

ZHY Bearing

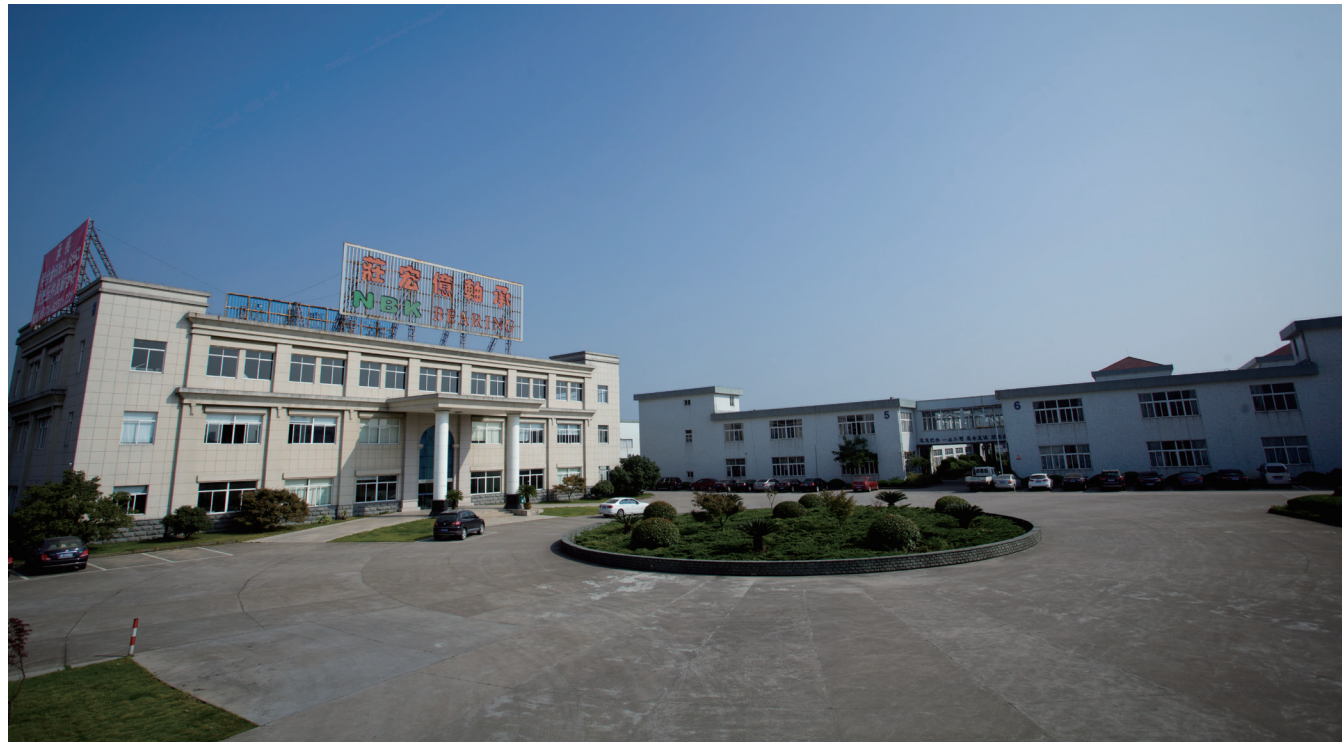


Website: <https://zhybearing.com>

Email: info@zhybearing.com

Phone: +1 (669) 328-1241

CHUANG HON YI BEARING CO.,LTD



COMPANY INTRODUCTION

ZHY BEARING

Chuang Hon Yi Axle Co., Ltd. was established in Kaohsiung, Taiwan in 1989. In 1998, it set up Ningbo Chuang Hon Yi Bearing Co., Ltd. in Ningbo, China, covering more than 15 acres and specializing in the manufacturing of high-quality bearings under the brand “NBK” in China, while using the “ZHY” brand worldwide.

Our company has over 110 advanced lines for bearing manufacture, more than 240 professional employees, and an annual output approaching 100 million pieces. Chuang Hon Yi Bearing not only develops and manufactures ball bearings with all sizes of inner diameters from 3 to 50mm, but also offers adaptive non-standard bearings that can be customized according to client demands.

We prioritize productivity, quality, and after-sales service, certified with ISO 9001. and ISO 14001. Every employee upholds our "Meticulous" spirit, ensuring strict product quality. Our offices across Taiwan and mainland China enable efficient communication and customer support.

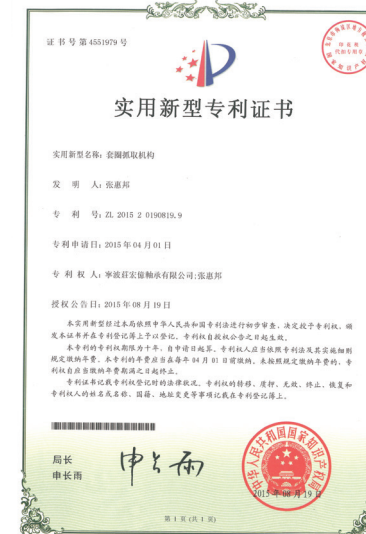
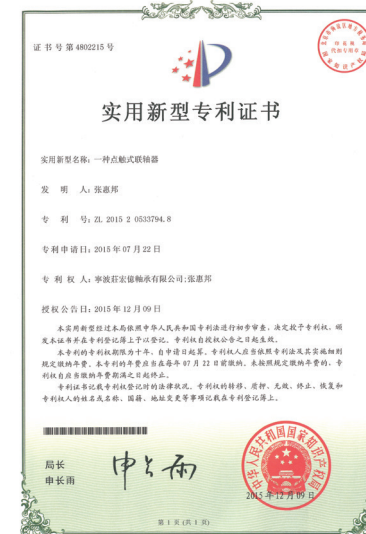
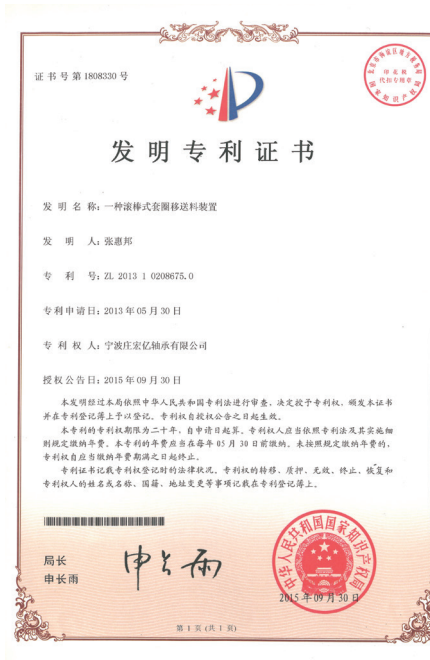
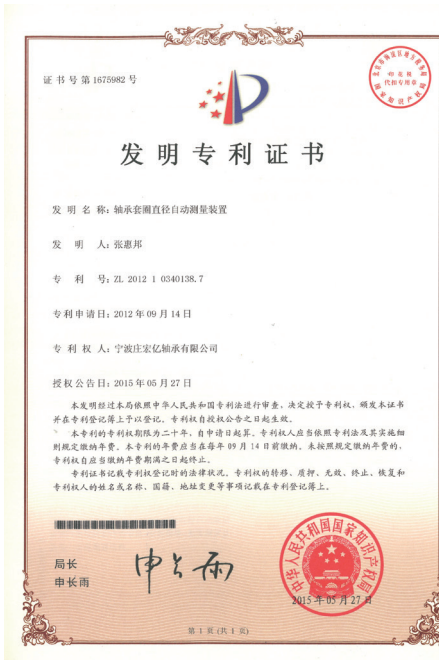
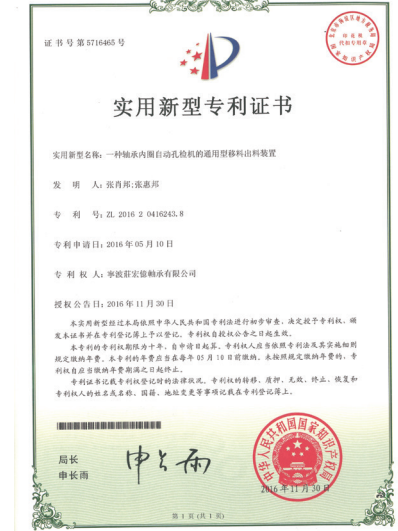
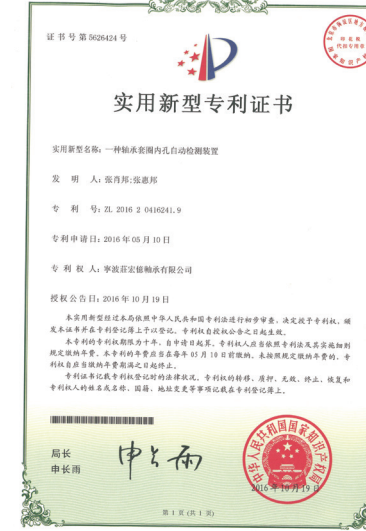
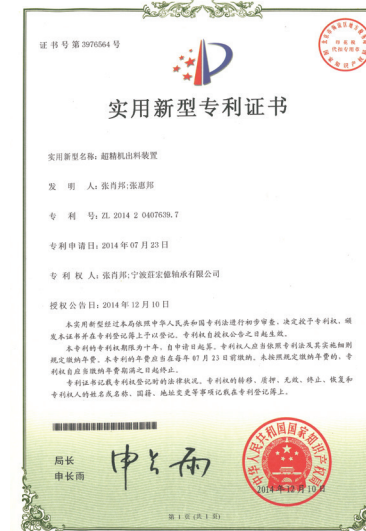
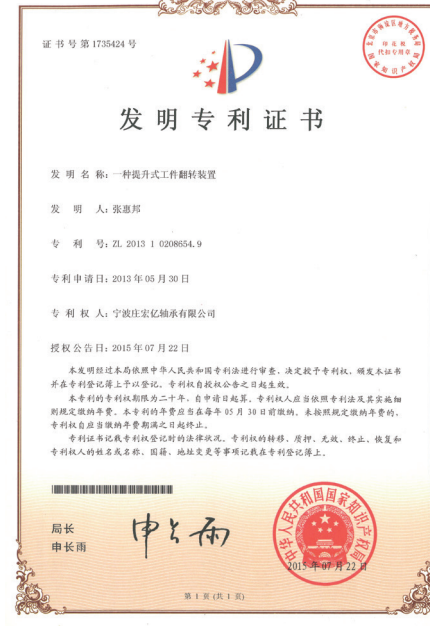
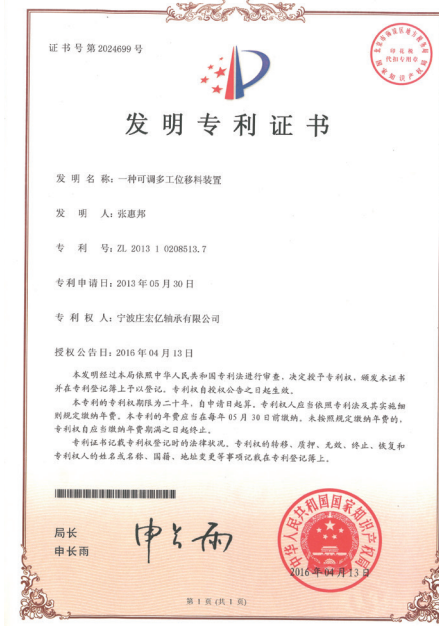
CERTIFICATIONS



