NR**	76.81	3.28	1.9	0.6	86.6	1.7	43	47	72	88	4.6	1.7	1.5	0.5	0.457
	—	—	—	—	—	—	—	43	—	92	—	—	—	1.5	—	0.952

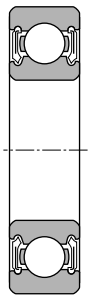
2）Sealed and shielded bearings are also available.　3）This dimension applies to sealed and shielded bearings.　4）Does not include bearings with snap rings.



Open type



Shielded type (ZZ)



Non-contact sealed type (LLB, LLF)

Low torque sealed type (LLH)

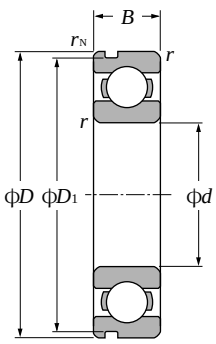
Contact sealed type (LLU)

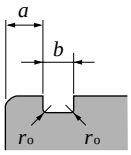
d 40～60mm

Boundary dimensions					Basic load ratings				Factor	Limiting speeds				Bearing numbers				
					dynamic	static	dynamic	static										
	mm				kN		kgf			min^{-1}								
d	*D*	*B*	$r_{s\,min}$[1]	r_{NS} min	C_r	C_{or}	C_r	C_{or}	f_o	grease open type ZZ LLB	oil open type Z LB	LLH	LLU	open type	shielded type	non-contact sealed type	low torque sealed type	contact sealed type
40	52	7	0.3	0.3	5.10	4.40	520	445	16.3	12 000	14 000	—	6 700	**6808**	**ZZ**	**LLB**	—	**LLU**
	62	12	0.6	0.5	12.2	8.90	1 240	910	15.8	11 000	13 000	—	6 300	**6908**	**ZZ**	**LLB**	—	**LLU**
	68	9	0.3	—	12.6	9.65	1 290	985	16.0	10 000	12 000	—	—	**16008**	—	—	—	—
	68	15	1	0.5	16.8	11.5	1 710	1 170	15.2	10 000	12 000	7 300	6 100	**6008**	**ZZ**	**LLB**	**LLH**	**LLU**
	80	18	1.1	0.5	29.1	17.8	2 970	1 820	14.0	8 700	10 000	6 700	5 600	**6208**	**ZZ**	**LLB**	**LLH**	**LLU**
	90	23	1.5	0.5	40.5	24.0	4 150	2 450	13.2	7 800	9 200	6 400	5 300	**6308**	**ZZ**	**LLB**	**LLH**	**LLU**
	110	27	2	—	63.5	36.5	6 500	3 750	12.3	7 000	8 200	—	—	**6408**	—	—	—	—
45	58	7	0.3	0.3	5.35	4.95	550	500	16.1	11 000	12 000	—	5 900	**6809**	**ZZ**	**LLB**	—	**LLU**
	68	12	0.6	0.5	13.1	10.4	1 330	1 060	16.1	9 800	12 000	—	5 600	**6909**	**ZZ**	**LLB**	—	**LLU**
	75	10	0.6	—	12.9	10.5	1 320	1 070	16.2	9 200	11 000	—	—	**16009**	—	—	—	—
	75	16	1	0.5	21.0	15.1	2 140	1 540	15.3	9 200	11 000	6 500	5 400	**6009**	**ZZ**	**LLB**	**LLH**	**LLU**
	85	19	1.1	0.5	32.5	20.4	3 350	2 080	14.1	7 800	9 200	6 200	5 200	**6209**	**ZZ**	**LLB**	**LLH**	**LLU**
	100	25	1.5	0.5	53.0	32.0	5 400	3 250	13.1	7 000	8 200	5 600	4 700	**6309**	**ZZ**	**LLB**	**LLH**	**LLU**
	120	29	2	—	77.0	45.0	7 850	4 600	12.1	6 300	7 400	—	—	**6409**	—	—	—	—
50	65	7	0.3	0.3	6.60	6.10	670	620	16.1	9 600	11 000	—	5 300	**6810**	**ZZ**	**LLB**	—	**LLU**
	72	12	0.6	0.5	13.4	11.2	1 370	1 140	16.3	8 900	11 000	—	5 100	**6910**	**ZZ**	**LLB**	—	**LLU**
	80	10	0.6	—	13.2	11.3	1 350	1 150	16.4	8 400	9 800	—	—	**16010**	—	—	—	—
	80	16	1	0.5	21.8	16.6	2 230	1 690	15.5	8 400	9 800	6 000	5 000	**6010**	**ZZ**	**LLB**	**LLH**	**LLU**
	90	20	1.1	0.5	35.0	23.2	3 600	2 370	14.4	7 100	8 300	5 700	4 700	**6210**	**ZZ**	**LLB**	**LLH**	**LLU**
	110	27	2	0.5	62.0	38.5	6 300	3 900	13.2	6 400	7 500	5 000	4 200	**6310**	**ZZ**	**LLB**	**LLH**	**LLU**
	130	31	2.1	—	83.0	49.5	8 450	5 050	12.5	5 700	6 700	—	—	**6410**	—	—	—	—
55	72	9	0.3	0.3	8.80	8.10	900	825	16.2	8 700	10 000	—	4 800	**6811**	**ZZ**	**LLB**	—	**LLU**
	80	13	1	0.5	16.0	13.3	1 630	1 350	16.2	8 200	9 600	—	4 600	**6911**	**ZZ**	**LLB**	—	**LLU**
	90	11	0.6	—	18.6	15.3	1 900	1 560	16.2	7 700	9 000	—	—	**16011**	—	—	—	—
	90	18	1.1	0.5	28.3	21.2	2 880	2 170	15.3	7 700	9 000	—	4 500	**6011**	**ZZ**	**LLB**	—	**LLU**
	100	21	1.5	0.5	43.5	29.2	4 450	2 980	14.3	6 400	7 600	—	4 300	**6211**	**ZZ**	**LLB**	—	**LLU**
	120	29	2	0.5	71.5	45.0	7 300	4 600	13.2	5 800	6 800	—	3 900	**6311**	**ZZ**	**LLB**	—	**LLU**
	140	33	2.1	—	89.0	54.0	9 050	5 500	12.7	5 200	6 100	—	—	**6411**	—	—	—	—
60	78	10	0.3	0.3	11.5	10.6	1 170	1 080	16.3	8 000	9 400	—	4 400	**6812**	**ZZ**	**LLB**	—	**LLU**
	85	13	1	0.5	16.4	14.3	1 670	1 450	16.4	7 600	8 900	—	4 300	**6912**	**ZZ**	**LLB**	—	**LLU**
	95	11	0.6	—	20.0	17.5	2 040	1 780	16.3	7 000	8 300	—	—	**16012**	—	—	—	—
	95	18	1.1	0.5	29.5	23.2	3 000	2 370	15.6	7 000	8 300	—	4 100	**6012**	**ZZ**	**LLB**	—	**LLU**
	110	22	1.5	0.5	52.5	36.0	5 350	3 700	14.3	6 000	7 000	—	3 800	**6212**	**ZZ**	**LLB**	—	**LLU**
	130	31	2.1	0.5	82.0	52.0	8 350	5 300	13.2	5 400	6 300	—	3 600	**6312**	**ZZ**	**LLB**	—	**LLU**
	150	35	2.1	—	102	64.5	10 400	6 550	12.6	4 800	5 700	—	—	**6412**	—	—	—	—

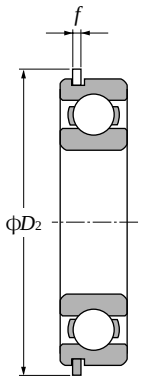
1）Smallest allowable dimension for chamfer dimension *r*.

