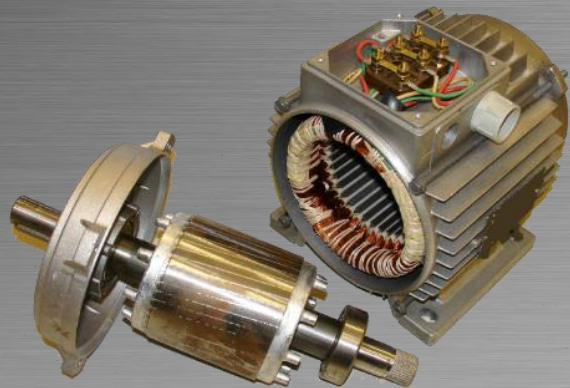




ELECTRIC MOTORS & PUMPS



TYPES OF ELECTRIC MOTORS



Classification of Electric Motors

➤ **DC motors**

- Commonly used in variable speed household appliances

➤ **AC motors**

- Popularly used in Electric pumps, hoist, Etc.
 - There are of 2 types Single phase and 3 phase induction motors



TYPES OF PUMPS



Classification of Pumps

➤ **Positive Displacement Pumps**

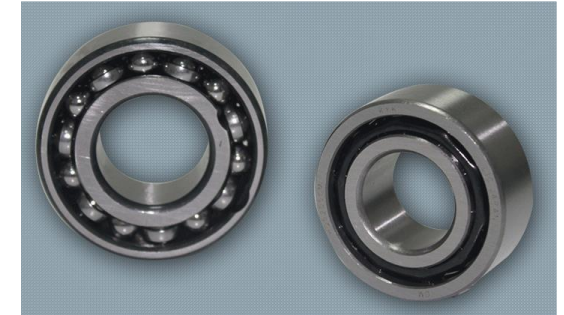
- Rotary
- Reciprocating

➤ **Dynamic Pumps**

- Centrifugal Pumps
- Axial pumps
 - There are of 2 types Single phase and 3 phase induction motors



TYPES OF BEARINGS USED



➤ Deep Groove Ball Bearings

- 62XX series
- 63XX series
- 64XX series

Mostly bearings with C3 clearance are used

➤ Angular Contact Ball Bearing

- 72XX series
- 73XX series

Bearing with steel cage and phenolic cages are used

➤ Double Row Ball Bearings

- 32XX series
- 33XX series



TYPES OF BEARINGS USED



- **Taper Roller Bearings**
- 313 series (with suffix D)

Generally the bearings with steep contact angles are used



- **Cylindrical Roller Bearings**
- N - type
- NJ - type
- NU - type
- NUP - type

Bearing with steel cage , polyamide cages and brass cages are used



FEATURES of KYK BEARINGS



- KYK bearings are manufactured under Japanese standard (JIS)
- All KYK bearings are inspected and guaranteed
- KYK bearings are suitable for speed application from 1500 rpm up to 3000 rpm
- KYK self lubricated bearings (ZZ and LLU) can work up to 160°C under ideal operating conditions
- Ready availability of stock with our dealers and distributors spread over 50 countries



BEARING FITS

For rolling bearings, Bearing fits play a vital role in the performance of the bearings, it is important to ensure the fitting surfaces during operation or under load do not move in the direction of rotation of the moving ring.

The necessity of a proper fit

In some cases, improper fit may lead to damage and shortening of bearing life, it is necessary to make a careful investigation in selecting a proper fit. Some of the signs of bearing failure caused by improper fit are listed below.

- Raceway cracking, early flaking and displacement of raceway
- Raceway and shaft or housing abrasion caused by creeping and fretting corrosion
- Seizing caused by negative internal clearances
- Increased noise and deteriorated rotational accuracy due to raceway groove deformation

