



Motion The World

Your Reliable Industrial Bearing Supplier >>

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About DMAG

Shanghai DMAG Bearing (formerly known as MAG bearing) is an international bearing distributor locating in the center of a global innovation hub-Shanghai.

Integrity, Innovation, and Cooperation are our core values and the driving force for the development of the company.

DMAG supplies more than 2000 specifications of various bearings, with sizes range from 3mm to 2000mm. Complied with international standards, we serve a wide array of clients in the worldwide OEM market and aftermarket.

At DMAG, we continue adding new and innovative showpieces to our product lines. We value each new opportunity and partnership, and take each of client's requirement seriously.

We also encourage our partners and clients to join us in engaging green environmental strategies and sustainable business practices both locally and internationally.

DMAG strives for quality excellence and total customer satisfaction. We tailor our services to meet the individual needs. Contact us now to find out your reliable and cost-effective bearing solutions.



Catalogue

Deep Groove Ball Bearings



01

Self-Aligning Ball Bearings



03

Spherical Roller Bearings



04

Tapered Roller Bearings



06

Cylindrical Roller Bearings



08

Thrust Bearings



10

Thrust Spherical Roller Bearings ----- 10

Thrust Ball Bearings ----- 11

Angular Contact Ball Bearings



12

Miniature Bearings



14

Miniature Ball Bearings	14
Flanged Bearings	14
Stainless Steel Bearings	14
U groove & V groove Bearings	15
Miniature Thrust Ball Bearings	15

Pillow Block Bearings



16

Linear Bearings



18

Automobile Bearings



20

Rod Ends	20
Spherical Plain Bearings	22
Wheel Hub Bearings	24
Adapter Sleeves	24

Popular Bearings



Skateboard Bearings	26
Bike Bearings	27
Dental Bearings	27
RC Bearings	28
YoYo Bearings	28
Instrument Bearings	29
Electric Motor Bearings	29
Medical Bearings	30

Special Bearings



Stainless Steel Bearings	31
Ceramic Bearings	32
Plastic Bearings	32
Custom Bearings	33

Technical Information

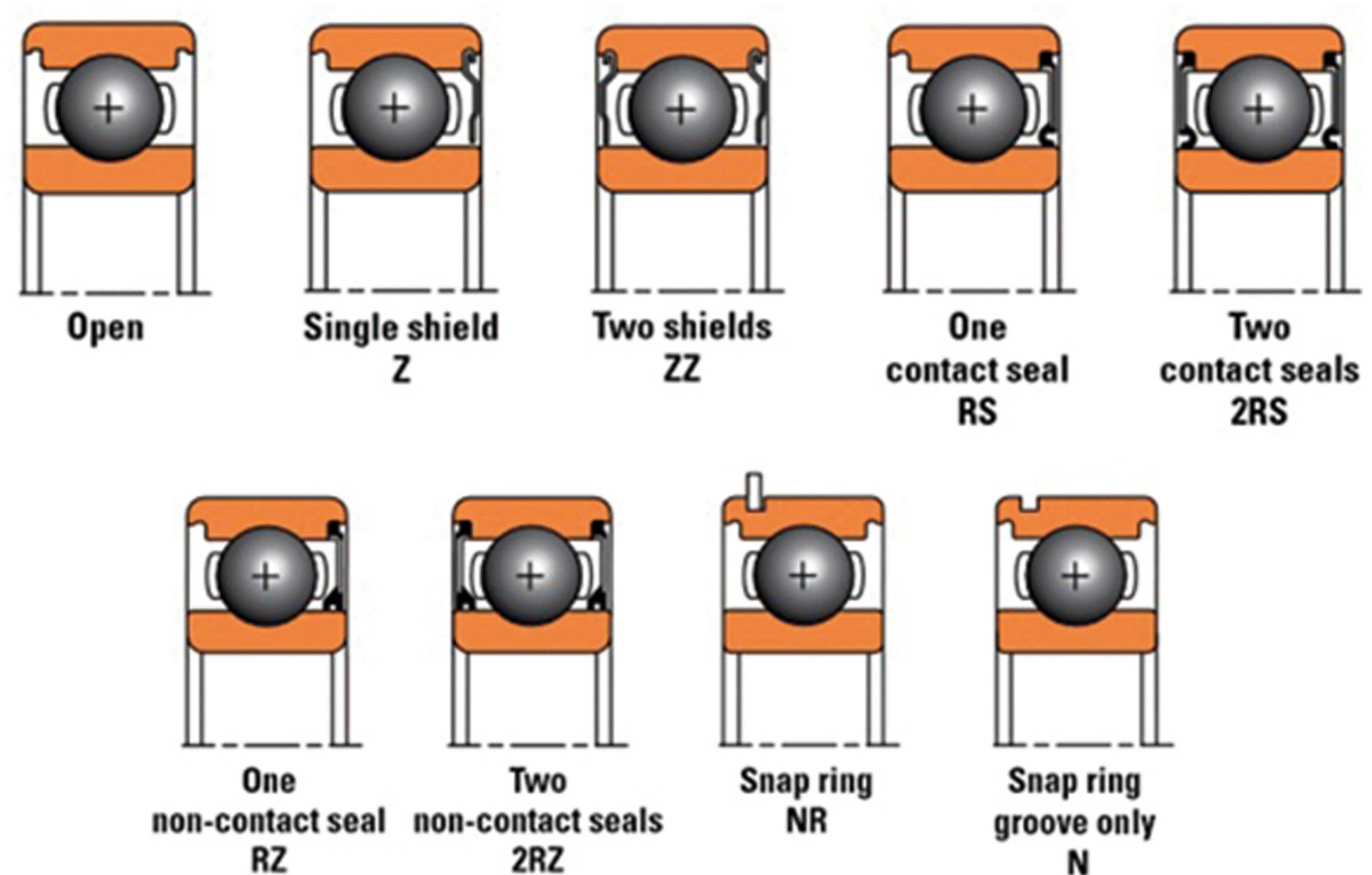
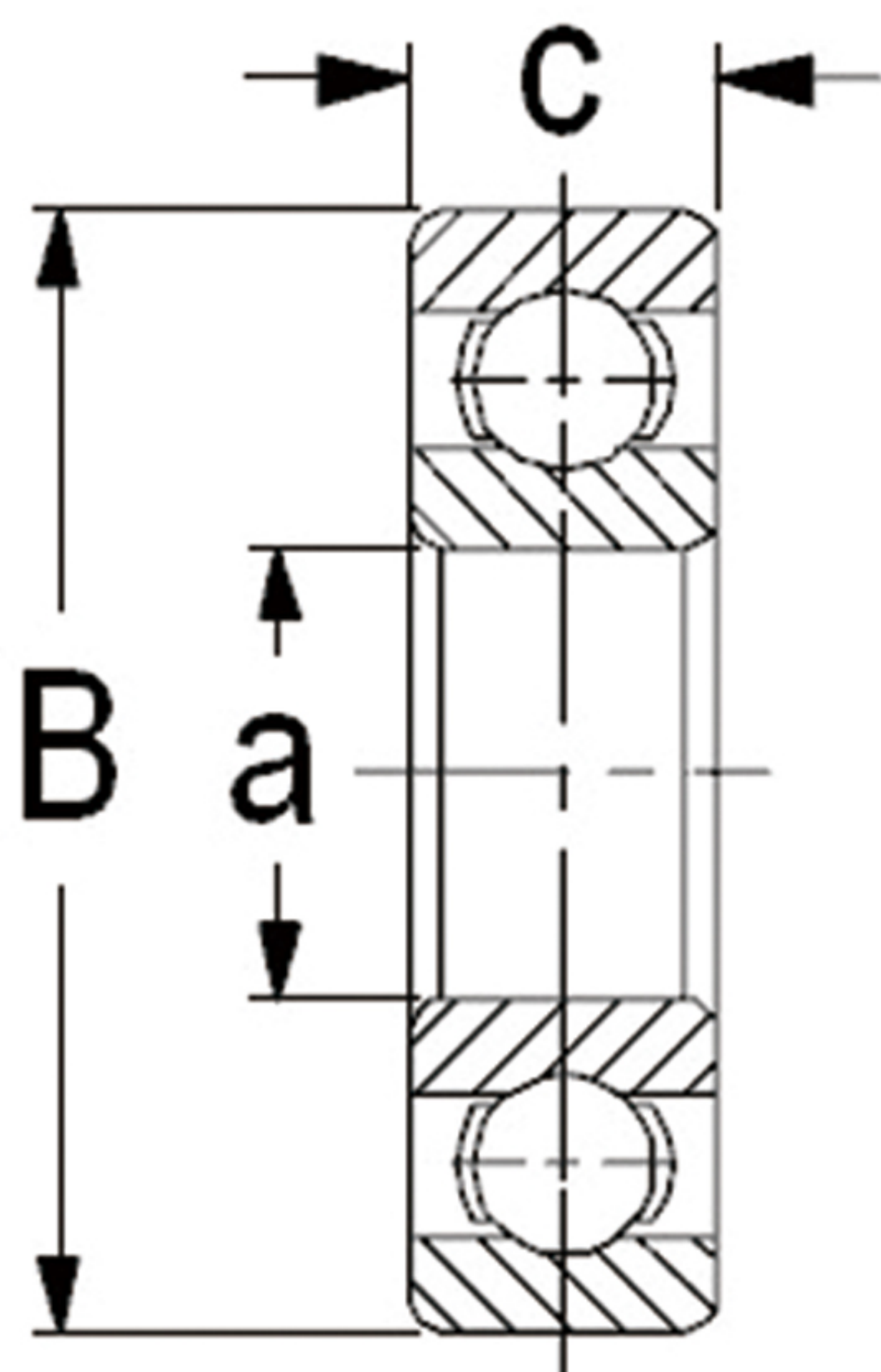
Production Flow Chart	34
----------------------------------	-----------

Technical information	34
----------------------------------	-----------

Materials for Outer,Inner rings & Rolling	34
Material for Bearing Retainers	35
Bearing closure-seals and shields	36
Precision Class for the bearings	38

Deep Groove Ball Bearings

Deep groove ball bearings are one of the versatile bearings among others. They require little maintenance, are non-separable and capable of working at high and very high speeds. Accommodating radial and axial loads in both directions, deep groove ball bearings can deliver reliable performance in wide range of applications and conditions. They are available in standard, thin section and miniature type that span 3mm to 1900mm bore sizes with open, shields, seals and snap ring combinations.



Diameters Range:

Bearing Series	Bore Range
6000 Series	φ7 - φ1600
6200 Series	φ3 - φ1000
6300 Series	φ4 - φ1000
6400 Series	φ10 - φ670
61800 Series	φ10 - φ1900
61900 Series	φ10 - φ1800
16000 Series	φ100 - φ1500

Self-Aligning Ball Bearings

Similar to spherical roller bearings, self-aligning ball bearings can accommodate static and dynamic misalignment. Yet, self-aligning ball bearings run at a higher speed as they generate less friction than any other type of rolling bearing. It is recommended when alignment of the shaft and housing is difficult and the shaft may flex. Self-aligning bearing has two raceways in the inner ring and a single spherical raceway in the outer ring with its center of curvature coincident with the bearing axis. It allows the axis of the inner ring, cage and balls to deflect around the bearing center to automatically correct misalignment caused by housing and shaft machining or installation error.