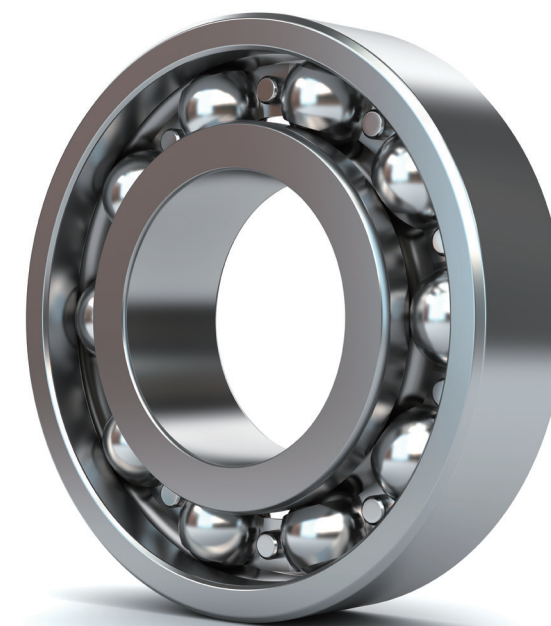
The company consistently implements the ISO 9001 Quality Management System and the ISO 14001 Environmental Management System, strictly controlling quality management and environmental impact, comprehensively enhancing employee quality, and continuously improving the company's qualifications.

INNOVATIONS & DEVELOPMENTS

We prioritize enhancing enterprise productivity. In recent years, our focus has been on upgrading internal automated facilities and establishing a dedicated company for equipment modifications. Additionally, we have secured over 30 patents.



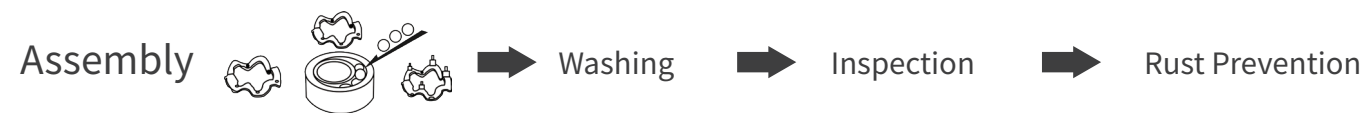
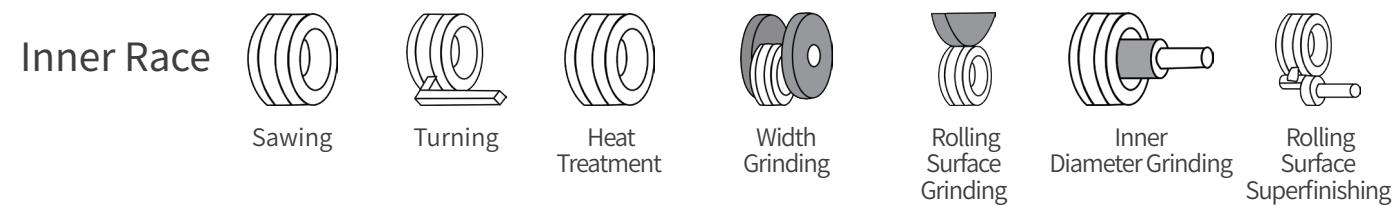
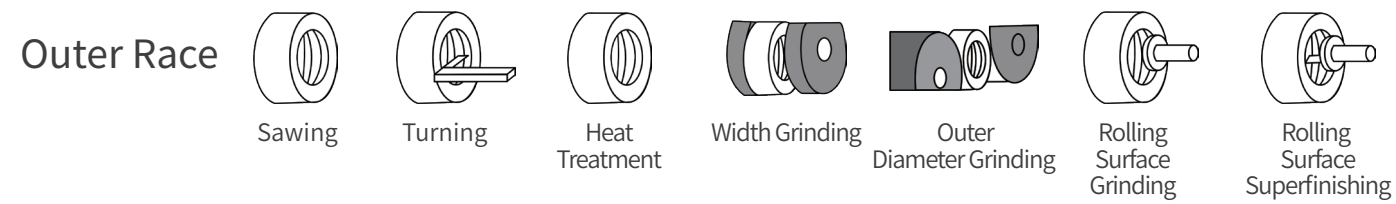
PRECISION PERFECTED: OUR EQUIPMENT



With consummate equipment, advanced craftsmanship, and high-precision testing instruments, we significantly enhance machining accuracy, ensuring superior quality and reducing manufacturing cycles. Continuous technical innovation elevates product quality, earning praise from our vast customer base.

Advanced equipment and standardized management are the assurance of excellent quality. Our aim is to fully shape our brand into a perfect and great one through thorough refinement.

