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Introduction

ABOUT NSK SUPER PRECISION BEARINGS

- Super Precision Angular Contact Bearings
- High Speed Super Precision Angular Contact Bearings
- Super Precision Angular Contact Thrust Bearings
- Super Precision Cylindrical Roller Bearings
- Ball Screw Support Bearings

NSK has developed new methods of manufacturing to produce several series of bearings that meet the ever-increasing needs for higher speeds and greater precision in bearing applications. These Super Precision Bearings include angular contact bearings, precision cylindrical roller bearings and ball screw support bearings.

Super Precision Angular Contact bearings are specifically designed for rigid, high-speed, high-precision machine tool spindles. Their state-of-the-art preload control assures consistent high performance.

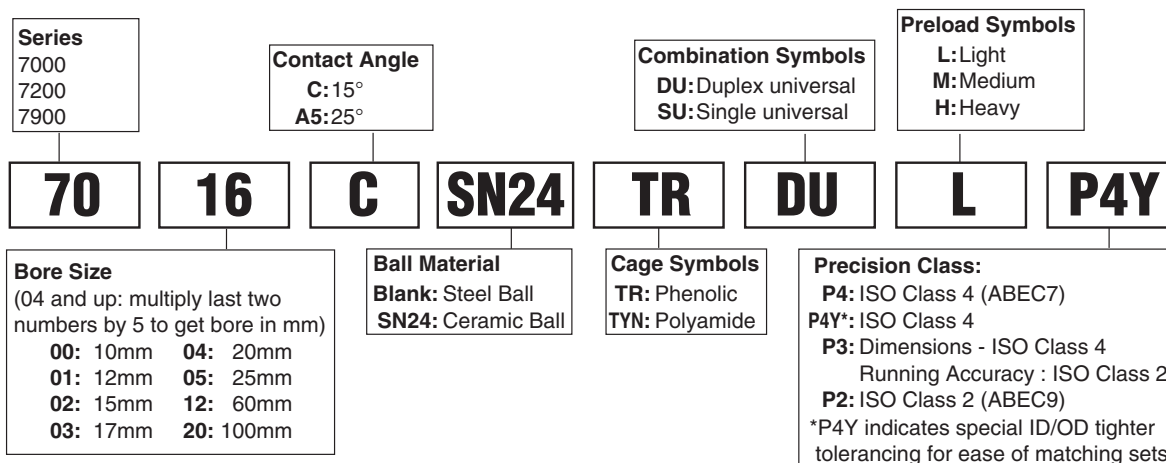
High Speed Super Precision Angular Contact bearings are now available due to NSK's new optimized design, under the ROBUST name. Allowing increased speeds and improved performance, these series are available in application specific designs for machining center applications (BNR), and high speed grinding applications (BGR) – both allowing customers to push the limits of existing speeds. In addition, NSK offers a standard small ball design (BNC) offering higher speeds than the standard super precision angular contact, at less of a cost premium than our robust design.

Super Precision Angular Contact Thrust bearings are designed to work in tandem with high speed super precision cylindrical roller bearings where high speed, and high rigidity are required. Offered in a 30° and 40° series, this offering allows flexibility for meeting the rigidity requirements seen in many machine tool applications.

Super Precision Cylindrical roller bearings are designed to specifically handle large radial loads in high speed applications. They are available in a variety of designs, including double row and single row options, to suit various applications. In addition, a standard lube groove and hole feature is available along with tapered and non-tapered bores. When combined with Super Precision Angular Contact Thrust bearings, the Super Precision Cylindrical meets the high rigidity requirements of many machine tool spindle applications.

Ball Screw Support bearings are designed specifically to provide maximum axial rigidity and improved feeding accuracy for use with precision ball screws. They are high accuracy angular contact thrust bearings, which are superior to combinations of standard angular contact bearings or arrangements of radial and thrust bearings for ball screw applications. Both Metric and Inch series are available.

Nomenclature — Super Precision Angular Contact



Please refer to the bearing tables for exact part number options.

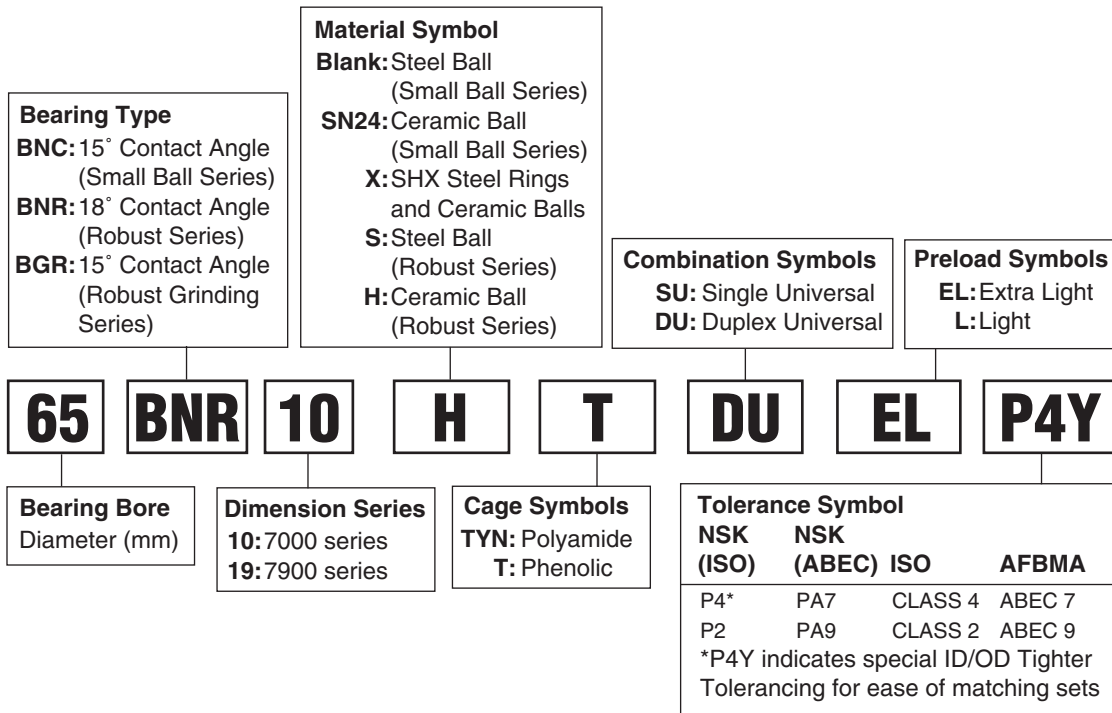
Interchange — Super Precision Angular Contact

DESCRIPTION		INTERCHANGE				
		NSK	SKF	TORR/FAF	BARDEN	NTN
Part Number	EXTRA LIGHT SERIES	70xx	70xx	MM91xxWI	1xx	70xx
	LIGHT SERIES	72xx	72xx	MM2xxWI	2xx	72xx
	ULTRA LIGHT SERIES	79xx	79xx	MM93xxWI	19xx	79xx
	25° CONTACT ANGLE	A5	ACD	*3	*2	--
	15° CONTACT ANGLE	C	CD	*2	BLANK	C
Suffix	POLYAMIDE CAGE	TY	BLANK	BLANK	--	T2
	PHENOLIC CAGE	TR	--	CR	BLANK	T1
	DUPLEX UNIVERSAL	DU	DG	DU	D	GD2
	SINGLE UNIVERSAL	SU	G	SU	BLANK	G
	LIGHT PRELOAD	L	A	L	L	GN
	MEDIUM PRELOAD	M	B	M	M	GM
	HEAVY PRELOAD	H	C	H	H	GH
	ABEC 7 PRECISION	P4, PA7	P4,PA7	MM	BLANK	P4
	ABEC 5 PRECISION	P5, PA5	P5,PA5	V	--	P5
ABEC 9 PRECISION	P2, PA9	P2,PA9	MMX	ABEC 9	P2	

*Prefix

The competitive manufacturers are provided for a convenient source of unit substitution. They can be considered interchangeable in most instances, but for special applications, please consult NSK Engineering. NSK assumes no liability with respect to errors or omissions.

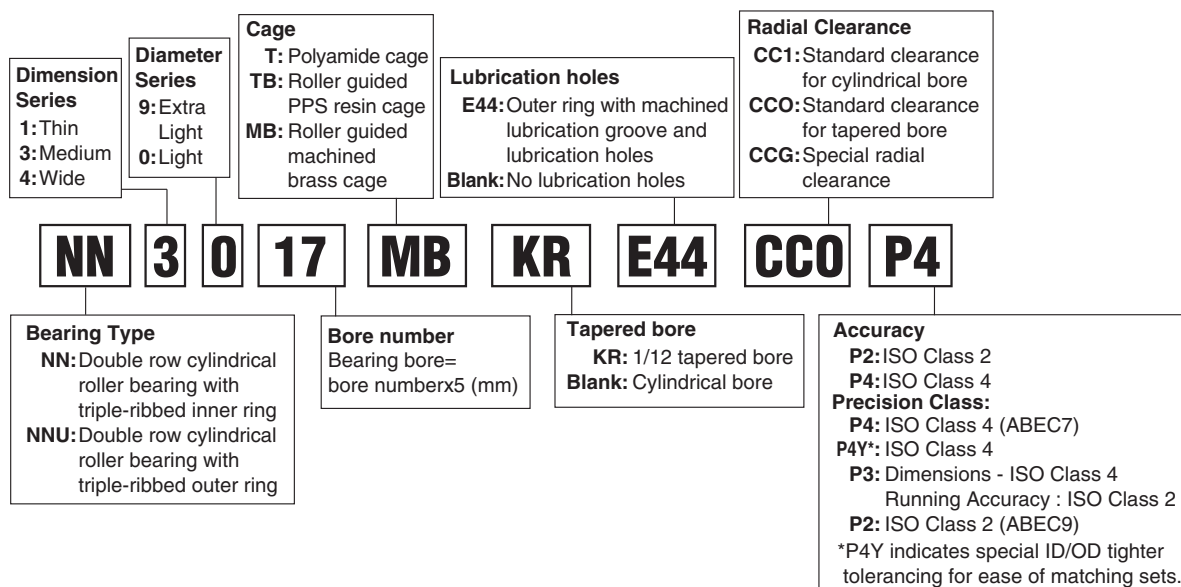
Nomenclature — High Speed Super Precision Angular Contact Ball Bearings



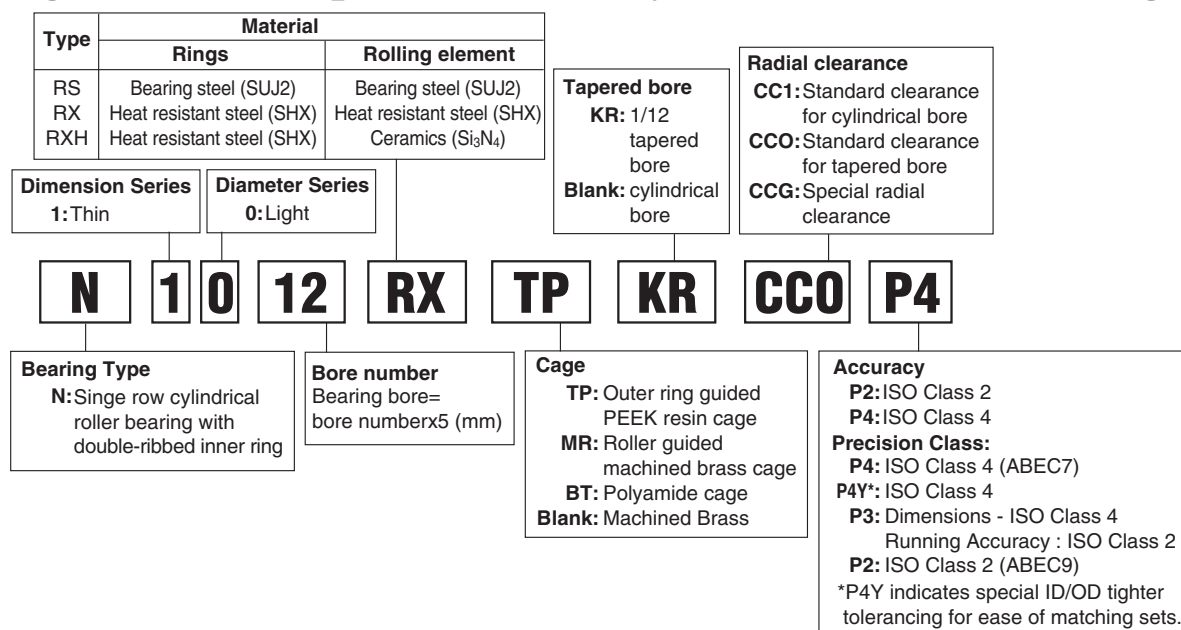
Interchange — Super Precision Angular Contact

DESCRIPTION		INTERCHANGE			
		NSK	SKF	FAG	NTN
Part Number	SMALL BALL SERIES	xxBNC	70xxCE	MMV99	ZSBxx
	ROBUST HIGH SPEED SERIES	xxBNR	--	MMVxxHX	--
	ROBUST HIGH SPEED GRINDING SERIES	xxBGR	--	--	xxBX48
Suffix	POLYAMIDE CAGE	TYN	BLANK	BLANK	--
	PHENOLIC CAGE	T	--	CR	BLANK
	DUPLEX UNIVERSAL	DU	DG	DU	D
	SINGLE UNIVERSAL	SU	G	SU	BLANK
	EXTRA LIGHT PRELOAD	EL	--	--	--
	LIGHT PRELOAD	L	A	L	L
	CERAMIC BALLS	SN24, H	HC	C	C
	ABEC 7 PRECISION	P4	P4, PA7	MM	BLANK
	ABEC 9 PRECISION	P2	P2, PA9	MMX2	ABEC 9

Nomenclature — Super Precision Cylindrical Roller Bearings Double Row — Super Precision Cylindrical Roller Bearings



Single Row — Super Precision Cylindrical Roller Bearings

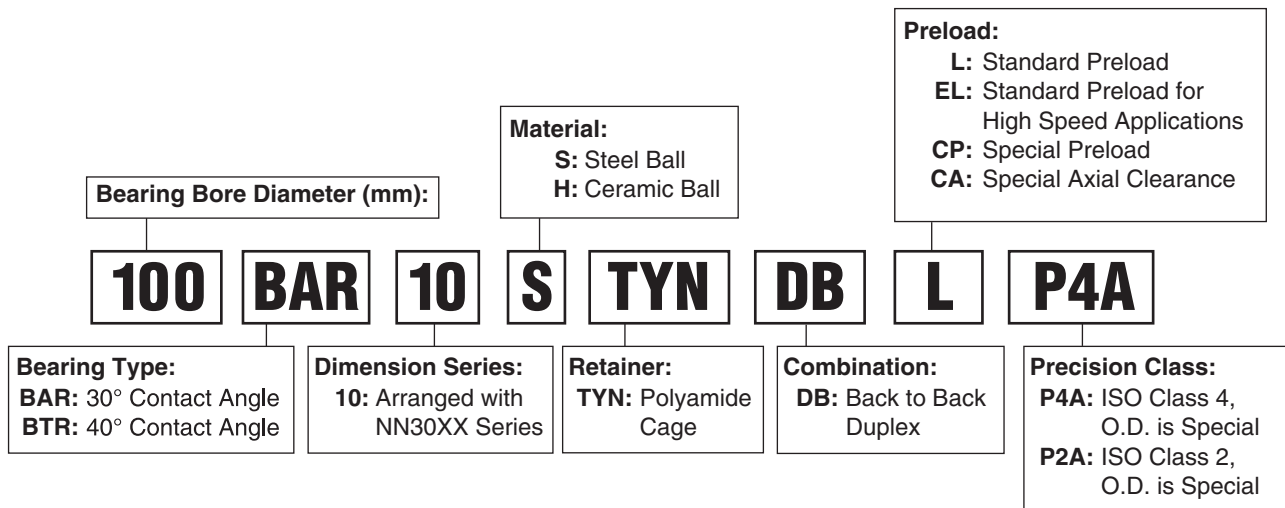


Interchange — Super Precision Cylindrical Roller Bearings

DESCRIPTION		INTERCHANGE			
		NSK	SKF	FAG	NTN
Part Number	DOUBLE ROW, NO FLANGES OUTER RING	NN30xx	NN30xx	NN30xx	NN30xx
	DOUBLE ROW, NO FLANGES OUTER RING	NN39xx	--	--	--
	DOUBLE ROW, NO FLANGES INNER RING	NNU49xx	NNU49xxB	NNU49xx	NNU49xx
	SINGLE ROW, NO FLANGES OUTER RING	N10xx	N10xx	N10xx	N10xx
Suffix	BRASS, MACHINED TWO PIECE, ROLLER GUIDED	MB	--	M	G1
	BRASS, MACHINED ONE PIECE, INNER RING GUIDED	BLANK	M	--	--
	NYLON, MOLDED, ROLLER GUIDED	T	TN	--	--
	SPECIAL PRECISION 1:12 TAPER BORE	KR	UPK	K	K
	LUBE GROOVE WITH HOLES, OUTER RING ONLY	E44	W33	S	--
	PLAIN O.D.	BLANK	W	--	BLANK
	MATCHED CLEARANCE, RINGS NOT TO BE MIXED	CCx	Cx	Cx	CxNA
TOLERANCE CLASS P4	P4	SP	SP	P4	

