



YOUR PARTNER FOR INDUSTRY



Contact
KINEX BEARINGS, a.s.
1. maja 71/36
014 83 Bytca
Slovakia

www.kinex.sk



KINEX BEARINGS
AEROSPACE BEARINGS AND COMPONENTS



MORE THAN 100 YEARS EXPERIENCES
IN ENGINEERING AND BEARINGS PRODUCTION



KINEX BEARINGS
YOUR PARTNER IN DEVELOPMENT OF ADVANCED
MOTION SOLUTIONS



INTRODUCING THE COMPANY

KINEX BEARINGS has long been recognized as a premier bearing producer internationally. The group's success is based on the superior quality of the products and production process, great innovative force and its ability to react quickly to customer's special requirements.

RELIABLE PARTNER IN CREATION OF NEW MOTION SOLUTIONS

- ▶ Leading supplier of bearings for aerospace industry
- ▶ European leader in cylindrical bearings for railways
- ▶ One of the TOP European players in bearings for industrial applications
- ▶ One of the world's TOP suppliers of bearings for automotive water pumps
- ▶ World's No.1 supplier of special bearings for textile machinery
- ▶ Sales subsidiaries KINEX USA and KINEX SHANGHAI

HISTORY SINCE 1906...

Since their foundation, the manufacturing facilities of KINEX BEARINGS went through continuous development and the production of bearings has been stabilized technologically and organizationally. KINEX BEARINGS with its large-scale resources becomes the important world known producer of rolling bearings.

- 1906 Founding of the first plant in Bytca
- 1948 Founding of the plant in Kysucke Nove Mesto
- 1964 Beginning of the production of aerospace and special bearings for various aerospace industry applications
- 1990 Starting production of DV2 jet engine bearings
- 1996 KINEX , a.s. classified into HTC Holding, a.s.
- 1996 Starting production of starter generators bearings
- 2008 Investment in new production plant NADCAP certification
- 2009 GE H80 Turboprop engine bearings
- 2011 Aero components production
- 2012 Helicopters transmission bearings

PRODUCT RANGE

BEARINGS

OEM BEARINGS (FAA / EASA)

Turboprop and jet engines complete kit bearings
 Starter generator bearings
 APU bearings
 Helicopters transmission bearings
 Accessories bearings

COMPONENTS

OEM COMPONENTS (FAA / EASA)

Turboprop and Jet Engines parts
 Airframe parts

AFTERMARKET COMPONENTS (FAA-PMA) COMPONENTS (FAA-PMA)

PMA spare parts



SERVICES

NON-DESTRUCTIVE TESTING

Magnetic Particle Inspection MPI
 Eddy Current Testing EDDY
 Fluorescent Penetration Inspection FPI
 Temper Etch – TE NITAL ETCH

HEAT TREATMENT

Approved by: Honeywell, Rolls Royce, Safran

R&D

In-House development of new, technologically and economically advanced products and solutions

TESTING

Evaluation of bearing vibration levels



APPLICATIONS

OF AEROSPACE BEARINGS

KINEX - AEROSPACE DIVISION

Major objectives of KINEX Aerospace Division are to offer advanced solutions in High-Precision and special bearings, as well as to provide our technical expertise to the aerospace industry. KINEX Aerospace Division is fully integrated enterprise including R&D, Engineering, Production, Sales and customer service activities.

Modern manufacturing facilities of bearings for applications used in aerospace industry follow special technical, production and quality standards. It is equipped state-of-the-art equipment which satisfy strict standards and requirements for aerospace industry manufacturing. In addition to aerospace bearings production, KINEX holds all latest certifications according to international standard AS 9100 also for heat treatment process Together KINEX provides complex services in special processes for the aerospace industry by special inspection equipment – MPI, FPI, Eddy Current and Temper Etch.

SAMPLE APPLICATIONS

Starter - generators for aircraft industries

Radial deep groove ball bearings with seals with permanent filling.

Military Jet Trainers

Main engine rotors bearings, housing for drivers, rotary parts of reducer, auxiliary power units, starter-generators units, air conditioning systems, hydraulic and fuel pumps.

Commuter Turboprops

Main engine rotors bearings, housing for drivers, rotary parts of reducer, auxiliary power units, starter-generators units, air conditioning systems, hydraulic and fuel pumps.

Helicopters

Main tail rotor gearbox, auxiliary power units, starter-generators units, air conditioning systems, hydraulic and fuel pumps.

THE PRODUCT PORTFOLIO FOR AEROSPACE INDUSTRY

- Single-row ball bearings
- Single-row angular contact ball bearings
- Single-row multipoint contact ball bearings
- Single-row cylindrical roller bearings
- Single-row cylindrical roller bearings (without outer or inner ring)
- Special PLC type bearings
- Hybrid bearings
- Double-row angular contact ball bearings

