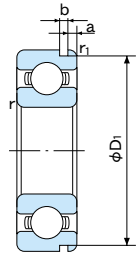


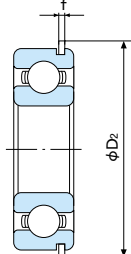
Deep-groove Ball Bearings

With snap ring groove / With snap ring / Shield type with snap ring

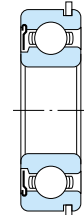
Bore Diameter : 10~30mm



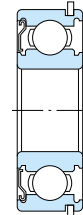
With snap ring groove (N)



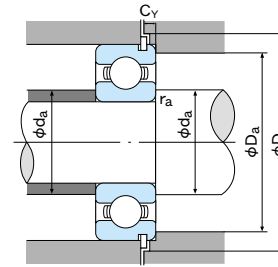
With snap ring (NR)



Shield type with snap ring (ZNR)



Shield type with snap ring (ZENR)



1N=0.102kgf

• Dynamic equivalent radial load
 $P_r = XFr + YFa$

• Static equivalent radial load
 Larger value of following to be used:
 $P_{or} = 0.6Fr + 0.5Fa$
 $P_{or} = Fr$

Fa / Cor	e	Fa / Fr ≤ e		Fa / Fr > e	
		X	Y	X	Y
0.014	0.19	1	0	0.56	2.30
0.028	0.22				1.99
0.056	0.26				1.71
0.084	0.28	1	0	0.56	1.55
0.11	0.30				1.45
0.17	0.34				1.31
0.28	0.38	1	0	0.56	1.15
0.42	0.42				1.04
0.56	0.44				1.00

