

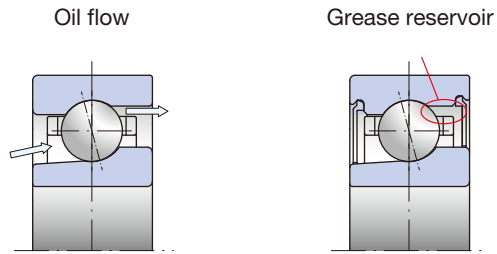
High Precision Small Size Angular Contact Ball Bearings for Ultra High Speed **NSKROBUST BSR Series**

This is a highly functional series of small size bearings which support small size spindles, manufactured with NSK's high technology of material, evaluation, and analysis. Sealed bearings are available for all sizes of this series.



The bearing has good lubricity by suitable design

In oil lubrication, the counter bore shape of both inner and outer ring contribute to oil flow inside the bearing, supporting stable oil inlet and outlet. In grease lubrication, grease is kept in the free space of outer ring counter bore parts, this contributes high reliability of lubricity.



Sealed bearings are available

For all size of this series sealed bearings are available. Seals prevent contamination entering the bearing during handling and operating. Besides, the bearings are clean and pre-greased so the users can save time by eliminating such a procedure and can mount bearing immediately after unpacking.



New grease for machine tool bearings which are pre-greased as standard

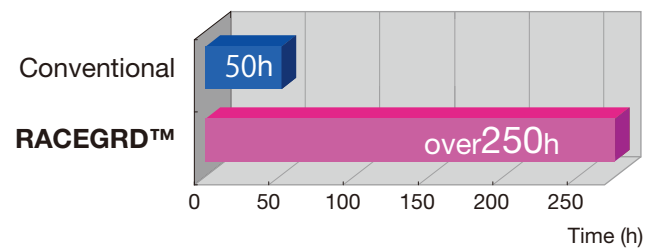
RACEGARD™ has improved seizure-resistance properties under high speed and high load condition, contributes higher reliability in grease lubrication.



Improved heat-seizure resistance under high load conditions

NSK original grease composition contributes to ultra-high seizure resistance

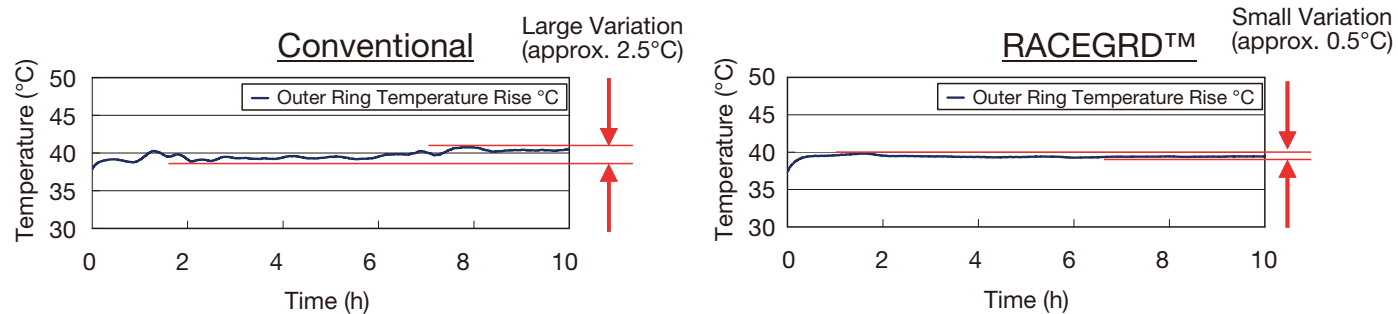
Endurance time under high load;
5 times longer at NSK in-house test



High stability of bearing temperature

This grease shows high bearing temperature stability which comes from controlled oil separation.

