



TOUGHNESS
WITH
**PRECISION
GUARANTEED**



PRODUCT CATALOGUE

TOUGH
BEARINGS
FOR TOUGH
DEMANDS





About Us

KEC BEARINGS, formally named KANKAI ENGINEERING CO. PVT. LTD., was established in the year 1998 at Rajkot (Gujarat - India) to manufacture all types of bearings, with special expertise on Spherical Roller Bearings. KEC Bearings has since established itself as a leading manufacturer of Industrial Bearings, with an impeccable reputation far beyond the borders of India. The company continuously delivers on its promise of manufacturing top-notch engineered Industrial Bearings with heavy load application and low RPM suitable for wide variety of Industrial applications.

KEC Bearings is currently manufacturing various types of Spherical Roller Bearings used in Jaw Crusher, Steel Plant, Stone Crushing, Pulverizer, Cement Plant, Oil Mill, Ginning Mill, Wind Mill, Paper Mill, Sugar Mill, Hammer Mill, Cone Crusher, Coal Crusher, Impact Crusher, Conveyors, Elevators, Reduction Gear Box, Pinion Stand, Railway & Ship Machineries, Mining Equipments, Construction machineries, Vibrating Equipments, Earth Moving Machineries and other heavy machineries. It comes in series of 21300, 22200, 22300, 23000, 23100, 23200, 24000, 24100 etc. We also manufacture Cylindrical, Ball Bearings, Thrust Bearings and Taper Roller Bearings.

KEC Bearings is enjoying remarkable market acceptance in India as well as in International Markets. We have a strong technical workforce to keep up with the rigorous demands of quality products using Prime Materials and adopting latest manufacturing technologies with sophisticated machines & SPM for various parameters. We are constantly improving the quality of our products with continuous research and developmental activities in our plant. Our Branded Spherical Roller Bearings are well approved by various O.E., Heavy plant & Machineries, manufacturing various Mills like Steel Mills Sugar Mills, Rice Mills, Paper Mills, etc.

MANUFACTURE & EXPORTERS

**SPHERICAL
ROLLER
BEARINGS**



Vision

We have a vision to dominate the global market with our brand of Top Notched quality bearings.

Mission

Our mission is to provide real solutions with precise product delivery to our domestic and global client base and become the go-to-brand for efficient bearings. KEC Bearings help the industry to keep performance on track with reliable bearings to help ease locomotion. The foundation of the company was built on sincere values:

- Quality product delivery
- Performance driven
- Customer oriented

Quality Policy

We at, KEC Bearings Pvt. Ltd., are committed to all Interested Parties as reliable Business Partner by meeting their Applicable Requirements and continually improve the Quality Managment System to support organization and its Strategic Direction.



INDIA'S
SUPREME
BEARING
MANUFACTURER





SPHERICAL ROLLER BEARINGS

KEC established its technology that has met the exact requirements of global industry. We have also established quality systems and support services to meet the diverse needs of our customers in every continent.

Today, in all types of industries, designers seek to reduce the sizes and weights of their products, improve their competitiveness and all without loss of reliability.

For bearings this invariably means a tougher working regime of increased loads, higher working temperatures, faster speeds, contamination tolerance and longer fit-and-forget operating intervals. Yet despite these operating conditions, the main requirement on the bearing manufacturer is still to provide longer operating life.

Meeting such demands has meant that bearings have moved from being ordinary support and load bearing components to actual performance enhancers in their own right.

What is making this possible is the bringing together of materials, software, mechanical design and lubrication technologies to produce ever better bearings.

KEC double-row Spherical roller bearings are available in bore sizes from 25 mm to 500 mm.

- **Long Life - Lower Maintenance Cost**

Maintenance costs are an important factor in reducing total equipment costs. KEC spherical roller bearings realise twice the operating life of conventional products, and longer operating life leads to lower maintenance costs.

- **Flexible - Applicable to a variety of applications**

With improved cage resistance to wear at higher speeds over longer period of operation, KEC spherical roller bearings deliver high performance to a variety of applications.

- **Excellent performance in dust and water contaminated environments**

Since the FUCHS Oil fills the entire internal space of the bearing, it acts as an effective barrier to the entry of Contamination. This leads to extended bearing life and improved reliability.

The oil discharge mechanism is temperature dependent; the higher the heat generation, the greater the discharge rate.

- **Environmentally friendly**

Oil from the resin matrix is sufficient to lubricate the bearing. Therefore, oil leakage is avoided, as time of Re-lubrication will be more.

- **Low overall cost**

Guaranteed lubrication without the degradation caused by contamination ensures exceptional reliability and longer service life. Thus the combination of reduced maintenance costs and elimination of other lubrication components provides users with excellent cost performance.

- **Engineered to be as tough as the conditions**

Vibrating equipment bearings available in KEC brand are engineered specifically to withstand the shock loading, misalignment and marginal lubrication conditions typical of vibrating machinery applications. This means extra performance when it is needed in mineral crushing, screening and compacting. Performance enhancements include extra precision on the bore and outside diameter; extremely tight radial clearance tolerance; and super finished, specially heat-treated rollers with superior shock load capacity. These bearings resist seizure, maintain dimensional stability and resist wear in spite of constant vibration, misalignment and shock loads.

- **Improved reliability**

The increased space in the bearing caused greater grease capacity. The precision machined brass cage dampens vibration and affords better roller guidance.

- **Reduced operating costs**

The improved design reduces friction, wear and operating temperatures. This increases reliability and bearing life, and cuts maintenance costs.

- **Higher operating temperatures**

Heat stabilised rings mean these bearings can be used for continuous operation up to 200°C.

SPHERICAL ROLLER BEARINGS



• **Other features**

Reduced bore and outside diameter tolerances together with tightly controlled internal clearances to meet Demands of vibrating equipment.

• **Increased capacity**

The improved internal design allows the inclusion of precise rollers. This gives increased capacity for existing machine design or the option to downsize new designs by using smaller bearings.

• **Special features**

KEC Spherical Roller bearings can take care of misalignment with bearings shaft and housing as follows:

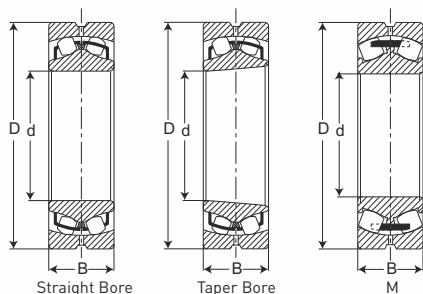
BEARING SERIES	PERMISSIBLE ANGULAR MISALIGNMENT (DEGREES)
Series 21300	1
Series 22200	1.5
Series 22300	2
Series 23000	1.5
Series 23100	1.5
Series 23200	2.5
Series 24000	2
Series 24100	2.5