Currently produced bearings range from d= 5 mm to D= 200 mm



QUALITY MANAGEMENT

QUALITY CERTIFICATES

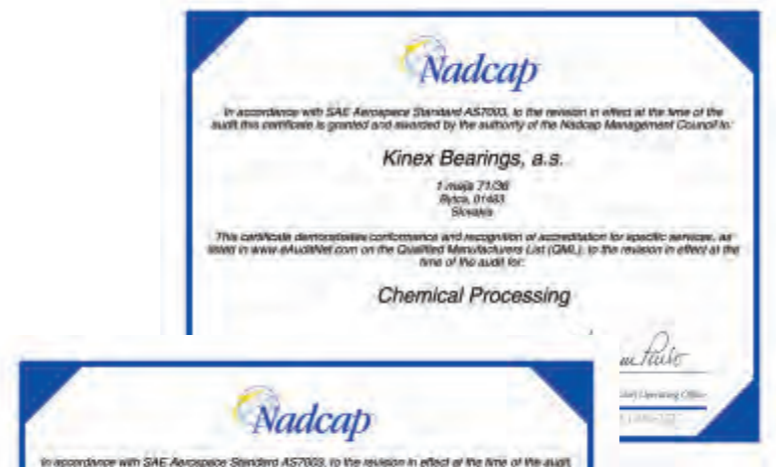
- // ISO 9001
- // ISO/TS 16949
- // AS 9100
- // IRIS
- // ISO 14001
- // OHSAS 18001
- // Nadcap AC7102
- // Nadcap AC7108
- // Nadcap AC7114
- // GOST-R

HEART OF QUALITY FOR AEROSPACE BEARINGS ARE SPECIAL PROCESSES

Temper Etch - NITAL ETCH	Fluorescent Penetration Inspection - FPI	Heat Treatment	Eddy Current Testing - EDDY	Magnetic Particle Inspection - MPI
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» KINEX PROVIDES COMPLEX SERVICES IN SPECIAL PROCESSES FOR AEROSPACE INDUSTRY AREA BY SPECIAL INSPECTION EQUIPMENTS



MATERIAL SPECIFICATIONS

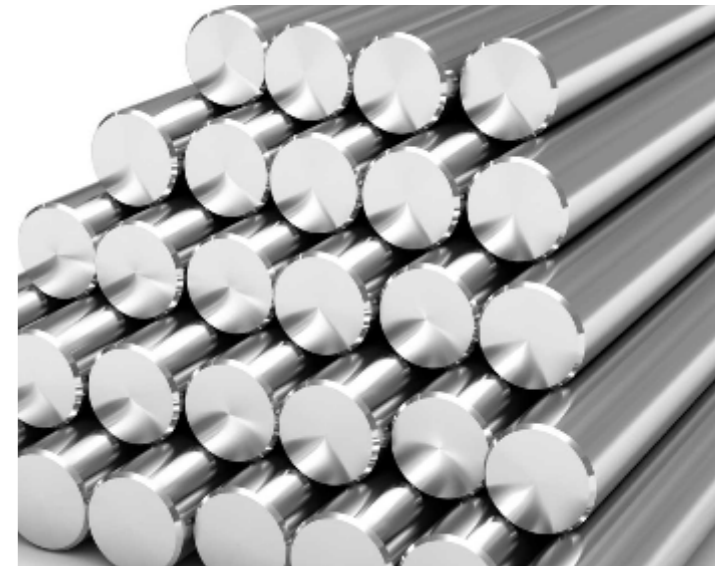
MATERIAL PARTS

Rings and rolling elements

- » Standard production: Vacuum melted or remelted 52100 VIM (VAR), M50 VIM (VAR), 440C VIM (VAR)
- » According customers request: Double melted (M50 VIM/VAR, 52100 VIM/VAR) For hybrid bearings - Si3N4 (ceramic balls) ISO 3290-2

Cages

- » Steel plates, brass plates, textit, brass, aluminium bronze
- » Cages can have treated surface by silver



KINEX RAW MATERIAL SUPPLIERS FOR AEROSPACE INDUSTRY

Material for rings, cages and rolling elements

- » OVAKO HELLEFORS AB, SE
- » Aubert&Duval, FR
- » ROLLED ALLOYS Ltd, DE
- » MONTAN OCEL, CZ
- » SPHERIC TRAFALGAR, UK
- » SKF Eurotrade, SE
- » ZP Gumet, PL
- » RUBENA, CZ
- » Winsted Precision Ball, US

Grease

- » KLUBER LUBRICATION AUSTRIA, AT
- » KLH, SK
- » KRYTOX, US
- » MOBILGREASE, US



SPECIAL PROCESSES

HEAT TREATMENT

VACUUM HEAT TREATMENT

- Hardening with gas circulation – steel class 17 and 19
- Hardening with oil – steel class 13, 14, 15, 16, 17 a 19
- Annealing in protective atmosphere or vacuum
- Vacuum soldering of metal parts
- Different sorts of heat treatment in protective atmosphere or vacuum
- Heat Treatment of Cobalt and Nickel Alloys

AIR HEAT TREATMENT

- Annealing in air atmosphere



SPECIAL PROCESSES

FLUORESCENT PENETRATION INSPECTION – FPI

Fluorescent Penetration Inspection production line according to requirements AS 9100, ASTM E 1417, Nadcap standards in AC7114/1 for aerospace industry.

➤➤➤ **KINEX AEROSPACE DIVISION IS HOLDER OF AS 9100 AND NADCAP CERTIFICATION FOR HEAT TREATMENT PROCESS**

EDDY CURRENT TESTING – EDDY TREATMENT

Dedicated workplace for Eddy current testing according to AS 9100 standards.