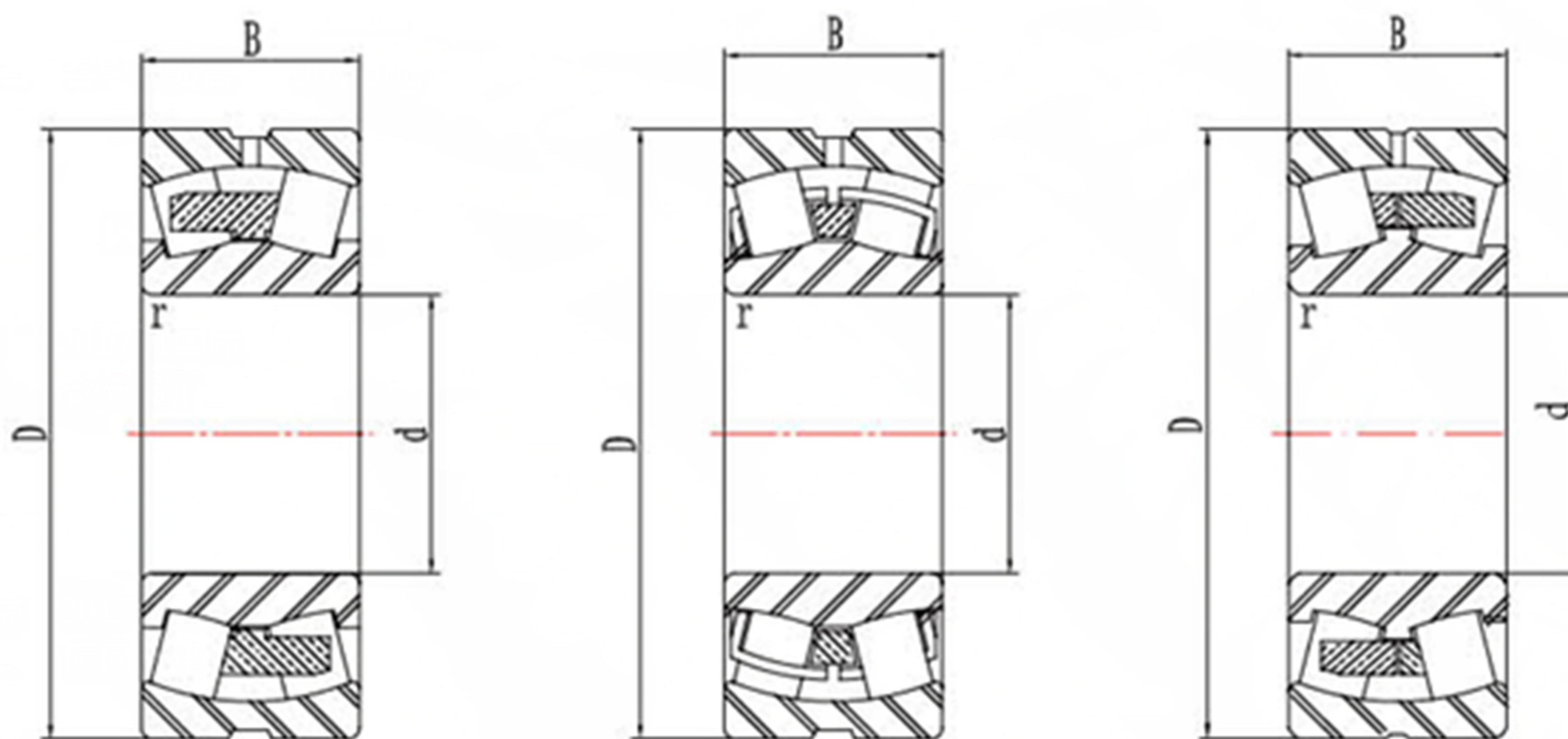


Diameters Range:

Bearing Series		Cylindrical Bore	Tapered Bore	Variant Structure	
1200	1200K	φ10 - φ120	φ10 - φ120		+H200
1300	1300K	φ10 - φ110	φ10 - φ110	2RS	+H300
2200	2200K	φ10 - φ110	φ10 - φ110	2RS	+H300
2300	2300K	φ10 - φ110	φ10 - φ110	2RS	+H2300

Spherical Roller Bearings

Spherical Roller Bearing is a type of rolling-element bearing that reduces friction between moving parts. It is designed to accommodate both heavy radial loads and axial loads in both directions. Most spherical roller bearings consist of two rows of symmetrical rollers, an outer ring with spherical raceway and two inner ring raceways. The inner rings consist of cylindrical and tapered bores. At DMAG, we offer varieties of designs for different industrial applications at most cost-effective prices.

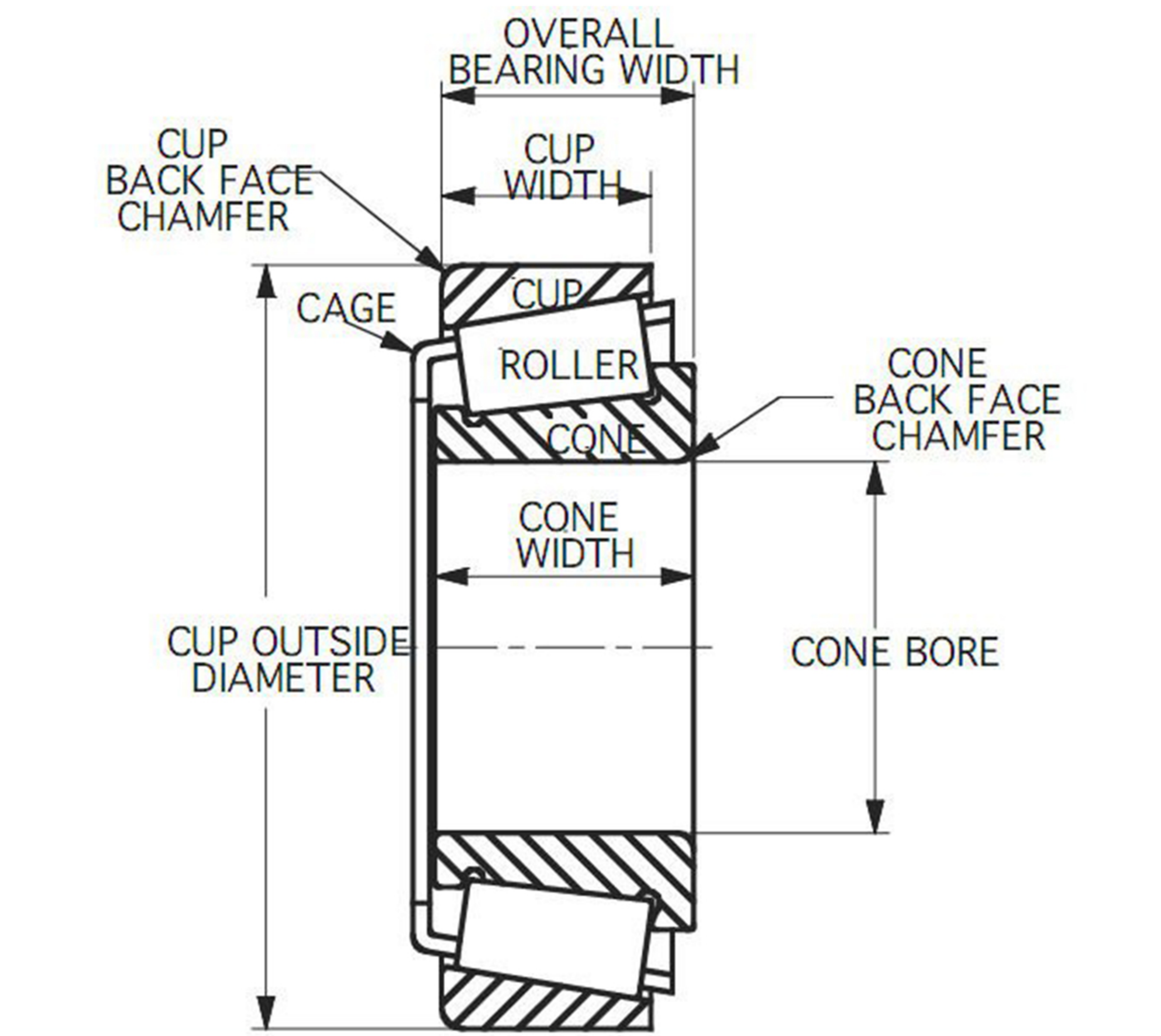


Diameters Range

Bearing Series	Bore Range
21300 Series	φ20 - φ110
22200 Series	φ25 - φ1000
22300 Series	φ40 - φ1000
23000 Series	φ100 - φ1600
23100 Series	φ100 - φ1500
23200 Series	φ90 - φ1000
24000 Series	φ100 - φ1600
24100 Series	φ100 - φ1500
Vibration Screen Series	φ50 - φ180
Single Row Sealed Series	φ25 - φ120
BS Series	φ25 - φ120
Split Series	φ1.0000 - φ3.6250
Insert Series	φ80 - φ230
Cement Mixer Series	φ100 - φ120

Tapered Roller Bearings

Consisting of a cup and a cone assembly, tapered Roller Bearings are uniquely designed to accommodate both acting radial and axial loads. Depending on the design, tapered roller bearings are separable and components of same-sized bearings are fully interchangeable. Among single-row, double-row and four rows tapered roller bearings, single-row tapered roller bearings are the most basic and widely used. At DMAG, we supply tapered roller bearings in both metric and inch sizes.

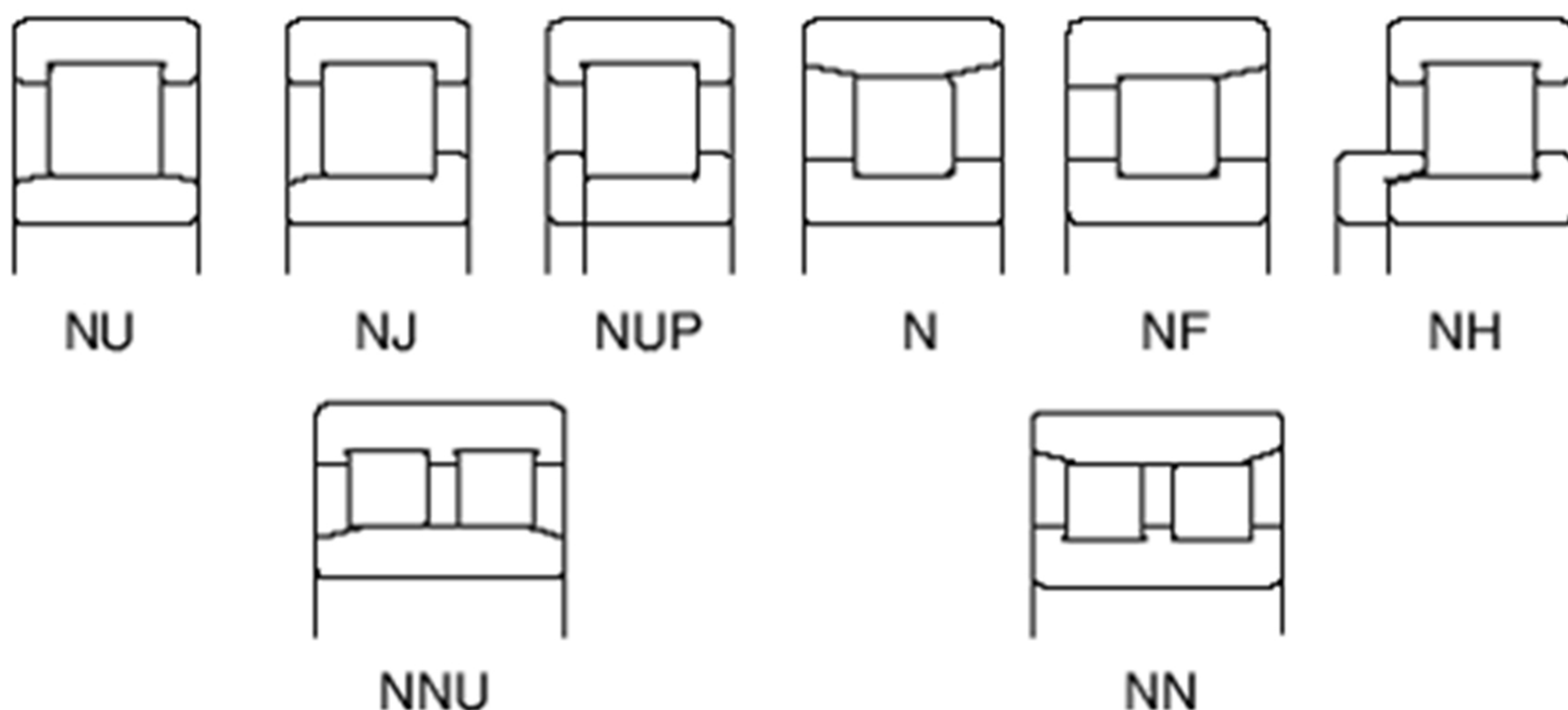


Diameters Range

Bearing Series	Bore Range
Single Row	
32900	φ70 - φ800
32000	φ20 - φ700
30200	φ15 - φ600
30300	φ15 - φ600
32200	φ17 - φ600
32300	φ17 - φ500
33000	φ25 - φ600
33200	φ25 - φ700
31300	φ25 - φ700
Double Rows	
352000	φ100 - φ1400
352200	φ100 - φ1200
352900	φ100 - φ1200
351900	φ100 - φ1400
351000	φ100 - φ1200
Four Rows	
381000	φ100 - φ1200
382000	φ100 - φ1400
381100	φ100 - φ1400
382900	φ100 - φ1200
381900	φ100 - φ1200

Cylindrical Roller Bearings

Cylindrical Roller Bearings have a high radial load capacity and suitable for high speed applications. The cylindrical rollers have a greater linear contact with the outer ring and the axial load is distributed across a broader surface. The inner and outer rings of cylindrical roller bearings are separable. Depending on the types, they are designated as NU, NJ, NUP, N, NF for single-row cylindrical roller bearings, NNU and NN for double-row cylindrical roller bearings (depending on the design or absence of side ribs). Double-row cylindrical roller bearings have high radial rigidity and are used primarily for precision machine tools. In the case where no ribs on either the inner or outer ring, and the rings can move axially relative to each other, these cylindrical roller bearings can be used as free-end bearings.





