

Deep Groove Ball Bearings



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Higher Performance and Reliability

With recent performance improvements in industrial machinery, bearings are increasingly required to handle higher speeds and temperatures. NACHI's Deep Groove ball bearings meet these changing demands.

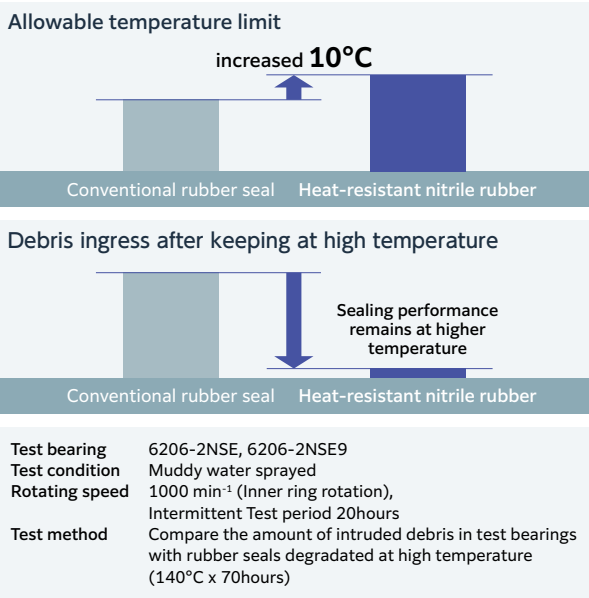
Sealing method distinguishable from outward appearance of bearings

	Shield	Contact rubber seal	Non-contact rubber seal
6800~6810 6900~6910			
6000~6010 6200~6210 6300~6310			

Heat-resistant rubber seals

Rubber hardens at high temperatures, which degrades its sealing performance. This allows foreign debris to enter the bearing. Heat-resistant nitrile rubber is a standard feature of NACHI's Deep Groove ball bearings, maintaining seal performance even in high-temperature environments.

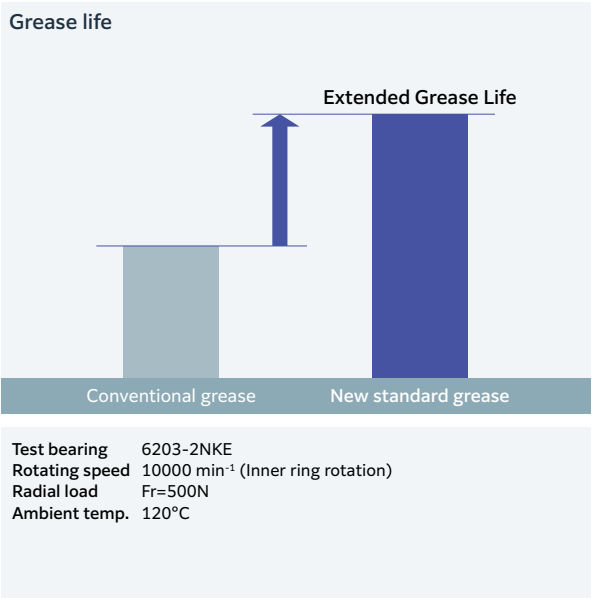
Note: Applied to 60/62/63 series



NACHI original high performance grease

Modifying the base oil improves high temperature performance without sacrificing the low noise and low torque properties of the conventional grease. New standard grease has two times longer grease life than the conventional grease at 120°C.

Note: Applied to 60/62/63 series



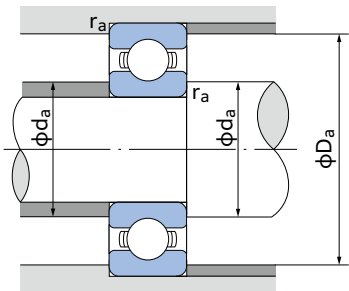
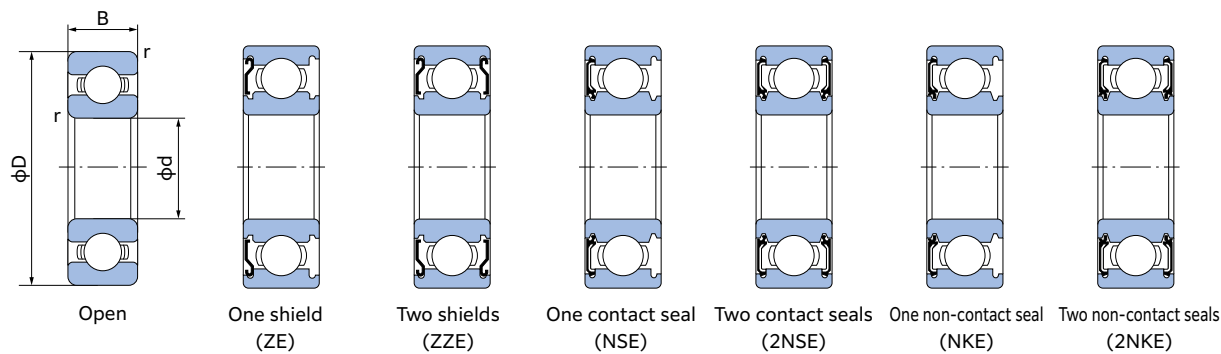
Environmentally-Friendly, conforms to ELV and RoHS directive