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Nomenclature — Angular Contact Thrust Ball Bearings

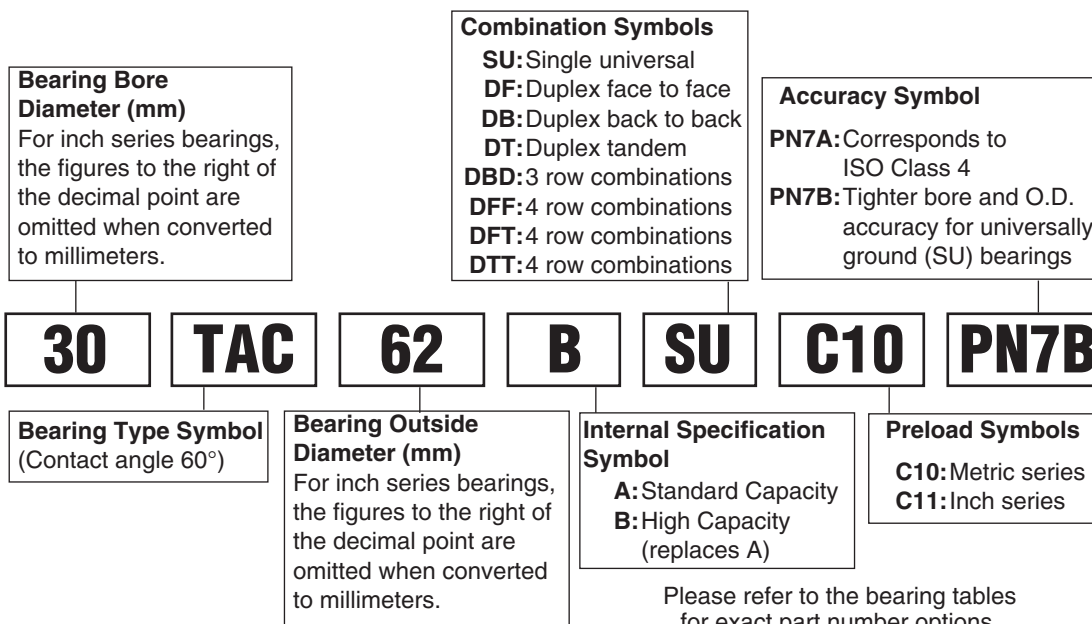


Interchange — Angular Contact Thrust Ball Bearings

DESCRIPTION	INTERCHANGE		
	NSK	SKF	NTN
BAR Series (30°)	80BAR10	BTM80A/DB()	HTA016ADB()
BTR Series (40°)	80BTR10	BTM80B/DB()	HTA016DB()

Undersigned digits (80) vary with bore diameter.
 () indicates clearance.

Nomenclature — Ball Screw Support Bearings



Interchange — Ball Screw Support Bearings

DESCRIPTION		INTERCHANGE				
		NSK	SKF	TORR/FAF	MRC	NTN
Part No.	METRIC TYPE	xxTACxxx	BDAB6342xx	MMxxBSxxx	--	BSTxxXxx
	INCH TYPE	xxTACxxx	BDAB6342xx	MM93xxWI xH	Jxxx	--
Suffix	INTERNAL SPECIFICATIONS (Standard Capacity)	A	--	--	--	X
	INTERNAL SPECIFICATIONS (High Capacity)	B	A	--	--	-1
	SINGLE UNIVERSAL	SU	--	SU	DS	BLANK
	DUPLEX UNIVERSAL	DU	DG	DU	DU	--
	DUPLEX FACE TO FACE	DF	DF	DU	DF	DF
	DUPLEX BACK TO BACK	DB	DB	DU	DB	DB
	DUPLEX TANDEM	DT	DT	DU	DT	DT
	QUAD SET \\\	DFF	QFC	QU	--	DTFT
	QUAD SET \\\	DFT	QFT	QU	DFDT	--
	QUAD SET //\\	DBB	QBC	QU	--	--
	QUAD SET /\\	DBT	QBT	QU	--	DTBT
	QUAD SET ///	DTT	QT	QU	--	--
	METRIC SERIES PRELOAD	C10	BLANK	H	--	BLANK
	INCH SERIES PRELOAD	C11	BLANK	H	BLANK	--
	CORRESPONDS TO ISO CLASS 4	PN7A	P4(PA7)	MM	BLANK	UP
	TIGHTER BORE AND O.D. ACCURACY FOR SU BEARINGS	PN7B	P4(PA7)	MM	BLANK	UP

The competitive manufacturers are provided for a convenient source of unit substitution. They can be considered interchangeable in most instances, but for special applications, please consult NSK Engineering. NSK assumes no liability with respect to errors or omissions.

Super Precision Machine Tool Bearing Applications

ABOUT NSK SUPER PRECISION MACHINE TOOL BEARINGS

This section covers three types of super precision bearings for use in machine tools. They are super precision angular contact ball bearings, super precision cylindrical roller bearings and screw support bearings.

The NSK super precision angular contact ball bearing is ideally designed to support the thrusting conditions in most machine tools while still running at very high speeds. The bearings are readily available with either 15° or 25° contact angles with either one of the high speed polyamide or phenolic cages.

The NSK super precision cylindrical roller bearing is superior for handling high radial loading conditions while operating with exceptional accuracy. These bearings are available with flanges on the outer ring or on the inner.

The NSK ball screw support bearing is ideally suited for the combined radial and axially loading to support the ball screw. The bearings have a high contact angle for precise positioning of the ball screw, maximum axial rigidity, and exact control of lateral eccentricity.

SUPER PRECISION ANGULAR CONTACT

- Machine Tool Spindles on:
 - Lathes
 - Boring Machinery
 - Grinders
 - Machining Centers
 - Milling Machines
 - Slicing Machines
 - Drilling Machines
 - Gem Cutting Machines

SUPER PRECISION CYLINDRICAL

- Machine Tool Spindles for float and high radial loadings.
- (N, NN) Design for exact positioning of the ball screw in a variety of machine tools.

BALL SCREW SUPPORT BEARINGS

- Precision Ball Screws



Super Precision Angular Contact

7000C Series
15° Contact Angle

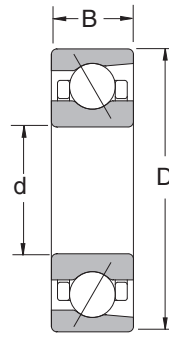
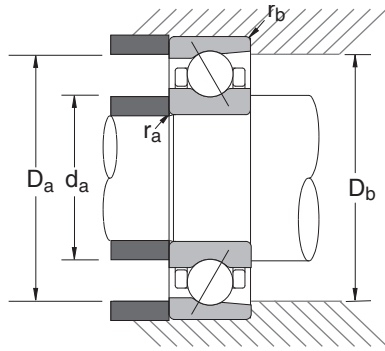
Bearing Number	Basic Bearing Dimensions						Preferred Shoulder Dimensions				
	d		D		B		d _a min	D _a max	*D _b max	r _a max	*r _b max
	mm	inch	mm	inch	mm	inch	inch	inch	inch	inch	inch
7000 C	10	0.3937	26	1.0236	8	0.3150	0.492	0.925	0.976	0.012	0.006
7001 C	12	0.4724	28	1.1024	8	0.3150	0.571	1.004	1.055	0.012	0.006
7002 C	15	0.5906	32	1.2598	9	0.3543	0.689	1.161	1.213	0.012	0.006
7003 C	17	0.6693	35	1.3780	10	0.3937	0.768	1.280	1.331	0.012	0.006
7004 C	20	0.7874	42	1.6535	12	0.4724	0.984	1.457	1.555	0.024	0.012
7005 C	25	0.9843	47	1.8504	12	0.4724	1.181	1.654	1.752	0.024	0.012
7006 C	30	1.1811	55	2.1654	13	0.5118	1.417	1.929	1.969	0.039	0.020
7007 C	35	1.3780	62	2.4409	14	0.5512	1.614	2.205	2.244	0.039	0.020
7008 C	40	1.5748	68	2.6772	15	0.5906	1.811	2.441	2.480	0.039	0.020
7009 C	45	1.7717	75	2.9528	16	0.6299	2.008	2.717	2.756	0.039	0.020
7010 C	50	1.9685	80	3.1496	16	0.6299	2.205	2.913	2.953	0.039	0.020
7011 C	55	2.1654	90	3.5433	18	0.7087	2.441	3.268	3.346	0.039	0.024
7012 C	60	2.3622	95	3.7402	18	0.7087	2.638	3.465	3.543	0.039	0.024
7013 C	65	2.5591	100	3.9370	18	0.7087	2.835	3.661	3.740	0.039	0.024
7014 C	70	2.7559	110	4.3307	20	0.7874	3.031	4.055	4.134	0.039	0.024
7015 C	75	2.9528	115	4.5276	20	0.7874	3.228	4.252	4.331	0.039	0.024
7016 C	80	3.1496	125	4.9213	22	0.8661	3.425	4.646	4.724	0.039	0.024
7017 C	85	3.3465	130	5.1181	22	0.8661	3.622	4.843	4.921	0.039	0.024
7018 C	90	3.5433	140	5.5118	24	0.9449	3.898	5.157	5.276	0.059	0.031
7019 C	95	3.7402	145	5.7087	24	0.9449	4.094	5.354	5.472	0.059	0.031
7020 C	100	3.9370	150	5.9055	24	0.9449	4.291	5.551	5.669	0.059	0.031
7021 C	105	4.1339	160	6.2992	26	1.0236	4.528	5.906	6.063	0.079	0.039
7022 C	110	4.3307	170	6.6929	28	1.1024	4.724	6.299	6.457	0.079	0.039
7024 C	120	4.7244	180	7.0866	28	1.1024	5.118	6.693	6.850	0.079	0.039
7026 C	130	5.1181	200	7.8740	33	1.2992	5.512	7.480	7.638	0.079	0.039
7028 C	140	5.5118	210	8.2677	33	1.2992	5.906	7.874	8.031	0.079	0.039
7030 C	150	5.9055	225	8.8583	35	1.3780	6.378	8.386	8.583	0.079	0.039
7032 C	160	6.2992	240	9.4488	38	1.4961	6.772	8.976	9.173	0.079	0.039
7034 C	170	6.6929	260	10.2362	42	1.6535	7.165	9.764	9.961	0.079	0.039
7036 C	180	7.0866	280	11.0236	46	1.8110	7.559	10.551	10.748	0.079	0.039
7038 C	190	7.4803	290	11.4173	46	1.8110	7.953	10.945	11.142	0.079	0.039
7040 C	200	7.8740	310	12.2047	51	2.0079	8.346	11.732	11.929	0.079	0.039

*D_b is housing diameter for low shoulder.

r_b is housing fillet radius for low shoulder.

Application Data

Bearing Tolerances — Table 10.12 thru Table 10.16 on page 314-17
 Preload — Table 10.46 on page 337
 Shaft & Housing Fits — Contact NSK engineering



Common Options	
TR	: Phenolic cage
TY	: Polyamide cage
DU	: Duplex Universal
SU	: Single Universal
L	: Light Preload
M	: Medium Preload
H	: Heavy Preload
P4(PA7)	: ISO 4 (ABEC 7) Precision
P5(PA5)	: ISO 5 (ABEC 5) Precision

Bearing Number	Basic Load Ratings (lbs)		Limiting Speeds (1000 RPM)		Bearing Weight (Approx.)
	C_r	C_{or}	Grease	Oil	lbs
7000 C	1190	560	63.9	97.3	0.05
7001 C	1300	650	57.5	87.5	0.05
7002 C	1400	760	49	74.5	0.07
7003 C	1490	860	44.3	67.4	0.10
7004 C	2490	1470	37.1	56.5	0.17
7005 C	2620	1660	32	48.7	0.19
7006 C	3400	2310	27.1	41.2	0.29
7007 C	4300	3060	23.8	36.1	0.37
7008 C	4630	3570	21.3	32.5	0.46
7009 C	5490	4320	19.2	29.2	0.59
7010 C	5840	4920	17.7	27	0.64
7011 C	7720	6440	15.9	24.2	0.93
7012 C	7940	6940	14.9	22.6	0.99
7013 C	8380	7720	14	21.3	1.06
7014 C	10600	9700	12.8	19.5	1.49
7015 C	10800	10300	12.2	18.5	1.62
7016 C	13200	12500	11.3	17.1	2.11
7017 C	13600	13200	10.7	16.3	2.21
7018 C	16100	15500	10	15.3	2.91
7019 C	16500	16400	9.6	14.6	3.06
7020 C	17000	17400	9.2	14	3.18
7021 C	19800	20100	8.7	13.3	3.97
7022 C	23800	23400	8.3	12.5	4.94
7024 C	25100	26200	7.7	11.7	5.31
7026 C	29100	30900	7	10.7	8.03
7028 C	29800	32600	6.6	10	8.49
7030 C	34000	37900	6.2	9.4	10.30
7032 C	38400	43400	5.8	8.8	12.55
7034 C	46100	52700	5.4	8.2	17.20
7036 C	51400	61900	5	7.7	22.49
7038 C	55300	69400	4.8	7.3	24.48
7040 C	59500	76100	4.6	6.9	29.77

C_r = Dynamic Radial Load Rating
 C_{or} = Static Radial Load Rating

Introduction
 Ball Bearings
 Cylindrical Roller Bearings
 Spherical Roller Bearings
 Tapered Roller Bearings
 Thrust Bearings
 Split Pillow Blocks
 Super Precision Bearings
 Linear Motion
 Rolling Mill Bearings
 Engineering Section



Super Precision Angular Contact

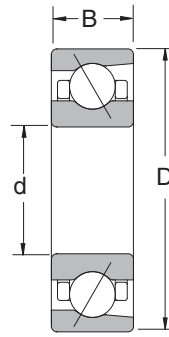
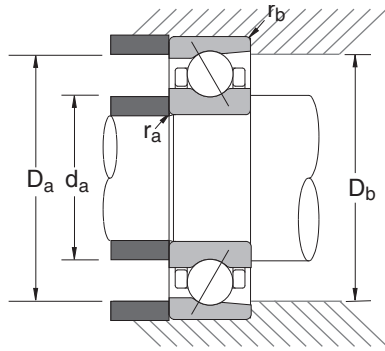
7000A5 Series
25° Contact Angle

