



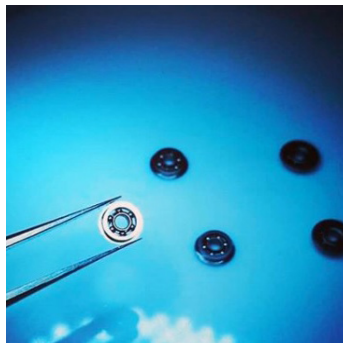
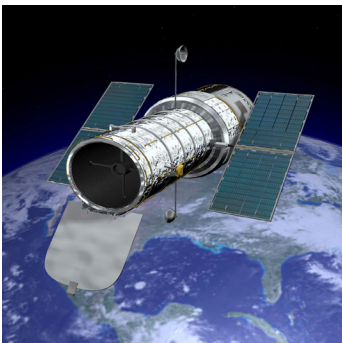
PACAMOR KUBAR BEARINGS

MINIATURE AND INSTRUMENT BALL BEARINGS

- ISO 9001:2015 CERTIFIED
- AS 9100 REV. D CERTIFIED
- FAA TSO-C149 CERTIFIED AIRCRAFT BEARINGS
- ABEC 1 3 5 7 9
- 440C STAINLESS STEEL
- UNCOMPROMISING QUALITY
- SHORT LEAD TIMES
- MADE TO YOUR SPECIFICATIONS
- SUPERIOR VALUE



QUALITY BALL BEARINGS
ON TIME DELIVERY



QUALITY YOU CAN TRUST

Product is assembled, lubricated, shielded, and packaged in a high quality, environmentally controlled environment.

- Class 1000 Clean Room
- Class 100 Clean Benches

Very Competitive Lead Times

- Often the shortest in the industry
- Reliable, on-time delivery

This catalog represents our standard product offering.
If your requirements are not represented in this catalog, please contact us.
Specialized designs are available.

THANK YOU FOR CHOOSING
PACAMOR KUBAR BEARINGS



PACAMOR KUBAR BEARINGS

PACAMOR KUBAR BEARINGS

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Special feature	Material	Type	Style	Retainer	Basic Size	Closure
X	S	F	R	B	2-5	ZZ
	S		R	PH	144	Z

SPECIAL FEATURE

X = special feature or change in standard dimension to basic bearing number

A = tapered O.D.

MATERIAL

S = AISI 440C stainless steel.

TYPE (F)

F = flanged bearing

No symbol = straight O.D.

STYLE (R)

R symbol is to be used for all miniature and instrument bearings to signify single row radial retainer type.

RETAINER (B, PH) When blank manufacturer standard or option.

Standard retainer could be either one piece crown or two piece ribbon type. (see Page 29)

When Blank = Manufacturer's standard

B = Two Piece Ribbon

PH = Phenolic Crown Retainer

BASIC SIZE (2-5, 144)

See basic bearing numbers listed.

CLOSURES (ZZ, Z)

Z - Single shield

ZZ - Double shield

Z1 - Shield on flanged side

Z2 - Shield opposite flanged side

T - Single Teflon seal

TT - Double Teflon seal

L - Single glass-reinforced Teflon seal

LL - Double glass-reinforced Teflon seal

RS - Single rubber seal

2RS - Double rubber seal

V - Single non contact seal

VV - Double non contact seal

UZ - Single shielded narrow width bearings

No designation = open bearing

Standard RS/2RS seals are made of Buna N rubber.

Other materials are available upon special request.

PACAMOR KUBAR BEARINGS

Ring Feature	Radial Play	ABEC Tolerance	Functional Test	Lubrication	Coding / Duplex	Package
EE	K25	A5	ST10	L245X	ZD	P
	K24	A7	EMQ	ROY27A	DB	B

RING FEATURE (EE,NR)

EE = extended inner rings

NR = snap ring on bearing O.D.

RADIAL PLAY (K25, K24)

Symbol **K** followed by a number indicates radial play in tenths of thousandths of an inch.

K25 = .0002 to .0005

K58 = .0005 to .0008

ABEC TOLERANCES (A5, A7)

A1 = ABEC 1

A5 = ABEC 5P

A3 = ABEC 3P

A7 = ABEC 7P

A9 = ABEC 9P Selected ABEC9 tolerances are available upon request.

FUNCTIONAL TEST (ST10, EMQ) When blank, manufacturer standard.

ST followed by number indicates starting torque in hundreds of MG-MM.

E.M.Q. = Electric Motor Quality

LUBRICATION (L245X, ROY27A) When blank, manufacturer option.

LD = Dry bearings / no lubrication

Standard Oil L245X, MIL-L-6085

Standard Grease ROYCO 27A MIL-G-23827

Alternate lubes available upon request. See partial list Pages 35 & 36.

GP = Indicates grease plate

BC = Indicates barrier coating

CODING (ZD)	Tolerance	.0001" Increment Coding (Standard)	.000050" Increment Coding
	Nominal to -.000050"	1	A
	-.000050" to -.000100"		B
	-.000100" to -.000150"	2	C
	-.000150" to -.000200"		D
	-.000200" to -.000250"	3	E
	-.000250" to .000300"		F
	Grade Symbols		
	Graded Bore and OD	ZD	XZD
	Graded Bore Only	ZB	XZB
	Graded OD Only	ZO	XZO

DUPLEX CODE (DB)

DB = Back to Back Pairing

DF = Face to Face Pairing

DT = Tandem Pairing

DU = Universal Pairing

PACKAGING (P, B)

The following symbols indicate various types available:

Blank = Vial packaging

P = Individual pill packaging

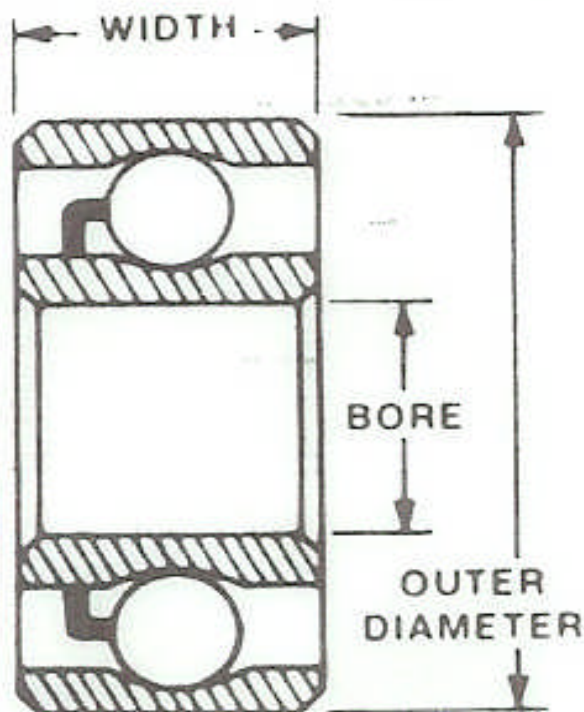
K = Individual Kraft bag MIL-B-117

B symbol = Individual box

M symbol = Individual Pack per

MIL-P-197

MINIATURE SERIES OPEN BEARINGS



Tolerance—Available in ABEC 1, 3, 5, 7, 9.

Retainer*—Stainless Steel Crown Type (400 Series Stainless Steel) or two piece Ribbon Type (300 Series Stainless Steel).

*Alternate retainer materials available upon request.

Ring Material—440C Stainless Steel.

Ball Material*—Standard is 440C Stainless Steel.

*Alternate ball materials available upon request.

Radial Play*—Standard is 0002" - .0005"

*Alternate Radial Plays available upon request.

Lubrication*—Standard Oil is Winsor Lube L245X MIL-L-6085.

Standard Grease is Royco 27A MIL-G-23827.

*Alternate lubricants available upon request.

Packaging*—Standard is Vial Pack.

*Custom Packaging also available upon request.

Dimensions—All Dimensions are in inches

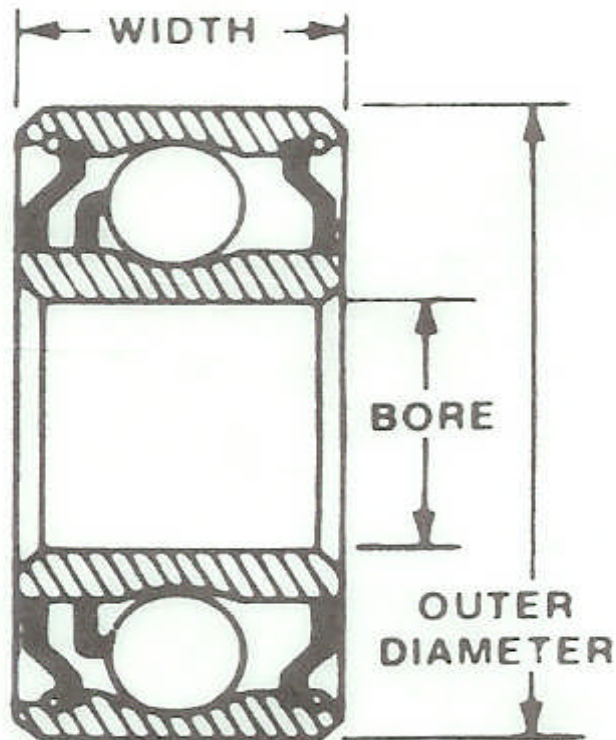
Other options —Available upon request.

Options—Additional bearing materials, lubricants, dimensions, and testing processes are available upon request.

PACAMOR KUBAR BEARINGS

Bore	Outer Diameter	Basic Bearing Number	Width Open	Chamfer	Dynamic Load Rating (lbs)	Static Load Rating (lbs)
0.0400	0.1250	SR09	0.0469	0.003	10	4
0.0469	0.1562	SR0	0.0625	0.003	17	6
0.0550	0.1875	SR1	0.0781	0.003	26	9
0.0781	0.2500	SR1-4	0.0937	0.003	36	14
0.0937	0.1875	SR133	0.0625	0.003	14	6
0.0937	0.3125	SR1-5	0.1094	0.003	59	24
0.1250	0.2500	SR144	0.0937	0.003	33	13
0.1250	0.3125	SR2-5	0.1094	0.003	60	24
0.1250	0.3750	SR2-6	0.1094	0.005	60	24
0.1562	0.3125	SR155	0.1094	0.003	33	14
0.1875	0.3125	SR156	0.1094	0.003	33	14
0.1875	0.3750	SR166	0.1250	0.003	76	33
0.2500	0.3750	SR168	0.1250	0.003	37	17
0.2500	0.5000	SR188	0.1250	0.005	114	57
0.3125	0.5000	SR1810	0.1562	0.005	56	31

MINIATURE SERIES SHIELDED BEARINGS



Tolerance—Available in ABEC 1, 3, 5, 7, 9.

