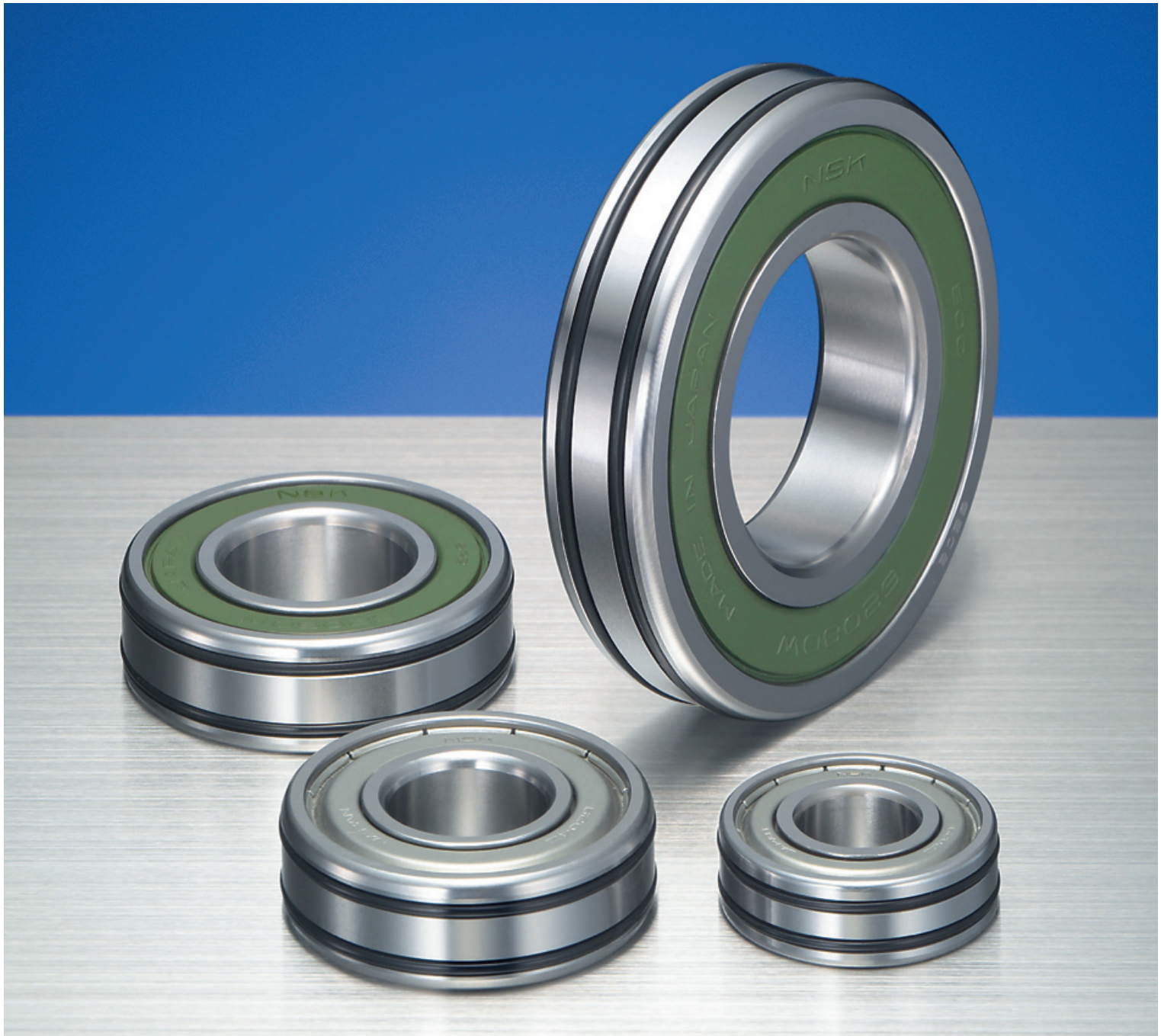


Creep-Free Bearings™

A new bearing series that is indispensable for drive units in equipment such as motors for general use. Prevents creep when used with rotating loads, plus offers a reusable housing and easy assembling.