Bearing Number	Basic Bearing Dimensions						Preferred Shoulder Dimensions				
	d		D		B		d _a min	D _a max	*D _b max	r _a max	*r _b max
	mm	inch	mm	inch	mm	inch	inch	inch	inch	inch	inch
7000 A5	10	0.3937	26	1.0236	8	0.3150	0.492	0.925	0.976	0.012	0.006
7001 A5	12	0.4724	28	1.1024	8	0.3150	0.571	1.004	1.055	0.012	0.006
7002 A5	15	0.5906	32	1.2598	9	0.3543	0.689	1.161	1.213	0.012	0.006
7003 A5	17	0.6693	35	1.3780	10	0.3937	0.768	1.280	1.331	0.012	0.006
7004 A5	20	0.7874	42	1.6535	12	0.4724	0.984	1.457	1.555	0.024	0.012
7005 A5	25	0.9843	47	1.8504	12	0.4724	1.181	1.654	1.752	0.024	0.012
7006 A5	30	1.1811	55	2.1654	13	0.5118	1.417	1.929	1.969	0.039	0.020
7007 A5	35	1.3780	62	2.4409	14	0.5512	1.614	2.205	2.244	0.039	0.020
7008 A5	40	1.5748	68	2.6772	15	0.5906	1.811	2.441	2.480	0.039	0.020
7009 A5	45	1.7717	75	2.9528	16	0.6299	2.008	2.717	2.756	0.039	0.020
7010 A5	50	1.9685	80	3.1496	16	0.6299	2.205	2.913	2.953	0.039	0.020
7011 A5	55	2.1654	90	3.5433	18	0.7087	2.441	3.268	3.346	0.039	0.024
7012 A5	60	2.3622	95	3.7402	18	0.7087	2.638	3.465	3.543	0.039	0.024
7013 A5	65	2.5591	100	3.9370	18	0.7087	2.835	3.661	3.740	0.039	0.024
7014 A5	70	2.7559	110	4.3307	20	0.7874	3.031	4.055	4.134	0.039	0.024
7015 A5	75	2.9528	115	4.5276	20	0.7874	3.228	4.252	4.331	0.039	0.024
7016 A5	80	3.1496	125	4.9213	22	0.8661	3.425	4.646	4.724	0.039	0.024
7017 A5	85	3.3465	130	5.1181	22	0.8661	3.622	4.843	4.921	0.039	0.024
7018 A5	90	3.5433	140	5.5118	24	0.9449	3.898	5.157	5.276	0.059	0.031
7019 A5	95	3.7402	145	5.7087	24	0.9449	4.094	5.354	5.472	0.059	0.031
7020 A5	100	3.9370	150	5.9055	24	0.9449	4.291	5.551	5.669	0.059	0.031
7021 A5	105	4.1339	160	6.2992	26	1.0236	4.528	5.906	6.063	0.079	0.039
7022 A5	110	4.3307	170	6.6929	28	1.1024	4.724	6.299	6.457	0.079	0.039
7024 A5	120	4.7244	180	7.0866	28	1.1024	5.118	6.693	6.850	0.079	0.039
7026 A5	130	5.1181	200	7.8740	33	1.2992	5.512	7.480	7.638	0.079	0.039
7028 A5	140	5.5118	210	8.2677	33	1.2992	5.906	7.874	8.031	0.079	0.039
7030 A5	150	5.9055	225	8.8583	35	1.3780	6.378	8.386	8.583	0.079	0.039
7032 A5	160	6.2992	240	9.4488	38	1.4961	6.772	8.976	9.173	0.079	0.039
7034 A5	170	6.6929	260	10.2362	42	1.6535	7.165	9.764	9.961	0.079	0.039
7036 A5	180	7.0866	280	11.0236	46	1.8110	7.559	10.551	10.748	0.079	0.039
7038 A5	190	7.4803	290	11.4173	46	1.8110	7.953	10.945	11.142	0.079	0.039
7040 A5	200	7.8740	310	12.2047	51	2.0079	8.346	11.732	11.929	0.079	0.012

*D_b is housing diameter for low shoulder. r_b is housing fillet radius for low shoulder.

Application Data

Bearing Tolerances — Table 10.12 thru Table 10.16 on page 314-17
 Preload — Table 10.46 on page 337
 Shaft & Housing Fits — Contact NSK engineering



Common Options	
TR	: Phenolic cage
TY	: Polyamide cage
DU	: Duplex Universal
SU	: Single Universal
L	: Light Preload
M	: Medium Preload
H	: Heavy Preload
P4(PA7)	: ISO 4 (ABEC 7) Precision
P5(PA5)	: ISO 5 (ABEC 5) Precision

Bearing Number	Basic Load Ratings (lbs)		Limiting Speeds (1000 RPM)		Bearing Weight (Approx.)
	C_r	C_{or}	Grease	Oil	lbs
7000 A5	1160	540	55.6	83.4	0.04
7001 A5	1260	630	50	75	0.05
7002 A5	1340	730	42.6	63.9	0.07
7003 A5	1420	820	38.5	57.7	0.09
7004 A5	2380	1410	37.1	56.5	0.15
7005 A5	2510	1600	27.8	41.7	0.17
7006 A5	3240	2190	23.6	35.3	0.25
7007 A5	4080	2930	20.7	31	0.33
7008 A5	4390	3400	18.6	27.8	0.41
7009 A5	5200	4120	16.7	25	0.55
7010 A5	5530	4670	15.4	23.1	0.60
7011 A5	7280	6130	13.8	20.7	0.84
7012 A5	7500	6550	13	19.4	0.90
7013 A5	7940	7280	12.2	18.2	1.00
7014 A5	10000	9150	11.2	16.7	1.38
7015 A5	10300	9700	10.6	15.8	1.44
7016 A5	12500	11800	9.8	14.7	1.94
7017 A5	12800	12500	9.4	14	1.99
7018 A5	15200	14800	8.7	13.1	2.58
7019 A5	15700	15700	8.4	12.5	3.11
7020 A5	16000	16400	8	12	3.20
7021 A5	18700	19100	7.5	11.4	4.01
7022 A5	22500	22300	7.2	10.8	4.98
7024 A5	23800	24900	6.7	10	5.36
7026 A5	27600	29300	6.1	9.1	8.07
7028 A5	28000	30900	5.8	8.6	8.53
7030 A5	32000	35900	5.4	8	10.34
7032 A5	36400	41200	5	7.5	12.59
7034 A5	37500	43400	4.7	7	17.27
7036 A5	41700	51100	4.4	6.6	22.93
7038 A5	45000	56900	4.2	6.3	24.70
7040 A5	48300	63100	4	5.9	30.21

C_r = Dynamic Radial Load Rating
 C_{or} = Static Radial Load Rating

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Super Precision Angular Contact

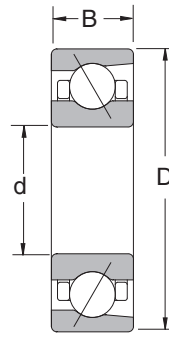
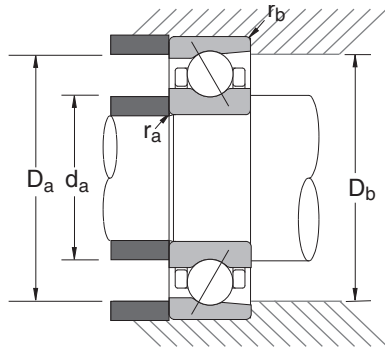
7200C Series
15° Contact Angle

Bearing Number	Basic Bearing Dimensions						Preferred Shoulder Dimensions				
	d		D		B		d _a min	D _a max	*D _b max	r _a max	*r _b max
	mm	inch	mm	inch	mm	inch	inch	inch	inch	inch	inch
7200 C	10	0.3937	30	1.1811	9	0.3543	0.591	0.984	1.083	0.024	0.012
7201 C	12	0.4724	32	1.2598	10	0.3937	0.669	1.063	1.161	0.024	0.012
7202 C	15	0.5906	35	1.3780	11	0.4331	0.787	1.181	1.280	0.024	0.012
7203 C	17	0.6693	40	1.5748	12	0.4724	0.866	1.378	1.476	0.024	0.020
7204 C	20	0.7874	47	1.8504	14	0.5512	1.024	1.614	1.654	0.039	0.020
7205 C	25	0.9843	52	2.0472	15	0.5906	1.220	1.811	1.850	0.039	0.020
7206 C	30	1.1811	62	2.4409	16	0.6299	1.417	2.205	2.244	0.039	0.024
7207 C	35	1.3780	72	2.8346	17	0.6693	1.654	2.559	2.638	0.039	0.024
7208 C	40	1.5748	80	3.1496	18	0.7087	1.850	2.874	2.953	0.039	0.024
7209 C	45	1.7717	85	3.3465	19	0.7480	2.047	3.071	3.150	0.039	0.024
7210 C	50	1.9685	90	3.5433	20	0.7874	2.244	3.268	3.346	0.039	0.031
7211 C	55	2.1654	100	3.9370	21	0.8268	2.520	3.583	3.701	0.059	0.031
7212 C	60	2.3622	110	4.3307	22	0.8661	2.717	3.976	4.094	0.059	0.031
7213 C	65	2.5591	120	4.7244	23	0.9055	2.913	4.370	4.488	0.059	0.031
7214 C	70	2.7559	125	4.9213	24	0.9449	3.110	4.567	4.685	0.059	0.031
7215 C	75	2.9528	130	5.1181	25	0.9843	3.307	4.764	4.882	0.059	0.031
7216 C	80	3.1496	140	5.5118	26	1.0236	3.543	5.118	5.276	0.079	0.039
7217 C	85	3.3465	150	5.9055	28	1.1024	3.740	5.512	5.669	0.079	0.039
7218 C	90	3.5433	160	6.2992	30	1.1811	3.937	5.906	6.063	0.079	0.039
7219 C	95	3.7402	170	6.6929	32	1.2598	4.213	6.220	6.417	0.079	0.039
7220 C	100	3.9370	180	7.0866	34	1.3386	4.409	6.614	6.811	0.079	0.039
7221 C	105	4.1339	190	7.4803	36	1.4173	4.606	7.008	7.205	0.079	0.039
7222 C	110	4.3307	200	7.8740	38	1.4961	4.803	7.402	7.598	0.079	0.039
7224 C	120	4.7244	215	8.4646	40	1.5748	5.197	7.992	8.189	0.079	0.039
7226 C	130	5.1181	230	9.0551	40	1.5748	5.669	8.504	8.780	0.098	0.039
7228 C	140	5.5118	250	9.8425	42	1.6535	6.063	9.291	9.567	0.098	0.039
7230 C	150	5.9055	270	10.6299	45	1.7717	6.457	10.079	10.354	0.098	0.039
7232 C	160	6.2992	290	11.4173	48	1.8898	6.850	10.866	11.142	0.098	0.039
7234 C	170	6.6929	310	12.2047	52	2.0472	7.402	11.496	11.850	0.118	0.059
7236 C	180	7.0866	320	12.5984	52	2.0472	7.795	11.890	12.244	0.118	0.059
7238 C	190	7.4803	340	13.3858	55	2.1654	8.189	12.677	13.031	0.118	0.059
7240 C	200	7.8740	360	14.1732	58	2.2835	8.583	13.465	13.819	0.118	0.059

*D_b is housing diameter for low shoulder. r_b is housing fillet radius for low shoulder.

Application Data

Bearing Tolerances — Table 10.12 thru Table 10.16 on page 314-17
 Preload — Table 10.46 on page 337
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Common Options	
TR	: Phenolic cage
TY	: Polyamide cage
DU	: Duplex Universal
SU	: Single Universal
L	: Light Preload
M	: Medium Preload
H	: Heavy Preload
P4(PA7)	: ISO 4 (ABEC 7) Precision
P5(PA5)	: ISO 5 (ABEC 5) Precision

Bearing Number	Basic Load Ratings (lbs)		Limiting Speeds (1000 RPM)		Bearing Weight (Approx.)
	C_r	C_{or}	Grease	Oil	lbs
7200 C	1210	590	57.5	87.5	0.07
7201 C	1770	870	52.3	79.6	0.08
7202 C	1950	1010	46	70	0.09
7203 C	2450	1310	40.4	61.5	0.14
7204 C	3260	1820	34.4	52.3	0.22
7205 C	3730	2290	29.9	45.5	0.28
7206 C	5180	3310	25	38.1	0.42
7207 C	6830	4480	21.5	32.8	0.60
7208 C	8160	5670	19.2	29.2	0.79
7209 C	9150	6480	17.7	27	0.87
7210 C	9590	7170	16.5	25	0.99
7211 C	11900	9040	14.9	22.6	1.29
7212 C	14400	11000	13.6	20.6	1.69
7213 C	16400	13200	12.5	19	2.19
7214 C	17900	14600	11.8	18	2.36
7215 C	18600	15700	11.3	17.1	2.58
7216 C	20800	17400	10.5	16	3.09
7217 C	24000	20400	9.8	14.9	3.90
7218 C	27600	23600	9.2	14	4.83
7219 C	29800	25100	8.7	13.3	5.73
7220 C	33500	28400	8.3	12.5	6.90
7221 C	36600	32200	7.8	11.9	8.22
7222 C	39500	35900	7.5	11.3	9.70
7224 C	44800	43200	6.9	10.5	11.84
7226 C	46500	47000	6.4	9.8	13.60
7228 C	53600	57100	5.9	9	17.29
7230 C	60800	68300	5.5	8.4	24.48
7232 C	64400	75000	5.2	7.8	30.65
7234 C	71700	87100	4.8	7.3	38.37
7236 C	75000	93700	4.6	7	39.25
7238 C	77200	101000	4.4	6.7	48.73
7240 C	82700	110000	4.2	6.3	57.77

C_r = Dynamic Radial Load Rating
 C_{or} = Static Radial Load Rating

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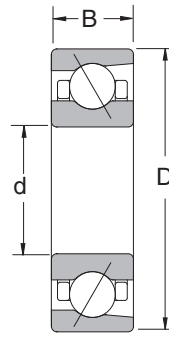
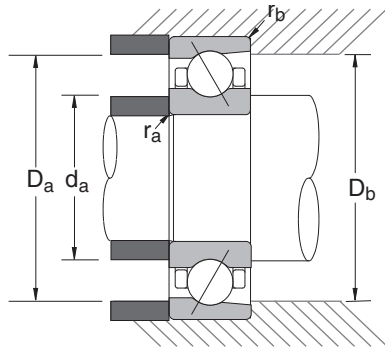
7200A5 Series
25° Contact Angle

