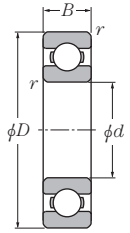


Open type

Shielded type (ZZ)

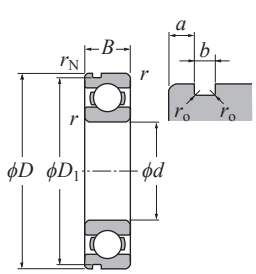
Non-contact sealed type (LLB)

Contact sealed type (LLU)

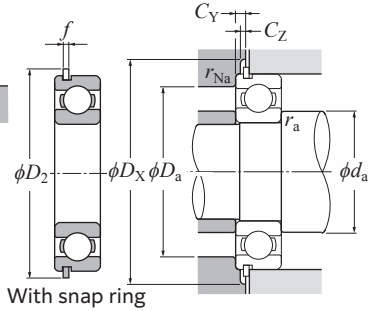
d 65–85 mm

Boundary dimensions mm					Basic load rating dynamic kN	Basic load rating static kN	Fatigue load limit kN	Factor	Allowable speed min^{-1} Grease	Allowable speed min^{-1} Oil		Bearing number			
									Open type ZZ, LLB	Open type Z, LB	LLU	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	Z, LLB	Z, LB	LU				
	85	10	0.6	0.5	12.8	11.0	0.730	16.2	7 400	8 700	4 100	**6813**	ZZ	LLB	LLU
	90	13	1	0.5	19.3	16.1	1.07	16.6	7 000	8 200	4 000	**6913**	ZZ	LLB	LLU
	100	11	0.6	—	22.7	18.7	1.26	16.5	6 500	7 700	—	**16013**	—	—	—
65	100	18	1.1	0.5	34.0	25.2	1.83	15.8	6 500	7 700	3 900	**6013**	ZZ	LLB	LLU
	120	23	1.5	0.5	63.5	40.0	3.15	14.4	5 500	6 500	3 600	**6213**	ZZ	LLB	LLU
	140	33	2.1	0.5	103	60.0	4.60	13.2	4 900	5 800	3 300	**6313**	ZZ	LLB	LLU
	160	37	2.1	—	123	72.5	5.35	12.7	4 400	5 200	—	**6413**	—	—	—
	90	10	0.6	0.5	13.4	11.9	0.795	16.1	6 900	8 100	3 800	**6814**	ZZ	LLB	LLU
	100	16	1	0.5	26.3	21.2	1.45	16.3	6 500	7 700	3 700	**6914**	ZZ	LLB	LLU
	110	13	0.6	—	27.0	22.6	1.52	16.5	6 100	7 100	—	**16014**	—	—	—
70	110	20	1.1	0.5	42.0	31.0	2.30	15.6	6 100	7 100	3 600	**6014**	ZZ	LLB	LLU
	125	24	1.5	0.5	69.0	44.0	3.45	14.5	5 100	6 000	3 400	**6214**	ZZ	LLB	LLU
	150	35	2.1	0.5	115	68.0	5.10	13.2	4 600	5 400	3 100	**6314**	ZZ	LLB	LLU
	180	42	3	—	142	89.5	6.25	12.7	4 100	4 800	—	**6414**	—	—	—
	95	10	0.6	0.5	13.9	12.9	0.855	16.0	6 400	7 600	3 600	**6815**	ZZ	LLB	LLU
	105	16	1	0.5	27.0	22.6	1.52	16.5	6 100	7 200	3 500	**6915**	ZZ	LLB	LLU
	115	13	0.6	—	27.6	24.0	1.60	16.6	5 700	6 700	—	**16015**	—	—	—
75	115	20	1.1	0.5	44.0	33.5	2.44	15.8	5 700	6 700	3 300	**6015**	ZZ	LLB	LLU
	130	25	1.5	0.5	73.5	49.5	3.80	14.7	4 800	5 600	3 200	**6215**	ZZ	LLB	LLU
	160	37	2.1	0.5	126	77.0	5.55	13.2	4 300	5 000	2 900	**6315**	ZZ	LLB	LLU
	190	45	3	—	152	99.0	6.70	12.7	3 800	4 500	—	**6415**	—	—	—
	100	10	0.6	0.5	14.0	13.3	0.885	16.0	6 000	7 100	3 400	**6816**	ZZ	LLB	LLU
	110	16	1	0.5	27.6	24.0	1.59	16.6	5 700	6 700	3 200	**6916**	ZZ	LLB	LLU
	125	14	0.6	—	28.1	25.1	1.64	16.4	5 300	6 200	—	**16016**	—	—	—
80	125	22	1.1	0.5	53.0	40.0	2.91	15.6	5 300	6 200	3 100	**6016**	ZZ	LLB	LLU
	140	26	2	0.5	80.5	53.0	3.95	14.6	4 500	5 300	3 000	**6216**	ZZ	LLB	LLU
	170	39	2.1	0.5	136	86.5	6.05	13.3	4 000	4 700	2 700	**6316**	ZZ	LLB	LLU
	200	48	3	—	181	125	8.20	12.3	3 600	4 200	—	**6416**	—	—	—
	110	13	1	0.5	20.7	19.0	1.26	16.2	5 700	6 700	3 100	**6817**	ZZ	LLB	LLU
	120	18	1.1	0.5	35.5	29.6	1.99	16.4	5 400	6 300	3 000	**6917**	ZZ	LLB	LLU
	130	14	0.6	—	28.7	26.2	1.68	16.4	5 000	5 900	—	**16017**	—	—	—
85	130	22	1.1	0.5	55.0	43.0	3.00	15.8	5 000	5 900	2 900	**6017**	ZZ	LLB	LLU
	150	28	2	0.5	92.0	64.0	4.60	14.7	4 200	5 000	2 800	**6217**	ZZ	LLB	LLU
	180	41	3	0.5	147	97.0	6.55	13.3	3 800	4 500	2 600	**6317**	ZZ	LLB	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	$\frac{F_a}{F_r} \le e$		$\frac{F_a}{F_r} > e$	
		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

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

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

Bearing number Groove / Snap ring [3] (See drawings)		Snap ring groove dimensions mm				Snap ring dimensions mm		Installation-related dimensions mm								Mass [5] kg
		D_1 Max.	a Max.	b Min.	r_o Max.	D_2 Max.	f Max.	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.	(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

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.