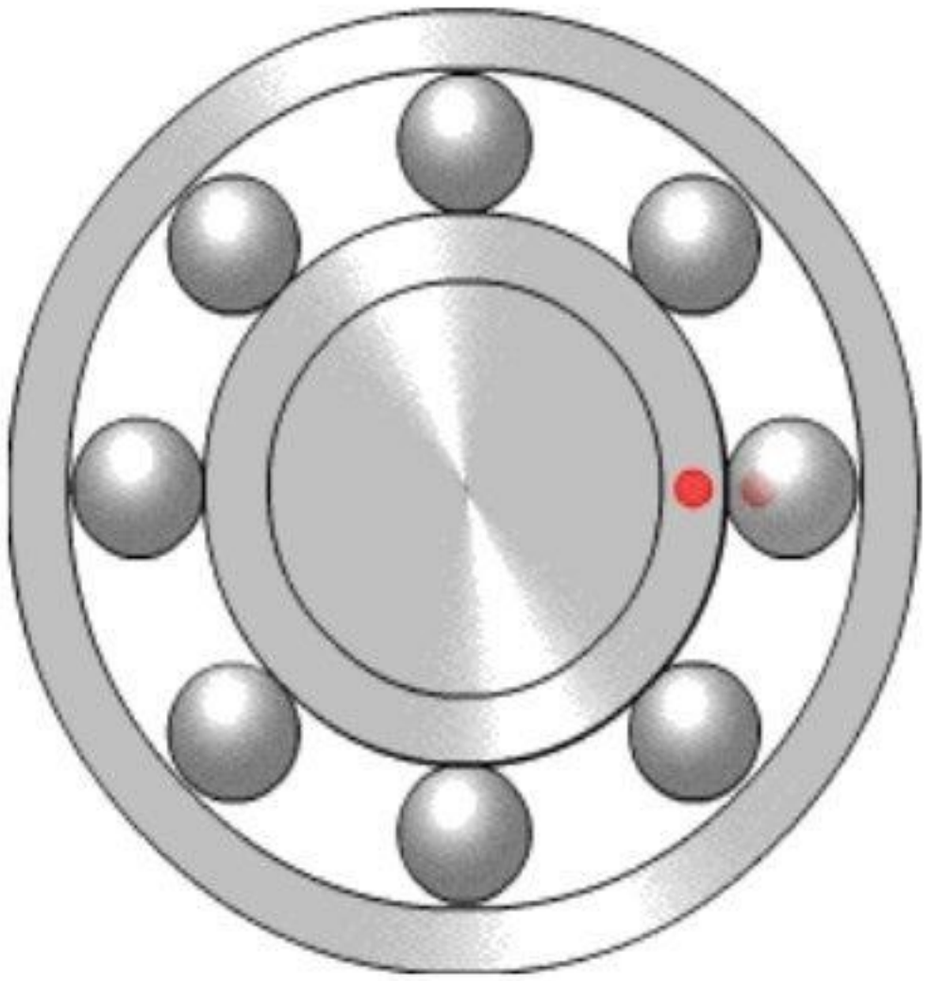
BEARINGS



BEARINGS

- **A bearing is a device to permit constrained relative motion between two parts, typically rotation or linear movement.**

- **Bearings may be classified broadly according to the motions they allow and according to their principle of operation**