**SPHERICAL
ROLLER
BEARINGS**

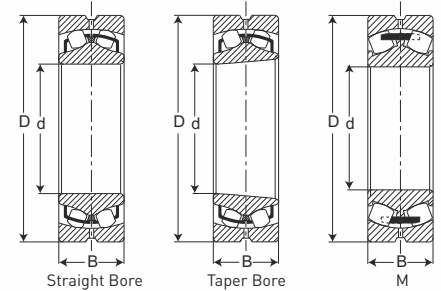


SPHERICAL ROLLER BEARINGS



BEARING NUMBER	BEARING NUMBER	QTY.PER CARTON	BEARING O.D. (MM)	BEARING BORE (MM)	BEARING WIDTH (MM)	BEARING WEIGHT (KG.)	BASIC LOAD RATING		SPEED RATINGS		FATIGUE LOAD LIMIT
							DYNAMIC (N)	STATIC (N)	OIL (RPM)	GREASE (RPM)	
21308	21308M	62	90	40	23	0.710	82800	98000	5600	4500	11000
21309	21309M	48	100	45	25	0.950	101000	114000	5300	4300	12900
21310	21310M	30	110	50	27	1.200	120000	140000	4800	3600	16000
21311	21311M	20	120	55	29	1.600	138000	163000	4300	3400	18600
21312	21312M	17	130	60	31	1.950	161000	200000	3800	3000	23200
21313	21313M	15	140	65	33	2.450	184000	240000	3600	2800	27000
21314	21314M	14	150	70	35	3.000	207000	260000	3400	2600	29000
21315	21315M	12	160	75	37	3.550	235000	300000	3200	2400	32500
21316	21316M	8	170	80	39	4.200	258000	335000	3000	2200	36000
21317	21317M	8	180	85	41	5.000	293000	375000	2800	2000	40000
21318	21318M	7	190	90	43	5.800	322000	425000	2600	1900	44000
22205	-	224	52	25	18	0.180	35700	35700	11000	8500	3900
22206	-	138	62	30	20	0.280	48900	52000	9500	7500	5400
22207	-	102	72	35	23	0.430	67300	73500	8000	6300	8000
22208	22208M	72	80	40	23	0.520	73600	81500	7500	6000	9150
22209	22209M	68	85	45	23	0.560	77100	88000	6700	5300	9500
22210	22210M	62	90	50	23	0.600	84500	100000	6300	5000	11000
22211	22211M	48	100	55	25	0.820	99500	118000	5600	4500	12900
22212	22212M	30	110	60	28	1.100	122000	146000	5000	4000	16300
22213	22213M	19	120	65	31	1.450	148000	183000	4800	3800	21200
22214	22214M	17	125	70	31	1.550	148000	186000	4500	3600	21200
22215	22215M	17	130	75	31	1.650	158000	208000	4300	3400	23600
22216	22216M	15	140	80	33	2.050	176000	228000	4000	3200	26000
22217	22217M	14	150	85	36	2.550	210000	270000	3800	3000	31000
22218	22218M	10	160	90	40	3.400	252000	340000	3400	2600	37500
22219	22219M	8	170	95	43	4.000	282000	375000	3200	2400	40000
22220	22220M	7	180	100	46	4.850	311000	415000	3000	2200	44000
22222	22222M	5	200	110	53	7.000	408000	560000	2800	2000	57000
22224	22224M	3	215	120	58	8.700	466000	670000	2600	1900	67000
22226	22226M	3	230	130	64	11.000	546000	800000	2400	1800	78000
22228	22228M	2	250	140	68	14.000	610000	900000	2200	1700	86500
22230	22230M	1	270	150	73	18.000	736000	1080000	2000	1600	102000
-	22232M	1	290	160	80	22.500	863000	1290000	1900	1500	118000
-	22234M	1	310	170	86	28.500	978000	1460000	1700	1300	132000
-	22236M	1	320	180	86	29.500	1010000	1560000	1700	1300	140000
-	22238M	1	340	190	92	36.500	1110000	1700000	1600	1200	150000
-	22240M	1	360	200	98	43.500	1270000	1930000	1500	1100	166000
-	22244M	1	400	220	108	60.500	1520000	2360000	1300	950	196000
-	22248M	1	440	240	120	83.500	1910000	3000000	1200	900	245000
22308	22308M	40	90	40	33	1.000	115000	122000	5600	4500	13200

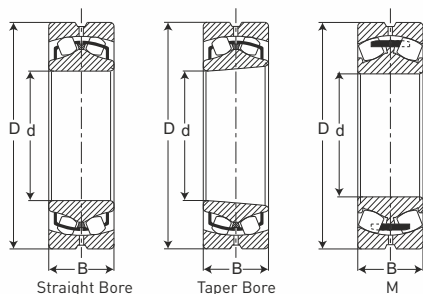
SPHERICAL ROLLER BEARINGS



BEARING NUMBER	BEARING NUMBER	QTY.PER CARTON	BEARING O.D. (MM)	BEARING BORE (MM)	BEARING WIDTH (MM)	BEARING WEIGHT (KG.)	BASIC LOAD RATING		SPEED RATINGS		FATIGUE LOAD LIMIT
							DYNAMIC (N)	STATIC (N)	OIL (RPM)	GREASE (RPM)	
22309	22309M	30	100	45	36	1.350	138000	160000	4800	3800	17000
22310	22310M	20	110	50	40	1.850	176000	200000	4300	3400	21600
22311	22311M	13	120	55	43	2.350	199000	232000	4000	3200	25000
22312	22312M	13	130	60	46	2.950	235000	280000	3800	3000	30000
22313	22313M	10	140	65	48	3.550	253000	300000	3400	2600	32000
22314	22314M	8	150	70	51	4.300	311000	380000	3200	2400	40000
22315	22315M	8	160	75	55	5.250	345000	430000	3000	2200	44000
22316	22316M	6	170	80	58	6.200	374000	455000	2800	2000	46500
22317	22317M	5	180	85	60	7.250	420000	520000	2600	1900	52000
22318	22318M	4	190	90	64	8.600	477000	610000	2400	1800	60000
22319	22319M	4	200	95	67	10.000	518000	670000	2400	1800	64000
22320	22320M	3	215	100	73	13.000	610000	800000	2200	1700	75000
22322	22322M	2	240	110	80	18.000	725000	965000	2000	1600	86500
22324	22324M	1	260	120	86	23.000	845000	1120000	1800	1400	100000
22326	22326M	1	280	130	93	28.500	978000	1320000	1700	1300	114000
-	22328M	1	300	140	102	36.500	1130000	1560000	1500	1100	132000
-	22330M	1	320	150	108	43.500	1270000	1760000	1400	1000	146000
-	22332M	1	340	160	114	52.000	1380000	1960000	1300	950	160000
-	22334M	1	360	170	120	61.000	1540000	2160000	1300	950	176000
-	22336M	1	380	180	126	71.000	1730000	2450000	1200	900	193000
-	22338M	1	400	190	132	82.500	1870000	2650000	1100	850	208000
-	22340M	1	420	200	138	95.000	2020000	2900000	1100	850	224000
-	22344M	1	460	220	145	120.000	2350000	3450000	950	750	260000
-	22348M	1	500	240	155	155.000	2670000	4000000	850	670	290000
-	23022M	8	170	110	45	3.750	267000	440000	3000	2200	46500
-	23024M	7	180	120	46	4.200	305000	510000	2800	2000	53000
-	23026M	5	200	130	52	6.100	374000	610000	2600	1900	61000
-	23028M	5	210	140	53	6.550	397000	680000	2400	1800	68000
-	23030M	3	225	150	56	7.950	432000	750000	2200	1700	73500
-	23032M	2	240	160	60	9.700	506000	880000	2200	1700	83000
-	23034M	1	260	170	67	13.000	621000	1060000	2000	1600	100000
-	23036M	1	280	180	74	17.000	725000	1250000	1800	1400	114000
-	23038M	1	290	190	75	18.000	753000	1340000	1700	1300	122000
-	23040M	1	310	200	82	23.500	880000	1530000	1600	1200	137000
-	23044M	1	340	220	90	30.500	1050000	1860000	1500	1100	163000
-	23048M	1	360	240	92	33.500	1130000	2080000	1400	1000	176000
-	23052M	1	400	260	104	48.500	1400000	2550000	1200	900	212000
-	23056M	1	420	280	106	52.500	1520000	2850000	1100	850	224000
-	23060M	1	460	300	118	71.500	1840000	3450000	1100	800	265000
-	23120M	6	165	100	52	4.400	322000	490000	2800	2000	53000