Deep Groove Ball Bearings

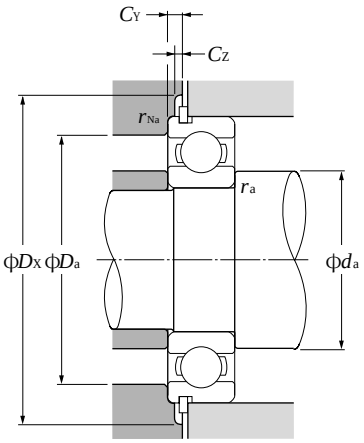




With snap ring groove



With snap ring



Dynamic equivalent radial load

$P_r = XF_r + YF_a$

$\frac{f_o \cdot F_a}{C_{or}}$	e	$\frac{F_a}{F_r} \leqq e$		$\frac{F_a}{F_r} > e$	
		X	Y	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

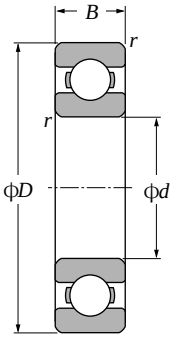
Static equivalent radial load

$P_{or} = 0.6F_r + 0.5F_a$

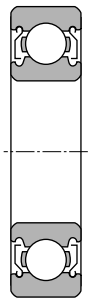
When $P_{or} < F_r$ use $P_{or} = F_r$

Bearing numbers		Snap ring groove dimensions mm				Snap ring dimensions mm		Abutment and fillet dimensions mm								Mass[4] kg
snap[2] ring groove	snap[2] ring	D_1 max	a max	b min	r_o max	D_2 max	f max	d_a min	d_a max[3]	D_a max	D_X (approx.)	C_Y max	C_Z min	r_{as} max	r_{Nas} max	(approx.)
N	**NR**	50.7	1.3	0.95	0.25	54.8	0.85	42	43	50	55.5	1.9	0.9	0.3	0.3	0.033
N	**NR**	60.7	1.7	0.95	0.25	64.8	0.85	44	45	58	65.5	2.3	0.9	0.6	0.5	0.11
—	—	—	—	—	—	—	—	42	—	66	—	—	—	0.3	—	0.125
N	**NR**	64.82	2.49	1.9	0.6	74.6	1.7	45	47	63	76	3.8	1.7	1	0.5	0.19
N	**NR**	76.81	3.28	1.9	0.6	86.6	1.7	46.5	51	73.5	88	4.6	1.7	1	0.5	0.366
N	**NR**	86.79	3.28	2.7	0.6	96.5	2.46	48	54	82	98	5.4	2.5	1.5	0.5	0.63
—	—	—	—	—	—	—	—	49	—	101	—	—	—	2.0	—	1.23
N	**NR**	56.7	1.3	0.95	0.25	60.8	0.85	47	48	56	61.5	1.9	0.9	0.3	0.3	0.04
N	**NR**	66.7	1.7	0.95	0.25	70.8	0.85	49	51	64	72	2.3	0.9	0.6	0.5	0.128
—	—	—	—	—	—	—	—	49	—	71	—	—	—	0.6	—	0.171
N	**NR**	71.83	2.49	1.9	0.6	81.6	1.7	50	52.5	70	83	3.8	1.7	1	0.5	0.237
N	**NR**	81.81	3.28	1.9	0.6	91.6	1.7	51.5	55.5	78.5	93	4.6	1.7	1	0.5	0.398
N	**NR**	96.8	3.28	2.7	0.6	106.5	2.46	53	61.5	92	108	5.4	2.5	1.5	0.5	0.814
—	—	—	—	—	—	—	—	54	—	111	—	—	—	2	—	1.53
N	**NR**	63.7	1.3	0.95	0.25	67.8	0.85	52	54	63	68.5	1.9	0.9	0.3	0.3	0.052
N	**NR**	70.7	1.7	0.95	0.25	74.8	0.85	54	55.5	68	76	2.3	0.9	0.6	0.5	0.132
—	—	—	—	—	—	—	—	54	—	76	—	—	—	0.6	—	0.18
N	**NR**	76.81	2.49	1.9	0.6	86.6	1.7	55	57.5	75	88	3.8	1.7	1	0.5	0.261
N	**NR**	86.79	3.28	2.7	0.6	96.5	2.46	56.5	60	83.5	98	5.4	2.5	1	0.5	0.454
N	**NR**	106.81	3.28	2.7	0.6	116.6	2.46	59	68.5	101	118	5.4	2.5	2	0.5	1.07
—	—	—	—	—	—	—	—	61	—	119	—	—	—	2	—	1.88
N	**NR**	70.7	1.7	0.95	0.25	74.8	0.85	57	59	70	76	2.3	0.9	0.3	0.3	0.083
N	**NR**	77.9	2.1	1.3	0.4	84.4	1.12	60	61.5	75	86	2.9	1.2	1	0.5	0.18
—	—	—	—	—	—	—	—	59	—	86	—	—	—	0.6	—	0.258
N	**NR**	86.79	2.87	2.7	0.6	96.5	2.46	61.5	64	83.5	98	5	2.5	1	0.5	0.388
N	**NR**	96.8	3.28	2.7	0.6	106.5	2.46	63	67	92	108	5.4	2.5	1.5	0.5	0.601
N	**NR**	115.21	4.06	3.1	0.6	129.7	2.82	64	74	111	131.5	6.5	2.9	2	0.5	1.37
—	—	—	—	—	—	—	—	66	—	129	—	—	—	2	—	2.29
N	**NR**	76.2	1.7	1.3	0.4	82.7	1.12	62	64.5	76	84	2.5	1.2	0.3	0.3	0.106
N	**NR**	82.9	2.1	1.3	0.4	89.4	1.12	65	66.5	80	91	2.9	1.2	1	0.5	0.193
—	—	—	—	—	—	—	—	64	—	91	—	—	—	0.6	—	0.283
N	**NR**	91.82	2.87	2.7	0.6	101.6	2.46	66.5	69	88.5	103	5	2.5	1	0.5	0.414
N	**NR**	106.81	3.28	2.7	0.6	116.6	2.46	68	75	102	118	5.4	2.5	1.5	0.5	0.783
N	**NR**	125.22	4.06	3.1	0.6	139.7	2.82	71	80.5	119	141.5	6.5	2.9	2	0.5	1.73
—	—	—	—	—	—	—	—	71	—	139	—	—	—	2	—	2.77

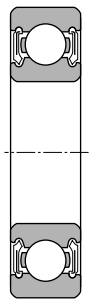
2）Sealed and shielded bearings are also available. 3）This dimension applies to sealed and shielded bearings. 4）Does not include bearings with snap rings.



Open type



Shielded type (ZZ)



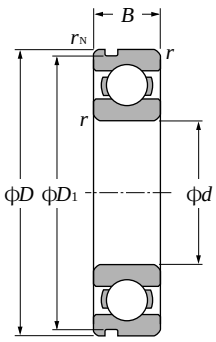
Non-contact sealed type (LLB)

Contact sealed type (LLU)