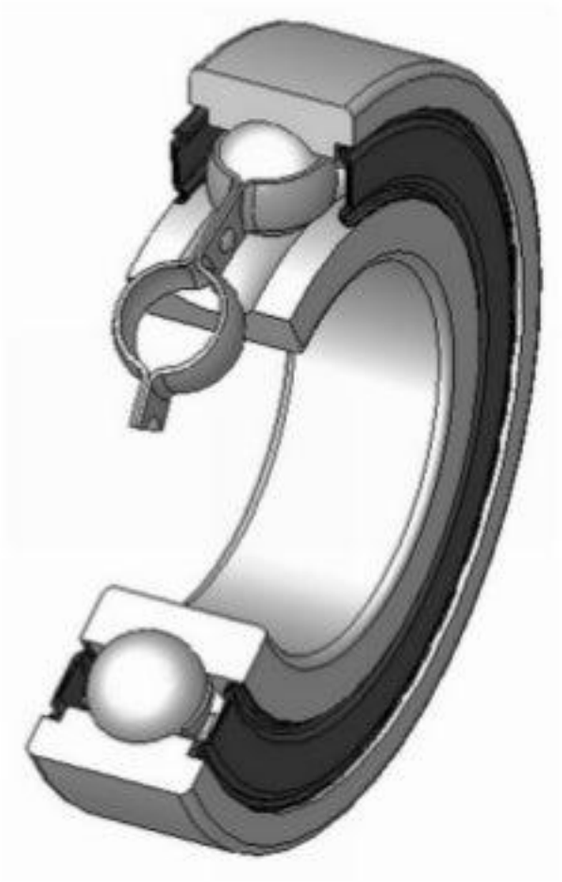
FUNCTION OF A BEARING

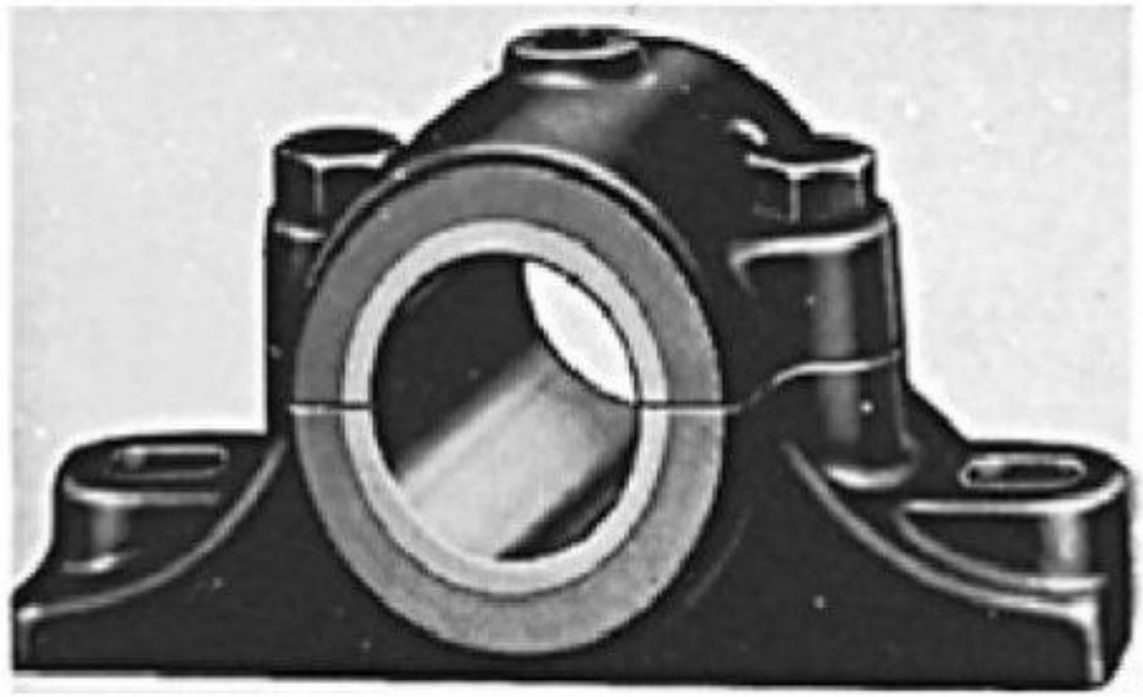
- **The main function of a rotating shaft is to transmit power from one end of the line to the other.**
- **It needs a good support to ensure stability and frictionless rotation. The support for the shaft is known as “bearing”.**
- **The shaft has a “running fit” in a bearing. All bearing are provided some lubrication arrangement to reduced friction between shaft and bearing.**
- **Hold &Guide to shaft**
- **Smooth & Free motion to Save power**

