

# Product Reference Guide



INA USA CORPORATION



# HIGH PRECISION BEARINGS

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This product section has been excerpted from our full Product Reference Guide to reduce download time. Our complete Product Reference Guide is available in print and on CD-ROM. To receive the full version, please contact your nearest INA Sales Office listed on the last page of this file.



# FOREWORD

This publication was designed to serve as a quick reference to the standard product series offered by INA USA Corporation (INA) for its domestic market. The guide provides a current overview of INA products, including basic envelope dimensions and capacities, in one publication – it is not an engineering design guide intended to replace INA engineering catalogs. Consequently, the metric and inch conversions are listed to 3 decimal places for easy reference and rapid identification of correct replacement part(s), not 4 decimal places as necessary for quality control purposes.

This publication can be used to narrow the choices between the many different INA product lines and series for new designs. Detailed engineering information for new designs can be found in our traditional catalogs or by contacting the INA Engineering Department.

A significant portion of INA sales are special production sizes. The identification of those parts is sometimes difficult since a comprehensive listing is beyond the intent of this publication. Special part numbers take as many different forms as the series listed here, but the basic system is to use sequential numbers for each new design. Usually the prefix is F or FC but can include VH, INA or the bearing type such as NA. INA maintains a technical help desk to identify sizes not known or to match competitors' parts.

The toll free 800 numbers listed will give you access to INA Customer Service representatives. These representatives can tap into INA Worldwide resources to provide the bearings you need.

## Storage Life

Lubricants age naturally due to environmental influences. It is therefore the user's responsibility to follow the directions given by the lubricant manufacturer.

The greases used in INA rolling bearings have a mineral oil base and experience shows that they can be stored for up to 3 years without deteriorating providing the following important conditions are met.

- Closed storage room
- Temperature between 0 °C and 40 °C
- Relative atmospheric humidity 65% or less
- Security from chemical agents (vapors, gases, fluids)
- Sealed rolling bearings

The frictional torque can be considerably higher after longer storage periods than in freshly greased bearings and the lubricity of the grease can also have deteriorated.

INA bearings have many optional features available including:

- ISO series of bearings generally include the standard clearance options CN, C2, C3 and C4.
- ISO bearing series include PN, P6 and P5 precision classes.

- Corrotect plating is available for most bearing designs. Corrotect is a patented process for zinc-iron and zinc-iron-cobalt plating in a thin layer which can be applied to standard components. The protection exceeds stainless steel and the cost is half. Add suffix RR.
- All sealed bearings are supplied pregreased. In most cases the standard lubricant is Shell Alvania 2 or equivalent. Other greases are available, some at extra cost.
- Unsealed bearings may not be greased when shipped.
- Speed limits as published, are based on oil lubrication for open bearings or grease lubrication for sealed bearings. The speed limits are calculated based on a nominal load and heat balance equation. Higher speeds may be allowed depending on the application.
- Dynamic capacities are published based on INA standard usage of ISO and ABMA formulas. New life theory threshold values are published in other INA publications.
- Life calculations and evaluations can be made from INA engineering based catalogs which are available from your INA Sales Representative.
- Other features are available based on current production volumes including heat stabilization of the rings, matched bearing sets, with oil holes and grooves, etc.

ABMA American Bearing Manufacturers Association

ASTM American Society Of Testing And Materials

DIN Deutsches Institut für Normung e.V.

ISO International Standards Organization

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INA USA Corporation reserves the right to make changes / revisions to specifications contained herein without notice.

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# General Information

## HIGH PRECISION BEARINGS

### PRODUCT DESCRIPTION

#### INA Combination Axial Ball And Radial Needle Bearings

- Radial precision ground needle bearing designed on ISO series NA4900 cross section.
- Various axial ball thrust bearings for light to heavy thrust loads adds length to bearing and may increase the outside diameter.
- Designed for applications where the thrust load is secondary to the radial load.

#### INA Combination Axial And Radial Needle Bearings

- Radial precision ground needle bearing designed on ISO series NA4900 cross section.
- Axial cylindrical thrust bearing for heavy thrust loads based on series 81100.
- Designed for applications where axial preload is required.

#### INA Combination Bearings For Ball Screw Support

- Matched axial cylindrical roller thrust cages with radial needle support.
- Made to P4 (ABEC 7) runout values for thrust.
- Extremely high rigidity with easily repeatable preloads.
- Available with predrilled integral mounting flange for ease of assembly without increased tolerance stack up.
- Available with seal mounting accessories.

#### INA 60° Contact Angle Angular Contact Ball Thrust Bearings For Ball Screw Support

- Individual bearings consist of 2 rows as a back to back arrangement with a single outer ring.
- Available as 2 matched bearings for 4 row applications.
- Available as 3 row design with one piece outer ring for stretched or vertical screws.
- Made to P4 (ABEC 7) axial runout values or available as PE version with P5(ABEC 5) runout.
- Available with integral shields or seals.
- Available with predrilled integral mounting flange for ease of assembly without increased tolerance stack up.
- Allows for economical arrangements since seals and mounting flanges included, reducing the need for associated parts.

#### INA Precision Locknuts

- Metric thread locknuts for high axial clamping forces.
- Designed with large axial and radial cross section for increased rigidity.
- Available with radial clamping plugs or axial deflection beams for doubling the back off torque.

#### INA Rotary Table Bearings

- Specialty bearing series for machine tool rotary tables and robots.
- Available in P4 precision for rotary tables with flange designs similar to Ball Screw Support Bearings.

#### INA YRT Series Bearings

- Large, double direction axial bearings with a radial guidance bearing.
- Support load combinations consisting of axial and radial forces as well as tilting moments.
- Holes are provided in the outer and inner rings which are suitable for flange mounting.
- The bearing consists of two axial needle roller and cage assemblies which are matched to the rings in such a way that a predetermined axial preload is achieved.
- Made to P4 (ABEC 7) tolerances.

#### INA ZKLDF Series Bearings

- Axial angular contact ball bearings of series ZKLDF are double row angular contact ball bearings with a 60° contact angle set in an "O" arrangement.
- They can support load combinations consisting of axial and radial forces as well as tilting moments.
- Bearings of this series have gap seals on both sides.
- The two-piece inner ring is matched to the two ball cages and the outer ring for a defined preload.
- The dimensional tolerances are class P5 (ABEC 5) and the geometrical tolerances are class P4 (ABEC 7) to DIN 620.

# Part Number Identification

## HIGH PRECISION BEARINGS

### AXIAL ANGULAR CONTACT BALL BEARINGS AND NEEDLE ROLLER / AXIAL CYLINDRICAL ROLLER BEARINGS METRIC SERIES

ZKLN, ZKLF, ZARN, ZARF  
DKLFA

**ZKLN**

**4075**

**TN**

- ZKLN Axial Angular Contact Ball Bearing, Double Direction
- ZKLF Axial Angular Contact Ball Bearing, Outer Ring Suitable for Flange Mounting
- ZARN Needle Roller / Axial Cylindrical Rollers Double Direction
- ZARF Needle Roller / Axial Cylindrical Rollers Double Direction, Outer Ring Suitable For Flange Mounting
- DKLFA Axial Angular Contact Ball Bearing, 3 Row, Double Direction, With Flange

First Half – Shaft In mm  
Second Half – OD In mm

#### ZKL SUFFIXES

- 2RS Two Contact Seals
- 2Z 2 Gap Seals
- 2AP Matched Pairs For 4 Ball Row
- PE Economy Version, P5 Runout

#### ZAR SUFFIXES

- TN Plastic Cage
- L Stepped Extended Shaft Washer On 1 Side
- PE Economy Version, P5 Runout

### ZARF COMBINATION SEALS METRIC SERIES

DRS

**DRS**

**40115**

#### PREFIX

DRS Seal Ring Kit For Use With ZARF Series Bearings

#### NUMBER

Shaft & OD, In Millimeters of mating ZARF Series Bearing

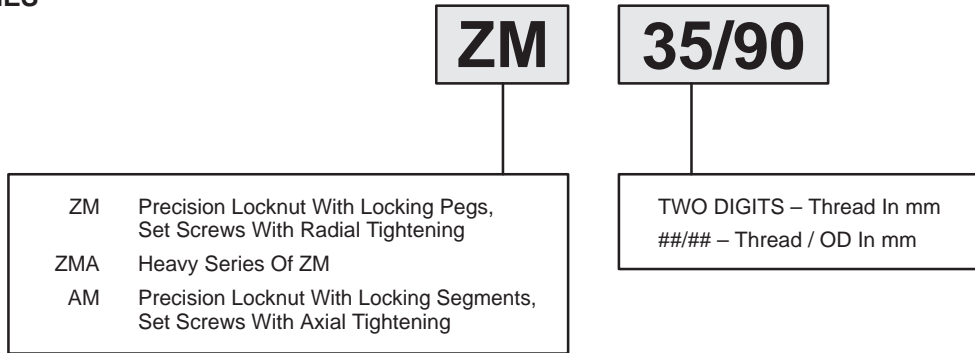


# Part Number Identification

## HIGH PRECISION BEARINGS

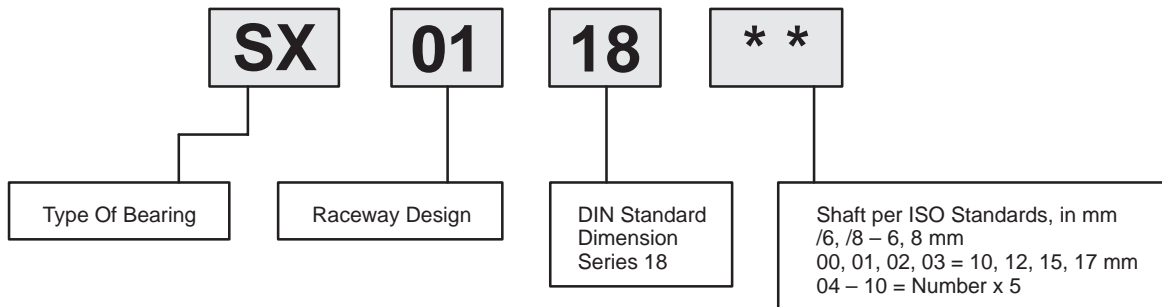
### LOCKNUTS METRIC SERIES

ZM, ZMA, AM



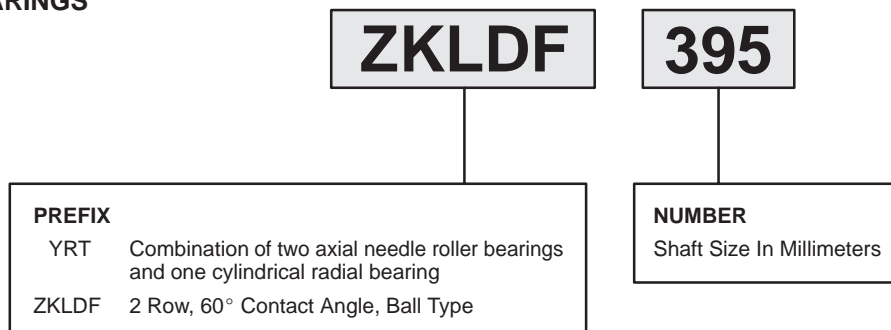
### CROSSED ROLLER BEARINGS METRIC SERIES

SX



### MACHINE TOOL TURNABLE BEARINGS METRIC SERIES

YRT, ZKLDF

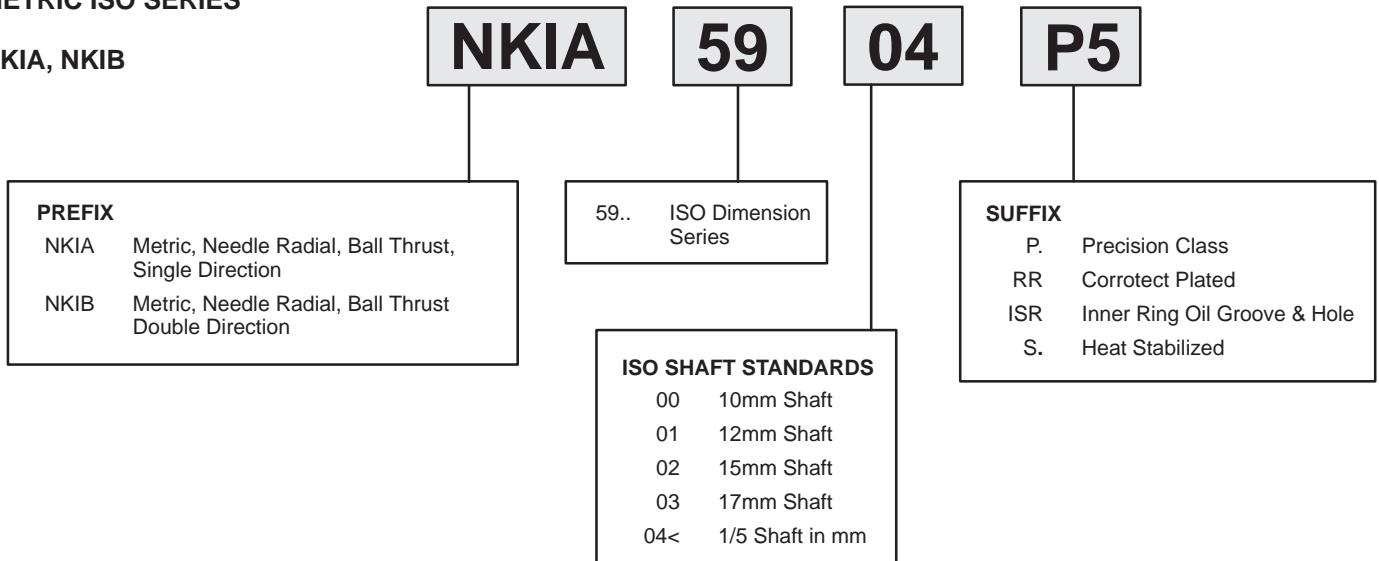


# Part Number Identification

## HIGH PRECISION BEARINGS

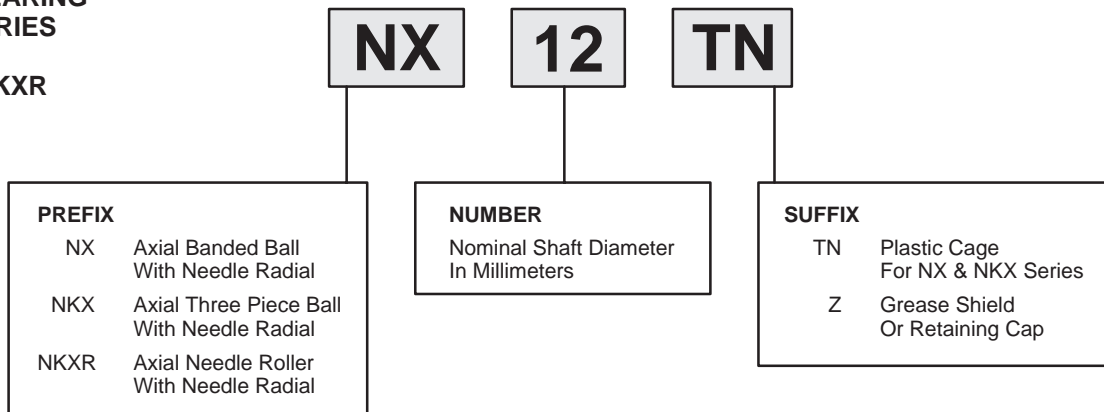
### COMBINATION BEARINGS METRIC ISO SERIES

NKIA, NKIB



### COMBINATION RADIAL NEEDLE BEARING METRIC SERIES

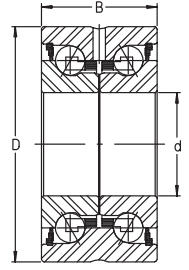
NX, NKX, NKXR





# Angular Contact Thrust Ball Bearings ZKLN..PE SERIES

- Double row, 60 degree contact angle
- Sealed
- For most ball screw support
- P5 runout with increased diameter tolerances



For details on part numbers, descriptive suffixes and various technical references, please refer to front of this section.  
For engineering or technical information contact your local sales representative or call Distributor Sales (800)523-6572.