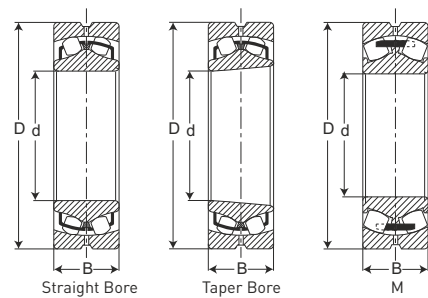


SPHERICAL ROLLER BEARINGS



BEARING NUMBER	BEARING NUMBER	QTY.PER CARTON	BEARING O.D. (MM)	BEARING BORE (MM)	BEARING WIDTH (MM)	BEARING WEIGHT (KG.)	BASIC LOAD RATING		SPEED RATINGS		FATIGUE LOAD LIMIT
							DYNAMIC (N)	STATIC (N)	OIL (RPM)	GREASE (RPM)	
-	23122M	5	180	110	56	5.550	374000	585000	2600	1900	61000
-	23124M	4	200	120	62	7.800	449000	695000	2400	1800	71000
-	23126M	4	210	130	64	8.550	489000	780000	2200	1700	78000
-	23128M	2	225	140	68	10.500	546000	900000	2000	1800	88000
-	23130M	2	250	150	80	16.000	725000	1200000	1800	1400	114000
-	23132M	1	270	160	86	20.500	845000	1370000	1700	1300	129000
-	23134M	1	280	170	88	22.000	897000	1500000	1600	1200	137000
-	23136M	1	300	180	96	28.000	1050000	1760000	1500	1100	160000
-	23138M	1	320	190	104	35.000	1200000	2080000	1400	1000	183000
-	23140M	1	340	200	112	43.000	1380000	2360000	1300	950	204000
-	23144M	1	370	220	120	53.500	1580000	2750000	1200	900	232000
-	23148M	1	400	240	128	66.500	1790000	3200000	1100	850	255000
-	23152M	1	440	260	144	90.500	2220000	3900000	1000	800	290000
-	23156M	1	460	280	146	97.000	2300000	4250000	950	750	335000
-	23160M	1	500	300	160	125.000	2820000	5100000	500	400	415000
-	23218M	8	160	90	52	4.600	311000	440000	2600	1900	48000
-	23220M	5	180	100	60	6.700	414000	600000	2200	1700	63000
-	23222M	4	200	110	70	9.700	518000	765000	2000	1600	76500
-	23224M	3	215	120	76	12.000	610000	930000	1900	1500	93000
-	23226M	2	230	130	80	14.000	690000	1060000	1700	1300	104000
-	23228M	1	250	140	88	18.500	799000	1250000	1600	1200	120000
-	23230M	1	270	150	96	24.500	937000	1460000	1500	1000	137000
-	23232M	1	290	160	104	31.000	1070000	1660000	1400	1000	153000
-	23234M	1	310	170	110	37.500	1220000	1930000	1300	950	173000
-	23236M	1	320	180	112	39.500	1290000	2120000	1200	900	186000
-	23238M	1	340	190	120	48.000	1460000	2400000	1100	850	208000
-	23240M	1	360	200	128	58.000	1610000	2700000	1100	850	228000
-	23244M	1	400	220	144	81.500	2070000	3450000	950	750	285000
-	23248M	1	440	240	160	110.000	2530000	4300000	850	670	345000
-	23252M	1	480	260	174	140.000	2820000	4750000	800	630	360000
-	23256M	1	500	280	176	150.000	2820000	4900000	750	600	365000
-	24024M	5	180	120	60	5.400	374000	670000	2000	1600	68000
-	24026M	4	200	130	60	7.950	477000	815000	1900	1500	81500
-	24028M	4	210	140	69	8.450	495000	900000	1800	1400	88000
-	24030M	2	225	150	75	10.500	654000	1040000	1700	1300	100000
-	24032M	2	240	160	80	13.000	656000	1200000	1500	1100	114000
-	24034M	1	260	170	90	17.500	799000	1460000	1400	1000	137000
-	24036M	1	280	180	100	23.000	937000	1730000	1300	950	156000
-	24038M	1	290	190	100	24.500	978000	1800000	1300	950	163000
-	24040M	1	310	200	109	31.000	1130000	2120000	1200	900	186000

SPHERICAL ROLLER BEARINGS



BEARING NUMBER	BEARING NUMBER	QTY.PER CARTON	BEARING O.D. (MM)	BEARING BORE (MM)	BEARING WIDTH (MM)	BEARING WEIGHT (KG.)	BASIC LOAD RATING		SPEED RATINGS		FATIGUE LOAD LIMIT
							DYNAMIC (N)	STATIC (N)	OIL (RPM)	GREASE (RPM)	
-	24044M	1	340	220	118	40.000	1360000	2600000	1100	850	212000
-	24048M	1	360	240	118	43.000	1380000	2700000	1000	800	228000
-	24052M	1	400	260	140	65.500	1760000	3450000	900	700	285000
-	24056M	1	420	280	140	69.500	1870000	3800000	850	670	285000
-	24060M	1	460	300	160	97.000	2350000	4750000	750	600	355000
-	24064M	1	480	320	160	100.000	2480000	5100000	700	560	400000
-	24122M	4	180	110	69	6.850	460000	750000	1400	1000	78000
-	24124M	4	200	120	80	10.000	575000	950000	1200	900	95000
-	24126M	4	210	130	80	11.000	587000	1000000	1200	900	100000
-	24128M	2	225	140	85	13.000	673000	1160000	1100	850	112000
-	24130M	1	250	150	100	20.000	897000	1530000	1000	800	146000
-	24132M	1	270	160	109	25.000	1040000	1760000	900	700	163000
-	24134M	1	280	170	109	27.500	1070000	1860000	850	670	170000
-	24136M	1	300	180	118	34.500	1220000	2160000	800	630	196000
-	24138M	1	320	190	128	43.000	1400000	2500000	750	600	212000
-	24140M	1	340	200	140	53.500	1580000	2800000	700	560	232000
-	24144M	1	370	220	150	67.000	1840000	3350000	630	500	285000
-	24148M	1	400	240	160	83.000	2100000	3900000	600	480	325000
-	24152M	1	440	260	180	110.000	2620000	4800000	530	430	390000
-	24156M	1	460	280	180	120.000	2670000	5100000	500	400	415000
-	24160M	1	500	300	200	160.000	3280000	6300000	450	360	465000