MANUFACTURING PROCEDURE



BEARING PRECISION

THE INNER RING

The precision of the bearing, including size precision and rotation precision, is determined by ISO, GB or ABEC standards. According to the national standard, it is divided into five classes: P0, P6, P5, P4, and P2. The differences between them are as follows:

unit: μm

Normal Inner Diameter	Mean Inner Diameter Deviation											Inner Diameter Variation									
	Δd_{mp}											Diameter Series 9					Diameter Series 0, 1				
	P0 Class 0 ABEC 1		P6 Class 6 ABEC 3		P5 Class 5 ABEC 5		P4 Class 4 ABEC 7		P2 Class 2 ABEC 9		P0 Class 0 ABEC 1	P6 Class 6 ABEC 3	P5 Class 5 ABEC 5	P4 Class 4 ABEC 7	P2 Class 2 ABEC 9	P0 Class 0 ABEC 1	P6 Class 6 ABEC 3	P5 Class 5 ABEC 5	P4 Class 4 ABEC 7	P2 Class 2 ABEC 9	
Exceed	To	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Maximum					Maximum				
2.5	10	0	-8	0	-7	0	-5	0	-4	0	-2.5	10	9	5	4	2.5	8	7	4	3	2.5
10	18	0	-8	0	-7	0	-5	0	-4	0	-2.5	10	9	5	4	2.5	8	7	4	3	2.5
18	30	0	-10	0	-8	0	-6	0	-5	0	-2.5	13	10	6	5	2.5	10	8	5	4	2.5
30	50	0	-12	0	-10	0	-8	0	-6	0	-2.5	15	13	8	6	2.5	12	10	6	5	2.5

Inner Diameter Variation					Mean Inner Diameter Variation					Radial Runout					Face Runout		
Diameter Series 2, 3, 4					V_{dmp}					Kia					Sd		
P0 Class 0 ABEC 1	P6 Class 6 ABEC 3	P5 Class 5 ABEC 5	P4 Class 4 ABEC 7	P2 Class 2 ABEC 9	P0 Class 0 ABEC 1	P6 Class 6 ABEC 3	P5 Class 5 ABEC 5	P4 Class 4 ABEC 7	P2 Class 2 ABEC 9	P0 Class 0 ABEC 1	P6 Class 6 ABEC 3	P5 Class 5 ABEC 5	P4 Class 4 ABEC 7	P2 Class 2 ABEC 9	P5 Class 5 ABEC 5	P4 Class 4 ABEC 7	P2 Class 2 ABEC 9
Maximum					Maximum					Maximum					Maximum		
6	5	4	3	2.5	6	5	3	2	1.5	10	6	4	2.5	1.5	7	3	1.5
6	5	4	3	2.5	6	5	3	2	1.5	10	7	4	2.5	1.5	7	3	1.5
8	6	5	4	2.5	8	6	3	2.5	1.5	13	8	4	3	2.5	8	4	1.5
9	8	6	5	2.5	9	8	4	3	1.5	15	10	5	4	2.5	8	4	1.5

Axial Runout			Width Deviation						Width Variation				
Sia			ΔB_s						VBs				
P5 Class 5 ABEC 5	P4 Class 4 ABEC 7	P2 Class 2 ABEC 9	P5 Class 5 ABEC 5		P4 Class 4 ABEC 7		P2 Class 2 ABEC 9		P0 Class 0 ABEC 1	P6 Class 6 ABEC 3	P5 Class 5 ABEC 5	P4 Class 4 ABEC 7	P2 Class 2 ABEC 9
Maximum			Max	Min	Max	Min	Max	Min	Maximum				
7	3	1.5	0	-120	0	-40	0	-40	15	15	5	2.5	1.5
7	3	1.5	0	-120	0	-80	0	-80	20	20	5	2.5	1.5
8	4	2.5	0	-120	0	-120	0	-120	20	20	5	2.5	1.5
8	4	2.5	0	-120	0	-120	0	-120	20	20	5	3	1.5

BEARING PRECISION

THE OUTER RING

unit: μm

Normal Outer Diameter		Mean Outer Diameter Deviation										Outer Diameter Variation									
		ΔDmp										Open Type Bearing									
D (mm)		P0 Class 0 ABEC 1		P6 Class 6 ABEC 3		P5 Class 5 ABEC 5		P4 Class 4 ABEC 7		P2 Class 2 ABEC 9		Diameter Series 9					Diameter Series 0, 1				
Exceed	To	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Maximum					Maximum				
2.5	18	0	-8	0	-7	0	-5	0	-4	0	-2.5	10	9	5	4	2.5	8	7	4	3	2.5
18	30	0	-9	0	-8	0	-6	0	-5	0	-4	12	10	6	5	4	9	8	5	4	4
30	50	0	-11	0	-9	0	-7	0	-6	0	-4	14	11	7	6	4	11	9	5	5	4
50	80	0	-13	0	-11	0	-9	0	-7	0	-4	16	14	9	7	4	13	11	7	5	4
80	120	0	-15	0	-13	0	-10	0	-8	0	-5	19	16	10	8	5	19	16	8	6	5

Outer Diameter Variation													Radial Runout				
Open Type Bearing					Bearing with Seals/Shields		Mean Outer Diameter Variation						Kea				
Diameter Series 2, 3, 4					Diameter Series		VDmp						Kea				
					2, 3, 4		0, 1, 2, 3, 4										
P0 Class 0 ABEC 1	P6 Class 6 ABEC 3	P5 Class 5 ABEC 5	P4 Class 4 ABEC 7	P2 Class 2 ABEC 9	P0 Class 0 ABEC 1	P6 Class 6 ABEC 3	P0 Class 0 ABEC 1	P6 Class 6 ABEC 3	P5 Class 5 ABEC 5	P4 Class 4 ABEC 7	P2 Class 2 ABEC 9	P0 Class 0 ABEC 1	P6 Class 6 ABEC 3	P5 Class 5 ABEC 5			
Maximum					Maximum		Maximum						Maximum				
6	5	4	3	2.5	10	9	6	5	3	2	1.5	15	8	5			
7	6	5	4	4	12	10	7	6	3	2.5	2	15	9	6			
8	7	5	5	4	16	13	8	7	4	3	2	20	10	7			
10	8	7	5	4	20	16	10	8	5	3.5	2	25	13	8			
11	10	8	6	5	26	20	11	10	5	4	2.5	35	18	10			

Radial Runout		Outer Diameter Surface Perpendicularity			Axial Runout			Width Deviation		Width Variation							
Kea		Sd			Sea			ΔCs		VCs							
P4 Class 4 ABEC 7	P2 Class 2 ABEC 9	P5 Class 5 ABEC 5	P4 Class 4 ABEC 7	P2 Class 2 ABEC 9	P5 Class 5 ABEC 5	P4 Class 4 ABEC 7	P2 Class 2 ABEC 9	All Classes		P0 Class 0 ABEC 1	P6 Class 6 ABEC 3	P5 Class 5 ABEC 5	P4 Class 4 ABEC 7	P2 Class 2 ABEC 9			
Maximum		Maximum			Maximum					Maximum							
3	1.5	3	2	1.5	3	2	1.5	Based on the allowable ΔBs values for the same bearing		Based on the allowable ΔBs values for the same bearing							
4	2.5	3	2.5	2	3	2.5	2								5	2.5	1.5
5	2.5	4	3	2	4	3	2								5	2.5	1.5
5	4	5	3.5	2	5	3.5	2								6	3	1.5
6	5	5	4	2.5	5	4	2.5								8	4	2.5

BEARING PRECISION LEVELS BY COUNTRY

Standard	Precision Grade				
Japanese Standard	Class 0	Class 6	Class 5	Class 4	Class 2
German Standard	P0	P6	P5	P4	P2
U.S.A. Standard	ABEC-1	ABEC-3	ABEC-5	ABEC-7	ABEC-9
International Standard	Normal Class	Class 6	Class 5	Class 4	Class 2

BEARING STEEL CODES BY COUNTRY

Country	China	ISO	U.S.A.	Germany	Japan	Sweden
Bearing Steel Code	GCr15	683 / XVIII	(AISI) 52100	(DIN) 100Cr6	(JIS) SUJ2	SKF3

BEARING RACE AND STEEL BALL MATERIAL

High carbon chromium bearing steel is the optimal material for ball bearings, possessing characteristics such as high hardness, strong resistance to rolling fatigue, good wear resistance, and excellent dimensional stability. Its chemical composition is as follows.

Element Content (wt%)	C 0.95 - 1.05	Cr 1.40 - 1.63	Si 0.15 - 0.35	Mn 0.25 - 0.45	P ≤ 0.027	S ≤ 0.02
Element Content (wt%)	Ni < 0.23	Cu ≤ 0.25	Mo ≤ 0.1	Sn ≤ 0.03	As < 0.04	Ti < 0.005
Element Content (wt%)	Sb < 0.002	Pb < 0.002	O < 0.001	Al < 0.05	Ca < 0.01	

BEARING CLEARANCE

The clearance of bearings significantly impacts factors such as noise, vibration, temperature rise, and overall lifespan. It's crucial to account for clearance reduction due to differences between the axis and bearing housing, as well as clearance decrease resulting from temperature variations between the inner and outer rings. Typically, optimal performance is achieved by setting the running clearance slightly above zero. According to ISO standards, bearing clearances are categorized as follows:

Bearing Inner Diameter		C2		C0		C3		C4		C5		CM	
Exceed	To	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
2.5	6	0	7	2	13	8	23	-	-	-	-	4	11
6	10	0	7	2	13	8	23	14	29	20	37	4	11
10	18	0	9	3	18	11	25	18	33	25	45	4	11
18	24	0	10	5	20	13	28	20	36	28	48	5	12
24	30	1	11	5	20	13	28	23	41	30	53	5	12
30	40	1	11	6	20	15	33	28	46	40	64	9	17
40	50	1	11	6	23	18	36	30	51	45	73	9	17
50	65	1	15	8	28	23	43	38	61	55	90	12	22

Note: For other clearance specs, please contact us.

