

SILVERTHIN™

Precision Thin Section Bearings



Made In USA



SILVERTHIN™ BEARING GROUP

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Made In USA

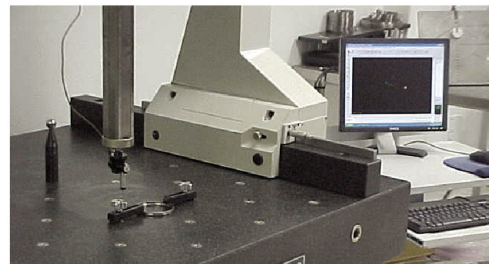


Table Of Contents

Selection Guide	2
Part Number System & Modifications	3
Standard Product Line At-A-Glance	4
Thin Section Ball Bearings Applications	5

OPEN BEARING SERIES

SAA Series 3/16" x 3/16" - Type A, C, X and Interchange	6
SA Series 1/4" x 1/4" - Type A, C, X and Interchange	7
SB Series 5/16" x 5/16" - Type A, C, X and Interchange	8
SC Series 3/8" x 3/8" - Type A, C, X and Interchange	9
SD Series 1/2" x 1/2" - Type A, C, X and Interchange	10
SF Series 3/4" x 3/4" - Type A, C, X and Interchange	11
SG Series 1" x 1" - Type A, C, X and Interchange	12

SEALED BEARING SERIES

JSHA Series 1/4" x 3/16" - Type C, X and Interchange	6
JSA Series 1/4" x 1/4" - Type C, X and Interchange	13
JSB Series 5/16" x 5/16" - Type C, X and Interchange	14
JSU Series 1/2" x 3/8" - Type C, X and Interchange	15
Precision Class 1 Tolerances & Fits Type C	16
Precision Class 1 Tolerances & Fits Type A & X	17
Precision Class 3 Tolerances & Fits Type A, C & X	18
Precision Class 5 Tolerances & Fits Type A, C & X	19
Engineering Information & Specifications	20 & 21

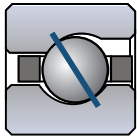
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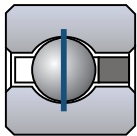
A-TYPE
Angular Contact Bearings

In applications with axial loads in one direction the A-Type, angular contact ball bearing should be used. This bearing also works well in radial or combined radial-thrust applications. The A-Type bearing should never be used alone to support moment loads or reversing axial loading.

Two A-Type bearings are often used as a duplex pair. Different configurations for duplex bearings are shown in the Engineering section of this catalog.

Please contact Silverthin™ for application of these bearings.

LOAD CONDITION				
RADIAL	AXIAL	MOMENT	REVERSING AXIAL	COMBINED RADIAL-THRUST
Good	Excellent	Use In Pairs Excellent	Use In Pairs Excellent	Good

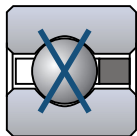


C-TYPE
Radial Contact Bearings

The C-Type, radial contact ball bearing is designed with deep ball grooves to withstand high loads. Although this bearing is used primarily in applications with radial loads, it can withstand moderate axial loads, reversing axial loads, and moment loads.

Please contact Silverthin™ for radial bearing use with combined radial loads, with axial or moment loading, and for limiting speeds and separator selection.

LOAD CONDITION				
RADIAL	AXIAL	MOMENT	REVERSING AXIAL	COMBINED RADIAL-THRUST
Excellent	Good	Good Light to Moderate Loads	Good Light to Moderate Loads	Good



X-TYPE
4-Point Contact Bearings

The X-Type, or 4-point contact, ball bearing is ideal for moment loading. X-Type bearings are designed with gothic arch raceways creating 4 contact points between the balls and the raceways. This design is excellent for moment loading and reversing axial loading. The X-Type bearing can be used for other light loading conditions, but is not

recommended in place of the C- or A-Type bearing for pure radial loads.

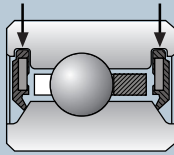
When specifying this type of bearing for use with axial or moment loads combined with radial loads, application speed (rpm) is a real concern. Please contact Silverthin™ for information on combined load and limiting speeds.

LOAD CONDITION				
RADIAL	AXIAL	MOMENT	REVERSING AXIAL	COMBINED RADIAL-THRUST
Poor	Good	Excellent	Excellent	Poor

Note: These are not to be used in pairs

Example Part Number:

S A 0 2 5 X P 0



J = Seals

Buna N Rubber Metal Backed
(Type C or X - width dim. may change)
Shields & Teflon Seals

A = Thin dense chrome plated

NTDC= Nodular Thin Dense Chrome plate
Tolerances, housing & shaft fits will change
Consult Silverthin™ Bearing
See Engineering Section of this Catalog for
more information

SILVERTHIN™ (S)

No Code = AISI 52100 Steel

S = 440C Stainless Steel

* Other metals available upon request

Series Section Code

(width x section)

AA  3/16" x 3/16"
(.1875 x .1875)

HA  1/4" x 3/16"
(.250 x .1875)

Available in sealed version


A  1/4" x 1/4"
(.250 x .250)


Available in sealed version

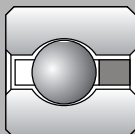
B  5/16" x 5/16"
(.3125 x .3125)

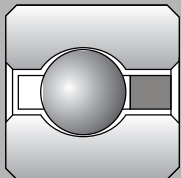
Available in sealed version

C  3/8" x 3/8"
(.375 x .375)

U  1/2" x 3/8"
(.50 x .375)

D  1/2" x 1/2"
(.50 x .50)

F  3/4" x 3/4"
(.75 x .75)

G  1" x 1"
(1.0 x 1.0)

BORE SIZE IN INCHES X 10

Example:

2.50 X 10 = 025

7.00 X 10 = 070


TYPE

 **A** Angular Contact

 **B** Duplexed Back to Back

 **C** Radial Contact

 **F** Duplexed Face to Face

 **X** 4 Point Contact

 **T** Duplexed Tandem

INTERNAL FIT

Type C & X (unmounted)

- A** .0000 to .0005 clearance
- B** .0000 to .0010 clearance
- C** .0005 to .0010 clearance
- D** .0005 to .0015 clearance
- E** .0010 to .0020 clearance
- F** .0015 to .0025 clearance
- G** .0020 to .0030 clearance
- H** .0030 to .0040 clearance
- I** .0040 to .0050 clearance
- J** .0050 to .0060 clearance
- K** .0000 to .0005 preload
- L** .0000 to .0010 preload
- M** .0005 to .0010 preload
- N** .0005 to .0015 preload
- P** .0010 to .0020 preload
- Z** special

- Diametral Preload or Clearance for Type X or C

- Axial Preload or Clearance for Duplexed Type A

Note: Above internal bearing fits apply to unmounted bearings only.