KYK[®]
B E A R I N G S



BEARING FITS



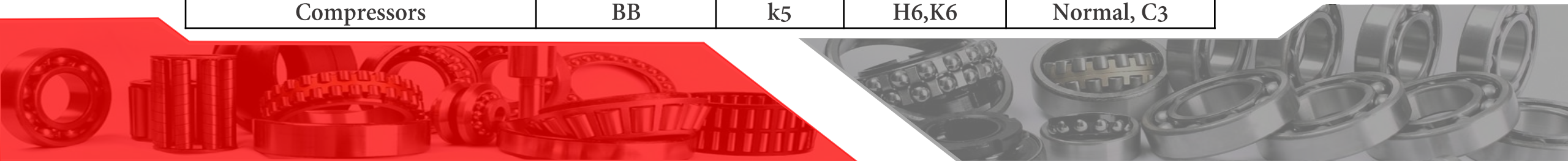
Fit selection

Selection of a proper fit is dependent upon thorough analysis of bearing operating conditions, including consideration of:

- Shaft and housing material, wall thickness, finished surface accuracy, etc.
- Machinery operating conditions (nature and magnitude of load, rotational speed, temperature, etc.)



MOTORS AND PUMPS	BEARINGS USED	FITS		RADIAL CLEARANCE
		SHAFT	HOUSING	
Domestic Motors	BB	h5,j5	H5,H6	Normal, C3
Medium Size Motors	BB	j5,k5	H6,J6,K6	Normal, C3
Large Size Motors	CRB	m5,m6	K6	C3
Traction Motors	BB	n5	M6	C3, C4
Compressors	BB	k5	H6,K6	Normal, C3



BEARING MOUNTING



Prior to mounting / dismounting of the bearing follow preparatory steps:

- Confirm the right bearing is selected
- Make sure the bearing seating is clean and apply anti-corrosive oil before fitting the bearing
- Make sure the proper specified bearing fits are applied and check its tolerance prior to fitting
- Do not subject bearing ring to direct blows
- Use proper tools for mounting and dismounting
- For non-separable bearings, apply the force **ONLY** on the mounting ring
- Oil bath / Induction heating can be used whenever necessary for large size bearings
- Ensure proper and adequate lubrication is made
- Once mounted, check the rotation of the bearing by rotating the shaft / housing



BEARING LUBRICATION



- KYK bearings are using high quality Japanese grease **Kyodo Yushi Raremax** in its products
- This grease has excellent heat resistance, oxidation resistance, low temperature fluidity, low noise characteristic and rust preventive property.
 - Temperature range
 - *Minimum: - 30°C*
 - *Maximum: 160°C*
- Bearings with Special grease for very high temperature is available on request



ABOUT US



KYK Corporation Ltd. (Formerly: Yamakai Bearing Ltd) is one of the oldest Japanese Manufacturers of ball and roller bearings, established in 1952, in Osaka, Japan.

Our bearings are supplied to more than **50 countries worldwide** and approved in a wide variety of engineering industries.

KYK Bearings cater to the growing premium quality requirement of the market. Strict adherence to **Japanese Precision and Quality Standards** make KYK the preferred choice of product.



OUR NETWORK

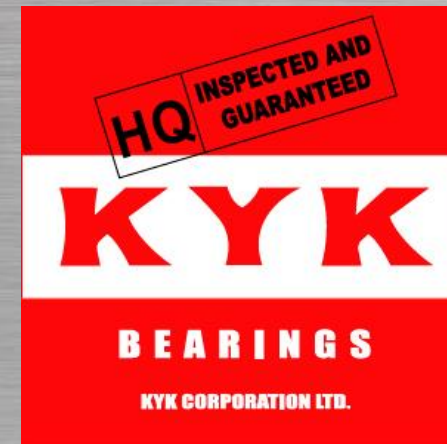
KYK Bearings are supplied to more than **50 Countries** Worldwide.

To become part of the **KYK Worldwide Network** or to find your local dealer, please contact us.



GULF WORLDWIDE BEARINGS FZE

Official Distribution Partner for KYK Bearings



CONTACT:

GULF WORLDWIDE BEARINGS FZE
Plot S 20408, P.O. Box 261626
Jebel Ali Free Zone,
Dubai- U.A.E

Sales Director: Mr. Antony PL
antonypl@gwbrg.com

Precision Japanese Technology,
Since 1953

Tel: +9714-8866199 / 8866036
Fax: +9714-8866037

Email: info@gwbrg.com
Website: www.gwbrg.com
Website: www.kykbrg.com