Types of Bearings

CLASSIFICATION OF BEARINGS

- BEARING
  - ANTIFRICTION BEARING
  - FRICTION BEARING



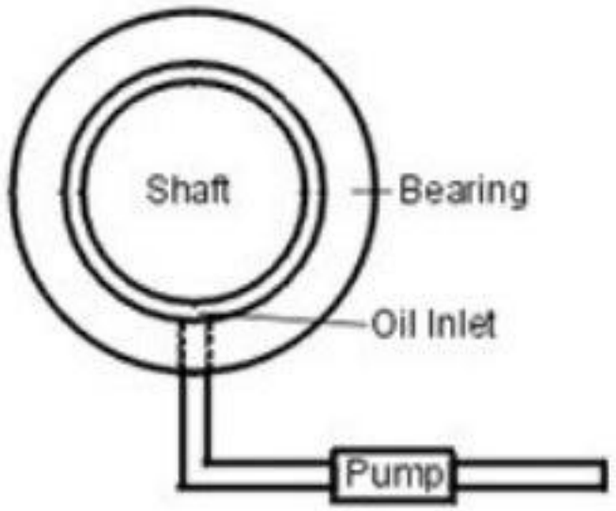


Friction Bearing

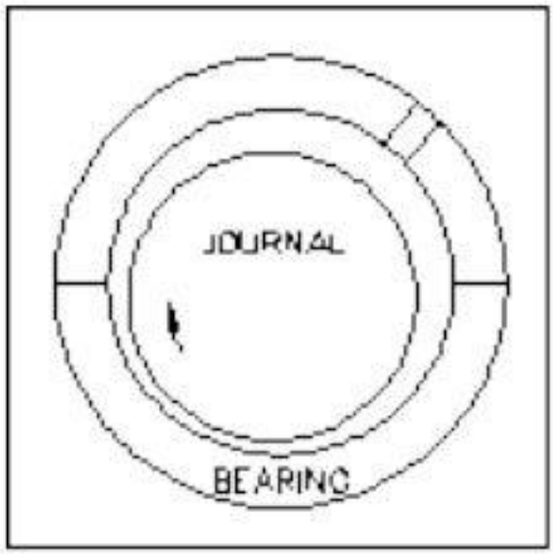
- Hydrostatic bearing
- Hydrodynamic or Journal Bearing
    1. Solid or Bush bearing
    2. Split bearing
- Bearing Material:-CI Brass, Bronze Gun metal Babbitt metal or White metal