Retainer*—Stainless Steel Crown Type (400 Series Stainless Steel) or two piece Ribbon Type (300 Series Stainless Steel).

*Alternate retainer materials available upon request.

Ring Material—440C Stainless Steel.

Ball Material*—Standard is 440C Stainless Steel.

*Alternate ball materials available upon request.

Radial Play*—Standard is 0002" - .0005"

*Alternate Radial Plays available upon request.

Lubrication*—Standard Oil is Winsor Lube L245X MIL-L-6085.

Standard Grease is Royco 27A MIL-G-23827.

*Alternate lubricants available upon request.

Packaging*—Standard is Vial Pack.

*Custom Packaging also available upon request.

Dimensions—All Dimensions are in inches

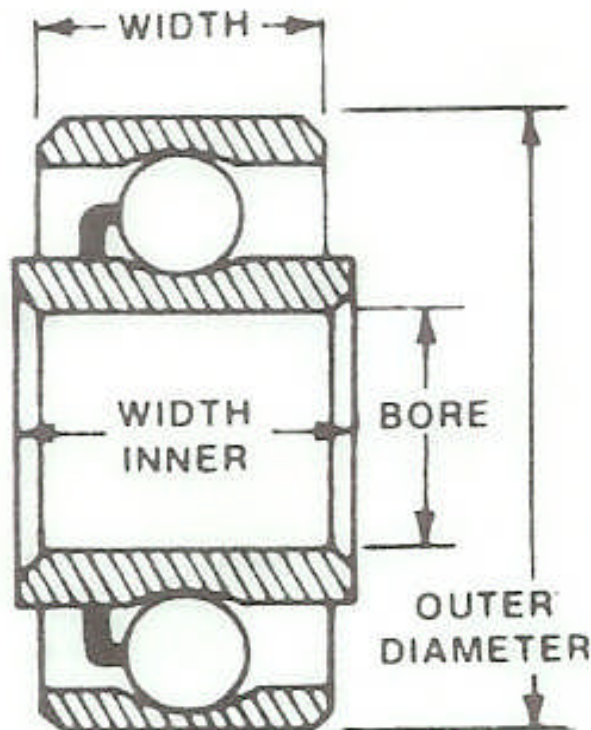
Other options —Available upon request.

Options—Additional bearing materials, lubricants, dimensions, and testing processes are available upon request.

PACAMOR KUBAR BEARINGS

Bore	Outer Diameter	Basic Bearing Number	Width Shielded	Chamfer	Dynamic Load Rating (lbs)	Static Load Rating (lbs)
0.0469	0.1562	SROZZ	0.0937	0.003	17	6
0.0550	0.1875	SR1ZZ	0.1094	0.003	26	9
0.0781	0.2500	SR1-4ZZ	0.1406	0.003	36	14
0.0937	0.1875	SR133ZZ	0.0937	0.003	14	6
0.0937	0.3125	SR1-5ZZ	0.1406	0.003	59	24
0.1250	0.2500	SR144ZZ	0.1094	0.003	33	13
0.1250	0.3125	SR2-5ZZ	0.1406	0.003	60	24
0.1250	0.3750	SR2-6ZZ	0.1406	0.005	60	24
0.1562	0.3125	SR155ZZ	0.1250	0.003	33	14
0.1875	0.3125	SR156ZZ	0.1250	0.003	33	14
0.1875	0.3750	SR166ZZ	0.1250	0.003	76	33
0.2500	0.3750	SR168ZZ	0.1250	0.003	37	17
0.2500	0.5000	SR188ZZ	0.1875	0.005	114	57
0.3125	0.5000	SR1810ZZ	0.1562	0.005	56	31

MINIATURE SERIES EXTENDED INNER RING OPEN BEARINGS



Tolerance—Available in ABEC 1, 3, 5, 7, 9.

Retainer*—Stainless Steel Crown Type (400 Series Stainless Steel) or two piece Ribbon Type (300 Series Stainless Steel).

*Alternate retainer materials available upon request.

Ring Material—440C Stainless Steel.

Ball Material*—Standard is 440C Stainless Steel.

*Alternate ball materials available upon request.

Radial Play*—Standard is 0002" - .0005"

*Alternate Radial Plays available upon request.

Lubrication*—Standard Oil is Winsor Lube L245X MIL-L-6085.

Standard Grease is Royco 27A MIL-G-23827.

*Alternate lubricants available upon request.

Packaging*—Standard is Vial Pack.

*Custom Packaging also available upon request.

Dimensions—All Dimensions are in inches

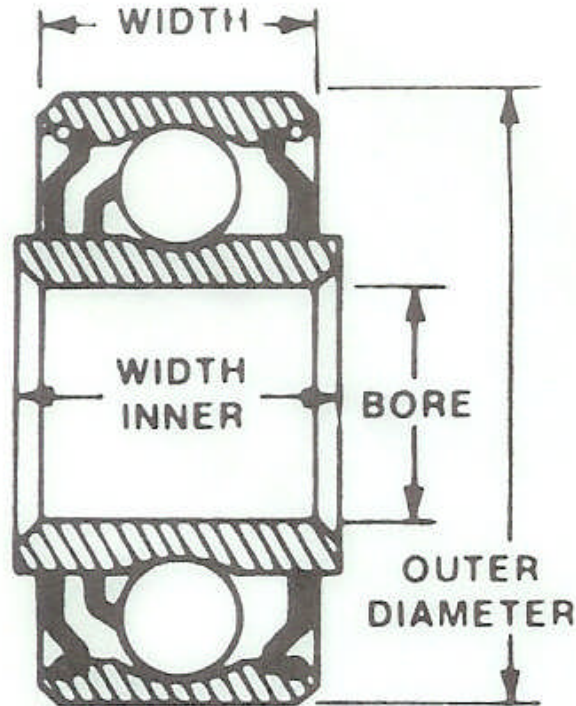
Other options —Available upon request.

Options—Additional bearing materials, lubricants, dimensions, and testing processes are available upon request.

PACAMOR KUBAR BEARINGS

Bore	Outer Diameter	Basic Bearing Number	Width Outer	Width Extended Inner	Chamfer	Dynamic Load Rating (lbs)	Static Load Rating (lbs)
0.0469	0.1562	SR0EE	0.0625	0.0937	0.003	17	6
0.0550	0.1875	SR1EE	0.0781	0.1094	0.003	26	9
0.0781	0.2500	SR1-4EE	0.0937	0.1250	0.003	36	14
0.0937	0.1875	SR133EE	0.0625	0.0937	0.003	14	6
0.0937	0.3125	SR1-5EE	0.1094	0.1406	0.003	59	24
0.1250	0.2500	SR144EE	0.0937	0.1250	0.003	33	13
0.1250	0.3125	SR2-5EE	0.1094	0.1406	0.003	60	24
0.1250	0.3750	SR2-6EE	0.1094	0.1406	0.005	60	24
0.1562	0.3125	SR155EE	0.1094	0.1406	0.003	33	14
0.1875	0.3125	SR156EE	0.1094	0.1406	0.003	33	14
0.1875	0.3750	SR166EE	0.1250	0.1562	0.003	76	33
0.2500	0.3750	SR168EE	0.1250	0.1562	0.003	37	17
0.2500	0.5000	SR188EE	0.1250	0.1562	0.005	114	57
0.3125	0.5000	SR1810EE	0.1562	0.1875	0.005	56	31

MINIATURE SERIES EXTENDED INNER RING SHIELDED BEARINGS



Tolerance—Available in ABEC 1, 3, 5, 7, 9.

Retainer*—Stainless Steel Crown Type (400 Series Stainless Steel) or two piece Ribbon Type (300 Series Stainless Steel).

*Alternate retainer materials available upon request.

Ring Material—440C Stainless Steel.

Ball Material*—Standard is 440C Stainless Steel.

*Alternate ball materials available upon request.

Radial Play*—Standard is 0002" - .0005"

*Alternate Radial Plays available upon request.

Lubrication*—Standard Oil is Winsor Lube L245X MIL-L-6085.

Standard Grease is Royco 27A MIL-G-23827.

*Alternate lubricants available upon request.

Packaging*—Standard is Vial Pack.

*Custom Packaging also available upon request.

Dimensions—All Dimensions are in inches

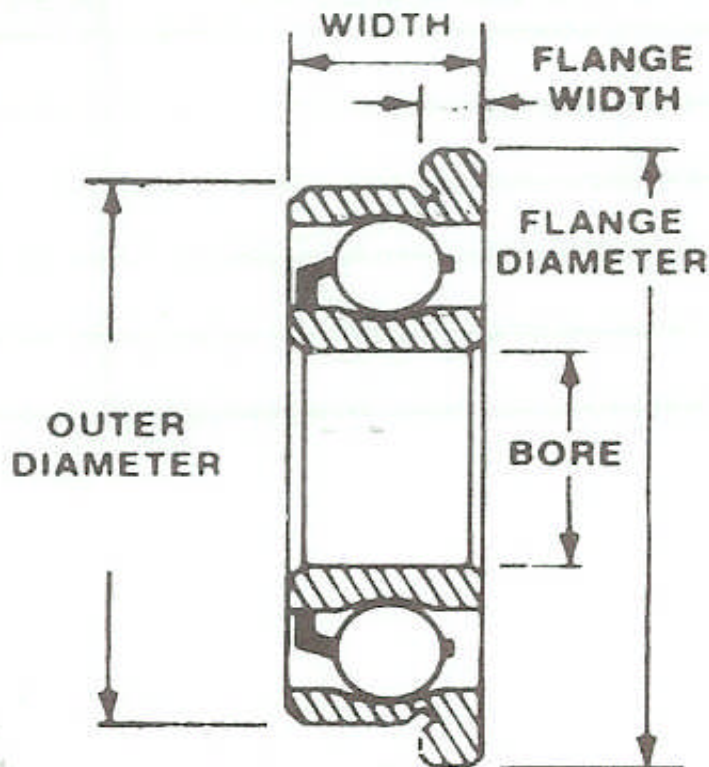
Other options —Available upon request.

Options—Additional bearing materials, lubricants, dimensions, and testing processes are available upon request.