Bearing Number	Basic Bearing Dimensions						Preferred Shoulder Dimensions				
	d		D		B		d _a min	D _a max	*D _b max	r _a max	*r _b max
	mm	inch	mm	inch	mm	inch	inch	inch	inch	inch	inch
7200 A5	10	0.3937	30	1.1811	9	0.3543	0.591	0.984	1.083	0.024	0.012
7201 A5	12	0.4724	32	1.2598	10	0.3937	0.669	1.063	1.161	0.024	0.012
7202 A5	15	0.5906	35	1.3780	11	0.4331	0.787	1.181	1.280	0.024	0.012
7203 A5	17	0.6693	40	1.5748	12	0.4724	0.866	1.378	1.476	0.024	0.012
7204 A5	20	0.7874	47	1.8504	14	0.5512	1.024	1.614	1.654	0.039	0.020
7205 A5	25	0.9843	52	2.0472	15	0.5906	1.220	1.811	1.850	0.039	0.020
7206 A5	30	1.1811	62	2.4409	16	0.6299	1.417	2.205	2.244	0.039	0.020
7207 A5	35	1.3780	72	2.8346	17	0.6693	1.654	2.559	2.638	0.039	0.024
7208 A5	40	1.5748	80	3.1496	18	0.7087	1.850	2.874	2.953	0.039	0.024
7209 A5	45	1.7717	85	3.3465	19	0.7480	2.047	3.071	3.150	0.039	0.024
7210 A5	50	1.9685	90	3.5433	20	0.7874	2.244	3.268	3.346	0.039	0.024
7211 A5	55	2.1654	100	3.9370	21	0.8268	2.520	3.583	3.701	0.059	0.031
7212 A5	60	2.3622	110	4.3307	22	0.8661	2.717	3.976	4.094	0.059	0.031
7213 A5	65	2.5591	120	4.7244	23	0.9055	2.913	4.370	4.488	0.059	0.031
7214 A5	70	2.7559	125	4.9213	24	0.9449	3.110	4.567	4.685	0.059	0.031
7215 A5	75	2.9528	130	5.1181	25	0.9843	3.307	4.764	4.882	0.059	0.031
7216 A5	80	3.1496	140	5.5118	26	1.0236	3.543	5.118	5.276	0.079	0.039
7217 A5	85	3.3465	150	5.9055	28	1.1024	3.740	5.512	5.669	0.079	0.039
7218 A5	90	3.5433	160	6.2992	30	1.1811	3.937	5.906	6.063	0.079	0.039
7219 A5	95	3.7402	170	6.6929	32	1.2598	4.213	6.220	6.417	0.079	0.039
7220 A5	100	3.9370	180	7.0866	34	1.3386	4.409	6.614	6.811	0.079	0.039
7221 A5	105	4.1339	190	7.4803	36	1.4173	4.606	7.008	7.205	0.079	0.039
7222 A5	110	4.3307	200	7.8740	38	1.4961	4.803	7.402	7.598	0.079	0.039
7224 A5	120	4.7244	215	8.4646	40	1.5748	5.197	7.992	8.189	0.079	0.039
7226 A5	130	5.1181	230	9.0551	40	1.5748	5.669	8.504	8.780	0.098	0.039
7228 A5	140	5.5118	250	9.8425	42	1.6535	6.063	9.291	9.567	0.098	0.039
7230 A5	150	5.9055	270	10.6299	45	1.7717	6.457	10.079	10.354	0.098	0.039
7232 A5	160	6.2992	290	11.4173	48	1.8898	6.850	10.866	11.142	0.098	0.039
7234 A5	170	6.6929	310	12.2047	52	2.0472	7.402	11.496	11.850	0.118	0.059
7236 A5	180	7.0866	320	12.5984	52	2.0472	7.795	11.890	12.244	0.118	0.059
7238 A5	190	7.4803	340	13.3858	55	2.1654	8.189	12.677	13.031	0.118	0.059
7240 A5	200	7.8740	360	14.1732	58	2.2835	8.583	13.465	13.819	0.118	0.059

*D_b is housing diameter for low shoulder. r_b is housing fillet radius for low shoulder.

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Bearing Tolerances — Table 10.12 thru Table 10.16 on page 314-17
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Common Options	
T	: Phenolic cage
TY	: Polyamid cage
DU	: Duplex Universal
SU	: Single Universal
L	: Light Preload
M	: Medium Preload
H	: Heavy Preload
P4(PA7)	: ISO 4 (ABEC 7) Precision
P5(PA5)	: ISO 5 (ABEC 5) Precision

Bearing Number	Basic Load Ratings (lbs)		Limiting Speeds (1000 RPM)		Bearing Weight (Approx.)
	C_r	C_{or}	Grease	Oil	lbs
7200 A5	1140	550	40.0	56.0	0.07
7201 A5	1720	840	36.0	50.0	0.08
7202 A5	1870	980	32.0	45.0	0.10
7203 A5	2360	1260	28.0	38.0	0.14
7204 A5	3150	1740	24.0	32.0	0.22
7205 A5	3570	2190	20.0	28.0	0.29
7206 A5	4960	3150	17.0	24.0	0.43
7207 A5	6550	4300	15.0	20.0	0.61
7208 A5	7830	5420	13.0	18.0	0.80
7209 A5	8820	6190	12.0	17.0	0.89
7210 A5	9150	6830	11.0	16.0	1.00
7211 A5	11400	8600	10.0	14.0	1.31
7212 A5	13800	10600	9.5	13.0	1.70
7213 A5	15700	12600	8.5	12.0	2.21
7214 A5	17100	13900	8.0	11.0	2.38
7215 A5	17700	15000	8.0	11.0	2.60
7216 A5	19800	16600	7.1	10.0	3.13
7217 A5	22900	19400	6.7	9.5	3.95
7218 A5	26200	22500	6.3	9.0	4.87
7219 A5	28400	24000	6.0	8.5	5.80
7220 A5	32000	27300	5.6	8.0	6.97
7221 A5	34800	30600	5.3	7.5	8.31
7222 A5	37700	34400	5.3	7.1	9.81
7224 A5	42500	41200	4.8	6.7	11.95
7226 A5	44100	44800	4.5	6.0	13.72
7228 A5	50900	54500	4.0	5.6	17.44
7230 A5	58000	65000	3.8	5.3	24.48
7232 A5	61300	71700	3.6	4.8	30.87
7234 A5	68300	83800	3.4	4.5	37.93
7236 A5	71700	89300	3.2	4.5	39.47
7238 A5	73900	95900	3.0	4.3	49.17
7240 A5	78300	105000	2.8	4.0	58.21

C_r = Dynamic Radial Load Rating
 C_{or} = Static Radial Load Rating

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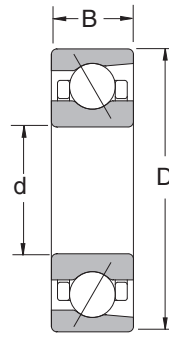
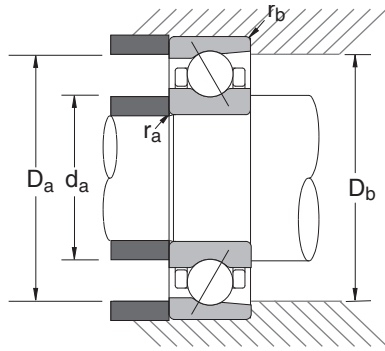
7900C Series
15° Contact Angle

Bearing Number	Basic Bearing Dimensions						Preferred Shoulder Dimensions				
	d		D		B		d _a min	D _a max	*D _b max	r _a max	*r _b max
	mm	inch	mm	inch	mm	inch	inch	inch	inch	inch	inch
7900 C	10	0.3937	22	0.8661	6	0.2362	0.492	0.768	0.819	0.012	0.006
7901 C	12	0.4724	24	0.9449	6	0.2362	0.571	0.846	0.898	0.012	0.006
7902 C	15	0.5906	28	1.1024	7	0.2756	0.689	1.004	1.055	0.012	0.006
7903 C	17	0.6693	30	1.1811	7	0.2756	0.768	1.083	1.134	0.012	0.006
7904 C	20	0.7874	37	1.4567	9	0.3543	0.886	1.358	1.409	0.012	0.006
7905 C	25	0.9843	42	1.6535	9	0.3543	1.083	1.555	1.606	0.012	0.006
7906 C	30	1.1811	47	1.8504	9	0.3543	1.280	1.752	1.803	0.012	0.006
7907 C	35	1.3780	55	2.1654	10	0.3937	1.575	1.969	2.067	0.024	0.012
7908 C	40	1.5748	62	2.4409	12	0.4724	1.772	2.244	2.343	0.024	0.012
7909 C	45	1.7717	68	2.6772	12	0.4724	1.969	2.480	2.579	0.024	0.012
7910 C	50	1.9685	72	2.8346	12	0.4724	2.165	2.638	2.736	0.024	0.012
7911 C	55	2.1654	80	3.1496	13	0.5118	2.402	2.913	2.953	0.039	0.020
7912 C	60	2.3622	85	3.3465	13	0.5118	2.598	3.110	3.150	0.039	0.020
7913 C	65	2.5591	90	3.5433	13	0.5118	2.795	3.307	3.346	0.039	0.020
7914 C	70	2.7559	100	3.9370	16	0.6299	2.992	3.701	3.740	0.039	0.020
7915 C	75	2.9528	105	4.1339	16	0.6299	3.189	3.898	3.937	0.039	0.020
7916 C	80	3.1496	110	4.3307	16	0.6299	3.386	4.094	4.134	0.039	0.020
7917 C	85	3.3465	120	4.7244	18	0.7087	3.622	4.449	4.528	0.039	0.024
7918 C	90	3.5433	125	4.9213	18	0.7087	3.819	4.646	4.724	0.039	0.024
7919 C	95	3.7402	130	5.1181	18	0.7087	4.016	4.843	4.921	0.039	0.024
7920 C	100	3.9370	140	5.5118	20	0.7874	4.213	5.236	5.315	0.039	0.024
7921 C	105	4.1339	145	5.7087	20	0.7874	4.409	5.433	5.512	0.039	0.024
7922 C	110	4.3307	150	5.9055	20	0.7874	4.606	5.630	5.709	0.039	0.024
7924 C	120	4.7244	165	6.4961	22	0.8661	5.000	6.220	6.299	0.039	0.024
7926 C	130	5.1181	180	7.0866	24	0.9449	5.472	6.732	6.850	0.059	0.031
7928 C	140	5.5118	190	7.4803	24	0.9449	5.866	7.126	7.244	0.059	0.031
7930 C	150	5.9055	210	8.2677	28	1.1024	6.299	7.874	8.031	0.079	0.039
7932 C	160	6.2992	220	8.6614	28	1.1024	6.693	8.268	8.425	0.079	0.039
7934 C	170	6.6929	230	9.0551	28	1.1024	7.087	8.661	8.819	0.079	0.039
7936 C	180	7.0866	250	9.8425	33	1.2992	7.480	9.449	9.606	0.079	0.039
7938 C	190	7.4803	260	10.2362	33	1.2992	7.874	9.843	10.000	0.079	0.039
7940 C	200	7.8740	280	11.0236	38	1.4961	8.346	10.551	10.748	0.079	0.039

*D_b is housing diameter for low shoulder. r_b is housing fillet radius for low shoulder.

Application Data

Bearing Tolerances — Table 10.12 thru Table 10.16 on page 314-17
 Preload — Table 10.46 on page 337
 Shaft & Housing Fits — Contact NSK engineering



Common Options	
TR	: Phenolic cage
TY	: Polyamide cage
DU	: Duplex Universal
SU	: Single Universal
L	: Light Preload
M	: Medium Preload
H	: Heavy Preload
P4(PA7)	: ISO 4 (ABEC 7) Precision
P5(PA5)	: ISO 5 (ABEC 5) Precision

Bearing Number	Basic Load Ratings (lbs)		Limiting Speeds (1000 RPM)		Bearing Weight (Approx.)
	C_r	C_{or}	Grease	Oil	lbs
7900 C	670	340	71.9	109.4	0.02
7901 C	750	420	63.9	97.3	0.02
7902 C	1070	600	53.5	81.4	0.03
7903 C	1120	660	49	74.5	0.04
7904 C	1570	950	40.4	61.5	0.08
7905 C	1760	1220	34.4	52.3	0.09
7906 C	1860	1410	29.9	45.5	0.11
7907 C	2710	2050	25.6	38.9	0.16
7908 C	3400	2650	22.6	34.4	0.24
7909 C	3590	3000	20.4	31	0.28
7910 C	3790	3370	18.9	28.7	0.28
7911 C	4300	3990	17.1	26	0.39
7912 C	4370	4210	15.9	24.2	0.42
7913 C	4540	4610	14.9	22.6	0.45
7914 C	6330	6240	13.6	20.6	0.73
7915 C	6420	6570	12.8	19.5	0.78
7916 C	6530	6940	12.2	18.5	0.82
7917 C	8710	9150	11.3	17.1	1.15
7918 C	9370	10400	10.7	16.3	1.22
7919 C	9480	10800	10.3	15.6	1.28
7920 C	11200	12200	9.6	14.6	1.73
7921 C	11500	12800	9.2	14	1.79
7922 C	11700	13300	8.9	13.5	1.87
7924 C	16100	18300	8.1	12.3	2.51
7926 C	17600	20400	7.5	11.3	3.31
7928 C	17900	21400	7	10.7	3.55
7930 C	22900	27300	6.4	9.8	6.54
7932 C	23800	29800	6.1	9.3	6.81
7934 C	25400	33300	5.8	8.8	7.34
7936 C	32600	41400	5.4	8.2	10.80
7938 C	33100	43200	5.2	7.8	11.16
7940 C	42500	54900	4.8	7.3	15.10

C_r = Dynamic Radial Load Rating
 C_{or} = Static Radial Load Rating

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Super Precision Angular Contact

7900A5 Series
25° Contact Angle

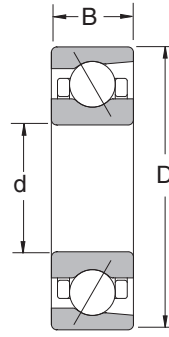
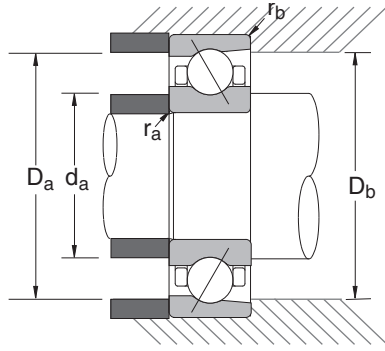
Bearing Number	Basic Bearing Dimensions						Preferred Shoulder Dimensions				
	d		D		B		d _a min	D _a max	*D _b max	r _a max	*r _b max
	mm	inch	mm	inch	mm	inch	inch	inch	inch	inch	inch
7900 A5	10	0.3937	22	0.8661	6	0.2362	0.492	0.768	0.819	0.012	0.006
7901 A5	12	0.4724	24	0.9449	6	0.2362	0.571	0.846	0.898	0.012	0.006
7902 A5	15	0.5906	28	1.1024	7	0.2756	0.689	1.004	1.055	0.012	0.006
7903 A5	17	0.6693	30	1.1811	7	0.2756	0.768	1.083	1.134	0.012	0.006
7904 A5	20	0.7874	37	1.4567	9	0.3543	0.886	1.358	1.409	0.012	0.006
7905 A5	25	0.9843	42	1.6535	9	0.3543	1.083	1.555	1.606	0.012	0.006
7906 A5	30	1.1811	47	1.8504	9	0.3543	1.280	1.752	1.803	0.012	0.006
7907 A5	35	1.3780	55	2.1654	10	0.3937	1.575	1.969	2.067	0.024	0.012
7908 A5	40	1.5748	62	2.4409	12	0.4724	1.772	2.244	2.343	0.024	0.012
7909 A5	45	1.7717	68	2.6772	12	0.4724	1.969	2.480	2.579	0.024	0.012
7910 A5	50	1.9685	72	2.8346	12	0.4724	2.165	2.638	2.736	0.024	0.012
7911 A5	55	2.1654	80	3.1496	13	0.5118	2.402	2.913	2.953	0.039	0.020
7912 A5	60	2.3622	85	3.3465	13	0.5118	2.598	3.110	3.150	0.039	0.020
7913 A5	65	2.5591	90	3.5433	13	0.5118	2.795	3.307	3.346	0.039	0.020
7914 A5	70	2.7559	100	3.9370	16	0.6299	2.992	3.701	3.740	0.039	0.020
7915 A5	75	2.9528	105	4.1339	16	0.6299	3.189	3.898	3.937	0.039	0.020
7916 A5	80	3.1496	110	4.3307	16	0.6299	3.386	4.094	4.134	0.039	0.020
7917 A5	85	3.3465	120	4.7244	18	0.7087	3.622	4.449	4.528	0.039	0.024
7918 A5	90	3.5433	125	4.9213	18	0.7087	3.819	4.646	4.724	0.039	0.024
7919 A5	95	3.7402	130	5.1181	18	0.7087	4.016	4.843	4.921	0.039	0.024
7920 A5	100	3.9370	140	5.5118	20	0.7874	4.213	5.236	5.315	0.039	0.024
7921 A5	105	4.1339	145	5.7087	20	0.7874	4.409	5.433	5.512	0.039	0.024
7922 A5	110	4.3307	150	5.9055	20	0.7874	4.606	5.630	5.709	0.039	0.024
7924 A5	120	4.7244	165	6.4961	22	0.8661	5.000	6.220	6.299	0.039	0.024
7926 A5	130	5.1181	180	7.0866	24	0.9449	5.472	6.732	6.850	0.059	0.031
7928 A5	140	5.5118	190	7.4803	24	0.9449	5.866	7.126	7.244	0.059	0.031
7930 A5	150	5.9055	210	8.2677	28	1.1024	6.299	7.874	8.031	0.079	0.039
7932 A5	160	6.2992	220	8.6614	28	1.1024	6.693	8.268	8.425	0.079	0.039
7934 A5	170	6.6929	230	9.0551	28	1.1024	7.087	8.661	8.819	0.079	0.039
7936 A5	180	7.0866	250	9.8425	33	1.2992	7.480	9.449	9.606	0.079	0.039
7938 A5	190	7.4803	260	10.2362	33	1.2992	7.874	9.843	10.000	0.079	0.039
7940 A5	200	7.8740	280	11.0236	38	1.4961	8.346	10.551	10.748	0.079	0.039

*D_b is housing diameter for low shoulder.

r_b is housing fillet radius for low shoulder.