Boundary dimensions (mm)			Dimensions of snap ring groove and snap ring (mm)							Bearing No. ⁽¹⁾			Basic dynamic load rating Cr (N)	Basic static load rating Cor (N)	Limiting speed (rpm)		Abutment and fillet dimensions (mm)					Mass (kg)	Bearing No.
d	D	B	r (min)	r1 (min)	D1 (max)	a (max)	b (min)	D2 (max)	f (max)						Grease lubrication	Oil lubrication	da (min)	Da (max)	Dx (min)	ra (max)	Cy (max)		
10	22	6	0.3	0.3	20.8	1.05	0.8	24.8	0.7	6900N	6900NR	6900ZENR	2490	1130	33000	38000	12	20	25.5	0.3	1.5	0.010	6900N
	30	9	0.6	0.5	28.17	2.06	1.35	34.7	1.12	6200N	6200NR	6200ZENR	5100	2390	24000	30000	15	25	35.5	0.6	2.9	0.032	6200N
	35	11	0.6	0.5	33.17	2.06	1.35	39.7	1.12	6300N	6300NR	6300ZENR	8100	3450	21000	26000	15	30	40.5	0.6	2.9	0.053	6300N
12	24	6	0.3	0.3	22.8	1.05	0.8	26.8	0.7	6901N	6901NR	6901ZENR	2700	1320	30000	35000	14	22	27.5	0.3	1.5	0.012	6901N
	32	10	0.6	0.5	30.15	2.06	1.35	36.7	1.12	6201N	6201NR	6201ZENR	6800	3050	22000	27000	17	27	37.5	0.6	2.9	0.037	6201N
	37	12	1	0.5	34.77	2.06	1.35	41.3	1.12	6301N	6301NR	6301ZENR	9750	4250	19000	24000	18	31	42	1	2.9	0.060	6301N
15	28	7	0.3	0.3	26.7	1.3	0.95	30.8	0.85	6902N	6902NR	6902ZENR	4300	2250	26000	31000	17	26	31.5	0.3	1.8	0.017	6902N
	32	9	0.3	0.3	30.15	2.06	1.35	36.7	0.85	6002N	6002NR	6002ZENR	5600	2840	23000	28000	17	30	37.5	0.3	2.9	0.033	6002N
	35	11	0.6	0.5	33.17	2.06	1.35	39.7	1.12	6202N	6202NR	6202ZENR	7650	3700	19000	24000	20	30	40.5	0.6	2.9	0.045	6202N
	42	13	1	0.5	39.75	2.06	1.35	46.3	1.12	6302N	6302NR	6302ZENR	11400	5400	17000	20000	21	36	47	1	2.9	0.082	6302N
17	30	7	0.3	0.3	28.7	1.3	0.95	32.8	0.85	6903N	6903NR	6903ZENR	4600	2550	24000	29000	19	28	33.5	0.3	1.8	0.019	6903N
	35	10	0.3	0.3	33.17	2.06	1.35	39.7	1.12	6003N	6003NR	6003ZENR	6000	3250	20000	25000	19	33	40.5	0.3	2.9	0.041	6003N
	40	12	0.6	0.5	38.1	2.06	1.35	44.6	1.12	6203N	6203NR	6203ZENR	9550	4800	17000	21000	22	35	45.5	0.6	2.9	0.065	6203N
	47	14	1	0.5	44.6	2.46	1.35	52.7	1.12	6303N	6303NR	6303ZENR	13600	6550	15000	18000	23	41	53.5	1	3.3	0.115	6303N
20	32	7	0.3	0.3	30.7	1.3	0.95	34.8	0.85	6804N	6804NR	6804ZENR	4000	2640	20000	24000	22	30	35.5	0.3	1.8	0.020	6804N
	37	9	0.3	0.3	35.7	1.7	0.95	39.8	0.85	6904N	6904NR	6904ZENR	6350	3700	19000	23000	22	35	40.5	0.3	2.3	0.037	6904N
	42	12	0.6	0.5	39.75	2.06	1.35	46.3	1.12	6004N	6004NR	6004ZENR	9400	5000	17000	21000	24	38	47	0.6	2.9	0.069	6004N
22	47	14	1	0.5	44.6	2.46	1.35	52.7	1.12	6204N	6204NR	6204ZENR	12800	6600	14000	18000	26	41	53.5	1	3.3	0.106	6204N
	52	15	1.1	0.5	49.73	2.46	1.35	57.9	1.12	6304N	6304NR	6304ZENR	15900	7900	13000	16000	27	45	58.5	1	3.3	0.144	6304N
	50	14	1	0.5	47.6	2.46	1.35	55.7	1.12	62/22N	62/22NR	62/22ZENR	13900	6950	13000	17000	28	44	56.5	1	3.3	0.120	62/22N
25	56	16	1.1	0.5	53.6	2.46	1.35	61.7	1.12	63/22N	63/22NR	63/22ZENR	18400	9250	12000	15000	29	49	62.5	1	3.3	0.176	63/22N
	37	7	0.3	0.3	35.7	1.3	0.95	39.8	0.85	6805N	6805NR	6805ZENR	4300	2940	18000	20000	27	35	40.5	0.3	1.8	0.023	6805N
	42	9	0.3	0.3	40.7	1.7	0.95	44.8	0.85	6905N	6905NR	6905ZENR	7000	4500	16000	20000	27	40	45.5	0.3	2.3	0.044	6905N
28	47	12	0.6	0.5	44.6	2.06	1.35	52.7	1.12	6005N	6005NR	6005ZENR	10100	5850	15000	18000	29	43	53.5	0.6	2.9	0.078	6005N
	52	15	1	0.5	49.73	2.46	1.35	57.9	1.12	6205N	6205NR	6205ZENR	14000	7900	12000	16000	31	46	58.5	1	3.3	0.128	6205N
	62	17	1.1	0.5	59.61	3.28	1.9	67.7	1.7	6305N	6305NR	6305ZENR	23600	12100	11000	14000	32	55	68.5	1	4.6	0.232	6305N
	58	16	1	0.5	55.6	2.46	1.35	63.7	1.12	62/28N	62/28NR	62/28ZENR	17900	9750	11000	14000	34	52	64.5	1	3.3	0.175	62/28N
30	68	18	1.1	0.5	64.82	3.28	1.9	74.6	1.7	63/28N	63/28NR	63/28ZENR	26800	14000	10000	12000	35	61	76	1	4.6	0.287	63/28N
	42	7	0.3	0.3	40.7	1.3	0.95	44.8	0.85	6806N	6806NR	6806ZENR	5350	3800	15000	17000	32	40	45.5	0.3	1.8	0.027	6806N
	47	9	0.3	0.3	45.7	1.7	0.95	49.8	0.85	6906N	6906NR	6906ZENR	7250	5000	14000	16000	32	45	50.5	0.3	2.3	0.047	6906N
30	55	13	1	0.5	52.6	2.08	1.35	60.7	1.12	6006N	6006NR	6006ZENR	13200	8300	12000	15000	35	50	61.5	1	2.9	0.113	6006N
	62	16	1	0.5	59.61	3.28	1.9	67.7	1.7	6206N	6206NR	6206ZENR	19500	11300	10000	13000	36	56	68.5	1	4.6	0.199	6206N
	72	19	1.1	0.5	68.81	3.28	1.9	78.6	1.7	6306N	6306NR	6306ZENR	26700	15000	9200	11000	37	65	80	1	4.6	0.346	6306N