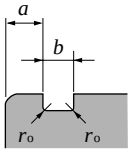
d 65～85mm

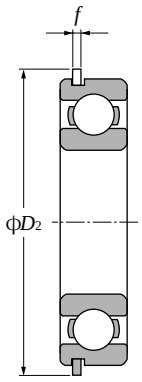
Boundary dimensions					Basic load ratings				Factor	Limiting speeds			Bearing numbers			
					dynamic	static	dynamic	static								
	mm				kN		kgf			min^{-1} grease open type	min^{-1} oil open type		open type	non-contact shielded type	low-torque sealed type	contact sealed type
d	D	B	$r_{s\,min}$[1]	r_{NS} min	C_r	C_{or}	C_r	C_{or}	f_o	ZZ LLB	Z LB	LLU				
65	85	10	0.6	0.5	11.6	11.0	1 180	1 120	16.2	7 400	8 700	4 100	6813	ZZ	LLB	LLU
	90	13	1	0.5	17.4	16.1	1 770	1 640	16.6	7 000	8 200	4 000	6913	ZZ	LLB	LLU
	100	11	0.6	—	20.5	18.7	2 090	1 910	16.5	6 500	7 700	—	16013	—	—	—
	100	18	1.1	0.5	30.5	25.2	3 100	2 570	15.8	6 500	7 700	3 900	6013	ZZ	LLB	LLU
	120	23	1.5	0.5	57.5	40.0	5 850	4 100	14.4	5 500	6 500	3 600	6213	ZZ	LLB	LLU
	140	33	2.1	0.5	92.5	60.0	9 450	6 100	13.2	4 900	5 800	3 300	6313	ZZ	LLB	LLU
	160	37	2.1	—	111	72.5	11 300	7 400	12.7	4 400	5 200	—	6413	—	—	—
70	90	10	0.6	0.5	12.1	11.9	1 230	1 220	16.1	6 900	8 100	3 800	6814	ZZ	LLB	LLU
	100	16	1	0.5	23.7	21.2	2 420	2 160	16.3	6 500	7 700	3 700	6914	ZZ	LLB	LLU
	110	13	0.6	—	24.4	22.6	2 480	2 300	16.5	6 100	7 100	—	16014	—	—	—
	110	20	1.1	0.5	38.0	31.0	3 900	3 150	15.6	6 100	7 100	3 600	6014	ZZ	LLB	LLU
	125	24	1.5	0.5	62.0	44.0	6 350	4 500	14.5	5 100	6 000	3 400	6214	ZZ	LLB	LLU
	150	35	2.1	0.5	104	68.0	10 600	6 950	13.2	4 600	5 400	3 100	6314	ZZ	LLB	LLU
	180	42	3	—	128	89.5	13 100	9 100	12.7	4 100	4 800	—	6414	—	—	—
75	95	10	0.6	0.5	12.5	12.9	1 280	1 310	16.0	6 400	7 600	3 600	6815	ZZ	LLB	LLU
	105	16	1	0.5	24.4	22.6	2 480	2 300	16.5	6 100	7 200	3 500	6915	ZZ	LLB	LLU
	115	13	0.6	—	25.0	24.0	2 540	2 450	16.6	5 700	6 700	—	16015	—	—	—
	115	20	1.1	0.5	39.5	33.5	4 050	3 400	15.8	5 700	6 700	3 300	6015	ZZ	LLB	LLU
	130	25	1.5	0.5	66.0	49.5	6 750	5 050	14.7	4 800	5 600	3 200	6215	ZZ	LLB	LLU
	160	37	2.1	0.5	113	77.0	11 600	7 850	13.2	4 300	5 000	2 900	6315	ZZ	LLB	LLU
	190	45	3	—	138	99.0	14 000	10 100	12.7	3 800	4 500	—	6415	—	—	—
80	100	10	0.6	0.5	12.7	13.3	1 290	1 360	16.0	6 000	7 100	3 400	6816	ZZ	LLB	LLU
	110	16	1	0.5	24.9	24.0	2 540	2 450	16.6	5 700	6 700	3 200	6916	ZZ	LLB	LLU
	125	14	0.6	—	25.4	25.1	2 590	2 560	16.4	5 300	6 200	—	16016	—	—	—
	125	22	1.1	0.5	47.5	40.0	4 850	4 050	15.6	5 300	6 200	3 100	6016	ZZ	LLB	LLU
	140	26	2	0.5	72.5	53.0	7 400	5 400	14.6	4 500	5 300	3 000	6216	ZZ	LLB	LLU
	170	39	2.1	0.5	123	86.5	12 500	8 850	13.3	4 000	4 700	2 700	6316	ZZ	LLB	LLU
	200	48	3	—	164	125	16 700	12 800	12.3	3 600	4 200	—	6416	—	—	—
85	110	13	1	0.5	18.7	19.0	1 910	1 940	16.2	5 700	6 700	3 100	6817	ZZ	LLB	LLU
	120	18	1.1	0.5	32.0	29.6	3 250	3 000	16.4	5 400	6 300	3 000	6917	ZZ	LLB	LLU
	130	14	0.6	—	25.9	26.2	2 640	2 670	16.4	5 000	5 900	—	16017	—	—	—
	130	22	1.1	0.5	49.5	43.0	5 050	4 400	15.8	5 000	5 900	2 900	6017	ZZ	LLB	LLU
	150	28	2	0.5	83.5	64.0	8 500	6 500	14.7	4 200	5 000	2 800	6217	ZZ	LLB	LLU
	180	41	3	0.5	133	97.0	13 500	9 850	13.3	3 800	4 500	2 600	6317	ZZ	LLB	LLU

1) Smallest allowable dimension for chamfer dimension r.

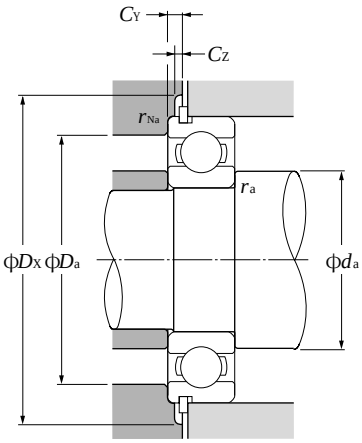


With snap ring groove





With snap ring



Dynamic equivalent radial load

$P_r = XF_r + YF_a$

$\frac{f_o \cdot F_a}{C_{or}}$	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				1.99
0.689	0.26				1.71
1.03	0.28				1.55
1.38	0.30				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