Application Data

Bearing Tolerances — Table 10.12 thru Table 10.16 on page 314-17
 Preload — Table 10.46 on page 337
 Shaft & Housing Fits — Contact NSK engineering



Common Options	
TR	: Phenolic cage
TY	: Polyamide cage
DU	: Duplex Universal
SU	: Single Universal
L	: Light Preload
M	: Medium Preload
H	: Heavy Preload
P4(PA7)	: ISO 4 (ABEC 7) Precision
P5(PA5)	: ISO 5 (ABEC 5) Precision

Bearing Number	Basic Load Ratings (lbs)		Limiting Speeds (1000 RPM)		Bearing Weight (Approx.)
	C_r	C_{or}	Grease	Oil	lbs
7900 A5	650	330	62.5	93.8	0.02
7901 A5	720	400	55.6	83.4	0.02
7902 A5	1030	570	46.6	69.8	0.03
7903 A5	1070	630	42.6	63.9	0.04
7904 A5	1490	900	35.1	52.7	0.08
7905 A5	1680	1160	29.9	44.8	0.09
7906 A5	1760	1330	26	39	0.11
7907 A5	2580	1950	22.3	33.4	0.16
7908 A5	3220	2510	19.7	29.5	0.24
7909 A5	3400	2840	17.7	26.6	0.28
7910 A5	3590	3200	16.4	24.6	0.29
7911 A5	4060	3770	14.9	22.3	0.40
7912 A5	4120	3990	13.8	20.7	0.38
7913 A5	4280	4370	13	19.4	0.45
7914 A5	5970	5910	11.8	17.7	0.74
7915 A5	6060	6220	11.2	16.7	0.78
7916 A5	6150	6530	10.6	15.8	0.83
7917 A5	8270	8600	9.8	14.7	1.16
7918 A5	8820	9810	9.4	14	1.23
7919 A5	8930	10300	8.9	13.4	1.30
7920 A5	10700	11600	8.4	12.5	1.75
7921 A5	10800	12100	8	12	1.81
7922 A5	11000	12700	7.7	11.6	1.89
7924 A5	15200	17300	7.1	10.6	2.54
7926 A5	16600	19300	6.5	9.7	3.35
7928 A5	16900	20300	6.1	9.1	3.59
7930 A5	21700	26000	5.6	8.4	6.55
7932 A5	22500	28200	5.3	7.9	6.88
7934 A5	23800	31500	5	7.5	7.41
7936 A5	30600	39200	4.7	7	10.89
7938 A5	31100	40800	4.5	6.7	11.29
7940 A5	40100	52000	4.2	6.3	15.26

C_r = Dynamic Radial Load Rating
 C_{or} = Static Radial Load Rating

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High Speed Super Precision Angular Contact

BNC Series (Steel ball)
15° Contact Angle

Part Number	Basic Bearing Dimensions						Preferred Shoulder Dimensions				
	d		D		B		d _a min	D _a max	*D _b max	r _a max	*r _b max
	mm	inch	mm	inch	mm	inch	inch	inch	inch	inch	inch
30BNC10	30	1.1811	55	2.1654	13	0.5118	1.417	1.929	1.969	0.039	0.020
35BNC10	35	1.3780	62	2.4409	14	0.5512	1.614	2.205	2.244	0.039	0.020
40BNC10	40	1.5748	68	2.6772	15	0.5906	1.811	2.441	2.480	0.039	0.020
45BNC10	45	1.7717	75	2.9528	16	0.6299	2.008	2.717	2.756	0.039	0.020
50BNC10	50	1.9685	80	3.1496	16	0.6299	2.205	2.913	2.953	0.039	0.020
55BNC10	55	2.1654	90	3.5433	18	0.7087	2.441	3.268	3.346	0.039	0.024
60BNC10	60	2.3622	95	3.7402	18	0.7087	2.638	3.465	3.543	0.039	0.024
65BNC10	65	2.5591	100	3.9370	18	0.7087	2.835	3.661	3.740	0.039	0.024
70BNC10	70	2.7559	110	4.3307	20	0.7874	0.433	4.055	4.134	0.039	0.024
75BNC10	75	2.9528	115	4.5276	20	0.7874	3.228	4.252	4.331	0.039	0.024
80BNC10	80	3.1496	125	4.9213	22	0.8661	3.425	4.646	4.724	0.039	0.024
85BNC10	85	3.3465	130	5.1181	22	0.8661	3.622	4.843	4.921	0.039	0.024
90BNC10	90	3.5433	140	5.5118	24	0.9449	3.898	5.157	5.276	0.059	0.031
95BNC10	95	3.7402	145	5.7087	24	0.9449	4.094	5.354	5.472	0.059	0.031
100BNC10	100	3.9370	150	5.9055	24	0.9449	4.173	5.551	5.669	0.059	0.031
105BNC10	105	4.1339	160	6.2992	26	1.0236	4.528	5.906	6.063	0.079	0.039
110BNC10	110	4.3307	170	6.6929	28	1.1024	4.724	6.299	6.457	0.079	0.039

Limiting Speeds

The limiting speeds listed in the Bearing Dimensional Tables are guideline values. They are based on a single bearing that is lightly preloaded by means of a spring and subjected to a relatively light loads with good heat dissipation.

The limiting speeds with grease lubrication are determined using high quality grease in appropriate amounts. Those listed for oil lubrication are based on the use of oil-air (or oil mist) lubrication. In situations where the lubricating oil is used as a means to remove heat, higher speed can be achieved, however a large amount of oil must be pressure fed through the bearing, so there is a significant loss of power.

When single bearings are used in two, three or four row combinations, or the preload is increased to improve spindle rigidity, limiting speeds will be lower than those listed.

Speed Factor

Arrangement	EL	L	M	H
DB	0.85	0.80	0.65	0.55
DBB	0.80	0.75	0.60	0.45
DBD	0.75	0.70	0.55	0.40

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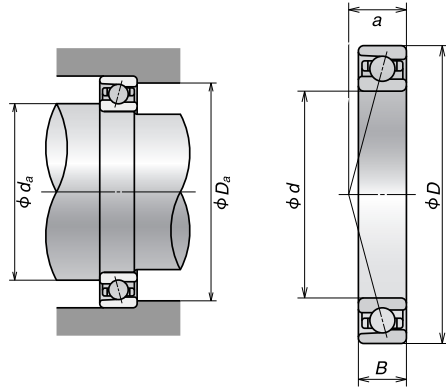
Split Pillow Blocks

Super Precision Bearings

Linear Motion

Rolling Mill Bearings

Engineering Section



Common Options	
TR	: Phenolic cage
TY	: Polyamide cage
DU	: Duplex Universal
SU	: Single Universal
L	: Light Preload
M	: Medium Preload
H	: Heavy Preload
P4(PA7)	: ISO 4 (ABEC 7) Precision
P5(PA5)	: ISO 5 (ABEC 5) Precision

Part Number	Basic Load Ratings (lbs)		Limiting Speed Single or Tandem (RPM)		Bearing Weight (Approx.)	Preload Value Duplex (EL)
	C_r	C_{or}	Grease	Oil	lbs	lbs
30BNC10	2590	2000	28000	40000	0.27	11.24
35BNC10	2990	2450	26000	36000	0.36	11.24
40BNC10	3120	2740	22000	32000	0.44	11.24
45BNC10	3480	3150	20000	28000	0.56	11.24
50BNC10	3640	3460	19000	26000	0.61	11.24
55BNC10	4500	4380	17000	24000	0.90	11.24
60BNC10	4680	4790	15000	22000	0.97	11.24
65BNC10	4860	5220	15000	20000	1.05	11.24
70BNC10	6610	6860	13000	19000	1.40	11.24
75BNC10	6720	7190	13000	18000	1.48	11.24
80BNC10	7870	8540	12000	17000	2.02	22.48
85BNC10	7980	8880	11000	16000	2.11	22.48
90BNC10	10450	11580	11000	15000	2.71	22.48
95BNC10	10680	12030	10000	14000	2.82	22.48
100BNC10	10790	12590	9500	14000	2.93	22.48
105BNC10	12590	14950	9000	13000	3.81	22.48
110BNC10	13830	16410	8500	12000	4.65	22.48

C_r = Dynamic Radial Load Rating
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High Speed Super Precision Angular Contact

BNC Series (Ceramic ball) (Continued)
15° Contact Angle

Part Number	Basic Bearing Dimensions						Preferred Shoulder Dimensions				
	d		D		B		d _a min	D _a max	*D _b max	r _a max	*r _b max
	mm	inch	mm	inch	mm	inch	inch	inch	inch	inch	inch
30BNC10SN24	30	1.1811	55	2.1654	13	0.5118	1.417	1.929	1.969	0.039	0.020
35BNC10SN24	35	1.3780	62	2.4409	14	0.5512	1.614	2.205	2.244	0.039	0.020
40BNC10SN24	40	1.5748	68	2.6772	15	0.5906	1.811	2.441	2.480	0.039	0.020
45BNC10SN24	45	1.7717	75	2.9528	16	0.6299	2.008	2.717	2.756	0.039	0.020
50BNC10SN24	50	1.9685	80	3.1496	16	0.6299	2.205	2.913	2.953	0.039	0.020
55BNC10SN24	55	2.1654	90	3.5433	18	0.7087	2.441	3.268	3.346	0.039	0.024
60BNC10SN24	60	2.3622	95	3.7402	18	0.7087	2.638	3.465	3.543	0.039	0.024
65BNC10SN24	65	2.5591	100	3.9370	18	0.7087	2.835	3.661	3.740	0.039	0.024
70BNC10SN24	70	2.7559	110	4.3307	20	0.7874	0.433	4.055	4.134	0.039	0.024
75BNC10SN24	75	2.9528	115	4.5276	20	0.7874	3.228	4.252	4.331	0.039	0.024
80BNC10SN24	80	3.1496	125	4.9213	22	0.8661	3.425	4.646	4.724	0.039	0.024
85BNC10SN24	85	3.3465	130	5.1181	22	0.8661	3.622	4.843	4.921	0.039	0.024
90BNC10SN24	90	3.5433	140	5.5118	24	0.9449	3.898	5.157	5.276	0.059	0.031
95BNC10SN24	95	3.7402	145	5.7087	24	0.9449	4.094	5.354	5.472	0.059	0.031
100BNC10SN24	100	3.9370	150	5.9055	24	0.9449	4.173	5.551	5.669	0.059	0.031
105BNC10SN24	105	4.1339	160	6.2992	26	1.0236	4.528	5.906	6.063	0.079	0.039
110BNC10SN24	110	4.3307	170	6.6929	28	1.1024	4.724	6.299	6.457	0.079	0.039

Limiting Speeds

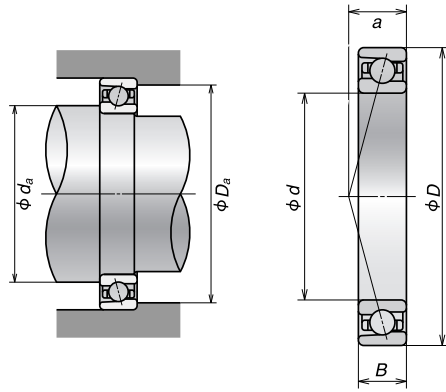
The limiting speeds listed in the Bearing Dimensional Tables are guideline values. They are based on a single bearing that is lightly preloaded by means of a spring and subjected to a relatively light loads with good heat dissipation.

The limiting speeds with grease lubrication are determined using high quality grease in appropriate amounts. Those listed for oil lubrication are based on the use of oil-air (or oil mist) lubrication. In situations where the lubricating oil is used as a means to remove heat, higher speed can be achieved, however a large amount of oil must be pressure fed through the bearing, so there is a significant loss of power.

When single bearings are used in two, three or four row combinations, or the preload is increased to improve spindle rigidity, limiting speeds will be lower than those listed.

Speed Factor

Arrangement	EL	L	M	H
DB	0.85	0.80	0.65	0.55
DBB	0.80	0.75	0.60	0.45
DBD	0.75	0.70	0.55	0.40



Common Options	
TR	: Phenolic cage
TY	: Polyamide cage
DU	: Duplex Universal
SU	: Single Universal
L	: Light Preload
M	: Medium Preload
H	: Heavy Preload
P4(PA7)	: ISO 4 (ABEC 7) Precision
P5(PA5)	: ISO 5 (ABEC 5) Precision

Part Number	Basic Load Ratings (lbs)		Limiting Speed Single or Tandem (RPM)		Bearing Weight (Approx.)	Preload Value Duplex (EL)
	C_r	C_{or}	Grease	Oil	lbs	lbs
30BNC10SN24	2590	2000	34000	57000	0.27	11.24
35BNC10SN24	2990	2450	30000	50000	0.36	11.24
40BNC10SN24	3120	2740	27000	45000	0.44	11.24
45BNC10SN24	3480	3150	24000	41000	0.56	11.24
50BNC10SN24	3640	3460	22000	38000	0.61	11.24
55BNC10SN24	4500	4380	20000	34000	0.90	11.24
60BNC10SN24	4680	4790	19000	31000	0.97	11.24
65BNC10SN24	4860	5220	17000	30000	1.05	11.24
70BNC10SN24	6610	6860	16000	27000	1.40	11.24
75BNC10SN24	6720	7190	15000	26000	1.48	11.24
80BNC10SN24	7870	8540	14000	24000	2.02	22.48
85BNC10SN24	7980	8880	13000	23000	2.11	22.48
90BNC10SN24	10450	11580	13000	21000	2.71	22.48
95BNC10SN24	10680	12030	12000	20000	2.82	22.48
100BNC10SN24	10790	12590	12000	20000	2.93	22.48
105BNC10SN24	12590	14950	11000	18000	3.81	22.48
110BNC10SN24	13830	16410	10000	17000	4.65	22.48

C_r = Dynamic Radial Load Rating
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High Speed Super Precision Angular Contact

BNR Series - ROBUST (Steel ball)
18° Contact Angle

Part Number	Basic Bearing Dimensions						Preferred Shoulder Dimensions				
	d		D		B		d _a min	D _a max	*D _b max	r _a max	*r _b max
	mm	inch	mm	inch	mm	inch	inch	inch	inch	inch	inch
30BNR10S	30	1.1811	55	2.1654	13	0.5118	1.417	1.929	1.969	0.039	0.020
35BNR10S	35	1.3780	62	2.4409	14	0.5512	1.614	2.205	2.244	0.039	0.020
40BNR10S	40	1.5748	68	2.6772	15	0.5906	1.811	2.441	2.480	0.039	0.020
45BNR10S	45	1.7717	75	2.9528	16	0.6299	2.008	2.717	2.756	0.039	0.020
50BNR10S	50	1.9685	80	3.1496	16	0.6299	2.205	2.913	2.953	0.039	0.020
55BNR10S	55	2.1654	90	3.5433	18	0.7087	2.441	3.268	3.346	0.039	0.024
60BNR10S	60	2.3622	95	3.7402	18	0.7087	2.638	3.465	3.543	0.039	0.024
65BNR10S	65	2.5591	100	3.9370	18	0.7087	2.835	3.661	3.740	0.039	0.024
70BNR10S	70	2.7559	110	4.3307	20	0.7874	0.433	4.055	4.134	0.039	0.024
75BNR10S	75	2.9528	115	4.5276	20	0.7874	3.228	4.252	4.331	0.039	0.024
80BNR10S	80	3.1496	125	4.9213	22	0.8661	3.425	4.646	4.724	0.039	0.024
85BNR10S	85	3.3465	130	5.1181	22	0.8661	3.622	4.843	4.921	0.039	0.024
90BNR10S	90	3.5433	140	5.5118	24	0.9449	3.898	5.157	5.276	0.059	0.031
95BNR10S	95	3.7402	145	5.7087	24	0.9449	4.094	5.354	5.472	0.059	0.031
100BNR10S	100	3.9370	150	5.9055	24	0.9449	4.291	5.551	5.669	0.059	0.031

Limiting Speeds

The limiting speeds listed in the Bearing Dimensional Tables are guideline values. They are based on a single bearing that is lightly preloaded by means of a spring and subjected to a relatively light loads with good heat dissipation.