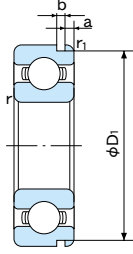
Note: (1) Bearing No. ZE means one shield type, two shields type is also available.

Remarks: Dimensions of snap ring groove and snap ring are shown on pages 45 to 48.

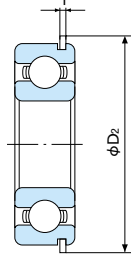
Deep-groove Ball Bearings

With snap ring groove / With snap ring / Shield type with snap ring

Bore Diameter : 32~60mm



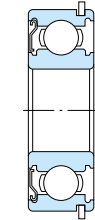
With snap ring groove (N)



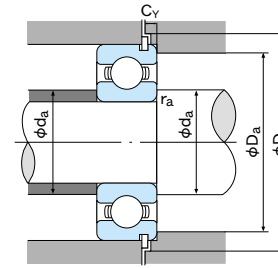
With snap ring (NR)



Shield type with snap ring (ZNR)



Shield type with snap ring (ZENR)



1N=0.102kgf

• Dynamic equivalent radial load
Pr=XFr+YFa

• Static equivalent radial load
Larger value of following to be used:
Por=0.6Fr+0.5Fa
P0r=Fr

Fa / Cor	e	Fa / Fr ≤ e		Fa / Fr > e	
		X	Y	X	Y
0.014	0.19	1	0	0.56	2.30
0.028	0.22				1.99
0.056	0.26				1.71
0.084	0.28	1	0	0.56	1.55
0.11	0.30				1.45
0.17	0.34				1.31
0.28	0.38	1	0	0.56	1.15
0.42	0.42				1.04
0.56	0.44				1.00