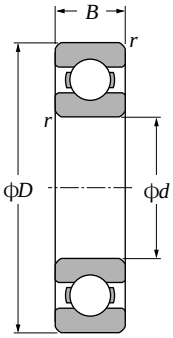
Static equivalent radial load

$P_{or} = 0.6F_r + 0.5F_a$

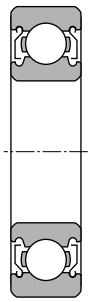
When $P_{or} < F_r$ use $P_{or} = F_r$

Bearing numbers		Snap ring groove dimensions mm				Snap ring dimensions mm		Abutment and fillet dimensions mm								Mass[4] kg
snap[2] ring groove	snap[2] ring	D_1 max	a max	b min	r_o max	D_2 max	f max	d_a min	d_a max[3]	D_a max	D_X (approx.)	C_Y max	C_Z min	r_{as} max	r_{Nas} max	(approx.)
N	**NR**	82.9	1.7	1.3	0.4	89.4	1.12	69	70	81	91	2.5	1.2	0.6	0.5	0.128
N	**NR**	87.9	2.1	1.3	0.4	94.4	1.12	70	71.5	85	96	2.9	1.2	1	0.5	0.206
—	—	—	—	—	—	—	—	69	—	96	—	—	—	0.6	—	0.307
N	**NR**	96.8	2.87	2.7	0.6	106.5	2.46	71.5	74	93.5	108	5	2.5	1	0.5	0.421
N	**NR**	115.21	4.06	3.1	0.6	129.7	2.82	73	80.5	112	131.5	6.5	2.9	1.5	0.5	0.99
N	**NR**	135.23	4.9	3.1	0.6	149.7	2.82	76	86	129	152	7.3	2.9	2	0.5	2.08
—	—	—	—	—	—	—	—	76	—	149	—	—	—	2	—	3.3
N	**NR**	87.9	1.7	1.3	0.4	94.4	1.12	74	75.5	86	96	2.5	1.2	0.6	0.5	0.137
N	**NR**	97.9	2.5	1.3	0.4	104.4	1.12	75	77.5	95	106	3.3	1.2	1	0.5	0.334
—	—	—	—	—	—	—	—	74	—	106	—	—	—	0.6	—	0.441
N	**NR**	106.81	2.87	2.7	0.6	116.6	2.46	76.5	80.5	103.5	118	5	2.5	1	0.5	0.604
N	**NR**	120.22	4.06	3.1	0.6	134.7	2.82	78	85	117	136.5	6.5	2.9	1.5	0.5	1.07
N	**NR**	145.24	4.9	3.1	0.6	159.7	2.82	81	92.5	139	162	7.3	2.9	2	0.5	2.52
—	—	—	—	—	—	—	—	83	—	167	—	—	—	2.5	—	4.83
N	**NR**	92.9	1.7	1.3	0.4	99.4	1.12	79	80	91	101	2.5	1.2	0.6	0.5	0.145
N	**NR**	102.6	2.5	1.3	0.4	110.7	1.12	80	82.5	100	112	3.3	1.2	1	0.5	0.353
—	—	—	—	—	—	—	—	79	—	111	—	—	—	0.6	—	0.464
N	**NR**	111.81	2.87	2.7	0.6	121.6	2.46	81.5	85.5	108.5	123	5	2.5	1	0.5	0.649
N	**NR**	125.22	4.06	3.1	0.6	139.7	2.82	83	90.5	122	141.5	6.5	2.9	1.5	0.5	1.18
N	**NR**	155.22	4.9	3.1	0.6	169.7	2.82	86	99	149	172	7.3	2.9	2	0.5	3.02
—	—	—	—	—	—	—	—	88	—	177	—	—	—	2.5	—	5.72
N	**NR**	97.9	1.7	1.3	0.4	104.4	1.12	84	85	96	106	2.5	1.2	0.6	0.5	0.154
N	**NR**	107.6	2.5	1.3	0.4	115.7	1.12	85	88	105	117	3.3	1.2	1	0.5	0.373
—	—	—	—	—	—	—	—	84	—	121	—	—	—	0.6	—	0.597
N	**NR**	120.22	2.87	3.1	0.6	134.7	2.82	86.5	91.5	118.5	136.5	5.3	2.9	1	0.5	0.854
N	**NR**	135.23	4.9	3.1	0.6	149.7	2.82	89	95.5	131	152	7.3	2.9	2	0.5	1.4
N	**NR**	163.65	5.69	3.5	0.6	182.9	3.1	91	105	159	185	8.4	3.1	2	0.5	3.59
—	—	—	—	—	—	—	—	93	—	187	—	—	—	2.5	—	6.76
N	**NR**	107.6	2.1	1.3	0.4	115.7	1.12	90	91	105	117	2.9	1.2	1	0.5	0.27
N	**NR**	117.6	3.3	1.3	0.4	125.7	1.12	91.5	94	113.5	127	4.1	1.2	1	0.5	0.536
—	—	—	—	—	—	—	—	89	—	126	—	—	—	0.6	—	0.626
N	**NR**	125.22	2.87	3.1	0.6	139.7	2.82	91.5	97	123.5	141.5	5.3	2.9	1	0.5	0.89
N	**NR**	145.24	4.9	3.1	0.6	159.7	2.82	94	103	141	162	7.3	2.9	2	0.5	1.79
N	**NR**	173.66	5.69	3.5	0.6	192.9	3.1	98	112	167	195	8.4	3.1	2.5	0.5	4.23

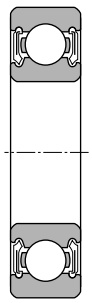
2）Sealed and shielded bearings are also available. 3）This dimension applies to sealed and shielded bearings. 4）Does not include bearings with snap rings.



Open type



Shielded type (ZZ)



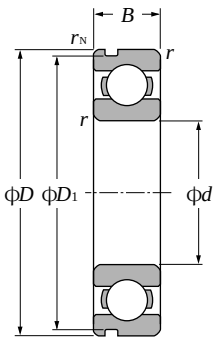
Non-contact sealed type (LLB)

Contact sealed type (LLU)

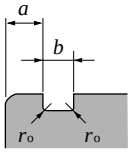
d 90～120mm

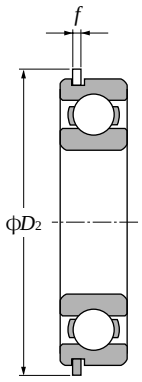
Boundary dimensions					Basic load ratings				Factor	Limiting speeds			Bearing numbers			
					dynamic	static	dynamic	static								
	mm				kN		kgf			grease	min^{-1} oil					
d	D	B	$r_{s\,min}$ [1]	r_{NS} min	C_r	C_{or}	C_r	C_{or}	f_o	open type ZZ LLB	open type Z LB	LLU	open type	non-contact shielded type	low-torque sealed type	contact sealed type
90	115	13	1	0.5	19.0	19.7	1 940	2 010	16.1	5 400	6 300	3 000	6818	ZZ	LLB	LLU
	125	18	1.1	0.5	33.0	31.5	3 350	3 200	16.5	5 100	6 000	2 900	6918	ZZ	LLB	LLU
	140	16	1	—	33.5	33.5	3 400	3 400	16.5	4 700	5 600	—	16018	—	—	—
	140	24	1.5	0.5	58.0	49.5	5 950	5 050	15.6	4 700	5 600	2 800	6018	ZZ	LLB	LLU
	160	30	2	0.5	96.0	71.5	9 800	7 300	14.5	4 000	4 700	2 600	6218	ZZ	LLB	LLU
	190	43	3	0.5	143	107	14 500	10 900	13.3	3 600	4 200	2 400	6318	ZZ	LLB	LLU
95	120	13	1	0.5	19.3	20.5	1 970	2 090	16.1	5 000	5 900	2 800	6819	ZZ	LLB	LLU
	130	18	1.1	0.5	33.5	33.5	3 450	3 400	16.6	4 800	5 700	2 800	6919	ZZ	LLB	LLU
	145	16	1	—	34.5	35.0	3 500	3 550	16.5	4 500	5 300	—	16019	—	—	—
	145	24	1.5	0.5	60.5	54.0	6 150	5 500	15.8	4 500	5 300	2 600	6019	ZZ	LLB	LLU
	170	32	2.1	0.5	109	82.0	11 100	8 350	14.4	3 700	4 400	2 500	6219	ZZ	LLB	LLU
	200	45	3	0.5	153	119	15 600	12 100	13.3	3 300	3 900	2 300	6319	ZZ	—	LLU
100	125	13	1	0.5	19.6	21.2	2 000	2 160	16.0	4 800	5 600	2 700	6820	ZZ	LLB	LLU
	140	20	1.1	0.5	41.0	39.5	4 200	4 050	16.4	4 500	5 300	2 600	6920	ZZ	LLB	LLU
	150	16	1	—	35.0	36.5	3 600	3 750	16.4	4 200	5 000	—	16020	—	—	—
	150	24	1.5	0.5	60.0	54.0	6 150	5 500	15.9	4 200	5 000	2 600	6020	ZZ	LLB	LLU
	180	34	2.1	0.5	122	93.0	12 500	9 450	14.4	3 500	4 200	2 300	6220	ZZ	LLB	LLU
	215	47	3	—	173	141	17 600	14 400	13.2	3 200	3 700	2 200	6320	ZZ	—	LLU
105	130	13	1	0.5	19.8	22.0	2 020	2 240	15.9	4 600	5 400	—	6821	—	—	—
	145	20	1.1	0.5	42.5	42.0	4 300	4 300	16.5	4 300	5 100	2 500	6921	ZZ	LLB	LLU
	160	18	1	—	52.0	50.5	5 300	5 150	16.3	4 000	4 700	—	16021	—	—	—
	160	26	2	0.5	72.5	65.5	7 400	6 700	15.8	4 000	4 700	2 400	6021	ZZ	LLB	LLU
	190	36	2.1	0.5	133	105	13 600	10 700	14.4	3 400	4 000	2 300	6221	ZZ	—	LLU
	225	49	3	—	184	153	18 700	15 700	13.2	3 000	3 600	2 100	6321	ZZ	—	LLU
110	140	16	1	0.5	24.9	28.2	2 540	2 880	16.0	4 300	5 100	—	6822	—	—	—
	150	20	1.1	0.5	43.5	44.5	4 450	4 550	16.6	4 100	4 800	2 400	6922	ZZ	LLB	LLU
	170	19	1	—	57.5	56.5	5 850	5 800	16.3	3 800	4 500	—	16022	—	—	—
	170	28	2	0.5	82.0	73.0	8 350	7 450	15.6	3 800	4 500	2 300	6022	ZZ	LLB	LLU
	200	38	2.1	0.5	144	117	14 700	11 900	14.3	3 200	3 800	2 200	6222	ZZ	—	LLU
	240	50	3	—	205	179	20 900	18 300	13.1	2 900	3 400	1 900	6322	ZZ	—	LLU
120	150	16	1	0.5	28.9	33.0	2 950	3 350	16.0	4 000	4 700	—	6824	—	—	—
	165	22	1.1	0.5	53.0	54.0	5 400	5 500	16.5	3 800	4 400	—	6924	—	—	—
	180	19	1	—	63.0	63.5	6 450	6 450	16.4	3 500	4 100	—	16024	—	—	—
	180	28	2	0.5	85.0	79.5	8 650	8 100	15.9	3 500	4 100	2 100	6024	ZZ	LLB	LLU