Free from hazardous substances such as hexavalent chromium

Boundary dimensions(mm)				Bearing No.							
d	D	B	r (min)	Open type	Shield type		Contact seal type		Non-contact seal type		
10	19	5	0.3	6800	6800ZE	6800ZZE	6800NSE	6800-2NSE	6800NKE	6800-2NKE	
	22	6	0.3	6900	6900ZE	6900ZZE	6900NSE	6900-2NSE	6900NKE	6900-2NKE	
	26	8	0.3	6000	6000ZE	6000ZZE	6000NSE9	6000-2NSE9	6000NKE9	6000-2NKE9	
	30	9	0.6	6200	6200ZE	6200ZZE	6200NSE9	6200-2NSE9	6200NKE9	6200-2NKE9	
	35	11	0.6	6300	6300ZE	6300ZZE	6300NSE9	6300-2NSE9	6300NKE9	6300-2NKE9	
12	21	5	0.3	6801	6801ZE	6801ZZE	6801NSE	6801-2NSE	6801NKE	6801-2NKE	
	24	6	0.3	6901	6901ZE	6901ZZE	6901NSE	6901-2NSE	6901NKE	6901-2NKE	
	28	8	0.3	6001	6001ZE	6001ZZE	6001NSE9	6001-2NSE9	6001NKE9	6001-2NKE9	
	32	10	0.6	6201	6201ZE	6201ZZE	6201NSE9	6201-2NSE9	6201NKE9	6201-2NKE9	
	37	12	1.0	6301	6301ZE	6301ZZE	6301NSE9	6301-2NSE9	6301NKE9	6301-2NKE9	
15	24	5	0.3	6802	6802ZE	6802ZZE	6802NSE	6802-2NSE	6802NKE	6802-2NKE	
	28	7	0.3	6902	6902ZE	6902ZZE	6902NSE	6902-2NSE	6902NKE	6902-2NKE	
	32	9	0.3	6002	6002ZE	6002ZZE	6002NSE9	6002-2NSE9	6002NKE9	6002-2NKE9	
	35	11	0.6	6202	6202ZE	6202ZZE	6202NSE9	6202-2NSE9	6202NKE9	6202-2NKE9	
	42	13	1.0	6302	6302ZE	6302ZZE	6302NSE9	6302-2NSE9	6302NKE9	6302-2NKE9	
17	26	5	0.3	6803	6803ZE	6803ZZE	6803NSE	6803-2NSE	6803NKE	6803-2NKE	
	30	7	0.3	6903	6903ZE	6903ZZE	6903NSE	6903-2NSE	6903NKE	6903-2NKE	
	35	10	0.3	6003	6003ZE	6003ZZE	6003NSE9	6003-2NSE9	6003NKE9	6003-2NKE9	
	40	12	0.6	6203	6203ZE	6203ZZE	6203NSE9	6203-2NSE9	6203NKE9	6203-2NKE9	
	47	14	1.0	6303	6303ZE	6303ZZE	6303NSE9	6303-2NSE9	6303NKE9	6303-2NKE9	
20	32	7	0.3	6804	6804ZE	6804ZZE	6804NSE	6804-2NSE	6804NKE	6804-2NKE	
	37	9	0.3	6904	6904ZE	6904ZZE	6904NSE	6904-2NSE	6904NKE	6904-2NKE	
	42	12	0.6	6004	6004ZE	6004ZZE	6004NSE9	6004-2NSE9	6004NKE9	6004-2NKE9	
	47	14	1.0	6204	6204ZE	6204ZZE	6204NSE9	6204-2NSE9	6204NKE9	6204-2NKE9	
	52	15	1.1	6304	6304ZE	6304ZZE	6304NSE9	6304-2NSE9	6304NKE9	6304-2NKE9	
22	50	14	1.0	62/22	62/22ZE	62/22ZZE	62/22NSE9	62/22-2NSE9	62/22NKE9	62/22-2NKE9	
	56	16	1.1	63/22	63/22ZE	63/22ZZE	63/22NSE9	63/22-2NSE9	63/22NKE9	63/22-2NKE9	
25	37	7	0.3	6805	6805ZE	6805ZZE	6805NSE	6805-2NSE	6805NKE	6805-2NKE	
	42	9	0.3	6905	6905ZE	6905ZZE	6905NSE	6905-2NSE	6905NKE	6905-2NKE	