For checking:

- rolling elements – balls and rollers
- raceways of bearing rings

MAGNETIC PARTICLE INSPECTION – MPI

Magnetic Particle Inspection workplace according to requirements AS 9100, ASTM-E-1444 and Nadcap standards in AC 7114/2 for aerospace industry.



TEMPER ETCH – TE (NITAL ETCH)

Dedicated production line for Temper etch inspection according to requirements AS9100, Nadcap AC7108/2 standards.



ADDITIONAL EXPERTISE

CRITICAL COMPONENTS FOR THE AEROSPACE INDUSTRY

AIRCRAFT ENGINE PARTS



- GEARBOX**
- › triple gearwheel
 - › double gearwheel
 - › drive of RPM transducer
 - › generator flange
 - › ATS flange
 - › ATS rotor drive
 - › flange, hand rotating
 - › gearwheel power drive
 - › flange with fittings
 - › covers
 - › grease ring
 - › flange of RPM transducer
 - › flange fuel control unit

- HPC ROTOR**
- › gearwheel HPC

- HPC**
- › nut

- HEAT EXCHANGER**
- › brackets
 - › body sensor

- OIL TANK**
- › elbows

- OIL SUPPLY**
- › flange with fittings

- OIL PACKAGE**
- › socket
 - › gearwheel

- CASE OF LPC**
- › flange
 - › insert
 - › sleeve

- TURBINE SUPPORT VIBRATION ABSORBER**
- › distance rings
- MAIN ENGINE MODULE**
- › suspended eye
- LPT**
- › distance ring
- PIPES (OIL, FUEL, AIR, DRAIN)**
- › fittings
- LABIRINTH TURBINE SEALINGS**
- › honeycomb

SHAFTS



DESIGN AND TESTING OF ROLLING BEARINGS

- › tests of basic dynamic load rating
- › tests of limiting speed
- › mode of operation tests
- › tests of duration for railway vehicles
- › evaluation of vibration level

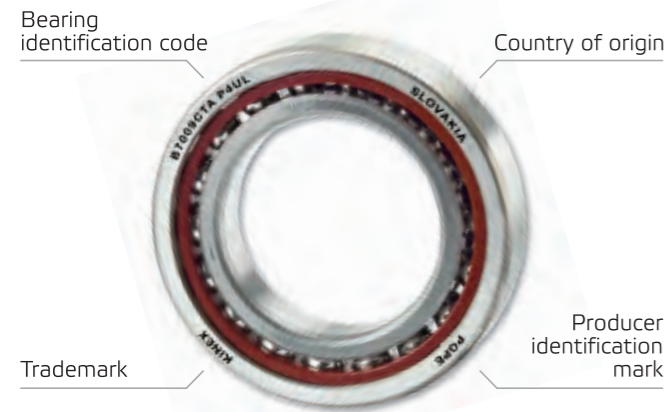


PRODUCTION AREA FOR THE AEROSPACE BEARINGS

KINEX production line for aerospace bearings is equipped with most modern equipments from reputable worldwide producers, which satisfy strict standards and requirements for aerospace industry manufacturing.

New machinery and equipment for production of bearings from $d = 5 \text{ mm}$ to $D = 200 \text{ mm}$