The limiting speeds with grease lubrication are determined using high quality grease in appropriate amounts. Those listed for oil lubrication are based on the use of oil-air (or oil mist) lubrication. In situations where the lubricating oil is used as a means to remove heat, higher speed can be achieved, however a large amount of oil must be pressure fed through the bearing, so there is a significant loss of power.

When single bearings are used in two, three or four row combinations, or the preload is increased to improve spindle rigidity, limiting speeds will be lower than those listed.

Speed Factor

Arrangement	EL	L	M	H
DB	0.85	0.80	0.65	0.55
DBB	0.80	0.75	0.60	0.45
DBD	0.75	0.70	0.55	0.40

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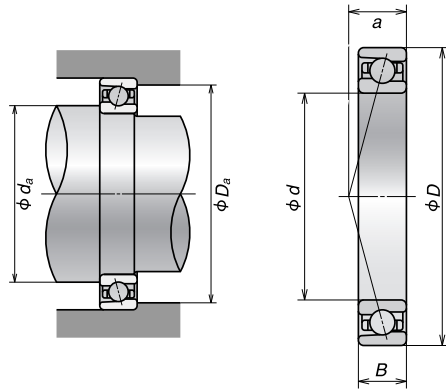
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Common Options	
TR	: Phenolic cage
TY	: Polyamide cage
DU	: Duplex Universal
SU	: Single Universal
L	: Light Preload
M	: Medium Preload
H	: Heavy Preload
P4(PA7)	: ISO 4 (ABEC 7) Precision
P5(PA5)	: ISO 5 (ABEC 5) Precision

Part Number	Basic Load Ratings (lbs)		Limiting Speed Single or Tandem (RPM)		Bearing Weight (Approx.)	Preload Value Duplex (EL)
	C_r	C_{or}	Grease	Oil	lbs	lbs
30BNR10S	1940	1290	33000	47100	0.273	11.24
35BNR10S	2270	1600	28900	41300	0.362	11.24
40BNR10S	2380	1790	26000	37100	0.450	11.24
45BNR10S	2630	2020	23400	33400	0.571	11.24
50BNR10S	2740	2230	21600	30800	0.620	11.24
55BNR10S	3390	2810	19400	27600	0.913	11.24
60BNR10S	3510	3080	18100	25900	0.977	11.24
65BNR10S	3640	3330	17000	24300	1.041	11.24
70BNR10S	5010	4450	15600	22300	1.422	11.24
75BNR10S	5080	4650	14800	21100	1.497	11.24
80BNR10S	5960	5510	13700	19600	2.031	22.48
85BNR10S	6020	5780	13100	18700	2.121	22.48
90BNR10S	7870	7420	12200	17400	2.736	22.48
95BNR10S	7980	7760	11700	16700	2.862	22.48
100BNR10S	8090	8090	11200	16000	2.745	22.48

C_r = Dynamic Radial Load Rating
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Super Precision Angular Contact

BNR Series - ROBUST (Ceramic ball) (Continued)
18° Contact Angle

Part Number	Basic Bearing Dimensions						Preferred Shoulder Dimensions				
	d		D		B		d _a min	D _a max	*D _b max	r _a max	*r _b max
	mm	inch	mm	inch	mm	inch	inch	inch	inch	inch	inch
30BNR10H	30	1.1811	55	2.1654	13	0.5118	1.417	1.929	1.969	0.039	0.020
35BNR10H	35	1.3780	62	2.4409	14	0.5512	1.614	2.205	2.244	0.039	0.020
40BNR10H	40	1.5748	68	2.6772	15	0.5906	1.811	2.441	2.480	0.039	0.020
45BNR10H	45	1.7717	75	2.9528	16	0.6299	2.008	2.717	2.756	0.039	0.020
50BNR10H	50	1.9685	80	3.1496	16	0.6299	2.205	2.913	2.953	0.039	0.020
55BNR10H	55	2.1654	90	3.5433	18	0.7087	2.441	3.268	3.346	0.039	0.024
60BNR10H	60	2.3622	95	3.7402	18	0.7087	2.638	3.465	3.543	0.039	0.024
65BNR10H	65	2.5591	100	3.9370	18	0.7087	2.835	3.661	3.740	0.039	0.024
70BNR10H	70	2.7559	110	4.3307	20	0.7874	0.433	4.055	4.134	0.039	0.024
75BNR10H	75	2.9528	115	4.5276	20	0.7874	3.228	4.252	4.331	0.039	0.024
80BNR10H	80	3.1496	125	4.9213	22	0.8661	3.425	4.646	4.724	0.039	0.024
85BNR10H	85	3.3465	130	5.1181	22	0.8661	3.622	4.843	4.921	0.039	0.024
90BNR10H	90	3.5433	140	5.5118	24	0.9449	3.898	5.157	5.276	0.059	0.031
95BNR10H	95	3.7402	145	5.7087	24	0.9449	4.094	5.354	5.472	0.059	0.031
100BNR10H	100	3.9370	150	5.9055	24	0.9449	4.291	5.551	5.669	0.059	0.031

Limiting Speeds

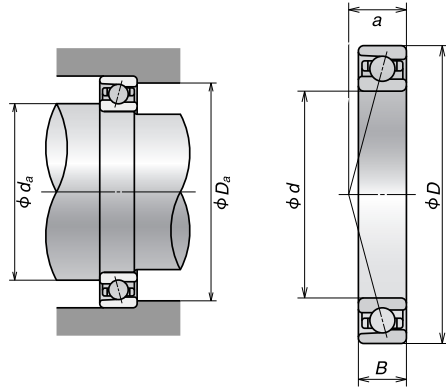
The limiting speeds listed in the Bearing Dimensional Tables are guideline values. They are based on a single bearing that is lightly preloaded by means of a spring and subjected to a relatively light loads with good heat dissipation.

The limiting speeds with grease lubrication are determined using high quality grease in appropriate amounts. Those listed for oil lubrication are based on the use of oil-air (or oil mist) lubrication. In situations where the lubricating oil is used as a means to remove heat, higher speed can be achieved, however a large amount of oil must be pressure fed through the bearing, so there is a significant loss of power.

When single bearings are used in two, three or four row combinations, or the preload is increased to improve spindle rigidity, limiting speeds will be lower than those listed.

Speed Factor

Arrangement	EL	L	M	H
DB	0.85	0.80	0.65	0.55
DBB	0.80	0.75	0.60	0.45
DBD	0.75	0.70	0.55	0.40



Common Options	
TR	: Phenolic cage
TY	: Polyamide cage
DU	: Duplex Universal
SU	: Single Universal
L	: Light Preload
M	: Medium Preload
H	: Heavy Preload
P4(PA7)	: ISO 4 (ABEC 7) Precision
P5(PA5)	: ISO 5 (ABEC 5) Precision

Part Number	Basic Load Ratings (lbs)		Limiting Speed Single or Tandem (RPM)		Bearing Weight (Approx.)	Preload Value Duplex (EL)
	C_r	C_{or}	Grease	Oil	lbs	lbs
30BNR10H	1940	1290	42400	65900	0.273	11.24
35BNR10H	2270	1600	37200	57800	0.362	11.24
40BNR10H	2380	1790	33400	51900	0.450	11.24
45BNR10H	2630	2020	30000	46700	0.571	11.24
50BNR10H	2740	2230	27700	43100	0.620	11.24
55BNR10H	3390	2810	24900	38700	0.913	11.24
60BNR10H	3510	3080	23300	36200	0.977	11.24
65BNR10H	3640	3330	21900	34000	1.041	11.24
70BNR10H	5010	4450	20000	31200	1.422	11.24
75BNR10H	5080	4650	19000	29500	1.497	11.24
80BNR10H	5960	5510	17600	27400	2.031	22.48
85BNR10H	6020	5780	16800	26100	2.121	22.48
90BNR10H	7870	7420	15700	24400	2.736	22.48
95BNR10H	7980	7760	15000	23400	2.862	22.48
100BNR10H	8090	8090	14400	22400	2.745	22.48

C_r = Dynamic Radial Load Rating
 C_{or} = Static Radial Load Rating

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High Speed Super Precision Angular Contact

BGR Series (Steel ball)

15° Contact Angle

Part Number	Basic Bearing Dimensions						Preferred Shoulder Dimensions			
	d		D		B		d _a min	D _a max	r _a max	*r _b max
	mm	inch	mm	inch	mm	inch	inch	inch	inch	inch
6BGR10S	6	0.2362	17	0.6693	6	0.2362	0.335	0.571	0.012	-
7BGR10S	7	0.2756	19	0.7480	6	0.2362	0.374	0.650	0.012	-
8BGR10S	8	0.3150	22	0.8661	7	0.2756	0.413	0.768	0.012	-
10BGR10S	10	0.3937	26	1.0236	8	0.3150	0.492	0.925	0.012	0.0059
12BGR10S	12	0.4724	28	1.1024	8	0.3150	0.571	1.004	0.012	0.0059
15BGR10S	15	0.5906	32	1.2598	9	0.3543	0.689	1.161	0.012	0.0059
17BGR10S	17	0.6693	35	1.3780	10	0.3937	0.768	1.280	0.012	0.0059
20BGR10S	20	0.7874	42	1.6535	12	0.4724	0.984	1.457	0.024	0.0118
25BGR10S	25	0.9843	47	1.8504	12	0.4724	1.181	1.654	0.024	0.0118

Limiting Speeds

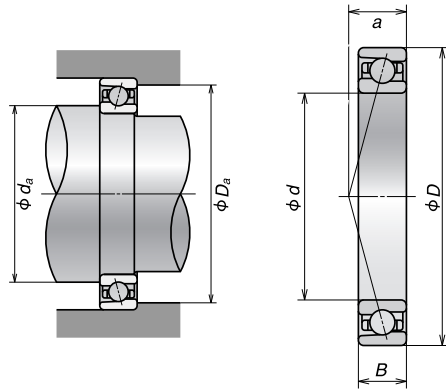
The limiting speeds listed in the Bearing Dimensional Tables are guideline values. They are based on a single bearing that is lightly preloaded by means of a spring and subjected to a relatively light loads with good heat dissipation.

The limiting speeds with grease lubrication are determined using high quality grease in appropriate amounts. Those listed for oil lubrication are based on the use of oil-air (or oil mist) lubrication. In situations where the lubricating oil is used as a means to remove heat, higher speed can be achieved, however a large amount of oil must be pressure fed through the bearing, so there is a significant loss of power.

When single bearings are used in two, three or four row combinations, or the preload is increased to improve spindle rigidity, limiting speeds will be lower than those listed.

Speed Factor

Arrangement	EL	L	M	H
DB	0.85	0.80	0.65	0.55
DBB	0.80	0.75	0.60	0.45
DBD	0.75	0.70	0.55	0.40



Common Options	
TR	: Phenolic cage
TY	: Polyamide cage
DU	: Duplex Universal
SU	: Single Universal
L	: Light Preload
M	: Medium Preload
H	: Heavy Preload
P4(PA7)	: ISO 4 (ABEC 7) Precision
P5(PA5)	: ISO 5 (ABEC 5) Precision

Part Number	Basic Load Ratings (lbs)		Limiting Speed Single or Tandem 1000 (RPM)		Bearing Weight (Approx.)
	C_r	C_{or}	Grease	Oil	lbs
6BGR10S	320	100	140	192	0.01
7BGR10S	370	120	124	170	0.02
8BGR10S	530	180	107	147	0.03
10BGR10S	800	290	88.9	123	0.04
12BGR10S	880	330	80	110	0.05
15BGR10S	940	390	68.1	93.7	0.06
17BGR10S	1010	440	61.6	84.7	0.08
20BGR10S	1690	750	51.7	71	0.15
25BGR10S	1790	850	44.5	61.2	0.17

C_r = Dynamic Radial Load Rating
 C_{or} = Static Radial Load Rating

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Super Precision Angular Contact

BGR Series (Ceramic ball) (Continued)

15° Contact Angle

Part Number	Basic Bearing Dimensions						Preferred Shoulder Dimensions			
	d		D		B		d _a min	D _a max	r _a max	*r _b max
	mm	inch	mm	inch	mm	inch	inch	inch	inch	inch
6BGR10H	6	0.2362	17	0.6693	6	0.2362	0.335	0.571	0.012	-
7BGR10H	7	0.2756	19	0.7480	6	0.2362	0.374	0.650	0.012	-
8BGR10H	8	0.3150	22	0.8661	7	0.2756	0.413	0.768	0.012	-
10BGR10H	10	0.3937	26	1.0236	8	0.3150	0.492	0.925	0.012	0.0059
12BGR10H	12	0.4724	28	1.1024	8	0.3150	0.571	1.004	0.012	0.0059
15BGR10H	15	0.5906	32	1.2598	9	0.3543	0.689	1.161	0.012	0.0059
17BGR10H	17	0.6693	35	1.3780	10	0.3937	0.768	1.280	0.012	0.0059
20BGR10H	20	0.7874	42	1.6535	12	0.4724	0.984	1.457	0.024	0.0118
25BGR10H	25	0.9843	47	1.8504	12	0.4724	1.181	1.654	0.024	0.0118

Limiting Speeds

The limiting speeds listed in the Bearing Dimensional Tables are guideline values. They are based on a single bearing that is lightly preloaded by means of a spring and subjected to a relatively light loads with good heat dissipation.

The limiting speeds with grease lubrication are determined using high quality grease in appropriate amounts. Those listed for oil lubrication are based on the use of oil-air (or oil mist) lubrication. In situations where the lubricating oil is used as a means to remove heat, higher speed can be achieved, however a large amount of oil must be pressure fed through the bearing, so there is a significant loss of power.

When single bearings are used in two, three or four row combinations, or the preload is increased to improve spindle rigidity, limiting speeds will be lower than those listed.