The O-rings significantly help to prevent the occurrence of creep when fitted with loose housing tolerances. Also, since boundary dimensions are identical to standard bearings, the housing does not need to be reworked when replacing the bearing, contributing to reduced costs.

1. Structure and performance of Creep-Free Bearings

Creep-Free Bearings, which come with two O-rings mounted in the outer ring, help to prevent the occurrence of creep by restricting the amount of clearance between the outer ring and housing.

No special machining is required; bearings can be used with the same housing as standard bearings.

In creep limit load tests, the more housing clearance is reduced, the greater the improvement in creep prevention, due to the tension of the O-ring mounted in the outer ring.

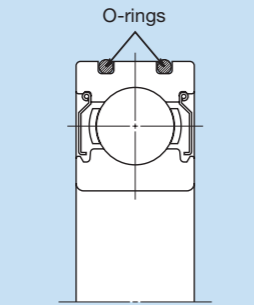
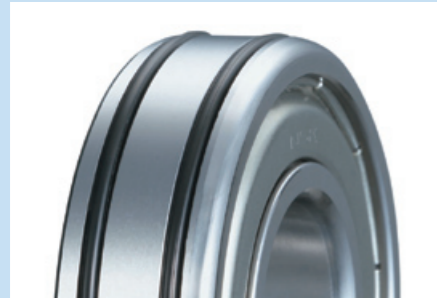


Fig. 1 Structure of Creep-Free Bearings

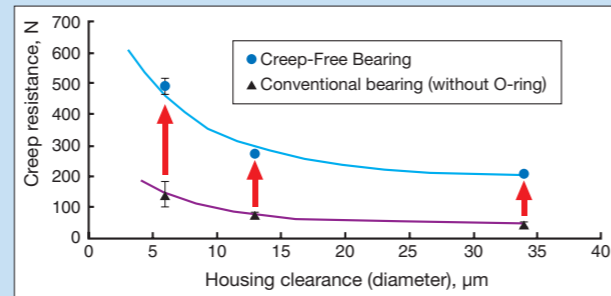


Fig. 2 Creep limit load test (example: 6204)

2. Features and applications of Creep-Free Bearings

Features

Prevents creep

O-rings help prevent creep.

Reusable housing

Very little abrasion occurs on the bore surface of the housing, making reuse possible.