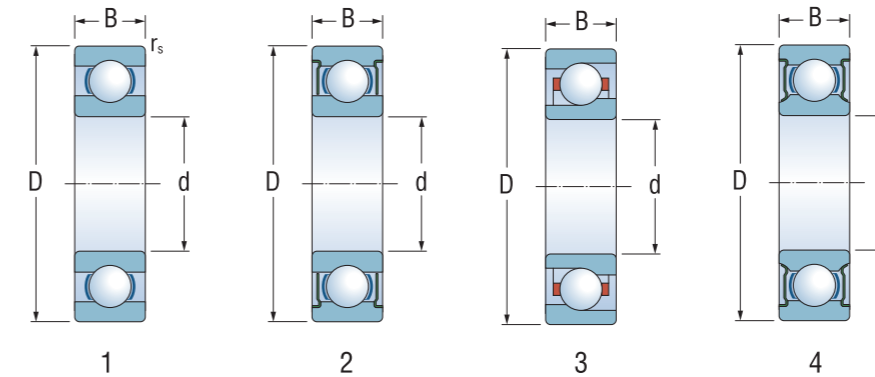
THE MEANING OF SOME SYMBOLS IN DESIGNATION



Symbol	Example of designation	Meaning
C	C 7202	Bearing with ceramic balls
X	CX 7000	Stainless steel
A	A 7000	Outer symmetrical ring
B	B 7000	Inner symmetrical ring
QJ	QJ 219	Multipoint contact bearing with split inner ring
A, C	6001 A, 6200 CA	Difference of intermediate construction
GE	7306 GE	
V	C 7202 V	Full complement rolling bearing (without cage)
ZR	6002 ZR	Metallic shield on one side
2Z	6200-2Z	Metallic shield on both sides
2RS	6204-2RS	Double rubber-metal seal NBR
2RS2	6204-2RS2	Double rubber-metal seal FKM
NX	6006 NX	Snap ring groove in outer ring. Position of snap ring groove not corresponded to ISO 464.
N2	QJ 219 N2	Bearing with two locking grooves in outer ring for arrangement of bearing
J		Pressed cage made of steel sheet (not designated)
Y	623 Y	Pressed brass cage
MA	16001 CMA	Solid brass or bronze cage guided on outer ring
MB	6006 NX MB	Solid brass or bronze cage guided on inner ring
LA	7305 LA	Solid aluminium alloy cage guided on outer ring
TA	62204-2RS2 TA	Cage made of special textite guided on outer ring
P6, P5, P4	623 P5, P4	Accuracy corresponds to ISO 492
G3	QJ 219 N2 MAC3	Axial clearance in bearing – only in character configuration with QJ
3	6200-2Z P53	
4	6204 CMA P544	Radial clearance – always with character of accuracy
5	6304 CMA P55	
7	X 6234 P57	
8	6001 P68	Degree of operation safety - always with character of accuracy or radial clearance
9	6004 MA P638	
SO	63204-2RS2 P439SO	Stabilization for operation at temperature up to 150 °C
S1	6204 CMA P548S1	Stabilization for operation at temperature up to 200 °C
TWH	6204-2RS P439 S0 TWH	Type of plastic grease
TWB	6206-2RS P59 S0 TWB	Type of plastic grease
TWE	63204-2RS2 P4R23-33C9S1 TWE	Type of plastic grease
PLC	PLC 09-6	Symbol for special rolling bearing with dimensions not corresponding to ISO 15
TPF	6001 P68 TPF 337	Symbol for special technical terms agreed upon with the customer. Always with number of conditions and
TPFK	6004 TPFK 375	Symbol for special technical terms agreed upon with the customer. Always with number of conditions and for different design. In usage of this symbol are no application symbols use.

SINGLE-ROW DEEP GROOVE BALL BEARINGS

d = 5–20 mm



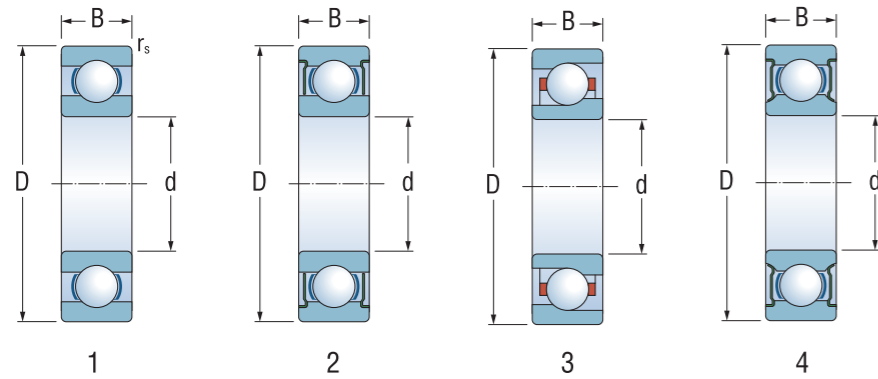
Dimensions			Bearings designation	Basic load rating		Limiting speed for lubrication with		Mass	Fig.
d	D	B		dynamic C _r	static C _r	grease	oil		
mm			kN		min ⁻¹		kg		
5	16	5	625 TPFK 117	1.15	0.735	35 000	42 000	0.047	1
8	22	7	608 P5, P4 *	3.282	1.356	35 000	42 000	0.015	1
			608 TPFK 150 *	1.88	1.340	35 000	42 000	0.015	1
			608 TPFK S-009 *	3.28	1.350	20 500	23 500	0.018	1
10	26	8	6000 TPFK 365	4.13	1.960	28 000	33 000	0.019	1
			6200CMA P49S0 TPF 340	5.62	2.370	25 000	30 000	0.037	1
			6200-2Z P539	5.11	2.660	25 000	-	0.032	2
12	28	7	16001CMA P548S1 TPF 340	4.82	2	25 000	13 000	0.023	1
			6001A P59 TPF 338	5.96	2.240	26 000	32 000	0.022	1
				6001 TPFK 116	3.14	2.240	26 000	32 000	0.022
12.7	32	10	6201A P59 TPF 338	7.94	3.100	22 000	28 000	0.037	1
			6201-2Z TPFK 399	8.02	2.850	22 000	-	0.037	2
				PLC 02-5	3.35	1.920	-	12 000	0.018
15	32	8	16002 P68	6.56	2.51	21 000	25 000	0.027	1
			16002 P68 TPF 337	6.56	2.51	21 000	25 000	0.027	1
			6002A P59 TPF 338	6.56	2.51	21 000	25 000	0.027	1
17	32	8	16002CMA P548S1 TPF 340	4.92	2	21 000	25 000	0.033	1
			6002A P59 TPF 338	6.56	2.51	21 000	25 000	0.030	1
			6202CMA P538S1 TPF 340	7.22	3.16	20 000	26 000	0.053	1
17	35	11	PLC 03-45	8.41	3.35	-	52 000	0.059	3
			6302 TPFK 118	10.4	5.41	-	22 000	0.080	3
			16003 TPFK 375	6.56	2.61	20 000	24 000	0.032	1
17	40	12	6203MA P638	8.91	4.47	17 000	20 000	0.087	1
			6203CMA P449S1 TPF 340	9.09	3.98	17 000	20 000	0.080	1
			63203-2RSR2 P439S1 TWH	9.55	4.77	18 000	-	0.106	2
17	40	17.5	63203-2RSR2 P4R16-29C9S1 TWE	9.55	4.77	18 000	-	0.106	2
			63203-2RSR2 P4R16-29C9S1 TWB	9.55	4.77	18 000	-	0.106	2
			63203-2RSR2 P4R16-30C9S1 TWE	9.55	4.77	18 000	-	0.106	2
17	47	14	6303MA P43S0 TPF 82	11.8	6	14 000	17 000	0.139	1