	47	12	0.6	6005	6005ZE	6005ZZE	6005NSE9	6005-2NSE9	6005NKE9	6005-2NKE9	
	52	15	1.0	6205	6205ZE	6205ZZE	6205NSE9	6205-2NSE9	6205NKE9	6205-2NKE9	
	62	17	1.1	6305	6305ZE	6305ZZE	6305NSE9	6305-2NSE9	6305NKE9	6305-2NKE9	
28	58	16	1.0	62/28	62/28ZE	62/28ZZE	62/28NSE9	62/28-2NSE9	62/28NKE9	62/28-2NKE9	
	68	18	1.1	63/28	63/28ZE	63/28ZZE	63/28NSE9	63/28-2NSE9	63/28NKE9	63/28-2NKE9	
30	42	7	0.3	6806	6806ZE	6806ZZE	6806NSE	6806-2NSE	6806NKE	6806-2NKE	
	47	9	0.3	6906	6906ZE	6906ZZE	6906NSE	6906-2NSE	6906NKE	6906-2NKE	
	55	13	1.0	6006	6006ZE	6006ZZE	6006NSE9	6006-2NSE9	6006NKE9	6006-2NKE9	
	62	16	1.0	6206	6206ZE	6206ZZE	6206NSE9	6206-2NSE9	6206NKE9	6206-2NKE9	
	72	19	1.1	6306	6306ZE	6306ZZE	6306NSE9	6306-2NSE9	6306NKE9	6306-2NKE9	
32	65	17	1.0	62/32	62/32ZE	62/32ZZE	62/32NSE9	62/32-2NSE9	62/32NKE9	62/32-2NKE9	
	75	20	1.1	63/32	63/32ZE	63/32ZZE	63/32NSE9	63/32-2NSE9	63/32NKE9	63/32-2NKE9	
35	47	7	0.3	6807	6807ZE	6807ZZE	6807NSE	6807-2NSE	6807NKE	6807-2NKE	
	55	10	0.6	6907	6907ZE	6907ZZE	6907NSE	6907-2NSE	6907NKE	6907-2NKE	
	62	14	1.0	6007	6007ZE	6007ZZE	6007NSE9	6007-2NSE9	6007NKE9	6007-2NKE9	
	72	17	1.1	6207	6207ZE	6207ZZE	6207NSE9	6207-2NSE9	6207NKE9	6207-2NKE9	
	80	21	1.5	6307	6307ZE	6307ZZE	6307NSE9	6307-2NSE9	6307NKE9	6307-2NKE9	
40	52	7	0.3	6808	6808ZE	6808ZZE	6808NSE	6808-2NSE	6808NKE	6808-2NKE	
	62	12	0.6	6908	6908ZE	6908ZZE	6908NSE	6908-2NSE	6908NKE	6908-2NKE	
	68	15	1.0	6008	6008ZE	6008ZZE	6008NSE9	6008-2NSE9	6008NKE9	6008-2NKE9	
	80	18	1.1	6208	6208ZE	6208ZZE	6208NSE9	6208-2NSE9	6208NKE9	6208-2NKE9	
	90	23	1.5	6308	6308ZE	6308ZZE	6308NSE9	6308-2NSE9	6308NKE9	6308-2NKE9	
45	58	7	0.3	6809	6809ZE	6809ZZE	6809NSE	6809-2NSE	6809NKE	6809-2NKE	
	68	12	0.6	6909	6909ZE	6909ZZE	6909NSE	6909-2NSE	6909NKE	6909-2NKE	
	75	16	1.0	6009	6009ZE	6009ZZE	6009NSE9	6009-2NSE9	6009NKE9	6009-2NKE9	
	85	19	1.1	6209	6209ZE	6209ZZE	6209NSE9	6209-2NSE9	6209NKE9	6209-2NKE9	
	100	25	1.5	6309	6309ZE	6309ZZE	6309NSE9	6309-2NSE9	6309NKE9	6309-2NKE9	
50	65	7	0.3	6810	6810ZE	6810ZZE	6810NSE	6810-2NSE	6810NKE	6810-2NKE	
	72	12	0.6	6910	6910ZE	6910ZZE	6910NSE	6910-2NSE	6910NKE	6910-2NKE	
	80	16	1.0	6010	6010ZE	6010ZZE	6010NSE9	6010-2NSE9	6010NKE9	6010-2NKE9	
	90	20	1.1	6210	6210ZE	6210ZZE	6210NSE9	6210-2NSE9	6210NKE9	6210-2NKE9	
	110	27	2.0	6310	6310ZE	6310ZZE	6310NSE9	6310-2NSE9	6310NKE9	6310-2NKE9	