PART NUMBER	SHAFT d inch	SHAFT d mm	OD D inch	OD D mm	WIDTH B inch	WIDTH B mm	WGT lbs	WGT kg	DYN. CAP. C lbf	DYN. CAP. C N	STAT. CAP. C <sub>0</sub> lbf	STAT. CAP. C <sub>0</sub> N
ZKLN 0624 2RS PE	0.236	6	0.945	24	0.591	15	0.066	0.03	1,550	6900	1,910	8500
ZKLN 1034 2RS PE	0.394	10	1.339	34	0.787	20	0.221	0.1	3,000	13400	4,250	18800
ZKLN 1242 2RS PE	0.472	12	1.654	42	0.984	25	0.441	0.2	3,800	17000	5,600	24700
ZKLN 1545 2RS PE	0.591	15	1.772	45	0.984	25	0.463	0.21	4,000	17900	6,300	28000
ZKLN 1747 2RS PE	0.669	17	1.850	47	0.984	25	0.485	0.22	4,250	18800	7,000	31000
F 822 17	0.669	17	1.850	47	1.181	30	0.617	0.28	5,800	26000	10,600	47000
F 822 20	0.787	20	1.850	47	1.181	30	0.573	0.26	5,800	26000	10,600	47000
ZKLN 2052 2RS PE	0.787	20	2.047	52	1.102	28	0.684	0.31	5,800	26000	10,600	47000
ZKLN 2557 2RS PE	0.984	25	2.244	57	1.102	28	0.75	0.34	6,200	27500	12,400	55000
F 822 25	0.984	25	2.441	62	1.181	30	1.014	0.46	6,500	29000	14,400	64000
ZKLN 3062 2RS PE	1.181	30	2.441	62	1.102	28	0.86	0.39	6,500	29000	14,400	64000
F 822 30	1.181	30	2.441	62	1.181	30	0.904	0.41	6,500	29000	14,400	64000
ZKLN 3572 2RS PE	1.378	35	2.835	72	1.339	34	1.125	0.51	9,200	41000	20,000	89000
ZKLN 4075 2RS PE	1.575	40	2.953	75	1.339	34	1.345	0.61	9,700	43000	22,700	101000
ZKLN 5090 2RS PE	1.969	50	3.543	90	1.339	34	1.94	0.88	10,500	46500	28,500	126000

## CONTINUED FROM ABOVE

PART NUMBER	FRICTION in-lbf	FRICTION Nm	LOCKNUT	LOCKNUT TORQUE ft-lbf	LOCKNUT TORQUE Nm	LOAD LIMIT lbf	LOAD LIMIT N	SPEED LIMIT GREASE rpm
ZKLN 0624 2RS PE	0.35	0.04	ZM 06	1.48	2	182	810	6800
ZKLN 1034 2RS PE	1.06	0.12	ZM 10	4.43	6	247	1100	4600
ZKLN 1242 2RS PE	1.42	0.16	ZM 12	5.9	8	360	1600	3800
ZKLN 1545 2RS PE	1.77	0.2	ZM 15	7.38	10	400	1780	3500
ZKLN 1747 2RS PE	2.12	0.24	ZM 17/AM 17	11.06	15	440	1960	3300
F 822 17	2.66	0.3	ZM 17/AM 17	12.5	17	1,120	4975	3000
F 822 20	2.66	0.3	ZM 20/AM 20	13.28	18	1,120	4975	3000
ZKLN 2052 2RS PE	2.66	0.3	ZM 20/AM 20	13.28	18	1,120	4975	3000
ZKLN 2557 2RS PE	3.54	0.4	ZM 25/AM 25	18.44	25	1,290	5735	2600
F 822 25	4.43	0.5	ZM 25/AM 25	21.4	29	1,460	6505	2200
ZKLN 3062 2RS PE	4.43	0.5	ZM 30/AM 30	23.6	32	1,460	6505	2200
F 822 30	4.43	0.5	ZM 30/AM 30	23.6	32	1,460	6505	2200
ZKLN 3572 2RS PE	5.31	0.6	ZM 35/AM 35	29.5	40	1,520	6760	2000
ZKLN 4075 2RS PE	6.2	0.7	ZM 40/AM 40	40.6	55	1,710	7605	1800
ZKLN 5090 2RS PE	7.97	0.9	ZM 50/AM 50	62.7	85	2,090	9295	1500

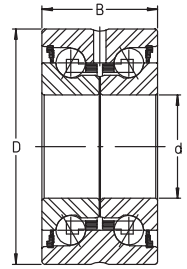
PE versions are relaxed tolerances for ball screw supports  
F 822 numbers match competitors paired bearings



# Angular Contact Thrust Ball Bearings

## ZKLN SERIES

- Double row, 60 degree contact angle
- Sealed versions (2RS), also available shielded (ZZ)
- For ball screw support
- P4 runout for highest precision



For details on part numbers, descriptive suffixes and various technical references, please refer to front of this section.  
For engineering or technical information contact your local sales representative or call Distributor Sales (800)523-6572.

PART NUMBER	SHAFT d	SHAFT d	OD D	OD D	WIDTH B	WIDTH B	WGT	WGT	DYN. CAP. C	DYN. CAP. C	STAT. CAP. C <sub>0</sub>	STAT. CAP. C <sub>0</sub>
	inch	mm	inch	mm	inch	mm	lbs	kg	lbf	N	lbf	N
ZKLN 0619 ZZ	0.236	6	0.748	19	0.472	12	0.044	0.02	1,100	4900	1,400	6100
ZKLN 0624 2RS	0.236	6	0.945	24	0.591	15	0.066	0.03	1,550	6900	1,910	8500
ZKLN 0832 2RS	0.315	8	1.260	32	0.787	20	0.198	0.09	2,800	12500	3,650	16300
ZKLN 1034 2RS	0.394	10	1.339	34	0.787	20	0.221	0.1	3,000	13400	4,250	18800
ZKLN 1242 2RS	0.472	12	1.654	42	0.984	25	0.441	0.2	3,800	17000	5,600	24700
ZKLN 1545 2RS	0.591	15	1.772	45	0.984	25	0.463	0.21	4,000	17900	6,300	28000
ZKLN 1747 2RS	0.669	17	1.850	47	0.984	25	0.485	0.22	4,250	18800	7,000	31000
ZKLN 2052 2RS	0.787	20	2.047	52	1.102	28	0.684	0.31	5,800	26000	10,600	47000
ZKLN 2557 2RS	0.984	25	2.244	57	1.102	28	0.75	0.34	6,200	27500	12,400	55000
ZKLN 3062 2RS	1.181	30	2.441	62	1.102	28	0.86	0.39	6,500	29000	14,400	64000
ZKLN 3072 2RS	1.181	30	2.835	72	1.496	38	1.125	0.51	13,300	59000	24,300	108000
ZKLN 3572 2RS	1.378	35	2.835	72	1.339	34	1.125	0.51	9,200	41000	20,000	89000
ZKLN 4075 2RS	1.575	40	2.953	75	1.339	34	1.345	0.61	9,700	43000	22,700	101000
ZKLN 4090 2RS	1.575	40	3.543	90	1.811	46	2.095	0.95	16,200	72000	33,500	149000
ZKLN 5090 2RS	1.969	50	3.543	90	1.339	34	1.94	0.88	10,500	46500	28,500	126000
ZKLN 50110 2RS	1.969	50	4.331	110	2.126	54	5.513	2.5	25,500	113500	56,000	250000
ZKLN 60110 ZZ	2.362	60	4.331	110	1.772	45	4.851	2.2	18,900	84000	48,000	214000
ZKLN 70120 ZZ	2.756	70	4.724	120	1.772	45	5.292	2.4	19,800	88000	54,000	241000
ZKLN 80130 ZZ	3.150	80	5.118	130	1.772	45	5.954	2.7	20,500	91000	60,000	265000
ZKLN 90150 ZZ	3.543	90	5.906	150	2.165	55	9.923	4.5	30,500	135000	89,000	395000
ZKLN 100160 ZZ	3.937	100	6.299	160	2.165	55	10.805	4.9	31,500	140000	98,000	435000

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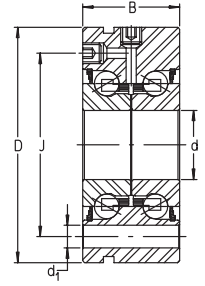
PART NUMBER	FRICITION	FRICITION	LOCKNUT	LOCKNUT TORQUE	LOCKNUT TORQUE	LOAD LIMIT	LOAD LIMIT	SPEED LIMIT GREASE
	in-lbf	Nm		ft-lbf	Nm		lbf	
ZKLN 0619 ZZ	0.09	0.01	ZM 06	1.48	2	100	550	14000
ZKLN 0624 2RS	0.35	0.04	ZM 06	1.48	2	182	810	6800
ZKLN 0832 2RS	0.71	0.08	ZM 08	2.95	4	225	1000	5100
ZKLN 1034 2RS	1.06	0.12	ZM 10	4.43	6	247	1100	4600
ZKLN 1242 2RS	1.42	0.16	ZM 12	5.9	8	360	1600	3800
ZKLN 1545 2RS	1.77	0.2	ZM 15	7.38	10	400	1780	3500
ZKLN 1747 2RS	2.12	0.24	ZM 17/AM 17	11.06	15	440	1960	3300
ZKLN 2052 2RS	2.66	0.3	ZM 20/AM 20	13.28	18	1,120	4975	3000
ZKLN 2557 2RS	3.54	0.4	ZM 25/AM 25	18.44	25	1,290	5735	2600
ZKLN 3062 2RS	4.43	0.5	ZM 30/AM 30	23.6	32	1,460	6505	2200
ZKLN 3072 2RS	7.08	0.8	ZM 30/52 AM 30	47.9	65	2,470	11000	2100
ZKLN 3572 2RS	5.31	0.6	ZM 35/AM 35	29.5	40	1,520	6760	2000
ZKLN 4075 2RS	6.2	0.7	ZM 40/AM 40	40.6	55	1,710	7605	1800
ZKLN 4090 2RS	11.5	1.3	ZMA 40/62/AM 40	81.1	110	3,060	13600	1600
ZKLN 5090 2RS	7.97	0.9	ZM 50/AM 50	62.7	85	2,090	9295	1500
ZKLN 50110 2RS	23.01	2.6	ZM 50/75/AM 50	110.6	150	3,650	16300	2500
ZKLN 60110 ZZ	8.85	1	ZMA 60/98 AM 60	73.8	100	2,900	12810	2400
ZKLN 70120 ZZ	10.62	1.2	ZMA 70/110 AM 70	95.9	130	3,200	14240	2200
ZKLN 80130 ZZ	12.39	1.4	ZMA 80/120	118.0	160	3,500	15660	2100
ZKLN 90150 ZZ	20.36	2.3	ZMA 90/130 AM 90	147.5	200	4,050	17970	1800
ZKLN 100160 ZZ	23.01	2.6	ZMA 100/140	184.4	250	4,400	19680	1700



# Angular Contact Thrust Ball Bearings

## ZKLF..PE SERIES

- Double row, 60 degree contact angle
- Sealed
- For most ball screw support
- With predrilled mounting flange
- P5 runout with increased diameter tolerances



For details on part numbers, descriptive suffixes and various technical references, please refer to front of this section.  
For engineering or technical information contact your local sales representative or call Distributor Sales (800)523-6572.

PART NUMBER	SHAFT d inch	SHAFT d mm	OD D inch	OD D mm	WIDTH B inch	WIDTH B mm	WGT lbs	WGT kg	DYN. CAP. C lbf	DYN. CAP. C N	STAT. CAP. C <sub>0</sub> lbf	STAT. CAP. C <sub>0</sub> N
ZKLF 1255 2RS PE	0.472	12	2.165	55	0.984	25	0.82	0.37	3,800	17000	5,600	24700
ZKLF 1560 2RS PE	0.591	15	2.362	60	0.984	25	0.95	0.43	4,000	17900	6,300	28000
ZKLF 1762 2RS PE	0.669	17	2.441	62	0.984	25	0.99	0.45	4,250	18800	7,000	31000
ZKLF 2068 2RS PE	0.787	20	2.677	68	1.102	28	1.35	0.61	5,800	26000	10,600	47000
ZKLF 2575 2RS PE	0.984	25	2.953	75	1.102	28	1.59	0.72	6,200	27500	12,400	55000
ZKLF 3080 2RS PE	1.181	30	3.150	80	1.102	28	1.72	0.78	6,500	29000	14,400	64000
ZKLF 3590 2RS PE	1.378	35	3.543	90	1.339	34	2.49	1.13	9,200	41000	20,000	89000
ZKLF 40100 2RS PE	1.575	40	3.937	100	1.339	34	3.22	1.46	9,700	43000	22,700	101000
ZKLF 50115 2RS PE	1.969	50	4.528	115	1.339	34	4.10	1.86	10,500	46500	28,500	126000

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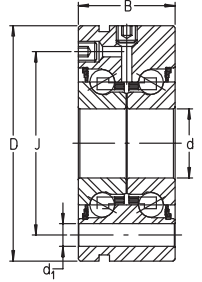
PART NUMBER	J inch	J mm	d <sub>1</sub> inch	d <sub>1</sub> mm	FRICTION in-lbf	FRICTION Nm	BOLTS SIZE & GRADE	BOLTS QTY.	LOCKNUT	LOCKNUT TORQUE ft-lbf	LOCKNUT TORQUE Nm	LOAD LIMIT lbf	LOAD LIMIT N	SPEED LIMIT rpm
ZKLF 1255 2RS PE	1.654	42	0.256	6.5	1.42	0.16	M6-10.9	3	ZM 12	5.9	8	360	1600	3800
ZKLF 1560 2RS PE	1.811	46	0.256	6.5	1.77	0.2	M6-10.9	3	ZM 15	7.4	10	400	1780	3500
ZKLF 1762 2RS PE	1.890	48	0.256	6.5	2.12	0.24	M6-10.9	3	ZM 17/AM 17	11.1	15	440	1960	3300
ZKLF 2068 2RS PE	2.087	53	0.256	6.5	2.66	0.3	M6-10.9	4	ZM 20/AM 20	13.3	18	1,120	4975	3000
ZKLF 2575 2RS PE	2.284	58	0.256	6.5	3.54	0.4	M6-10.9	4	ZM 25/AM 25	18.4	25	1,290	5735	2600
ZKLF 3080 2RS PE	2.480	63	0.256	6.5	4.43	0.5	M6-10.9	6	ZM 30/AM 30	23.6	32	1,460	6505	2200
ZKLF 3590 2RS PE	2.953	75	0.256	8.5	5.31	0.6	M8-10.9	4	ZM 35/AM 35	29.5	40	1,520	6760	2000
ZKLF 40100 2RS PE	3.150	80	0.335	8.5	6.2	0.7	M8-10.9	4	ZM 40/AM 40	40.6	55	1,710	7605	1800
ZKLF 50115 2RS PE	3.701	94	0.335	8.5	7.97	0.9	M8-10.9	6	ZM 50/AM 50	62.7	85	2,090	9295	1500



# Angular Contact Thrust Ball Bearings

## ZKLF SERIES

- Double row, 60 degree contact angle
- Sealed version (2RS), also available shielded (2Z)
- With predrilled mounting flange
- For ball screw support
- P4 runout for highest precision



For details on part numbers, descriptive suffixes and various technical references, please refer to front of this section.  
For engineering or technical information contact your local sales representative or call Distributor Sales (800)523-6572.