* produced after agreement with customer



SINGLE-ROW DEEP GROOVE BALL BEARINGS

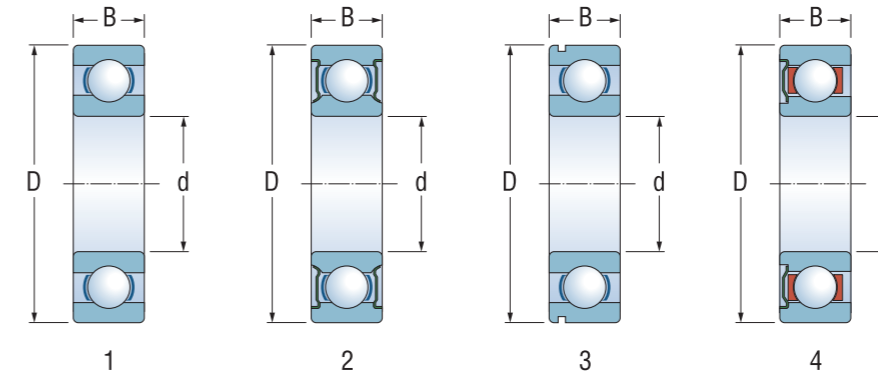
d = 5–20 mm



Dimensions			Bearings designation	Basic load rating		Limiting speed for lubrication with		Mass	Fig.
d	D	B		dynamic C_r	static C_{rr}	grease	oil		
mm			kN		min^{-1}		kg		
20	37	9	61904 TPFK 415	6.56	2.66	-	12 000	0.043	1
	42	12	6004CMA P439S1 TPF 340	8.91	3.89	17 000	20 000	0.082	1
	42	12	6004AMA P439 TPF 338	11	4.47	-	36 300	0.082	1
	42	12	6004 TPFK 375	10.2	4.22	17 000	20 000	0.082	1
	47	14	6204 P59S0	13.9	6.56	15 000	18 000	0.108	1
	47	14	6204CMA P548S1 TPF 340	12.1	5.62	15 000	18 000	0.144	1
	47	14	6204-2RS2 P439S1 TWH	12.1	5.62	10 000	-	0.107	4
	47	14	6204-2RS2 P439S1 TWB	12.1	5.62	10 000	-	0.107	4
	47	18	62204-2RS2TA P539S0 TWH	12.1	5.62	15 000	-	0.140	4
	47	20.6	63204-2RS2 P4R23-33C9S1 TWE	12.8	6.6	10 000	-	0.154	4
	47	20.6	63204-2RS2 P4R23-33C9S1 TWB	12.8	6.6	10 000	-	0.154	4
	47	20.6	63204-2RS2 P439S1 TWH	12.8	6.6	10 000	-	0.154	4
	20	52	15	6304CMA P559S1 TPF 340	15	7.08	14 000	17 000	0.178
52		15	6304LA TPFK 118	15.9	7.8	-	38 000	0.178	1

