

Deep Groove Ball Bearings 6201 6202 6203 6204 6205

These deep groove ball bearings are available in sizes 6201, 6202, 6203, 6204, and 6205. They feature options for 2RS, ZZ, and open configurations, as well as C0, C3, and C5 clearance ratings.



ADDITIONAL IMAGES



Product Overview



Internal structure of a deep groove ball bearing showing outer ring, cage, balls, and inner ring.

High-Precision Deep Groove Ball Bearings

These versatile deep groove ball bearings are engineered for high-speed and high-load applications, featuring a deep raceway geometry for smooth operation. Designed to Electric Motor Quality (EMQ) standards, they minimize friction, noise, and vibration, making them ideal for electric motors and precision machinery. Available in multiple sealing configurations and clearance grades, these bearings provide reliable performance across diverse industrial environments.

Technical Specifications

Bearings ring & roller material

Steel Grade	Chemical composition %
Crus 52100	Carbon 1.00-1.15, Silicon 0.15-0.35, Manganese 0.02-0.035, Phosphorus 0.008, Sulfur 0.008, Chromium 1.40-1.65, Copper 0.035
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Cage Materials

Cage material should have formic acid resistance, dimensional stability & metal affinity, while selecting cage material, it needs considering the operational environment.

Stamping metal cage

The light cage has high intensity, open surface treatment it can reduce friction & abrasion.

Notes: Nylon is not suitable for steel contact.

Steel grade	Chemical composition %
Steel grade	Carbon 0.15-0.25, Silicon 0.05-0.15, Manganese 0.03-0.05, Phosphorus 0.008, Sulfur 0.008, Nickel 0.005, Chromium 0.005

Material of Seals

Type	Material	Temperature Range	Features	Limitations
Nitrile rubber	NBR	40-100°C	Oil resistance, high durability, high compression, good elasticity	Not for high temperature
Silicone	Si-PMQ, Si-PMQ-1	70-200°C	Resistance to high temperature & dry lubricant, low friction, good elasticity	Poor surface wear & creep resistance, expensive, high temperature resistance to wear
Polysulfone (Polyarylether ether)	PES/PEEK	150-250°C	High mechanical strength, excellent chemical resistance	Difficult to process, high temperature resistance to wear
Fluoro rubber	FKM/FFKM	150-200°C	High mechanical strength, excellent chemical resistance, excellent wear resistance	Expensive, difficult to process, high temperature resistance to wear
Polypropylene rubber	PP/PPH	10-120°C	Resistance to heat of weight & creep, excellent high temperature resistance	Not suitable for high temperature, poor elasticity

Detailed chemical composition of bearing steel and properties of various seal materials including NBR and Silastic.

Widely Use Grease Specification

Manufacturer	Brand	Base Oil	Thickener	Viscosity of Base Oil		Working Temperature
				40°C	100°C	
Koyo Yuh	Multigrade SGM	Polyol ester	Lithium soap	95	11	-50~150
	Multigrade SRL	Polyol ester-diaester	Lithium soap	24	5.1	-50~150
	Multigrade SSM	Synthetic high-pressure base	Polyurea	47.5	8.9	-40~120
	Multigrade ET-K	Other synthetic polyol liquid	Ammonium double soap	95.1	11.3	-40~120
	Multigrade PSE	Other synthetic polyol liquid	Lithium soap	25.5	4.7	-50~150
Shell	Shell NL	Isolated diethylene glycol	Polyurea	99.9	20.9	-40~120
	Shell GL2	Mineral oil	Lithium base	75.16	8.3	-25~120
	Shell GL3	Mineral oil	Lithium base	75	8	-25~120
	Shell AV2	Mineral oil	Lithium base	130	12.2	-25~120
	Shell AV2	Mineral oil	Lithium base	130	12.2	-25~120
Klüber	ISHT-182	Diester	Polyurea	70	9.4	-40~120
	ISHT-102	Diester	Polyurea	100	12	-40~120
	ASDPEC-6LV32	Diester	Lithium base	29	5	-50~140
	ASDPEC-12V17	Diester	Polyurea	67.5	10	-40~140
	RETAKO-15V113	Isolated diethylene glycol	Polyurea	150	4	-30~180
DIXON/White	SEACON120	Diester	Lithium soap	15	4	-25~120
	Ultra-EM	Mineral oil	Polyurea	115	21	-50~150
	Ultra-N2	Mineral oil	Lithium soap	115	19	-40~130
	Ultra-N3	Mineral oil	Lithium soap	115	19	-40~130
	ProB	Mineral oil	Lithium base	110	11.98	-30~135
Daguer	Hydra 240	Diethylene glycol dimethyl ether	Diethylene glycol dimethyl ether	200	29	-34~124
	Lubcon N2	Diester	Polyurea	150	22	-34~180
	Chauron DB2 2	Diethylene glycol dimethyl ether	Lithium base	100	11	-35~120
Zynor	Theragel	Mineral oil	Lithium base	150	12	-25~120

Comprehensive guide to lubricant options and their respective working temperature ranges.

Closure Options

OPEN • ZZ (Metal Shielded) • 2RS (Rubber Sealed) • Z (Single Shield) • RZ • 2RZ

Radial Internal Clearance

- C0 (Standard)
- C2
- C3
- C5

Available Series

6000 Series, 6200 Series, 6300 Series, 6900 Series

Bearing Material

Chrome Steel (Gcr15)

Precision Ratings

P0, P5, P6, ABEC-3, ABEC-5

Performance Metrics

Vibration & Noise Levels

2 Z2V2

Vibration Grade

3 Z3V3

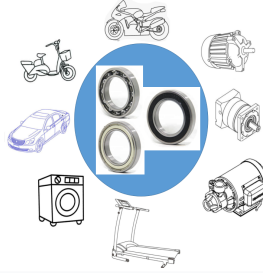
Precision Grade

6300 Series Performance Data

Model	ID (mm)	OD (mm)	Width (mm)	Dynamic Load (Cr)
6301	12	37	12	7.48
6302	15	42	13	8.8
6303	17	47	14	10.45
6304	20	52	15	12.26
6305	25	62	17	17.22

Applications

Application of Bearings



Examples of industrial and motor applications for deep groove ball bearings.

Common Applications

- Electric Motors
- Automotive Components
- Industrial Machinery
- Gearboxes
- Pumps

Logistics & Service

6300 Series Industrial Packing Details

Model	MOQ. Carton	Industrial Packing	Quantity per Carton PCS	Packing Photo
6301	1		400	
6302	1		300	
6303	1		250	
6304	1		200	
6305	1		120	
6306	1		60	
6307	1		50	
6308	1		45	
6309	1		30	

Standard industrial packing configurations and quantity per carton for various models.

Packaging

Industrial Packing, Neutral Box, Color Box

Accepted Payment

T/T, L/C, Western Union, PayPal