Please contact the factory for installation fits on the above custom clearances and preloads

PRECISION CLASS

0 = Class 1 (see pgs 16 & 17)

3 = Class 3 (see pg 18)

5 = Class 5 (see pg 19)

For Other Classes Contact Silverthin™

SEPARATOR














- N** Nylon, segmented "Snapover" C & X
- P** Brass, "Snapover" C & X
- L** Nylon, one piece, "Snapover" C & X
- D** Phenolic, one piece "Snapover" C & X
- T** Stainless steel, one piece "Snapover" C & X



- R** Brass, one piece, circular pocket A
- G** Nylon, circular pocket A
- H** Phenolic, one piece, circular pocket A
- U** Stainless steel, one piece, circular pocket A
- F** Full complement, no retainer, filling slot required for C & X style
- Z** Other

STANDARD PRODUCT LINE AT-A-GLANCE

● Normally Stocked Inventory

SILVERTHIN™ Part No. (Industry Part No.)	Section Dimensions (Inch)	Type	Bore Diameter (inches)																																				
			1	1½	1¾	2	2½	3	3½	4	4¼	4½	4¾	5	5½	6	6½	7	7½	8	9	10	11	12	14	16	18	20	25	30	35	40							
SAA (KAA)* <small>() * industry standard series number available with industry standard separators</small>	 3/16" x 3/16" (.187 x .187)	A	●	●	●																																		
		C	●	●	●																																		
		X	●	●	●																																		
JSHA (JHA)*	 1/4" x 3/16" (.250 x .250)	C	●	●	●																																		
		X	●	●	●																																		
JSA (JA)*	 1/4" x 1/4" (.250 x .250)	C				●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●																
		X				●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●															
SA (KA)*	 1/4" x 1/4" (.250 x .250)	A				●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●					
		C				●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
		X				●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
JSB (JB)*	 5/16" x 5/16" (.3125 x .3125)	C					●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●					
		X					●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
SB (KB)*	 5/16" x 5/16" (.3125 x .3125)	A				●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●					
		C				●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
		X				●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
SC (KC)*	 3/8" x 3/8" (.375 x .375)	A								●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
		C								●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
		X								●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
JSU (JU)*	 1/2" x 3/8" (.50 x .375)	C								●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
		X								●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●					
SD (KD)*	 1/2" x 1/2" (.50 x .50)	A								●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
		C								●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●					
		X								●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
SF (KF)*	 3/4" x 3/4" (.75 x .75)	A									●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
		C									●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●					
		X									●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
SG (KG)*	 1" x 1" (1.0 x 1.0)	A									●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
		C									●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●					
		X									●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				

What is a Thin Section Bearing and How does it Reduce Cost?

THIN SECTION bearings are a family of bearings designed from a limited number of widths and thicknesses (cross sections), with each cross section manufactured in a wide range of bore diameters. Most radial ball bearings are designed so that as the bore size increases, the width and the thickness of the bearing change proportionately. In the case of thin section bearings the cross section remains the same as the bore diameter increases. The thin section bearing family is made up of 9 primary cross section sets ranging from 3/16" to 1" and with bore sizes ranging from 1" to over 40". The combination of a large bore diameter in proportion to the small cross section makes these parts appear "thin" in comparison to standard ball bearings. Thin section bearings are made from 52100 chrome steel and 440C stainless steel. They can also be coated with platings like thin dense chrome. Some sizes can be configured with seals or shields. Thin section bearings are also made in one of three different contact styles; radial contact, angular contact, and four point contact. These options, along with several ball and retainer types make for a diverse range of parts even among the limited cross sections of the thin section bearing family.

Thin section bearings help reduce total cost in a system by allowing for design efficiency over standard bearing sizes. Because thin section bearings have cross sections that don't change as bore sizes increase, there needs to be no change in the space requirements, and little change in the weight of the bearing, even as the diameter of an application increases. Especially in the case of medical equipment, airborne optical and infrared scanning equipment, and robotics, the space and weight requirements of a system are major factors in the overall design and manufacturing cost. In many cases, the price of a thin section bearing is higher than a standard bearing with a similar bore size, but application and design savings due to reduced space and lower weight decrease the total cost in the application.

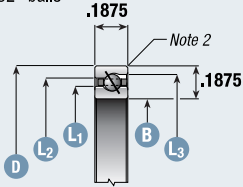
Thin Section Ball Bearing Applications

Medical Equipment	Rotary polishing equipment
X-ray – MRI	Rotary pipe cutting equipment
	Rotary welding equipment
Semi-conductor equipment	Rotary actuators
	Rotary work holding tables
Aerospace – auxiliary equipment (not flight critical)	Turrets
Gun turrets	Turntables
Gun Barrel Mounts	Indexing tables
Missile launchers	Machine tools + Lathe accessories
Radar equipment	Robotics
Radar drives	
Antenna pedestals	Packaging equipment
Satellite antennas + Pedestals	Labeling machines
Truck mounted communication equipment	Food processing equipment
	Bottling equipment
Optical equipment	Converting equipment
Telescope bases	Wallpaper + Screen printing
Camera mounts	Textile + Knitting machinery
Optical drivers	Tire production equipment
Security camera mounts	Wire handling, winding, + Bonding equipment
Sensors	Oil well equipment
Mounts for Sensors + Equipment	Blow out protectors
Instrument mounts	King post bearing applications
Gimbals + Gimbal assemblies	
	Gear boxes
Slip rings	Transmission gear and chain
Rotary unions + Rotary joints	Clutch backstops

SAA SERIES 3/16" X 3/16"

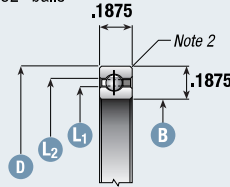
SILVERTHIN™
Precision Thin Section Bearings

Type A Angular Contact Nylon Circular pocket separator standard 3/32" balls



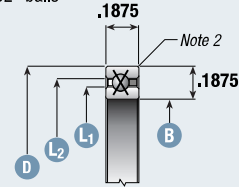
Std. Part No.: **SAA□□AGO**

Type C Radial Contact Nylon Snapover separator standard 3/32" balls



Std. Part No.: **SAA□□CLO**

Type X Four-Point Contact Nylon Snapover separator standard 3/32" balls



Std. Part No.: **SAA□□XLO**

SILVERTHIN™ PART NUMBER	DIMENSIONS IN INCHES					CAPACITIES IN POUNDS										APPROX WEIGHT POUNDS
	BORE B	OUTSIDE DIA D	LAND DIA L ₁	LAND DIA L ₂	C'BORE DIA L ₃	TYPE A				TYPE C & X		TYPE X				
						RADIAL		THRUST		RADIAL		THRUST		MOMENT (Lbs-in)		
						STATIC	DYN	STATIC	DYN	STATIC	DYN	STATIC	DYN	STATIC	DYN	
SAA 10	1.000	1.375	1.140	1.235	1.274	353	156	979	454	302	158	736	379	177	93	.026
SAA 15	1.500	1.875	1.640	1.735	1.774	494	206	1,402	576	413	188	1,055	468	347	151	.039
SAA 17	1.750	2.125	1.890	1.985	1.990	559	228	1,551	607	476	213	1,156	517	452	198	.045

Note 1. Load capacities shown in this catalog are not additive

Note 2. The maximum shaft or housing fillet radius that the bearing corners will clear for this series is .015.