Bearings -continued

Hydrostatic Bearing



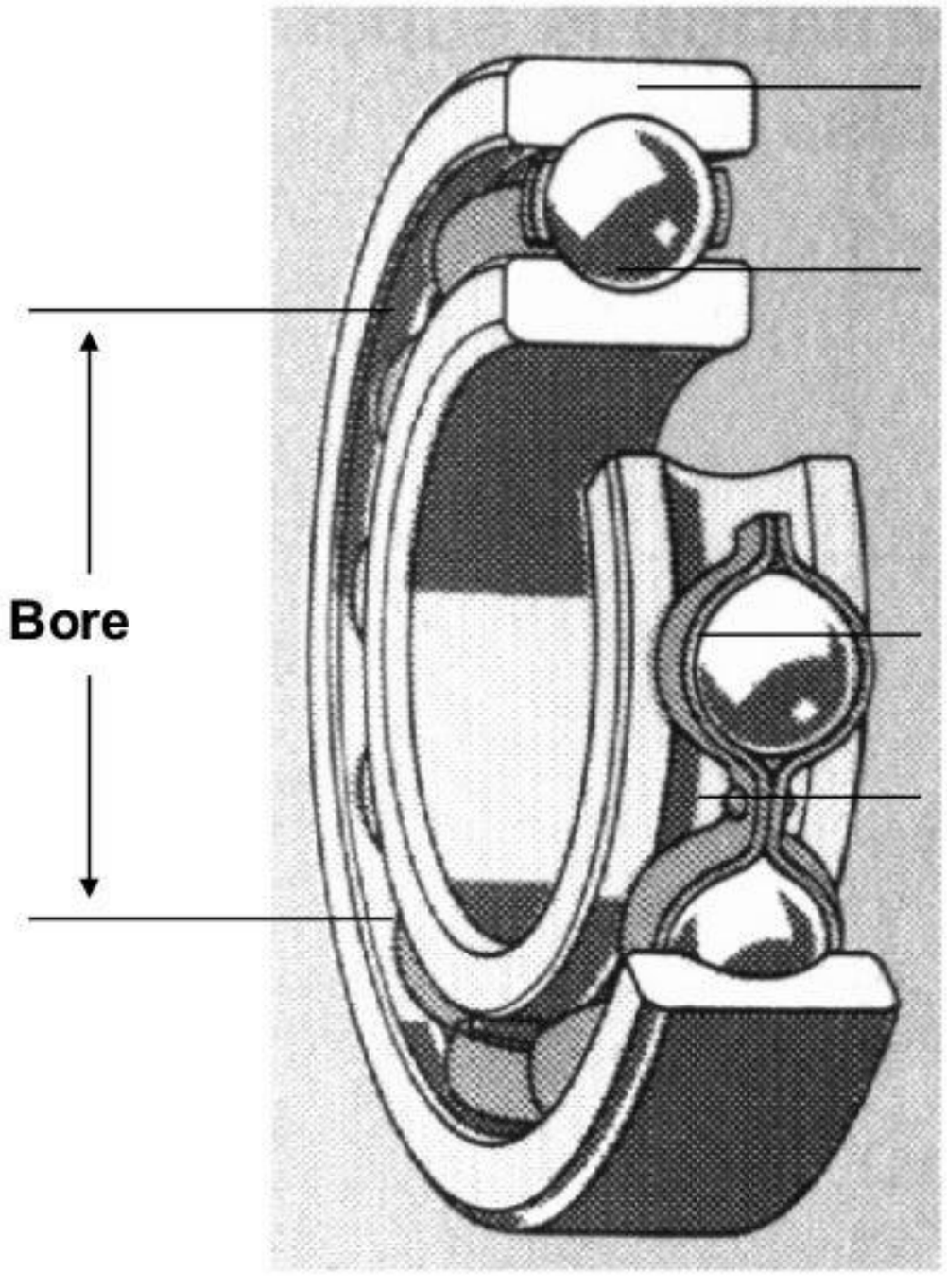
Hydrodynamic Bearing



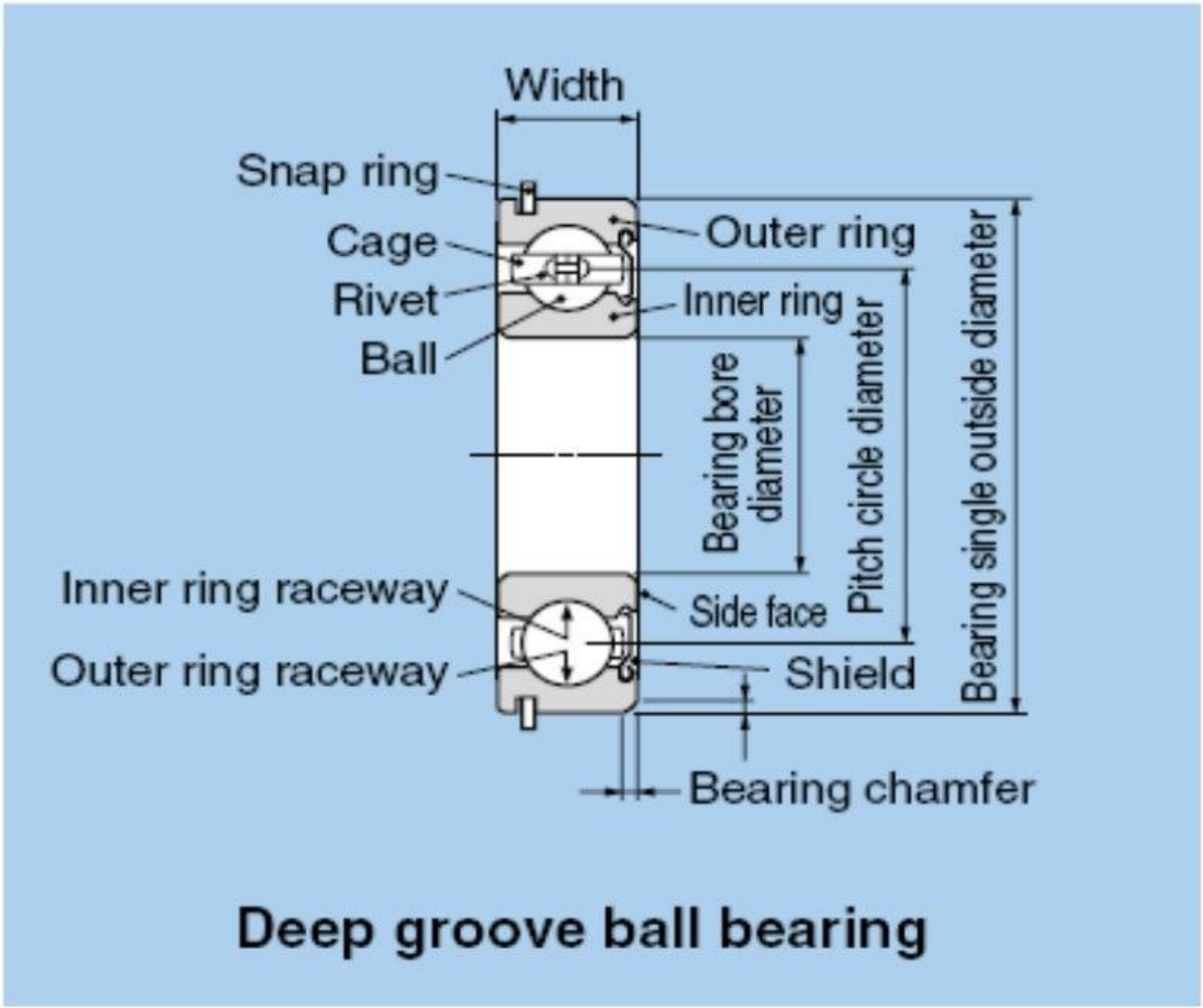
ANTI FRICTION BEARING

- BALL BEARING
- ROLLER BEARING
- THRUST BEARING

Rolling Element Bearing Parts



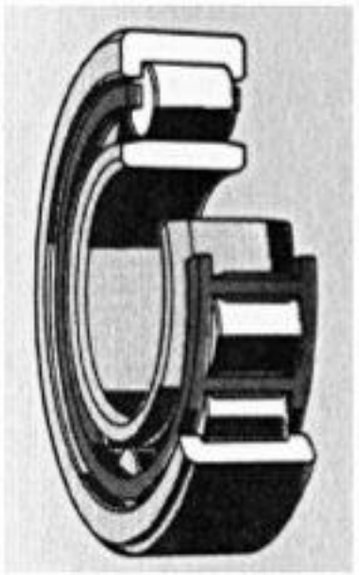
The parts and nomenclature for a Ball Bearing