Diameters Range:

Bearing Series	Bore Range
1000	φ55 - φ1000
200E	φ15 - φ1200
2200E	φ17 - φ1200
2300E	φ17 - φ1200
300E	φ17 - φ280
400E	φ17 - φ800

Thrust Bearings

Spherical Roller Thrust Bearing

Spherical Roller Thrust Bearings constitute of a shaft washer (inner ring), a housing washer (outer ring), asymmetrical rollers and a cage. They are rolling-element bearings of thrust type that permits rotation with low friction and angular misalignment. These bearings can accommodate axial loads and radial loads in one direction.



Diameters Range:

Bearing Series	Bore Range
29200	φ100 - φ1200
29300	φ120 - φ1200
29400	φ140 - φ1000

Thrust Bearings

Thrust Ball Bearing

Thrust Ball Bearing is rotary type ball bearing, which permits rotation between parts.

Thrust ball bearings consist of shaft washer, housing washer and ball set with cages.

They are designed to support high axial loads but at lower loads.

Thrust ball bearings are sensitive to angular deflection and characterized by extremely rigid guidance in axial direction.



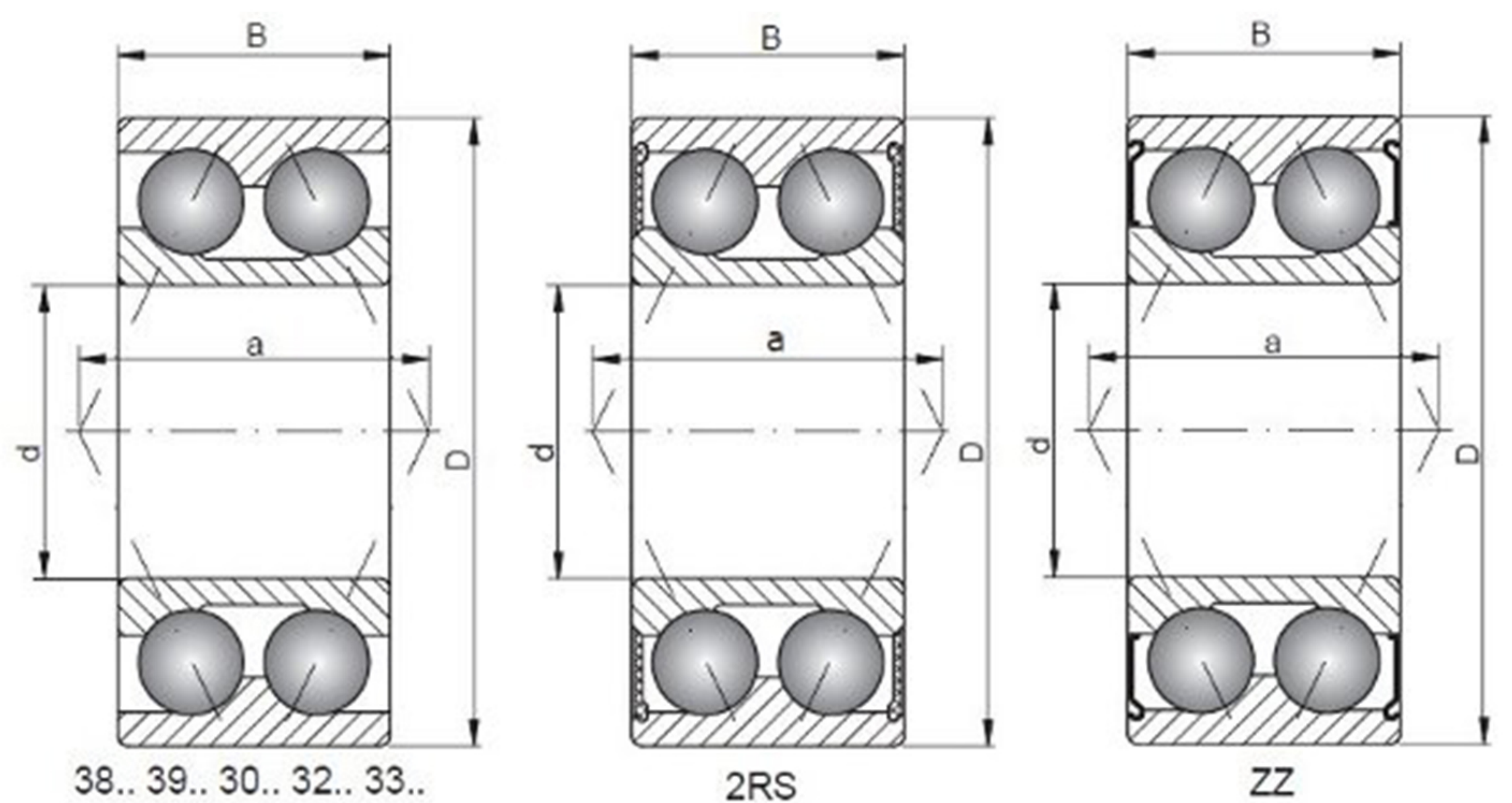
Diameters Range

Bearing Series	Bore Range
51100	φ10 - φ1700
51200	φ10 - φ1600
51300	φ25 - φ1400
51400	φ25 - φ1250
52200	φ100 - φ1600
52300	φ100 - φ1400
52400	φ100 - φ1250
52200U	φ100 - φ1500
52300U	φ100 - φ1320
52400U	φ100 - φ1180

Angular Contact Ball Bearings

Angular Contact Ball Bearing accommodate both radial and axial loads through asymmetric races.

This bearing come in both single-row and double-row configurations. Single-row angular contact ball bearings have high thrust capacity in one direction, while double-row angular contact ball bearings support axial loads in both directions.





Diameters Range

Bearing Series	Bore Range
Single Row	
7000	φ10 - φ1000
7200	φ10 - φ800
7300	φ10 - φ600
7900	φ25 - φ300
Double Row	
5200	φ10 - φ100
5300	φ20 - φ90

Miniature Bearings

Miniature Bearings are one of the preponderant products at DMAG. We offer different types of miniature bearings at a variety of sizes:

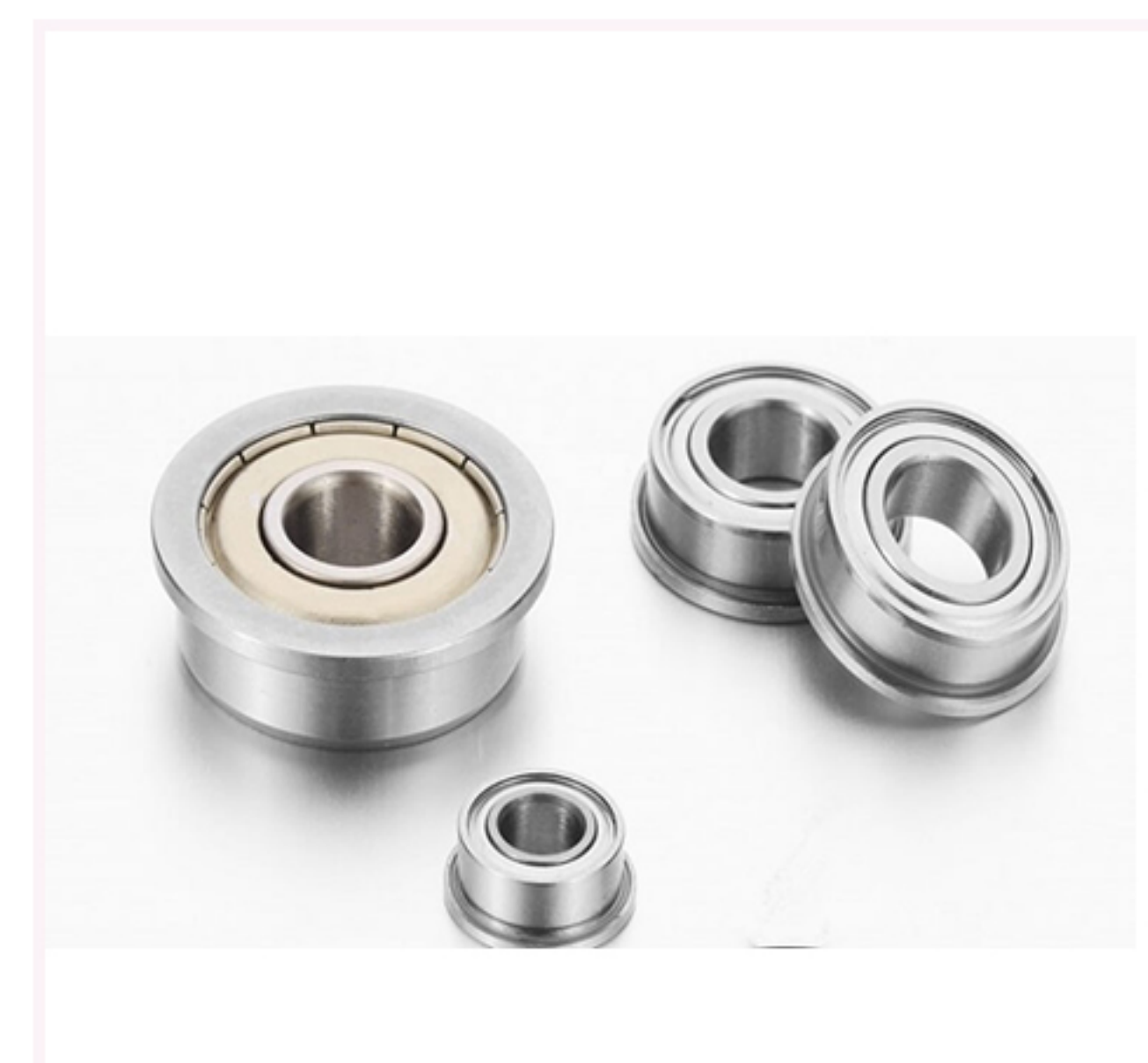
Miniature Ball Bearings:

MR series, 60 series, 62 series, 63 series, 67 series, 68 series, 69 series, inch series and non-standard series.



Flanged Bearings:

MF series, F60 series, F62 series, F63 series, F67 series, F68 series, F69 series and inch series.



Stainless Steel Bearings:

SMR series, S60 series, S62 series, S63 series, S67 series, S68 series, S69 series, inch series and flanged series



U groove & V groove Bearings:

Full steel series,
Plastic coated series,
LFR series,
LV series and SG series.



Miniature Thrust Ball Bearings:

51100 series,
51200 series,
F2-F12series.