PACAMOR KUBAR BEARINGS

Static Load Rating (lbs)	Dynamic Load Rating (lbs)	Chamfer	Width Extended Inner	Width Outer	Basic Bearing Number	Outer Diameter	Bore
6	17	0.003	0.1250	0.0937	SR0ZZEE	0.1562	0.0469
9	26	0.003	0.1406	0.1094	SR1ZZEE	0.1875	0.0550
14	36	0.003	0.1719	0.1406	SR1-4ZZEE	0.2500	0.0781
6	14	0.003	0.1250	0.0937	SR133ZZEE	0.1875	0.0937
24	59	0.003	0.1719	0.1406	SR1-5ZZEE	0.3125	0.0937
13	33	0.003	0.1406	0.1094	SR144ZZEE	0.2500	0.1250
24	60	0.003	0.1719	0.1406	SR2-5ZZEE	0.3125	0.1250
24	60	0.005	0.1719	0.1406	SR2-6ZZEE	0.3750	0.1250
14	33	0.003	0.1562	0.1250	SR155ZZEE	0.3125	0.1562
14	33	0.003	0.1562	0.1250	SR156ZZEE	0.3125	0.1875
33	76	0.003	0.1562	0.1250	SR166ZZEE	0.3750	0.1875
17	37	0.003	0.1562	0.1250	SR168ZZEE	0.3750	0.2500
57	114	0.005	0.2188	0.1875	SR188ZZEE	0.5000	0.2500
31	56	0.005	0.1875	0.1562	SR1810ZZEE	0.5000	0.3125

MINIATURE SERIES FLANGED OPEN BEARINGS



Tolerance—Available in ABEC 1, 3, 5, 7, 9.

Retainer*—Stainless Steel Crown Type (400 Series Stainless Steel) or two piece Ribbon Type (300 Series Stainless Steel).

*Alternate retainer materials available upon request.

Ring Material—440C Stainless Steel.

Ball Material*—Standard is 440C Stainless Steel.

*Alternate ball materials available upon request.

Radial Play*—Standard is .0002" - .0005"

*Alternate Radial Plays available upon request.

Lubrication*—Standard Oil is Winsor Lube L245X MIL-L-6085.

Standard Grease is Royco 27A MIL-G-23827.

*Alternate lubricants available upon request.

Packaging*—Standard is Vial Pack.

*Custom Packaging also available upon request.

Dimensions—All Dimensions are in inches

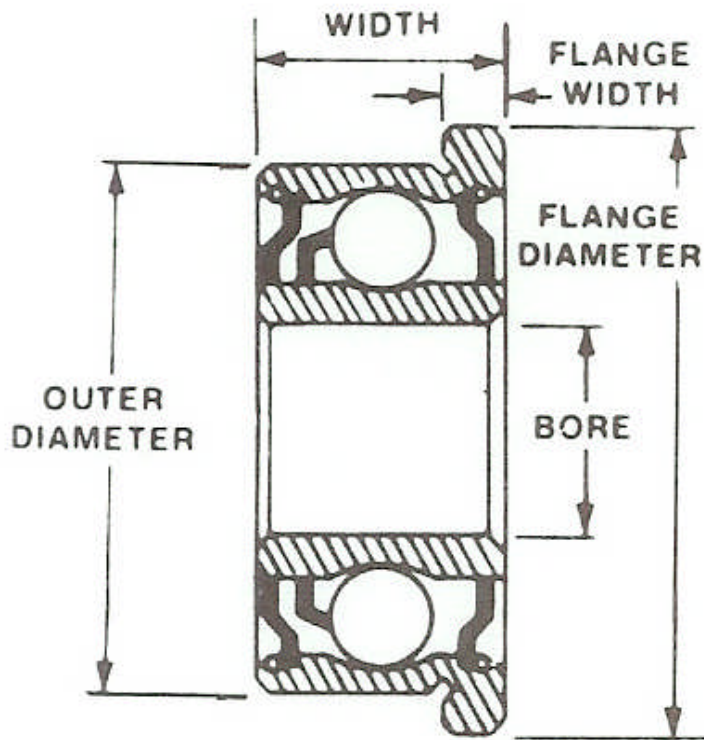
Other options —Available upon request.

Options—Additional bearing materials, lubricants, dimensions, and testing processes are available upon request.

PACAMOR KUBAR BEARINGS

Bore	Outer Diameter	Basic Bearing Number	Width Open	Flange Diameter	Chamfer	Flange Width Open	Dynamic Load Rating (lbs)	Static Load Rating (lbs)
0.0400	0.1250	SFR09	0.0469	0.171	0.003	0.013	10	4
0.0469	0.1562	SFR0	0.0625	0.203	0.003	0.013	17	6
0.0550	0.1875	SFR1	0.0781	0.234	0.003	0.023	26	9
0.0781	0.2500	SFR1-4	0.0937	0.296	0.003	0.023	36	14
0.0937	0.1875	SFR133	0.0625	0.234	0.003	0.018	14	6
0.0937	0.3125	SFR1-5	0.1094	0.359	0.003	0.023	59	24
0.1250	0.2500	SFR144	0.0937	0.296	0.003	0.023	33	13
0.1250	0.3125	SFR2-5	0.1094	0.359	0.003	0.023	60	24
0.1250	0.3750	SFR2-6	0.1094	0.422	0.005	0.023	60	24
0.1562	0.3125	SFR155	0.1094	0.359	0.003	0.023	33	14
0.1875	0.3125	SFR156	0.1094	0.359	0.003	0.023	33	14
0.1875	0.3750	SFR166	0.1250	0.422	0.003	0.023	76	33
0.2500	0.3750	SFR168	0.1250	0.422	0.003	0.023	37	17
0.2500	0.5000	SFR188	0.1250	0.547	0.005	0.023	114	57
0.3125	0.5000	SFR1810	0.1562	0.547	0.005	0.031	56	31

MINIATURE SERIES FLANGED SHIELDED BEARINGS



Tolerance—Available in ABEC 1, 3, 5, 7, 9.

Retainer*—Stainless Steel Crown Type (400 Series Stainless Steel) or two piece Ribbon Type (300 Series Stainless Steel).

*Alternate retainer materials available upon request.

Ring Material—440C Stainless Steel.

Ball Material*—Standard is 440C Stainless Steel.

*Alternate ball materials available upon request.

Radial Play*—Standard is .0002" - .0005"

*Alternate Radial Plays available upon request.

Lubrication*—Standard Oil is Winsor Lube L245X MIL-L-6085.

Standard Grease is Royco 27A MIL-G-23827.

*Alternate lubricants available upon request.

Packaging*—Standard is Vial Pack.

*Custom Packaging also available upon request.

Dimensions—All Dimensions are in inches

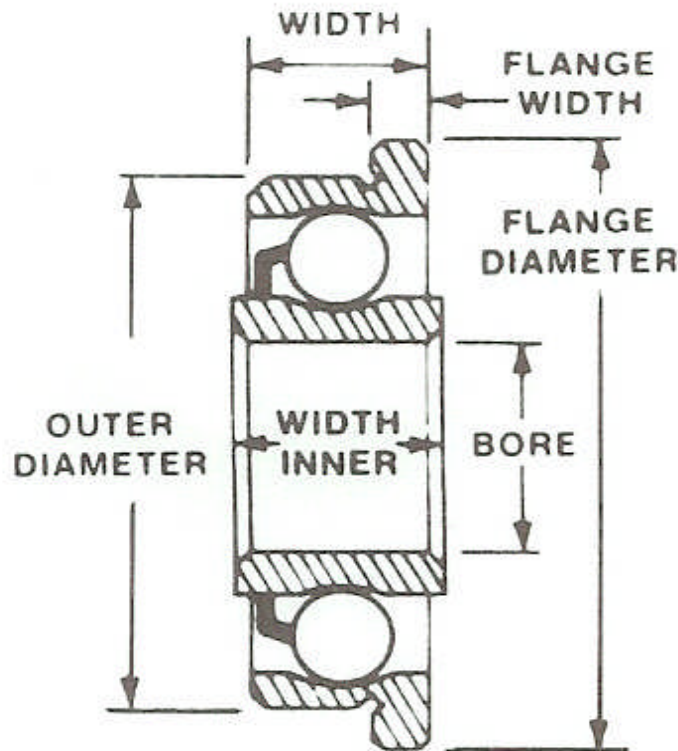
Other options —Available upon request.

Options—Additional bearing materials, lubricants, dimensions, and testing processes are available upon request.

PACAMOR KUBAR BEARINGS

Bore	Outer Diameter	Basic Bearing Number	Width Shielded	Flange Diameter	Chamfer	Flange Width Shielded	Dynamic Load Rating (lbs)	Static Load Rating (lbs)
0.0469	0.1562	SFR0ZZ	0.0937	0.203	0.003	0.031	17	6
0.0550	0.1875	SFR1ZZ	0.1094	0.234	0.003	0.031	26	9
0.0781	0.2500	SFR1-4ZZ	0.1406	0.296	0.003	0.031	36	14
0.0937	0.1875	SFR133ZZ	0.0937	0.234	0.003	0.031	14	6
0.0937	0.3125	SFR1-5ZZ	0.1406	0.359	0.003	0.031	59	24
0.1250	0.2500	SFR144ZZ	0.1094	0.296	0.003	0.031	33	13
0.1250	0.3125	SFR2-5ZZ	0.1406	0.359	0.003	0.031	60	24
0.1250	0.3750	SFR2-6ZZ	0.1406	0.422	0.005	0.031	60	24
0.1562	0.3125	SFR155ZZ	0.1250	0.359	0.003	0.036	33	14
0.1875	0.3125	SFR156ZZ	0.1250	0.359	0.003	0.036	33	14
0.1875	0.3750	SFR166ZZ	0.1250	0.422	0.003	0.031	76	33
0.2500	0.3750	SFR168ZZ	0.1250	0.422	0.003	0.036	37	17
0.2500	0.5000	SFR188ZZ	0.1875	0.547	0.005	0.045	114	57
0.3125	0.5000	SFR1810ZZ	0.1562	0.547	0.005	0.031	56	31

MINIATURE SERIES FLANGED EXTENDED INNER RING OPEN



Tolerance—Available in ABEC 1, 3, 5, 7, 9.

Retainer*—Stainless Steel Crown Type (400 Series Stainless Steel) or two piece Ribbon Type (300 Series Stainless Steel).

*Alternate retainer materials available upon request.

Ring Material—440C Stainless Steel.

Ball Material*—Standard is 440C Stainless Steel.

*Alternate ball materials available upon request.

Radial Play*—Standard is .0002" - .0005"

*Alternate Radial Plays available upon request.

Lubrication*—Standard Oil is Winsor Lube L245X MIL-L-6085.