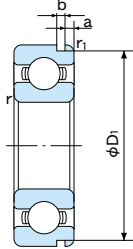
Boundary dimensions (mm)				Dimensions of snap ring groove and snap ring (mm)					Bearing No. ⁽¹⁾			Basic dynamic load rating Cr (N)	Basic static load rating Cor (N)	Limiting speed (rpm)		Abutment and fillet dimensions (mm)					Mass (kg)	Bearing No.	
d	D	B	r (min)	r1 (min)	D1 (max)	a (max)	b (min)	D2 (max)	f (max)				Grease lubrication	Oil lubrication	da (min)	Da (max)	Dx (min)	ra (max)	Cy (max)				
32	65	17	1	0.5	62.6	3.28	1.9	70.7	1.7	62/32N	62/32NR	62/32ZENR	22400	13100	9500	12000	38	59	71.5	1	4.6	0.230	62/32N
	75	20	1.1	0.5	71.83	3.28	1.9	81.6	1.7	63/32N	63/32NR	63/32ZENR	30000	16200	9000	11000	39	68	83	1	4.6	0.382	63/32N
35	47	7	0.3	0.3	45.7	1.3	0.95	49.8	0.85	6807N	6807NR	6807ZENR	4750	3800	13000	15000	37	45	50.5	0.3	1.8	0.030	6807N
	55	10	0.6	0.5	53.7	1.7	0.95	57.8	0.85	6907N	6907NR	6907ZENR	10400	7150	12000	14000	39	51	58.5	0.6	2.3	0.075	6907N
	62	14	1	0.5	59.61	2.08	1.9	67.7	1.7	6007N	6007NR	6007ZENR	16000	10300	11000	13000	40	57	68.5	1	3.4	0.150	6007N
	72	17	1.1	0.5	68.81	3.28	1.9	78.6	1.6	6207N	6207NR	6207ZENR	25700	15300	9000	11000	42	65	80	1	4.6	0.288	6207N
40	80	21	1.5	0.5	76.81	3.28	1.9	86.6	1.6	6307N	6307NR	6307ZENR	33500	19100	8400	10000	44	71	88	1.5	4.6	0.457	6307N
	52	7	0.3	0.3	50.7	1.3	0.95	54.8	0.85	6808N	6808NR	6808ZENR	5950	4900	12000	14000	42	50	55.5	0.3	1.8	0.034	6808N
	62	12	0.6	0.5	60.7	1.7	0.95	64.8	0.85	6908N	6908NR	6908ZENR	13700	9950	11000	13000	44	58	65.5	0.6	2.3	0.110	6908N
	68	15	1	0.5	64.82	2.49	1.9	74.6	1.7	6008N	6008NR	6008ZENR	16800	11500	9500	12000	45	63	76	1	3.8	0.186	6008N
45	80	18	1.1	0.5	76.81	3.28	1.9	86.6	1.7	6208N	6208NR	6208ZENR	29100	17900	8200	10000	47	73	88	1	4.6	0.366	6208N
	90	23	1.5	0.5	86.79	3.28	2.7	96.5	2.46	6308N	6308NR	6308ZENR	40500	24100	7500	9000	49	81	98	1.5	5.9	0.633	6308N
	58	7	0.3	0.3	56.7	1.3	0.95	60.8	0.85	6809N	6809NR	6809ZENR	5350	4900	11000	13000	47	56	61.5	0.3	1.8	0.042	6809N
	68	12	0.6	0.5	66.7	1.7	0.95	70.8	0.85	6909N	6909NR	6909ZENR	14100	10900	10000	12000	49	64	72	0.6	2.3	0.124	6909N
50	75	16	1	0.5	71.83	2.49	1.9	81.6	1.7	6009N	6009NR	6009ZENR	20900	15200	8800	11000	50	70	83	1	3.8	0.239	6009N
	85	19	1.1	0.5	81.81	3.28	1.9	91.6	1.7	6209N	6209NR	6209ZENR	32500	20500	7600	9300	52	78	93	1	4.6	0.407	6209N
	100	25	1.5	0.5	96.8	3.28	2.7	106.5	2.46	6309N	6309NR	6309ZENR	53000	32000	6700	8000	54	91	108	1.5	5.4	0.833	6309N
	65	7	0.3	0.3	63.7	1.3	0.95	67.8	0.85	6810N	6810NR	6810ZENR	6400	5800	10000	12000	52	63	68.5	0.3	1.8	0.054	6810N
55	72	12	0.6	0.5	70.7	1.7	0.95	74.8	0.85	6910N	6910NR	6910ZENR	14500	11700	9500	11000	54	68	76	0.6	2.3	0.127	6910N
	80	16	1	0.5	76.81	2.49	1.9	86.6	1.7	6010N	6010NR	6010ZENR	21800	16600	8300	10000	55	75	88	1	3.8	0.252	6010N
	90	20	1.1	0.5	86.79	3.28	2.7	96.5	2.46	6210N	6210NR	6210ZENR	35000	23200	7000	8600	57	83	98	1	5.4	0.463	6210N
	110	27	2	0.5	106.81	3.28	2.7	116.6	2.46	6310N	6310NR	6310ZENR	62000	38100	6200	7300	60	100	118	2	5.4	1.07	6310N
60	72	9	0.3	0.3	70.7	1.7	0.95	74.8	0.85	6811N	6811NR	6811ZENR	8800	8100	8500	10000	57	70	76	0.3	2.3	0.085	6811N
	80	13	1	0.5	77.9	2.1	1.3	84.4	1.12	6911N	6911NR	6911ZENR	16000	13200	8000	9000	60	75	86	1	2.9	0.180	6911N
	90	18	1.1	0.5	86.79	2.87	2.7	96.5	2.46	6011N	6011NR	6011ZENR	28300	21300	7500	9000	61	84	98	1	5	0.375	6011N
60	100	21	1.5	0.5	96.8	3.28	2.7	106.5	2.46	6211N	6211NR	6211ZENR	43500	29300	6300	7700	64	91	108	1.5	5.4	0.607	6211N
	120	29	2	0.5	115.21	4.06	3.1	129.7	2.82	6311N	6311NR	6311ZENR	71500	44500	5600	6600	65	110	131.5	2	6.5	1.37	6311N
	78	10	0.3	0.3	76.2	1.7	1.3	82.7	1.12	6812N	6812NR	6812ZENR	11500	10600	8000	9500	62	76	84	0.3	2.5	0.110	6812N
	85	13	1	0.5	82.9	2.1	1.3	89.4	1.12	6912N	6912NR	6912ZENR	15200	13500	7500	9000	65	80	91	1	2.9	0.195	6912N
	95	18	1.1	0.5	91.82	2.87	2.7	101.6	2.46	6012N	6012NR	6012ZENR	29400	23200	7000	8300	66	89	103	1	5	0.403	6012N
60	110	22	1.5	0.5	106.81	3.28	2.7	116.6	2.46	6212N	6212NR	6212ZENR	52500	36000	5800	7100	69	101	118	1.5	5.4	0.783	6212N
	130	31	2.1	0.5	125.22	4.06	3.1	139.7	2.82	6312N	6312NR	6312ZENR	82000	52000	5100	6100	72	118	141.5	2	6.5	1.70	6312N