- Bearing Material: chrome steel (GCr15/SAE51200) & stainless steel (440/316/304)
- Seals: open, ZZ (metal shields), 2RS (rubber seals)
- Tolerance: P0(ABEC-1), P6(ABEC-3), P5(ABEC-5), P4(ABEC-7), P2(ABEC-9)
- Clearance: C0, C2, C3
- Noise: Z(normal), Z1, Z2, Z3
- Vibration: V(normal), V1, V2, V3

Pillow Block Bearings

Pillow block Bearings are the most commonly used type of mounted units, which provide support for rotating shaft with the mounting surface on a parallel line with the axis of the shaft. The bolt holes are usually slotted for adjustment during mounting. Housing materials are typically made of cast iron or cast steel, while other materials including ductile iron, steel, stainless steel and various types of thermoplastics and polyethylene-based plastics are used to manufacture the same.



A pillow block may contain a bearing with one of several types of rolling elements, including ball, cylindrical roller, spherical roller, tapered roller, or metallic or synthetic bushing. The element for bearing may be chrome steel, stainless steel, plastic, cast bronze or synthetic materials.

Pillow block bearing units provide stability and self-alignment for many different applications. Adjustment of a misaligned shaft can occur in any direction and allows centering and alignment without distorting seals.



Pillow Block Units	Types
Ball Bearing Units	Cast Iron
Spherical Radial Ball Bearing Units	Cast Iron
	Zinc Plating
	Black Oxiding
Stainlss Steel Bearing Units	Stainless Steel Ball Bearing Units
	Stainless Steel Bearing Inserts
	Stainless Steel Ball Bearing with Thermoplastic Seat
Pressing Steel Bearing Units	Pressing Steel
Zinc Alloy Bearing Units	Zinc Alloy
Plastic Bearing Units	Plastic

Linear Bearings

Linear bearing is designed to provide free motion in one direction. Linear bearings generally use a pad, bushing or roller system to carry a load on a rail that need not be a straight line. The rail can be most any length and any profile, although that dimension is limited by the actuator. The durability of the bearing is determined by the load and required speed. The complete set of linear bearing can be used for a wide variety of applications.



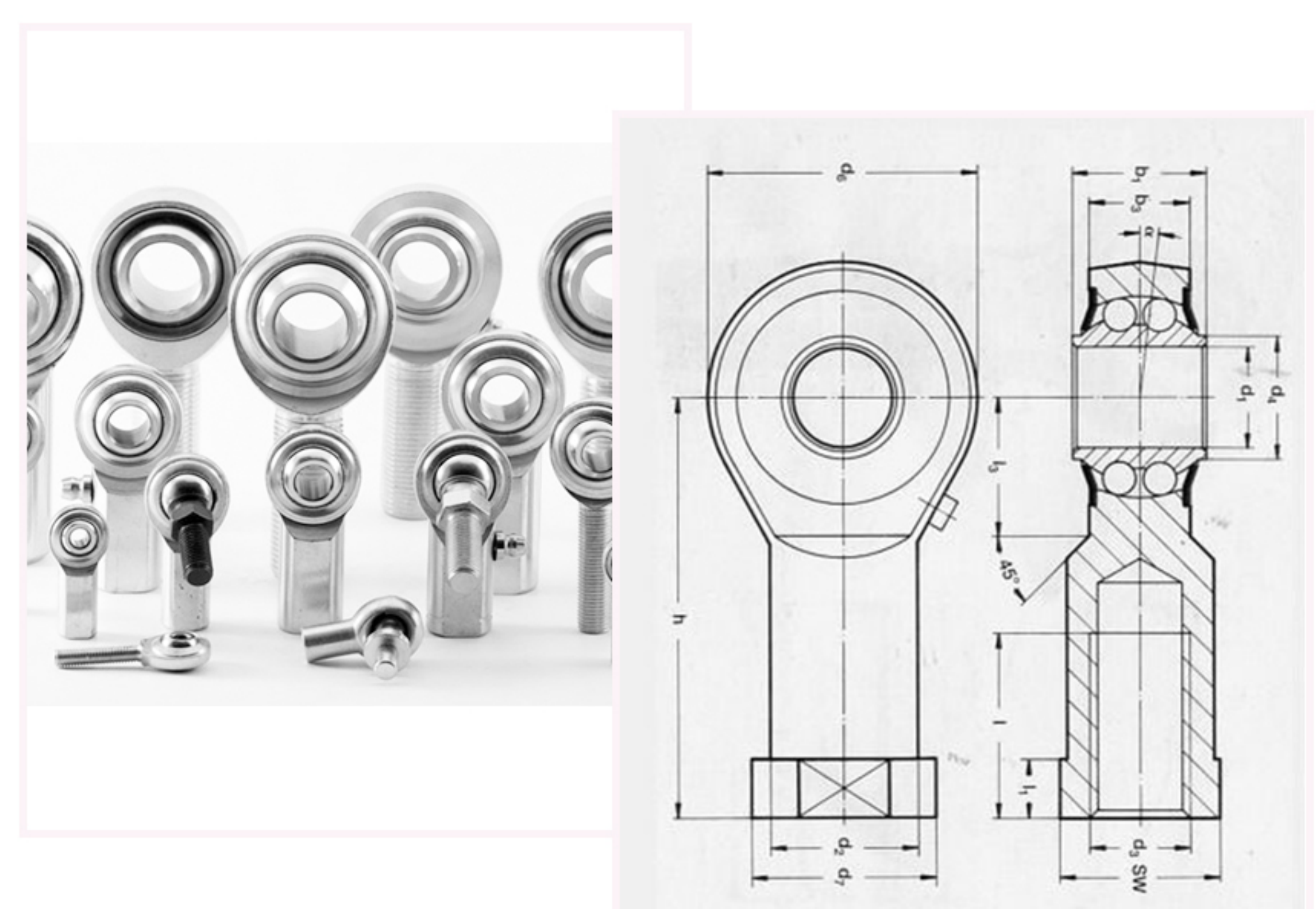
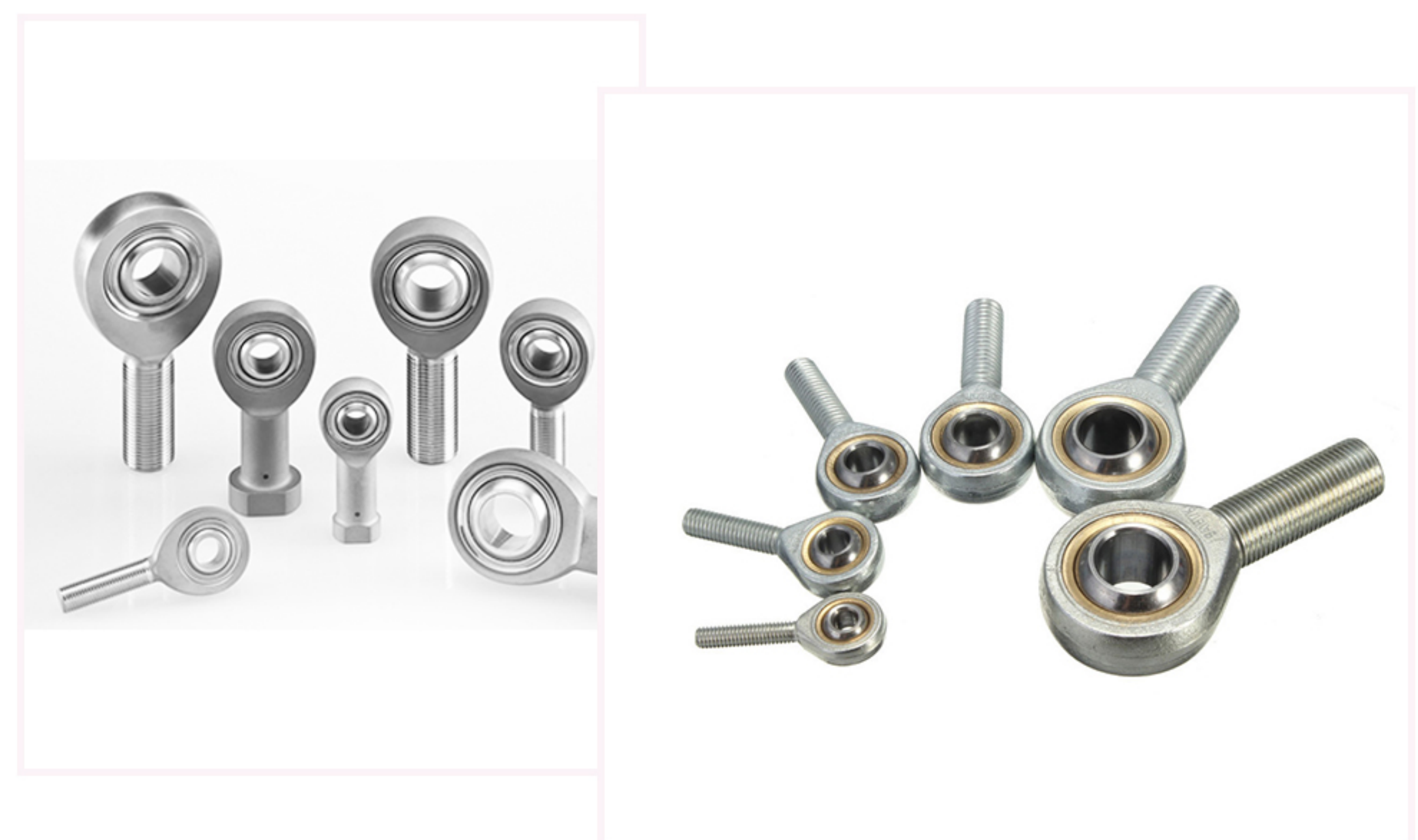
Liner Motion Bearing Series	
Linear Bearing	Standard Type
	Adjustment Type
	Open Type
	Long Type
Super Type Linear Bearing	Standard Type
	Open Type

Flange Linear Bearing	Circular Type
	Square Type
	Pilot Pattern Circular Type
	Pilot Pattern Square Type
	Oval Type
	Pilot Pattern Oval Type
Long Type Flange Linear Bearing	Circular Type
	Square Type
	Pilot Pattern Circular Type
	Pilot Pattern Square Type
	Oval Type
	Pilot Pattern Oval Type
Pressing Bush Mini Linear Bearing	Pressing Bush
Case Units	Standard Type
	Adjustment Type
	Open Type
	Long Type
Shaft Support	Horizontal
	Stand-up
Slide Rails	Standard Type
	Flange Type
	Long Type
Other Accessories	Pipe Shaft
	Support Rail Unit
	Ball Screw Nuts
	Ball Screw Supports

Automobile Bearings

Rod Ends:

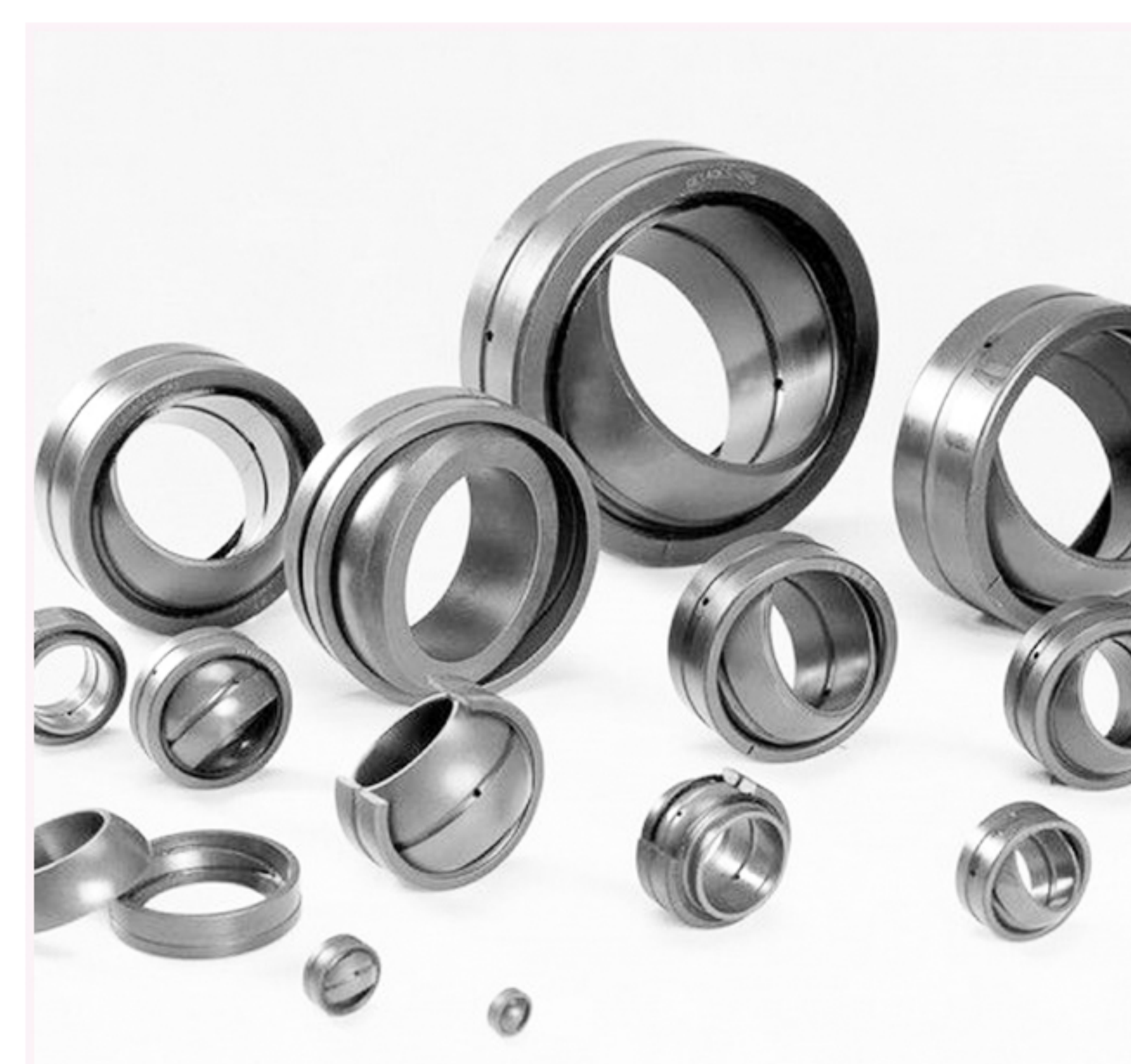
Rod ends consist of an eye-shaped head with integral shank that forms a housing for a spherical plain bearing, the spherical plain bearing offers misalignment capability in a fixed housing position. Rod end offer ease in mounting and adjustment of position in installations such as mechanisms and control rods. Rod ends are available with a variety of plating, coatings and materials, they are available in both inch and metric sizes, and also available with left or right-hand female or male threads. Rod ends provide a compact, lightweight, economical design alternative to a conventional housing installation. They can be found in aircraft, cars, trucks, race cars, motorcycles, lawn tractors, boats, go-karts, radio-control helicopters, industrial machineries, and many more applications.



Types of Rod Ends
2-Piece Rod Ends
3-Piece Rod Ends
Loader Slot Rod Ends
Bronze Race Rod Ends
Injection Molded Rod Ends
Metric Rod Ends
Inch Rod Ends
Hydrauli Rod Ends
Studded Rod Ends
Ball Joint Rod Ends
Stainless Steel Rod Ends
Custom Rod Ends

Spherical Plain Bearings:

Consisting of inner and outer rings with spherical sliding surfaces, spherical plain bearings can accommodate heavy radial loads and bi-directional axial loads at the same time. They are available in multiple configurations to satisfy diverse demands and applications including construction, mining, automation, farming and machine tools, off-highway equipment, transportation.



- Open & Sealed
- Inch & Metric Dimensions
- Self-lubricating PTFE Liners or Metal to Metal

Additional designs of spherical plain bearings also include high misalignment, angular contact and extended inner rings. It can also be supplied in stainless steel materials for corrosive environment.

Bearing Series		Bore Diameter Range
Radial Spherical Plain Bearings	GE...E	φ4 - φ12
	GE...ES	φ15 - φ300
	GE...ES-2RS	φ15 - φ300
	GEG...E	φ4 - φ12
	GEG...ES	φ15 - φ280
	GEG...ES-2RS	φ15 - φ280
	GEEW...ES	φ12- φ125
	GEEM...ES-2RS	φ20- φ80
	GEF...ES	φ12- φ150
	GEZ...ES	φ12.7- φ152.4
	GEZ...ES-2RS	φ12.7- φ152.4
	GEBK...S	φ5- φ30
Radial Spherical Plain Bearings Maintenance Free	GE...C	φ4 - φ30
	GEG...C	φ4 - φ30
	GE...ET-2RS	φ15 - φ300
	GEG...ET-2RS	φ15 - φ280
	GEH...XT	φ100 - φ300
	GEH...XT-2RS	φ100 - φ300
	GEH...HC	φ100 - φ300
	GEH...HT	φ100 - φ300

Wheel Hub Bearings

Wheel hub kit is an important part of wheel assembly, wheel hub bearing allows wheels to rotate easily with minimized friction between the wheels and axles to which the wheels are attached. Wheel hub bearing unit plays a crucial role in the safety and handling characteristics of vehicles. It's critical to the car performance, including the smoothness of the ride, fuel efficiency and the integrity of ABS.



Wheel hub bearings are available from 1st generation hub bearings to 4th generation hub bearings.

Adapter Sleeves

Adapter sleeves are commonly used to mount and remove bearings with tapered bores onto cylindrical shafts.

They are also used to compensate for a size deviation between the bearing bore and shaft diameter or to convert sizes from metric to inch. Adapter sleeves are easy to install and require no additional location on the shaft. The bearing can be located at any position on the shaft when used on plain shafts.



Bearing Series	Bore Diameter Range
H3000 Series	φ120 - φ480
H3100 Series	φ100 - φ480
OH2300 Series	φ220 - φ280
OH3000 Series	φ220 - φ480
OH3100 Series	φ200 - φ480
H3200 Series	φ300 - φ480
H2300 Series	φ20 - φ280
H300 Series	φ20 - φ110
H200 Series	φ20 - φ110

Popular Bearings

Skateboard Bearing:

Skateboard bearings play a pivotal role in the functional performance of skateboard.

Bearing materials can be steel, ceramic or a combination of both in an assortment of colors. Unless specified by the client,

chrome steel is the most common material for skateboard bearing.

Stainless steel, ceramic,

blackened chrome steel or golden

coating chrome steel are also available for different requirements.



Metal shield and rubber seal are two available seal types for skateboard bearings.

There are also two kinds of lubrication: grease and oil. Grease lubrication can better protect the bearing while oil lubrication can make prompt rotation.

The universal measurements for skateboard bearings are 8mm (core), 22mm (outer diameter), and 7mm (width). 608ZZ(8x22x7mm) is the most popular one, bearings like 627ZZ(7x22x7mm), 688ZZ(8x16x5mm) and 6900ZZ(10x22x6mm) are also selected for skateboard use.

Our rating system includes ABEC-1, ABEC-3, ABEC-5, ABEC-7, ABEC-9 and ABEC-11.

The level of ABEC rating is related to the accuracy and precision of the bearing, while it does not specify critical factors, such as load handling, materials, noise, vibration etc. Despite it, ABEC-5 is the standard one for most types of skateboards. ABEC-7 is most recommendable one as it is most cost-effective in respect to both performance and cost. ABEC-9 and above are great for downhill skating and skaters want to move insanely fast.

Popular Bearings

Bike Bearing:

At DMAG, we offer headset bearings and other bike bearings in standard chrome steel, stainless steel, hybrid ceramic and full ceramic. Ceramic materials are available in ZrO₂ and Si₃N₄. Thin section radial ball bearings can be used as bottom bracket bearings or bike wheel bearings and they are available in metal shielded type and rubber sealed type.



Dental Bearing:

Repair cost and the quality of the dental handpieces are the key for dental repair. We offer cost effective solution which aligns quality, speed and precision at reasonable prices for dental handpiece applications.



Popular Bearings

RC Bearing:

We stock complete bearings sets for RC vehicles, helis and engines. At DMAG, we offer RC bearings with inner diameters from 1mm to 30mm. Our RC bearings come in chrome steel, stainless steel or hybrid ceramic materials with metal shielded, rubber sealed or open type. ABEC ratings of our RC bearings are ABEC-1, ABEC-3, ABEC-5, ABEC-7 and ABEC-9.



YoYo Bearing:

The materials of DMAG YoYo bearing come in hybrid ceramic and stainless steel with various ABEC ratings, seal or shield configurations, radial plays and retainer styles. We supply YoYo bearings for both small, large and competition style YoYos. Konkave bearing is also offered for YoYo upgrade with better experience.



Popular Bearings

Instrument Bearing:

DMAG offers extensive selection of instrument bearings.

These bearings are available in stainless steel for applications requiring corrosion resistance, and chrome steel for maximum fatigue life. Stainless steel instrument bearings are widely used in outdoor meteorological instruments, marine navigation systems or medical instruments. Precision and low friction thin section bearings are often applied in optical instruments such as cameras and microscopes.



Electric Motor Bearing:

DMAG offers 1mm to 20mm inner diameter small electronic motor bearings with ABEC ratings ranging from ABEC-1 to ABEC-7.

These bearings are widely applied in a number of automotive applications in low noise and low vibration.

Different radial clearances are also available for different choices.



Popular Bearings

Medical Bearing:

Corrosion resistant bearings are often required in medical environment. DMAG offers 440 stainless steel material for pharmaceutical industry and 316 stainless steel for more aggressive environments. Silicon nitride ceramic balls are also available for higher requirement.



Special Bearings

DMAG provides special bearings which are widely applied in petroleum machinery, chemical industry, medical equipment, electronics, textile, food, marine, aerospace industries and many other corrosion-resistant industrial areas.

The special bearings are oil-free, self-lubricating, corrosion-resistant, anti-rust, and non-magnetic. They can operate in aggressive environments such high temperature and bitterly cold fields.

Stainless Steel Bearings:

The main materials of DMAG stainless steel bearings are SUS304, AISI316L.

Comparing with ordinary stainless-steel bearings, 304 or 316 stainless steel bearings are anti-rust and corrosion-resistant in aggressive environment to a higher degree. They are also non-magnetic comparing with 440C stainless steel. Especially, AISI316L can achieve non-magnetic completely.



However, not like 440C or 420 stainless steel (higher carbon chromium martensitic stainless steel), AISI316L and SUS304 stainless steel (austenitic stainless steel) cannot be quenched as whole, bearings made out of AISI316L and SUS304 are not suitable for heavy load and high speed.

We also offer non-standard stainless-steel bearings to meet the clients' special needs.