SINGLE-ROW DEEP GROOVE BALL BEARINGS

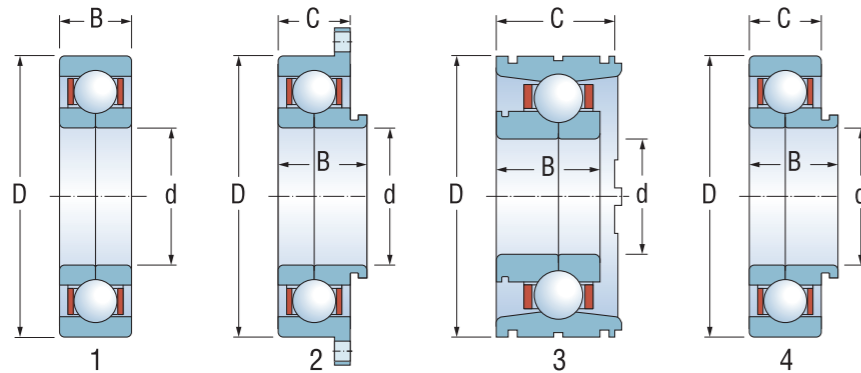
d = 25–110 mm



Dimensions			Bearings designation	Basic load rating		Limiting speed for lubrication with		Mass	Fig.	
d	D	B		dynamic C_r	static C_{rr}	grease	oil			
mm			kN		min^{-1}		kg			
25	47	8	16005 P68	8.1	3.62	14 000	17 000	0.053	1	
	47	8	16005 P68 TPF 337	8.1	3.62	14 000	17 000	0.053	1	
	47	8	16005A P59 TPF 338	8.1	3.62	14 000	17 000	0.059	1	
	47	12	6005 P59S0	10.8	5.84	14 000	17 000	0.082	1	
	47	12	6005A P59 TPF 338	11.7	4.92	14 000	17 000	0.082	1	
	47	12	6005AMA P59 TPF 338	11.7	4.92	14 000	17 000	0.095	1	
	47	12	6005 TPFK 375	11	4.64	14 000	17 000	0.095	1	
	52	15	6205-2RS P639	13.6	7.08	8 400	-	0.128	2	
	52	15	6205 P59S0	15	7.94	12 600	15 000	0.129	1	
	52	15	6205CMA P548S1 TPF 340	14.1	6.68	12 000	15 000	0.159	1	
	52	15	6205-2RS2 P439S1 TWB	14.1	6.68	12 600	15 000	0.129	1	
	62	17	6305LA TPFK 118	20.7	10.4	-	35 000	0.284	1	
	30	55	9	16006CMB P539S1 TPF 340	9.09	4.82	12 000	15 000	0.101	1
		55	9	16006 TPFK S-009	9.63	6.74	12 000	15 000	0.090	1
		55	13	6006NXMB P68	12.8	6.94	12 000	15 000	0.119	3
		62	16	6206-2RS P59S0TWB	21.1	11.2	7 500	-	0.185	2
62		16	6206CMA P548S1 TPF 340	18.5	9.1	11 000	13 000	0.244	1	
72	19	6306LA TPFK 118	26.1	13.3	10 000	28 000	0.427	1		
35	62	9	16007CMA P639S1 TPF 340	9.26	5.11	10 600	13 000	0.130	1	
40	68	9	16008CMA P639S1 TPF 340	12.6	7.08	9 500	12 000	0.150	1	
	90	23	6308LA TPFK 118	36.2	19.2	7 900	21 000	0.770	1	
50	80	10	16010CMA P639S0 TPF 340	13.1	8.1	8 000	9 500	0.212	1	
	110	27	6310MA P44S0 TPF 82	55.7	32.6	6 300	7 500	1.308	1	
55	100	21	6211MA P59	43	25.1	6 700	7 900	0.720	1	
65	120	23	6213MA P639	57.3	34.1	5 300	5 300	1.241	1	
110	175	31	PLC 09-6	82.5	57.3	3 150	-	2.860	4	

SINGLE-ROW MULTIPOINT CONTACT BALL BEARINGS WITH SPLIT INNER RING

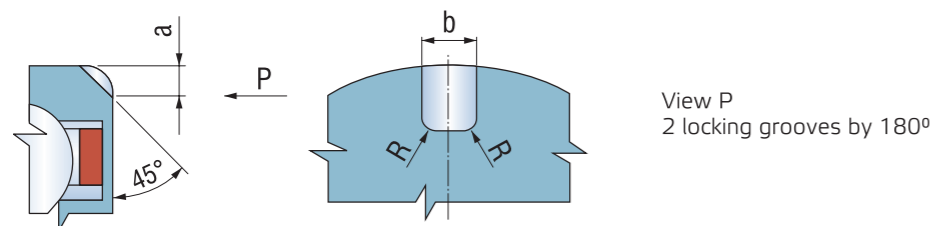
d = 25–35 mm



Dimensions				Bearings designation	Basic load rating		Operating rotation speed	Mass	Fig.
d	D	B	C		dynamic C_r	static C_{rr}			
mm				kN		min ⁻¹	kg		
15	35	11		QJ202 TPFK 323	8.58	3.76	56 000	0.056	1
17	40	12		QJ203 TPFK 374	11.4	4.82	48 000	0.081	1
30	62	16		QJ206 TPFK 329	29.3	15	34 000	0.233	1
	72	29		QJ306 TPFK-11-3	23.7	13.1	30 000	0.420	1
45	100	25		QJ309 TPFK-11-3	48.6	33.1	17 800	0.960	1
65	120	28	23	PLC 08-7-2	68.1	42.2	1 990	1.290	2
95	170	32		QJ219N2MAC3	186	205	4 500	3.350	1
100	165	30	38	PLC 09-10	108	84	19 324	3.580	3
	180	34		QJ220N2MAC3	215	230	4 300	3.950	1
110	170	36	28	PLC 09-9	94.4	81	13 718	2.350	4

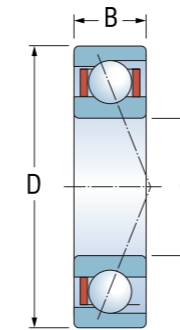
Bearings designation	Axial clearance			Groove dimensions		
	C2	normal µm	C3	a	b	R
					mm	
QJ219	80-100	140-200	180-240	8.1	6.5	1
QJ220	80-100	140-200	180-240	10.1	8.5	2

The bearings "TPFK" and "PLC" have not standardized axial clearance and contact angle of balls with raceways of rings. The bearings have three-point contact. The bearings QJ219 and QJ220 have standardized contact angle $\alpha = 35^\circ$ and standardized axial clearance C3 = 0, 180 v 0, 240 mm. The bearings have four-point contact. Values of axial clearance and dimensions of mounting grooves are in the table. Groove shape is shown in following picture.