	Basic dynamic load rating Cr(N)	Basic static load rating Cor(N)	Factor fo	Limiting speed(min ⁻¹)			Abutment and fillet dimensions(mm)			Mass (kg)	Bearing No.
				Grease lubrication		Oil lubrication	da (min)	Da (max)	ra (max)		
				Open type,ZE,ZZE NKE9,2NKE9	NSE9,2NSE9	Open type,ZE					
	2,670	985	14.2	37,000	24,000	44,000	12	17	0.3	0.005	6800
	3,400	1,270	14.0	33,000	22,000	38,000	12	20	0.3	0.009	6900
	5,750	1,970	12.4	30,000	22,000	36,000	12	24	0.3	0.019	6000
	6,450	2,390	13.2	25,000	18,000	30,000	15	25	0.6	0.032	6200
	10,200	3,450	11.3	23,000	17,000	27,000	15	30	0.6	0.053	6300
	2,420	1,040	15.3	32,000	20,000	39,000	14	19	0.3	0.006	6801
	3,650	1,460	14.5	30,000	20,000	36,000	14	22	0.3	0.011	6901
	6,450	2,390	13.2	28,000	18,000	32,000	14	26	0.3	0.023	6001
	8,550	3,050	12.3	22,000	17,000	28,000	17	27	0.6	0.037	6201
	12,300	4,250	11.2	20,000	16,000	24,000	18	31	1.0	0.060	6301
	2,610	1,260	15.8	28,000	17,000	34,000	17	22	0.3	0.007	6802
	5,450	2,250	14.3	26,000	17,000	31,000	17	26	0.3	0.016	6902
	7,050	2,840	13.9	24,000	15,000	28,000	17	30	0.3	0.032	6002
	9,600	3,700	13.1	20,000	15,000	24,000	20	30	0.6	0.045	6202
	14,400	5,400	12.3	17,000	13,000	21,000	21	36	1.0	0.082	6302
	3,300	1,570	16.1	26,000	15,000	30,000	19	24	0.3	0.008	6803
	5,800	2,550	14.7	24,000	15,000	29,000	19	28	0.3	0.018	6903
	7,550	3,250	14.3	22,000	14,000	26,000	19	33	0.3	0.039	6003
	12,100	4,800	13.1	18,000	12,000	21,000	22	35	0.6	0.065	6203
	17,100	6,550	12.3	16,000	11,000	19,000	23	41	1.0	0.115	6303
	5,050	2,460	15.5	22,000	13,000	26,000	22	30	0.3	0.019	6804
	8,050	3,700	14.8	19,000	12,000	23,000	22	35	0.3	0.036	6904
	11,800	5,000	13.9	18,000	11,000	21,000	24	38	0.6	0.070	6004
	16,100	6,600	13.1	16,000	11,000	18,000	26	41	1.0	0.106	6204
	20,100	7,900	12.4	14,000	10,000	17,000	27	45	1.1	0.144	6304
	17,500	6,950	13.1	14,000	9,700	17,000	28	44	1.0	0.120	62/22
	23,200	9,250	12.4	13,000	9,500	16,000	29	49	1.0	0.176	63/22
	5,400	2,940	16.0	18,000	10,000	22,000	27	35	0.3	0.022	6805
	8,850	4,500	15.3	16,000	10,000	20,000	27	40	0.3	0.042	6905
	12,700	5,850	14.5	15,000	9,500	18,000	29	43	0.6	0.079	6005
	17,700	7,900	13.9	13,000	9,000	16,000	31	46	1.0	0.128	6205
	29,800	12,100	12.2	12,000	8,100	14,000	32	55	1.1	0.232	6305
	22,600	9,750	13.1	12,000	8,200	14,000	34	52	1.0	0.175	62/28
	33,500	14,000	12.4	11,000	7,500	13,000	35	61	1.0	0.287	63/28
	5,700	3,400	16.4	15,000	9,000	18,000	32	40	0.3	0.026	6806
	9,100	5,000	15.8	14,000	8,500	17,000	32	45	0.3	0.045	6906
	16,700	8,300	14.8	13,000	8,000	15,000	35	50	1.0	0.117	6006
	24,500	11,300	13.9	11,000	7,500	13,000	36	56	1.0	0.199	6206
	33,500	15,000	13.2	10,000	6,700	12,000	37	65	1.0	0.346	6306
	28,300	13,100	13.6	11,000	7,100	12,000	38	59	1.0	0.230	62/32
	38,000	16,200	12.7	9,500	6,500	11,000	39	68	1.0	0.382	63/32
	5,950	3,800	16.4	14,000	7,600	16,000	37	45	0.3	0.029	6807
	13,100	7,150	15.6	12,000	7,500	15,000	39	51	0.6	0.073	6907
	20,100	10,300	14.8	12,000	6,800	14,000	40	57	1.0	0.156	6007
	32,500	15,300	13.8	9,800	6,300	11,000	42	65	1.0	0.288	6207
	42,000	19,200	13.2	8,800	6,000	10,000	44	71	1.5	0.457	6307
	6,200	4,150	16.2	12,000	6,700	14,000	42	50	0.3	0.033	6808
	17,200	9,950	15.8	11,000	6,300	13,000	44	58	0.6	0.108	6908
	21,100	11,500	15.3	10,000	6,100	12,000	45	63	1.0	0.194	6008
	36,500	17,900	14.0	8,700	5,600	10,000	47	73	1.0	0.366	6208
	51,500	24,100	13.2	7,800	5,300	9,200	49	81	1.5	0.633	6308
	6,750	4,900	16.1	11,000	6,000	13,000	47	58	0.3	0.040	6809
	17,800	10,900	16.1	10,000	5,600	12,000	49	64	0.6	0.122	6909
	26,400	15,200	15.3	9,200	5,400	11,000	50	70	1.0	0.246	6009
	41,000	20,500	14.1	7,800	5,300	9,300	52	78	1.0	0.407	6209
	66,500	32,000	13.1	7,000	4,800	8,200	54	91	1.5	0.833	6309
	8,050	5,800	16.1	10,000	5,300	12,000	52	63	0.3	0.052	6810
	18,300	11,700	16.1	9,500	5,300	11,000	54	68	0.6	0.125	6910
	27,400	16,600	15.6	8,500	5,000	10,000	55	75	1.0	0.264	6010
	44,000	23,200	14.4	7,100	4,800	8,600	57	83	1.0	0.463	6210
	78,000	38,000	13.1	6,400	4,300	7,500	60	100	2.0	1.070	6310