DUST PROTECTION, SEALING, AND LUBRICATION

Bearing structural forms include open, closed, and closed types with single-sided or double-sided dust shields (Z, ZZ), as well as single-sided and double-sided non-contact sealing rings (L, 2L), and single-sided and double-sided contact sealing rings (RS, 2RS).

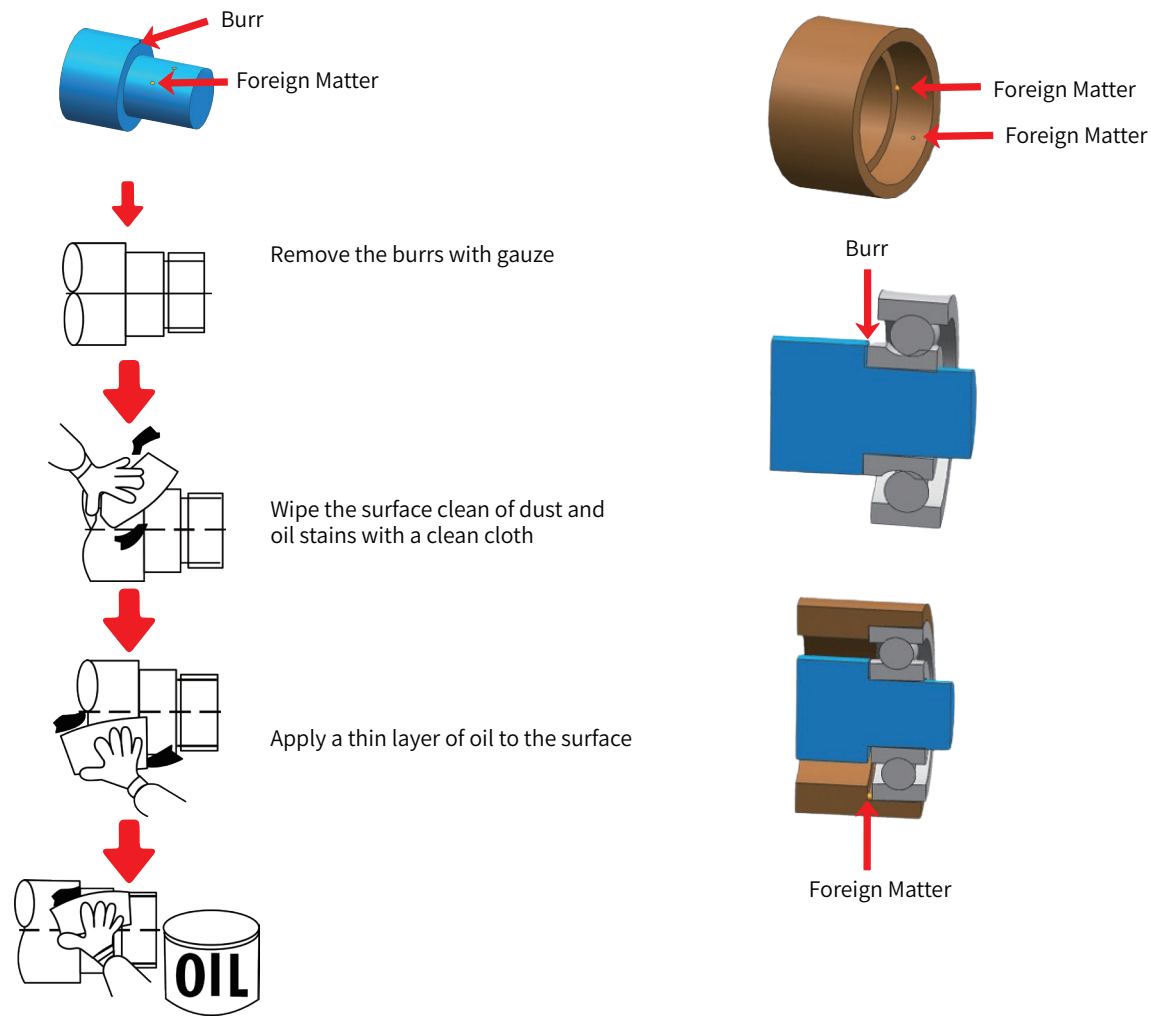
Products are pre-filled with an appropriate amount of lubricating oil or grease at the factory and can be used directly without the need for cleaning. They are suitable for light to medium loads, low to medium-speed rotation, with operating temperatures ranging from -20°C to +110°C. When working conditions are special, customers should contact our technical department for assistance.

COMMONLY USED GREASE

Grease Type	Base Oil	Working Temperature (°C)	Characteristics
KYODO MULTEMP SRL	Synthetic Oil	-50 ~ + 150	Low Noise, Low Torque
KYODO MULTEMP SB-M	Synthetic Oil	-40 ~ + 200	High Temperature Resistant, Long Life, Low Noise, Wide Temperature
KYODO RAREMAX SUPERN	Mineral Oil and Synthetic Oil	-40 ~ + 180	High Temperature Resistant, Long Life, Wide Temperature
KYODO MULTEMP SRH	Ester	-40 ~ + 150	Long Life, Low Noise, Wide Temperature
KYODO MULTEMP ET-K	Polyphenylene Ether and Polyol Ester	-40 ~ + 200	High Temperature Resistant, High Speed
KYODO MULTEMP PS	Lithium Base	-50 ~ + 130	Low Temperature Resistant, Low Noise, Low Torque
SHELL ALVANIA RL2	Mineral Oil	-30 ~ + 120	General Purpose
SHELL STAMINA RL2	Mineral Oil	-20 ~ + 180	High Temperature Resistant, Long Life
ESSO POLYREX EM	Polyurea	-40 ~ + 180	High Temperature Resistant, Long Life
ESSO BEACON 325	Synthetic Oil	-50 ~ + 120	Low Temperature Resistant, Low Torque
MOBIL 28	Synthetic Oil	-54 ~ + 177	Abrasion Resistant, Wide Temperature
CHEVRON SRI #2	Base Oil	-30 ~ + 177	High Temperature Resistant, Long Life, Good Waterproof Performance
COSMO IMPERIAL PNG	Semi Synthetic Base Oil	-30 ~ + 130	Low Noise

BEARING MOUNTING & STORAGE

Before installation, clean the relevant parts and inspect the surfaces of the shaft and bearing seat. If there are burrs, scratches, dust, etc., they should be processed first to avoid scratching, tilting, and external deviation when pressing the bearing.

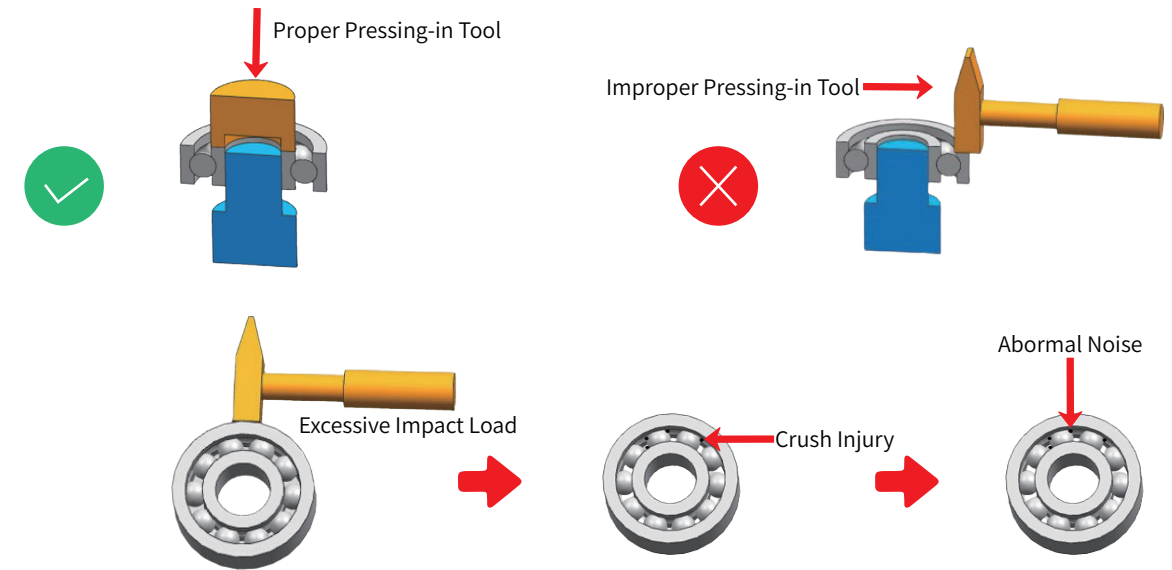


The bearings are pre-treated for rust prevention before leaving the factory. Please do not unpack them until ready for use. It is best to store them indoors with a relative humidity of below 60%. If unpacked and touched by hand without immediate use, it is advisable to apply a thin layer of rust preventive oil to the surface of the bearings. When handling, ensure gentle and slow movements to avoid dropping or impact.