Note: (1) Bearing No. ZE means one shield type, two shields type is also available.
Remarks: Dimensions of snap ring groove and snap ring are shown on pages 45 to 48.

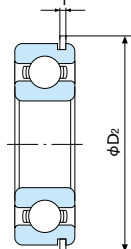
Deep-groove Ball Bearings

With snap ring groove / With snap ring / Shield type with snap ring

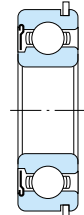
Bore Diameter : 65~90mm



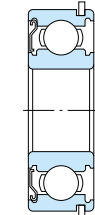
With snap ring groove (N)



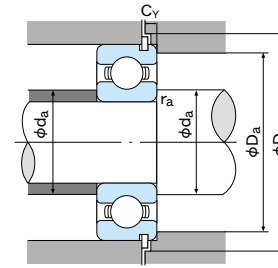
With snap ring (NR)



Shield type with snap ring (ZNR)



Shield type with snap ring (ZENR)



1N=0.102kgf

• Dynamic equivalent radial load
 $P_r = XFr + YFa$

• Static equivalent radial load
 Larger value of following to be used:
 $P_{or} = 0.6Fr + 0.5Fa$
 $P_{or} = Fr$

Fa / Cor	e	Fa / Fr ≤ e		Fa / Fr > e	
		X	Y	X	Y
0.014	0.19	1	0	0.56	2.30
0.028	0.22				1.99
0.056	0.26				1.71
0.084	0.28	1	0	0.56	1.55
0.11	0.30				1.45
0.17	0.34				1.31
0.28	0.38	1	0	0.56	1.15
0.42	0.42				1.04
0.56	0.44				1.00