Lineup



Dynamic equivalent radial load

$P_r = X F_r + Y F_a$

Static equivalent radial load

Larger value of following to be used:

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

$P_{or} = F_r$

$\frac{f_0 F_a}{C_{or}}$	e	$\frac{F_a}{F_r} \leq e$		$\frac{F_a}{F_r} > e$	
		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

Configuration of Bearing Numbers

Number Example : **6 2 05 - 2 NSE9 CM T / P0**

Type Symbol	(Deep Groove Ball Bearing)
Diameter series number	
Bore diameter number	
Number of seals	(Non: One seal, 2: Two seals)
Seal or shield type	(NSE9: Contact seal, NKE9: Non-contact seal, ZE(ZZE):shield)
Internal clearance symbol	
Country of origin symbol	(/: Japan, T: Thailand, N: Taiwan)
Cage type symbol	(Pressed steel cage)
Tolerance symbol	(JIS class 0)

Country of Origin/Bearing Types

Bore Dia. (mm)	Country of origin									
	Japan					Thailand			Taiwan	
	NACHI -FUJIKOSHI CORP.					NACHI TECHNOLOGY (THAILAND) CO., LTD.			NACHI C.Y. CORP.	
10	6800	6900					6200		6000	6300
12	6801	6901				6001	6201	6301		
15	6802	6902					6202	6302	6002	
17	6803	6903					6203	6303	6003	
20	6804	6904				6004	6204	6304		
22				62/22				63/22		
25	6805	6905				6005	6205	6305		
28				62/28				63/28		
30	6806	6906				6006	6206	6306		
32				62/32	63/32					
35	6807	6907			6307	6007	6207			
40	6808	6908	6008	6208	6308					
45	6809	6909	6009	6209	6309					
50	6810	6910	6010	6210	6310					



NACHI-FUJIKOSHI CORP.

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