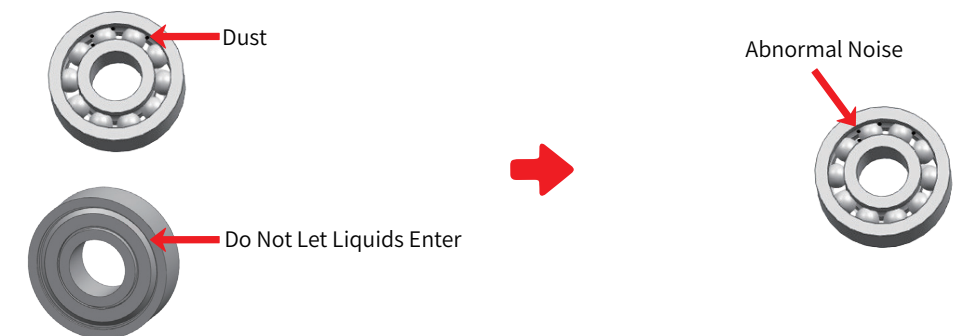
Unpacked bearings should be installed immediately. Do not apply grease or other oils to the bearing surface again to prevent entry into the bearing, affecting noise and service life.

BEARING MOUNTING & STORAGE

1. When mounting, please use appropriate tools. Do not directly strike the bearing with a hammer to avoid damaging the bearing due to impact.



2. The installation location must be clean and dry. If external dust enters the interior of the bearing, it will immediately generate abnormal noise and significantly shorten the bearing's service life. If dust adheres to the inner or outer diameter of the bearing, it may scratch the shaft or bearing seat during pressing and affect the bearing's positioning accuracy.

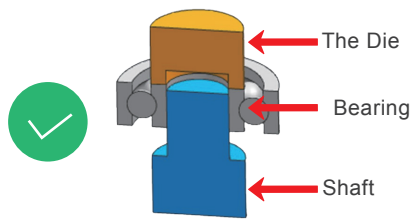


3. Bearing installation should be based on the shaft's structure, size, and the characteristics of the bearing seat components. Apply pressure directly to the end face of the closely fitted sleeve during installation, avoiding pressure transmission through the rolling elements.

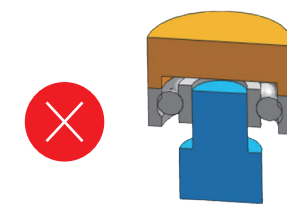
For shafts tightly fitting the bearing inner hole and bearing seats loosely fitting the bearing outer diameter, use a press machine to first mount the bearing onto the shaft. Then, insert the shaft, along with the bearing, into the bearing seat hole. Use a metal fitting sleeve (such as copper) on the inner ring end face during pressing, ensuring the sleeve's inner diameter is slightly larger than the shaft diameter and the outer diameter is slightly smaller than the bearing inner ring flange to prevent it from pressing onto the cage. Apply force to the inner ring end face during installation, while the outer ring end face should not be subjected to

BEARING MOUNTING & STORAGE

Correct Installation Method



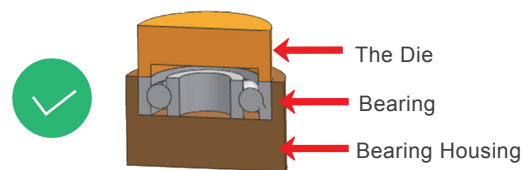
Wrong Installation Method



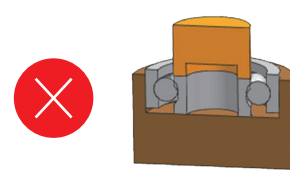
Press Into Shaft

4. If the bearing seat fits tightly with the bearing outer diameter and the shaft fits loosely with the bearing inner diameter, the bearing can be pressed into the bearing seat hole first. In this case, the outer diameter of the fitting sleeve should be slightly smaller than the diameter of the seat hole. It is important to apply force to the outer ring end face during installation, while the inner ring end face should not be subjected to force.

Correct Installation Method



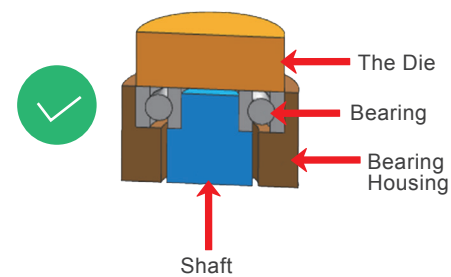
Wrong Installation Method



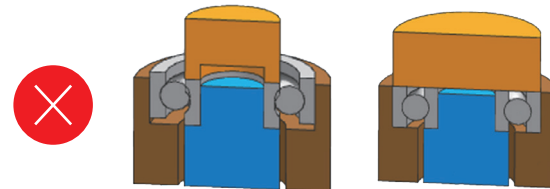
Press Into Bearing Housing

5. If the bearing seat, bearing outer diameter, shaft, and bearing inner diameter are all tightly fitted, during installation, both the inner and outer rings should be pressed into the shaft and seat hole simultaneously. The structure of the fitting sleeve should be able to simultaneously press the end faces of the bearing inner and outer rings. Ensure during installation that both the inner and outer ring end faces simultaneously bear pressure; avoid situations where only the inner or outer ring end face receives force during pressing.