The range of bearing temperature changes;
1/5 of conventional grease

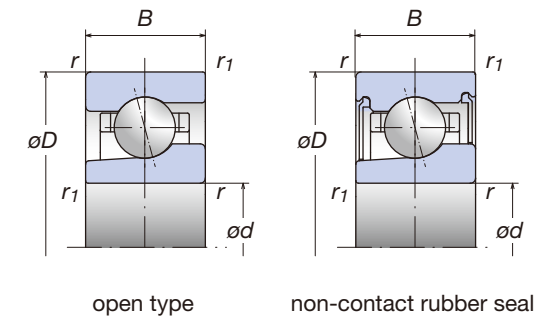


Numbering System

Bearing number example: **15 BSR 10 X T V1V SU EL P4**

- Nominal bearing bore (mm)**: 15
- Bearing type**: BSR: 15° contact angle
- Dimension**: 10: 10 series, 19: 19 series, 02: 02 series
- Material symbol**:

Type	Material	
	Rings	Rolling elements
S	Bearing steel (SUJ2)	Bearing steel (SUJ2)
H	Bearing steel (SUJ2)	Ceramics (Si ₃ N ₄)
X	Heat resistant steel (SHX)	Ceramics (Si ₃ N ₄)
- Seal symbol**: No symbol: open type V1V: non-contact rubber seal
- Cage symbol**: T: Phenolic resin cage with outer ring guide
- Grease quantity**: L: 30%
- Grease type**
- Accuracy**
- Preload symbol**: EL, L, M
- Arrangement**



Bearing Numbers ⁽¹⁾	Boundary Dimensions (mm)					Basic Load Ratings ⁽²⁾ (kN)		Limiting Speeds ⁽¹⁾ (min ⁻¹)	
	d	D	B	r (min)	r ₁ (min)	C _r (Dynamic)	C _{or} (Static)	Grease	Oil
6BSR10H	6	17	6	0.3	0.15	(1.35)	(0.445)	166 000	244 000
7BSR10H	7	19	6	0.3	0.15	(1.57)	(0.57)	147 000	216 000
8BSR10H	8	22	7	0.3	0.15	(2.31)	(0.835)	127 000	187 000
10BSR19H	10	22	6	0.3	0.15	(1.78)	(0.715)	119 000	175 000
10BSR10H	10	26	8	0.3	0.15	(3.00)	(1.18)	106 000	156 000
10BSR02H	10	30	9	0.6	0.3	(3.85)	(1.48)	95 000	140 000
12BSR19H	12	24	6	0.3	0.15	(1.95)	(0.85)	106 000	156 000
12BSR10H	12	28	8	0.3	0.15	(3.25)	(1.33)	95 000	140 000
12BSR02H	12	32	10	0.6	0.3	(5.05)	(1.98)	86 400	128 000
15BSR19H	15	28	7	0.3	0.15	(2.96)	(1.31)	88 400	131 000
15BSR10H	15	32	9	0.3	0.15	(4.20)	(1.72)	80 900	120 000
15BSR02H	15	35	11	0.6	0.3	(5.80)	(2.34)	76 000	112 000
17BSR19H	17	30	7	0.3	0.15	(3.25)	(1.53)	80 900	120 000
17BSR10H	17	35	10	0.3	0.15	(4.45)	(1.93)	73 100	108 000
17BSR02H	17	40	12	0.6	0.3	(7.25)	(2.98)	66 700	98 300
20BSR19H	20	37	9	0.3	0.15	(4.70)	(2.15)	66 700	98 300
20BSR10H	20	42	12	0.6	0.3	(7.45)	(3.35)	61 300	90 400
20BSR02H	20	47	14	1	0.6	(9.70)	(4.10)	56 800	83 600
25BSR19H	25	42	9	0.3	0.15	(5.30)	(2.71)	56 800	83 600
25BSR10H	25	47	12	0.6	0.3	(7.90)	(3.75)	52 800	77 800
25BSR02H	25	52	15	1	0.6	(11.0)	(5.20)	49 400	72 800

(1) It changes for each bearing type (S, H, X)
(2) Basic load rating values are reference values for ceramic ball bearings.

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