Boundary dimensions (mm)					Dimensions of snap ring groove and snap ring (mm)					Bearing No. ⁽¹⁾			Basic dynamic load rating Cr (N)	Basic static load rating Cor (N)	Limiting speed (rpm)		Abutment and fillet dimensions (mm)					Mass (kg)	Bearing No.
d	D	B	r (min)	r1 (min)	D1 (max)	a (max)	b (min)	D2 (max)	f (max)						Grease lubrication	Oil lubrication	da (min)	Da (max)	Dx (min)	ra (max)	Cy (max)		
65	85	10	0.6	0.5	82.9	1.7	1.3	89.4	1.12	6813N	6813NR	6813ZNR	11900	11500	7500	8500	69	81	91	0.6	2.5	0.130	6813N
	90	13	1	0.5	87.9	2.1	1.3	94.4	1.12	6913N	6913NR	6913ZNR	17400	16000	7000	8500	70	85	96	1	2.9	0.210	6913N
	100	18	1.1	0.5	96.8	2.87	2.7	106.5	2.46	6013N	6013NR	6013ZENR	30500	25200	6500	7800	71	94	108	1	5	0.413	6013N
	120	23	1.5	0.5	115.21	4.06	3.1	129.7	2.82	6213N	6213NR	6213ZENR	57000	40000	5300	6500	74	111	131.5	1.5	6.5	0.990	6213N
	140	33	2.1	0.5	135.23	4.9	3.1	149.7	2.82	6313N	6313NR	6313ZENR	92500	59500	4700	5700	77	128	152	2	7.3	2.08	6313N
70	90	10	0.6	0.5	87.9	1.7	1.3	94.4	1.12	6814N	6814NR	6814ZNR	12100	11900	7000	8000	74	86	96	0.6	2.5	0.140	6814N
	100	16	1	0.5	97.9	2.5	1.3	104.4	1.12	6914N	6914NR	6914ZNR	23700	21100	6500	7500	75	95	106	1	3.3	0.332	6914N
	110	20	1.1	0.5	106.81	2.87	2.7	116.6	2.46	6014N	6014NR	6014ZENR	38000	31000	6000	7100	76	104	118	1	5	0.580	6014N
	125	24	1.5	0.5	120.22	4.06	3.1	134.7	2.82	6214N	6214NR	6214ZENR	62000	44000	5000	5900	79	116	136.5	1.5	6.5	1.07	6214N
	150	35	2.1	0.5	145.24	4.9	3.1	159.7	2.82	6314N	6314NR	6314ZENR	104000	68000	4400	5300	82	138	162	2.0	7.3	2.52	6314N
75	95	10	0.6	0.5	92.9	1.7	1.3	99.4	1.12	6815N	6815NR	6815ZNR	12500	12800	6500	7500	79	91	101	0.6	2.5	0.150	6815N
	105	16	1	0.5	102.6	2.5	1.3	110.7	1.12	6915N	6915NR	6915ZNR	20800	19700	6200	7200	80	100	112	1	3.3	0.350	6915N
	115	20	1.1	0.5	111.81	2.87	2.7	121.6	2.46	6015N	6015NR	6015ZENR	39500	33500	5700	6700	81	109	123	1	5	0.615	6015N
	130	25	1.5	0.5	125.22	4.06	3.1	139.7	2.82	6215N	6215NR	6215ZENR	66000	49500	4800	5600	84	121	141.5	1.5	6.5	1.18	6215N
	160	37	2.1	0.5	155.22	4.9	3.1	169.7	2.82	6315N	6315NR	6315ZENR	113000	77000	4100	5000	87	148	172	2	7.3	3.02	6315N
80	100	10	0.6	0.5	97.9	1.7	1.3	104.4	1.12	6816N	6816NR	6816ZNR	12700	13300	6000	7000	84	96	106	0.6	2.5	0.160	6816N
	110	16	1	0.5	107.6	2.5	1.3	115.7	1.12	6916N	6916NR	6916ZNR	27600	25300	5500	6500	85	105	117	1	3.3	0.370	6916N
	125	22	1.1	0.5	120.22	2.87	3.1	134.7	2.82	6016N	6016NR	6016ZNR	47500	39500	5300	6200	86	119	136.5	1	5.3	0.825	6016N
	140	26	2	0.5	135.23	4.9	3.1	149.7	2.82	6216N	6216NR	6216ZENR	72500	53000	4500	5200	90	130	152	2	7.3	1.40	6216N
	170	39	2.1	0.5	163.65	5.69	3.5	182.9	3.1	6316N	6316NR	6316ZENR	123000	86500	3800	4500	92	158	185	2	8.4	3.59	6316N
85	110	13	1	0.5	107.6	2.1	1.3	115.7	1.12	6817N	6817NR	6817ZNR	18700	19000	5500	6500	90	105	117	1	2.9	0.272	6817N
	120	18	1.1	0.5	117.6	3.3	1.3	125.7	1.12	6917N	6917NR	6917ZNR	32000	29600	5200	6300	91	113	127	1	4.1	0.524	6917N
	130	22	1.1	0.5	125.22	2.87	3.1	139.7	2.82	6017N	6017NR	6017ZENR	49500	43000	5000	6000	91	124	141.5	1	5.3	0.863	6017N
	150	28	2	0.5	145.24	4.9	3.1	159.7	2.82	6217N	6217NR	6217ZENR	84000	62000	4200	4900	95	140	162	2	7.3	1.79	6217N
	180	41	3	0.5	173.66	5.69	3.5	192.9	3.1	6317N	6317NR	6317ZENR	133000	96500	3600	4300	99	166	195	2.5	8.4	4.23	6317N
90	115	13	1	0.5	112.6	2.1	1.3	120.7	1.2	6818N	6818NR	6818ZNR	19000	19700	5300	6200	95	110	122	1	2.9	0.288	6818N
	125	18	1.1	0.5	122.6	3.3	1.3	130.7	1.12	6918N	6918NR	6918ZNR	33000	31500	5000	6000	96	119	132	1	4.1	0.549	6918N
	140	24	1.5	0.5	135.23	3.71	3.1	149.7	2.82	6018N	6018NR	6018ZENR	58000	49500	4700	5600	97	133	152	1.5	6.1	1.13	6018N
	160	30	2	0.5	155.22	4.9	3.1	169.7	2.82	6218N	6218NR	6218ZENR	96000	71500	3900	4600	100	150	172	2	7.3	2.15	6218N
	190	43	3	0.5	183.64	5.69	3.5	202.9	3.1	6318N	6318NR	6318ZENR	143000	107000	3400	4000	104	176	205	2.5	8.4	4.91	6318N