Correct Installation Method

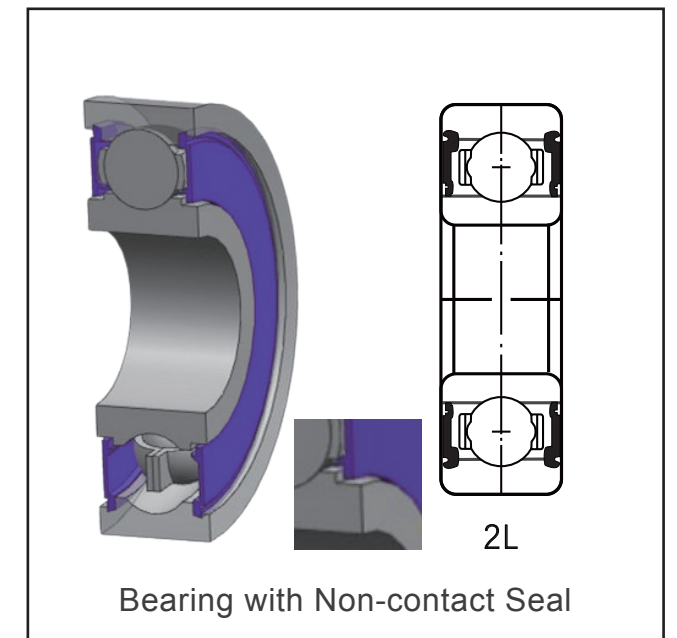
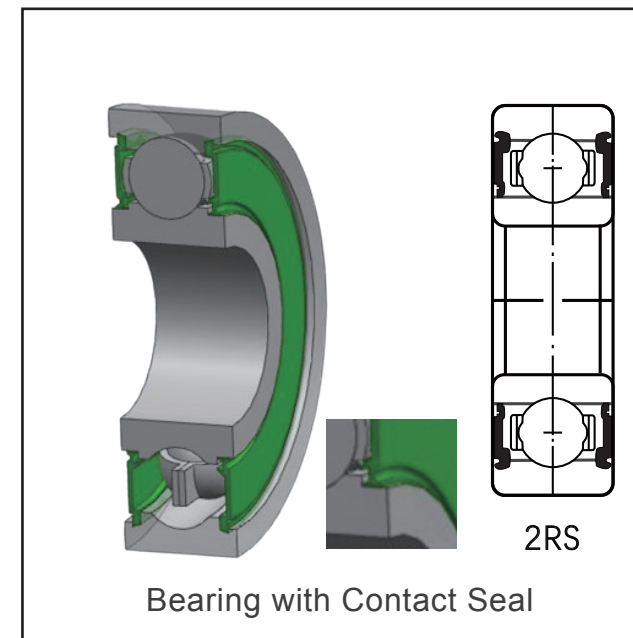
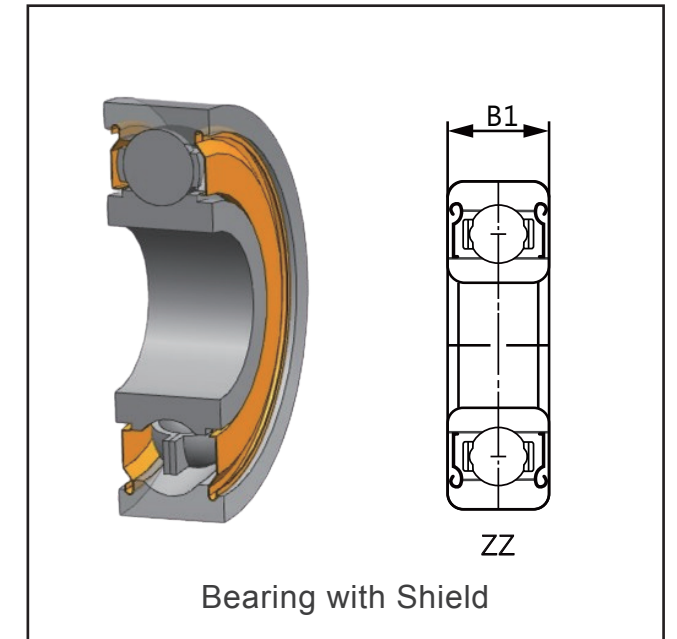
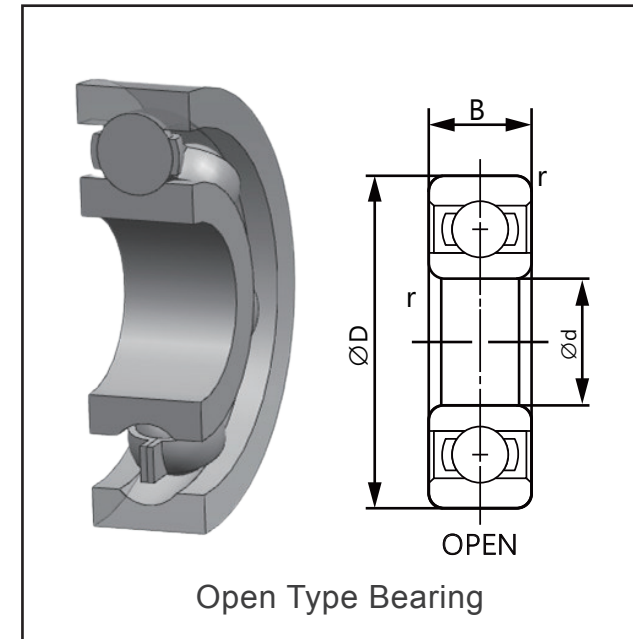


Wrong Installation Method



Equal Press Into Shaft and Bearing Housing

DEEP GROOVE BALL BEARINGS



DEEP GROOVE BALL BEARINGS

SINGLE ROW - METRIC SERIES

Boundary Dimensions (mm)					Bearing Number	Basic Load Rating (N)		Limiting Speed (rpm)		Weight (g) (reference)
Inner Diameter	Outer Diameter	Width		Chamfer		Dynamic	Static	Grease	Oil	
d	D	B	B1	r (min)		Cr	Cor	(Non-contact)	(Non-contact)	
3	8	3	4	0.15	693	553	175	52000	61000	0.79
	9	3	5	0.15	603	645	229	48000	57000	1.40
	10	4	4	0.15	623	645	229	48000	56000	1.57
4	8	2	3	0.08	MR84	396	141	50000	59000	0.56
	9	2.5	4	0.1	684	539	187	47000	55000	1.06
	10	3	4	0.15	MR104	498	198	44000	53000	1.40
	11	4	4	0.15	694	955	344	43000	50000	1.62
	12	4	4	0.2	604	970	358	41000	49000	2.20
	13	5	5	0.2	624	1150	401	40000	47000	2.98
	16	5	5	0.3	634	1430	557	35000	42000	5.11
5	8	2	2.5	0.08	675	210	90	47000	55000	0.38
	9	2.5	3	0.15	MR95	431	169	44000	53000	0.66
	10	3	4	0.15	MR105	498	198	44000	53000	1.21
	11	3	5	0.15	685	775	317	41000	49000	1.90
	13	4	4	0.2	695	1070	422	38000	45000	2.41
	14	5	5	0.2	605	1080	438	37000	44000	3.63
	16	5	5	0.3	625	1470	599	35000	42000	4.86
6	10	2.5	3	0.1	676	463	197	41000	49000	0.75
	12	3	4	0.15	MR126	775	327	38000	45000	1.73
	13	3.5	5	0.15	686	1080	438	37000	44000	2.48
	15	5	5	0.2	696	1470	599	35000	42000	3.74
	16	6	6	0.2	MR166	1470	599	34000	40000	5.20
	17	6	6	0.3	606	1960	732	33000	40000	5.67
	19	6	6	0.3	626	2230	903	32000	38000	8.45
	22	7	7	0.3	636	3310	1370	30000	35000	12.59
7	11	2.5	3	0.1	677	455	202	38000	45000	0.70
	13	3	4	0.15	MR137	771	338	36000	43000	1.93
	14	3.5	5	0.15	687	1170	511	35000	42000	2.89
	17	5	5	0.3	697	1600	714	33000	39000	5.04
	19	6	6	0.3	607	2230	903	32000	38000	7.67
	22	7	7	0.3	627	3310	1370	30000	35000	12.24
26	9	9	0.3	637	3330	1411	28000	31000	25.21	

Note: B/B1 means the width of open/capped bearings

DEEP GROOVE BALL BEARINGS

SINGLE ROW - METRIC SERIES

Boundary Dimensions (mm)					Bearing Number	Basic Load Rating (N)		Limiting Speed (rpm)		Weight (g) (reference)
Inner Diameter	Outer Diameter	Width		Chamfer		Dynamic	Static	Grease	Oil	
d	D	B	B1	r (min)		Cr	Cor	(Non-contact)	(Non-contact)	
8	12	2.5	3.5	0.1	678	449	206	36000	43000	1.07
	14	3.5	4	0.15	MR148	760	350	34000	41000	2.13
	16	4	5	0.2	688	1600	714	33000	39000	3.70
	19	6	6	0.3	698	2240	917	31000	37000	6.23
	22	7	7	0.3	608	3310	1370	30000	35000	11.76
	24	8	8	0.3	628	3330	1410	29000	34000	17.54
	28	9	9	0.3	638	4550	1950	27000	32000	29.00
9	17	4	5	0.2	689	1600	735	31000	37000	4.07
	20	6	6	0.3	699	2480	1080	30000	36000	8.00
	24	7	7	0.3	609	3330	1410	29000	34000	14.21
10	26	8	8	0.3	629	4550	1950	28000	33000	19.48
	15	3	4	0.1	6700	572	305	34000	40000	2.06
	19	5	5	0.3	6800	1590	760	30000	36000	5.12
	19	7	7	0.3	63800	1590	760	30000	36000	7.09
	20	6	6	0.3	MR2010	1590	760	28000	34000	7.52
	22	6	6	0.3	6900	2690	1270	28000	34000	9.45
	26	8	8	0.3	6000	4550	1950	27000	32000	19.00
	26	12	12	0.3	63000	4550	1950	27000	32000	26.46
	30	9	9	0.6	6200	5110	2390	23000	28000	30.64
12	35	11	11	0.6	6300	7640	3470	21000	25000	53.81
	18	4	4	0.2	6701	935	528	30000	36000	3.00
	21	5	5	0.3	6801	1910	1040	27000	33000	5.65
	21	7	7	0.3	63801	1910	1040	27000	33000	8.18
	24	6	6	0.3	6901	2890	1450	25000	30000	10.49
	28	7	7	0.3	16001	5110	2390	24000	28000	19.00
	28	8	8	0.3	6001	5110	2390	24000	28000	21.23
	28	12	12	0.3	63001	5110	2390	20000	26000	28.80
	32	10	10	0.6	6201	6800	3050	20000	24000	35.16
	37	12	12	1.0	6301	9750	4230	18000	22000	59.73 ①
15	21	4	4	0.2	6702	827	493	27000	32000	3.20
	24	5	5	0.3	6802	2060	1260	24000	29000	7.16
	24	7	7	0.3	63802	2060	1260	24000	29000	9.82
	28	7	7	0.3	6902	4320	2260	22000	26000	15.26