Speed Factor

Arrangement	EL	L	M	H
DB	0.85	0.80	0.65	0.55
DBB	0.80	0.75	0.60	0.45
DBD	0.75	0.70	0.55	0.40

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Part Number	Basic Load Ratings (lbs)		Limiting Speed Single or Tandem 1000 (RPM)		Bearing Weight (Approx.)
	C_r	C_{or}	Grease	Oil	lbs
6BGR10H	320	100	166	244	0.01
7BGR10H	370	120	147	216	0.02
8BGR10H	530	180	127	187	0.03
10BGR10H	800	290	106	156	0.04
12BGR10H	880	330	95	140	0.05
15BGR10H	940	390	80.9	120	0.06
17BGR10H	1010	440	73.1	108	0.08
20BGR10H	1690	750	61.3	90.4	0.15
25BGR10H	1790	850	52.8	77.8	0.17

C_r = Dynamic Radial Load Rating
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Super Precision Thrust Angular Contact

BAR Series

30° Contact Angle

Part Number	Basic Bearing Dimensions						Preferred Shoulder Dimensions		
	d		D		B		d _a min	D _b max	*r _b max
	mm	inch	mm	inch	mm	inch	inch	inch	inch
60BAR10S	60	2.3622	95	3.7402	16.5	0.6496	2.6378	3.54331	0.02362
65BAR10S	65	2.5591	100	3.9370	16.5	0.6496	2.8346	3.74015	0.02362
70BAR10S	70	2.7559	110	4.3307	18	0.7087	3.0315	4.13385	0.02362
75BAR10S	75	2.9528	115	4.5276	18	0.7087	3.2283	4.33070	0.02362
80BAR10S	80	3.1496	125	4.9213	20.25	0.7972	3.4252	4.72440	0.02362
85BAR10S	85	3.3465	130	5.1181	20.25	0.7972	3.6220	4.92125	0.02362
90BAR10S	90	3.5433	140	5.5118	22.5	0.8858	3.8976	5.27559	0.03937
95BAR10S	95	3.7402	145	5.7087	22.5	0.8858	4.0945	5.47244	0.03937
100BAR10S	100	3.9370	150	5.9055	22.5	0.8858	4.2913	5.66929	0.03937
105BAR10S	105	4.1339	160	6.2992	24.75	0.9744	4.5276	6.06299	0.03937
110BAR10S	110	4.3307	170	6.6929	27	1.0630	4.7244	6.45669	0.03937
120BAR10S	120	4.7244	180	7.0866	27	1.0630	5.1181	6.85039	0.03937
130BAR10S	130	5.1181	200	7.8740	31.5	1.2402	5.5118	7.63779	0.03937

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Common Options	
TR	: Phenolic cage
TY	: Polyamide cage
DU	: Duplex Universal
SU	: Single Universal
L	: Light Preload
M	: Medium Preload
H	: Heavy Preload
P4(PA7)	: ISO 4 (ABEC 7) Precision
P5(PA5)	: ISO 5 (ABEC 5) Precision

Part Number	Basic Load Ratings (lbs)		Limiting Speed Duplex (RPM)		Bearing Weight (Approx.)	Preload Value Duplex (EL)	Axial Rigidity Duplex (EL)
	C_r	C_{or}	Grease	Oil	lbs	lbs	lbs/.001 inch
60BAR10S	4249	8543	9 700	12 300	0.93	53.95	1084.9
65BAR10S	4384	9330	9 100	11 600	0.99	56.20	1142
70BAR10S	6047	12364	8 400	10 600	1.32	56.20	1142
75BAR10S	6137	13039	7 900	10 000	1.40	58.45	1199.1
80BAR10S	7194	15399	7 400	9 300	1.93	76.44	1370.4
85BAR10S	73064	16074	7 000	8 900	2.14	78.68	1370.4
90BAR10S	95544	20795	6 600	8 300	2.64	80.93	1427.5
95BAR10S	9667	21694	6 300	8 000	2.91	80.93	1484.6
100BAR10S	9779	22481	6 000	7 600	3.08	83.18	1541.7
105BAR10S	11128	25853	5 700	7 200	3.83	85.43	1598.8
110BAR10S	12477	29450	5 400	6 800	4.65	87.68	1598.8
120BAR10S	12814	31698	5 000	6 400	4.99	87.68	1713
130BAR10S	16299	38667	4 600	5 800	7.41	87.68	1713

C_r = Dynamic Radial Load Rating
 C_{or} = Static Radial Load Rating

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Engineering Section



Super Precision Thrust Angular Contact

BTR Series (Continued)

40° Contact Angle

Part Number	Basic Bearing Dimensions						Preferred Shoulder Dimensions		
	d		D		B		d _a min	D _b max	*r _b max
	mm	inch	mm	inch	mm	inch	inch	inch	inch
60BTR10S	60	2.3622	95	3.7402	16.5	0.6496	2.6378	3.5433	0.02362
65BTR10S	65	2.5591	100	3.9370	16.5	0.6496	2.8346	3.7402	0.02362
70BTR10S	70	2.7559	110	4.3307	18	0.7087	3.0315	4.1339	0.02362
75BTR10S	75	2.9528	115	4.5276	18	0.7087	3.2283	4.3307	0.02362
80BTR10S	80	3.1496	125	4.9213	20.25	0.7972	3.4252	4.7244	0.02362
85BTR10S	85	3.3465	130	5.1181	20.25	0.7972	3.6220	4.9213	0.02362
90BTR10S	90	3.5433	140	5.5118	22.5	0.8858	3.8976	5.2756	0.03937
95BTR10S	95	3.7402	145	5.7087	22.5	0.8858	4.0945	5.4724	0.03937
100BTR10S	100	3.9370	150	5.9055	22.5	0.8858	4.2913	5.6693	0.03937
105BTR10S	105	4.1339	160	6.2992	24.75	0.9744	4.5276	6.0630	0.03937
110BTR10S	110	4.3307	170	6.6929	27	1.0630	4.7244	6.4567	0.03937
120BTR10S	120	4.7244	180	7.0866	27	1.0630	5.1181	6.8504	0.03937
130BTR10S	130	5.1181	200	7.8740	31.5	1.2402	5.5118	7.6378	0.03937

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Thrust Bearings

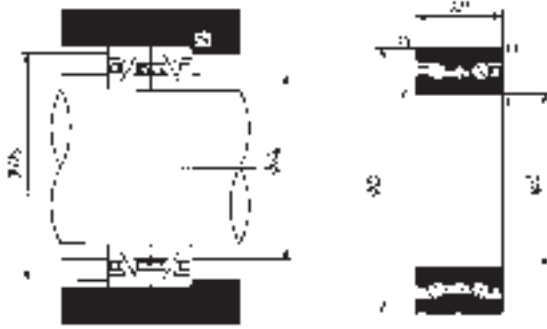
Split Pillow Blocks

Super Precision Bearings

Linear Motion

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Engineering Section



Common Options	
TR	: Phenolic cage
TY	: Polyamide cage
DU	: Duplex Universal
SU	: Single Universal
L	: Light Preload
M	: Medium Preload
H	: Heavy Preload
P4(PA7)	: ISO 4 (ABEC 7) Precision
P5(PA5)	: ISO 5 (ABEC 5) Precision

Part Number	Basic Load Ratings (lbs)		Limiting Speed Duplex (RPM)		Bearing Weight (Approx.) lbs	Preload Value Duplex (EL) lbs	Axial Rigidity Duplex (EL) lbs/.001 inch
	C_r	C_{or}	Grease	Oil			
60BTR10S	5036	9779	8 400	11 000	0.93	83.18	1884300
65BTR10S	5193	10566	7 900	10 400	0.99	87.68	1998500
70BTR10S	7194	14163	7 300	9 500	1.32	87.68	1998500
75BTR10S	7306	14725	6 900	9 000	1.40	89.92	2055600
80BTR10S	8543	17535	6 400	8 300	1.93	114.65	2284000
85BTR10S	8655	18322	6 100	8 000	2.14	116.90	2398200
90BTR10S	11240	23605	5 700	7 400	2.64	119.15	2455300
95BTR10S	11465	24729	5 500	7 100	2.91	123.64	2569500
100BTR10S	11578	25628	5 200	6 800	3.08	125.89	2626600
105BTR10S	13151	29450	5 000	6 500	3.84	128.14	2683700
110BTR10S	14837	33272	4 700	6 100	4.65	130.39	2797900
120BTR10S	15287	35969	4 400	5 700	4.99	137.13	2969200
130BTR10S	19334	43838	4 000	5 200	7.41	137.13	2969200

C_r = Dynamic Radial Load Rating
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Super Precision Cylindrical Roller Bearings

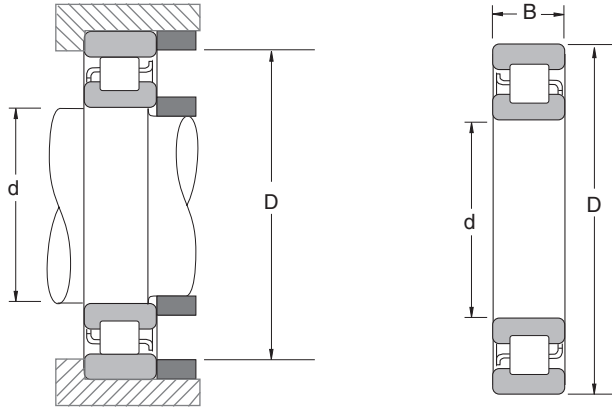
N 1000 Series
Single Row



Bearing Number	Basic Bearing Dimensions						Preferred Shoulder Dimensions			
	<i>d</i>		<i>D</i>		B		<i>r_a</i> (inch)	<i>d_a</i> (inch)	<i>D_b</i> (inch)	
	mm	mm	mm	inch	mm	inch	max	max	min	max
N1006	30	1.1811	55	2.1654	13	0.5118	0.0197	1.3780	2.0079	1.9291
N1007	35	1.3780	62	2.4409	14	0.5512	0.0197	1.5748	2.2835	2.2047
N1008	40	1.5748	68	2.6772	15	0.5906	0.0236	1.7717	2.5197	2.4409
N1009	45	1.7717	75	2.9528	16	0.6299	0.0236	1.9685	2.7953	2.6772
N1010	50	1.9685	80	3.1496	16	0.6299	0.0236	2.1654	2.9921	2.8740
N1011	55	2.1654	90	3.5433	18	0.7087	0.0394	2.4213	3.3465	3.2283
N1012	60	2.3622	95	3.7402	18	0.7087	0.0394	2.6181	3.5433	3.4252
N1013	65	2.5591	100	3.9370	18	0.7087	0.0394	2.8150	3.7402	3.6220
N1014	70	2.7559	110	4.3307	20	0.7874	0.0394	3.0118	4.1339	3.9764
N1015	75	2.9528	115	4.5276	20	0.7874	0.0394	3.2087	4.3307	4.1732
N1016	80	3.1496	125	4.9213	22	0.8661	0.0394	3.4055	4.7244	4.5276
N1017	85	3.3465	130	5.1181	22	0.8661	0.0394	3.6024	4.9213	4.7244
N1018	90	3.5433	140	5.5118	24	0.9449	0.0394	3.8583	5.2559	5.0787
N1019	95	3.7402	145	5.7087	24	0.9449	0.0394	4.0551	5.4528	5.2756
N1020	100	3.9370	150	5.9055	24	0.9449	0.0394	4.2520	5.6496	5.4724
N1021	105	4.1339	160	6.2992	26	1.0236	0.0394	4.4882	6.0433	5.7874
N1022	110	4.3307	170	6.6929	28	1.1024	0.0394	4.6850	6.4370	6.1811
N1024	120	4.7244	180	7.0866	28	1.1024	0.0394	5.0787	6.8307	6.5748
N1026	130	5.1181	200	7.8740	33	1.2992	0.0394	5.4724	7.6181	7.2441
N1028	140	5.5118	210	8.2677	33	1.2992	0.0394	5.8661	8.0118	7.6378

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Common Options	
M	: One piece brass cage; inner ring guided
MB	: Split type brass cage; roller guided
MR	: Riveted brass cage; roller guided
T	: Polyamide cage; roller guided
KR	: Precision Tapered Bore 1:12
CCx	: Matched Clearance (9,1, . . .)
P4 (PA7)	: ISO 4 (ABEC7) Precision

Bearing Number	Basic Load Ratings (lbs)		Limiting Speeds (1000 RPM)		Bearing Weight (Approx.)
	C_r	C_{or}	Grease	Oil	lbs
N1006	4400	4400	20.0	22.0	0.29
N1007	5100	5200	18.0	20.0	0.40
N1008	6100	6500	16.0	18.0	0.49
N1009	7300	8000	14.0	16.0	0.60
N1010	7300	8200	13.0	15.0	0.64
N1011	8500	9800	12.0	13.0	0.96
N1012	9000	10900	11.0	12.0	1.02
N1013	9300	11500	10.0	12.0	1.10
N1014	13100	15900	9.5	11.0	1.49
N1015	13400	16800	9.0	10.0	1.58
N1016	16300	20400	8.5	9.5	2.09
N1017	16800	21500	8.0	9.0	2.19
N1018	19800	25800	7.5	8.5	2.86
N1019	20400	27100	7.1	8.0	3.01
N1020	20900	28200	6.7	7.5	3.15
N1021	24500	33500	6.3	7.1	3.98
N1022	29500	39000	6.0	6.7	4.95
N1024	31100	43000	5.6	6.3	5.24
N1026	38600	53500	5.3	5.6	7.94
N1028	39500	56000	4.8	5.3	8.38

C_r = Dynamic Radial Load Rating
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Super Precision Cylindrical Roller Bearings

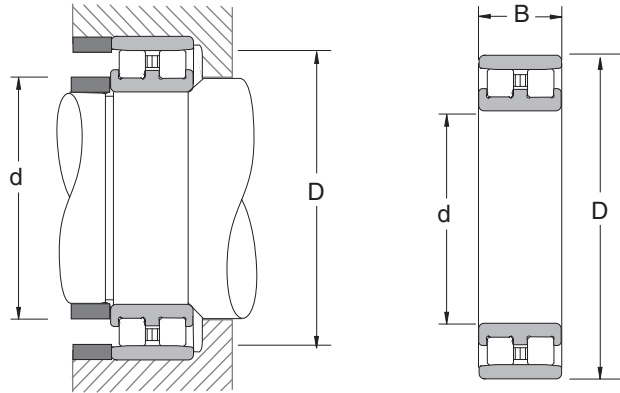
NN 3000
Double Row



Bearing Number	Basic Bearing Dimensions						Preferred Shoulder Dimensions			
	<i>d</i>		<i>D</i>		<i>B</i>		<i>r_a</i> (inch)	<i>d_a</i> (inch)	<i>D_b</i> (inch)	
	mm	mm	mm	inch	mm	inch	max	max	min	max
NN3005	25	0.9843	47	1.8504	16	0.6299	0.0236	1.1417	1.6929	1.6535
NN3006	30	1.1811	55	2.1654	19	0.7480	0.0394	1.3780	1.9685	1.9685
NN3007	35	1.3780	62	2.4409	20	0.7874	0.0394	1.5748	2.2441	2.2047
NN3008	40	1.5748	68	2.6772	21	0.8268	0.0394	1.7717	2.4803	2.4409
NN3009	45	1.7717	75	2.9528	23	0.9055	0.0394	1.9685	2.7559	2.7165
NN3010	50	1.9685	80	3.1496	23	0.9055	0.0394	2.1654	2.9528	2.9134
NN3011	55	2.1654	90	3.5433	26	1.0236	0.0394	2.4213	3.2874	3.2677
NN3012	60	2.3622	95	3.7402	26	1.0236	0.0394	2.6181	3.4843	3.4646
NN3013	65	2.5591	100	3.9370	26	1.0236	0.0394	2.8150	3.6811	3.6614
NN3014	70	2.7559	110	4.3307	30	1.1811	0.0394	3.0118	4.0748	4.0157
NN3015	75	2.9528	115	4.5276	30	1.1811	0.0394	3.2087	4.2717	4.2126
NN3016	80	3.1496	125	4.9213	34	1.3386	0.0394	3.4055	4.6654	4.5276
NN3017	85	3.3465	130	5.1181	34	1.3386	0.0394	3.6024	4.8622	4.7244
NN3018	90	3.5433	140	5.5118	37	1.4567	0.0591	3.8583	5.1969	5.0787
NN3019	95	3.7402	145	5.7087	37	1.4567	0.0591	4.0551	5.3937	5.2756
NN3020	100	3.9370	150	5.9055	37	1.4567	0.0591	4.2520	5.5906	5.4724
NN3021	105	4.1339	160	6.2992	41	1.6142	0.0787	4.4882	5.9449	5.8268
NN3022	110	4.3307	170	6.6929	45	1.7717	0.0787	4.6850	6.3386	6.1811
NN3024	120	4.7244	180	7.0866	46	1.8110	0.0787	5.0787	6.7323	6.5748
NN3026	130	5.1181	200	7.8740	52	2.0472	0.0787	5.4724	7.5197	7.2835
NN3028	140	5.5118	210	8.2677	53	2.0866	0.0787	5.8661	7.9134	7.6772
NN3030	150	5.9055	225	8.8583	56	2.2047	0.0787	6.3386	8.4252	8.2283
NN3032	160	6.2992	240	9.4488	60	2.3622	0.0787	6.7323	9.0157	8.7402
NN3034	170	6.6929	260	10.2362	67	2.6378	0.0787	7.1260	9.8031	9.4094
NN3036	180	7.0866	280	11.0236	74	2.9134	0.0787	7.5197	10.5906	10.1575
NN3038	190	7.4803	290	11.4173	75	2.9528	0.0787	7.9134	10.9843	10.5512
NN3040	200	7.8740	310	12.2047	82	3.2283	0.0787	8.3071	11.7717	11.2205