PART NUMBER	SHAFT d	SHAFT d	OD D	OD D	WIDTH B	WIDTH B	WGT	WGT	DYN. CAP. C	DYN. CAP. C	STAT. CAP. C <sub>0</sub>	STAT. CAP. C <sub>0</sub>	J	J
	inch	mm	inch	mm	inch	mm	lbs	kg	lbf	N	lbf	N	inch	mm
ZKLF 1255 2RS	0.472	12	2.165	55	0.984	25	0.82	0.37	3,800	17000	5,600	24700	1.654	42
ZKLF 1560 2RS	0.591	15	2.362	60	0.984	25	0.95	0.43	4,000	17900	6,300	28000	1.811	46
ZKLF 1762 2RS	0.669	17	2.441	62	0.984	25	0.99	0.45	4,250	18800	7,000	31000	1.89	48
ZKLF 2068 2RS	0.787	20	2.677	68	1.102	28	1.35	0.61	5,800	26000	10,600	47000	2.087	53
ZKLF 2575 2RS	0.984	25	2.953	75	1.102	28	1.59	0.72	6,200	27500	12,400	55000	2.284	58
ZKLF 3080 2RS	1.181	30	3.15	80	1.102	28	1.72	0.78	6,500	29000	14,400	64000	2.48	63
ZKLF 3590 2RS	1.378	35	3.543	90	1.339	34	2.49	1.13	9,200	41000	20,000	89000	2.953	75
ZKLF 40100 2RS	1.575	40	3.937	100	1.339	34	3.22	1.46	9,700	43000	22,700	101000	3.15	80
ZKLF 40115 2RS	1.575	40	4.528	115	1.811	46	5	2.2	16,200	72000	33,500	149000	3.701	94
ZKLF 50115 2RS	1.969	50	4.528	115	1.339	34	4.1	1.86	10,500	46500	28,500	126000	3.701	94
ZKLF 50140 2RS	1.969	50	5.512	140	2.126	54	10.36	4.7	25,500	113000	56,000	250000	4.449	113
ZKLF 60145 2Z	2.362	60	5.709	145	1.772	45	9.48	4.3	18,900	84000	48,000	214000	4.724	120
ZKLF 70155 2Z	2.756	70	6.102	155	1.772	45	10.81	4.9	19,800	88000	54,000	241000	5.118	130
ZKLF 80165 2Z	3.15	80	6.496	165	1.772	45	11.69	5.3	20,500	91000	60,000	265000	5.512	140
ZKLF 90190 2Z	3.543	90	7.48	190	2.165	55	19.18	8.7	30,500	135000	89,000	395000	6.496	165
ZKLF 100200 2Z	3.937	100	7.874	200	2.165	55	20.51	9.3	31,500	140000	98,000	435000	6.89	175

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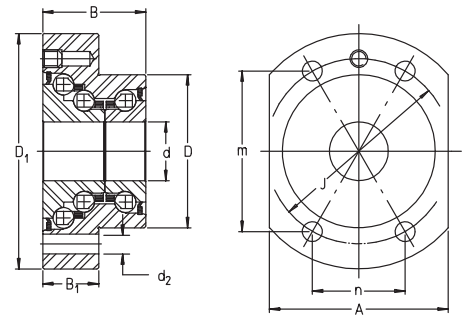
PART NUMBER	d <sub>1</sub>	d <sub>1</sub>	FRICITION	FRICITION	BOLTS SIZE & GRADE	BOLTS QTY.	LOCKNUT	LOCKNUT TORQUE	LOCKNUT TORQUE	LOAD LIMIT	LOAD LIMIT	SPEED LIMIT
	inch	mm	in-lbf	Nm				ft-lbf	Nm	lbf	N	rpm
ZKLF 1255 2RS	0.256	6.5	1.42	0.16	M6-10.9	3	ZM 12	5.9	8	360	1600	3800
ZKLF 1560 2RS	0.256	6.5	1.77	0.2	M6-10.9	3	ZM 15	7.4	10	400	1780	3500
ZKLF 1762 2RS	0.256	6.5	2.12	0.24	M6-10.9	3	ZM 17/AM 17	11.1	15	440	1960	3300
ZKLF 2068 2RS	0.256	6.5	2.66	0.3	M6-10.9	4	ZM 20/AM 20	13.3	18	1,120	4975	3000
ZKLF 2575 2RS	0.256	6.5	3.54	0.4	M6-10.9	4	ZM 25/AM 25	18.4	25	1,290	5735	2600
ZKLF 3080 2RS	0.256	6.5	4.43	0.5	M6-10.9	6	ZM 30/AM 30	23.6	32	1,460	6505	2200
ZKLF 3590 2RS	0.256	8.5	5.31	0.6	M8-10.9	4	ZM 35/AM 35	29.5	40	1,520	6760	2000
ZKLF 40100 2RS	0.335	8.5	6.2	0.7	M8-10.9	4	ZM 40/AM 40	40.6	55	1,710	7605	1800
ZKLF 40115 2RS	0.335	8.5	11.5	1.3	M8-10.9	12	ZMA 40/65/AM 40	81.1	110	3,060	13600	1600
ZKLF 50115 2RS	0.335	8.5	7.97	0.9	M8-10.9	6	ZM 50/AM 50	62.7	85	2,090	9295	1500
ZKLF 50140 2RS	0.413	10.5	23.01	2.6	M10-10.9	12	ZMA 50/75/AM 50	110.6	150	3,650	16300	2500
ZKLF 60145 2Z	0.335	8.5	8.85	1	M 8-8.8	8	ZMA 60/98 /AM60	73.76	100	2,900	12810	2400
ZKLF 70155 2Z	0.335	8.5	10.62	1.2	M 8-8.8	8	ZMA 70/110 /AM70	95.89	130	3,200	14240	2200
ZKLF 80165 2Z	0.335	8.5	12.39	1.4	M 8-8.8	8	ZMA 80/120	118.02	160	3,500	15660	2100
ZKLF 90190 2Z	0.413	10.5	20.36	2.3	M 10-8.8	8	ZMA 90/130/AM90	147.52	200	4,050	17970	1800
ZKLF 100200 2Z	0.413	10.5	23.01	2.6	M 10-8.8	8	ZMA 100/140	184.4	250	4,400	19680	1700



# Angular Contact Thrust Ball Bearings

## DKLFA SERIES

- 3 row design, 60 degree contact angle
- Ball screw support and stretching
- With predrilled mounting flange
- Sealed



For details on part numbers, descriptive suffixes and various technical references, please refer to front of this section.  
For engineering or technical information contact your local sales representative or call Distributor Sales (800)523-6572.

PART NUMBER	SHAFT d	SHAFT d	OD D	OD D	WIDTH B	WIDTH B	WGT	WGT
	inch	mm	inch	mm	inch	mm	lbs	kg
DKLFA 1575 2RS	0.591	15	1.772	45	1.260	32	1.169	0.53
DKLFA 2080 2RS	0.787	20	2.047	52	1.378	35	1.544	0.7
DKLFA 2590 2RS	0.984	25	2.244	57	1.496	38	1.985	0.9
DKLFA 30100 2RS	1.181	30	2.441	62	1.496	38	2.205	1
DKLFA 40115 2RS	1.575	40	2.835	72	1.654	42	3.308	1.5

### CONTINUED FROM ABOVE

PART NUMBER	INBOARD ROWS DYN. CAP. C	INBOARD ROWS DYN. CAP. C	INBOARD ROWS STAT. CAP. C <sub>0</sub>	INBOARD ROWS STAT. CAP. C <sub>0</sub>	OUTBOARD STRETCHING ROWS DYN. CAP. C	OUTBOARD STRETCHING ROWS DYN. CAP. C	OUTBOARD STRETCHING ROWS STAT. CAP. C <sub>0</sub>	OUTBOARD STRETCHING ROWS STAT. CAP. C <sub>0</sub>	SPEED LIMIT GREASE
	lbf	N	lbf	N	lbf	N	lbf	N	rpm
DKLFA 1575 2RS	4,000	17.9	6,300	28	8,300	37	18,700	83	2600
DKLFA 2080 2RS	5,800	26	10,600	47	10,000	44.5	24,700	110	2200
DKLFA 2590 2RS	6,200	27.5	12,400	55	11,700	52	32,500	144	2000
DKLFA 30100 2RS	6,500	29	14,400	64	12,400	55	37,000	165	1800
DKLFA 40115 2RS	9,700	43	22,700	101	16,400	73	51,000	227	1500

### CONTINUED FROM ABOVE

PART NUMBER	D <sub>1</sub>	D <sub>1</sub>	B <sub>1</sub>	B <sub>1</sub>	J	J	d <sub>2</sub>	d <sub>2</sub>	m	m	n	n	A	A	THREAD	BOLT QTY.
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm		
DKLFA 1575 2RS	2.953	75	0.709	18	2.284	58	0.268	6.8	1.976	50.2	1.142	29	2.165	55	M6	4
DKLFA 2080 2RS	3.150	80	0.748	19	2.480	63	0.268	6.8	2.150	54.6	1.240	31.5	2.441	62	M6	4
DKLFA 2590 2RS	3.543	90	0.866	22	2.953	75	0.347	8.8	2.087	53	2.087	53	2.756	70	M8	6
DKLFA 30100 2RS	3.937	100	0.866	22	3.150	80	0.347	8.8	2.228	56.6	2.228	56.6	2.835	72	M8	6
DKLFA 40115 2RS	4.528	115	0.906	23	3.701	94	0.347	8.8	2.618	66.5	2.618	66.5	3.543	90	M8	6

Independent capacity values are given for the ball rows depending on the load direction.

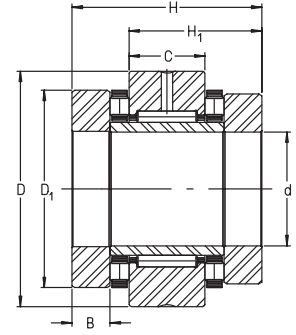




# Ball Screw Support Bearings

## ZARN SERIES

- Combination double direction axial cylindrical roller and radial needle roller bearings
- Metric series
- P4 axial precision



For details on part numbers, descriptive suffixes and various technical references, please refer to front of this section.  
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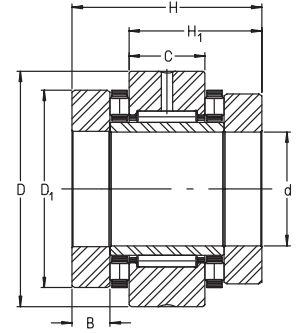
PART NUMBER	SHAFT		OD		WIDTH		WEIGHT		DYN. CAP. AXIAL		STAT. CAP. AXIAL		DYN. CAP. RADIAL		STAT. CAP. RADIAL	
	d	d	D	D	H	H	kg	lbs	N	lbf	N	lbf	N	lbf	N	lbf
	mm	inch	mm	inch	mm	inch										
ZARN 1545 TN	15		45		40		0.34		24900		53000		13000		17500	
ZARN 1545 TN	0.5906		1.7717		1.5748		0.7		5600		11900		2900		3900	
ZARN 1747 TN	17		47		43		0.37		26000		57000		14000		19900	
ZARN 1747 TN	0.6693		1.8504		1.6929		0.8		5800		12800		3100		4500	
ZARN 2052 TN	20		52		46		0.41		33500		76000		14900		22400	
ZARN 2052 TN	0.7874		2.0472		1.811		0.9		7500		17100		3300		5000	
ZARN 2062 TN	20		62		60		0.87		64000		141000		22600		36000	
ZARN 2062 TN	0.7874		2.4409		2.3622		1.9		14400		31700		5100		8100	
ZARN 2572 TN	25		72		60		1.17		80000		199000		24300		41000	
ZARN 2572 TN	0.9843		2.8346		2.3622		2.6		18000		44700		5500		9200	
ZARN 2557 TN	25		57		50		0.53		35500		86000		22600		36000	
ZARN 2557 TN	0.9843		2.2441		1.9685		1.2		8000		19300		5100		8100	
ZARN 3080 TN	30		80		66		1.5		107000		265000		26000		47000	
ZARN 3080 TN	1.1811		3.1496		2.5984		3.3		24100		59600		5800		10600	
ZARN 3062 TN	30		62		50		0.6		39000		101000		24300		41500	
ZARN 3062 TN	1.1811		2.4409		1.9685		1.3		8800		22700		5500		9300	
ZARN 3585 TN	35		85		66		1.65		105000		265000		27500		53000	
ZARN 3585 TN	1.378		3.3465		2.5984		3.6		23600		59600		6200		11900	
ZARN 3570 TN	35		70		54		0.8		56000		148000		26000		47000	
ZARN 3570 TN	1.378		2.7559		2.126		1.8		12600		33300		5800		10600	
ZARN 4090 TN	40		90		75		2.09		117000		315000		38000		74000	
ZARN 4090 TN	1.5748		3.5433		2.9528		4.6		26300		70800		8500		16600	
ZARN 4075 TN	40		75		54		0.9		59000		163000		27500		53000	
ZARN 4075 TN	1.5748		2.9528		2.126		2		13300		36600		6200		11900	
ZARN 45105 TN	45		105		82		3.02		154000		405000		40000		82000	
ZARN 45105 TN	1.7717		4.1339		3.2283		6.7		34600		91100		9000		18400	
ZARN 4580 TN	45		80		60		1.12		61000		177000		38000		74000	
ZARN 4580 TN	1.7717		3.1496		2.3622		2.5		13700		39800		8500		16600	
ZARN 5090 TN	50		90		60		1.43		90000		300000		40000		82000	
ZARN 5090 TN	1.9685		3.5433		2.3622		3.2		20200		67400		9000		18400	
ZARN 50110 TN	50		110		82		3.3		172000		480000		42000		90000	
ZARN 50110 TN	1.9685		4.3307		3.2283		7.3		38700		107900		9400		20200	
ZARN 55115 TN	55		115		82		3.5		177000		500000		44000		98000	
ZARN 55115 TN	2.1654		4.5276		3.2283		7.7		39800		112400		9900		22000	
ZARN 60120 TN	60		120		82		3.7		187000		550000		44500		92000	
ZARN 60120 TN	2.3622		4.7244		3.2283		8.2		42000		123700		10000		20700	
ZARN 65125 TN	65		125		82		4		172000		500000		54000		104000	
ZARN 65125 TN	2.5591		4.9213		3.2283		8.8		38700		112400		12100		23400	
ZARN 70130 TN	70		130		82		4.1		201000		630000		56000		119000	
ZARN 70130 TN	2.7559		5.1181		3.2283		9		45200		141600		12600		26800	
ZARN 75155 TN	75		155		100		7.9		290000		890000		72000		132000	
ZARN 75155 TN	2.9528		6.1024		3.937		17.4		65200		200100		16200		29700	
ZARN 90180 TN	90		180		110		11.6		325000		1030000		98000		210000	
ZARN 90180 TN	3.5433		7.0866		4.3307		25.6		73100		231600		22000		47200	



# Ball Screw Support Bearings

## ZARN SERIES

- Combination double direction axial cylindrical roller and radial needle roller bearings
- Metric series
- P4 axial precision



For details on part numbers, descriptive suffixes and various technical references, please refer to front of this section.  
 For engineering or technical information contact your local sales representative or call Distributor Sales (800)523-6572.