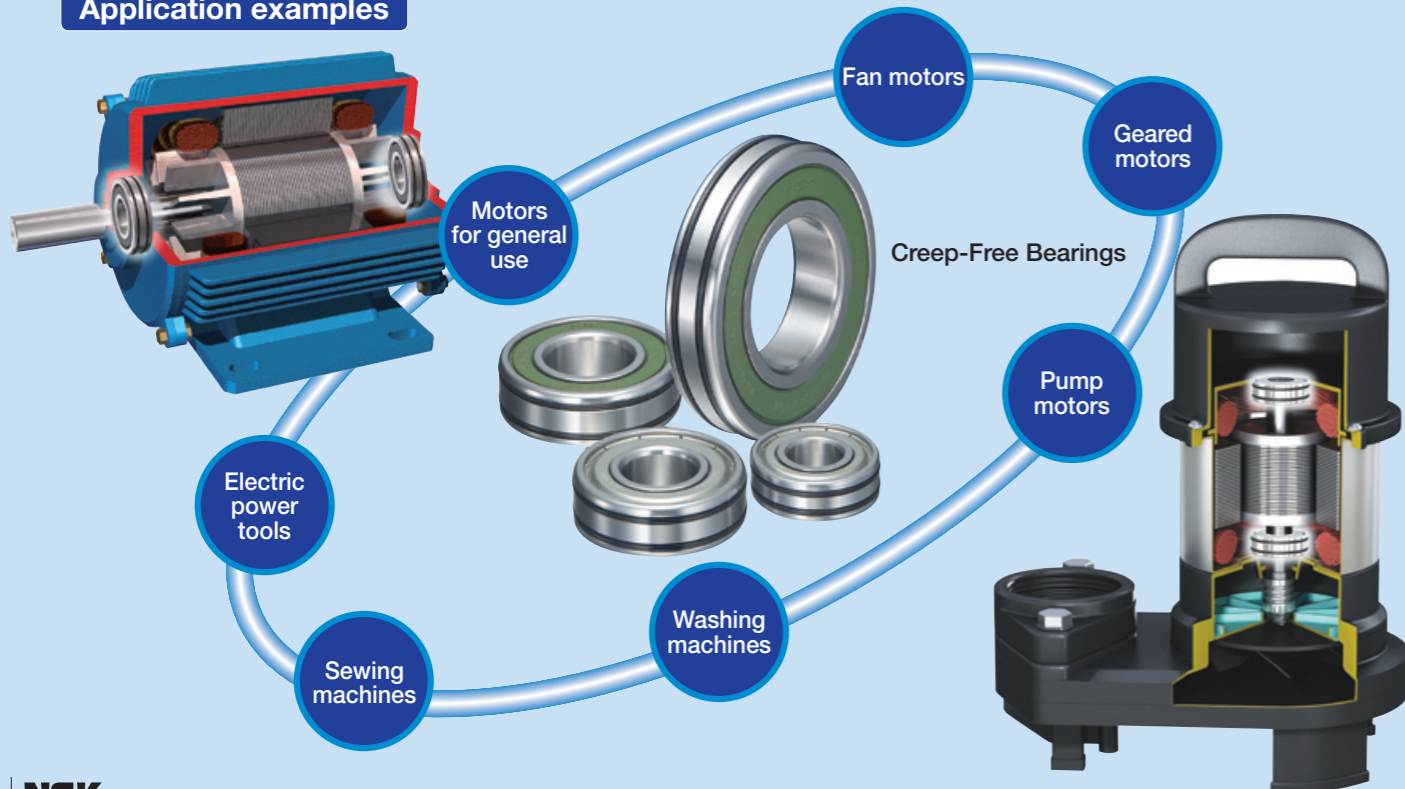
Easy to assemble

Assembly is easy since bearings can be fitted with a loose tolerance.

No special machining of the housing is required

Bearings can be replaced since boundary dimensions are identical to standard bearings. No reworking of the housing is required.