Note 3. Race Width Tolerance— +.000 –.005
Single Type C, X, A Bearings

Type A Interchange

KAYDON Part No.	SILVERTHIN™ Part No.
KAA10AGO	SAA10AGO
KAA15AGO	SAA15AGO
KAA17AGO	SAA17AGO

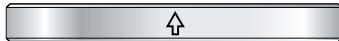
Type C Interchange

KAYDON Part No.	SILVERTHIN™ Part No.
KAA10CLO	SAA10CLO
KAA15CLO	SAA15CLO
KAA17CLO	SAA17CLO

Type X Interchange

KAYDON Part No.	SILVERTHIN™ Part No.
KAA10XLO	SAA10XLO
KAA15XLO	SAA15XLO
KAA17XLO	SAA17XLO

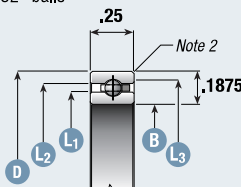
JSHA SERIES 1/4" X 3/16"



The arrow on the OD of the bearing should be used to verify correct bearing orientation in relation to the retainer. When the bearing is installed horizontally, up to 45° of the vertical axis, the arrow should be pointing "UP". This is recommended for proper retainer function.

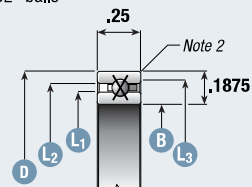
- Standard seals are Buna N rubber-metal reinforced
- Standard lubricant is 20–30% fill of MIL-G-81322 grease

Type C Radial Contact Nylon Snapover separator standard 3/32" balls



Std. Part No.: **JSHA□□CLO**

Type X Four-Point Contact Nylon Snapover separator standard 3/32" balls



Std. Part No.: **JSHA□□XLO**

SILVERTHIN™ PART NUMBER	DIMENSIONS IN INCHES				CAPACITIES IN POUNDS						TYPE C LIMITING SPEEDS (RPM)	TYPE X LIMITING SPEEDS (RPM)	TORQUE MAX NO LOAD (Lbs-in)	APPROX WEIGHT POUNDS
	BORE B	OUTSIDE DIA D	LAND DIA L ₁	LAND DIA L ₂	TYPE C & X		TYPE X							
					RADIAL		THRUST		MOMENT (Lbs-in)					
					STATIC	DYN	STATIC	DYN	STATIC	DYN				
JSHA 10	1.000	1.375	1.140	1.235	302	158	736	379	177	93	CONSULT	CONSULT	CONSULT	.026
JSHA 15	1.500	1.875	1.640	1.735	413	188	1,055	468	347	151	FACTORY	FACTORY	FACTORY	.039
JSHA 17	1.750	2.125	1.890	1.985	476	213	1,156	517	452	198				.049

Note 1. Load capacities shown in this catalog are not additive

Note 2. The maximum shaft or housing fillet radius that the bearing corners will clear for this series is .015.

Note 3. Race Width Tolerance— +.000 –.005
Single Type C, X, A Bearings

Type C Interchange

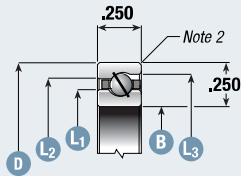
KAYDON Part No.	SILVERTHIN™ Part No.
JHA10CLO	JSHA10CLO
JHA15CLO	JSHA15CLO
JHA17CLO	JSHA17CLO

Type X Interchange

KAYDON Part No.	SILVERTHIN™ Part No.
JHA10XLO	JSHA10XLO
JHA15XLO	JSHA15XLO
JHA17XLO	JSHA17XLO

Type A Angular Contact

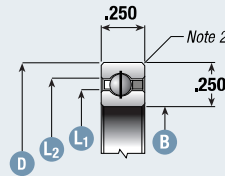
Brass Circular pocket separator standard
1/8" balls



Std. Part No.: SA ARO

Type C Radial Contact

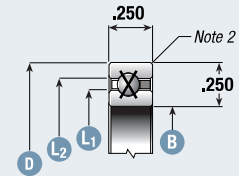
Brass Snapover separator standard
1/8" balls