1) Smallest allowable dimension for chamfer dimension r.

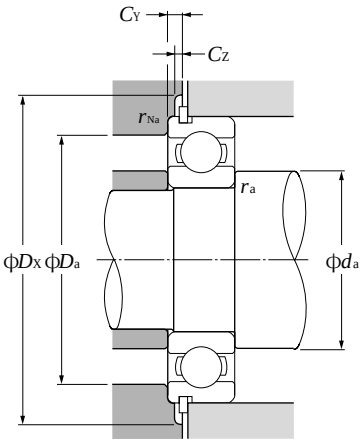


With snap ring groove





With snap ring



Dynamic equivalent radial load

$P_r = XF_r + YF_a$

$\frac{f_o \cdot F_a}{C_{or}}$	e	$\frac{F_a}{F_r} \leqq e$		$\frac{F_a}{F_r} > e$	
		X	Y	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

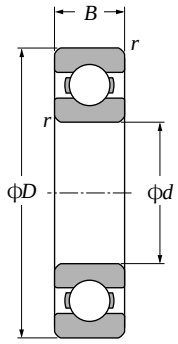
Static equivalent radial load

$P_{or} = 0.6F_r + 0.5F_a$

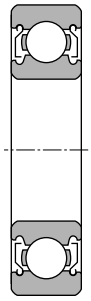
When $P_{or} < F_r$ use $P_{or} = F_r$

Bearing numbers		Snap ring groove dimensions mm				Snap ring dimensions mm		Abutment and fillet dimensions mm								Mass[4] kg
snap[2] ring groove	snap[2] ring	D_1 max	a max	b min	r_o max	D_2 max	f max	d_a min	d_a max[3]	D_a max	D_X (approx.)	C_Y max	C_Z min	r_{as} max	r_{Nas} max	(approx.)
N	**NR**	112.6	2.1	1.3	0.4	120.7	1.12	95	96	110	122	2.9	1.2	1	0.5	0.285
N	**NR**	122.6	3.3	1.3	0.4	130.7	1.12	96.5	99	118.5	132	4.1	1.2	1	0.5	0.554
—	—	—	—	—	—	—	—	95	—	135	—	—	—	1	—	0.848
N	**NR**	135.23	3.71	3.1	0.6	149.7	2.82	98	102	132	152	6.1	2.9	1.5	0.5	1.02
N	**NR**	155.22	4.9	3.1	0.6	169.7	2.82	99	109	151	172	7.3	2.9	2	0.5	2.15
N	**NR**	183.64	5.69	3.5	0.6	202.9	3.1	103	118	177	205	8.4	3.1	2.5	0.5	4.91
N	**NR**	117.6	2.1	1.3	0.4	125.7	1.12	100	101	115	127	2.9	1.2	1	0.5	0.3
N	**NR**	127.6	3.3	1.3	0.4	135.7	1.12	101.5	104	123.5	137	4.1	1.2	1	0.5	0.579
—	—	—	—	—	—	—	—	100	—	140	—	—	—	1	—	0.885
N	**NR**	140.23	3.71	3.1	0.6	154.7	2.82	103	109	137	157	6.1	2.9	1.5	0.5	1.08
N	**NR**	163.65	5.69	3.5	0.6	182.9	3.1	106	116	159	185	8.4	3.1	2	0.5	2.62
N	**NR**	193.65	5.69	3.5	0.6	212.9	3.1	108	125	187	215	8.4	3.1	2.5	0.5	5.67
N	**NR**	122.6	2.1	1.3	0.4	130.7	1.12	105	106	120	132	2.9	1.2	1	0.5	0.313
N	**NR**	137.6	3.3	1.9	0.6	145.7	1.7	106.5	110	133.5	147	4.7	1.7	1	0.5	0.785
—	—	—	—	—	—	—	—	105	—	145	—	—	—	1	—	0.91
N	**NR**	145.24	3.71	3.1	0.6	159.7	2.82	108	110	142	162	6.1	2.9	1.5	0.5	1.15
N	**NR**	173.66	5.69	3.5	0.6	192.9	3.1	111	122	169	195	8.4	3.1	2	0.5	3.14
N	**NR**	208.6	5.69	3.5	1	**227.8**	3.1	113	133	202	230	8.4	3.1	2.5	0.5	7
N	**NR**	127.6	2.1	1.3	0.4	135.7	1.12	110	—	125	137	2.9	1.2	1	0.5	0.33
N	**NR**	142.6	3.3	1.9	0.6	150.7	1.7	111.5	115	138.5	152	4.7	1.7	1	0.5	0.816
—	—	—	—	—	—	—	—	110	—	155	—	—	—	1	—	1.2
N	**NR**	155.22	3.71	3.1	0.6	169.7	2.82	114	119	151	172	6.1	2.9	2	0.5	1.59
N	**NR**	183.64	5.69	3.5	0.6	202.9	3.1	116	125	179	205	8.4	3.1	2	0.5	3.7
N	**NR**	217.0	6.5	4.5	1	**237**	3.5	118	134	212	239	9.6	3.5	2.5	0.5	8.05
N	**NR**	137.6	2.5	1.9	0.6	145.7	1.7	115	—	135	147	3.9	1.7	1	0.5	0.515
N	**NR**	147.6	3.3	1.9	0.6	155.7	1.7	116.5	120	143.5	157	4.7	1.7	1	0.5	0.849
—	—	—	—	—	—	—	—	115	—	165	—	—	—	1	—	1.46
N	**NR**	163.65	3.71	3.5	0.6	182.9	3.1	119	126	161	185	6.4	3.1	2	0.5	1.96
N	**NR**	193.65	5.69	3.5	0.6	212.9	3.1	121	132	189	215	8.4	3.1	2	0.5	4.36
N	**NR**	232.0	6.5	4.5	1	**252**	3.5	123	149	227	254	9.6	3.5	2.5	0.5	9.54
N	**NR**	147.6	2.5	1.9	0.6	155.7	1.7	125	—	145	157	3.9	1.7	1	0.5	0.555
N	**NR**	161.8	3.7	1.9	0.6	171.5	1.7	126.5	—	158.5	173	5.1	1.7	1	0.5	1.15
—	—	—	—	—	—	—	—	125	—	175	—	—	—	1	—	1.56
N	**NR**	173.66	3.71	3.5	0.6	192.9	3.1	129	136	171	195	6.4	3.1	2	0.5	2.07

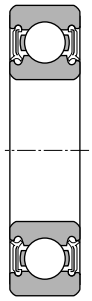
2）Sealed and shielded bearings are also available. 3）This dimension applies to sealed and shielded bearings. 4）Does not include bearings with snap rings.