Standard Grease is Royco 27A MIL-G-23827.

*Alternate lubricants available upon request.

Packaging*—Standard is Vial Pack.

*Custom Packaging also available upon request.

Dimensions—All Dimensions are in inches

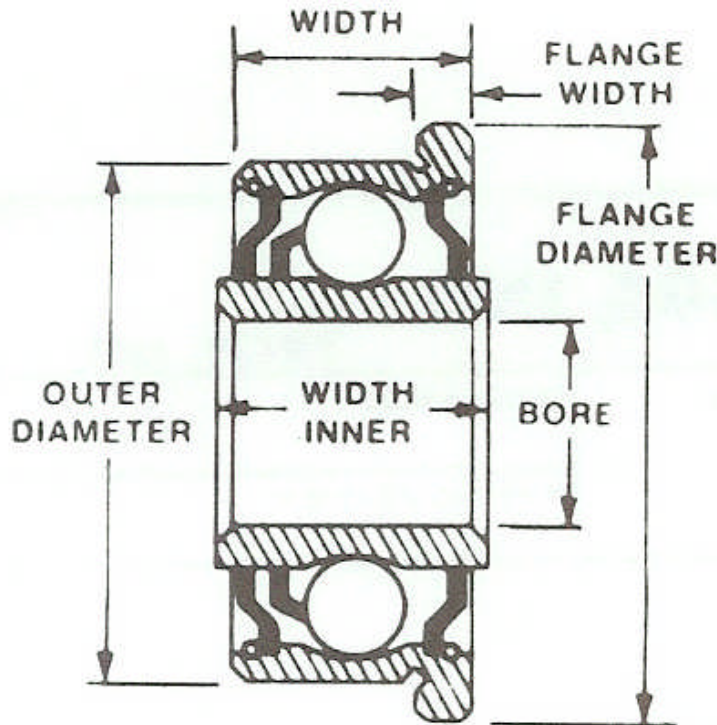
Other options –Available upon request.

Options—Additional bearing materials, lubricants, dimensions, and testing processes are available upon request.

PACAMOR KUBAR BEARINGS

Bore	Outer Diameter	Basic Bearing Number	Width Outer	Width Extended Inner	Flange Diameter	Chamfer	Flange Width Open	Dynamic Load Rating (lbs)	Static Load Rating (lbs)
0.0469	0.1562	SFR0EE	0.0625	0.0937	0.203	0.003	0.013	17	6
0.0550	0.1875	SFR1EE	0.0781	0.1094	0.234	0.003	0.023	26	9
0.0781	0.2500	SFR1-4EE	0.0937	0.1250	0.296	0.003	0.023	36	14
0.0937	0.1875	SFR133EE	0.0625	0.0937	0.234	0.003	0.018	14	6
0.0937	0.3125	SFR1-5EE	0.1094	0.1406	0.359	0.003	0.023	59	24
0.1250	0.2500	SFR144EE	0.0937	0.1250	0.296	0.003	0.023	33	13
0.1250	0.3125	SFR2-5EE	0.1094	0.1406	0.359	0.003	0.023	60	24
0.1250	0.3750	SFR2-6EE	0.1094	0.1406	0.422	0.005	0.023	60	24
0.1562	0.3125	SFR155EE	0.1094	0.1406	0.359	0.003	0.023	33	14
0.1875	0.3125	SFR156EE	0.1094	0.1406	0.359	0.003	0.023	33	14
0.1875	0.3750	SFR166EE	0.1250	0.1562	0.422	0.003	0.023	76	33
0.2500	0.3750	SFR168EE	0.1250	0.1562	0.422	0.003	0.023	37	17
0.2500	0.5000	SFR188EE	0.1250	0.1562	0.547	0.005	0.023	114	57
0.3125	0.5000	SFR1810EE	0.1562	0.1875	0.547	0.005	0.031	56	31

MINIATURE SERIES FLANGED EXTENDED INNER RING SHIELDED



Tolerance—Available in ABEC 1, 3, 5, 7, 9.

Retainer*— Stainless Steel Crown Type (400 Series Stainless Steel) or two piece Ribbon Type (300 Series Stainless Steel).

*Alternate retainer materials available upon request.

Ring Material—440C Stainless Steel.

Ball Material*—Standard is 440C Stainless Steel.

*Alternate ball materials available upon request.

Radial Play*— Standard is 0002" - .0005"

*Alternate Radial Plays available upon request.

Lubrication*—Standard Oil is Winsor Lube L245X MIL-L-6085.

Standard Grease is Royco 27A MIL-G-23827.

*Alternate lubricants available upon request.

Packaging*—Standard is Vial Pack.

*Custom Packaging also available upon request.

Dimensions—All Dimensions are in inches

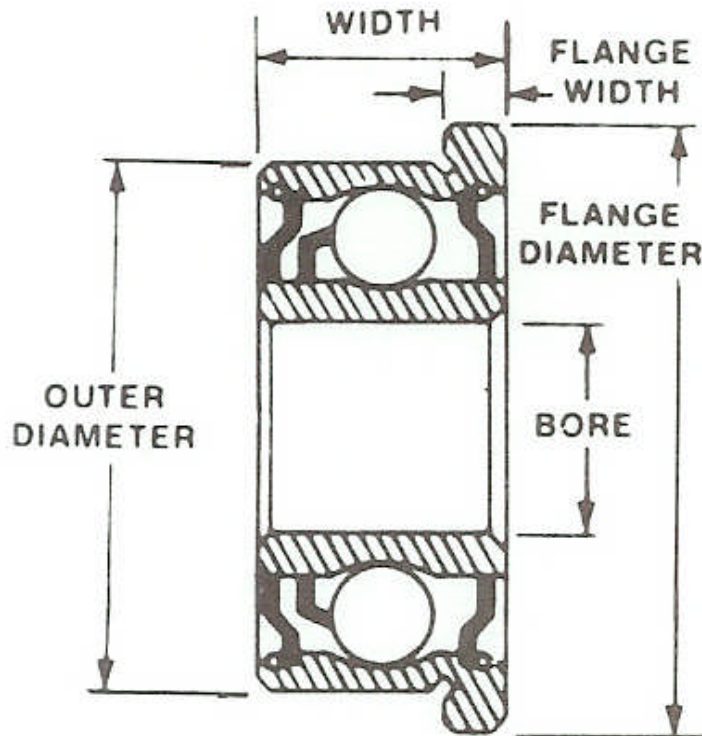
Other options –Available upon request.

Options—Additional bearing materials, lubricants, dimensions, and testing processes are available upon request.

PACAMOR KUBAR BEARINGS

Bore	Outer Diameter	Basic Bearing Number	Width Outer	Width Extended Inner	Flange Diameter	Chamfer	Flange Width Shielded	Dynamic Load Rating (lbs)	Static Load Rating (lbs)
0.0469	0.1562	SFROZZEE	0.0937	0.1250	0.203	0.003	0.031	17	6
0.0550	0.1875	SFR1ZZEE	0.1094	0.1406	0.234	0.003	0.031	26	9
0.0781	0.2500	SFR1-4ZZEE	0.1406	0.1719	0.296	0.003	0.031	36	14
0.0937	0.1875	SFR133ZZEE	0.0937	0.1250	0.234	0.003	0.031	14	6
0.0937	0.3125	SFR1-5ZZEE	0.1406	0.1719	0.359	0.003	0.031	59	24
0.1250	0.2500	SFR144ZZEE	0.1094	0.1406	0.296	0.003	0.031	33	13
0.1250	0.3125	SFR2-5ZZEE	0.1406	0.1719	0.359	0.003	0.031	60	24
0.1250	0.3750	SFR2-6ZZEE	0.1406	0.1719	0.422	0.005	0.031	60	24
0.1562	0.3125	SFR155ZZEE	0.1250	0.1562	0.359	0.003	0.036	33	14
0.1875	0.3125	SFR156ZZEE	0.1250	0.1562	0.359	0.003	0.036	33	14
0.1875	0.3750	SFR166ZZEE	0.1250	0.1562	0.422	0.003	0.031	76	33
0.2500	0.3750	SFR168ZZEE	0.1250	0.1562	0.422	0.003	0.036	37	17
0.2500	0.5000	SFR188ZZEE	0.1875	0.2188	0.547	0.005	0.045	114	57
0.3125	0.5000	SFR1810ZZEE	0.1562	0.1875	0.547	0.005	0.031	56	31

INSTRUMENT BEARINGS PRECISION INCH SERIES



Tolerance—Available in ABEC 1, 3, 5, 7, 9.

Retainer*—Stainless Steel Crown Type (400 Series Stainless Steel) or two piece Ribbon Type (300 Series Stainless Steel).

*Alternate retainer materials available upon request.

Ring Material—440C Stainless Steel.

Ball Material*—Standard is 440C Stainless Steel.

*Alternate ball materials available upon request.

Radial Play*—Standard is .0002" - .0005"

*Alternate Radial Plays available upon request.

Lubrication*—Standard Oil is Winsor Lube L245X MIL-L-6085.

Standard Grease is Royco 27A MIL-G-23827.

*Alternate lubricants available upon request.

Packaging*—Standard is Vial Pack.

*Custom Packaging also available upon request.

Dimensions—All Dimensions are in inches

Other options —Available upon request.

Options—Additional bearing materials, lubricants, dimensions, and testing processes are available upon request.

PACAMOR KUBAR BEARINGS

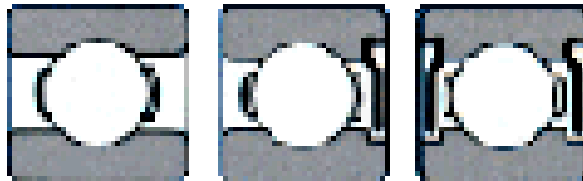
			Widths				Flange		Load Rating (lbs)			
Bore	Outer Diameter	Basic bearing Number	Open	Extended Inner	Sealed & Shielded	Extended Inner	Shielded	Diameter	Width	Dynamic	Static	Bearing Weight (lbs)
0.125	0.375	SR2 **	.1562	.1875	0.1562	.1875		0.440	.030	73	29	0.0031
0.125	0.500	SR2A **	.1719	-	0.1719	-		-	-	73	29	0.0075
0.1875	0.500	SR3 **	.1562	.1875	0.1960	.2272		0.565	.042	148	64	0.0057
0.250	0.625	SR4 **	.1960	.2272	0.1960	.2272		0.690	.042	168	77	0.0099
0.250	0.750	SR4A ***	.2188	-	0.2812	-		-	-	405	198	0.0161
0.375	0.875	SR6 ***	.2188	-	0.2812	-		0.969	.062	575	305	0.0187
0.500	0.875	SR6-5 ***	.2188	-	0.2812	-		-	-	203	114	0.0179

** = Standard Retainer is Stainless Steel Crown Type.

*** = Standard Retainer is Stainless Steel Ribbon Type.

Additional retainer availability and additional design data is located on Page 29.