Note: B/B1 means the width of open/capped bearings

Note: ① means the weight of open bearings

DEEP GROOVE BALL BEARINGS

SINGLE ROW - METRIC SERIES

Boundary Dimensions (mm)					Bearing Number	Basic Load Rating (N)		Limiting Speed (rpm)		Weight (g) (reference)
Inner Diameter	Outer Diameter	Width		Chamfer		Dynamic	Static	Grease	Oil	
d	D	B	B1	r (min)		Cr	Cor	(Non-contact)	(Non-contact)	
15	32	8	8	0.3	16002	5590	2850	20000	24000	26.18
	32	9	9	0.3	6002	5590	2850	20000	24000	28.46
	35	11	11	0.6	6202	7600	3360	17000	21000	43.79
	42	13	13	1.0	6302	11420	5420	15000	19000	81.02
17	23	4	4	0.2	6703	1000	675	24000	29000	4.00
	26	5	5	0.3	6803	2130	1360	22000	26000	7.85
	26	7	7	0.3	63803	2130	1360	22000	26000	9.80
	30	7	7	0.3	6903	4310	2310	20000	24000	16.80
	35	8	8	0.3	16003	6000	3260	18000	22000	32.00
	35	10	10	0.3	6003	6000	3260	18000	22000	37.86
	40	12	12	0.6	6203	9580	4800	16000	19000	64.08
47	14	14	1.0	6303	13560	6560	14000	17000	111.19	
20	27	4	4	0.2	6704	1000	722	21000	26000	4.80
	32	7	7	0.3	6804	3470	2240	19000	23000	18.20
	37	9	9	0.3	6904	6390	3590	17000	21000	36.67
	42	8	8	0.3	16004	8370	4520	16000	19000	47.63 ①
	42	12	12	0.6	6004	9380	5080	16000	19000	67.34
	47	14	14	1.0	6204	12830	6650	14000	16000	102.66
	52	15	15	1.1	6304	16000	7930	12000	15000	141.75
22	44	12	12	0.6	60/22	10470	5730	15000	18000	70.00
	50	14	14	1.0	62/22	12830	6650	12000	15000	115.00
	56	16	16	1.1	63/22	14020	7930	11000	13000	174.00
25	37	7	7	0.3	6805	3660	2640	16000	19000	21.46
	42	9	9	0.3	6905	6650	4190	14000	17000	42.00
	47	8	8	0.3	16005	6940	4600	13000	16000	55 ①
	47	12	12	0.6	6005	10070	5800	13000	16000	78.37
	52	15	15	1.0	6205	14020	7930	11000	13000	127.88
28	62	17	17	1.1	6305	22460	11570	10000	12000	223.89
	52	12	12	0.6	60/28	11210	6690	12000	14000	95.36
	58	16	16	1.0	62/28	16650	9600	10000	12000	169.13
30	68	18	18	1.1	63/28	24890	13750	9000	11000	282.00
	42	7	7	0.3	6806	4020	3120	13000	16000	26.00
	47	9	9	0.3	6906	7200	5050	12000	15000	49.83

Note: B/B1 means the width of open/capped bearings

Note: ① means the weight of open bearings

DEEP GROOVE BALL BEARINGS

SINGLE ROW - METRIC SERIES

Boundary Dimensions (mm)					Bearing Number	Basic Load Rating (N)		Limiting Speed (rpm)		Weight (g) (reference)
Inner Diameter	Outer Diameter	Width		Chamfer		Dynamic	Static	Grease	Oil	
d	D	B	B1	r (min)		Cr	Cor	(Non-contact)	(Non-contact)	
30	55	9	9	0.3	16006	13240	8250	11000	13000	82.79
	55	13	13	1.0	6006	13240	8250	11000	13000	111.78
	62	16	16	1.0	6206	19470	11430	9000	11000	194.58
	72	19	19	1.1	6306	27010	15200	8000	10000	345.72
32	58	13	13	1.0	60/32	11848	7611	10000	13000	127.00
	65	17	17	1.0	62/32	22400	13100	9000	10000	224.00
	75	20	20	1.1	63/32	23000	12000	8500	10000	380.00
35	47	7	7	0.3	6807	4310	3610	11000	14000	27.00
	55	10	10	0.6	6907	10370	7180	10000	13000	71.65
	62	9	9	0.3	16007	10770	7880	10000	12000	108 ①
	62	14	14	1.0	6007	15950	10320	10000	12000	150.00
	72	17	17	1.1	6207	25700	15220	8800	10000	283.15
	80	21	21	1.5	6307	33360	19220	7800	9000	45.97
	52	7	7	0.3	6808	4420	3890	10000	12000	31.46
40	62	12	12	0.6	6908	11270	8450	9000	11000	113.97
	68	9	9	0.3	16008	11580	9120	9000	11000	123 ①
	68	15	15	1.0	6008	16820	11490	9000	11000	183.50
	80	18	18	1.1	6208	29520	18140	7700	9000	367.82
	90	23	23	1.5	6308	40750	24010	6800	8200	576.00
	58	7	7	0.3	6809	4590	4320	9000	10000	39.75
	68	12	12	0.6	6909	11580	9120	8800	11000	126.00
45	75	10	10	0.6	16009	15600	12200	8200	10000	171 ①
	75	16	16	1.0	6009	19970	13900	8200	10000	231.82
	85	19	19	1.1	6209	31660	20730	6800	8200	395.00
50	65	7	7	0.3	6810	6600	6080	8600	10000	50.00
	72	12	12	0.6	6910	11830	6880	7900	10000	130.00
	80	10	10	0.6	16010	16100	13100	7400	8800	178 ①
	80	16	16	1.0	6010	20670	15460	7400	8800	259.00
	90	20	20	1.1	6210	35060	23220	6100	7300	452.00

Note: B/B1 means the width of open/capped bearings

Note: ① means the weight of open bearings

DEEP GROOVE BALL BEARINGS

SINGLE ROW - 1600 SERIES

Boundary Dimensions (in)					Bearing Number	Basic Load Rating (N)		Limiting Speed (rpm)		Weight (g) (reference)
Inner Diameter	Outer Diameter	Width		Chamfer		Dynamic	Static	Grease	Oil	
d	D	B	B1	r (min)		Cr	Cor	(Non-contact)	(Non-contact)	
0.1875	0.6875	0.25	0.3125	0.0118	1601	1960	730	33000	40000	7.00
0.25	0.6875	0.25	0.3125	0.0118	1602	1960	732	33000	34000	8.00
0.3125	0.875	0.2813	0.3437	0.0118	1603	3310	1370	29000	35000	14.00
	0.9063	0.3125	0.3125	0.0118	1605	3310	1370	29000	34000	16.00
0.375	0.875	0.2813	0.3475	0.0118	1604	3330	1410	29000	35000	11.00
	0.9063	0.3125	0.3125	0.0118	1606	3330	1410	29000	34000	15.00
	1.125	0.375	0.375	0.0118	1614	4550	1950	14000	28000	30.00
0.4375	0.9063	0.3125	0.3125	0.0118	1607	2690	1270	29000	34000	13.00
	1.125	0.375	0.375	0.0118	1615	5110	2390	24000	28000	28.00
	1.375	0.4375	0.4375	0.0118	1620	7640	3470	17000	21000	50.00
0.5	1.125	0.375	0.375	0.0118	1616	5110	2390	24000	28000	26.00
	1.375	0.4375	0.4375	0.0118	1621	7640	3470	17000	21000	48.00
0.5625	1.375	0.4375	0.4375	0.0236	1622	7600	3680	17000	21000	46.00
0.625	1.375	0.4375	0.4375	0.0236	1623	7600	3680	17000	21000	41.00
	1.625	0.5	0.5	0.0236	1628	11420	5420	16000	19000	72.00
	1.75	0.5	0.5	0.0118	1633	9580	4800	14000	16000	92.00
0.75	1.625	0.5	0.5	0.0236	1630	9380	5080	16000	19000	69
	1.75	0.5	0.5	0.0236	1635	9380	5080	14000	16000	90
	2	0.5625	0.5625	0.0236	1638	16000	7930	11000	13000	145
0.875	2	0.5625	0.5625	0.0394	1640	16000	7930	11000	13000	136
1	2	0.5625	0.5625	0.0394	1647	14020	7930	11000	13000	121
1.125	2.5	0.625	0.625	0.0433	1652	19470	11430	9000	10000	211
1.25	2.5	0.625	0.625	0.0433	1654	19470	11430	9000	10000	193
	2.5625	0.6875	0.6875	0.0433	1657	15950	10320	9000	10000	232
1.3125	2.5625	0.6875	0.6875	0.0433	1658	15950	10320	9000	10000	210