SPHERICAL
ROLLER
BEARINGS



INNER RING

d		Δ_{dmp}		V _{dp}	V _{dmp}	Δ_{Bs}		Δ_{B1s}		V _{bs}	K _{ia}
OVER	INCL	HIGH	LOW	MAX	MAX	HIGH	LOW	HIGH	LOW	MAX.	MAX.
MM		μm		μm	μm	μm		μm		μm	μm
-	2.5	0	-8	6	6	0	-40	-	-	12	10
2.5	10	0	-8	6	6	0	-120	0	-250	15	10
10	18	0	-8	6	6	0	-120	0	-250	20	10
18	30	0	-10	8	8	0	-120	0	-250	20	13
30	50	0	-12	9	9	0	-120	0	-250	20	15
50	80	0	-15	11	11	0	-150	0	-380	25	20
80	120	0	-20	15	15	0	-200	0	-380	25	25
120	180	0	-25	19	19	0	-250	0	-500	30	30
180	250	0	-30	23	23	0	-300	0	-500	30	40
250	315	0	-35	26	26	0	-350	0	-500	35	50
315	400	0	-40	30	30	0	-400	0	-630	40	60
400	500	0	-45	34	34	0	-450	0	-630	50	65
500	630	0	-50	38	38	0	-500	0	-800	60	70
630	800	0	-75	-	-	0	-750	-	-	70	80
800	1000	0	-100	-	-	0	-1000	-	-	80	90
1000	1250	0	-125	-	-	0	-1250	-	-	100	100
1250	1600	0	-160	-	-	0	-1600	-	-	120	120
1600	2000	0	-200	-	-	0	-2000	-	-	140	140

OUTER RING

D		Δ_{dmp}		V_{dp}	V_{dmp}	Δ_{cs}		Δ_{B1s}		V_{cs}	Kea
OVER	INCL.	HIGH	LOW	MAX.	MAX.						MAX.
mm		μm		μm	μm						μm
2.5	18	0	-8	6	6	Values are identical to those for Inner Ring of same bearing					15
18	30	0	-9	7	7						15
30	50	0	-11	8	8						20
50	80	0	-13	10	10						25
80	120	0	-15	11	11						35
120	150	0	-18	14	14						40
150	180	0	-25	19	19						45
180	250	0	-30	23	23						50
250	315	0	-35	26	26						60
315	400	0	-40	30	30						70
400	500	0	-45	34	34						80
500	630	0	-50	38	38						100
630	800	0	-75	55	55						120
800	1000	0	-100	75	75						140
1000	1250	0	-125	-	-						160
1250	1600	0	-160	-	-						190
1600	2000	0	-200	-	-						220
2000	2500	0	-250	-	-						250

TECHNICAL DATA



INNER RING WITH TAPERED BORE (1:12)

d		Δ_{dmp}		V_{dp}	$\Delta_{d1mp} - \Delta_{dmp}$	
OVER	INCL	HIGH	LOW	Max.	HIGH	LOW
MM		μ		μ	μ	μ
18	30	21	0	13	21	0
30	50	25	0	15	25	0
50	80	30	0	19	30	0
80	120	35	0	25	35	0
120	180	40	0	31	40	0
180	250	46	0	38	46	0
250	315	52	0	44	52	0
315	400	57	0	50	57	0
400	500	63	0	56	63	0
500	630	70	0	70	70	0
630	800	80	0	-	80	0
800	1000	90	0	-	90	0

INNER RING WITH TAPERED BORE (1:30)

d		Δ_{dmp}		V_{dp}	$\Delta_{d1mp} - \Delta_{dmp}$	
OVER	INCL	HIGH	LOW	Max.	HIGH	LOW
MM		μ		μ	μ	μ
0	80	15	0	19	30	0
80	120	20	0	22	35	0
120	180	25	0	40	40	0
180	250	30	0	46	46	0
250	315	35	0	52	52	0
315	400	40	0	57	57	0
400	500	45	0	63	63	0
500	630	50	0	70	70	0
630	800	75	0	-	100	0
800	1000	100	0	-	100	0

BEARING DATA GENERAL SYMBOLS

d - nominal bore diameter

Δ_{ds} - deviation of single bore diameter from the nominal

Δ_{dmp} - deviation of mean bore diameter from the nominal

Δ_{d1mp} - deviation of mean bore diameter at the theoretical large end of a taper bore from the nominal

Δ_{Bs} - deviation of single inner ring width from the nominal

Δ_{B1s} - single width of inner ring for paired mounting

V_{bs} - inner ring width variation

K_{ia} - radial runout of assembled bearing inner ring

S_{ia} - side face runout of assembled bearing inner ring

D - nominal outside diameter

Δ_{Ds} - deviation of single outside diameter from the nominal

Δ_{Dmp} - deviation of the mean outside diameter from the nominal

V_{DP} - outside diameter variation

Δ_{Cs} - deviation of single outer ring width from the nominal

Δ_{C1s} - single width of outer ring for paired mounting

V_{cs} - outer ring width variation

K_{ea} - deviation of single outside diameter from the nominal

S_{ea} - side face runout of assembled bearing outer ring

Δ_{Ts} - deviation of single width of taper roller bearing from the nominal

RADIAL INTERNAL CLEARANCES OF SPHERICAL ROLLER BEARING WITH CYLINDRICAL BORE

d		C2		Normal		C3		C4		C5	
OVER	INCL	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
MM		μ		μ		μ		μ		μ	
18	24	10	20	20	35	35	45	45	60	60	75
24	30	15	25	25	40	40	55	55	75	75	95
30	40	15	30	30	45	45	60	60	80	80	100
40	50	20	35	35	55	55	75	75	100	100	125
50	65	20	40	40	65	65	90	90	120	120	150
65	80	30	50	50	80	80	110	110	145	145	180
80	100	35	60	60	100	100	135	135	180	180	225
100	120	40	75	75	120	120	160	160	210	210	260
120	140	50	95	95	145	145	190	190	240	240	300
140	160	60	110	110	170	170	220	220	280	280	350
160	180	65	120	120	180	180	240	240	310	310	390
180	200	70	130	130	200	200	260	260	340	340	430
200	225	80	140	140	220	220	290	290	380	380	470
225	250	90	150	150	240	240	320	320	420	420	520
250	280	100	170	170	260	260	350	350	460	460	570
280	315	110	190	190	280	280	370	370	500	500	630
315	355	120	200	200	310	310	410	410	550	550	690
355	400	130	220	220	340	340	450	450	600	600	750
400	450	140	240	240	370	370	500	500	660	660	820
450	500	140	260	260	410	410	550	550	720	720	900
500	560	150	280	280	440	440	600	600	780	780	1000
560	630	170	310	310	480	480	650	650	850	850	1100
630	710	190	350	350	530	530	700	700	920	920	1190
710	800	210	390	390	580	580	770	770	1010	1010	1300
800	900	230	430	430	650	650	860	860	1120	1120	1440
900	1000	260	480	480	710	710	930	930	1220	1220	1570
1000	1120	290	530	530	780	780	1020	1020	1330	1330	1720
1120	1250	320	580	580	860	860	1120	1120	1460	1460	1870
1250	1400	350	640	640	950	950	1240	1240	1620	1620	2060
1400	1600	400	720	720	1060	1060	1380	1380	1800	1800	2300
1600	1800	450	810	810	1180	1180	1550	1550	2000	2000	2550