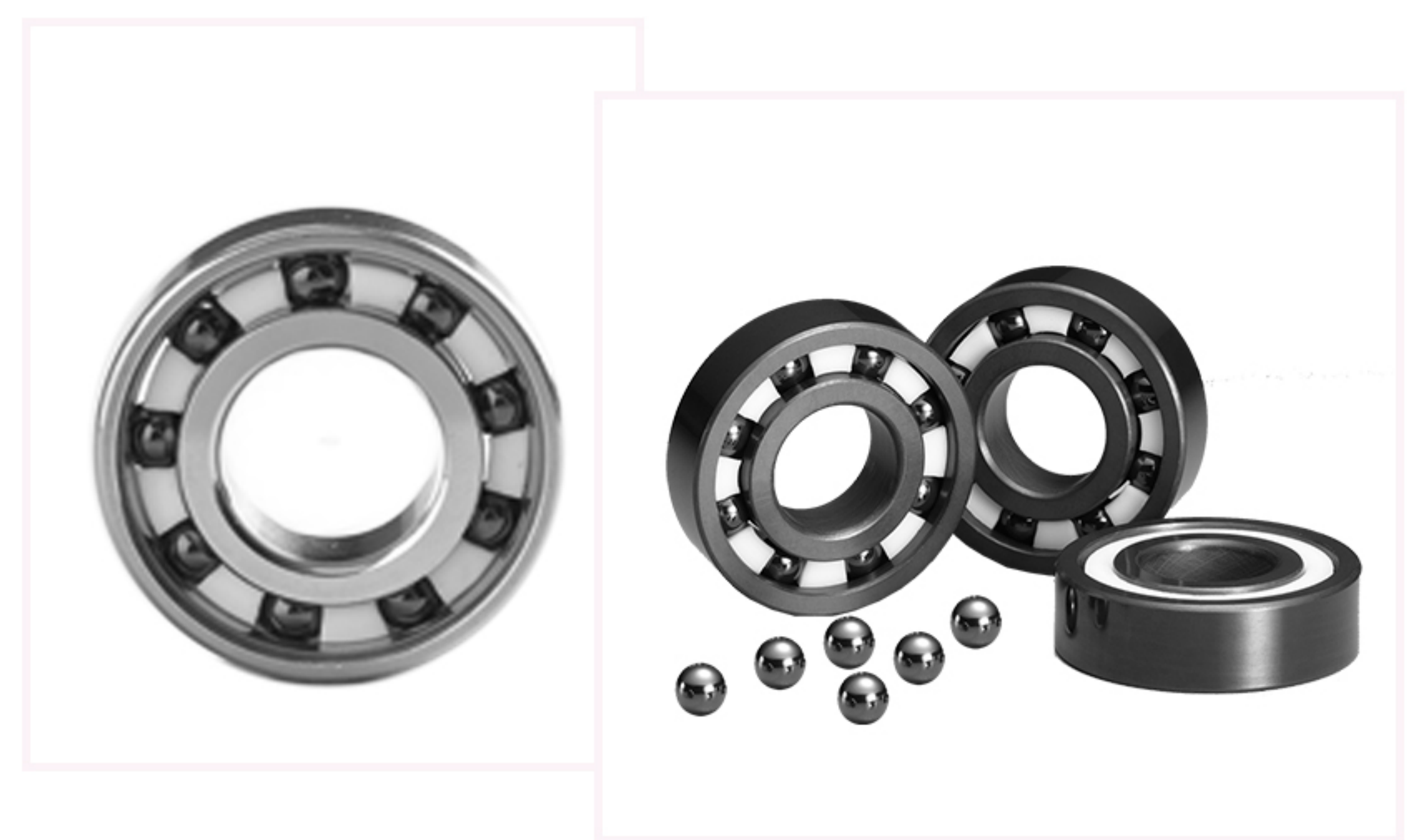
Special Bearings

Ceramic Bearings:

At DMAG, we offer both hybrid ceramic and full ceramic bearings.

The available ceramic materials are ZrO₂, Si₃N₄, SiC and Al₂O₃ etc.

We have Si₃N₄ angular contact ball ceramic bearing, Si₃N₄ full ball ceramic bearing, Si₃N₄ sealed ceramic bearing, Si₃N₄ full ceramic bearing, Si₃N₄ thrust ball bearing, ZrO₂ angular contact ball ceramic bearing, ZrO₂ sealed ceramic bearing, ZrO₂ full ceramic bearing, ZrO₂ self-aligning ceramic bearing, ZrO₂ thrust ball bearing.



Plastic Bearings:

The materials for industrial plastic bearings are PEEK, POM, PTFE, PVDF, PP etc.

POM and PA materials have excellent mechanical strength and wearing resistance. These materials are quite suitable for manufacturing high precision plastic bearings. With good self-lubrication performance and low friction coefficients, POM and PA materials are good for precision and high-speed applications. Plastic bearing made in POM is applied most extensively among all plastic bearings. In general, the inner and outer ring materials are made in POM or PA, cages are made in PA and the balls are made in glass, stainless steel or ceramic. These bearings are alkali resistant but not acid resistant.



Special Bearings

Custom Bearings:

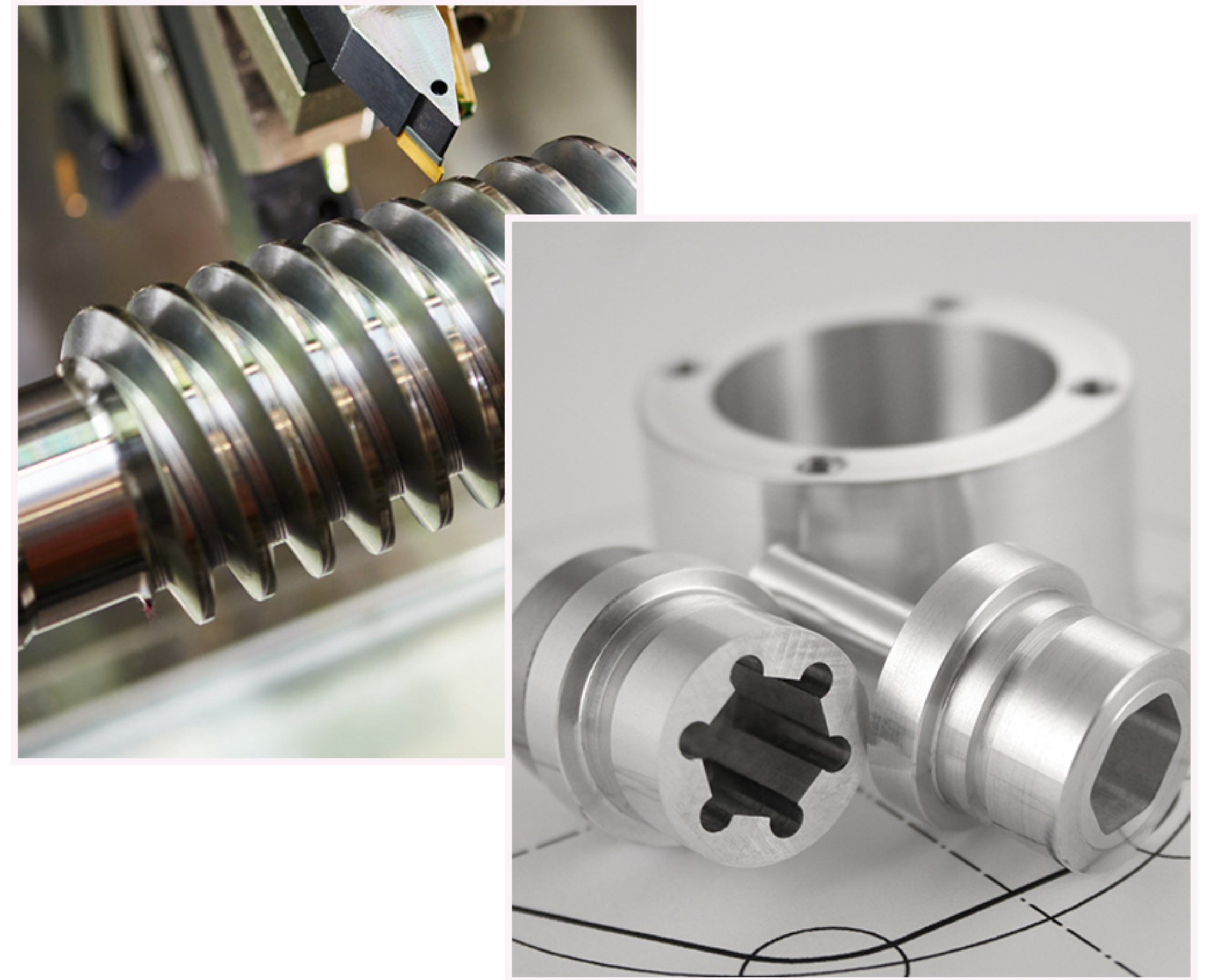
In order to address special requirements from our clients, we provide out-of-box bearing solutions to help with their small or niche applications. DMAG work closely with our customers and create custom bearing solutions for their specific application.

We delivery unique OEM service with below services:

- Special Materials: 52100, 440C, 304, 316, Silicon Nitride (Ceramic), Nylon, Peek, Steel, Bronze etc.
- Special lubricants, coatings and design requirement
- Special sealing and closure solutions.
- Short lead times
- Low minimum order quantities

DMAG OEM bearing solutions including, but not limited to, those listed below:

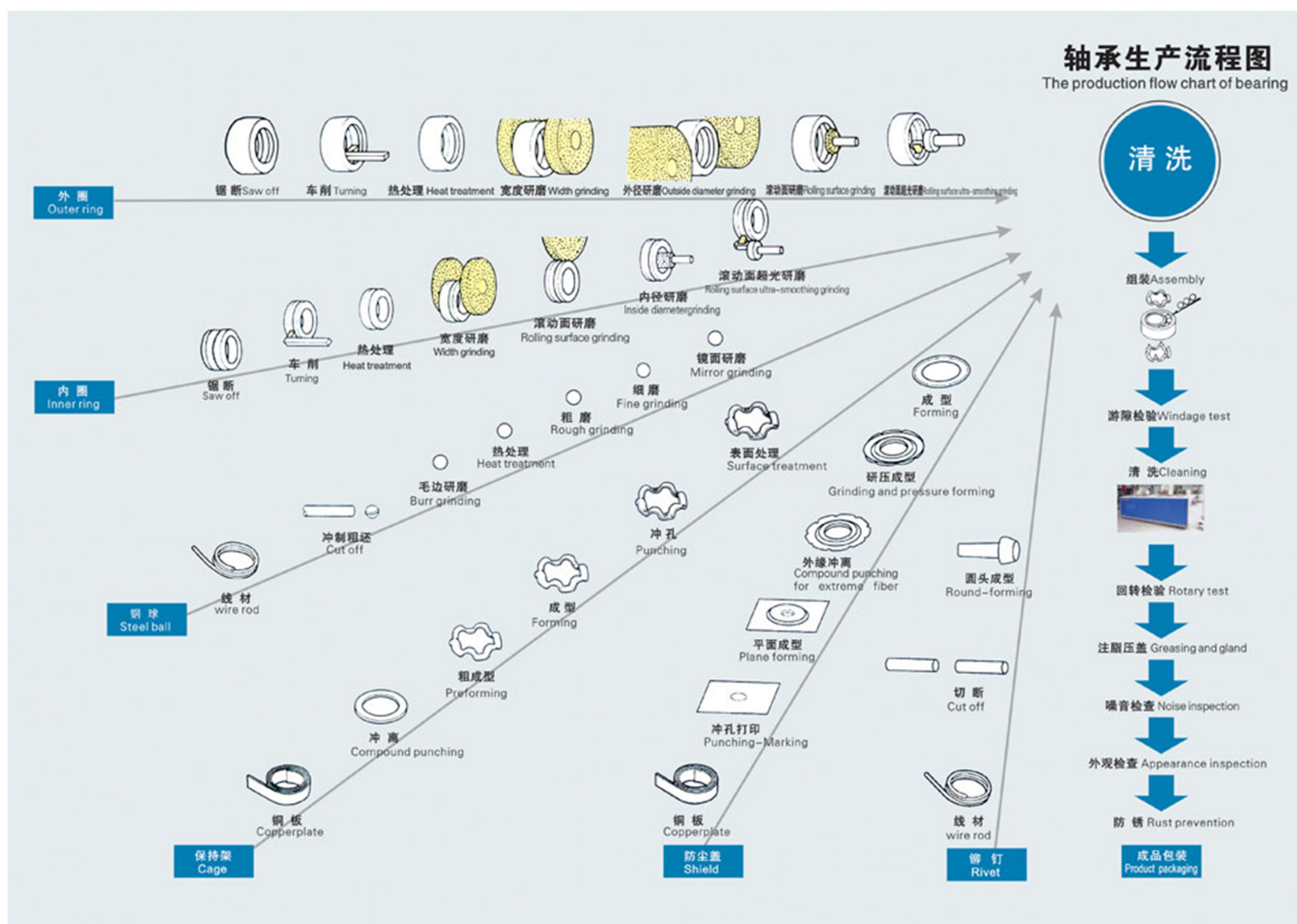
- Stainless Steel Bearing Assembly
- Full Ceramic and Hybrid Ceramic Bearing
- Anti-Corrosion Plastic Bearing
- Tracking Roller Bearings
- Bearings with Coatings
- Flange Bearing Assembly



Technical Information

To ensure customer satisfaction and provide optimal solutions, we select manufactures who share the same value as DMAG. Premium raw materials, strict production and quality control, advanced processing equipment and test lab are the keys to ensure high consistency of bearing performance and quality.