Note: B/B1 means the width of open/capped bearings

DEEP GROOVE BALL BEARINGS

SINGLE ROW - R SERIES

Boundary Dimensions (in)					Bearing Number	Basic Load Rating (N)		Limiting Speed (rpm)		Weight (g) (reference)
Inner Diameter	Outer Diameter	Width		Chamfer		Dynamic	Static	Grease	Oil	
d	D	B	B1	r (min)		Cr	Cor	(Non-contact)	(Non-contact)	
0.125	0.3125	0.1094	0.1406	0.0031	R2-5	452	156	52000	61000	0.77
	0.375	0.1562	0.1562	0.0059	R2	645	229	47000	56000	1.33
	0.5	0.1719	0.1719	0.0059	R2A	775	317	41000	49000	3.12
0.1875	0.3125	0.1094	0.125	0.0031	R156	210	90	47000	56000	0.42 ①
	0.375	0.125	0.125	0.0031	R166	467	191	44000	53000	0.90
	0.5	0.1562	0.196	0.0079	R3	1070	432	39000	46000	2.89
0.25	0.375	0.125	0.125	0.0031	R168	508	94	41000	49000	0.58 ①
	0.5	0.125	0.1875	0.0059	R188	716	291	37000	44000	2.35
	0.625	0.196	0.196	0.0118	R4	1460	599	34000	41000	4.20
	0.75	0.2188	0.2812	0.0118	R4A	2800	1050	32000	38000	8.79
0.375	0.875	0.2188	0.2812	0.0118	R6	3330	1410	29000	35000	10.76
0.5	1.125	0.25	0.3125	0.0118	R8	5110	2390	24000	28000	21.30
0.625	1.375	0.2813	0.3437	0.0118	R10	6000	3260	18000	22000	36.19
0.75	1.625	0.3125	0.4375	0.0236	R12	9380	5080	16000	19000	61.88
0.875	1.875	0.375	0.5	0.0236	R14	10070	5800	13000	16000	97.00
1	2	0.375	0.5	0.0236	R16	10070	5800	11000	13000	109.44

Note: B/B1 means the width of open/capped bearings

Note: ① means the weight of open bearings

DEEP GROOVE BALL BEARINGS

DOUBLE ROW

Boundary Dimensions (mm)					Bearing Number	Basic Load Rating (N)		Limiting Speed (rpm)	
Inner Diameter	Outer Diameter	Width		Chamfer		Dynamic	Static	Grease	Oil
d	D	B	B1	r (min)		Cr	Cor	(Non-contact)	(Non-contact)
3	10	6	6	0.2	Q523	993	459	22000	29000
4	13	8.35/6.3	8.35/6.3	0.2	Q594W8.35/6.3	1460	689	22000	30000
10	22	12	12	0.3	5900	4100	2750	16000	21000
	30	14.3	14.3	0.6	5200	7880	4790	14000	19000
12	28	16	16	0.3	5001	7880	4790	14000	19000
	32	16	16	0.6	5201	10460	6100	13000	17000
15	35	15.9	15.9	0.6	5202	11770	7480	11000	15000
	42	19	19	1.0	5302	17560	108510	9900	13000
17	40	17.5	17.5	0.6	5203	14750	9610	9900	13000
20	32	14	14	0.3	5804	5340	4480	11000	15000

Note: B/B1 means the width of open/capped bearings

DEEP GROOVE BALL BEARINGS

SELF ALIGNING

Boundary Dimensions (mm)					Bearing Number	Basic Load Rating (N)		Limiting Speed (rpm)	
Inner Diameter	Outer Diameter	Width		Chamfer		Dynamic	Static	Grease	Oil
d	D	B	B1	r (min)		Cr	Cor	(Non-contact)	(Non-contact)
10	30	9	9	0.6	1200	7490	1520	17000	20000
	30	14	14	0.6	2200	9620	1930	17000	20000
	35	17	17	0.6	2300	10570	2400	15000	18000
	35	11	11	0.6	1300	7360	1660	15000	18000
12	32	10	10	0.6	1201	5720	1310	15000	18000
	32	14	14	0.6	2201	9480	2120	15000	18000
	37	17	17	1.0	2301	11180	2620	14000	17000
	37	12	12	1.0	1301	9720	2250	14000	17000
15	35	11	11	0.6	1202	7750	1790	14000	17000
	35	14	14	0.6	2202	9720	2250	14000	17000
	42	17	17	1.0	2302	11200	2730	12000	15000
	42	13	13	1.0	1302	9850	2330	12000	15000
17	40	12	12	0.6	1203	8120	2070	13000	16000
17	40	16	16	0.6	2203	8120	2070	13000	16000

Note: B/B1 means the width of open/capped bearings

NON STANDARD BEARINGS



Flat thrust ball bearing



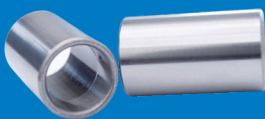
Full Ball Bearing



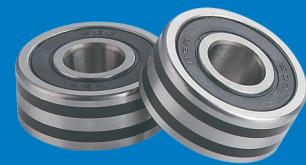
Spherical Bearing



Inner Hexagon Bearing



Sleeve



Expansion Compensating Bearing

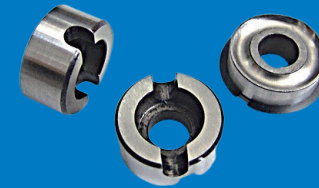


Widened-width Bearing



Ball Bowl

NON STANDARD BEARINGS



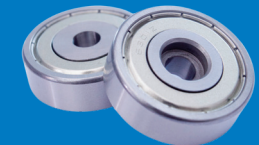
Non-standard Bearing



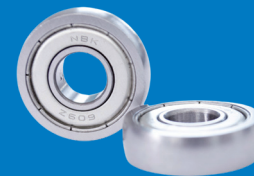
Non-standard Bearing



Non-standard Bearing



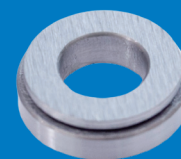
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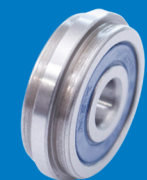
Non-standard Bearing



Non-standard Bearing

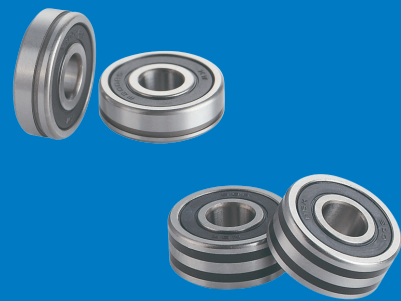


Flange Bearing

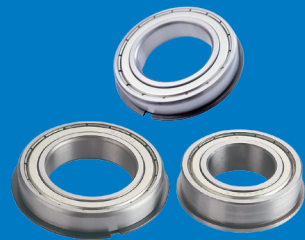


Outer Race with V-groove Bearing

NON STANDARD BEARINGS



Outer Race Inclined Slot Bearing



Snap Ring Bearing



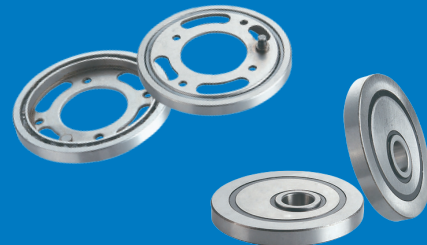
Bicycle Bearing



Doors and Windows Bearing



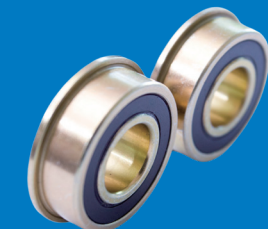
Nylon Bearing



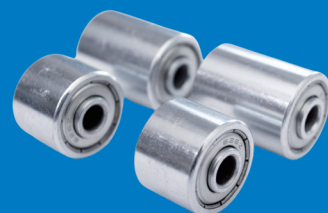
Eccentric Bearing



Iron Sheet Wrapped Bearing



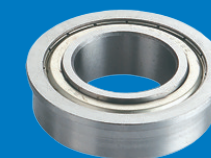
Galvanized Bearing



Widened-width Bearing



Ball Bowl



Flange Bearing



Outer Race with V-groove Bearing

NON STANDARD BEARINGS