H <sub>1</sub>	C	D <sub>1</sub>	B	SPEED LIMIT OIL	SPEED LIMIT GREASE	BEARING FRICTION	LOCKNUT TORQUE	PART NUMBER
mm inch	mm inch	mm inch	mm inch	rpm	rpm	Nm in-lbf	Nm in-lbf	
28	16	35	7.5	8500	2200	0.35	10	ZARN 1545 TN
1.1024	0.6299	1.378	0.2953	8500	2200	3.1	89	ZARN 1545 TN
29.5	16	38	9	7800	2100	0.4	12	ZARN 1747 TN
1.1614	0.6299	1.4961	0.3543	7800	2100	3.54	106	ZARN 1747 TN
31	16	42	10	7000	2000	0.5	18	ZARN 2052 TN
1.2205	0.6299	1.6535	0.3937	7000	2000	4.43	159	ZARN 2052 TN
40	20	52	12.5	6000	1500	1.3	38	ZARN 2062 TN
1.5748	0.7874	2.0472	0.4921	6000	1500	11.51	336	ZARN 2062 TN
40	20	62	12.5	4900	1400	1.6	55	ZARN 2572 TN
1.5748	0.7874	2.4409	0.4921	4900	1400	14.16	487	ZARN 2572 TN
35	20	47	10	6000	1900	0.55	25	ZARN 2557 TN
1.378	0.7874	1.8504	0.3937	6000	1900	4.87	221	ZARN 2557 TN
43	20	68	14	4400	1300	2.1	75	ZARN 3080 TN
1.6929	0.7874	2.6772	0.5512	4400	1300	18.59	664	ZARN 3080 TN
35	20	52	10	5500	1800	0.65	32	ZARN 3062 TN
1.378	0.7874	2.0472	0.3937	5500	1800	5.75	283	ZARN 3062 TN
43	20	73	14	4000	1250	2.3	100	ZARN 3585 TN
1.6929	0.7874	2.874	0.5512	4000	1250	20.36	885	ZARN 3585 TN
37	20	60	11	4800	1700	0.9	42	ZARN 3570 TN
1.4567	0.7874	2.3622	0.4331	4800	1700	7.97	372	ZARN 3570 TN
50	25	78	16	3700	1200	2.5	120	ZARN 4090 TN
1.9685	0.9843	3.0709	0.6299	3700	1200	22.13	1062	ZARN 4090 TN
37	20	65	11	4400	1600	1	55	ZARN 4075 TN
1.4567	0.7874	2.5591	0.4331	4400	1600	8.85	487	ZARN 4075 TN
53.5	25	90	17.5	3300	1150	3.5	150	ZARN 45105 TN
2.1063	0.9843	3.5433	0.689	3300	1150	30.98	1328	ZARN 45105 TN
42.5	25	70	11.5	4000	1500	1.2	65	ZARN 4580 TN
1.6732	0.9843	2.7559	0.4528	4000	1500	10.62	575	ZARN 4580 TN
42.5	25	78	11.5	3600	1200	2.2	85	ZARN 5090 TN
1.6732	0.9843	3.0709	0.4528	3600	1200	19.47	752	ZARN 5090 TN
53.5	25	95	17.5	3100	1100	3.8	180	ZARN 50110 TN
2.1063	0.9843	3.7402	0.689	3100	1100	33.63	1593	ZARN 50110 TN
53.5	25	100	17.5	2900	1000	4	220	ZARN 55115 TN
2.1063	0.9843	3.937	0.689	2900	1000	35.4	1947	ZARN 55115 TN
53.5	25	105	17.5	2700	950	4.2	250	ZARN 60120 TN
2.1063	0.9843	4.1339	0.689	2700	950	37.17	2213	ZARN 60120 TN
53.5	25	110	17.5	2600	900	3.9	270	ZARN 65125 TN
2.1063	0.9843	4.3307	0.689	2600	900	34.52	2390	ZARN 65125 TN
53.5	25	115	17.5	2400	800	4.8	330	ZARN 70130 TN
2.1063	0.9843	4.5276	0.689	2400	800	42.49	2921	ZARN 70130 TN
65	30	135	21	2100	700	8	580	ZARN 75155 TN
2.5591	1.1811	5.315	0.8268	2100	700	70.81	5134	ZARN 75155 TN
72.5	35	160	22.5	1800	700	10.5	960	ZARN 90180 TN
2.8543	1.378	6.2992	0.8858	1800	700	92.94	8497	ZARN 90180 TN



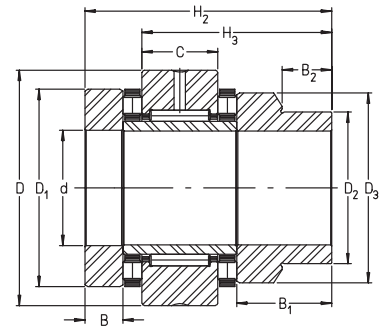




# Ball Screw Support Bearings

## ZARN..LTN SERIES

- Combination double direction axial cylindrical roller and radial needle roller bearings
- Extended shaft washer for DIN 3760 series metric seal
- Metric series
- P4 axial precision



For details on part numbers, descriptive suffixes and various technical references, please refer to front of this section.  
 For engineering or technical information contact your local sales representative or call Distributor Sales (800)523-6572.

D <sub>1</sub> mm inch	D <sub>2</sub> mm inch	D <sub>3</sub> mm inch	B mm inch	B <sub>1</sub> mm inch	B <sub>2</sub> mm inch	SPEED LIMIT OIL rpm	SPEED LIMIT GREASE rpm	BEARING FRICTION Nm in-lbf	LOCKNUT TORQUE Nm ft-lbf	SEAL SIZE PER DIN3760	PART NUMBER
35 1.378	24 0.9449	34 1.3386	7.5 0.2953	20.5 0.8071	11 0.4331	8500	2200	0.35 3.1	10 7	24x35x7	ZARN 1545 LTN
38 1.4961	28 1.1024	38 1.4961	9 0.3543	23 0.9055	11 0.4331	7800	2100	0.4 3.5	12 9	28x40x7	ZARN 1747 LTN
42 1.6535	30 1.1811	40 1.5748	10 0.3937	24 0.9449	11 0.4331	7000	2000	0.5 4.4	18 13	30x42x7	ZARN 2052 LTN
52 2.0472	40 1.5748	50 1.9685	12.5 0.4921	27.5 1.0827	11 0.4331	6000	1500	1.3 11.5	38 28	40x52x7	ZARN 2062 LTN
47 1.8504	36 1.4173	45 1.7717	10 0.3937	25 0.9843	11 0.4331	6000	1900	0.55 4.9	25 18	36x47x7	ZARN 2557 LTN
62 2.4409	48 1.8898	60 2.3622	12.5 0.4921	27.5 1.0827	11 0.4331	4900	1400	1.6 14.2	55 41	48x62x8	ZARN 2572 LTN
52 2.0472	40 1.5748	50 1.9685	10 0.3937	25 0.9843	11 0.4331	5500	1800	0.65 5.8	32 24	40x52x7	ZARN 3062 LTN
68 2.6772	52 2.0472	66 2.5984	14 0.5512	30 1.1811	12 0.4724	4400	1300	2.1 18.6	75 55	52x68x8	ZARN 3080 LTN
60 2.3622	45 1.7717	58 2.2835	11 0.4331	27 1.063	12 0.4724	4800	1700	0.9 8	42 31	45x60x8	ZARN 3570 LTN
73 2.874	60 2.3622	73 2.874	14 0.5512	30 1.1811	12 0.4724	4000	1250	2.3 20.4	100 74	60x75x8	ZARN 3585 LTN
65 2.5591	50 1.9685	63 2.4803	11 0.4331	27 1.063	12 0.4724	4400	1600	1 8.9	55 41	50x65x8	ZARN 4075 LTN
78 3.0709	60 2.3622	78 3.0709	16 0.6299	34 1.3386	12 0.4724	3700	1200	2.5 22.1	120 89	60x80x8	ZARN 4090 LTN
70 2.7559	56 2.2047	68 2.6772	11.5 0.4528	26.5 1.0433	12 0.4724	4000	1500	1.2 10.6	65 48	56x70x8	ZARN 4580 LTN
90 3.5433	70 2.7559	88 3.4646	17.5 0.689	38.5 1.5157	14 0.5512	3300	1150	3.5 31	150 111	70x90x10	ZARN 45105 LTN
78 3.0709	60 2.3622	78 3.0709	11.5 0.4528	29.5 1.1614	12 0.4724	3600	1200	2.2 19.5	85 63	60x80x8	ZARN 5090 LTN
95 3.7402	75 2.9528	93 3.6614	17.5 0.689	38.5 1.5157	14 0.5512	3100	1100	3.8 33.6	180 133	75x95x10	ZARN 50110 LTN
100 3.937	80 3.1496	98 3.8583	17.5 0.689	38.5 1.5157	14 0.5512	2900	1000	4 35.4	220 162	80x100x10	ZARN 55115 LTN
105 4.1339	90 3.5433	105 4.1339	17.5 0.689	38.5 1.5157	16 0.6299	2700	950	4.2 37.2	250 184	90x110x12	ZARN 60120 LTN
110 4.3307	90 3.5433	108 4.252	17.5 0.689	38.5 1.5157	16 0.6299	2600	900	3.9 34.5	270 199	90x110x12	ZARN 65125 LTN
115 4.5276	100 3.937	115 4.5276	17.5 0.689	38.5 1.5157	16 0.6299	2400	800	4.8 42.5	330 243	100x120x12	ZARN 70130 LTN
135 5.315	115 4.5276	135 5.315	21 0.8268	46 1.811	16 0.6299	2100	700	8 70.8	580 428	115x140x12	ZARN 75155 LTN
160 6.2992	130 5.1181	158 6.2205	22.5 0.8858	47.5 1.8701	16 0.6299	1800	700	10.5 92.9	960 708	130x160x12	ZARN 90180 LTN

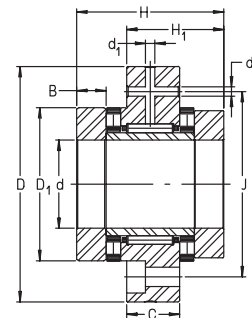




# Ball Screw Support Bearings

## ZARF SERIES

- Combination double direction axial cylindrical roller and radial needle roller bearing
- Predrilled mounting flange
- Metric series
- P4 axial precision



For details on part numbers, descriptive suffixes and various technical references, please refer to front of this section.  
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B	d <sub>1</sub>	J	SPEED LIMIT OIL	SPEED LIMIT GREASE	BEARING FRICTION	MTG. BOLT	BOLT HOLE QTY	LOCKNUT NUMBER	LOCKNUT TORQUE	PART NUMBER
mm inch	mm inch	mm inch	rpm	rpm	Nm in-lbf				Nm ft-lbf	
7.5	3.2	46	8500	2200	0.35	M6-10.9	6	ZMA 15/33	10	ZARF 1560 TN
0.2953	0.126	1.811	8500	2200	3.1	M6-10.9	6	ZMA 15/33	7	ZARF 1560 TN
9	3.2	48	7800	2100	0.4	M6-10.9	6	ZMA 17/38	12	ZARF 1762 TN
0.3543	0.126	1.8898	7800	2100	3.5	M6-10.9	6	ZMA 17/38	9	ZARF 1762 TN
10	3.2	53	7000	2000	0.5	M6-10.9	8	ZMA 20/38	18	ZARF 2068 TN
0.3937	0.126	2.0866	7000	2000	4.4	M6-10.9	8	ZMA 20/38	13	ZARF 2068 TN
12.5	3.2	63	6000	1500	1.3	M6-10.9	12	ZMA 20/52	38	ZARF 2080 TN
0.4921	0.126	2.4803	6000	1500	11.5	M6-10.9	12	ZMA 20/52	28	ZARF 2080 TN
10	3.2	58	6000	1900	0.55	M6-10.9	8	ZMA 25/45	25	ZARF 2575 TN
0.3937	0.126	2.2835	6000	1900	4.9	M6-10.9	8	ZMA 25/45	18	ZARF 2575 TN
12.5	3.2	73	4900	1400	1.6	M6-10.9	12	ZMA 25/58	55	ZARF 2590 TN
0.4921	0.126	2.874	4900	1400	14.2	M6-10.9	12	ZMA 25/58	41	ZARF 2590 TN
10	3.2	63	5500	1800	0.65	M6-10.9	12	ZMA 30/52	32	ZARF 3080 TN
0.3937	0.126	2.4803	5500	1800	5.8	M6-10.9	12	ZMA 30/52	24	ZARF 3080 TN
11	3.2	73	4800	1700	0.9	M6-10.9	12	ZMA 35/58	42	ZARF 3590 TN
0.4331	0.126	2.874	4800	1700	8	M6-10.9	12	ZMA 35/58	31	ZARF 3590 TN
14	3.2	85	4400	1300	2.1	M8-10.9	12	ZMA 30/65	75	ZARF 30105 TN
0.5512	0.126	3.3465	4400	1300	18.6	M8-10.9	12	ZMA 30/65	55	ZARF 30105 TN
14	3.2	88	4000	1250	2.3	M8-10.9	12	ZMA 35/70	100	ZARF 35110 TN
0.5512	0.126	3.4646	4000	1250	20.4	M8-10.9	12	ZMA 35/70	74	ZARF 35110 TN
11	3.2	80	4400	1600	1	M8-10.9	8	ZMA 40/62	55	ZARF 40100 TN
0.4331	0.126	3.1496	4400	1600	8.9	M8-10.9	8	ZMA 40/62	41	ZARF 40100 TN
16	6	94	3700	1200	2.5	M8-10.9	12	ZMA 40/75	120	ZARF 40115 TN
0.6299	0.2362	3.7008	3700	1200	22.1	M8-10.9	12	ZMA 40/75	89	ZARF 40115 TN
11.5	6	85	4000	1500	1.2	M8-10.9	8	ZMA 45/68	65	ZARF 45105 TN
0.4528	0.2362	3.3465	4000	1500	10.6	M8-10.9	8	ZMA 45/68	48	ZARF 45105 TN
17.5	6	105	3300	1150	3.5	M8-10.9	12	ZMA 45/85	150	ZARF 45130 TN
0.689	0.2362	4.1339	3300	1150	31	M8-10.9	12	ZMA 45/85	111	ZARF 45130 TN
11.5	6	94	3600	1200	2.2	M8-10.9	12	ZMA 50/75	85	ZARF 50115 TN
0.4528	0.2362	3.7008	3600	1200	19.5	M8-10.9	12	ZMA 50/75	63	ZARF 50115 TN
17.5	6	113	3100	1100	3.8	M10-10.9	12	ZMA 50/92	180	ZARF 50140 TN
0.689	0.2362	4.4488	3100	1100	33.6	M10-10.9	12	ZMA 50/92	133	ZARF 50140 TN
17.5	6	118	2900	1000	4	M10-10.9	12	ZMA 55/98	220	ZARF 55145 TN
0.689	0.2362	4.6457	2900	1000	35.4	M10-10.9	12	ZMA 55/98	162	ZARF 55145 TN
17.5	6	123	2700	950	4.2	M10-10.9	12	ZMA 60/98	250	ZARF 60150 TN
0.689	0.2362	4.8425	2700	950	37.2	M10-10.9	12	ZMA 60/98	184	ZARF 60150 TN
17.5	6	128	2600	900	3.9	M10-10.9	12	ZMA 65/105	270	ZARF 65155 TN
0.689	0.2362	5.0394	2600	900	34.5	M10-10.9	12	ZMA 65/105	199	ZARF 65155 TN
17.5	6	133	2400	800	4.8	M10-10.9	12	ZMA 70/110	330	ZARF 70160 TN
0.689	0.2362	5.2362	2400	800	42.5	M10-10.9	12	ZMA 70/110	243	ZARF 70160 TN
21	6	155	2100	700	8	M12-10.9	12	ZMA 75/125	580	ZARF 75185 TN
0.8268	0.2362	6.1024	2100	700	70.8	M12-10.9	12	ZMA 75/125	428	ZARF 75185 TN
22.5	8	180	1800	700	9.5	M12-10.9	16	ZMA 90/155	960	ZARF 90210 TN
0.8858	0.315	7.0866	1800	700	84.1	M12-10.9	16	ZMA 90/155	708	ZARF 90210 TN