**TOUGHNESS
WITH
PRECISION
GUARANTEED**

TECHNICAL DATA



RADIAL INTERNAL CLEARANCES OF SPHERICAL ROLLER BEARING WITH TAPERED BORE

d		C2		Normal		C3		C4		C5	
OVER	INCL	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
MM		μ		μ		μ		μ		μ	
24	30	20	30	30	40	40	55	55	75	-	-
30	40	25	35	35	50	50	65	65	85	85	105
40	50	30	45	45	60	60	80	80	100	100	130
50	65	40	55	55	75	75	95	95	120	120	160
65	80	50	70	70	95	95	120	120	150	150	200
80	100	55	80	80	110	110	140	140	180	180	230
100	120	65	100	100	135	135	170	170	220	220	280
120	140	80	120	120	160	160	200	200	260	260	330
140	160	90	130	130	180	180	230	230	300	300	380
160	180	100	140	140	200	200	260	260	340	340	430
180	200	110	160	160	220	220	290	290	370	370	470
200	225	120	180	180	250	250	320	320	410	410	520
225	250	140	200	200	270	270	350	350	450	450	570
250	280	150	220	220	300	300	390	390	490	490	620
280	315	170	240	240	330	330	430	430	540	540	680
315	355	190	270	270	360	360	470	470	590	590	740
355	400	210	300	300	400	400	520	520	650	650	820
400	450	230	330	330	440	440	570	570	720	720	910
450	500	260	370	370	490	490	630	630	790	790	1000
500	560	290	410	410	540	540	680	680	870	870	1100
560	630	320	460	460	600	600	760	760	980	980	1230
630	710	350	510	510	670	670	850	850	1090	1090	1360
710	800	390	570	570	750	750	960	960	1220	1220	1500
800	900	440	640	640	840	840	1070	1070	1370	1370	1690
900	1000	490	710	710	930	930	1190	1190	1520	1520	1860
1000	1120	530	770	770	1030	1030	1300	1300	1670	1670	2050
1120	1250	570	830	830	1120	1120	1420	1420	1830	1830	2250
1250	1400	620	910	910	1230	1230	1560	1560	2000	2000	2450
1400	1600	680	1000	1000	1350	1350	1720	1720	2200	2200	2700
1600	1800	750	1110	1110	1500	1500	1920	1920	2400	2400	2950

**SPHERICAL
ROLLER
BEARINGS**





SPHERICAL THRUST ROLLER BEARINGS

KEC designed type TSR thrust spherical roller bearings to achieve a high thrust capacity with low friction and continuous roller alignment. This bearing type is ideal for operating conditions that experience heavy loads, difficulty in establishing or maintaining housing alignment, or shaft deflection.

Spherical roller thrust bearings are separable single direction acting axial bearings

- Able to accommodate misalignment
- Suitable for high axial and some radial loads
- Relatively high speed ratings
- Series: 29200, 29300, 29400
- Application examples:
 - heavy vertical shafts
 - injection moulding machines
 - etc.

BEARING NUMBER	QTY.PER CARTON	BEARING O.D. (MM)	BEARING BORE (MM)	BEARING WIDTH (MM)	BEARING WEIGHT (KG.)	BASIC LOAD RATING		SPEED RATINGS		FATIGUE LOAD LIMIT
						DYNAMIC (N)	STATIC (N)	OIL (RPM)	GREASE (RPM)	
29412M	13	130	60	42	2.600	345000	915000	2600	1800	114000
29413M	10	140	65	45	3.300	397000	1080000	2400	1700	137000
29414M	8	150	70	48	4.000	449000	1250000	2200	1600	153000
29415M	8	160	75	51	4.900	518000	1430000	2200	1600	173000
29416M	6	170	80	54	5.800	575000	1630000	2000	1500	193000
29417M	5	180	85	58	6.900	633000	1800000	1800	1300	212000
29418M	5	190	90	60	8.100	702000	2000000	1800	1300	232000
29420M	4	210	100	67	11.800	863000	2500000	1600	1100	275000
29422M	3	230	110	73	13.500	1010000	3000000	1400	950	325000
29424M	2	250	120	78	17.500	1170000	3450000	1300	900	375000
29426M	1	270	130	85	22.000	1380000	4050000	1200	850	430000
29428M	1	280	140	85	23.000	1400000	4300000	1200	850	455000
29430M	1	300	150	90	28.000	1610000	5100000	1100	800	520000
29432M	1	320	160	95	33.500	1790000	5600000	1000	750	570000
29434M	1	340	170	103	44.500	2020000	6550000	950	700	640000
29436M	1	360	180	109	52.500	2250000	7350000	900	670	710000

Tolerances for Thrust Bearings

D		° Ts		° T1s		° T2s		° T3s		° T4s	
OVER MM	INCL	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	ISO	
		μm		μm		μm		μm		μm	
-	30	20	-250	100	-250	150	-400	300	-400	-	-
30	50	20	-250	100	-250	150	-400	300	-400	-	-
50	80	20	-300	100	-300	150	-500	300	-500	20	-300
80	120	25	-300	150	-300	200	-500	400	-500	25	-300
120	180	25	-400	150	-400	200	-600	400	-600	25	-400
180	250	30	-400	150	-400	250	-600	500	-600	30	-400
250	315	40	-400	-	-	-	-	-	-	40	-400
315	400	40	-500	-	-	-	-	-	-	40	-500
400	500	50	-500	-	-	-	-	-	-	50	-500
500	630	60	-600	-	-	-	-	-	-	60	-600
630	800	70	-750	-	-	-	-	-	-	70	-750
800	1000	80	-1000	-	-	-	-	-	-	80	-1000
1000	1250	100	-1400	-	-	-	-	-	-	100	-1400
1250	1600	120	-1600	-	-	-	-	-	-	120	-1600