Std. Part No.: SA CPO

Type X Four-Point Contact

Brass Snapover separator standard
1/8" balls



Std. Part No.: SA XPO

SILVERTHIN™ PART NUMBER	DIMENSIONS IN INCHES					CAPACITIES IN POUNDS										APPROX WEIGHT POUNDS	
	BORE B	OUTSIDE DIA D	LAND DIA L1	LAND DIA L2	C'BORE DIA L3	TYPE A				TYPE C & X		TYPE X					
						RADIAL		THRUST		RADIAL	THRUST	STATIC	DYN	STATIC	DYN		MOMENT (Lbs-in)
						STATIC	DYN	STATIC	DYN								
SA020	2,000	2,500	2,186	2,314	2,369	792	334	2,281	967	682	323	1,711	794	772	367	0.10	
SA025	2,500	3,000	2,686	2,814	2,869	968	387	2,785	1,106	830	363	2,097	912	1,154	506	0.13	
SA030	3,000	3,500	3,186	3,314	3,367	1,149	438	3,295	1,236	994	413	2,475	1,014	1,603	667	0.15	
SA035	3,500	4,000	3,686	3,814	3,867	1,312	471	3,798	1,359	1,144	453	2,856	1,118	2,139	846	0.18	
SA040	4,000	4,500	4,186	4,314	4,367	1,497	514	4,309	1,476	1,293	486	3,227	1,213	2,748	1,035	0.19	
SA042	4,250	4,750	4,436	4,564	4,615	1,585	530	4,552	1,538	1,374	505	3,414	1,268	3,073	1,130	0.20	
SA045	4,500	5,000	4,686	4,814	4,865	1,660	552	4,810	1,584	1,447	521	3,608	1,313	3,425	1,242	0.22	
SA047	4,750	5,250	4,936	5,064	5,115	1,753	577	5,062	1,640	1,524	548	3,792	1,355	3,790	1,357	0.23	
SA050	5,000	5,500	5,186	5,314	5,365	1,841	596	5,313	1,693	1,597	569	3,988	1,403	4,186	1,462	0.24	
SA055	5,500	6,000	5,686	5,814	5,863	2,026	620	5,824	1,801	1,750	593	4,369	1,484	5,021	1,700	0.25	
SA060	6,000	6,500	6,186	6,314	6,363	2,195	662	6,328	1,905	1,906	634	4,740	1,572	5,936	1,968	0.28	
SA065	6,500	7,000	6,686	6,814	6,861	2,370	699	6,837	2,004	2,052	660	5,122	1,653	6,915	2,232	0.30	
SA070	7,000	7,500	7,186	7,314	7,361	2,543	736	7,344	2,105	2,204	693	5,507	1,735	7,988	2,515	0.31	
SA075	7,500	8,000	7,686	7,814	7,861	2,721	763	7,849	2,195	2,353	728	5,880	1,812	9,122	2,801	0.34	
SA080	8,000	8,500	8,186	8,314	8,359	2,892	796	8,355	2,280	2,502	751	6,264	1,895	10,333	3,111	0.38	
SA090	9,000	9,500	9,186	9,314	9,357	3,240	853	9,364	2,472	2,817	810	7,026	2,045	12,997	3,774	0.44	
SA100	10,000	10,500	10,186	10,314	10,355	3,595	914	10,376	2,644	3,118	878	7,789	2,183	15,948	4,472	0.50	
SA110	11,000	11,500	11,186	11,314	11,353	3,943	975	11,386	2,810	3,412	935	8,544	2,324	19,210	5,223	0.52	
SA120	12,000	12,500	12,186	12,314	12,349	4,294	1,037	12,395	2,978	3,726	986	9,304	2,450	22,777	6,014	0.56	

Note 1. Load capacities shown in this catalog are not additive

Note 2. The maximum shaft or housing fillet radius that the bearing corners will clear for this series is .025.

Note 3. Race Width Tolerance— +.000 —.005
Single Type C, X, A Bearings

Type A Interchange

KAYDON Part No.	SILVERTHIN™ Part No.	KAYDON Part No.	SILVERTHIN™ Part No.
KA020ARO	SA020ARO	KA060ARO	SA060ARO
KA025ARO	SA025ARO	KA065ARO	SA065ARO
KA030ARO	SA030ARO	KA070ARO	SA070ARO
KA035ARO	SA035ARO	KA075ARO	SA075ARO
KA040ARO	SA040ARO	KA080ARO	SA080ARO
KA042ARO	SA042ARO	KA090ARO	SA090ARO
KA045ARO	SA045ARO	KA100ARO	SA100ARO
KA047ARO	SA047ARO	KA110ARO	SA110ARO
KA050ARO	SA050ARO	KA120ARO	SA120ARO
KA055ARO	SA055ARO		

Type C Interchange

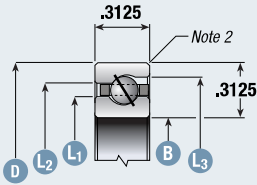
KAYDON Part No.	SILVERTHIN™ Part No.	KAYDON Part No.	SILVERTHIN™ Part No.
KA020CPO	SA020CPO	KA060CPO	SA060CPO
KA025CPO	SA025CPO	KA065CPO	SA065CPO
KA030CPO	SA030CPO	KA070CPO	SA070CPO
KA035CPO	SA035CPO	KA075CPO	SA075CPO
KA040CPO	SA040CPO	KA080CPO	SA080CPO
KA042CPO	SA042CPO	KA090CPO	SA090CPO
KA045CPO	SA045CPO	KA100CPO	SA100CPO
KA047CPO	SA047CPO	KA110CPO	SA110CPO
KA050CPO	SA050CPO	KA120CPO	SA120CPO
KA055CPO	SA055CPO		

Type X Interchange

KAYDON Part No.	SILVERTHIN™ Part No.	KAYDON Part No.	SILVERTHIN™ Part No.
KA020XPO	SA020XPO	KA060XPO	SA060XPO
KA025XPO	SA025XPO	KA065XPO	SA065XPO
KA030XPO	SA030XPO	KA070XPO	SA070XPO
KA035XPO	SA035XPO	KA075XPO	SA075XPO
KA040XPO	SA040XPO	KA080XPO	SA080XPO
KA042XPO	SA042XPO	KA090XPO	SA090XPO
KA045XPO	SA045XPO	KA100XPO	SA100XPO
KA047XPO	SA045XPO	KA110XPO	SA110XPO
KA050XPO	SA050XPO	KA120XPO	SA120XPO
KA055XPO	SA055XPO		

Type A Angular Contact

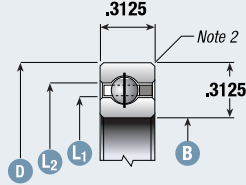
Brass Circular pocket separator standard
5/32" balls



Std. Part No.: **SB [] [] ARO**

Type C Radial Contact

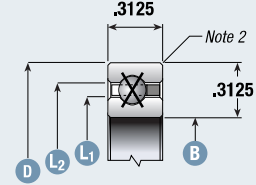
Brass Snapover separator standard
5/32" balls