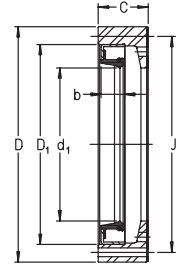




# Seal Carriers & Seals

## DRS SERIES

- Seal rings with mounting hardware for use with series ZARF..TN and ZARF..LTN ball screw support bearings



For details on part numbers, descriptive suffixes and various technical references, please refer to front of this section.  
For engineering or technical information contact your local sales representative or call Distributor Sales (800)523-6572.

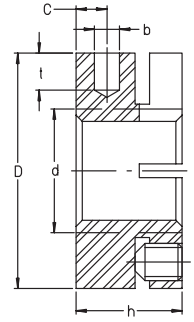
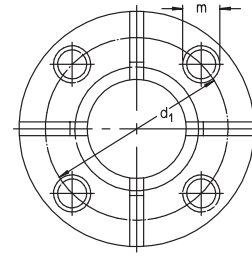
PART NUMBER	SHAFT d <sub>1</sub> mm inch	WIDTH C mm inch	OD D mm inch	J mm inch	D <sub>1</sub> mm inch	b mm inch	WEIGHT PER PIECE kg lbs	BOLT THREAD DIN 912	MATING BEARING
DRS 1560	35	14	60	52.4	45	7	0.16	M3x20	ZARF 1560 TN
DRS 1560	1.378	0.551	2.362	2.063	1.772	0.276	0.353	M3x20	ZARF 1560 TN
DRS 1762	38	15.5	62	54.4	45	7	0.18	M3x25	ZARF 1762 TN
DRS 1762	1.496	0.61	2.441	2.142	1.772	0.276	0.397	M3x25	ZARF 1762 TN
DRS 2068	42	17	68	60.4	55	8	0.11	M3x25	ZARF 2068 TN
DRS 2068	1.654	0.669	2.677	2.378	2.165	0.315	0.243	M3x25	ZARF 2068 TN
DRS 2080	52	22	80	73.4	68	8	0.2	M3x30	ZARF 2080 TN
DRS 2080	2.047	0.866	3.15	2.89	2.677	0.315	0.441	M3x30	ZARF 2080 TN
DRS 2575	47	17	75	67.4	62	6	0.16	M3x25	ZARF 2575 TN
DRS 2575	1.85	0.669	2.953	2.654	2.441	0.236	0.353	M3x25	ZARF 2575 TN
DRS 2590	62	22	90	81	75	10	0.3	M3x30	ZARF 2590 TN
DRS 2590	2.441	0.866	3.543	3.189	2.953	0.394	0.662	M3x30	ZARF 2590 TN
DRS 3080	52	17	80	73.4	68	8	0.15	M3x25	ZARF 3080 TN
DRS 3080	2.047	0.669	3.15	2.89	2.677	0.315	0.331	M3x25	ZARF 3080 TN
DRS 30105	68	25	105	95	85	10	0.35	M4x35	ZARF 30105 TN
DRS 30105	2.677	0.984	4.134	3.74	3.346	0.394	0.772	M4x35	ZARF 30105 TN
DRS 3590	60	19	90	80	72	8	0.15	M4x30	ZARF 3590 TN
DRS 3590	2.362	0.748	3.543	3.15	2.835	0.315	0.331	M4x30	ZARF 3590 TN
DRS 35110	73	25	110	101	95	10	0.3	M3x30	ZARF 35110 TN
DRS 35110	2.874	0.984	4.331	3.976	3.74	0.394	0.662	M3x30	ZARF 35110 TN
DRS 40100	65	19	100	90	80	8	0.25	M4x30	ZARF 40100 TN
DRS 40100	2.559	0.748	3.937	3.543	3.15	0.315	0.551	M4x30	ZARF 40100 TN
DRS 40115	78	27.5	115	106	100	10	0.5	M3x35	ZARF 40115 TN
DRS 40115	3.071	1.083	4.528	4.173	3.937	0.394	1.103	M3x35	ZARF 40115 TN
DRS 45105	70	20	105	95	85	8	0.3	M4x30	ZARF 45105 TN
DRS 45105	2.756	0.787	4.134	3.74	3.346	0.315	0.662	M4x30	ZARF 45105 TN
DRS 45130	90	31	130	120	110	12	0.7	M4x40	ZARF 45130 TN
DRS 45130	3.543	1.22	5.118	4.724	4.331	0.472	1.544	M4x40	ZARF 45130 TN
DRS 50115	78	20	115	106	100	10	0.2	M3x30	ZARF 50115 TN
DRS 50115	3.071	0.787	4.528	4.173	3.937	0.394	0.441	M3x30	ZARF 50115 TN
DRS 50140	95	30	140	127.5	115	13	0.8	M5x40	ZARF 50140 TN
DRS 50140	3.74	1.181	5.512	5.02	4.528	0.512	1.764	M5x40	ZARF 50140 TN
DRS 55145	100	30	145	132.5	120	12	0.9	M5x40	ZARF 55145 TN
DRS 55145	3.937	1.181	5.709	5.217	4.724	0.472	1.985	M5x40	ZARF 55145 TN
DRS 60150	105	30	150	137.5	125	12	0.9	M5x40	ZARF 60150 TN
DRS 60150	4.134	1.181	5.906	5.413	4.921	0.472	1.985	M5x40	ZARF 60150 TN
DRS 65155	110	30	155	142.5	130	12	1	M5x40	ZARF 65155 TN
DRS 65155	4.331	1.181	6.102	5.61	5.118	0.472	2.205	M5x40	ZARF 65155 TN
DRS 70160	115	30	160	147.5	135	13	1	M5x40	ZARF 70160 TN
DRS 70160	4.528	1.181	6.299	5.807	5.315	0.512	2.205	M5x40	ZARF 70160 TN
DRS 75185	135	36	185	172.5	160	15	1.8	M5x50	ZARF 75185 TN
DRS 75185	5.315	1.417	7.283	6.791	6.299	0.591	3.969	M5x50	ZARF 75185 TN
DRS 90210	160	38	210	194	180	15	2.7	M5x50	ZARF 90210
DRS 90210	6.299	1.496	8.268	7.638	7.087	0.591	5.954	M5x50	ZARF 90210



# Locknuts

## AM SERIES

- Axial set screws to prevent loss of preload
- Preloading axial bearings
- Metric series



For details on part numbers, descriptive suffixes and various technical references, please refer to front of this section.  
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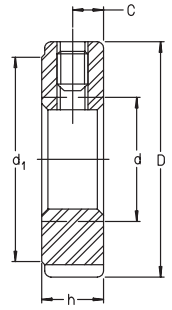
PART NUMBER	d inch	d mm	D inch	D mm	h inch	h mm	WGT lbs	WGT kg	b inch	b mm	t inch	t mm	d <sub>1</sub> inch	d <sub>1</sub> mm	c inch	c mm	m inch	m mm	FaB lbf	FaB kN
AM 15	0.591	M15 x 1	1.181	30	0.709	18	0.132	0.06	0.157	4	0.197	5	0.906	23	0.197	5	0.157	M4	22900	102
AM 17	0.669	M17 x 1	1.26	32	0.709	18	0.154	0.07	0.157	4	0.197	5	1.024	26	0.197	5	0.157	M4	27000	120
AM 20	0.787	M20 x 1	1.496	38	0.709	18	0.287	0.13	0.157	4	0.236	6	1.161	29.5	0.197	5	0.236	M6	32600	145
AM 25	0.984	M25 x 1.5	1.772	45	0.787	20	0.353	0.16	0.197	5	0.236	6	1.378	35	0.236	6	0.236	M6	46100	205
AM 30	1.181	M30 x 1.5	2.047	52	0.787	20	0.441	0.2	0.197	5	0.276	7	1.575	40	0.236	6	0.236	M6	55300	246
AM 35	1.378	M35 x 1.5	2.559	65	0.866	22	0.728	0.33	0.236	6	0.315	8	1.89	48	0.236	6	0.236	M6	74000	329
AM 40	1.575	M40 x 1.5	2.559	65	0.866	22	0.662	0.3	0.236	6	0.315	8	2.008	51	0.236	6	0.236	M6	78000	347
AM 45	1.772	M45 x 1.5	2.756	70	0.866	22	0.75	0.34	0.236	6	0.315	8	2.205	56	0.236	6	0.236	M6	80900	360
AM 50	1.969	M50 x 1.5	2.953	75	0.984	25	0.948	0.43	0.236	6	0.315	8	2.441	62	0.315	8	0.236	M6	101200	450
AM 60	2.362	M60 x 2	3.543	90	1.024	26	1.433	0.65	0.236	6	0.315	8	2.953	75	0.315	8	0.236	M6	123000	547



# Locknuts

## ZM SERIES

- Radial set screws to prevent loss of preload
- Preload for axial bearings
- Metric series



For details on part numbers, descriptive suffixes and various technical references, please refer to front of this section.  
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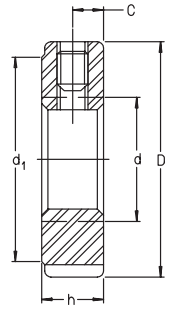
PART NUMBER	d		D		h		WGT		d <sub>1</sub>	d <sub>1</sub>
	inch	mm	inch	mm	inch	mm	lbs	kg	inch	mm
ZM 06	0.2362	M 6 x 0.5	0.63	16	0.315	8	0.022	0.01	0.472	12
ZM 08	0.315	M 8 x 0.75	0.63	16	0.315	8	0.022	0.01	0.472	12
ZM 10	0.3937	M 10 x 1	0.709	18	0.315	8	0.022	0.01	0.551	14
ZM 12	0.4724	M 12 x 1	0.866	22	0.315	8	0.033	0.015	0.709	18
ZM 15	0.5906	M 15 x 1	0.984	25	0.315	8	0.04	0.018	0.827	21
ZMA 15/33	0.5906	M 15 x 1	1.299	33	0.63	16	0.176	0.08	1.102	28
ZM 17	0.6693	M 17 x 1	1.102	28	0.394	10	0.062	0.028	0.906	23
ZM 20	0.7874	M 20 x 1	1.26	32	0.394	10	0.077	0.035	1.063	27
ZMA 20/38	0.7874	M 20 x 1	1.496	38	0.787	20	0.265	0.12	1.299	33
ZM 25	0.9843	M 25 x 1.5	1.496	38	0.472	12	0.121	0.055	1.299	33
ZMA 25/45	0.9843	M 25 x 1.5	1.772	45	0.787	20	0.353	0.16	1.575	40
ZM 30	1.1811	M 30 x 1.5	1.772	45	0.472	12	0.165	0.075	1.575	40
ZMA 30/52	1.1811	M 30 x 1.5	2.047	52	0.866	22	0.485	0.22	1.85	47
ZM 35	1.378	M 35 x 1.5	2.047	52	0.472	12	0.218	0.099	1.85	47
ZMA 35/58	1.378	M 35 x 1.5	2.283	58	0.866	22	0.573	0.26	2.047	52
ZM 40	1.5748	M 40 x 1.5	2.283	58	0.551	14	0.309	0.14	2.047	52
ZMA 40/62	1.5748	M 40 x 1.5	2.441	62	0.866	22	0.595	0.27	2.205	56
ZM 45	1.7717	M 45 x 1.5	2.559	65	0.551	14	0.375	0.17	2.323	59
ZMA 45/68	1.7717	M 45 x 1.5	2.677	68	0.945	24	0.772	0.35	2.441	62
ZM 50	1.9685	M 50 x 1.5	2.756	70	0.551	14	0.419	0.19	2.52	64
ZMA 50/75	1.9685	M 50 x 1.5	2.953	75	0.984	25	0.948	0.43	2.677	68
ZM 55	2.1654	M 55 x 2	2.953	75	0.63	16	0.507	0.23	2.677	68
ZMA 55/98	2.1654	M 55 x 2	3.858	98	1.26	32	2.58	1.17	3.543	90
ZM 60	2.3622	M 60 x 2	3.15	80	0.63	16	0.551	0.25	2.874	73
ZMA 60/98	2.3622	M 60 x 2	3.858	98	1.26	32	2.359	1.07	3.543	90
ZM 65	2.5591	M 65 x 2	3.346	85	0.63	16	0.595	0.27	3.071	78
ZMA 65/105	2.5591	M 65 x 2	4.134	105	1.26	32	2.668	1.21	3.819	97
ZM 70	2.7559	M 70 x 2	3.622	92	0.709	18	0.794	0.36	3.346	85
ZMA 70/110	2.7559	M 70 x 2	4.331	110	1.378	35	3.087	1.4	4.016	102
ZM 75	2.9528	M 75 x 2	3.858	98	0.709	18	0.882	0.4	3.543	90
ZMA 75/125	2.9528	M 75 x 2	4.921	125	1.496	38	4.653	2.11	4.606	117
ZM 80	3.1496	M 80 x 2	4.134	105	0.709	18	1.014	0.46	3.74	95
ZM 85	3.3465	M 85 x 2	4.331	110	0.709	18	1.08	0.49	4.016	102
ZM 90	3.5433	M 90 x 2	4.724	120	0.787	20	1.544	0.7	4.252	108
ZMA 90/155	3.5433	M 90 x 2	6.102	155	1.496	38	7.409	3.36	5.748	146
ZM 100	3.937	M 100 x 2	5.118	130	0.787	20	1.698	0.77	4.724	120
ZM 105	4.1339	M 105 x 2	5.512	140	0.866	22	2.315	1.05	4.961	126
ZM 110	4.3307	M 110 x 2	5.709	145	0.866	22	2.403	1.09	5.236	133
ZM 115	4.5276	M 115 x 2	5.906	150	0.866	22	2.492	1.13	5.394	137
ZM 120	4.7244	M 120 x 2	6.102	155	0.945	24	2.822	1.28	5.433	138
ZM 125	4.9213	M 125 x 2	6.299	160	0.945	24	2.933	1.33	5.827	148
ZM 130	5.1181	M 130 x 2	6.496	165	0.945	24	2.999	1.36	5.866	149
ZM 140	5.5118	M 140 x 2	7.087	180	1.024	26	4.079	1.85	6.299	160
ZM 150	5.9055	M 150 x 2	7.677	195	1.024	26	4.939	2.24	6.732	171