SPHERICAL THRUST ROLLER BEARINGS



Tolerances for Thrust Bearings

d, D		Normal, P6, P5			Normal	P6	P5	Normal, P6, P5			
		Δ_{dmp}		Vdp	$S_i^{1)}$	$S_i^{1)}$	$S_i^{1)}$	Δ_{dmp}		Vdp	Se
OVER	INCL	HIGH	LOW	Max.	Max.	Max.	Max.	HIGH	LOW	Max.	Max.
MM		μ		μm	μm	μm	μm	μm		μm	
-	18	0	-8	6	10	5	3	0	-11	8	Values are identical to those for shaft washer of the same bearing.
18	30	0	-10	8	10	5	3	0	-13	10	
30	50	0	-12	9	10	6	3	0	-16	12	
50	80	0	-15	11	10	7	4	0	-19	14	
80	120	0	-20	15	15	8	4	0	-22	17	
120	180	0	-25	19	15	9	5	0	-25	19	
180	250	0	-30	23	20	10	5	0	-30	23	
250	315	0	-35	26	25	13	7	0	-35	26	
315	400	0	-40	30	30	15	7	0	-40	30	
400	500	0	-45	34	30	18	9	0	-45	34	
500	630	0	-50	38	35	21	11	0	-50	38	
630	800	0	-75	55	40	25	13	0	-75	55	
800	1000	0	-100	75	45	30	15	0	-100	75	
1000	1250	0	-125	95	50	35	18	0	-125	95	
1250	1600	0	-160	120	60	40	25	0	-160	120	
1600	2000	0	-200	150	75	-	-	0	-200	150	
2000	2500	0	-250	190	90	-	-	0	-250	190	

BEARING DATA GENERAL SYMBOLS

- d - nominal bore diameter

Δ_{da} - deviation of single bore diameter from the nominal

Δ_{dm} - deviation of mean bore diameter from the nominal

Δ_{dmp} - deviation of mean bore diameter at the theoretical large end of a taper bore from the nominal

Δ_{di} - deviation of single inner ring width from the nominal

Δ_{dm} - single width of inner ring for paired mounting

V_{di} - Inner ring width variation

K_{di} - radial runout of assembled bearing inner ring

S_{di} - side face runout of assembled bearing inner ring

D - nominal outside diameter

Δ_{Do} - deviation of single outside diameter from the nominal

Δ_{Dm} - deviation of the mean outside diameter from the nominal

V_{Do} - outside diameter variation

Δ_{Di} - deviation of single outer ring width from the nominal
- Δ_{Do} - single width of outer ring for paired mounting

V_{Do} - outer ring width variation

K_{Do} - deviation of single outside diameter from the nominal

S_{Do} - side face runout of assembled bearing outer ring

Δ_{Di} - deviation of single width of taper roller bearing from the nominal

SPHERICAL
THRUST
ROLLER
BEARINGS





TAPPER ROLLER BEARING

The inner and outer ring raceways and rollers of this type of bearing are made with a taper so that the planes of the surfaces of the raceways and roller axis meet at a point.

The rollers are guided by the cone (inner ring) back face rib.

A single-row Tapered roller bearing can support a combined radial and axial load.

If either a radial load or bi-directional axial load is to be carried, a pair of bearings must be used in a “face-to-face” or “back-to-back” position.

Tapered roller bearings are separable into the components:

outer ring, inner ring and roller assembly.

The non-separable inner ring and roller assembly is called the “cone”,

and the outer ring is called the “cup”.

Internal clearance is established during mounting by the axial positioning of the cone relative to the cup.

This bearing type can be used in a preload situation to obtain higher rigidity and better running accuracy of the shaft.

BEARING NUMBER	QTY.PER CARTON	BEARING O.D. (MM)	BEARING BORE (MM)	BEARING WIDTH (MM)	BEARING WEIGHT (KG.)	BASIC LOAD RATING		SPEED RATINGS		FATIGUE LOAD LIMIT
						DYNAMIC (N)	STATIC (N)	OIL (RPM)	GREASE (RPM)	
30204	120	47	20	15.25	0.122	27500	28000	11000	8000	3000
30205	120	52	25	16.25	0.151	30800	33500	10000	7500	3550
30206	120	62	30	17.25	0.227	40200	44000	8500	6300	4800
30207	65	72	35	18.25	0.314	51200	56000	7000	5300	6200
30208	65	80	40	19.75	0.409	61600	68000	6300	4800	7650
30209	60	85	45	20.75	0.467	66000	76500	6000	4500	8650
30210	55	90	50	21.75	0.53	76500	91500	5600	4300	10400
30211	40	100	55	22.75	0.71	89700	106000	5000	3800	12200
30212	30	110	60	23.75	0.876	99000	114000	4500	3400	13400
30213	19	120	65	24.75	1.086	114000	134000	4000	3000	16300
30214	17	125	70	26.25	1.214	125000	156000	4000	3000	18300
30305	120	62	25	18.25	0.252	44600	43000	9000	6700	4800
30306	65	72	30	20.75	0.38	56100	56000	7500	5600	6400
30308	55	90	40	25.25	0.714	85800	95000	6000	4500	11000
30309	40	100	45	27.25	0.97	108000	120000	5300	4000	14600
30310	30	110	50	29.25	1.25	125000	140000	4800	3600	17000
30311	19	120	55	31.5	1.55	142000	163000	4300	3200	19600
30312	17	130	60	33.5	1.928	168000	196000	4000	3000	23600
30313	15	140	65	36.00	2.4	2250000	228000	3600	2600	27500
30314	12	150	70	38.00	2.9	2250000	260000	3400	2400	31000

TAPPER ROLLER BEARING



BEARING NUMBER	QTY.PER CARTON	BEARING O.D. (MM)	BEARING BORE (MM)	BEARING WIDTH (MM)	BEARING WEIGHT (KG.)	BASIC LOAD RATING		SPEED RATINGS		FATIGUE LOAD LIMIT
						DYNAMIC (N)	STATIC (N)	OIL (RPM)	GREASE (RPM)	
32011	55	90	55	23	0.56	80900	116000	5300	4000	13200
32013	40	100	65	23	0.63	84200	127000	4500	3400	14300
32017	17	130	85	29	1.35	140000	224000	3400	2400	25500
32019	12	145	95	32	1.85	168000	270000	3200	2200	30500
32020	12	150	100	32	1.9	172000	280000	3000	2000	31500
32206	120	62	30	21.25	0.28	50100	57000	8500	6300	6500
32207	65	72	35	24.25	0.43	66000	78000	7000	5300	8650
32208	65	80	40	24.75	0.554	74800	86500	6300	4800	9800
32209	60	85	45	24.75	0.597	80900	98000	6000	4500	11200
32210	55	90	50	24.75	0.6	82500	100000	5600	4300	11600
32211	40	100	55	26.75	0.823	106000	129000	5000	3800	15000
32212	30	110	60	29.75	1.129	125000	160000	4500	3400	19000
32213	19	120	65	32.75	1.488	151000	193000	4000	3000	23200
32214	17	125	70	33.25	1.581	157000	208000	3800	2800	24500
32215	17	130	75	33.25	1.653	161000	212000	3600	2600	25000
32216	15	140	80	35.25	2.012	187000	245000	3400	2400	28500
32217	12	150	85	38.5	2.574	212000	285000	3200	2200	33500
32218	10	160	90	42.5	3.355	251000	340000	3000	2000	38000
32219	8	170	95	45.5	4.05	281000	390000	2600	1800	42500
32220	7	180	100	49	4.9	319000	440000	2600	1800	48000
32222	5	200	110	56	7.1	402000	570000	2400	1700	61000
32224	3	215	120	61.5	9.15	468000	695000	2200	1600	72000
32226	3	230	130	67.75	11.5	550000	830000	2000	1500	85000
32228	2	250	140	71.75	14.5	644000	1000000	1900	1400	100000
32230	1	270	150	77	17.5	737000	1140000	1700	1200	112000
32232	1	290	160	84	23	880000	1400000	1600	1100	132000
32305	65	62	25	25.25	0.36	60500	63000	8000	6000	7100
32307	32	80	35	32.75	0.73	95200	106000	6300	4800	12200
32308	32	90	40	35.25	1.028	117000	140000	5300	4000	16300
32309	25	100	45	38.25	1.356	140000	170000	4800	3600	20400
32310	18	110	50	42.25	1.828	172000	212000	4300	3200	24500
32311	13	120	55	45.5	2.3	198000	250000	4000	3000	29000
32312	11	130	60	48.5	2.85	229000	290000	3600	2600	34000
32313	7	140	65	51	3.45	264000	335000	3400	2400	40000
32314	6	150	70	54	4.3	297000	380000	3200	2200	45000
32315	5	160	75	58	5.2	380000	440000	3000	2000	51000
32316	5	170	80	61.5	6.2	380000	500000	2800	1900	51000
32317	5	180	85	63.5	6.85	391000	560000	2600	1800	57000
32318	3	190	90	67.5	8.4	457000	610000	2400	1700	67000
32319	3	200	95	71.5	9.8	501000	670000	2400	1700	72000
32320	3	215	100	77.5	12.5	572000	780000	2200	1600	83000
32322	2	240	110	84.5	16.5	627000	830000	1900	1400	86500
32322	1	260	120	90.5	21.5	792000	1120000	1800	1300	10000