Open type



Shielded type (ZZ)

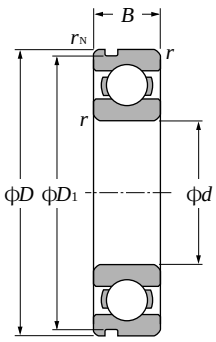


Contact sealed type (LLU)

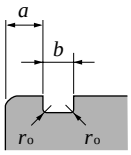
d 120～170mm

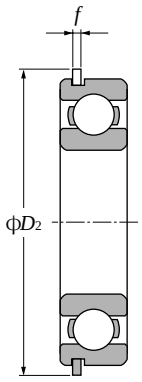
Boundary dimensions					Basic load ratings				Factor	Limiting speeds			Bearing numbers		
					dynamic	static	dynamic	static			min^{-1}				
	mm				kN		kgf			grease	oil				
d	*D*	*B*	$r_{s\,min}$[1]	r_{NS} min	C_r	C_{or}	C_r	C_{or}	f_o	open type ZZ	open type Z	LLU	open type	shielded type	contact sealed type
120	215	40	2.1	—	155	131	15 900	13 400	14.4	2 900	3 400	2 000	**6224**	**ZZ**	**LLU**
	260	55	3	—	207	185	21 100	18 800	13.5	2 600	3 100	—	**6324**	—	—
130	165	18	1.1	0.5	37.0	41.0	3 750	4 200	16.1	3 700	4 300	—	**6826**	—	—
	180	24	1.5	0.5	65.0	67.5	6 650	6 850	16.5	3 500	4 100	—	**6926**	—	—
	200	22	1.1	—	80.0	79.5	8 150	8 100	16.2	3 200	3 800	—	**16026**	—	—
	200	33	2	0.5	106	101	10 800	10 300	15.8	3 200	3 800	1 900	**6026**	**ZZ**	**LLU**
	230	40	3	—	167	146	17 000	14 900	14.5	2 700	3 100	—	**6226**	—	—
	280	58	4	—	229	214	23 400	21 800	13.6	2 400	2 800	—	**6326**	—	—
140	175	18	1.1	0.5	38.5	44.5	3 900	4 550	16.0	3 400	4 000	—	**6828**	—	—
	190	24	1.5	0.5	66.5	71.5	6 800	7 300	16.6	3 200	3 800	—	**6928**	—	—
	210	22	1.1	—	82.0	85.0	8 350	8 650	16.4	3 000	3 500	—	**16028**	—	—
	210	33	2	—	110	109	11 200	11 100	15.9	3 000	3 500	1 800	**6028**	**ZZ**	**LLU**
	250	42	3	—	166	150	17 000	15 300	14.8	2 500	2 900	—	**6228**	—	—
	300	62	4	—	253	246	25 800	25 100	13.6	2 200	2 600	—	**6328**	—	—
150	190	20	1.1	0.5	47.5	55.0	4 850	5 600	16.1	3 100	3 700	—	**6830**	—	—
	210	28	2	—	85.0	90.5	8 650	9 200	16.5	3 000	3 500	—	**6930**	—	—
	225	24	1.1	—	96.5	101	9 850	10 300	16.4	2 800	3 200	—	**16030**	—	—
	225	35	2.1	—	126	126	12 800	12 800	15.9	2 800	3 200	1 700	**6030**	**ZZ**	**LLU**
	270	45	3	—	176	168	18 000	17 100	15.1	2 300	2 700	—	**6230**	—	—
	320	65	4	—	274	284	28 000	28 900	13.9	2 100	2 400	—	**6330**	—	—
160	200	20	1.1	0.5	48.5	57.0	4 950	5 800	16.1	2 900	3 400	—	**6832**	—	—
	220	28	2	—	87.0	96.0	8 850	9 800	16.6	2 800	3 300	—	**6932**	—	—
	240	25	1.5	—	99.0	108	10 100	11 000	16.5	2 600	3 000	—	**16032**	—	—
	240	38	2.1	—	143	144	14 500	14 700	15.9	2 600	3 000	1 600	**6032**	**ZZ**	**LLU**
	290	48	3	—	185	186	18 900	19 000	15.4	2 100	2 500	—	**6232**	—	—
	340	68	4	—	278	286	28 300	29 200	13.9	1 900	2 300	—	**6332**	—	—
170	215	22	1.1	—	60.0	70.5	6 100	7 200	16.1	2 700	3 200	—	**6834**	—	—
	230	28	2	—	86.0	95.5	8 750	9 750	16.5	2 600	3 100	—	**6934**	—	—
	260	28	1.5	—	119	128	12 100	13 100	16.4	2 400	2 800	—	**16034**	—	—
	260	42	2.1	—	168	172	17 200	17 600	15.8	2 400	2 800	—	**6034**	—	—
	310	52	4	—	212	223	21 700	22 800	15.3	2 000	2 400	—	**6234**	—	—
	360	72	4	—	325	355	33 500	36 000	13.6	1 800	2 100	—	**6334**	—	—

1) Smallest allowable dimension for chamfer dimension *r*.

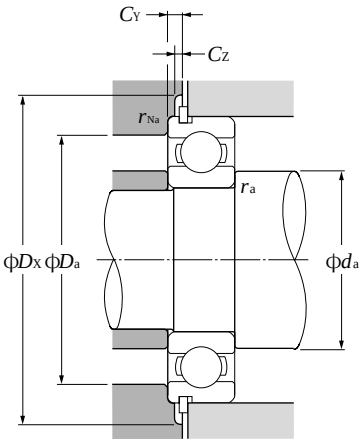


With snap ring groove





With snap ring



Dynamic equivalent radial load

$P_r = XF_r + YF_a$

$\frac{f_o \cdot F_a}{C_{or}}$	e	$\frac{F_a}{F_r} \leqq e$		$\frac{F_a}{F_r} > e$	
		X	Y	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