SINGLE-ROW ANGULAR CONTACT BALL BEARINGS

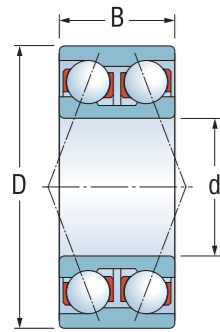
d = 10–60 mm



Dimensions				Bearings designation	Basic load rating		Operating rotation speed	Mass	Fig.
d	D	B	α		dynamic C_r	static C_{rr}			
mm				kN		min ⁻¹	kg		
10	26	8	14	A7000 TPFK 273D	6.07	2.56	75 000	0.021	
	26	8	18	A7000 TPFK 273T	6.07	2.56	75 000	0.021	
15	26	8	14	CX B7000V TPFK 273	4.18	1.76	75 000	0.021	
	35	11	17	7202 TPFK 108	5.89	4.06	51 000	0.047	
15	35	11	19	7202 TPFK 109	3.53	3.55	51 000	0.047	
	35	11	19	C 7202V TPFK 109	2.53	2.55	55 000	0.040	
15	35	11	17	A7202 TPFK 415	8.41	4.06	49 074	0.047	
	35	11	19	X A7202 TPFK 415	5.11	3.55	49 074	0.047	
17	40	12	25	A7203 TPFK 374	11.4	4.08	5 700	0.078	
20	52	15	15	A7304CEMA P4C80M TPF 82	18.5	10	13 000	0.172	
	52	15	26	7304LA TPFK 118	20.6	10.7	38 000	0.175	
25	62	17	15	A7305CEMA P4C80M TPF 82	26.61	5.3	11 000	0.270	
	62	17	26	7305LA TPFK 118	22.4	11.7	34 000	0.270	
25,2	62	17	26	7305X2LA TPFK 118	22.4	11.7	34 000	0.270	
30	72	19	15	A7306CEMA P4C80M TPF 82	36.9	22	9 400	0.413	
	72	19	26	7306LA TPFK 118	27.1	14.7	27 500	0.428	
30	72	19	26	7306 TPFK-11-3	23.7	13.1	30 000	0.410	
	90	23	15	A7308CEMA P4C80M TPF 82	49.2	32.2	7 500	0.741	
40	90	23	26	7308LA TPFK 118	41.4	23.7	22 600	0.746	
	100	25	26	7309 TPFK-11-3	48.6	33.1	17 800	0.950	
45	100	25	26	7309 TPFK 169	49.5	40.3	17 800	0.950	
	100	25	26	7309 TPFK 169	49.5	40.3	17 800	0.950	
50	110	27	26	7310 TPFK 169	63.1	37.6	18 000	1.290	
60	130	31	26	7312 TPFK 169	84.1	51.1	15 000	2.080	