TAPPER ROLLER BEARING

INNER RING

d		Δ_{dmp}		Δ_{Bs}		Δ_{ts}		V_{dp}	K_{ia}
over	incl	high	low	low	high	low	high	min.	Max.
mm		μ		μ		μ		μ	μ
10	18	0	-12	0	-120	0	200	12	15
18	30	0	-12	0	-120	0	200	12	18
30	50	0	-12	0	-120	0	200	12	20
50	80	0	-15	0	-150	0	200	15	25
80	120	0	-20	0	-200	-200	200	20	30
120	180	0	-25	0	-250	-250	350	25	35
180	250	0	-30	0	-300	-250	350	30	50
250	315	0	-35	0	-350	-250	350	35	60

OUTER RING

D		Δ_{dmp}		Δ_{cs}		V_{dp}	K_{ea}
over	incl	high	low	low	high	Min.	max.
mm		μ		μ		μ	μ
18	30	0	-12	Values are identical to those for Inner Ring of same bearing		12	18
30	50	0	-14			14	20
50	80	0	-16			16	25
80	120	0	-18			18	35
120	150	0	-20			20	40
150	180	0	-25			25	45
180	250	0	-30			30	50
250	315	0	-35			35	60

BEARING DATA GENERAL SYMBOLS

d - nominal bore diameter

Δ_{ds} - deviation of single bore diameter from the nominal

Δ_{dmp} - deviation of mean bore diameter from the nominal

Δ_{dtmp} - deviation of mean bore diameter at the theoretical large end of a taper bore from the nominal