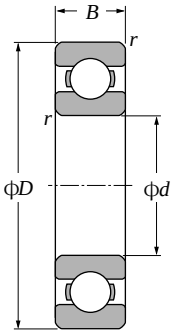
Static equivalent radial load

$P_{or} = 0.6F_r + 0.5F_a$

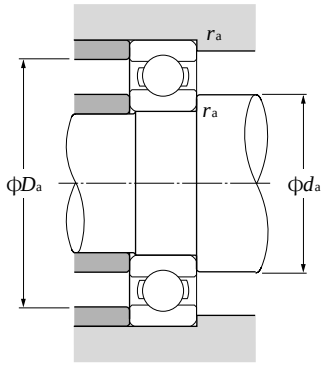
When $P_{or} < F_r$ use $P_{or} = F_r$

Bearing numbers		Snap ring groove dimensions mm				Snap ring dimensions mm		Abutment and fillet dimensions mm								Mass[4] kg
snap[2] ring groove	snap[2] ring	D_1 max	a max	b min	r_o max	D_2 max	f max	d_a min	d_a max[3]	D_a max	D_X (approx.)	C_Y max	C_Z min	r_{as} max	r_{Nas} max	(approx.)
N	**NR**	217.0	6.5	4.5	1	227.8	3.1	131	143	204	230	9.2	3.1	2	0.5	5.15
—	—	—	—	—	—	—	—	133	—	247	—	—	—	2.5	—	12.4
N	**NR**	161.8	3.3	1.9	0.6	171.5	1.7	136.5	—	158.5	173	4.7	1.7	1	0.5	0.8
N	**NR**	176.8	3.7	1.9	0.6	186.5	1.7	138	—	172	188	5.1	1.7	1.5	0.5	1.52
—	—	—			—	—	—	136.5	—	193.5	—	—	—	1	—	2.31
N	**NR**	193.65	5.69	3.5	0.6	212.9	3.1	139	148	191	215	8.4	3.1	2	0.5	3.16
N	**NR**	222.0	6.5	4.5	1	242	3.5	143	—	217	244	9.6	3.5	2.5	0.5	5.82
—	—	—	—	—	—	—	—	146	—	264	—	—	—	3	—	15.3
N	**NR**	171.8	3.3	1.9	0.6	181.5	1.7	146.5	—	168.5	183	4.7	1.7	1	0.5	0.85
N	**NR**	186.8	3.7	1.9	0.6	196.5	1.7	148	—	182	198	5.1	1.7	1.5	0.5	1.62
—	—	—	—	—	—	—	—	146.5	—	203.5	—	—	—	1	—	2.45
—	—	—	—	—	—	—	—	149	158	201	—	—	—	2	—	3.35
N	**NR**	242.0	6.,5	4.5	1	262	3.5	153	—	237	264	9.6	3.5	2.5	0.5	7.57
—	—	—	—	—	—	—	—	156	—	284	—	—	—	3	—	18.5
N	**NR**	186.8	3.3	1.9	0.6	196.5	1.7	156.5	—	183.5	198	4.7	1.7	1	0.5	1.16
—	—	—	—	—	—	—	—	159	—	201	—	—	—	2	—	2.47
—	—	—	—	—	—	—	—	156.5	—	218.5	—	—	—	1	—	3.07
—	—	—	—	—	—	—	—	161	169	214	—	—	—	2	—	4.08
—	—	—	—	—	—	—	—	163	—	257	—	—	—	2.5	—	9.41
—	—	—	—	—	—	—	—	166	—	304	—	—	—	3	—	22
N	**NR**	196.8	3.3	1.9	0.6	206.5	1.7	166.5	—	193.5	208	4.7	1.7	1	0.5	1.23
—	—	—	—	—	—	—	—	169	—	211	—	—	—	2	—	2.61
—	—	—	—	—	—	—	—	168	—	232	—	—	—	1.5	—	3.64
—	—	—	—	—	—	—	—	171	183	229	—	—	—	2	—	5.05
—	—	—	—	—	—	—	—	173	—	277	—	—	—	2.5	—	11.7
—	—	—	—	—	—	—	—	176	—	324	—	—	—	3	—	26
—	—	—	—	—	—	—	—	176.5	—	208.5	—	—	—	1	—	1.63
—	—	—	—	—	—	—	—	179	—	221	—	—	—	2	—	2.74
—	—	—	—	—	—	—	—	178	—	252	—	—	—	1.5	—	4.93
—	—	—	—	—	—	—	—	181	—	249	—	—	—	2	—	6.76
—	—	—	—	—	—	—	—	186	—	294	—	—	—	3	—	14.5
—	—	—	—	—	—	—	—	186	—	344	—	—	—	3	—	30.7

2）Sealed and shielded bearings are also available. 3）This dimension applies to sealed and shielded bearings. 4）Does not include bearings with snap rings.



Open Type



d 180～260mm

Boundary dimensions mm				Basic load ratings dynamic kN		Basic load ratings static kgf		Factor	Limiting speeds min-1		Bearing numbers
d	D	B	$r_{s\,min}$ 1)	C_r	C_{or}	C_r	C_{or}	f_o	grease lubrication	oil lubrication	open type
180	225	22	1.1	60.5	73.0	6 200	7 450	16.1	2 600	3 000	6836
	250	33	2	110	119	11 200	12 200	16.5	2 400	2 900	6936
	280	31	2	117	134	11 900	13 600	16.5	2 300	2 700	16036
	280	46	2.1	189	199	19 300	20 300	15.6	2 300	2 700	6036
	320	52	4	227	241	23 200	24 600	15.1	1 900	2 200	6236
	380	75	4	355	405	36 000	41 500	13.9	1 700	2 000	6336
190	240	24	1.5	73.0	88.0	7 450	9 000	16.1	2 400	2 900	6838
	260	33	2	113	127	11 500	13 000	16.6	2 300	2 700	6938
	290	31	2	134	156	13 700	15 900	16.6	2 100	2 500	16038
	290	46	2.1	197	215	20 100	21 900	15.8	2 100	2 500	6038
	340	55	4	255	281	26 000	28 700	15.0	1 800	2 100	6238
	400	78	5	355	415	36 000	42 500	14.1	1 600	1 900	6338
200	250	24	1.5	74.0	91.5	7 550	9 300	16.1	2 300	2 700	6840
	280	38	2.1	157	168	16 000	17 100	16.2	2 200	2 600	6940
	310	34	2	142	160	14 400	16 300	16.6	2 000	2 400	16040
	310	51	2.1	218	243	22 200	24 800	15.6	2 000	2 400	6040
	360	58	4	269	310	27 400	31 500	15.2	1 700	2 000	6240
	420	80	5	410	500	42 000	51 000	13.8	1 500	1 800	6340
220	270	24	1.5	76.5	98.0	7 800	10 000	16.0	2 100	2 400	6844
	300	38	2.1	160	180	16 400	18 400	16.4	2 000	2 300	6944
	340	37	2.1	181	216	18 500	22 000	16.5	1 800	2 200	16044
	340	56	3	241	289	24 600	29 400	15.8	1 800	2 200	6044
	400	65	4	297	365	30 500	37 000	15.3	1 500	1 800	6244
	460	88	5	410	520	42 000	53 000	14.3	1 400	1 600	6344
240	300	28	2	85.0	112	8 650	11 400	15.9	1 900	2 200	6848
	320	38	2.1	170	203	17 300	20 700	16.5	1 800	2 100	6948
	360	37	2.1	178	217	18 200	22 100	16.5	1 700	2 000	16048
	360	56	3	249	310	25 400	32 000	16.0	1 700	2 000	6048
260	320	28	2	87.0	120	8 900	12 200	15.8	1 700	2 000	6852
	360	46	2.1	222	280	22 600	28 500	16.3	1 600	1 900	6952
	400	44	3	227	299	23 200	30 500	16.5	1 500	1 800	16052
	400	65	4	291	375	29 700	38 500	15.8	1 500	1 800	6052

1) Smallest allowable dimension for chamfer dimension r.

Dynamic equivalent radial load

$P_r = XF_r + YF_a$

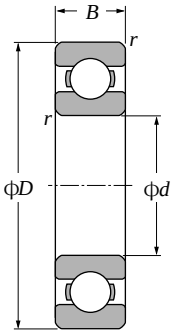
$\frac{f_0 \cdot F_a}{C_{or}}$	e	$\frac{F_a}{F_r} \leqq e$		$\frac{F_a}{F_r} > e$	
		X	Y	X	Y
0.172	0.19	1	0	0.56	2.30
0.345	0.22				1.99
0.689	0.26				1.71
1.03	0.28				1.55
1.38	0.30				1.45
2.07	0.34				1.31
3.45	0.38				1.15
5.17	0.42				1.04
6.89	0.44				1.00

Static equivalent radial load

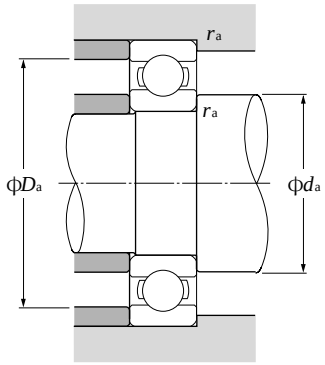
$P_{or} = 0.6F_r + 0.5F_a$

When $P_{or} < F_r$ use $P_{or} = F_r$

Abutment and fillet dimensions mm			Mass kg
d_a min	D_a max	r_{as} max	(approx.)
186.5	218.5	1	2.03
189	241	2	4.76
189	271	2	6.49
191	269	2	8.8
196	304	3	15.1
196	364	3	35.6
198	232	1.5	2.62
199	251	2	4.98
199	281	2	6.77
201	279	2	9.18
206	324	3	18.2
210	380	4	41
208	242	1.5	2.73
211	269	2	7.1
209	301	2	8.68
211	299	2	11.9
216	344	3	21.6
220	400	4	46.3
228	262	1.5	3
231	289	2	7.69
231	329	2	11.3
233	327	2.5	15.7
236	384	3	30.2
240	440	4	60.8
249	291	2	4.6
251	309	2	8.28
251	349	2	12.1
253	347	2.5	16.8
269	311	2	5
271	349	2	13.9
273	387	2.5	18.5
276	384	3	25