Std. Part No.: **SB [] [] CPO**

Type X Four-Point Contact

Brass Snapover separator standard
5/32" balls



Std. Part No.: **SB [] [] XPO**

SILVERTHIN™ PART NUMBER	DIMENSIONS IN INCHES					CAPACITIES IN POUNDS										APPROX WEIGHT POUNDS	
	BORE B	OUTSIDE DIA D	LAND DIA L ₁	LAND DIA L ₂	C'BORE DIA L ₃	TYPE A		TYPE C & X		TYPE X		MOMENT (Lbs-in)	STATIC	DYN			
						RADIAL		THRUST		RADIAL					THRUST		
						STATIC	DYN	STATIC	DYN	STATIC	DYN				STATIC		DYN
SB 020	2.000	2.625	2.231	2.393	2.464	1,092	481	3,156	1,382	930	458	2,344	1,135	1,083	521	0.16	
SB 025	2.500	3.125	2.731	2.893	2.964	1,345	557	3,861	1,593	1,149	521	2,840	1,297	1,603	730	0.19	
SB 030	3.000	3.625	3.231	3.393	3.462	1,553	610	4,472	1,754	1,343	589	3,355	1,442	2,221	963	0.24	
SB 035	3.500	4.125	3.731	3.893	3.962	1,791	673	5,182	1,933	1,546	634	3,862	1,598	2,946	1,217	0.29	
SB 040	4.000	4.625	4.231	4.393	4.460	2,044	732	5,897	2,105	1,751	690	4,379	1,721	3,770	1,495	0.30	
SB 042	4.250	4.875	4.481	4.643	4.710	2,150	753	6,206	2,178	1,833	715	4,572	1,780	4,176	1,622	0.31	
SB 045	4.500	5.125	4.731	4.893	4.960	2,255	787	6,503	2,247	1,959	741	4,880	1,854	4,693	1,780	0.33	
SB 047	4.750	5.375	4.981	5.143	5.210	2,390	810	6,918	2,341	2,033	760	5,089	1,906	5,141	1,932	0.34	
SB 050	5.000	5.625	5.231	5.393	5.460	2,500	835	7,217	2,413	2,158	794	5,386	1,981	5,729	2,103	0.38	
SB 055	5.500	6.125	5.731	5.893	5.958	2,741	892	7,926	2,563	3,360	841	5,892	2,109	6,855	2,442	0.41	
SB 060	6.000	6.625	6.231	6.393	6.458	2,997	946	8,633	2,711	2,567	899	6,404	2,220	8,082	2,804	0.44	
SB 065	6.500	7.125	6.731	6.893	6.958	3,202	981	9,245	2,842	2,762	930	6,918	2,345	9,417	3,186	0.47	
SB 070	7.000	7.625	7.231	7.393	7.456	3,457	1,033	9,960	2,984	2,979	983	7,425	2,459	10,858	3,586	0.50	
SB 075	7.500	8.125	7.731	7.893	7.955	3,703	1,089	10,679	3,127	3,174	1,022	7,922	2,567	12,381	4,000	0.53	
SB 080	8.000	8.625	8.231	8.393	8.453	3,943	1,130	11,387	3,263	3,370	1,071	8,434	2,670	14,025	4,441	0.57	
SB 090	9.000	9.625	9.231	9.393	9.451	4,408	1,223	12,704	3,510	3,782	1,157	9,453	2,886	17,608	5,361	0.66	
SB 100	10.000	10.625	10.231	10.393	10.449	4,891	1,303	14,120	3,768	4,192	1,235	10,462	3,089	21,584	6,362	0.73	
SB 110	11.000	11.625	11.231	11.393	11.447	5,354	1,384	15,448	4,005	4,594	1,317	11,482	3,281	25,975	7,420	0.75	
SB 120	12.000	12.625	12.231	12.393	12.445	5,842	1,470	16,862	4,248	5,003	1,397	12,503	3,476	30,773	8,558	0.83	
SB 140	14.000	14.625	14.231	14.393	14.439	6,762	1,621	19,503	4,671	5,812	1,533	14,532	3,844	41,582	10,983	1.05	
SB 160	16.000	16.625	16.231	16.393	16.433	7,712	1,773	22,254	5,102	6,622	1,671	16,562	4,193	54,023	13,663	1.20	
SB 180	18.000	18.625	18.231	18.393	18.425	8,661	1,913	24,993	5,514	7,443	1,814	18,591	4,521	68,094	16,561	1.35	
SB 200	20.000	20.625	20.231	20.393	20,416	9,613	2,052	27,731	5,903	8,251	1,942	20,623	4,852	83,782	19,692	1.50	

Note 1. Load capacities shown in this catalog are not additive

Note 2. The maximum shaft or housing fillet radius that the bearing corners will clear for this series is .040.

Note 3. Race Width Tolerance—
Single Type C, X, A Bearings:
Up thru 12" Bearing Bore +.000 –.005
Over 12" Bearing Bore +.000 –.010

Type A Interchange

KAYDON Part No.	SILVERTHIN™ Part No.	KAYDON Part No.	SILVERTHIN™ Part No.
KB020ARO	SB020ARO	KB070ARO	SB070ARO
KB025ARO	SB025ARO	KB075ARO	SB075ARO
KB030ARO	SB030ARO	KB080ARO	SB080ARO
KB035ARO	SB035ARO	KB090ARO	SB090ARO
KB040ARO	SB040ARO	KB100ARO	SB100ARO
KB042ARO	SB042ARO	KB110ARO	SB110ARO
KB045ARO	SB045ARO	KB120ARO	SB120ARO
KB047ARO	SB047ARO	KB140ARO	SB140ARO
KB050ARO	SB050ARO	KB160ARO	SB160ARO
KB055ARO	SB055ARO	KB180ARO	SB180ARO
KB060ARO	SB060ARO	KB200ARO	SB200ARO
KB065ARO	SB065ARO		

Type C Interchange

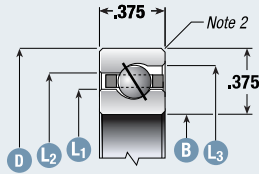
KAYDON Part No.	SILVERTHIN™ Part No.	KAYDON Part No.	SILVERTHIN™ Part No.
KB020CPO	SB020CPO	KB070CPO	SB070CPO
KB025CPO	SB025CPO	KB075CPO	SB075CPO
KB030CPO	SB030CPO	KB080CPO	SB080CPO
KB035CPO	SB035CPO	KB090CPO	SB090CPO
KB040CPO	SB040CPO	KB100CPO	SB100CPO
KB042CPO	SB042CPO	KB110CPO	SB110CPO
KB045CPO	SB045CPO	KB120CPO	SB120CPO
KB047CPO	SB047CPO	KB140CPO	SB140CPO
KB050CPO	SB050CPO	KB160CPO	SB160CPO
KB055CPO	SB055CPO	KB180CPO	SB180CPO
KB060CPO	SB060CPO	KB200CPO	SB200CPO
KB065CPO	SB065CPO		

Type X Interchange

KAYDON Part No.	SILVERTHIN™ Part No.	KAYDON Part No.	SILVERTHIN™ Part No.
KB020XPO	SB020XPO	KB070XPO	SB070XPO
KB025XPO	SB025XPO	KB075XPO	SB075XPO
KB030XPO	SB030XPO	KB080XPO	SB080XPO
KB035XPO	SB035XPO	KB090XPO	SB090XPO
KB040XPO	SB040XPO	KB100XPO	SB100XPO
KB042XPO	SB042XPO	KB110XPO	SB110XPO
KB045XPO	SB045XPO	KB120XPO	SB120XPO
KB047XPO	SB047XPO	KB140XPO	SB140XPO
KB050XPO	SB050XPO	KB160XPO	SB160XPO
KB055XPO	SB055XPO	KB180XPO	SB180XPO
KB060XPO	SB060XPO	KB200XPO	SB200XPO
KB065XPO	SB065XPO		