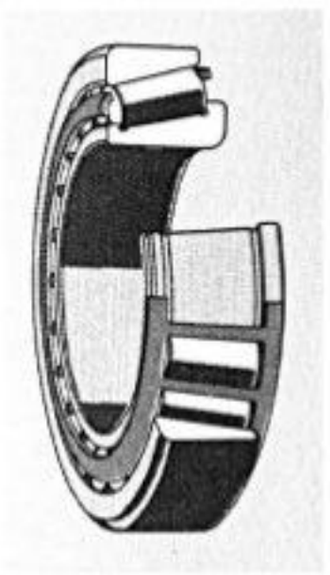
Deep groove ball bearing

Roller Bearings

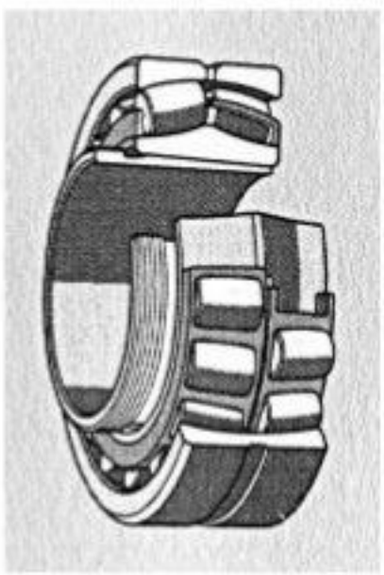
Needle



Roller



Tapered Roller



Spherical Roller

BALL BEARING

- Deep Groove Ball Bearings
- Self Aligning Ball Bearings
- Angular Contact Ball Bearings

ROLLER BEARING

- Cylindrical Roller Bearings
- Needle Roller Bearings
- Spherical Roller Bearings
- Taper Roller Bearings

DEEPGROOVE BALL BEARING

Deep groove ball bearings are capable of operating at high speeds and are widely used radial bearings. These non-separable bearings are available in a wide variety of seal, shield and snap-ring arrangements. It requires little attention or maintenance in service.

Single Row Deep Groove Ball Bearing

- Accommodates Radial and Axial Loads
- High Speeds
- Low Friction

- Locating Bearing
- Seals/Shields

Advantages Of Deep Groove Ball Bearings

- Can sustain radial, axial, or composite loads.
- Can provide both high-running accuracy and high-speed operation.
- Can take the place of high speed angular contact ball bearings.
- Simple design.
- Maintenance free.
- Longer service life.

Application Of Deep Groove Ball Bearings

- axial loads from two directions have to be transmitted, and existing space does not allow installation of matched spindle bearings.