Open Type



d 280～440mm

Boundary dimensions mm				Basic load ratings dynamic kN		Basic load ratings static kgf		Factor	Limiting speeds min-1		Bearing numbers
d	D	B	$r_{s\,min}$ 1)	C_r	C_{or}	C_r	C_{or}	f_o	grease lubrication	oil lubrication	open type
280	350	33	2	137	177	13 900	18 100	16.1	1 600	1 900	6856
	380	46	2.1	227	299	23 200	30 500	16.5	1 500	1 800	6956
	420	44	3	232	315	23 700	32 500	16.5	1 400	1 600	16056
	420	65	4	325	420	33 000	43 000	15.5	1 400	1 600	6056
300	380	38	2.1	162	210	16 500	21 500	16.1	1 500	1 700	6860
	420	56	3	276	375	28 200	38 500	16.2	1 400	1 600	6960
	460	50	4	292	410	29 800	42 000	16.3	1 300	1 500	16060
	460	74	4	355	480	36 000	49 000	15.6	1 300	1 500	6060
320	400	38	2.1	168	228	17 200	23 200	16.1	1 400	1 600	6864
	440	56	3	285	405	29 000	41 000	16.4	1 300	1 500	6964
	480	50	4	300	440	30 500	45 000	16.4	1 200	1 400	16064
	480	74	4	370	530	38 000	54 000	15.7	1 200	1 400	6064
340	420	38	2.1	170	236	17 400	24 000	16.0	1 300	1 500	6868
	460	56	3	293	430	29 800	44 000	16.5	1 200	1 400	6968
	520	57	4	340	515	35 000	52 500	16.3	1 100	1 300	16068
	520	82	5	420	610	42 500	62 500	15.6	1 100	1 300	6068
360	440	38	2.1	187	258	19 100	26 300	16.0	1 200	1 400	6872
	480	56	3	300	455	30 500	46 500	16.5	1 100	1 300	6972
	540	57	4	350	550	36 000	56 000	16.4	1 100	1 200	16072
	540	82	5	440	670	44 500	68 000	15.7	1 100	1 200	6072
380	480	46	2.1	231	340	23 600	34 500	16.1	1 100	1 300	6876
	520	65	4	325	510	33 000	52 000	16.6	1 100	1 200	6976
	560	82	5	455	725	46 500	74 000	15.9	990	1 200	6076
400	500	46	2.1	226	340	23 100	34 500	16.0	1 100	1 200	6880
	540	65	4	335	535	34 000	54 500	16.5	990	1 200	6980
	600	90	5	510	825	52 000	84 000	15.7	930	1 100	6080
420	520	46	2.1	260	405	26 500	41 500	16.1	1 000	1 200	6884
	560	65	4	340	560	35 000	57 000	16.4	940	1 100	6984
	620	90	5	530	895	54 000	91 000	15.8	880	1 000	6084
440	540	46	2.1	264	420	26 900	43 000	16.0	950	1 100	6888
	600	74	4	365	615	37 500	63 000	16.4	890	1 000	6988

1) Smallest allowable dimension for chamfer dimension r.

Dynamic equivalent radial load

$P_r = XF_r + YF_a$

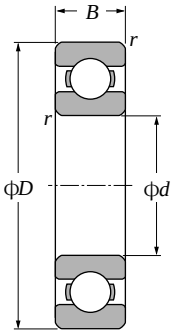
$\frac{f_0 \cdot F_a}{C_{or}}$	e	$\frac{F_a}{F_r} \leqq e$		$\frac{F_a}{F_r} > e$	
		X	Y	X	Y
0.172	0.19	1	0	0.56	2.30
0.345	0.22				1.99
0.689	0.26				1.71
1.03	0.28				1.55
1.38	0.30				1.45
2.07	0.34				1.31
3.45	0.38				1.15
5.17	0.42				1.04
6.89	0.44				1.00

Static equivalent radial load

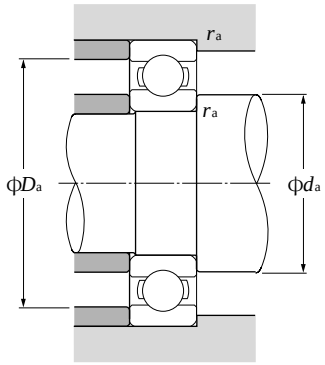
$P_{or} = 0.6F_r + 0.5F_a$

When $P_{or} < F_r$ use $P_{or} = F_r$

Abutment and fillet dimensions mm			**Mass** kg
d_a min	D_a max	r_{as} max	(approx.)
289	341	2	7.4
291	369	2	14.8
293	407	2.5	23
296	404	3	31
311	369	2	10.5
313	407	2.5	23.5
316	444	3	32.5
316	444	3	43.8
331	389	2	10.9
333	427	2.5	24.8
336	464	3	34.2
336	464	3	46.1
351	409	2	11.5
353	447	2.5	26.2
356	504	3	47.1
360	500	4	61.8
371	429	2	12.3
373	467	2.5	27.5
376	524	3	49.3
380	520	4	64.7
391	469	2	19.7
396	504	3	39.8
400	540	4	67.5
411	489	2	20.6
416	524	3	41.6
420	580	4	87.6
431	509	2	21.6
436	544	3	43.4
440	600	4	91.1
451	529	2	22.5
456	584	3	60



Open Type



d 460～600mm

Boundary dimensions				Basic load ratings (dynamic)		Basic load ratings (static)		Factor	Limiting speeds (min-1)		Bearing numbers
mm				kN		kgf					
d	D	B	$r_{s\,min}$ 1)	C_r	C_{or}	C_r	C_{or}	f_o	grease lubrication	oil lubrication	open type
460	580	56	3	315	515	32 000	52 500	16.2	900	1 100	**6892**
	620	74	4	375	645	38 500	66 000	16.4	850	1 000	**6992**
480	600	56	3	320	540	32 500	55 000	16.1	860	1 000	**6896**
	650	78	5	430	770	44 000	78 500	16.5	810	950	**6996**
500	620	56	3	325	560	33 500	57 000	16.1	820	970	**68/500**
	670	78	5	445	805	45 500	82 500	16.5	770	910	**69/500**
530	650	56	3	330	580	34 000	59 500	16.0	770	900	**68/530**
560	680	56	3	335	600	34 000	61 500	16.0	710	840	**68/560**
600	730	60	3	375	705	38 500	72 000	16.0	660	780	**68/600**

1) Smallest allowable dimension for chamfer dimension r.

Dynamic equivalent radial load

$P_r = XF_r + YF_a$

$\frac{f_0 \cdot F_a}{C_{or}}$	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				1.99
0.689	0.26				1.71
1.03	0.28				1.55
1.38	0.30				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

$P_{or} = 0.6F_r + 0.5F_a$

When $P_{or} < F_r$ use $P_{or} = F_r$

Abutment and fillet dimensions mm			**Mass** kg
d_a min	D_a max	r_{as} max	(approx.)
473	567	2.5	34.8
476	604	3	62.2
493	587	2.5	36.2
500	630	4	73.0
513	607	2.5	37.5
520	650	4	75.5
543	637	2.5	39.5
573	667	2.5	41.5
613	717	2.5	51.7