# Locknuts

## ZM SERIES

- Radial set screws to prevent loss of preload
- Preload for axial bearings
- Metric series



For details on part numbers, descriptive suffixes and various technical references, please refer to front of this section.  
 For engineering or technical information contact your local sales representative or call Distributor Sales (800)523-6572.

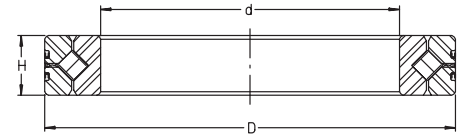
c inch	c mm	SET SCREW THREAD	GROOVE WIDTH inch	GROOVE WIDTH mm	GROOVE DEPTH inch	GROOVE DEPTH mm	FRACTURE LOAD lbf	FRACTURE LOAD kN	PART NUMBER
0.157	4	M4	0.118	3	0.079	2	3800	17	ZM 06
0.157	4	M4	0.118	3	0.079	2	5200	23	ZM 08
0.157	4	M4	0.118	3	0.079	2	7000	31	ZM 10
0.157	4	M4	0.118	3	0.079	2	8500	38	ZM 12
0.157	4	M4	0.118	3	0.079	2	11200	50	ZM 15
0.315	8	M5	0.157	4	0.079	2	23800	106	ZMA 15/33
0.197	5	M5	0.157	4	0.079	2	12800	57	ZM 17
0.197	5	M5	0.157	4	0.079	2	15500	69	ZM 20
0.394	10	M5	0.197	5	0.079	2	39100	174	ZMA 20/38
0.236	6	M6	0.197	5	0.079	2	20200	90	ZM 25
0.394	10	M6	0.197	5	0.079	2	47400	211	ZMA 25/45
0.236	6	M6	0.197	5	0.079	2	25200	112	ZM 30
0.433	11	M6	0.197	5	0.079	2	60700	270	ZMA 30/52
0.236	6	M6	0.197	5	0.079	2	30100	134	ZM 35
0.433	11	M6	0.236	6	0.098	2.5	67400	300	ZMA 35/58
0.276	7	M6	0.236	6	0.098	2.5	35300	157	ZM 40
0.433	11	M8	0.236	6	0.098	2.5	69700	310	ZMA 40/62
0.276	7	M6	0.236	6	0.098	2.5	40700	181	ZM 45
0.472	12	M8	0.236	6	0.098	2.5	80900	360	ZMA 45/68
0.276	7	M6	0.236	6	0.098	2.5	46100	205	ZM 50
0.492	12.5	M8	0.236	6	0.098	2.5	93300	415	ZMA 50/75
0.315	8	M6	0.276	7	0.118	3	51500	229	ZM 55
0.63	16	M8	0.315	8	0.138	3.5	139400	620	ZMA 55/98
0.315	8	M6	0.276	7	0.118	3	57300	255	ZM 60
0.63	16	M8	0.315	8	0.138	3.5	152900	680	ZMA 60/98
0.315	8	M6	0.276	7	0.118	3	62900	280	ZM 65
0.63	16	M8	0.315	8	0.138	3.5	168600	750	ZMA 65/105
0.354	9	M8	0.315	8	0.138	3.5	68600	305	ZM 70
0.689	17.5	M8	0.315	8	0.138	3.5	182100	810	ZMA 70/110
0.354	9	M8	0.315	8	0.138	3.5	74400	331	ZM 75
0.748	19	M8	0.315	8	0.138	3.5	197800	880	ZMA 75/125
0.354	9	M8	0.315	8	0.138	3.5	79800	355	ZM 80
0.354	9	M8	0.315	8	0.138	3.5	86600	385	ZM 85
0.394	10	M8	0.394	10	0.157	4	92200	410	ZM 90
0.748	19	M8	0.394	10	0.157	4	242800	1080	ZMA 90/155
0.394	10	M8	0.394	10	0.157	4	104500	465	ZM 100
0.433	11	M10	0.472	12	0.197	5	111300	495	ZM 105
0.433	11	M10	0.472	12	0.197	5	116900	520	ZM 110
0.433	11	M10	0.472	12	0.197	5	123700	550	ZM 115
0.472	12	M10	0.472	12	0.197	5	130400	580	ZM 120
0.472	12	M10	0.472	12	0.197	5	137100	610	ZM 125
0.472	12	M10	0.472	12	0.197	5	141600	630	ZM 130
0.512	13	M12	0.551	14	0.236	6	155100	690	ZM 140
0.512	13	M12	0.551	14	0.236	6	168600	750	ZM 150



# Cross Roller Bearings

## SX SERIES

- Cross roller bearings ISO series 18 (same envelope as 618 14 etc.)



For details on part numbers, descriptive suffixes and various technical references, please refer to front of this section.  
 For engineering or technical information contact your local sales representative or call Distributor Sales (800)523-6572.

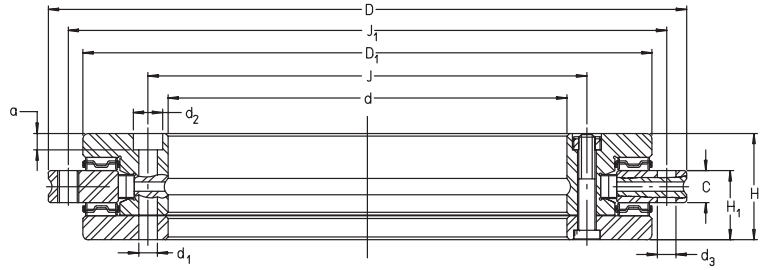
PART NUMBER	SHAFT d	SHAFT d	OD D	OD D	WIDTH H	WIDTH H	WGT	WGT	DYN. CAP. AXIAL	DYN. CAP. AXIAL	STAT. CAP. AXIAL	STAT. CAP. AXIAL	SPEED LIMIT
	inch	mm	inch	mm	inch	mm	lbs	kg	lbf	kN	lbf	kN	rpm
SX 01 18 14	2.756	70	3.543	90	0.394	10	0.662	0.3	4,050	18	13,500	60	955
SX 01 18 20	3.937	100	4.921	125	0.512	13	0.882	0.4	6,300	28	23,800	106	680
SX 01 18 24	4.724	120	5.906	150	0.630	16	1.764	0.8	9,200	41	34,500	153	565
SX 01 18 28	5.512	140	6.890	175	0.709	18	2.426	1.1	14,400	64	53,000	237	485
SX 01 18 32	6.299	160	7.874	200	0.787	20	3.749	1.7	15,500	69	61,000	272	425
SX 01 18 36	7.087	180	8.858	225	0.866	22	5.072	2.3	22,000	98	86,000	381	375
SX 01 18 40	7.874	200	9.843	250	0.945	24	6.836	3.1	23,800	106	96,000	425	340
SX 01 18 48	9.449	240	11.811	300	1.102	28	11.7	5.3	33,500	149	138,000	612	280
SX 01 18 60	11.811	300	14.961	380	1.496	38	26.5	12	55,000	245	231,000	1027	558
SX 01 18 68	13.386	340	16.535	420	1.496	38	29.8	13.5	60,000	265	260,000	1148	200
SX 01 18 80	15.748	400	19.685	500	1.811	46	52.9	24	87,000	385	380,000	1699	170
SX 01 18 /500	19.685	500	24.409	620	2.205	56	97.0	44	126,000	560	570,000	2538	135





# Axial Radial Bearings for Rotary Tables YRT SERIES

- Double direction
- Axially preloaded, radially preloaded
- Predrilled for flange mounting
- P4 precision



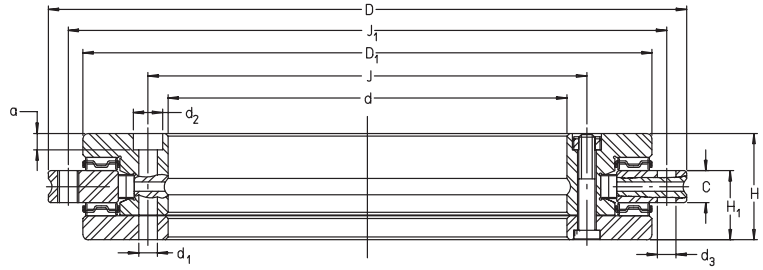
For details on part numbers, descriptive suffixes and various technical references, please refer to front of this section.  
For engineering or technical information contact your local sales representative or call Distributor Sales (800)523-6572.

PART NUMBER	SHAFT	OD	WIDTH	DYN. CAP	STAT. CAP.	DYN. CAP	STAT. CAP.	H <sub>1</sub>	C	D <sub>1</sub>	INNER	OUTER	BOLT TORQUE
	d	D	H	AXIAL	AXIAL	RADIAL	RADIAL				BOLT CIRCLE	BOLT CIRCLE	
	mm inch	mm inch	mm inch	kN lbf	kN lbf	kN lbf	kN lbf	mm inch	mm inch	mm inch	J mm inch	J <sub>1</sub> mm inch	Nm lbf-ft
YRT 80	80	146	35	38.5	158	36.5	47	23.35	12	130	92	138	8.5
YRT 80	3.15	5.748	1.378	8700	36000	8200	10600	0.919	0.472	5.118	3.622	5.433	6.3
YRT 100	100	185	38	72	370	54	115	25	12	160	112	170	8.5
YRT 100	3.937	7.283	1.496	16000	83000	12100	25900	0.984	0.472	6.299	4.409	6.693	6.3
YRT 120	120	210	40	79	430	70	148	26	12	184	135	195	14
YRT 120	4.724	8.268	1.575	18000	97000	15700	33000	1.024	0.472	7.244	5.315	7.677	10.3
YRT 150	150	240	40	85	510	77	179	26	12	214	165	225	14
YRT 150	5.906	9.449	1.575	19000	115000	17300	40000	1.024	0.472	8.425	6.496	8.858	10.3
YRT 180	180	280	43	92	580	83	208	29	15	244	194	260	14
YRT 180	7.087	11.024	1.693	21000	130000	18700	47000	1.142	0.591	9.606	7.638	10.236	10.3
YRT 200	200	300	45	98	650	88	235	30	15	274	215	285	14
YRT 200	7.874	11.811	1.772	22000	146000	20000	53000	1.181	0.591	10.787	8.465	11.22	10.3
YRT 260	260	385	55	109	810	101	305	36.5	18	345	280	365	34
YRT 260	10.236	15.157	2.165	25000	182000	23000	69000	1.437	0.709	13.583	11.024	14.37	25.1
YRT 325	325	450	60	186	1710	133	410	40	20	415	342	430	34
YRT 325	12.795	17.717	2.362	42000	384000	30000	92000	1.575	0.787	16.339	13.465	16.929	25.1
YRT 395	395	525	65	202	2010	146	495	42.5	20	486	415	505	34
YRT 395	15.551	20.669	2.559	45000	452000	33000	111000	1.673	0.787	19.134	16.339	19.882	25.1
YRT 460	460	600	70	217	2300	197	690	46	22	560	482	580	34
YRT 460	18.11	23.622	2.756	49000	517000	44000	155000	1.811	0.866	22.047	18.976	22.835	25.1
YRT 580	580	750	90	385	3550	215	830	60	30	700	610	720	68
YRT 580	22.835	29.528	3.543	87000	798000	48000	187000	2.362	1.181	27.559	24.016	28.346	50.2
YRT 650	650	870	122	495	5100	415	1520	78	34	800	680	830	116
YRT 650	25.591	34.252	4.803	111000	1147000	93000	342000	3.071	1.339	31.496	26.772	32.677	85.6
YRT 850	850	1095	124	560	6500	480	1990	80.5	37	1018	890	1055	284
YRT 850	33.465	43.11	4.882	126000	1461000	108000	447000	3.169	1.457	40.079	35.039	41.535	209.5
YRT 950	950	1200	132	1040	10300	600	2480	86	40	1130	990	1160	284
YRT 950	37.402	47.244	5.197	234000	2316000	135000	558000	3.386	1.575	44.488	38.976	45.669	209.5



# Axial Radial Bearings for Rotary Tables YRT SERIES

- Double direction
- Axially preloaded, radially preloaded
- Predrilled for flange mounting
- P4 precision



For details on part numbers, descriptive suffixes and various technical references, please refer to front of this section.  
For engineering or technical information contact your local sales representative or call Distributor Sales (800)523-6572.