Type A Angular Contact

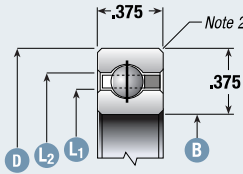
Brass Circular pocket separator standard
3/16" balls



Std. Part No.: **SC [] [] ARO**

Type C Radial Contact

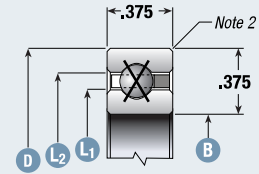
Brass Snapover separator standard
3/16" balls



Std. Part No.: **SC [] [] CPO**

Type X Four-Point Contact

Brass Snapover separator standard
3/16" balls



Std. Part No.: **SC [] [] XPO**

SILVERTHIN™ PART NUMBER	DIMENSIONS IN INCHES					CAPACITIES IN POUNDS										APPROX WEIGHT POUNDS
	BORE B	OUTSIDE DIA D	LAND DIA L ₁	LAND DIA L ₂	C'BORE DIA L ₃	TYPE A				TYPE C & X		TYPE X				
						RADIAL		THRUST		RADIAL	THRUST	MOMENT (Lbs-in)				
						STATIC	DYN	STATIC	DYN			STATIC	DYN	STATIC	DYN	
SC040	4.000	4.750	4.277	4.473	4.554	2,552	960	7,364	2,773	2,105	882	5,261	2,213	4,602	1,935	0.45
SC042	4.250	5.000	4.527	4.723	4.804	2,711	1,008	7,825	2,884	2,228	922	5,560	2,294	5,143	2,128	0.47
SC045	4.500	5.250	4.777	4.973	5.052	2,863	1,044	8,279	2,997	2,340	951	5,863	2,385	5,713	2,326	0.48
SC047	4.750	5.500	5.027	5.223	5.302	3,025	1,072	8,723	3,106	2,467	980	6,167	2,462	6,322	2,520	0.50
SC050	5.000	5.750	5.277	5.473	5.552	3,180	1,113	9,172	3,200	2,591	1,015	6,464	2,547	6,953	2,731	0.58
SC055	5.500	6.250	5.777	5.973	6.052	3,442	1,177	9,926	3,373	2,835	1,082	7,069	2,697	8,302	3,165	0.59
SC060	6.000	6.750	6.277	6.473	6.550	3,753	1,245	10,827	3,586	3,073	1,140	7,667	2,849	9,776	3,620	0.63
SC065	6.500	7.250	6.777	6.973	7.050	4,067	1,312	11,726	3,774	3,311	1,203	8,276	2,993	11,374	4,112	0.68
SC070	7.000	7.750	7.277	7.473	7.550	4,322	1,365	12,472	3,933	3,550	1,253	8,878	3,134	13,089	4,621	0.73
SC075	7.500	8.250	7.777	7.973	8.048	4,631	1,432	13,383	4,122	3,796	1,312	9,470	3,276	14,913	5,158	0.78
SC080	8.000	8.750	8.277	8.473	8.548	4,952	1,498	14,285	4,307	4,034	1,365	10,072	3,419	16,874	5,717	0.84
SC090	9.000	9.750	9.277	9.473	9.546	5,528	1,603	15,932	4,635	4,517	1,475	11,276	3,671	21,132	6,890	0.94
SC100	10.000	10.750	10.277	10.473	10.544	6,145	1,720	17,737	4,974	4,990	1,571	12,473	3,932	25,882	8,163	1.06
SC110	11.000	11.750	11.277	11.473	11.542	6,721	1,833	19,393	5,287	5,473	1,670	13,687	4,188	31,114	9,515	1.16
SC120	12.000	12.750	12.277	12.473	12.540	7,290	1,932	21,047	5,570	5,956	1,773	14,888	4,426	36,832	10,942	1.25
SC140	14.000	14.750	14.277	14.473	14.535	8,493	2,142	24,504	6,172	6,912	1,952	17,281	4,892	49,693	14,051	1.52
SC160	16.000	16.750	16.277	16.473	16.529	9,683	2,331	27,951	6,731	7,881	2,132	19,692	5,332	64,481	17,451	1.73
SC180	18.000	18.750	18.277	18.473	18.523	10,882	2,523	31,412	7,281	8,842	2,303	22,093	5,762	81,192	21,152	1.94
SC200	20.000	20.750	20.277	20.473	20.517	12,031	2,693	34,722	7,783	9,802	2,471	24,504	6,171	99,832	25,123	2.16
SC250	25.000	25.750	25.277	25.473	25.500	14,904	3,122	43,283	9,012	12,204	2,851	30,512	7,142	154,803	36,223	2.69
SC300	30.000	30.750	30.277	30.473	30.484	17,962	3,523	51,851	10,161	14,612	3,222	36,521	8,051	221,902	48,882	3.21

Note 1. Load capacities shown in this catalog are not additive

Note 2. The maximum shaft or housing fillet radius that the bearing corners will clear for this series is .040.

Note 3. Race Width Tolerance—
Single Type C, X, A Bearings:
Up thru 12" Bearing Bore +.000 –.005
Over 12" Bearing Bore +.000 –.010

Type A Interchange

KAYDON Part No.	SILVERTHIN™ Part No.	KAYDON Part No.	SILVERTHIN™ Part No.
KC040ARO	SC040ARO	KC090ARO	SC090ARO
KC042ARO	SC042ARO	KC100ARO	SC100ARO
KC045ARO	SC045ARO	KC110ARO	SC110ARO
KC047ARO	SC047ARO	KC120ARO	SC120ARO
KC050ARO	SC050ARO	KC140ARO	SC140ARO
KC055ARO	SC055ARO	KC160ARO	SC160ARO
KC060ARO	SC060ARO	KC180ARO	SC180ARO
KC065ARO	SC065ARO	KC200ARO	SC200ARO
KC070ARO	SC070ARO	KC250ARO	SC250ARO
KC075ARO	SC075ARO	KC300ARO	SC300ARO
KC080ARO	SC080ARO		

Type C Interchange

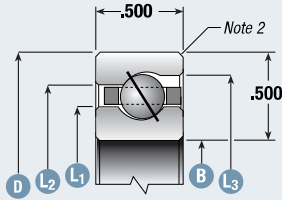
KAYDON Part No.	SILVERTHIN™ Part No.	KAYDON Part No.	SILVERTHIN™ Part No.
KC040CPO	SC040CPO	KC090CPO	SC090CPO
KC042CPO	SC042CPO	KC100CPO	SC100CPO
KC045CPO	SC045CPO	KC110CPO	SC110CPO
KC047CPO	SC047CPO	KC120CPO	SC120CPO
KC050CPO	SC050CPO	KC140CPO	SC140CPO
KC055CPO	SC055CPO	KC160CPO	SC160CPO
KC060CPO	SC060CPO	KC180CPO	SC180CPO
KC065CPO	SC065CPO	KC200CPO	SC200CPO
KC070CPO	SC070CPO	KC250CPO	SC250CPO
KC075CPO	SC075CPO	KC300CPO	SC300CPO
KC080CPO	SC080CPO		