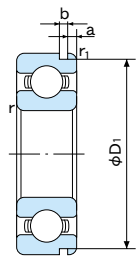
Note: (1) Bearing No. Z or ZE means one shield type, two shields type are also available.

Remarks: Dimensions of snap ring groove and snap ring are shown on pages 45 to 48.

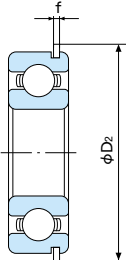
Deep-groove Ball Bearings

With snap ring groove / With snap ring / Shield type with snap ring

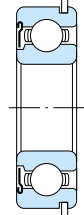
Bore Diameter : 95~130mm



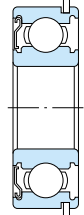
With snap ring groove (N)



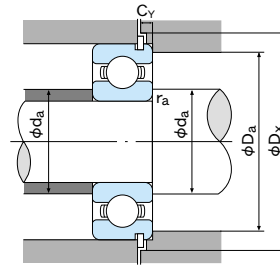
With snap ring (NR)



Shield type with snap ring (ZNR)



Shield type with snap ring (ZENR)



1N=0.102kgf

• Dynamic equivalent radial load
 $P_r = XFr + YFa$

• Static equivalent radial load
 Larger value of following to be used:
 $P_{or} = 0.6Fr + 0.5Fa$
 $P_{or} = Fr$

Fa / Cor	e	Fa / Fr ≤ e		Fa / Fr > e	
		X	Y	X	Y
0.014	0.19	1	0	0.56	2.30
0.028	0.22				1.99
0.056	0.26				1.71
0.084	0.28	1	0	0.56	1.55
0.11	0.30				1.45
0.17	0.34				1.31
0.28	0.38	1	0	0.56	1.15
0.42	0.42				1.04
0.56	0.44				1.00