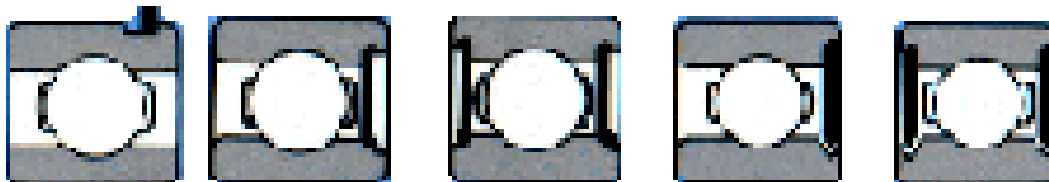
METRIC BEARINGS
EXTRA SMALL SERIES /
METRIC MINIATURES



Open

Z
One
Shield

ZZ
Two
Shields



NR
Snap
Ring
Groove

RS
One
Seal

2RS
Two
Seals

V
One
Low
Torque
Seal

VV
Two
Low
Torque
Seals

Tolerance—Available in ABEC 1, 3, 5, 7, 9.

Retainer*— Stainless Steel Crown Type (400 Series Stainless Steel) or two piece Ribbon Type (300 Series Stainless Steel).

*Alternate retainer materials available upon request.

Ring Material—440C Stainless Steel.

Ball Material*—Standard is 440C Stainless Steel.

*Alternate ball materials available upon request.

Radial Play*— Standard is 0002" - .0005"

*Alternate Radial Plays available upon request.

Lubrication*—Standard Oil is Winsor Lube L245X MIL-L-6085.

Standard Grease is Royco 27A MIL-G-23827.

*Alternate lubricants available upon request.

Packaging*—Standard is Vial Pack.

*Custom Packaging also available upon request.

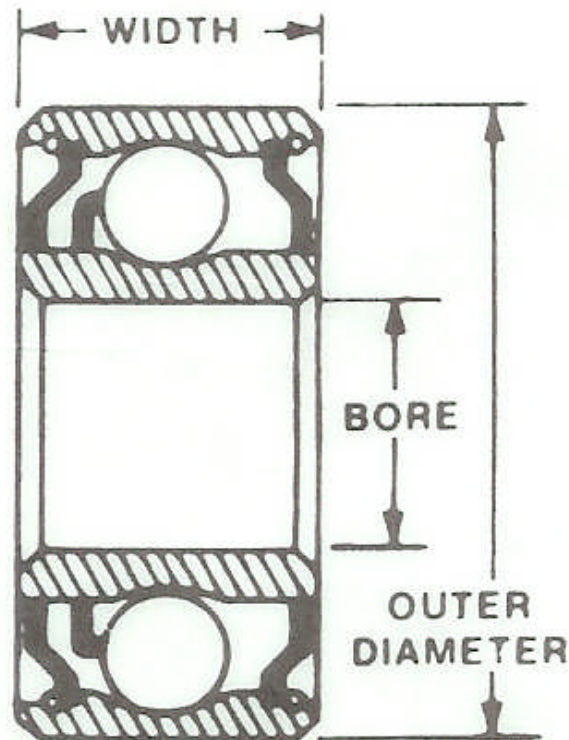
Other options –Available upon request.

PACAMOR KUBAR BEARINGS

Bore		Outer Diameter		Basic Bearing Number	Width Open		Width Double Shielded or Sealed		Load Ratings (lbs)		Radius (inch) Bearing Weight (lbs)	
mm	Inches	mm	Inches		mm	Inches	mm	Inches	Dynamic	Static		
3	0.1181	7	0.2756	S683	2	0.0787	3	0.1181	35	14	0.006	0.0007
3	0.1181	10	0.3937	S623	4	0.1575	4	0.1575	110	49	0.006	0.0013
4	0.1575	7	0.2756	SMM74	2	0.0787	2.5	0.0984	35	13	0.006	0.001
4	0.1575	10	0.3937	SMM104	3	0.1181	4	0.1575	66	26	0.012	0.003
4	0.1575	16	0.6299	S634	5	0.1969	5	0.1969	305	151	0.012	0.012
5	0.1969	10	0.3937	SMM105	3	0.1181	4	0.1575	49	20	0.008	0.003
5	0.1969	11	.4331	S685	3	.1181	5	.1969	76	33	0.006	0.004
6	0.2362	13	.5118	S686	3.5	.1378	5	.1969	114	57	0.006	0.006
6	0.2362	19	0.7480	S626	6	0.2362	6	0.2362	405	203	0.012	0.018
8	0.3150	22	0.8661	S608	7	0.2756	7	0.2756	570	305	0.012	0.026

These bearings are also available with flange on O.D.

NARROW WIDTH SHIELDED BEARINGS



Tolerance—Available in ABEC 1, 3, 5, 7, 9.

Retainer*—Stainless Steel Crown Type (400 Series Stainless Steel) or two piece Ribbon Type (300 Series Stainless Steel).

*Alternate retainer materials available upon request.

Ring Material—440C Stainless Steel.

Ball Material*—Standard is 440C Stainless Steel.

*Alternate ball materials available upon request.

Radial Play*—Standard is .0002" - .0005"

*Alternate Radial Plays available upon request.

Lubrication*—Standard Oil is Winsor Lube L245X MIL-L-6085.

Standard Grease is Royco 27A MIL-G-23827.

*Alternate lubricants available upon request.

Packaging*—Standard is Vial Pack.

*Custom Packaging also available upon request.

Dimensions—All Dimensions are in inches

Other options —Available upon request.

Options—Additional bearing materials, lubricants, dimensions, and testing processes are available upon request.

PACAMOR KUBAR BEARINGS

				Land Diameter		Balls		Retainers		
Bore	Outer Diameter	Bearing Number	Width	Inner	Outer	Quantity	Size	Crown	Ribbon	Available with Seals
.125	0.2500	SR144UZ	0.0937	0.158	0.217	8	1mm	YES	YES	YES
.125	0.3125	SR2-5UZ	0.1094	0.176	0.269	6	1/16"	YES	YES	YES
.125	0.3750	SR2-6UZ	0.1094	0.204	0.297	7	1/16"	YES	YES	YES
.1562	0.3125	SR155UZ	0.1094	0.22	0.279	9	1mm	YES	YES	YES
.1875	0.3125	SR156UZ	0.1094	0.22	0.279	9	1mm	YES	YES	YES

Narrow width shielded bearings are available with one shield only. These bearings are the same width as our open bearings and are identified by the designation **UZ**.

SPECIALTY BEARINGS TAPERED OUTER DIAMETER FLANGED

	Load Rating (lbs)	Static Radial	28	67	78	139
		Dynamic Radial	68	141	158	377
Balls		Diameter	1/16	3/32	3/32	1/8
		Quantity	7	6	8	7
		Radius (inch)	0.012	0.012	0.012	0.012
Land Di- ameter		Outer	0.299	0.413	0.510	0.608
		Inner	0.204	0.276	0.365	0.418
Flange		Width	0.037	0.042	0.042	0.042
		Diameter	0.438	0.625	0.687	0.750
Width		Inner	0.188	0.251	0.250	0.250
		Outer	0.163	0.226	0.226	0.226
		Outer Diameter	0.3757	0.5632	0.6257	0.6882
		Bore	0.1250	0.1875	0.2500	0.3125
		Basic Bearing Number	ASF2ZZ *	ASF3ZZ **	ASF4ZZ **	ASF5ZZ **

NOTE ABOUT OUTER DIAMETER TAPER:

* Outer Diameter Tapered .075" Per Foot.

** Outer Diameter Tapered to .068" Per Foot

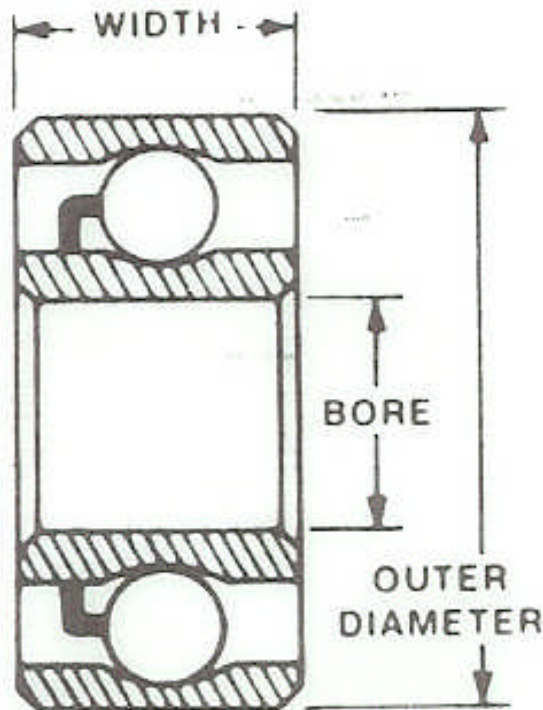
PACAMOR KUBAR BEARINGS

TAPERED O.D. BEARING SHAFT O.D. AND HOUSING FITS

	Bearing Bore		Shaft O.D.		Bearing O.D.		Housing Bore	
Bearing Size	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
ASF2ZZ	0.1252	0.1250	0.1250	0.1248	0.3757	0.3755	0.3755	0.3753
ASF3ZZ	0.1877	0.1875	0.1875	0.1873	0.5632	0.5630	0.5630	0.5628
ASF4ZZ	0.2502	0.2500	0.2500	0.2498	0.6257	0.6255	0.6255	0.6253
ASF5ZZ	0.3127	0.3125	0.3125	0.3123	0.6882	0.6880	0.6880	0.6878

The mean shaft fit for Tapered O.D. Bearings is .0002 loose. The mean housing fit is .0002 tighter than normal to assure at least a line to line fit between the smallest tapered bearing O.D. and the largest recommended housing bore. The available seating surface of the outside diameter is considerably less than that of the cylindrical outside diameter bearing.

MINIATURE AND INSTRUMENT BALL BEARING DESIGN DATA



Tolerance—Available in ABEC 1, 3, 5, 7, 9.