Type X Interchange

KAYDON Part No.	SILVERTHIN™ Part No.	KAYDON Part No.	SILVERTHIN™ Part No.
KC040XPO	SC040XPO	KC090XPO	SC090XPO
KC042XPO	SC042XPO	KC100XPO	SC100XPO
KC045XPO	SC045XPO	KC110XPO	SC110XPO
KC047XPO	SC047XPO	KC120XPO	SC120XPO
KC050XPO	SC050XPO	KC140XPO	SC140XPO
KC055XPO	SC055XPO	KC160XPO	SC160XPO
KC060XPO	SC060XPO	KC180XPO	SC180XPO
KC065XPO	SC065XPO	KC200XPO	SC200XPO
KC070XPO	SC070XPO	KC250XPO	SC250XPO
KC075XPO	SC075XPO	KC300XPO	SC300XPO
KC080XPO	SC080XPO		

Type A Angular Contact

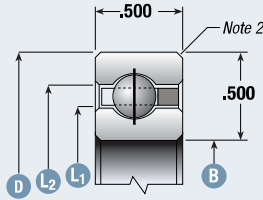
Brass Circular pocket separator standard
1/4" balls



Std. Part No.: **SD [] [] ARO**

Type C Radial Contact

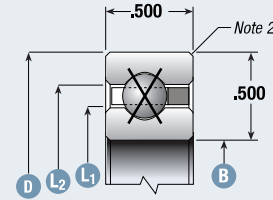
Brass Snapover separator standard
1/4" balls



Std. Part No.: **SD [] [] CPO**

Type X Four-Point Contact

Brass Snapover separator standard
1/4" balls



Std. Part No.: **SD [] [] XPO**

SILVERTHIN™ PART NUMBER	DIMENSIONS IN INCHES					CAPACITIES IN POUNDS										APPROX WEIGHT POUNDS
	BORE B	OUTSIDE DIA D	LAND DIA L ₁	LAND DIA L ₂	C'BORE DIA L ₃	TYPE A				TYPE C & X		TYPE X				
						RADIAL		THRUST		RADIAL		THRUST		MOMENT (Lbs-in)		
						STATIC	DYN	STATIC	DYN	STATIC	DYN	STATIC	DYN	STATIC	DYN	
SD 040	4.000	5.000	4.370	4.630	4.741	3,558	1,481	10,263	4,262	3,086	1,418	7,702	3,526	6,935	3,171	.78
SD 042	4.250	5.250	4.620	4.880	4.991	3,757	1,534	10,830	4,421	3,193	1,442	7,989	3,607	7,582	3,420	.83
SD 045	4.500	5.500	4.870	5.130	5.241	3,952	1,580	11,402	4,576	3,423	1,512	8,552	3,773	8,555	3,774	.88
SD 047	4.750	5.750	5.120	5.380	5.490	4,158	1,646	11,973	4,727	3,534	1,548	8,842	3,860	9,287	4,053	.94
SD 050	5.000	6.000	5.370	5.630	5.740	4,342	1,698	12,544	4,873	3,764	1,611	9,415	4,020	10,354	4,422	1.00
SD 055	5.500	6.500	5.870	6.130	6.238	4,741	1,790	13,688	5,165	4,109	1,703	10,265	4,265	12,316	5,112	1.06
SD 060	6.000	7.000	6.370	6.630	6.738	5,130	1,893	14,827	5,443	4,450	1,803	11,127	4,494	14,452	5,840	1.16
SD 065	6.500	7.500	6.870	7.130	7.236	5,531	1,980	15,967	5,722	4,796	1,899	11,974	4,724	16,760	6,613	1.22
SD 070	7.000	8.000	7.370	7.630	7.736	5,929	2,077	17,104	5,996	5,131	1,980	12,832	4,946	19,249	7,421	1.31
SD 075	7.500	8.500	7.870	8.130	8.236	6,320	2,172	18,240	6,253	5,474	2,063	13,688	5,168	21,895	8,264	1.41
SD 080	8.000	9.000	8.370	8.630	8.734	6,717	2,261	19,380	6,517	5,814	2,150	14,543	5,372	24,714	9,145	1.53
SD 090	9.000	10.000	9.370	9.630	9.732	7,504	2,432	21,663	7,018	6,504	2,328	16,255	5,793	30,870	11,001	1.72
SD 100	10.000	11.000	10.370	10.630	10.732	8,299	2,603	23,947	7,500	7,183	2,478	17,963	6,196	37,710	12,995	1.88
SD 110	11.000	12.000	11.370	11.630	11.730	9,087	2,768	26,227	7,961	7,872	2,630	19,674	6,572	45,235	15,120	2.06
SD 120	12.000	13.000	12.370	12.630	12.728	9,871	2,920	28,503	8,427	8,559	2,783	21,380	6,953	53,443	17,375	2.25
SD 140	14.000	15.000	14.370	14.630	14.724	11,452	3,221	33,063	9,291	9,922	3,071	24,802	7,672	71,912	22,251	2.73
SD 160	16.000	17.000	16.370	16.630	16.718	13,031	3,512	37,621	10,132	11,293	3,353	28,221	8,364	93,112	27,602	3.10
SD 180	18.000	19.000	18.370	18.630	18.712	14,612	3,792	42,181	10,934	12,653	3,612	31,642	9,031	117,003	33,401	3.48
SD 200	20.000	21.000	20.370	20.630	20.705	16,191	4,063	46,743	11,712	14,021	3,871	35,061	9,672	143,703	39,634	3.85
SD 250	25.000	26.000	25.370	25.630	25.688	20,143	4,692	58,144	13,543	17,442	4,472	43,612	11,181	222,401	57,013	4.79
SD 300	30.000	31.000	30.370	30.630	30.672	24,092	5,292	69,543	15,261	20,862	5,043	52,162	12,604	318,102	76,842	5.73

Note 1. Load capacities shown in this catalog are not additive

Note 2. The maximum shaft or housing fillet radius that the bearing corners will clear for this series is .060.