Δ_{Bs} - deviation of single inner ring width from the nominal

Δ_{Bts} - single width of inner ring for paired mounting

V_{bs} - inner ring width variation

K_{ia} - radial runout of assembled bearing inner ring

S_{ia} - side face runout of assembled bearing inner ring

D - nominal outside diameter

Δ_{Ds} - deviation of single outside diameter from the nominal

Δ_{Dmp} - deviation of the mean outside diameter from the nominal

V_{dp} - outside diameter variation

Δ_{cs} - deviation of single outer ring width from the nominal

Δ_{cts} - single width of outer ring for paired mounting

V_{cs} - outer ring width variation

K_{ea} - deviation of single outside diameter from the nominal

S_{ea} - side face runout of assembled bearing outer ring

Δ_{ts} - deviation of single width of taper roller bearing from the nominal

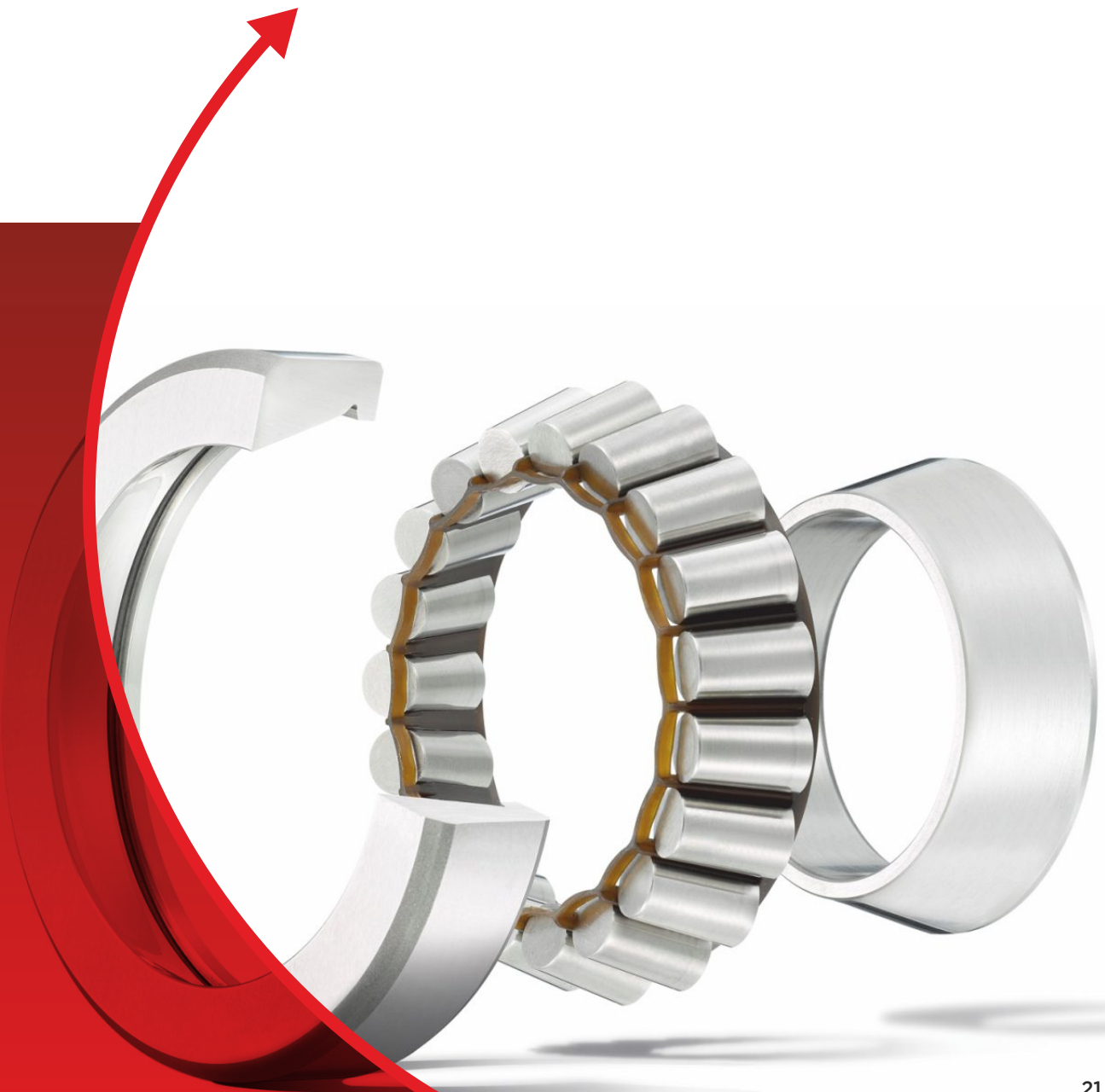
TAPPER ROLLER BEARING



We are manufacturing inch sized taper roller bearings as per customer requirement. Below are our various variants of taper roller bearings available with us.

1. Double Row taper roller bearings
 - a. Double outer ring
 - b. Double inner ring
 - c. Double raw non-adjustable bearings
2. Four raw taper roller bearings
3. Special Assemblies

We are manufacturing all above taper roller bearings with various tolerance class and precision to fulfil customer Requirements.



APPLICATIONS



Steel
Plants



Vibrating/
ShakerScreen



Heavy
Machineries



Pinion
Stands



Rolling
Mills



Sugar
Mills



Reduction
GearBox



Defence
Equipments



Ginning
Mills



Earth Moving
Machineries



Mining
Equipment



Jaw
Crusher



Heavy
Generators



Pulverizers



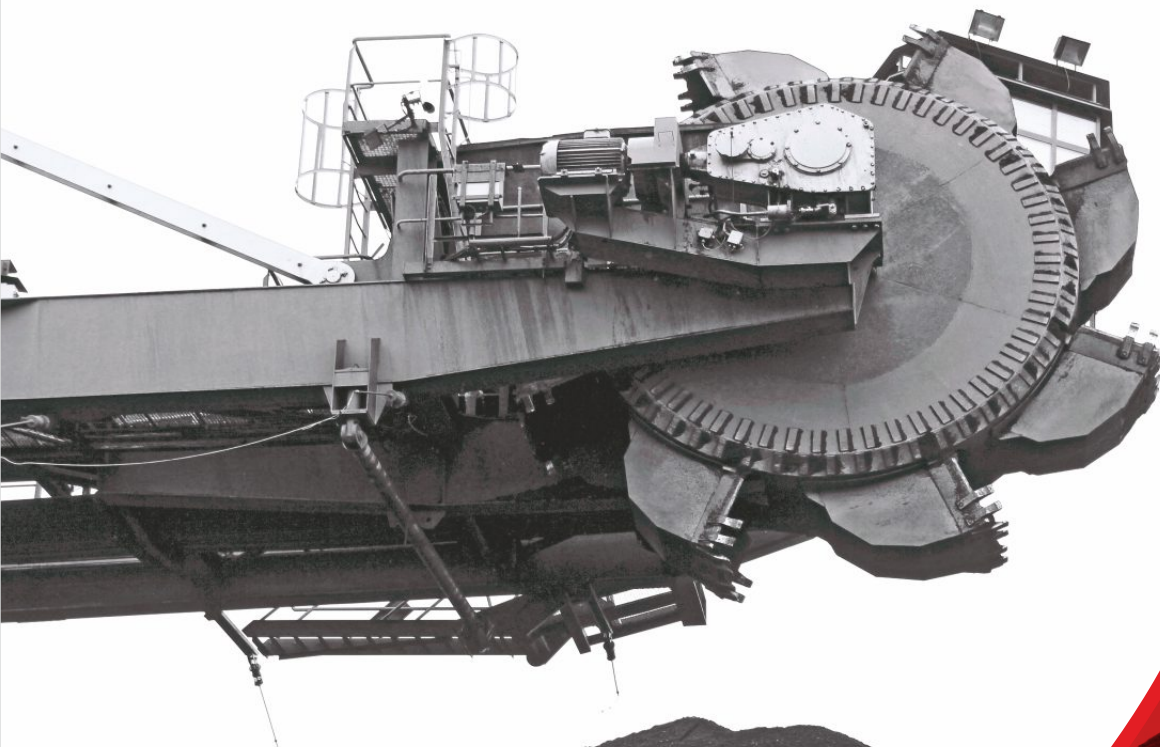
Hammer
Mill



Oil
Mills



Railway
Equipments



ALSO MANUFACTURING

The spherical plain bearings GE series are single-open outer rings, and the GE...ES series inner and outer rings have oil holes and oil grooves. Can withstand radial loads and small axial loads in either direction. The material is generally the inner ring is hardened bearing steel and the outer ring is bearing steel.

We are manufacturing both the variants in plain spherical bearings like Open and 2RS. our products range varies from GE 12 to GE 300 with open and 2 RS variants in plain spherical bearings with at most precision level.



**SPHERICAL
PLAIN
BEARINGS**



Construction of this roller bearing type is the simplest of all radial roller bearings. This bearing type is often used in high-speed applications because the inner ring, outer ring, and rollers are in line contact, this bearing type has a large radial load capacity. Various Cylindrical roller bearing configurations are:

N,NJ,NF,NU,RNU : integral ribs (flanges) | **NH,NP,NUP,NUH** : integral and loose ribs | **NN,NNU** : double-row bearings

Configurations having integral flanges or loose ribs on both the inner and outer rings can sustain a small amount of axial load. Since this bearing type supports axial loads as sliding action between the end of the rollers and flange faces, axial loading is limited.

We are also providing customized cylindrical roller bearings for various specific applications as per customer requirement and drawings.



CYLINDRICAL ROLLER BEARINGS



All bearings are very unique in their construction and have special capabilities to carry loads. Ball bearings have a niche area in the field of bearings. It is common for every bearing to be named based on its rolling element and the same applies to the ball bearings. Here the rolling elements are nothing but “Spherical balls”. Ball bearings are also called as “Deep groove Ball bearing” because of their constructional aspects. The balls are made to run in deep grooves formed in the inner race and outer race of the bearing.

Ball bearing has a good capability to run at high speeds but average in carrying loads. Ball bearings are capable of carrying good amount of radial loads but axial loads can be carried only to an extent. Hence these bearings are not used in applications that require heavy axial load to be carried.

Ball bearings are available in all the variants like Open, ZZ, 2 RS etc. and all the clearance like Normal, C3 etc. we are also providing bearings with various RPM as per specific application like 1400 RPM, 2800 RPM etc.



BALL BEARINGS



KEC Bearings operates technology centers around the world dedicated to developing innovative concepts & products that help you operate more efficiently. Our technical leadership and customer support reach far beyond our products. KEC Bearings customers have access to sales and service engineering support at their plants, and options for additional support from application engineers who specialize in a variety of industrial applications.





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MANUFACTURED BY:

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