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Common Options	
M	: One piece brass cage; inner ring guided
MB	: Split type brass cage; roller guided
MR	: Riveted brass cage; roller guided
T	: Polyamide cage; roller guided
KR	: Precision Tapered Bore 1:12
CCx	: Matched Clearance (9,1, . . .)
E44	: Lube Groove and Holes, Outer Ring
P4 (PA7)	: ISO 4 (ABEC7) Precision

Bearing Number	Basic Load Ratings (lbs)		Limiting Speeds (1000 RPM)		Bearing Weight (Approx.)
	C_r	C_{or}	Grease	Oil	lbs
NN3005	5800	6700	19.0	22.0	0.28
NN3006	6900	8400	16.0	19.0	0.43
NN3007	8800	11200	14.0	16.0	0.56
NN3008	9700	12500	13.0	15.0	0.67
NN3009	11700	15400	12.0	13.0	0.88
NN3010	11900	16300	11.0	12.0	0.95
NN3011	15500	21700	9.5	11.0	1.40
NN3012	16400	23800	9.0	10.0	1.50
NN3013	17300	26000	8.5	9.5	1.61
NN3014	21900	33300	8.0	9.0	2.31
NN3015	21800	34000	7.5	8.5	2.42
NN3016	26900	41900	6.7	8.0	3.37
NN3017	28200	45200	6.7	7.5	3.54
NN3018	32200	51100	6.0	7.1	4.53
NN3019	33700	55300	6.0	6.7	4.73
NN3020	35300	59500	5.6	6.3	4.95
NN3021	44500	73000	5.3	6.0	6.27
NN3022	51500	84000	5.0	5.6	8.10
NN3024	54000	91000	4.8	5.3	8.82
NN3026	64000	107000	4.3	4.8	12.87
NN3028	67200	116000	4.0	4.5	13.93
NN3030	75000	132000	3.8	4.3	16.92
NN3032	84000	149000	3.6	4.0	20.55
NN3034	101000	181000	3.2	3.8	28.16
NN3036	127000	225000	3.0	3.4	36.74
NN3038	133000	242000	3.0	3.4	38.94
NN3040	147000	262000	2.8	3.2	49.72

C_r = Dynamic Radial Load Rating
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Super Precision Cylindrical Roller Bearings

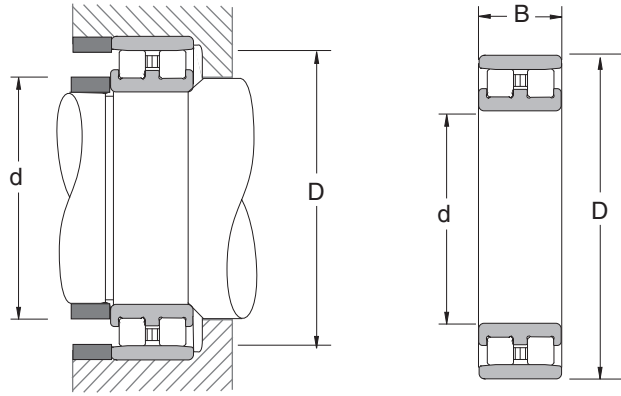
NN 3900
Double Row



Bearing Number	Basic Bearing Dimensions						Preferred Shoulder Dimensions			
	<i>d</i>		<i>D</i>		B		<i>r_a</i> (inch)	<i>d_a</i> (inch)	<i>D_b</i> (inch)	
	mm	inch	mm	inch	mm	inch	max	max	min	max
NN3920	100	3.9370	140	5.5118	30	1.1811	0.0394	4.1929	5.2559	5.1575
NN3921	105	4.1339	145	5.7087	30	1.1811	0.0394	4.3898	5.4528	5.3543
NN3922	110	4.3307	150	5.9055	30	1.1811	0.0394	4.5866	5.6496	5.5512
NN3924	120	4.7244	165	6.4961	34	1.3386	0.0394	4.9803	6.2402	6.0827
NN3926	130	5.1181	180	7.0866	37	1.4567	0.0591	5.4331	6.7717	6.6535
NN3928	140	5.5118	190	7.4803	37	1.4567	0.0591	5.8268	7.1654	7.0866
NN3930	150	5.9055	210	8.2677	45	1.7717	0.0787	6.2598	7.9134	7.7559
NN3932	160	6.2992	220	8.6614	45	1.7717	0.0787	6.6535	8.3071	8.1496
NN3934	170	6.6929	230	9.0551	45	1.7717	0.0787	7.0472	8.7008	8.5433
NN3936	180	7.0866	250	9.8425	52	2.0472	0.0787	7.4409	9.4882	9.2126
NN3938	190	7.4803	260	10.2362	52	2.0472	0.0787	7.8346	9.8819	9.6654
NN3940	200	7.8740	280	11.0236	60	2.3622	0.0787	8.3071	10.5906	10.2756
NN3944	220	8.6614	300	11.8110	60	2.3622	0.0787	9.0945	11.3780	11.0630
NN3948	240	9.4488	320	12.5984	60	2.3622	0.0787	9.8819	12.1654	11.8898
NN3952	260	10.2362	360	14.1732	75	2.9528	0.0787	10.6693	13.7402	13.3071
NN3956	280	11.0236	380	14.9606	75	2.9528	0.0787	11.4567	14.5276	14.0945

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Common Options	
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MB	: Split type brass cage; roller guided
MR	: Riveted brass cage; roller guided
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KR	: Precision Tapered Bore 1:12
CCx	: Matched Clearance (9,1, . . .)
E44	: Lube Groove and Holes, Outer Ring
P4 (PA7)	: ISO 4 (ABEC7) Precision

Bearing Number	Basic Load Ratings (lbs)		Limiting Speeds (1000 RPM)		Bearing Weight (Approx.)
	C_r	C_{or}	Grease	Oil	lbs
NN3920	23800	40800	6.0	6.7	2.84
NN3921	24700	43600	5.6	6.3	3.30
NN3922	25800	46500	5.3	6.3	3.43
NN3924	30900	56000	5.0	5.6	4.40
NN3926	39000	72500	4.5	5.3	5.65
NN3928	45200	85000	4.3	4.8	6.07
NN3930	59000	109000	3.8	4.5	9.77
NN3932	61000	117000	3.6	4.3	11.33
NN3934	63000	123000	3.6	4.0	12.03
NN3936	76000	148000	3.2	3.8	15.71
NN3938	77000	152000	3.2	3.6	16.35
NN3940	93500	184000	3.0	3.4	23.10
NN3944	99000	202000	2.6	3.0	25.08
NN3948	104000	218000	2.6	2.8	26.62
NN3952	151000	311000	2.2	2.6	47.08
NN3956	155000	328000	2.2	2.4	49.94
NN3920	23800	40800	6.0	6.7	2.84
NN3921	24700	43600	5.6	6.3	3.30
NN3922	25800	46500	5.3	6.3	3.43
NN3924	30900	56000	5.0	5.6	4.40

C_r = Dynamic Radial Load Rating
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Ball Screw Support Bearings

Major Dimensions

Inch Series

Bearing Number	Boundary Dimensions						Ball Complement
	Bore Diameter d		Outside Diameter D		Width B		
	mm	inch	mm	inch	mm	inch	no. - inch
20 TAC 47XB	20.000	0.7874	47.0	1.8504	15.875	0.6250	15-1/4
23 TAC 62B	23.838	0.9385	62.0	2.4409	15.875	0.6250	21-1/4
38 TAC 72B	38.100	1.5000	72.0	2.8346	15.875	0.6250	24-1/4
44 TAC 76B	44.475	1.7510	76.2	3.0000	15.875	0.6250	26-1/4
57 TAC 90B	57.150	2.2500	90.0	3.5433	15.875	0.6250	32-1/4
76 TAC 110B	76.200	3.0000	110.0	4.3307	15.875	0.6250	41-1/4
101 TAC 145B	101.600	4.0000	145.0	5.7087	22.225	0.8750	37-3/8

Metric Series

Bearing Number	Boundary Dimensions						Ball Complement
	Bore Diameter d		Outside Diameter D		Width B		
	mm	inch	mm	inch	mm	inch	no. - inch
17 TAC 47B	17	0.6693	47	1.8504	15	0.5906	15-1/4
20 TAC 47B	20	0.7874	47	1.8504	15	0.5906	15-1/4
25 TAC 62B	25	0.9843	62	2.4409	15	0.5906	21-1/4
30 TAC 62B	30	1.1811	62	2.4409	15	0.5906	21-1/4
35 TAC 72B	35	1.3780	72	2.8346	15	0.5906	24-1/4
40 TAC 72B	40	1.5748	72	2.8346	15	0.5906	24-1/4
40 TAC 90B	40	1.5748	90	3.5433	20	0.7874	20-1/4
45 TAC 75B	45	1.7717	75	2.9528	15	0.5906	26-1/4
45 TAC 100B	45	1.7717	100	3.9370	20	0.7874	23-3/8
50 TAC 100B	50	1.9685	100	3.9370	20	0.7874	23-3/8
55 TAC 100B	55	2.1654	100	3.9370	20	0.7874	23-3/8
55 TAC 120B	55	2.1654	120	4.7244	20	0.7874	27-3/8
60 TAC 120B	60	2.1654	120	4.7244	20	0.7874	27-3/8

Ball Screw Support Bearings

Load Ratings

Inch Series

Bearing Number	Dynamic Axial Load Rating Ca						Limited Axial Capacity					
	One Row Loaded DF		Two Rows Loaded DFD•DFF•DT		Three Rows Loaded DFT•DTD		One Row Loaded DF		Two Rows Loaded DFD•DFF•DT		Three Rows Loaded DFT•DTD	
	daN	lbf	daN	lbf	daN	lbf	daN	lbf	daN	lbf	daN	lbf
20 TAC 47XB	2190	4920	3550	7980	4750	10700	2660	5980	5300	11900	7950	17900
23 TAC 62B	2850	6410	4650	10500	6150	13800	4050	9110	8150	18300	12200	27400
38 TAC 72B	3150	7080	5150	11600	6850	15400	5200	11700	10400	23400	15700	35300
44 TAC 76B	3300	7420	4350	12000	7100	16000	5700	12800	11400	25600	17000	38200
57 TAC 90B	3550	7980	5750	12900	7600	17100	6850	15400	13700	30800	20500	46100
76 TAC 110B	3900	8770	6300	14200	8350	18800	8650	19400	17300	38900	26000	58500
101 TAC 145B	7600	17100	12300	27700	16400	36900	16600	37300	33000	74200	50000	112000

Metric Series

Bearing Number	Dynamic Axial Load Rating Ca						Limited Axial Capacity					
	One Row Loaded DF		Two Rows Loaded DFD•DFF•DT		Three Rows Loaded DFT•DTD		One Row Loaded DF		Two Rows Loaded DFD•DFF•DT		Three Rows Loaded DFT•DTD	
	daN	lbf	daN	lbf	daN	lbf	daN	lbf	daN	lbf	daN	lbf
17 TAC 47B	2190	4920	3550	7980	4750	10700	2660	5980	5300	11900	7950	17900
20 TAC 47B	2190	4920	3550	7980	4750	10700	2660	5980	5300	11900	7950	17900
25 TAC 62B	2850	6410	4650	10500	6150	13800	4050	9110	8150	18300	12200	27400
30 TAC 62B	2920	6570	4750	10700	6300	14200	4300	9670	8600	19300	12900	29000
35 TAC 72B	3100	6970	5050	11400	6700	15100	5000	11200	10000	22500	15000	33700
40 TAC 72B	3150	7080	5150	11600	6850	15400	5200	11700	10400	23400	15700	35300
40 TAC 90B	5900	1330	9550	21500	12700	28600	8950	20100	17900	40200	26900	60500
45 TAC 75B	3300	7420	5350	12000	7100	16000	5700	12800	11400	25600	17000	38200
45 TAC 100B	6150	13800	10000	22500	13300	29900	9900	22300	19800	44500	29800	67000
50 TAC 100B	6300	14200	10200	22900	13600	30600	10400	23400	20800	46800	31000	69700
55 TAC 100B	6300	14200	10200	22900	13600	30600	10400	23400	20800	46800	31000	69700
55 TAC 120B	6750	15200	10900	24500	14500	32600	12300	27700	24600	55300	37000	83200
60 TAC 120B	6750	15200	10900	24500	14500	32600	12300	27700	24600	55300	37000	83200

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Preloads, Spring Constants, and Starting Torque

Inch Series (Preload Symbol C11)

Bearing Number	Duplex Combinations (DF) Preload	Triplex Combinations (DFD) Preload	Quadruplex Combinations (DFF) Preload
	lbf	lbf	lbf
20 TAC 47XB	750	1000	1500
23 TAC 62B	1000	1350	2000
38 TAC 72B	1500	2100	3000
44 TAC 76B	1500	2100	3000
57 TAC 90B	1750	2300	3500
76 TAC 110B	2250	3000	4500
101 TAC 145B	3000	4100	6000

Metric Series (Preload Symbol C10)

Bearing Number	Duplex Combinations (DF) Preload	Triplex Combinations (DFD) Preload	Quadruplex Combinations (DFF) Preload
	lbf	lbf	lbf
17 TAC 47B	490	680	990
20 TAC 47B	490	680	990
25 TAC 62B	680	930	1390
30 TAC 62B	680	930	1390
35 TAC 72B	790	1080	1590
40 TAC 72B	790	1080	1590
40 TAC 90B	1010	1390	2050
45 TAC 75B	790	1080	1590
45 TAC 100B	1170	590	2300
50 TAC 100B	1170	1590	2300
55 TAC 100B	1170	1590	2300
55 TAC 120B	1390	1870	2750
60 TAC 120B	1390	1870	2750

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