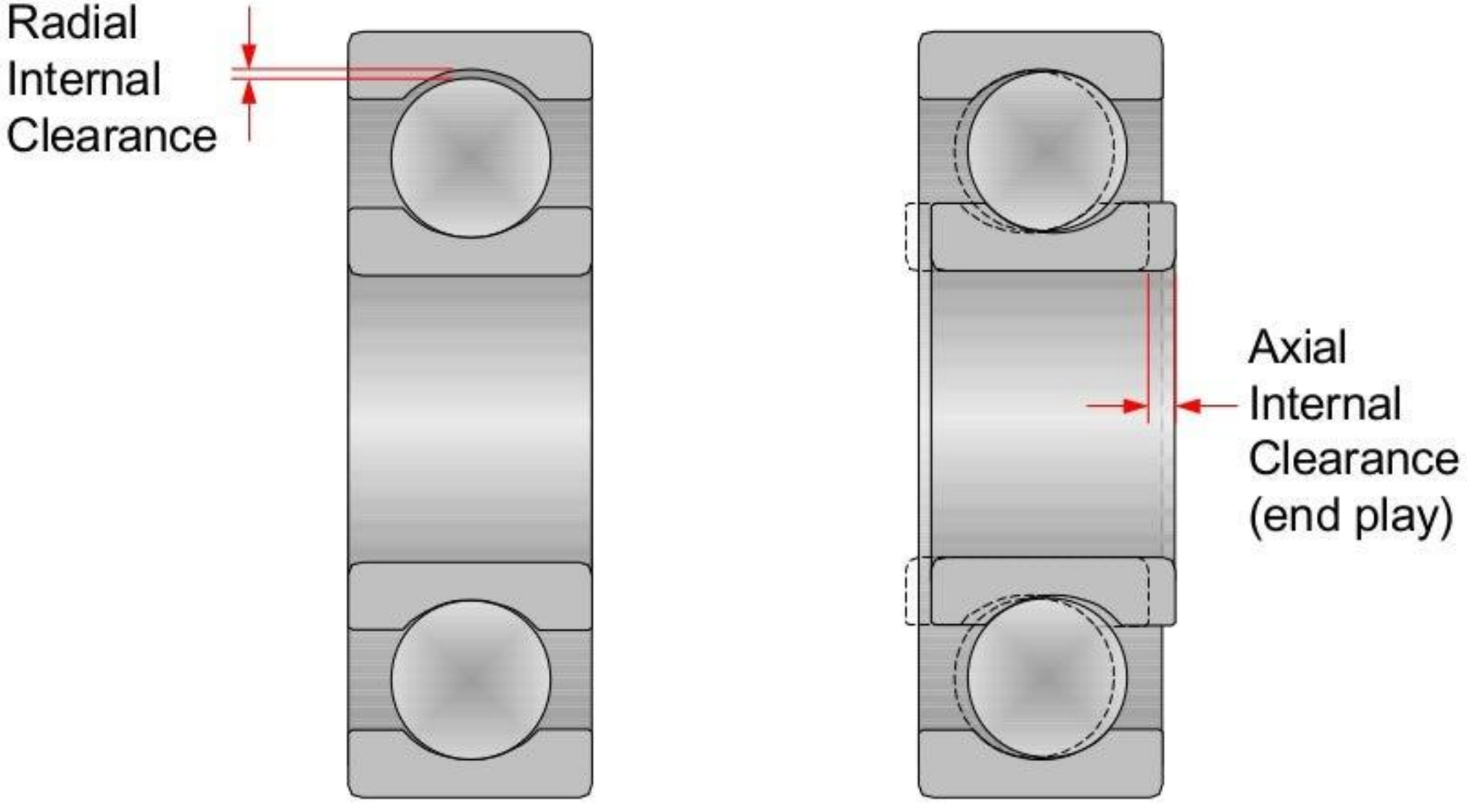
- best possible guidance of rotating parts is required and speed is less important.

Deep Groove Ball Bearings

Applications

- Industrial
  - Electric Motors/Power Tools
  - **Gearboxes, Transmissions**
  - Pumps/Compressors
  - Office Automation
- Automotive
  - Alternators/Starters
  - Cooling Fans
  - ABS Motors

Internal Clearance



Basic Type & Series	
R	Inch, single row
16	Inch, single row
6	Metric, single row, miniature
618	Metric, single row, extra thin
619	Metric, single row, thin
60	Metric, single row, extra light
62	Metric, single row, light
63	Metric, single row, medium
52	Metric, double row, light
53	Metric, double row, medium

Seals & Shields	
ZZ	Double shields
2RS	Double seals

Extra Markings (Indicates special dimensions or grease type and fill)	
NR	Snap Ring
PRX	Polyrex EM Grease
SRI2	SRI-2 Grease

SS **62** **03** **ZZ** **C3** **XX**

SS	Stainless steel
F	Flanged

Bore Size

Above 04, multiply by 5 to get the bore size in millimeters.

00:	10mm	03:	17mm
01:	12mm	04:	20mm
02:	15mm	05:	25mm

Internal Clearance	
C2	Tight
C0	Standard
C3	Loose
C4	extra loose

No symbol indicates standard clearance.

Bearing Basics