Boundary dimensions (mm)				Dimensions of snap ring groove and snap ring (mm)						Bearing No. ⁽¹⁾			Basic dynamic load rating Cr (N)	Basic static load rating Cor (N)	Limiting speed (rpm)		Abutment and fillet dimensions (mm)					Mass (kg)	Bearing No.
d	D	B	r (min)	r1 (min)	D1 (max)	a (max)	b (min)	D2 (max)	f (max)						Grease lubrication	Oil lubrication	da (min)	Da (max)	Dx (min)	ra (max)	Cy (max)		
95	120	13	1	0.5	117.6	2.1	1.3	125.7	1.12	6819N	6819NR	6819ZNR	19300	20500	5000	6000	100	115	127	1	2.9	0.307	6819N
	130	18	1.1	0.5	127.6	3.3	1.3	135.7	1.12	6919N	6919NR	6919ZNR	33500	33500	4700	5500	101	124	137	1	4.1	0.576	6919N
	145	24	1.5	0.5	140.23	3.71	3.1	154.7	2.82	6019N	6019NR	6019ZNR	60500	54000	4500	5300	102	138	157	1.5	6.1	1.16	6019N
	170	32	2.1	0.5	163.65	5.69	3.5	182.9	3.1	6219N	6219NR	6219ZNR	109000	81500	3700	4300	107	158	185	2	8.4	2.62	6219N
	200	45	3	0.5	193.65	5.69	3.5	212.9	3.1	6319N	6319NR	6319ZNR	153000	118000	3200	3800	109	186	215	2.5	8.4	5.67	6319N
100	125	13	1	0.5	122.6	2.1	1.3	130.7	1.12	6820N	6820NR	6820ZNR	19600	21200	4600	5500	105	120	132	1	2.9	0.320	6820N
	140	20	1.1	0.5	137.6	3.3	1.9	145.7	1.7	6920N	6920NR	6920ZNR	37000	36500	4400	5300	106	134	147	1	4.7	0.780	6920N
	150	24	1.5	0.5	145.24	3.71	3.1	159.7	2.82	6020N	6020NR	6020ZNR	60000	54000	4200	5000	107	143	162	1.5	6.1	1.20	6020N
	180	34	2.1	0.5	173.66	5.69	3.5	192.9	3.1	6220N	6220NR	6220ZNR	122000	93000	3500	4100	112	168	195	2	8.4	3.14	6220N
105	130	13	1	0.5	127.6	2.1	1.3	135.7	1.12	6821N	6821NR	—	19900	21900	4500	5500	110	125	137	1	2.9	0.335	6821N
	145	20	1.1	0.5	142.6	3.3	1.9	150.7	1.7	6921N	6921NR	—	42500	42000	4200	5100	111	139	152	1	4.7	0.803	6921N
	160	26	2	0.5	155.22	3.71	3.1	169.7	2.82	6021N	6021NR	6021ZNR	72500	65500	4000	4800	113	152	172	2	6.1	1.54	6021N
	190	36	2.1	0.5	183.64	5.69	3.5	202.9	3.1	6221N	6221NR	6221ZNR	133000	104000	3200	3900	117	178	205	2	8.4	3.76	6221N
110	140	16	1	0.5	137.6	2.5	1.9	145.7	1.7	6822N	6822NR	—	27300	29400	4200	5100	115	135	147	1	3.9	0.526	6822N
	150	20	1.1	0.5	147.6	3.3	1.9	155.7	1.7	6922N	6922NR	—	38000	38500	4000	5000	116	144	157	1	4.7	0.846	6922N
	170	28	2	0.5	163.65	3.71	3.5	182.9	3.1	6022N	6022NR	6022ZNR	84500	73000	3800	4500	118	162	185	2	6.4	1.91	6022N
	200	38	2.1	0.5	193.65	5.69	3.5	212.9	3.1	6222N	6222NR	6222ZNR	144000	117000	3000	3700	122	188	215	2	8.4	4.36	6222N
120	150	16	1	0.5	147.6	2.5	1.9	155.7	1.7	6824N	6824NR	—	28300	31500	4000	4800	125	145	157	1	3.9	0.567	6824N
	165	22	1.1	0.5	161.8	3.7	1.9	171.5	1.7	6924N	6924NR	—	53000	54000	3700	4600	126	159	173	1	5.1	1.15	6924N
	180	28	2	0.5	173.66	3.71	3.5	192.9	3.1	6024N	6024NR	6024ZNR	88000	79500	3500	4200	128	172	195	2	6.4	2.36	6024N
130	165	18	1.1	0.5	161.8	3.3	1.9	171.5	1.7	6826N	6826NR	—	37000	41000	3600	4400	136	158	173	1	4.7	0.815	6826N
	180	24	1.5	0.5	176.8	3.7	1.9	186.5	1.7	6926N	6926NR	—	65000	67000	3400	4200	137	173	188	1.5	5.1	1.81	6926N
	200	33	2	0.5	193.65	5.69	3.5	212.9	3.1	6026N	6026NR	6026ZNR	106000	101000	3200	3800	138	192	215	2	8.4	3.60	6026N

Note: (1) Bearing No. Z means one shield type, two shields type are also available.

Remarks: Dimensions of snap ring groove and snap ring are shown on pages 45 to 48.