Production Flow Chart:



Technical information:

1.Materials for Outer,Inner rings & Rolling

The most common bearing steel is carbon chromium steel containing approximate 1% carbon and 1.5% chromium . Below is the table shows GCr15--the main material used in DMAG bearings.

Designation	C CARBON	Si SILICON	Mn MANGANESE	P PHOSPHORUS	Cr CHROMIUM	Mo MOLYBDENUM	Ni Nickel	S Sulfur
GCR15 China	0.95-1.05	0.15-0.35	0.25-0.45	Max 0.027	1.4-1.65	Max 0.1	Max .23	Max 0.2
AISI 52100 USA	0.95-1.1	0.15-0.35	Max 0.5	Max 0.012	1.3-1.6	Max 0.08	Max 0.25	Max 0.25
100CR6 Germany	0.95-1.1	0.15-0.35	0.25-0.45	Max 0.03	1.35-1.65	Max 0.1	-	Max 0.2
SUJ2 Japan	0.95-1.1	0.15-0.35	Max 0.5	Max 0.025	1.3-1.6	Max 0.08	Max 0.25	Max 0.25

Note: Unless otherwise specified for special use as per customer's request, DMAG supplies all general bearings with GCr15 materials.

Stainless Steel is often used for special bearing due to its higher content of chromium (~18%) with the addition of nickel. The chromium reacts with oxygen to form a layer of chromium oxide on the surface, creating a passive film, so the bearings made of stainless steel are more resistant to surface corrosion. The most common ones are AISI440C, AISI316. AISI304 is often used for bearing shields, seal washers and ball retainers due to the moderate corrosion resistance and it is better for forming into the various shapes.

2. Material for Bearing Retainers

The retainer is required to bear hitting load and have the lowest friction with the rolling elements. A retainer material with fillers can provide certain lubrication benefits as normal wear occurs.

There are varieties of bearing retainer design to suite particular applications. The key types for standard rolling element bearing applications are:

- Pressed Steel (often suffixed with C)
- Solid brass (often suffixed with M or MB)
- Phenolic (often suffixed with TV or TVP)

Below is the overview of a small selection of cage material types and their performance.

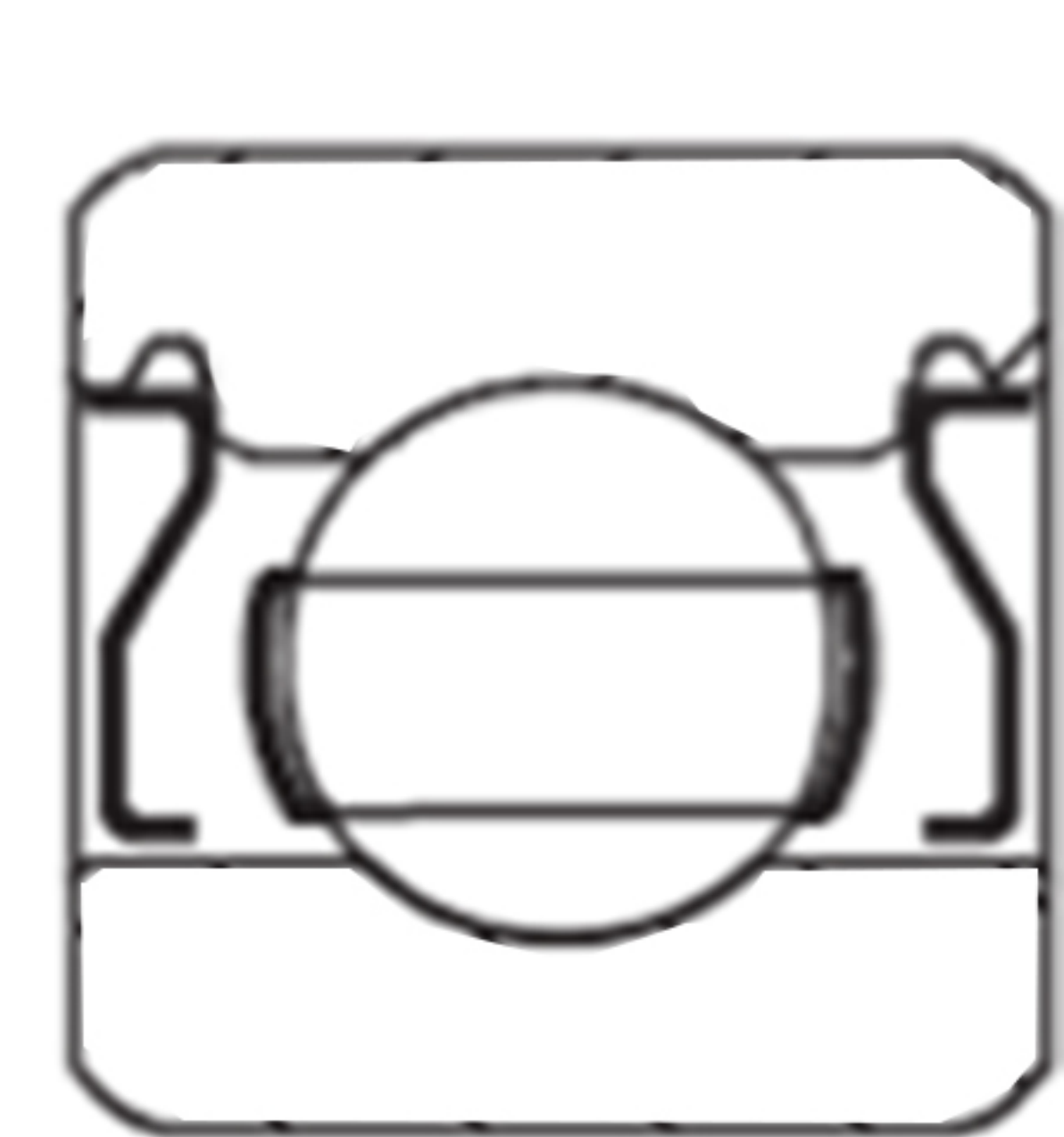
Below is the table to show the chemical composition of the stainless steel

Designation	C%	Si%	Mn%	P%	Cr%	Mo%	Ni%	S%
Country	Carbon	Silicon	Manganese	Phosphorous	Chromium	Molybdenum	Nickel	Sulfur
AISI 440C USA	0.95-1.2	Max 1.0	Max 1.0	Max 0.04	16-18	Max 0.75	Max 0.25	Max 0.3
SUS440C Japan	0.95-1.2	Max 1.0	Max 1.0	Max 0.04	16-18	Max 0.75	Max 0.25	Max 0.3
9Cr18 China	0.90-1.05	Max 0.75	Max 0.75	Max 0.035	16-19	Max 0.75	Max 0.23	Max 0.3

3. Bearing closure-seals and shields

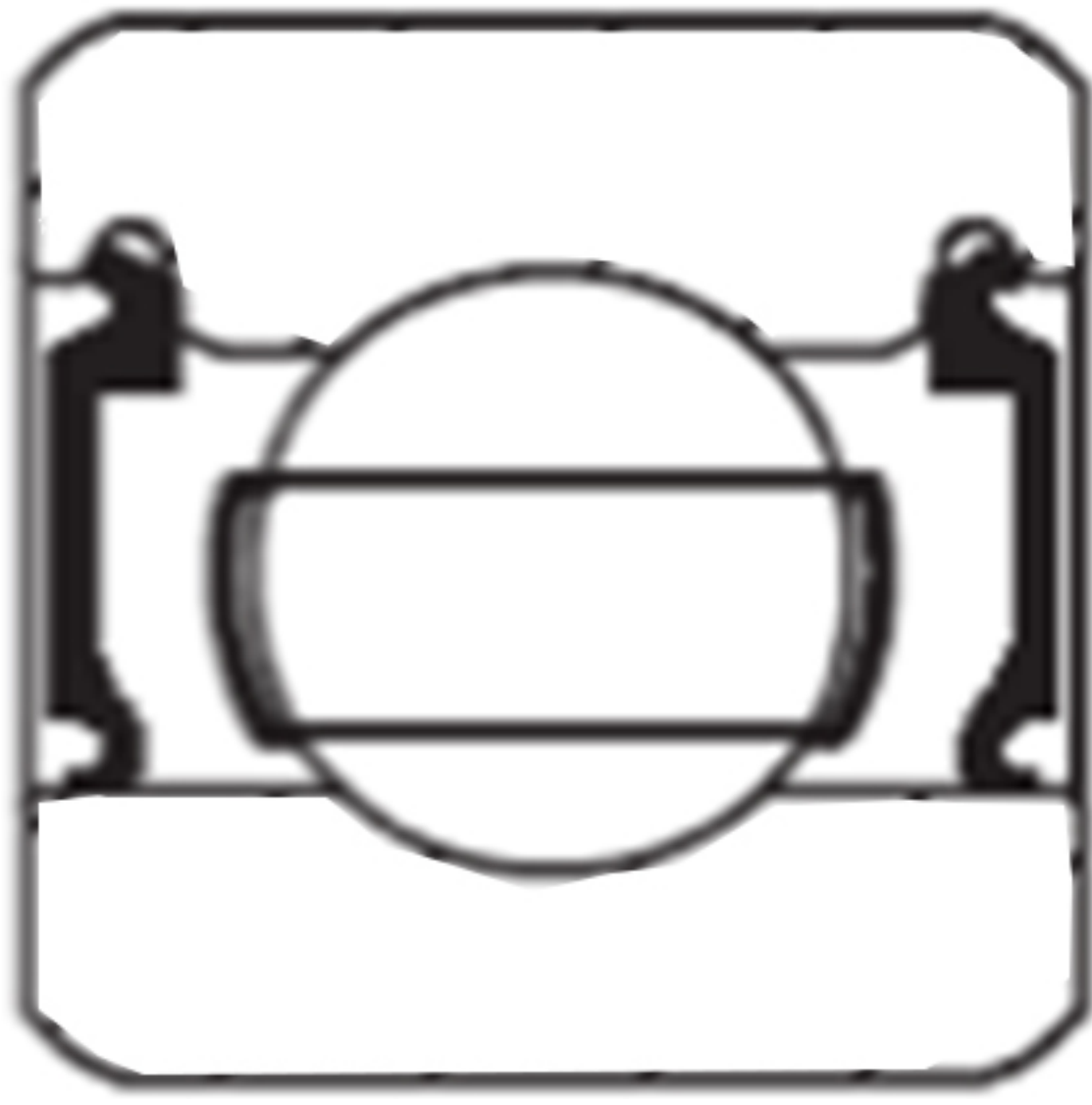
Bearing closure can extend the bearing life by preventing contaminants from reaching the critical surface inside the bearing. Below are the most common types of bearing closures:

Materials	Temp. (°F)	Speed (dN)	Outgassing	Particle Generation	Cost
PEEK	480	800000	Excellent	Excellent	Moderate
Vespel® (SP-1)	500	600000	Excellent	Excellent	Low
Nylon	200	300000	Good	Good	Low
Teflon®	500	75000	Good	Good	Low
Phenolic	300	600000	Poor	Poor	Low
Torlon	450	750000	Excellent	Excellent	Moderate