Application examples



3. Creep-Free Bearings

Table 1 Creep-Free Bearings List

Bearing bore diameter <i>d</i> mm	Bearing outer diameter <i>D</i> mm	Bearing width <i>B</i> mm	Basic load ratings		Recommended fits*	Bearing number			
			<i>C_r</i> (N)	<i>C_{0r}</i> (N)		Basic number (Open type)	Shield type	Contact seal type**	Non-contact seal type
10	26	8	4 550	1 970	H7 or G6	6000	ZZ	DDU	VV
	30	9	5 100	2 390					
	35	11	8 100	3 450					
12	28	8	5 100	2 370		6001	ZZ	DDU	VV
	32	10	6 800	3 050					
	37	12	9 700	4 200					
15	32	9	5 600	2 830		6002	ZZ	DDU	VV
	35	11	7 650	3 750					
	42	13	11 400	5 450					
17	35	10	6 000	3 250		6003	ZZ	DDU	VV
	40	12	9 550	4 800					
	47	14	13 600	6 650					
20	42	12	9 400	5 000		6004	ZZ	DDU	VV
	47	14	12 800	6 600					
	52	15	15 900	7 900					
25	47	12	10 100	5 850		6005	ZZ	DDU	VV
	52	15	14 000	7 850					
	62	17	20 600	11 200					
30	55	13	13 200	8 300		6006	ZZ	DDU	VV
	62	16	19 500	11 300					
	72	19	26 700	15 000					
35	62	14	16 000	10 300	6007	ZZ	DDU	VV	
	72	17	25 700	15 300					
	80	21	33 500	19 200					
40	68	15	16 800	11 500	6008	ZZ	DDU	VV	
	80	18	29 100	17 900					
	90	23	40 500	24 000					
45	75	16	20 900	15 200	6009	ZZ	DDU	VV	
	85	19	31 500	20 400					
	100	25	53 000	32 000					
50	80	16	21 800	16 600	6010	ZZ	DDU	VV	
	90	20	35 000	23 200					
	110	27	62 000	38 500					
55	90	18	28 300	21 200	6011	ZZ	DDU	VV	
	100	21	43 500	29 300					
	120	29	71 500	44 500					
60	95	18	29 500	23 200	6012	ZZ	DDU	VV	
	110	22	52 500	36 000					
	130	31	82 000	52 000					
65	100	18	30 500	25 200	6013	ZZ	DDU	VV	
	120	23	57 500	40 000					
	140	33	92 500	60 000					
70	110	20	38 000	31 000	6014	ZZ	DDU	VV	
	125	24	62 000	44 000					
	150	35	104 000	68 000					
75	115	20	39 500	33 500	6015	ZZ	DDU	VV	
	130	25	66 000	49 500					
	125	22	47 500	40 000					
80	140	26	72 500	53 000	6016	ZZ	DDU	VV	
	130	22	49 500	43 000					
	150	28	84 000	62 000					
85	130	22	49 500	43 000	6017	ZZ	DDU	VV	
	150	28	84 000	62 000					
	90	24	58 000	50 000					
90	140	24	58 000	50 000	6018	ZZ	DDU	VV	
	145	24	60 500	54 000					
	150	24	60 000	54 000					
100	150	24	60 000	54 000	6019	ZZ	DDU	VV	
	150	24	60 000	54 000					
	150	24	60 000	54 000					

* Although recommended fits are H7 or G6, G6 is recommended when used under conditions that prioritize insertion under light pre-load.
** Low-contact seal available for seal type bearings. Contact NSK for details.

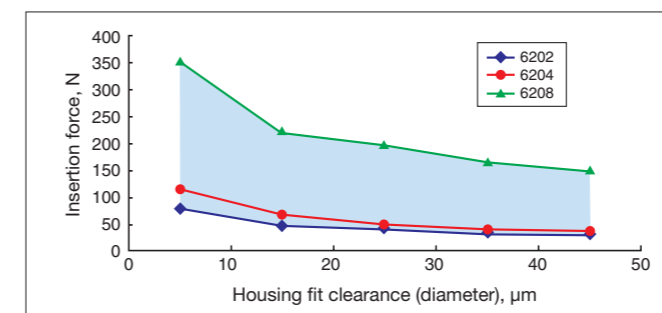


Fig. 3 Fit and insertion force

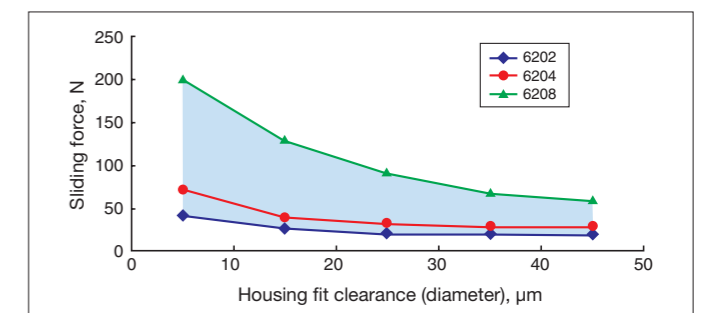


Fig. 4 Fit and sliding force

Note on mounting Creep-Free Bearings

- When oil or grease is applied to the outer diameter of the bearing, use a mineral oil or a synthetic hydrocarbon oil (NSK's EA2, etc.).
- O-ring material is nitrile rubber (operating temperature range: -30 to 120°C) as a standard specification. Please contact NSK for use under special environments such as high temperatures.

Chamfer angle 15-30°
Chamfer dimension 0.01D mm

Fig. 5 Housing shape and dimension

Note on the product name "Creep-Free Bearings": The term "free" should not be construed to mean that creep is nonexistent.

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