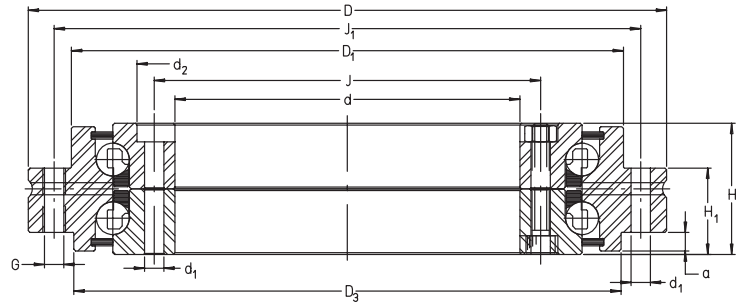
a	d1	d2	QTY *	HOLE SPACING	d3	QTY **	REMOVAL THREADS G	QTY	BEARING FRICTIONAL TORQUE	RIGIDITY AXIAL	RIGIDITY RADIAL	RIGIDITY MOMENT	WGT.	SPEED LIMIT GREASE	PART NUMBER
mm inch	mm inch	mm inch			mm inch				Nm lbf-ft	N/μm lbf°6/in	N/μm lbf°6/in	Nm/mrad ftlbf/deg	kg lbs	rpm	
4	5.6	10	10	30°	4.6	12	—	—	3	500	1800	2500	2.4	350	YRT 80
0.157	0.22	0.394	10	30°	0.181	12	—	—	2.2	2.86	10.28	32200	5.29	350	YRT 80
5.4	5.6	10	16	20°	5.6	15	M5	3	3	800	2000	5000	4.1	280	YRT 100
0.213	0.22	0.394	16	20°	0.22	15	M5	3	2.2	4.57	11.42	64400	9.04	280	YRT 100
6.2	7	11	22	15°	7	21	M8	3	7	1000	2200	7000	5.3	230	YRT 120
0.244	0.276	0.433	22	15°	0.276	21	M8	3	5.2	5.71	12.56	90100	11.69	230	YRT 120
6.2	7	11	34	10°	7	33	M8	3	10	1500	2600	11000	6.2	210	YRT 150
0.244	0.276	0.433	34	10°	0.276	33	M8	3	7.4	8.57	14.85	141600	13.67	210	YRT 150
6.2	7	11	46	7.5°	7	45	M8	3	12	2200	3000	17000	7.7	190	YRT 180
0.244	0.276	0.433	46	7.5°	0.276	45	M8	3	8.9	12.56	17.13	218800	16.98	190	YRT 180
6.2	7	11	46	7.5°	7	45	M8	3	14	3000	3500	23000	9.7	170	YRT 200
0.244	0.276	0.433	46	7.5°	0.276	45	M8	3	10.3	17.13	19.99	296100	21.39	170	YRT 200
8.2	9.3	15	34	10°	9.3	33	M12	3	20	5500	4500	45000	18.3	130	YRT 260
0.323	0.366	0.591	34	10°	0.366	33	M12	3	14.8	31.41	25.7	579300	40.35	130	YRT 260
8.2	9.3	15	34	10°	9.3	33	M12	3	40	8500	5000	80000	25	110	YRT 325
0.323	0.366	0.591	34	10°	0.366	33	M12	3	29.5	48.54	28.55	1029800	55.13	110	YRT 325
8.2	9.3	15	46	7.5°	9.3	45	M12	3	55	12500	6000	130000	33	90	YRT 395
0.323	0.366	0.591	46	7.5°	0.366	45	M12	3	40.6	71.38	34.26	1673400	72.77	90	YRT 395
8.2	9.3	15	46	7.5°	9.3	45	M12	3	70	18000	7000	200000	45	80	YRT 460
0.323	0.366	0.591	46	7.5°	0.366	45	M12	3	51.6	102.79	39.97	2574500	99.23	80	YRT 460
11	11.4	18	46	7.5°	11.4	42	M12	6	140	30000	9000	380000	89	60	YRT 580
0.433	0.449	0.709	46	7.5°	0.449	42	M12	6	103.3	171.31	51.39	4891600	196.25	60	YRT 580
13	14	20	46	7.5°	14	42	M12	6	200	45000	10000	550000	170	55	YRT 650
0.512	0.551	0.787	46	7.5°	0.551	42	M12	6	147.5	256.97	57.1	7079900	374.85	55	YRT 650
17	18	26	58	6°	18	54	M16	6	300	80000	13000	1100000	253	40	YRT 850
0.669	0.709	1.024	58	6°	0.709	54	M16	6	221.3	456.83	74.24	14159800	557.87	40	YRT 850
17	18	26	58	6°	18	54	M16	6	—	100000	14000	1500000	312	40	YRT 950
0.669	0.709	1.024	58	6°	0.709	54	M16	6	—	571.04	79.95	19308800	687.96	40	YRT 950

Equal hold spacing includes  
 \* quantity of mounting holes – spacing includes two holes with retaining bolts for shipping  
 \*\* equal hole spacing is sum of bolt holes and threaded removal holes

# Rotary Table Bearings

## ZKLDF SERIES

- Double direction axial angular contact ball bearings
- 60° contact angle with axial mounting bolt holes
- Bolt pattern matches YRT series
- Metric series



For details on part numbers, descriptive suffixes and various technical references, please refer to front of this section.  
 For engineering or technical information contact your local sales representative or call Distributor Sales (800)523-6572.

PART NUMBER	SHAFT	OD	WIDTH	WEIGHT	DYN. CAP.	STAT. CAP.	H <sub>1</sub>	D <sub>1</sub>	D <sub>3</sub>	INNER BOLT	OUTER BOLT	HOLE DIA.
	d	D	H		AXIAL	AXIAL				CIRCLE DIA.	CIRCLE DIA.	d <sub>1</sub>
	mm inch	mm inch	mm inch	Kg lbs	N lbf	N lbf	mm inch	mm inch	mm inch	mm inch	mm inch	mm inch
ZKLDF 100	100	185	38	4.5	51000	162000	25	160	158	112	170	5.6
ZKLDF 100	3.937	7.2835	1.496	9.9	11000	36000	0.984	6.299	6.22	4.409	6.693	0.22
ZKLDF 120	120	210	40	6	61000	207000	26	184	181	135	195	7
ZKLDF 120	4.7244	8.2677	1.575	13.2	14000	47000	1.024	7.244	7.126	5.315	7.677	0.276
ZKLDF 150	150	240	40	7.5	65000	247000	26	214	211	165	225	7
ZKLDF 150	5.9055	9.4488	1.575	16.5	15000	56000	1.024	8.425	8.307	6.496	8.858	0.276
ZKLDF 200	200	300	45	11	87000	365000	30	274	271	215	285	7
ZKLDF 200	7.874	11.811	1.772	24.3	20000	82000	1.181	10.787	10.669	8.465	11.22	0.276
ZKLDF 260	260	385	55	22	115000	540000	36.5	345	348	280	365	9.3
ZKLDF 260	10.2362	15.1575	2.165	48.5	26000	121000	1.437	13.583	13.701	11.024	14.37	0.366
ZKLDF 325	325	450	60	28	138000	720000	40	415	413	342	430	9.3
ZKLDF 325	12.7953	17.7165	2.362	61.7	31000	162000	1.575	16.339	16.26	13.465	16.929	0.366
ZKLDF 395	395	525	65	39	172000	960000	42.5	486	488	415	505	9.3
ZKLDF 395	15.5512	20.6693	2.559	86	39000	216000	1.673	19.134	19.213	16.339	19.882	0.366
ZKLDF 460	460	600	70	50	207000	1210000	46	560	563	482	580	9.3
ZKLDF 460	18.1102	23.622	2.756	110.3	47000	272000	1.811	22.047	22.165	18.976	22.835	0.366

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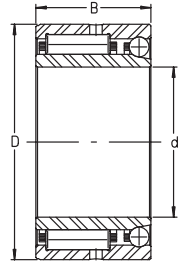
PART NUMBER	COUNTER BORE DIA.	a	HOLE SPACING	QTY. MOUNTING HOLES	QTY. SHIPPING SCREWS	THREADED HOLES G	QTY. THREADED HOLES G	BOLT TORQUE	SPEED LIMIT OIL	SPEED LIMIT GREASE	FRICION TORQUE
	d <sub>2</sub>										
	mm inch	mm inch						Nm inch-lbf	rpm	rpm	Nm inch-lbf
ZKLDF 100	10	5.4	18X20°	15	3	M5	3	8.5	2100	1400	1.6
ZKLDF 100	0.394	0.213	18X20°	15	3	M5	3	75.2	2100	1400	14.2
ZKLDF 120	11	6.2	24X15°	21	3	M8	3	14	1800	1200	2
ZKLDF 120	0.433	0.244	24X15°	21	3	M8	3	123.9	1800	1200	17.7
ZKLDF 150	11	6.2	36X10°	33	3	M8	3	14	1500	1000	3
ZKLDF 150	0.433	0.244	36X10°	33	3	M8	3	123.9	1500	1000	26.6
ZKLDF 200	11	6.2	48X7.5°	45	3	M8	3	14	1200	800	4.5
ZKLDF 200	0.433	0.244	48X7.5°	45	3	M8	3	123.9	1200	800	39.8
ZKLDF 260	15	8.2	36X10°	33	3	M12	3	34	900	600	7.5
ZKLDF 260	0.591	0.323	36X10°	33	3	M12	3	300.9	900	600	66.4
ZKLDF 325	15	8.2	36X10°	33	3	M12	3	34	750	500	11
ZKLDF 325	0.591	0.323	36X10°	33	3	M12	3	300.9	750	500	97.4
ZKLDF 395	15	8.2	48X7.5°	45	3	M12	3	34	600	400	16
ZKLDF 395	0.591	0.323	48X7.5°	45	3	M12	3	300.9	600	400	141.6
ZKLDF 460	15	8.2	48X7.5°	45	3	M12	3	34	525	350	21
ZKLDF 460	0.591	0.323	48X7.5°	45	3	M12	3	300.9	525	350	185.9



# Combination Bearings

## NKIA SERIES

- Radial needle roller and single direction axial angular contact ball bearings
- Metric series
- Removeable inner ring



For details on part numbers, descriptive suffixes and various technical references, please refer to front of this section.  
 For engineering or technical information contact your local sales representative or call Distributor Sales (800)523-6572.

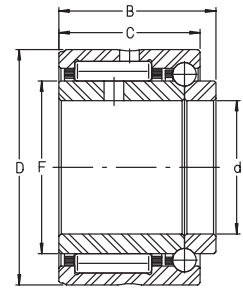
PART NUMBER	SHAFT	SHAFT	OD	OD	WIDTH	WIDTH	WGT.	WGT.	DYN. CAP. RADIAL	DYN. CAP. RADIAL	STAT. CAP. RADIAL	STAT. CAP. RADIAL	DYN. CAP. AXIAL	DYN. CAP. AXIAL	STAT. CAP. AXIAL	STAT. CAP. AXIAL	SPEED LIMIT
	d	d	D	D	B	B											
	inch	mm	inch	mm	inch	mm	lbs	g	lbf	N	lbf	N	lbf	N	lbf	N	rpm
NKIA 5901	0.472	12	0.945	24	0.630	16	0.088	40	1,710	7600	1,870	8300	485	2160	510	2250	24000
NKIA 5902	0.591	15	1.102	28	0.709	18	0.11	50	2,380	10600	3,050	13600	530	2340	620	2750	22000
NKIA 5903	0.669	17	1.181	30	0.709	18	0.123	56	2,470	11000	3,300	14600	560	2500	720	3200	21000
NKIA 5904	0.787	20	1.457	37	0.906	23	0.227	103	4,700	21000	5,700	25500	890	3950	1,090	4850	17000
NKIA 59/22	0.866	22	1.535	39	0.906	23	0.26	118	5,100	22800	6,600	29500	960	4250	1,260	5600	16000
NKIA 5905	0.984	25	1.654	42	0.906	23	0.287	130	5,300	23600	7,100	31500	980	4350	1,370	6100	15000
NKIA 5906	1.181	30	1.850	47	0.906	23	0.324	147	5,600	25000	8,000	35500	1,070	4750	1,640	7300	13000
NKIA 5907	1.378	35	2.165	55	1.063	27	0.536	243	7,100	31500	11,200	50000	1,350	6000	2,200	9800	11000
NKIA 5908	1.575	40	2.441	62	1.181	30	0.695	315	9,700	43000	15,100	67000	1,660	7400	2,850	12700	9500
NKIA 5909	1.772	45	2.677	68	1.181	30	0.827	375	10,100	45000	16,400	73000	1,730	7700	3,150	14000	8500
NKIA 5910	1.969	50	2.835	72	1.181	30	0.838	380	10,600	47000	18,000	80000	1,820	8100	3,600	15900	8000
NKIA 5911	2.165	55	3.150	80	1.339	34	1.213	550	13,000	58000	22,500	100000	2,180	9700	4,300	19200	7500
NKIA 5912	2.362	60	3.347	85	1.339	34	1.301	590	13,500	60000	24,300	108000	2,250	10000	4,700	20800	7000
NKIA 5913	2.559	65	3.543	90	1.339	34	1.4	635	13,700	61000	25,000	112000	2,320	10300	5,000	22300	6500
NKIA 5914	2.756	70	3.937	100	1.575	40	2.161	980	18,900	84000	35,000	156000	3,050	13500	6,500	29000	6000



# Combination Bearings

## NKIB SERIES

- Radial needle roller and double direction axial angular contact ball bearing
- Metric series
- Removeable inner rings



For details on part numbers, descriptive suffixes and various technical references, please refer to front of this section.  
 For engineering or technical information contact your local sales representative or call Distributor Sales (800)523-6572.

PART NUMBER	SHAFT d inch	SHAFT d mm	OD D inch	OD D mm	WIDTH B inch	WIDTH B mm	WIDTH C inch	WIDTH C mm	WGT. lbs	WGT. g
NKIB 5901	0.472	12	0.945	24	0.689	17.5	0.630	16	0.095	43
NKIB 5902	0.591	15	1.102	28	0.787	20	0.709	18	0.115	52
NKIB 5903	0.669	17	1.181	30	0.787	20	0.709	18	0.128	58
NKIB 5904	0.787	20	1.457	37	0.984	25	0.906	23	0.236	107
NKIB 59/22	0.866	22	1.535	39	0.984	25	0.906	23	0.269	122
NKIB 5905	0.984	25	1.654	42	0.984	25	0.906	23	0.295	134
NKIB 5906	1.181	30	1.850	47	0.984	25	0.906	23	0.333	151
NKIB 5907	1.378	35	2.165	55	1.181	30	1.063	27	0.545	247
NKIB 5908	1.575	40	2.441	62	1.339	34	1.181	30	0.706	320
NKIB 5909	1.772	45	2.677	68	1.339	34	1.181	30	0.838	380
NKIB 5910	1.969	50	2.835	72	1.339	34	1.181	30	0.849	385
NKIB 5911	2.165	55	3.150	80	1.496	38	1.339	34	1.224	555
NKIB 5912	2.362	60	3.347	85	1.496	38	1.339	34	1.312	595
NKIB 5913	2.559	65	3.543	90	1.496	38	1.339	34	1.411	640
NKIB 5914	2.756	70	3.937	100	1.772	45	1.575	40	2.172	985

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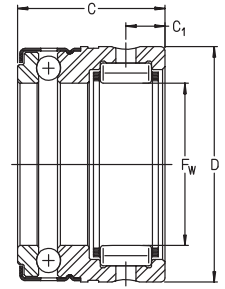
PART NUMBER	DYN. CAP. RADIAL lbf	DYN. CAP. RADIAL N	STAT. CAP. RADIAL lbf	STAT. CAP. RADIAL N	DYN. CAP. AXIAL lbf	DYN. CAP. AXIAL N	STAT. CAP. AXIAL lbf	STAT. CAP. AXIAL N	SPEED LIMIT rpm
NKIB 5901	1,710	7600	1,870	8300	485	2160	510	2250	24000
NKIB 5902	2,380	10600	3,050	13600	530	2340	620	2750	22000
NKIB 5903	2,470	11000	3,300	14600	560	2500	720	3200	21000
NKIB 5904	4,700	21000	5,700	25500	890	3950	1,090	4850	17000
NKIB 59/22	5,100	22800	6,600	29500	960	4250	1,260	5600	16000
NKIB 5905	5,300	23600	7,100	31500	980	4350	1,370	6100	15000
NKIB 5906	5,600	25000	8,000	35500	1,070	4750	1,640	7300	13000
NKIB 5907	7,100	31500	11,200	50000	1,350	6000	2,200	9800	11000
NKIB 5908	9,700	43000	15,100	67000	1,660	7400	2,850	12700	9500
NKIB 5909	10,100	45000	16,400	73000	1,730	7700	3,150	14000	8500
NKIB 5910	10,600	47000	18,000	80000	1,820	8100	3,600	15900	8000
NKIB 5911	13,000	58000	22,500	100000	2,180	9700	4,300	19200	7500
NKIB 5912	13,500	60000	24,300	108000	2,250	10000	4,700	20800	7000
NKIB 5913	13,700	61000	25,000	112000	2,320	10300	5,000	22300	6500
NKIB 5914	18,900	84000	35,000	156000	3,050	13500	6,500	29000	6000



# Combination Bearings

## NX SERIES

- Radial needle roller and axial banded ball bearing
- Metric series



For details on part numbers, descriptive suffixes and various technical references, please refer to front of this section.  
 For engineering or technical information contact your local sales representative or call Distributor Sales (800)523-6572.