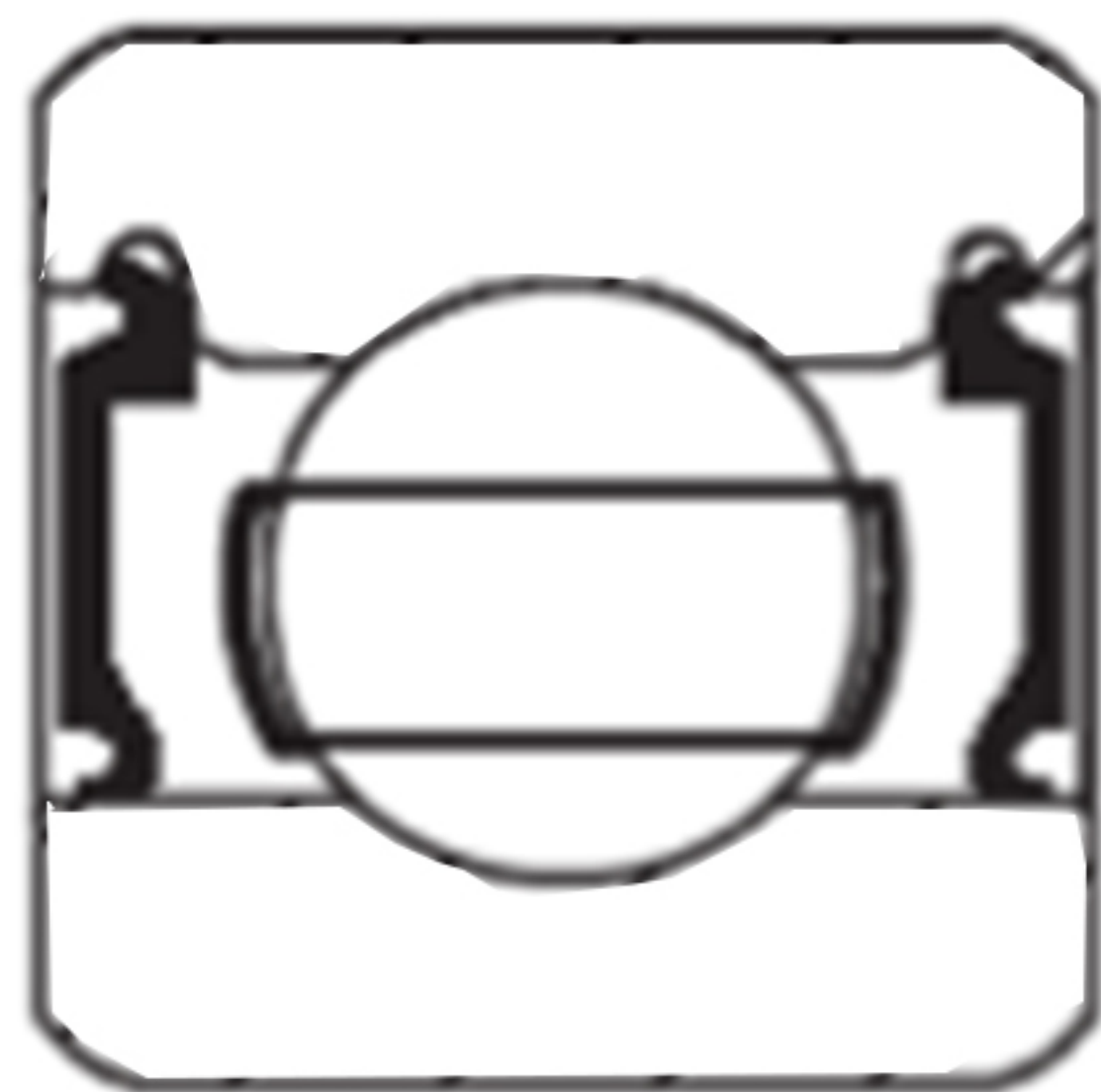
Type ZZ: pressed steel shield

- Non-removable
- Non-contact
- No increased torque
- AISI 300 series stainless steel material is available for stainless steel bearings
- The code for a single shield is Z.



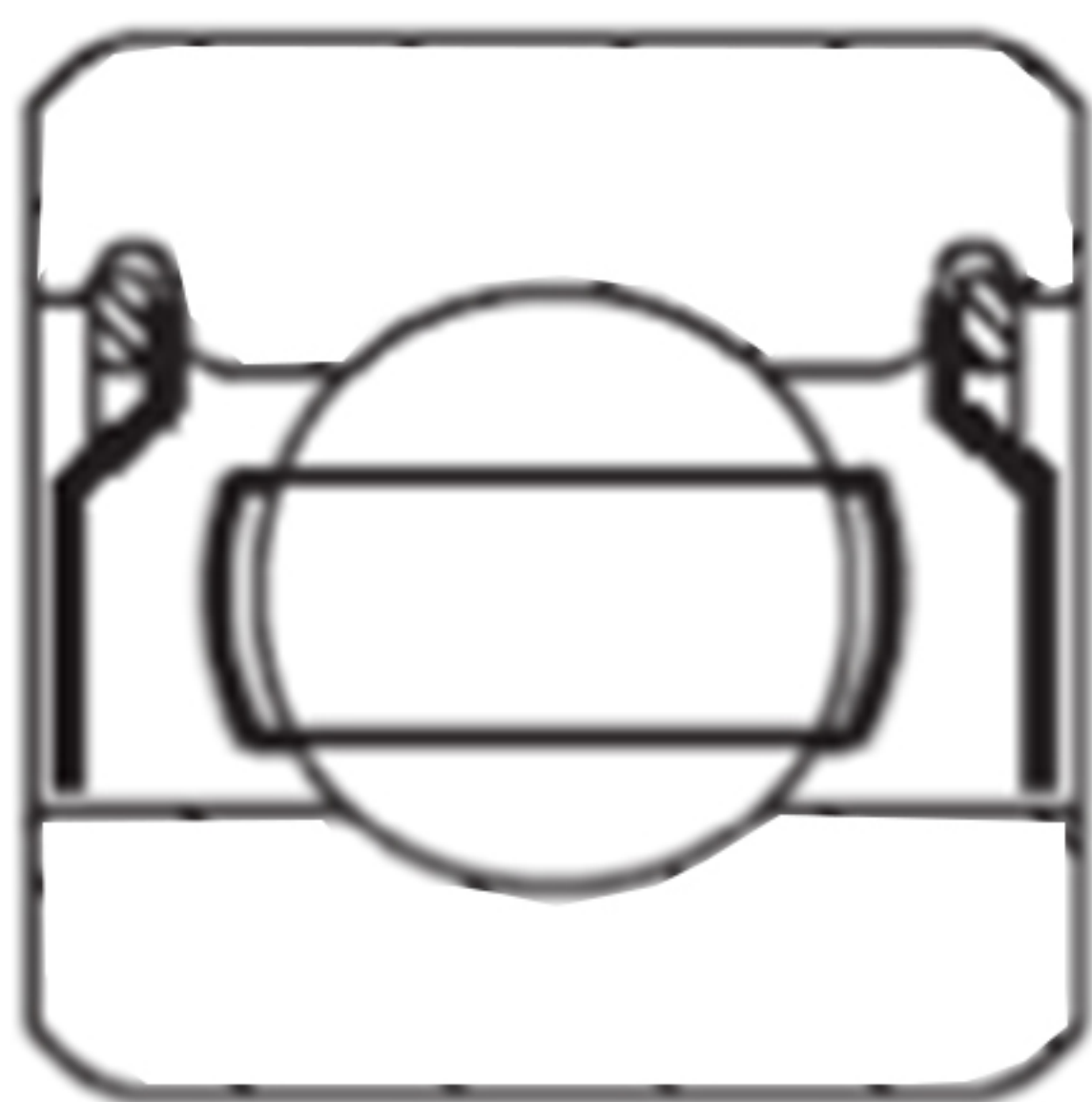
Type 2RS: contact rubber seals

Removable
Greatly increased torque
Greatly reduce lubricant leakage
Reduce the max. speed of a bearing
The code for a single shield is RS.



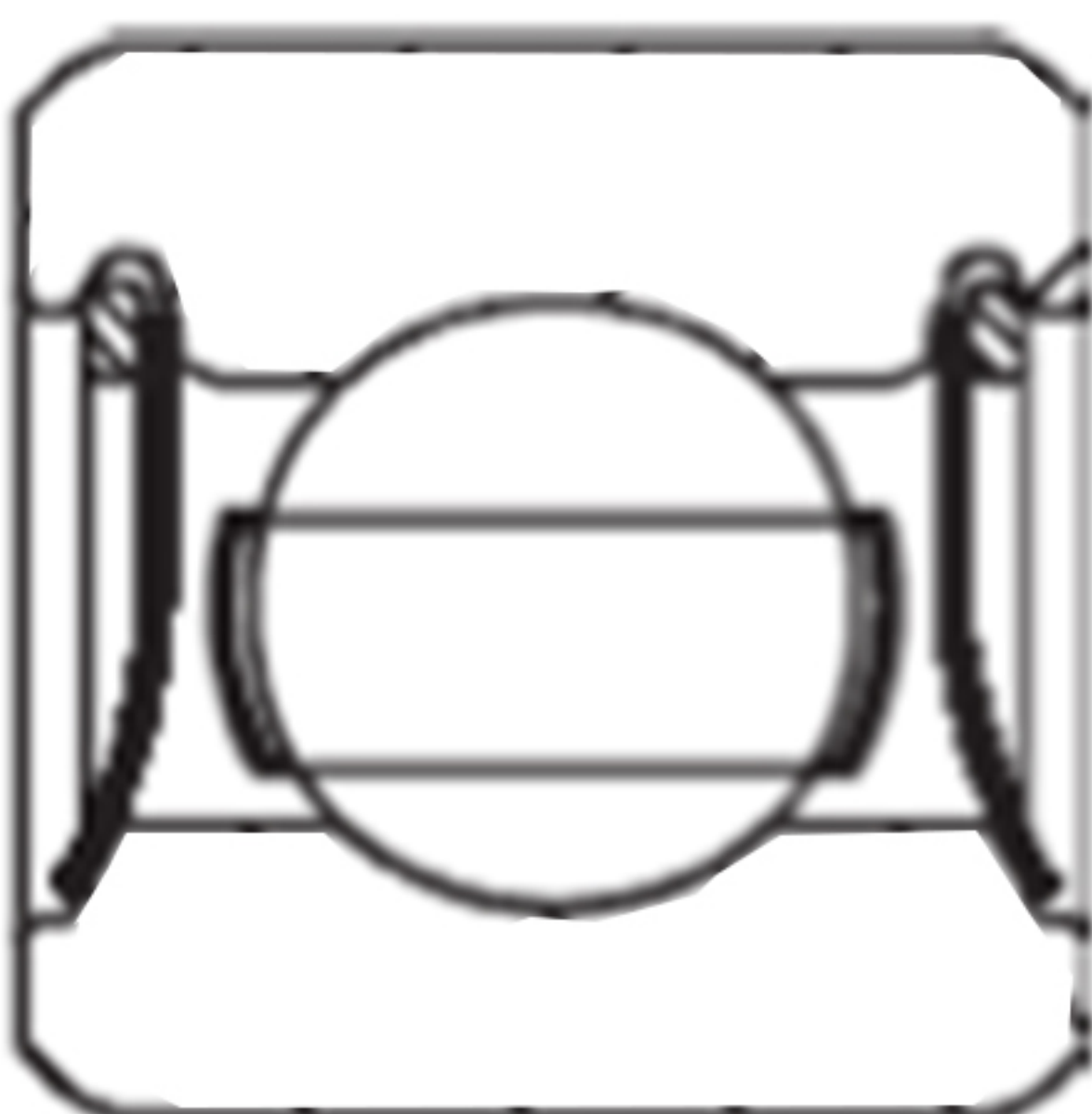
Type 2RU: non-contact rubber seals

Removable
No increased torque
Better protection than ZZ & ZSS
High speed
The code for a single shield is RU



Type ZSS: steel shield with snap ring

Removable
Non-contact
No increased torque
Shield material is 300 series stainless steel
Only available on miniature and instrument bearings



Type TTS: teflon seal with snap ring

Removable
Increased torque
Reduce the max. speed capability of the bearings
Excellent protection in contaminated environments

4. Precision Class for the bearings

An industry accepted bearing tolerance standard is vital within all industries. It is designed to provide bearing manufactures dimensional specifications that meet the standards of precision bearings in a specified class. Below is the table outlining how the different precisions that may show up on bearings cross to each other. These are generally accepted equivalent within the bearing industry:

STANDARDS	BEARING TOLERANCE AND PRECISION				
China	P0 (G)	P6 (E)	P5 (D)	P4 (C)	P2 (B)
ISO	Normal Class	Class 6	Class 5	Class 4	Class 2
USA ANSI	ABEC 1	ABEC 3	ABEC 5	ABEC 7	ABEC 9
GERMAN DIN	P0	P6	P5	P4	P2
JAPAN JIS	Class 0	Class 6	Class 5	Class 4	Class 2

DMAG BEARING

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