Retainer*—Stainless Steel Crown Type (400 Series Stainless Steel) or two piece Ribbon Type (300 Series Stainless Steel).

*Alternate retainer materials available upon request.

Ring Material—440C Stainless Steel.

Ball Material*—Standard is 440C Stainless Steel.

*Alternate ball materials available upon request.

Radial Play*—Standard is 0002" - .0005"

*Alternate Radial Plays available upon request.

Lubrication*—Standard Oil is Winsor Lube L245X MIL-L-6085.

Standard Grease is Royco 27A MIL-G-23827.

*Alternate lubricants available upon request.

Packaging*—Standard is Vial Pack.

*Custom Packaging also available upon request.

Dimensions—All Dimensions are in inches

Other options —Available upon request.

Options—Additional bearing materials, lubricants,

PACAMOR KUBAR BEARINGS

	Balls			Land Diameter		Retainer	
Basic Size	Crown	Ribbon	Size	Inner	Outer	Crown	Ribbon
SR09	5	N/A	1/40	0.064	0.100	STD	NO
SRO	6	N/A	1/32	0.075	0.123	STD	NO
SR1	6	N/A	1 mm	0.091	0.150	STD	NO
SR133	7	8	1/32	0.117	0.163	STD	YES
SR1-4	6	N/A	3/64	0.122	0.193	STD	NO
SR144	8	8	1 mm	0.157	0.217	STD	YES
SR1-5	6	6	1/16	0.176	0.269	STD	YES
SR2-5	6	6	1/16	0.176	0.269	STD	YES
SR155	9	11	1 mm	0.220	0.279	STD	YES
SR156	9	11	1 mm	0.220	0.279	STD	YES
SR2-6	7	7	1/16	0.204	0.297	STD	YES
SR2	7	7	1/16	0.204	0.297	STD	YES
SR2A	7	7	1/16	0.204	0.297	STD	YES
SR166	8	8	1/16	0.232	0.329	STD	YES
SR168	11	N/A	1 mm	0.283	0.342	STD	NO
SR3	7	7	3/32	0.276	0.411	STD	YES
SR188	10	11	1/16	0.330	0.429	STD	YES
SR1810	11	11	1/16	0.362	0.449	STD	YES
SR4	8	8	3/32	0.365	0.514	STD	YES
SR4A	N/A	6	9/64	0.388	0.600	NO	STD
SR6	N/A	7	5/32	0.520	0.744	NO	STD
SR6-5	N/A	12	3/32	0.582	0.724	NO	STD

STD = PACAMOR KUBAR Standard Retainer

YES = Optional Ribbon Retainer Available

ADDITIONAL RETAINER MATERIALS ARE AVAILABLE UPON REQUEST.

RADIAL PLAY, SHAFT & HOUSING FITS

Radial Play

Radial play is the radial internal looseness between the balls and races. It is the measured value of the total movement of one ring with respect to the other in a plane perpendicular to the bearing axis. Radial play is not related to the ABEC class or quality of the bearing. Factors that require control of radial play are speeds, loads, thermal conditions, mounting fits, along with axial motion and deflection rates. Improper selection of radial play can affect bearing torque, overall running performance and bearing life.

ABMA Standard Values for Radial Play

Clearance Type	Range	Designation
Tight	.0001 inch to .0003 inch	K13
Normal	.0002 inch to .0005 inch	K25
Loose	.0005 inch to .0008 inch	K58
Extra Loose	.0008 inch to .0011 inch	K811

Other Radial Clearances Available Upon Request

Shaft and Housing Fits

Line to Line to slightly loose shaft and housing fits are desirable for most applications. Interference fits may be necessary to prevent one bearing ring from turning relative to its mating part under heavy loads or when cycle vibration is present. An interference fit causes a 50-80% loss in radial play. The contact angle of a radial bearing under axial load is related to the radial play remaining in the bearing after installation. A higher assembled radial play means a higher contact angle. A low contact angle is desirable for pure radial loads. Higher contact angle is desirable for axial load applications. Axial play is proportional to the radial play in the bearing. One of the rings in the bearing assembly must be free to move to prevent axial preloading.

If extreme fits are undesirable or in certain applications, selective assembly of coded bores matched with similarly graded shaft and housing diameters may be utilized. This approach is usually more economical than a reduction in diameter tolerances. Bore and O.D. Coding is described on Page 3.

The following tables are a guide for establishing shaft and bearing fits for miniature and instrument bearings when the expansion coefficients of the shaft and housing are similar or when the operating temperature differential between them is nominal. In other conditions, modification in fits and internal clearance may be required.

PACAMOR KUBAR BEARINGS

SHAFT FITS							
Operating Conditions	Load	Speed	Shaft Diameter	Average Fit	Fit Range	Radial Clearance Range	
						Radial Load	Thrust Load Springs
Rotating Shaft	Light	Low	B-.0002 B-.0004	.0002L	.0000 .0004L	K25*	K36 to K58
	Light	High	B-.0001	.0001L	.0001T	K36**	K36 to K58
	Medium	High	B-.0003		.0003L		
	Heavy	Low to High	B-.0000 B-.0002	Line to Line	.0002T .0002L	K36**	K58
Stationary Shaft	Normal	Low to High	B-.0002 B-.0004	.0002L	.0000 .0004L	See Rotating Housing	

B = Nominal Bearing Bore L = Loose Fit T = Tight Fit

HOUSING FITS									
Operating Conditions	Load	Speed	Housing Diameter	Average Fit	Average Fit	Fit Range	Fit Range	Radial Clearance Range	
								Radial Load	Thrust Load Springs
Stationary Housing	Light to Heavy	Low to High	D+/- .0002 D-.0000	.00025L	.0002L	.0000 .0005L	.0000 .0004L	See Rotating Shaft	
Rotating Housing	Light	Low to High	D-.0001 D-.0000 D-.0003 D-.0002	.00005T	Line to Line	.0002L .0003T	.0002L .0002T	K36	K58
	Medium to Heavy	Low to High	D-.0002 D-.0001 D-.0004 D-.0003	.00015T	.0001T	.0001L .0004T	.0001L .0003T	K36	K58

D = Nominal Bearing OD L = Loose Fit T = Tight Fit

Light Load C/P <25 Low Speed <5000 RPM

Medium Load C/P 15-25 High Speed >1500 RPM (Bearings w/OD<=3/8")

Heavy Load C/P>15 High Speed >3000 RPM (Bearings w/OD>3/8")

c = Dynamic Road Rating. P = Radial Equivalent Load (see page 33 for calculations)

* For closer running accuracy or reduced axial play K13 internal clearance may be used provided that the fit of the outer ring is line to line or looser.

** For closer running accuracy or reduced axial play K25 internal clearance may be used provided that the fit of the outer ring in the housing is line to line or looser.

Consult our Engineering Department for unique applications.

RECOMMENDED SHOULDER DIMENSIONS

Basic Size	Minimum Shaft Shoulder Diameter Inches	Maximum Housing Shoulder Diameter Inches	Maximum Fillet Radius Inches
SR09	0.060	0.105	0.003
SR0	0.071	0.132	0.003
SR1	0.079	0.164	0.003
SR1-4	0.102	0.226	0.003
SR133	0.114	0.168	0.003
SR1-5	0.122	0.284	0.003
SR144	0.148	0.226	0.003
SR2-5	0.153	0.284	0.003
SR2-6	0.153	0.347	0.005
SR155	0.180	0.288	0.003
SR156	0.210	0.288	0.003
SR166	0.216	0.347	0.003
SR168	0.272	0.352	0.003
SR188	0.284	0.466	0.005
SR1810	0.347	0.466	0.005
SR2	0.179	0.325	0.012
SR2A	0.179	0.446	0.012
SR3	0.244	0.446	0.012
SR4	0.310	0.565	0.012
SR4A	0.322	0.678	0.016
SR6	0.451	0.799	0.016

INSTALLATION GUIDE

AT NO TIME CAN ANY INSTALLATION FORCES BE TRANSMITTED FROM ONE BEARING RING TO THE OTHER THROUGH THE BALLS. INCORRECT INSTALLATION CAN CAUSE BRINELLING OF THE BEARING BALLS, WHICH CAN RESULT IN BEARING VIBRATION, NOISE, AND REDUCED LIFE

WHEN INSTALLING A BEARING ON A TIGHT SHAFT, FORCE IS BE APPLIED TO THE INNER RING ONLY. WHEN INSTALLING A BEARING IN A TIGHT HOUSING, FORCE IS BE APPLIED TO THE OUTER RING ONLY. FORCE MAY BE APPLIED ONLY TO THE RING THAT IS BEING MOUNTED.

BEARING, TOOLING AND MOUNTING SURFACES ARE TO BE KEPT CLEAN.

PACAMOR KUBAR BEARINGS

Fatigue (L_{10}) Life

The following formulas permit the calculation of the fatigue life of bearings subjected to radial loads or combined radial and axial loads. Some of the formulas include approximations. Contact PACAMOR KUBAR's Engineering Department if the calculated life is borderline in comparison to the desired life or if the loading conditions differ from those presented.

The Fatigue Life (synonymous with L_{10} and Rating Life) of the bearings is the number of hours or revolutions reached by 90% of a group of bearings subjected to the same loads before the onset of fatigue. Conversely, 10% of the same group of bearings can be expected to show evidence of fatigue before the L_{10} Life is reached.

The Average Life of this same group of bearings will be approximately 5 times the L_{10} Life.

Fatigue Life Calculation

$$L_R = (C/P)^3 \quad L_R \text{ is in millions of revolutions}$$

$$L_H = (C/P)^3 \times (16,667 / \text{RPM}) \quad L_H \text{ is in hours}$$

C = Basic Dynamic Rating Ratings for each bearing are included in this catalog

P = Radial Equivalent Load Calculated as indicated below

Radial Equivalent Load Calculation

R = Radial Load in pounds T = Thrust (Axial) Load in pounds

Load Condition	Inner Ring Rotating in Relation to Load Direction	Inner Ring Stationary in Relation to Load Direction
Radial Load (T=0)	$P = R$	$P = 1.2 R$
$T/R < .17$	$P = R$	$P = 1.2 R$
$T/R > .17$	$P = .56 R + 2.1 T$	$P = .67 R + 2.1 T$

Static Load Rating

The Static Load Rating is the maximum load in pounds which may be applied to a non-rotating bearing without a noticeable after-effect in torque, noise or vibration when the bearing subsequently rotates.