PART NUMBER	SHAFT F <sub>w</sub>	SHAFT F <sub>w</sub>	OD D	OD D	WIDTH C	WIDTH C	WGT. lbs	WGT. g
	inch	mm	inch	mm	inch	mm		
NX 7 TN	0.276	7	0.551	14	0.709	18	0.031	14
NX 10	0.394	10	0.748	19	0.709	18	0.055	25
NX 12	0.472	12	0.827	21	0.709	18	0.062	28
NX 15	0.591	15	0.945	24	1.102	28	0.106	48
NX 17	0.669	17	1.024	26	1.102	28	0.117	53
NX 20	0.787	20	1.181	30	1.102	28	0.15	68
NX 25	0.984	25	1.457	37	1.181	30	0.254	115
NX 30	1.181	30	1.654	42	1.181	30	0.287	130
NX 35	1.378	35	1.850	47	1.181	30	0.353	160

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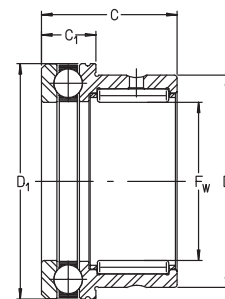
PART NUMBER	DYN. CAP. RADIAL	DYN. CAP. RADIAL	STAT. CAP. RADIAL	STAT. CAP. RADIAL	DYN. CAP. AXIAL	DYN. CAP. AXIAL	STAT. CAP. AXIAL	STAT. CAP. AXIAL	OIL GROOVE CENTER C <sub>1</sub>	OIL GROOVE CENTER C <sub>1</sub>	SPEED LIMIT rpm	CORRECT SNAP RING
	lbf	N	lbf	N	lbf	N	lbf	N	inch	mm		
NX 7 TN	640	2850	600	2650	780	3450	1,030	4600	0.185	4.7	15000	WR 14
NX 10	1,000	4450	830	3700	1,150	5100	1,750	7800	0.185	4.7	11000	WR 19
NX 12	1,080	4800	970	4300	1,190	5300	2,000	8900	0.185	4.7	9500	WR 21
NX 15	2,410	10700	2,850	12700	1,370	6100	2,500	11200	0.315	8	8000	WR 24
NX 17	2,700	11900	3,350	15000	1,440	6400	2,800	12400	0.315	8	7500	WR 26
NX 20	2,900	13000	3,950	17500	1,730	7700	3,550	15800	0.315	8	6500	WR 30
NX 25	3,350	14900	5,000	22400	2,750	12200	5,800	26000	0.315	8	4900	WR 37
NX 30	5,100	22600	8,100	36000	2,900	12800	6,700	30000	0.394	10	4300	WR 42
NX 35	5,500	24300	9,300	41500	3,050	13600	7,900	35000	0.394	10	3700	WR 47



# Combination Bearings

## NKX SERIES

- Radial needle based on RNA49.. series
- Thrust ball based on 511.. series
- Per DIN 5429
- Available with grease retaining cap, suffix Z



For details on part numbers, descriptive suffixes and various technical references, please refer to front of this section.  
 For engineering or technical information contact your local sales representative or call Distributor Sales (800)523-6572.

PART NUMBER	DIN 5429 PART NUMBER	SHAFT Fw inch	SHAFT Fw mm	OD D inch	OD D mm	WIDTH C inch	WIDTH C mm	WGT. lbs	WGT. g	D <sub>1</sub> max inch	D <sub>1</sub> max mm	C <sub>1</sub> inch	C <sub>1</sub> mm
NKX 10 TN	NAXK 10 TN	0.394	10	0.748	19	0.906	23	0.075	34	0.949	24.1	0.354	9
NKX 12	NAXK 12	0.472	12	0.827	21	0.906	23	0.084	38	1.028	26.1	0.354	9
NKX 15	NAXK 15	0.591	15	0.945	24	0.906	23	0.097	44	1.106	28.1	0.354	9
NKX 17	NAXK 17	0.669	17	1.024	26	0.984	25	0.117	53	1.185	30.1	0.354	9
NKX 20	NAXK 20	0.787	20	1.181	30	1.181	30	0.183	83	1.382	35.1	0.394	10
NKX 25	NAXK 25	0.984	25	1.457	37	1.181	30	0.276	125	1.658	42.1	0.433	11
NKX 30	NAXK 30	1.181	30	1.654	42	1.181	30	0.311	141	1.854	47.1	0.433	11
NKX 35	NAXK 35	1.378	35	1.850	47	1.181	30	0.359	163	2.051	52.1	0.472	12
NKX 40	NAXK 40	1.575	40	2.047	52	1.260	32	0.441	200	2.366	60.1	0.512	13
NKX 45	NAXK 45	1.772	45	2.284	58	1.260	32	0.556	252	2.567	65.2	0.551	14
NKX 50	NAXK 50	1.969	50	2.441	62	1.378	35	0.617	280	2.764	70.2	0.551	14
NKX 60	NAXK 60	2.362	60	2.835	72	1.575	40	0.794	360	3.354	85.2	0.669	17
NKX 70	NAXK 70	2.756	70	3.347	85	1.575	40	1.103	500	3.748	95.2	0.709	18

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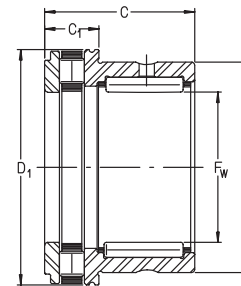
PART NUMBER	DIN 5429 PART NUMBER	DYN. CAP. RADIAL lbf	DYN. CAP. RADIAL N	STAT. CAP. RADIAL lbf	STAT. CAP. RADIAL N	DYN. CAP. AXIAL lbf	DYN. CAP. AXIAL N	STAT. CAP. AXIAL lbf	STAT. CAP. AXIAL N	SPEED LIMIT OIL rpm
NKX 10 TN	NAXK 10 TN	1,390	6200	1,750	7800	2,250	10000	3,150	14000	12000
NKX 12	NAXK 12	2,020	9000	2,470	11000	2,320	10300	3,450	15400	11000
NKX 15	NAXK 15	2,410	10700	2,850	12700	2,360	10500	3,800	16800	9500
NKX 17	NAXK 17	2,700	11900	3,350	15000	2,430	10800	4,100	18200	8500
NKX 20	NAXK 20	3,700	16400	5,400	23800	3,200	14300	5,600	24700	7500
NKX 25	NAXK 25	4,250	18800	6,900	30500	4,400	19600	8,400	37500	6000
NKX 30	NAXK 30	5,100	22600	8,100	36000	4,600	20400	9,400	42000	5000
NKX 35	NAXK 35	5,500	24300	9,300	41500	4,750	21200	10,600	47000	4600
NKX 40	NAXK 40	5,800	26000	10,600	47000	6,100	27000	14,200	63000	4000
NKX 45	NAXK 45	6,200	27500	11,900	53000	6,300	28000	15,500	69000	3600
NKX 50	NAXK 50	8,500	38000	16,600	74000	6,500	29000	16,900	75000	3300
NKX 60	NAXK 60	9,400	42000	20,200	90000	9,300	41500	25,500	113000	2800
NKX 70	NAXK 70	10,000	44500	20,700	92000	9,700	43000	28,500	127000	2400



# Combination Bearings

## NKXR SERIES

- Radial needle based on RNA49.. series
- Thrust roller based on 811.. series
- Per DIN 5429
- Available with grease retaining cap, suffix Z



For details on part numbers, descriptive suffixes and various technical references, please refer to front of this section.  
For engineering or technical information contact your local sales representative or call Distributor Sales (800)523-6572.

PART NUMBER	DIN 5429 PART NUMBER	SHAFT Fw inch	SHAFT Fw mm	OD D inch	OD D mm	WIDTH C inch	WIDTH C mm	WGT. lbs	WGT. g	D <sub>1</sub> max inch	D <sub>1</sub> max mm	C <sub>1</sub> inch	C <sub>1</sub> mm
NKXR 15	NAXR 15	0.591	15	0.945	24	0.906	23	0.093	42	1.106	28.1	0.354	9
NKXR 17	NAXR 17	0.669	17	1.024	26	0.984	25	0.11	50	1.185	30.1	0.354	9
NKXR 20	NAXR 20	0.787	20	1.181	30	1.181	30	0.176	80	1.382	35.1	0.394	10
NKXR 25	NAXR 25	0.984	25	1.457	37	1.181	30	0.265	120	1.658	42.1	0.433	11
NKXR 30	NAXR 30	1.181	30	1.654	42	1.181	30	0.298	135	1.854	47.1	0.433	11
NKXR 35	NAXR 35	1.378	35	1.850	47	1.181	30	0.346	157	2.051	52.1	0.472	12
NKXR 40	NAXR 40	1.575	40	2.047	52	1.260	32	0.45	204	2.366	60.1	0.512	13
NKXR 45	NAXR 45	1.772	45	2.284	58	1.260	32	0.538	244	2.567	65.2	0.551	14
NKXR 50	NAXR 50	1.969	50	2.441	62	1.378	35	0.591	268	2.764	70.2	0.551	14

### CONTINUED FROM ABOVE

PART NUMBER	DIN 5429 PART NUMBER	DYN. CAP. RADIAL lbf	DYN. CAP. RADIAL N	STAT. CAP. RADIAL lbf	STAT. CAP. RADIAL N	DYN. CAP. AXIAL lbf	DYN. CAP. AXIAL N	STAT. CAP. AXIAL lbf	STAT. CAP. AXIAL N	SPEED LIMIT OIL rpm
NKXR 15	NAXR 15	2,410	10700	2,850	12700	3,250	14400	6,400	28500	13000
NKXR 17	NAXR 17	2,700	11900	3,350	15000	3,600	15900	7,500	33500	12000
NKXR 20	NAXR 20	3,700	16400	5,400	23800	5,600	24900	11,900	53000	10000
NKXR 25	NAXR 25	4,250	18800	6,900	30500	7,500	33500	17,100	76000	8500
NKXR 30	NAXR 30	5,100	22600	8,100	36000	8,000	35500	19,300	86000	7500
NKXR 35	NAXR 35	5,500	24300	9,300	41500	8,800	39000	22,700	101000	6500
NKXR 40	NAXR 40	5,800	26000	10,600	47000	12,600	56000	33,500	148000	6000
NKXR 45	NAXR 45	6,200	27500	11,900	53000	13,300	59000	36,500	163000	5000
NKXR 50	NAXR 50	8,500	38000	16,600	74000	13,700	61000	40,000	177000	4800



# NOTES



# INA SALES OFFICES MANUFACTURING PLANTS

## SALES OFFICES

### TORONTO, CANADA

INA Canada Inc.  
2871 Plymouth Drive  
Oakville, Ontario L6H 5S5  
Toll Free: 800-263-4397  
  
Telephone: 905-829-2750  
Fax: 905-829-2563

### MONTREAL, CANADA

INA Canada Inc.  
149 Avenue Guthrie  
Dorval, Quebec H9P 2P1  
Toll Free: 800-361-7015  
  
Telephone: 514-631-2214  
Fax: 514-631-9571

### VANCOUVER, CANADA

INA Canada Inc.  
106-1668 Derwent Way  
Delta, British Columbia, V3M R9  
Toll Free: 800-663-9006  
  
Telephone: 604-526-3500  
Fax: 604-526-6544

### MEXICO CITY, MEXICO

INA Mexico, S.A. de C.V.  
Paseo de la Reforma 383-704  
Col. Cuauhtemoc  
06500 Mexico D.F.  
Telephone: 525-525-00-12 / 01-84  
Fax: 525-525-01-94

### OTHER COUNTRIES

Argentina	Italy
Australia	Japan
Austria	Korea
Belgium	Netherlands
Brazil	Norway
Denmark	Portugal
Finland	South Africa
France	Spain
Germany	Sweden
Great Britain	Turkey

## MANUFACTURING PLANTS

### PARENT COMPANY

INA Waelzlager Schaeffler oHG  
Industriestrasse 1-3  
P.O. Box 1220  
D-91074 Herzogenaurach  
Germany  
Telephone: (49132) 82-0  
Fax: (49132) 82 49 33

### UNITED STATES

**PLANT I**  
INA USA Corporation  
One INA Drive  
P.O. Box 390  
Cheraw, South Carolina 29520  
Telephone: 843-537-9341/9346  
Fax: 843-537-8751

**PLANT II**  
INA USA Corporation  
Highway 9 West  
P.O. Box 390  
Cheraw, South Carolina 29520  
Telephone: 843-537-9341  
Fax: 843-537-8752

**PLANT III**  
INA USA Corporation  
308 Springhill Farm Road  
Fort Mill, South Carolina 29715  
Telephone: 803-547-7990  
Fax: 803-548-8597

**PLANT IV**  
INA USA Corporation  
New Cut Road, P.O. Box 570  
Spartanburg, South Carolina 29304  
Telephone: 864-583-4541  
Fax: 864-591-8890

**PLANT V**  
INA USA Corporation  
200 Evans Row  
Cheraw, South Carolina 29520  
Telephone: 843-537-9341  
Fax: 843-537-8751

### OTHER COUNTRIES

Australia	Great Britain
Brazil	Italy
Canada	Korea
China	Slovakia
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## USA SALES OFFICES

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### CHICAGO

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