DOUBLE-ROW ANGULAR CONTACT BALL BEARINGS

d = 25–35 mm

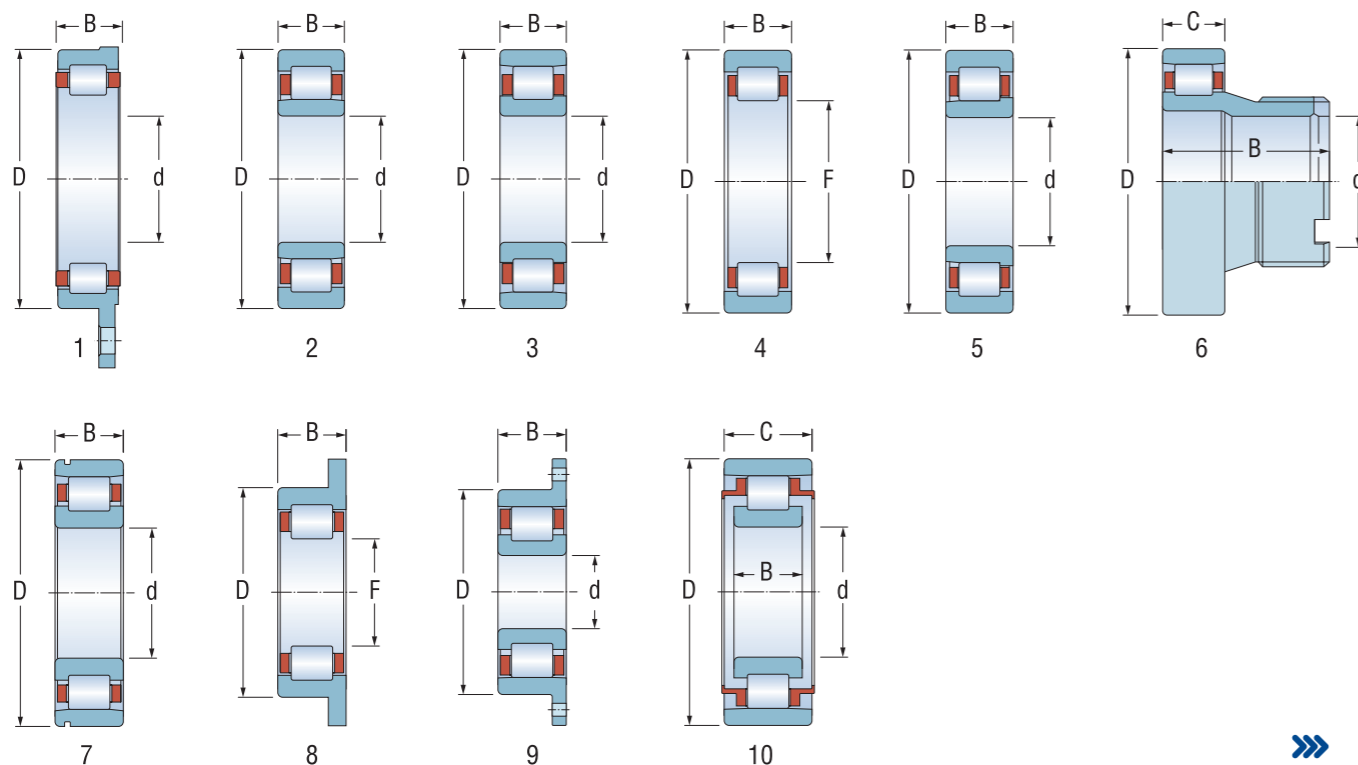


Dimensions			Bearings designation	Basic load rating		Limiting speed for lubrication with		Mass
d	D	B		dynamic C_r	static C_{st}	grease	oil	
mm				kN		min ⁻¹		kg
35	72	27	3207C P69S0*	47.3	37.6	6 000	7 100	0.476

* produced after agreement with customer

SINGLE-ROW CYLINDRICAL ROLLER BEARINGS

d = 13–95 mm



SINGLE-ROW CYLINDRICAL ROLLER BEARINGS

d = 13–95 mm

Dimensions				Bearings designation	Basic load rating		Operating rotation speed	Mass	Fig.
d (F)	D(E)	B	C		dynamic C_r	static C_{st}			
mm					kN		min ⁻¹	kg	
13	27	9.7		PLC 42-7	6.07	2.2	31 000	0.027	1
15	35	11		NU202CMAP P429NAS1 TPF 340	12.6	5.11	52 000	0.047	2
17	40	12		N203 TPFK 326	12.1	7.79	29 700	0.067	3
20	42	12		N1004MAP P439NA TPF 327	14.7	10	36 290	0.080	3
25	47	12		NJ1005MAP P59NA TPF 327	16.5	12	17 000	0.100	5
	52	15		N205 TPFK 335	13.9	10	36 290	0.130	3
	52	15		NJ205 TPFK 376	17.4	6.94	11 000	0.161	5
27	47	14	R	NU204 TPFK 375	14.7	5.84	17 000	0.061	4
28	43	19	7.2	PLC 43-10	7.5	5.11	12 000	0.051	6
30	55	13		NJ1006 TPFK 376	18.1	8.1	17 000	0.143	5
	62	16		N206EMAP P69NAS0 TPF 319	34.8	25.6	2 600	0.200	3
	62	16		N206 TPFK 441	43.8	26	8 650	0.245	3
	62	16		N206 TPFK 320	34.8	25.6	8 650	0.200	3
	62	16		NU206CMAP P529NAS1 TPF 340	26.6	11	9 680	0.232	2
	62.2	16		N206X1 TPFK 320	34.8	25.6	8 650	0.200	3
	62.4	16		N206EX11MAP P69NAS0 TPF 319	34.8	25.6	12 600	0.200	3
	62.4	16		N206X11 TPF 320	34.8	25.6	8 650	0.200	3
35	62	14		N1007 TPFK 332	15.8	14.44	29 700	0.184	3
	72	17		NU207 TPFK 340	27.1	26.6	10 491	0.031	2
36	63			14 PLC 44-4	19.6	12.9	16 000	0.240	8
40	90	30		PLC 46-8-2 123	106	8	650	1.000	7
	90	30		PLC 46-8-4 155	112	8	650	1.004	7
42	62	30	13	PLC 43-19	18.5	15.3	7 500	0.179	6
45	75	16		N1009 TPFK 373	31	13.3	16 600	0.290	3
	100	25		N309 TPFK 169	61.9	39.9	17 800	0.924	3
47	68	15	R	NU1008MA P59S0	27.1	21.2	11 000	0.172	4
50	90	20		PLC 46-11	59.6	25.6	16 000	0.590	9
	110	27		N310 TPFK 169	82.5	68.1	6 700	1.150	3
55	100	21		PLC 46-12	69.4	30.4	5 718	0.791	9
	120	29		PLC 47-9	133	57.3	5 718	1.670	9
60	130	31		N312 TPFK 169	114	96	12 000	1.850	3
70	110	20		NU1014AOMAPR P59S0	58.4	54.1	6 700	0.700	2
75	115	20		N1015MAP P639NA TPF 311	47.3	68.1	6 300	0.740	3
	115	20		N1015 TPFK 312	47.3	68.1	6 300	0.740	3
	115	20		N1015 TPFK 441	81	68.1	2 040	0.770	3
85	120	18	22	PLC 47-7	56.2	64.3	19 400	0.864	10
95	130	18		N1919BMAPR P529NAS1 TPF 422	58.4	63.1	13 718	0.862	3