ABEC TOLERANCES

Grades of Precision

PACAMOR KUBAR bearings are manufactured to standard grades of precision with established tolerances for size and geometric accuracy. These standards are known as ABEC classes as set by the Annular Bearing Engineers Committee of the American Bearing Manufacturer's Association (ABMA). These standards are also accepted by (ANSI) American National Standards Institute and by international agreement for the standards developed by (ISO) International Organization of Standardization.

ABEC Tolerances

All tolerances are in .0001 inches	ABEC 1	ABEC 3P	ABEC 5P	ABEC 7P	ABEC 9P
INNER RING					
Bore Tolerance	+0 / -3	+0 / -2	+0 / -2	+0 / -2	+0 / -1
Radial Runout (Bore 0 -.3937")	3	2	1.5	1	.5
Radial Runout (Bore .3937-.7087")	4	3	1.5	1	.5
Width Tolerance	+0 / -50	+0 / -50	+0 / -10	+0 / -10	+0 / -10
Width Variation	-	-	2	1	.5
Reference Runout with Bore (max)	-	-	3	1	.5
Groove Runout with Reference Side (max)	-	-	3	1	.5
Bore 2 Point Out of Round (max)	-	-	1	1	.5
Bore taper (max)	-	-	1	1	.5
OUTER RING (Outer Diameter <0.875")					
Outer Diameter Tolerance	+0 / -3	+0 / -3	+0 / -2	+0 / -2	+0 / -1
Radial Runout (max)	6	4	2	1.5	.5*
Width Tolerance	+0 / -50	+0 / -50	+0 / -10	+0 / -10	+0 / -10
Width Variation	-	-	2	1	.5
Flange Width Tolerance Limits	-	+0 / -20	+0 / -20	+0 / -20	-
Flange Diameter Tolerance Limits	-	+50 / -20	+0 / -10	+0 / -10	-
Groove Runout with Reference Side (max)	-	-	3	2	.5*
Outside Cylindrical Surface Runout with Reference Side (max)	-	-	3	1.5	.5

* For ABEC 9 Bearings with Outer Diameters from 0.787 to 0.875:
 O.D. Tolerance = +0 / -1.5
 Radial Runout = 1
 Groove Runout with Reference Side = 1

PACAMOR KUBAR BEARINGS

LUBRICATION- OILS

Lubricant Selection

Operational conditions such as temperature, loads, speed, torque, and environment will determine the appropriate lube for the application. Oils are used where low bearing friction torque is a primary consideration. Grease may provide longer operating life and resist lubricant loss due to centrifugal force at higher speeds. PACAMOR KUBAR engineers are available for design consultation and recommendations.

PACAMOR KUBAR Code	Lubricant	Type	Viscosity (centistokes)		Operating Range (°F)	MIL-Spec
			100°F	210°F		
L245X	WINSOR LUBE L-245X	DIESTER	31	5.3	-65 to +300	MIL-L-6085A
AND401D	ANDEROL 401D	DIESTER	11.5	3.2	-65 to +300	MIL-L-6085A
DC510	DC510	SILICONE	38	14	-65 to +500	MIL-L-27694
KRY143AC	KRYTOX143AC	FLUOROCARBON	260	26	-30 to +550	-

There are many lubes available for ball bearings. This chart represents some common types. Other lubes are available upon request.

LUBRICATION—GREASE

PACAMOR KUBAR Code	Lubricant	Base Oil	Thickener	Color	Operating Range (°F)	MIL-Spec
ROY27A	ROYCO 27A	DIESTER	LITHIUM	BROWNISH H	-100 to +300	MIL-G-23827
B325	BEACON 325	DIESTER	LITHIUM	LIGHT TAN	-65 to +250	MIL-G-3278
RHEO500	RHEOTEMP 500	DIESTER	SODIUM	BLUE	-65 to +350	-
MOB28	MOBIL 28	HYDROCARBON	CLAY	DARK RED	-65 to +350	MIL-G-81322
SRI2	SRI-2	MINERAL	POLY- UREA	BLUE/ GREEN	-20 to +350	MIL-G- 3545G
KRY240AC	KRYTOX 240AC	FLUORINATED GREASE	VIDAX	WHITE	-30 to +550	MIL-G-27617
ROY13E	ROYCO 13E	SILICONE	TEFLON	LAVENDER	-100 to +450	MIL-G-25013

There are many lubes available for ball bearings. This chart represents some common types. Other lubes are available upon request.

PACAMOR KUBAR BEARINGS

BEARING INTERCHANGES

I N S T R U M E N T S E R I E S

PACAMOR KUBAR	NMB	NHBB	Timken (MPB)	Barden	RMB	FAG	Old NHBB
SR2	DDR-2	SSR-2	SR2C	SR2	R4012X	SR2	SR2
SR2ZZ	DDR-2ZZ	SSR-2ZZ	SR2CHH	SR2SS	RF4012X	SR22Z	SR2PP
SR2A	DDR-SA	SSR-SA	SR2AC	SR2A		SR2A	SR2A
SR2AZZ	DDR-SAZZ	SSR-2AZZ	SR2ACHH	SR2ASS		SR2A2Z	SR2APP
SR3	DDR-3	SSR-3	SR3C	SR3	R6016X	SR3	SR3
SR3ZZ	DDR-3ZZ	SSR-3ZZ	SR3CHH	SR3SS	SF6016X	SR32Z	SR3PP
SR4	DDR-4	SSR-4	SR4C	SR4	R8020X	SR4	SR4
SR4ZZ	DDR-4ZZ	SSR-4ZZ	SR4CHH	SR4SS	RF8020X	SR42Z	SR4PP
SR4A	DDRI-1214	SSRI-1214	SR4AR	SR4A		SR4A	SR4A
SR4AZZ	DDRI-1214ZZ	SSRI-1214ZZ	SR4ARHH	SR4ASS		SR4A2Z	SR4APP
SR6	DDRI-1438	SSRI-1438	SR6R	SR6		SR6	SR6
SR6ZZ	DDRI-1438ZZ	SSRI-1438ZZ	SR6RHH	SR6SS		SR62Z	SR6PPD
SFR2	DDRF-2	SSRF-2	SR2FC	SFR2	RK4012X	SRF2	SFR2
SFR2ZZ	DDRF-2ZZ	SSRF-2ZZ	SR2FCHH	SFR2SS	RKF4012X	SRF22Z	SFR2PP
SFR3	DDRF-3	SSRF-3	SR3FC	SFR3	ULK6016	SRF3	SFR3
SFR3ZZ	DDRF-3ZZ	SSRF-3ZZ	SR3FCHH	SFR3SS	RKF6016X	SRF32Z	SFR3PP
SFR4	DDRF4	SSRF4	SR4FC	SFR4	RK8020X	SRF4	SFR4
SFR4ZZ	DDRF4ZZ	SSRF4ZZ	SR4FCHH	SFR4SS	RKF8020X	SRF42Z	SFR4PP
SFR6	DDRIF1438	SSRIF1438	SR6FR	SFR6		SRF6	SFR6D
SFR6ZZ	DFRIF-1438ZZ	SFRIF-1438ZZ	SR6FRHH	SFR6SS		SRF62Z	SFR6PPD

BEARING INTERCHANGES

MINIATURE SERIES

PACAMOR KUBAR	NMB	NHBB	Timken (MPB)	Barden	RMB	FAG	Old NHBB
SR09	DDRI-2	SSRI-2	S2C	SR0-9	UL1304X	SR0308	SR09
SR0	DDRI-2 1/2	SSRI-2 1/2	S25C	SR0	UL1505X	SR0310	SR0
SR0ZZ	DDRI-2 1/2 ZZ	SSRI-2 1/2 ZZ	S25CHH	SR0SS	ULZ1505X	SR03102Z	SR0PP
SR1	DDRI-3	SSRI-3	S3C	SR1	R1706X	SR0412	SR1
SR1ZZ	DDRI-3ZZ	SSRI-3ZZ	S3CHH	SR1SS	RF1706X	SR04122Z	SR1PP
SR1-4	DRI-4	SSRI-4	S4C	SR1-4	R2508X	SR0516	SR1-4
SR1-4ZZ	DDRI-4ZZ	SSRI-4ZZ	S4CHH	SR1-4SS	RF2508X	SR05162Z	SR1-4PP
SR133	DDRI-3332	SSRI-3332	S3332C	SR133	UL3006X	SR0612	SR133
SR133ZZ	DDRI-3332ZZ	SSRI-3332ZZ	S3332CHH	SR133SS	ULZ3006X	SR06122Z	SR133PP
SR1-5	DDRI-5	SSRI-5	S5C	SR1-5	R3010X	SR0620	SR1-5
SR1-5ZZ	DDRI-5ZZ	SSRI-5ZZ	S5CHH	SR1-5SS	RF3010X	SR06202Z	SR1-5PP
SR144	DDRI-418	SSRI-418	S418C	SR144	UL4008X	SR0816	SR144
SR144ZZ	DDRI-418ZZ	SSRI-418ZZ	S418CHH	SR144SS	ULZ4008X	SR08162Z	SR144PP
SR2-5	DDRI-518	SSRI-518	S518C	SR2-5	R4010X	SR0820	SR2-5
SR2-5ZZ	DDRI-518ZZ	SSRI-518ZZ	S518CHH	SR2-5SS	RF4010X	SR08202Z	SR2-5PP
SR2-6	DDRI-618	SSRI-618	S618C	SR2-6		SR0824	SR2-6
SR2-6ZZ	DDRI-618ZZ	SSRI-618ZZ	S618CHH	SR2-6SS		SR08242Z	SR2-6PP
SR155	DDRI-5532	SSRI-5532	S5532C	SR155	UL5010X	SR1020	SR155
SR155ZZ	DDRI-5532ZZ	SSRI-5532ZZ	S5532CHH	SR155SS	ULZ5010X	SR10202Z	SR155PP
SR156	DDRI-5632	SSRI-5632	S5632C	SR156	UL6010X	SR1220	SR156
SR156ZZ	DDRI-5632ZZ	SSRI-5632ZZ	S5632CHH	SR156SS	ULZ6010X	SR12202Z	SR156PP
SR166	DDRI-6632	SSRI-6632	S6316C	SR166	UL6012X	SR1224	SR166
SR166ZZ	DDRI-6632ZZ	SSRI-6632ZZ	S6316CHH	SR166SS	ULZ6012X	SR12242Z	SR166PP
SR168	DDRI-614	SSRI-614	S614C	SR168	UL8012X	SR1624	SR168
SR168ZZ	DDRI-614ZZ	SSRI-614ZZ	S614CHH	SR168SS	ULZ8012X	SR16242Z	SR168PP
SR188	DDRI-814	SSRI-814	S814C	SR188	UL8016X	SR1632	SR188
SR188ZZ	DDRI-814ZZ	SSRI-814ZZ	S814CHH	SR188SS	ULZ8016X	SR16322Z	SR188PP
SR1810	DDRI-8516	SSRI-8516	S8516R	SR1810		SR2032	SR1810
SR1810ZZ	DDRI-8516ZZ	SSRI-8516ZZ	S8516RHH	SR1810SS		SR20322Z	SR1810PP

PACAMOR KUBAR BEARINGS

BEARING INTERCHANGES

MINIATURE SERIES

PACAMOR KUBAR	NMB	NHBB	Timken (MPB)	Barden	RMB	FAG	Old NHBB
SFR09	DDRIF-2	SSRIF-2	S2FC	SFR09	ULK1340X	SRF40125	SFR09
SFR0	DDRIF-2 1/2	SSRIF-2 1/2	S25FC	SFR0	ULK1505X	SRF0310	SFR0
SFR0ZZ	DDRIF-2 1/2 ZZ	SSRIF-2 1/2 ZZ	S25FCHH	SFR0SS	ULKF1505X	SRF03102 Z	SFR0PP
SFR1	DDRIF-3	SSRIF-3	S3FC	SFR1	RK1706X	SRF0412	SFR1
SFR1ZZ	DDRIF-3ZZ	SSRIF-3ZZ	S3FCHH	SFR1SS	RKF1706X	SRF04122 Z	SFR1PP
SFR1-4	DRIF-4	SSRIF-4	S4FC	SFR1-4	RK2508X	SRF0516	SFR1-4
SFR1-4ZZ	DDRIF-4ZZ	SSRIF-4ZZ	S4FCHH	SFR1-4SS	RKF2508X	SRF05162 Z	SFR1-4PP
SFR133	DDRIF-3332	SSRIF-3332	S3332FC	SFR133	ULK3006X	SRF0612	SFR133
SFR133ZZ	DDRIF-3332ZZ	SSRIF-3332ZZ	S3332FCHH	SFR133SS	ULKZ3006X	SRF06122 Z	SFR133PP
SFR1-5	DDRIF-5	SSRIF-5	S5FC	SFR1-5	RK3010X	SRF0620	SFR1-5
SFR1-5ZZ	DDRIF-5ZZ	SSRIF-5ZZ	S5FCHH	SFR1-5SS	RKF3010X	SRF06202 Z	SFR1-5PP
SFR144	DDRIF-418	SSRIF-418	S418FC	SFR144	ULK4008X	SRF0816	SFR144
SFR144ZZ	DDRIF-418ZZ	SSRIF-418ZZ	S418FCHH	SFR144SS	ULKZ4008X	SRF08162 Z	SFR144PP
SFR2-5	DDRIF-518	SSRIF-518	S518FC	SFR2-5	RK4010X	SRF0820	SFR2-5
SFR2-5ZZ	DDRIF-518ZZ	SSRIF-518ZZ	S518FCHH	SFR2-5SS	RKF4010X	SRF08202 Z	SFR2-5PP
SFR2-6	DDRIF-618	SSRIF-618	S618FC	SFR2-6		SRF0824	SFR2-6
SFR2-6ZZ	DDRIF-618ZZ	SSRIF-618ZZ	S618FCHH	SFR2-6SS		SRF08242 Z	SFR2-6PP
SFR155	DDRIF-5532	SSRIF-5532	S5532FC	SFR155	ULK5010X	SRF1020	SFR155
SFR155ZZ	DDRIF-5532ZZ	SSRIF-5532ZZ	S5532FCHH	SFR155SS	ULKZ5050X	SRF10202 Z	SFR155PP
SFR156	DDRIF-5632	SSRIF-5632	S5632FC	SFR156	ULK6010X	SRF1220	SFR156
SFR156ZZ	DDRIF-5632ZZ	SSRIF-5632ZZ	S5632FCHH	SFR156SS	ULKZ6010X	SRF12202 Z	SFR156PP
SFR166	DDRIF-6632	SSRIF-6632	S6316FC	SFR166	ULK6012X	SRF1224	SFR166
SFR166ZZ	DDRIF-6632ZZ	SSRIF-6632ZZ	S6316FCHH	SFR166SS	ULKZ6012X	SRF12242 Z	SFR166PP
SFR168	DDRIF-614	SSRIF-614	S614FC	SFR168	ULK8012X	SRF1624	SFR168
SFR168ZZ	DDRIF-614ZZ	SSRIF-614ZZ	S614FCHH	SFR168SS	ULKZ8012X	SRF16242 Z	SFR168PP
SFR188	DDRIF-814	SSRIF-814	S814FC	SFR188	ULK8016X	SRF1632	SFR188
SFR188ZZ	DDRIF-814ZZ	SSRIF-814ZZ	S814FCHH	SFR188SS	ULKZ8016X	SRF16322 Z	SFR188PP
SFR1810	DDRIF-8516	SSRIF-8516	S8516FC	SFR1810		SRF2032	SFR1810
SFR1810ZZ	DDRIF-8516ZZ	SSRIF-8516ZZ	S8516FCHH	SFR1810SS		SRF20322 Z	SFR1810PP

METRIC—INCH CONVERSION TABLE

Fraction	Inch	mm
1/64	0.0156	0.3969
	0.0250	0.6350
1/32	0.0312	0.7937
	0.0394	1.0000
	0.4000	1.0160
3/64	0.0469	1.1906
	0.0472	1.2000
	0.0550	1.3970
	0.0591	1.5000
1/16	0.0625	1.5875
	0.0709	1.8000
5/64	0.0781	1.9844
	0.0787	2.0000
	0.0906	2.3012
3/32	0.0937	2.3812
	0.0984	2.5000
	0.1000	2.5400
	1.0240	2.6000
7/64	0.1094	2.7781
	0.1100	2.7940
	0.1102	2.8000
	0.1181	3.0000
1/8	0.1250	3.1750
	0.1256	3.1902
	0.1378	3.5000
9/64	0.1406	3.5719
5/32	0.1562	3.9687
	0.1575	4.0000
11/64	0.1719	4.3656
3/16	0.1875	4.7625
	0.1892	4.8057
	0.1969	5.0000
13/64	0.2031	5.1594
	0.2165	5.4991
7/32	0.2187	5.5562
15/64	0.2344	5.9531
	0.2362	6.0000
1/4	0.2500	6.3500
17/64	0.2656	6.7469
	0.2756	7.0000
9/32	0.2812	7.1437

Fraction	Inch	mm
	0.2883	7.3228
19/64	0.2969	7.5406
5/16	0.3125	7.9375
	0.3150	8.0000
21/64	0.3281	8.3344
11/32	0.3437	8.7312
	0.3543	9.0000
23/64	0.3594	9.1281
3/8	0.3750	9.5250
25/64	0.3906	9.2919
	0.3937	10.0000
13/32	0.4062	10.3187
	0.4100	10.4140
27/64	0.4219	10.7156
	0.4250	10.7950
	0.4331	11.0000
7/16	0.4375	11.1125
29/64	0.4531	11.5094
	0.4600	11.6840
15/32	0.4687	11.9062
	0.4724	12.0000
31/64	0.4844	12.3031
1/2	0.5000	12.7000
	0.5118	13.0000
33/64	0.5156	13.0968
17/32	0.5312	13.4937
35/64	0.5469	13.8906
	0.5512	14.0000
9/16	0.5625	14.2875
37/64	0.5781	14.6844
	0.5906	15.0000
19/32	0.5937	15.0812
39/64	0.6094	15.4781
5/8	0.6250	15.8750
	0.6299	16.0000
41/64	0.6406	16.2719
	0.6500	16.5100
21/32	0.6562	16.6687
	0.6620	16.8148
	0.6693	17.0000
43/64	0.6719	17.0656
11/16	0.6875	17.4625

Fraction	Inch	mm
45/64	0.7031	17.8594
	0.7087	18.0000
23/32	0.7187	18.2562
47/64	0.7344	18.6532
	0.7435	18.8849
	0.7480	19.0000
3/4	0.7500	19.0500
49/64	0.7656	19.4469
	0.7717	19.6012
25/32	0.7812	19.8433
	0.7874	20.0000
51/64	0.7969	20.2402
13/16	0.8125	20.6375
	0.8268	21.0000
53/64	0.8281	21.0344
27/32	0.8437	21.4312
55/64	0.8594	21.8281
	0.8661	22.0000
7/8	0.8750	22.2250
57/64	0.8906	22.6219
	0.9055	23.0000
29/32	0.9062	23.0187
59/64	0.9219	23.4156
15/16	0.9375	23.8125
	0.9449	24.0000
61/64	0.9531	24.2094
31/32	0.9687	24.6062
	0.9843	25.0000
63/64	0.9844	25.0031
	1.0000	25.4000
	1.0236	26.0000
	1.0415	26.4541
	1.0480	26.6192
1 1/16	1.0625	26.9875
	1.0630	27.0000
	1.1025	28.0000
1 1/8	1.1250	28.5750
	1.1417	29.0000
	1.1812	30.0000
1 3/16	1.1875	30.1625
1 1/4	1.2500	31.7500
1 1/2	1.5000	38.1000

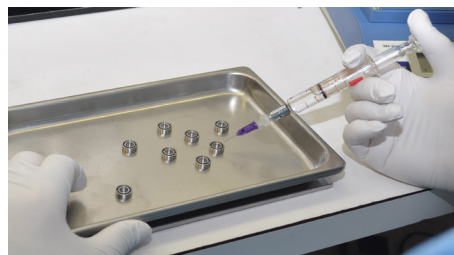
PACAMOR KUBAR BEARINGS



PACMOR KUBAR BEARINGS are manufactured in our Troy, NY ISO9001:2015 production facility.

SPECIAL SERVICES

- Extensive selection of retainer materials
- Speciality lubricants (oils, greases, dry film)
- Wash and re-lube of customer owned bearings
- Bearing closure options (shields, seals)
- Vacuum impregnated retainers
- Slugs and toroids
- Bearing testing and documentation
- Cryogenic heat treat processing
- Standard heat treat processing
- Optional flanges
- Speciality packaging
- 1A8 bags
- Nitrogen purge
- Pill pack
- Vial packaging
- Passivation
- Failure analysis
- Serialization
- Duplexing





PACAMOR KUBAR BEARINGS

ISO 9001: 2015

AS 9100:2004

FAA TSO-C149 AIRCRAFT BEARINGS

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