Note 3. Race Width Tolerance—
Single Type C, X, A Bearings:
Up thru 12" Bearing Bore +.000 –.005
Over 12" Bearing Bore +.000 –.010

Type A Interchange

KAYDON Part No.	SILVERTHIN™ Part No.	KAYDON Part No.	SILVERTHIN™ Part No.
KD040CPO	SD040CPO	KD090ARO	SD090ARO
KD042ARO	SD042ARO	KD100ARO	SD100ARO
KD045ARO	SD045ARO	KD110ARO	SD110ARO
KD047ARO	SD047ARO	KD120ARO	SD120ARO
KD050ARO	SD050ARO	KD140ARO	SD140ARO
KD055ARO	SD055ARO	KD160ARO	SD160ARO
KD060ARO	SD060ARO	KD180ARO	SD180ARO
KD065ARO	SD065ARO	KD200ARO	SD200ARO
KD070ARO	SD070ARO	KD250ARO	SD250ARO
KD075ARO	SD075ARO	KD300ARO	SD300ARO
KD080ARO	SD080ARO		

Type C Interchange

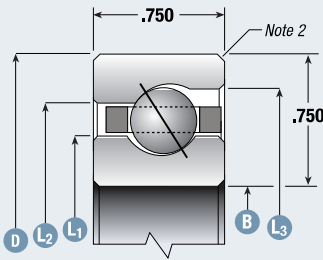
KAYDON Part No.	SILVERTHIN™ Part No.	KAYDON Part No.	SILVERTHIN™ Part No.
KD040CPO	SD040CPO	KD090CPO	SD090CPO
KD042CPO	SD042CPO	KD100CPO	SD100CPO
KD045CPO	SD045CPO	KD110CPO	SD110CPO
KD047CPO	SD047CPO	KD120CPO	SD120CPO
KD050CPO	SD050CPO	KD140CPO	SD140CPO
KD055CPO	SD055CPO	KD160CPO	SD160CPO
KD060CPO	SD060CPO	KD180CPO	SD180CPO
KD065CPO	SD065CPO	KD200CPO	SD200CPO
KD070CPO	SD070CPO	KD250CPO	SD250CPO
KD075CPO	SD075CPO	KD300CPO	SD300CPO
KD080CPO	SD080CPO		

Type X Interchange

KAYDON Part No.	SILVERTHIN™ Part No.	KAYDON Part No.	SILVERTHIN™ Part No.
KD040XPO	SD040XPO	KD090XPO	SD090XPO
KD042XPO	SD042XPO	KD100XPO	SD100XPO
KD045XPO	SD045XPO	KD110XPO	SD110XPO
KD047XPO	SD047XPO	KD120XPO	SD120XPO
KD050XPO	SD050XPO	KD140XPO	SD140XPO
KD055XPO	SD055XPO	KD160XPO	SD160XPO
KD060XPO	SD060XPO	KD180XPO	SD180XPO
KD065XPO	SD065XPO	KD200XPO	SD200XPO
KD070XPO	SD070XPO	KD250XPO	SD250XPO
KD075XPO	SD075XPO	KD300XPO	SD300XPO
KD080XPO	SD080XPO		

Type A Angular Contact

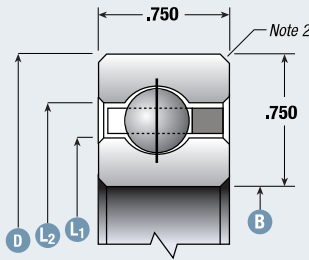
Brass Circular pocket separator standard
3/8" balls



Std. Part No.: **SF□□ARO**

Type C Radial Contact

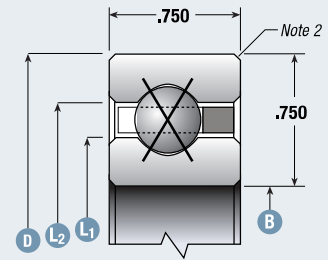
Brass Snapover separator standard
3/8" balls



Std. Part No.: **SF□□CPO**

Type X Four-Point Contact

Brass Snapover separator standard
3/8" balls



Std. Part No.: **SF□□XPO**

SILVERTHIN™ PART NUMBER	DIMENSIONS IN INCHES					CAPACITIES IN POUNDS										APPROX WEIGHT POUNDS
	BORE B	OUTSIDE DIA D	LAND DIA L ₁	LAND DIA L ₂	C'BORE DIA L ₃	TYPE A				TYPE C & X		TYPE X				
						RADIAL		THRUST		RADIAL	THRUST	THRUST		MOMENT (Lbs-in)		
						STATIC	DYN	STATIC	DYN			STATIC	DYN	STATIC	DYN	
SF040	4.000	5.500	4.555	4.945	5.115	6,353	2,921	18,340	8,422	5,363	2,733	13,407	6,835	12,730	6,493	1.9
SF042	4.250	5.750	4.805	5.195	5.365	6,600	2,998	19,054	8,633	5,645	2,830	14,111	7,073	14,119	7,076	2.0
SF045	4.500	6.000	5.060	5.445	5.615	7,095	3,143	20,462	9,050	5,937	2,925	14,814	7,302	15,550	7,660	2.1
SF047	4.750	6.250	5.305	5.695	5.865	7,333	3,218	21,166	9,264	6,215	3,013	15,521	7,533	17,077	8,284	2.2
SF050	5.000	6.500	5.555	5.945	6.115	7,570	3,280	21,871	9,461	6,492	3,104	16,220	7,768	18,666	8,923	2.3
SF055	5.500	7.000	6.055	6.445	6.613	8,312	3,499	23,989	10,066	7,053	3,283	17,634	8,207	22,040	10,251	2.5
SF060	6.000	7.500	6.555	6.945	7.113	9,041	3,693	26,101	10,652	7,625	3,450	19,058	8,633	25,716	11,653	2.7
SF065	6.500	8.000	7.055	7.445	7.613	9,773	3,897	28,226	11,220	8,182	3,621	20,463	9,051	29,667	13,135	2.9
SF070	7.000	8.500	7.555	7.945	8.113	10,512	4,083	30,330	11,774	8,750	3,794	21,873	9,466	33,892	14,672	3.2
SF075	7.500	9.000	8.055	8.445	8.610	11,005	4,200	31,743	12,138	9,319	3,958	23,288	9,874	38,413	16,286	3.4
SF080	8.000	9.500	8.555	8.945	9.110	11,733	4,394	33,865	12,670	9,886	4,101	24,694	10,261	43,200	17,967	3.5
SF090	9.000	10.500	9.555	9.945	10.108	13,190	4,752	38,091	13,700	11,004	4,410	27,513	11,032	53,648	21,511	3.9
SF100	10.000	11.500	10.555	10.945	11.106	14,421	5,030	41,621	14,532	12,138	4,715	30,339	11,778	65,217	25,314	4.3
SF110	11.000	12.500	11.555	11.945	12.106	15,883	5,374	45,852	15,506	13,260	5,007	33,159	12,499	77,912	29,357	4.8
SF120	12.000	13.500	12.555	12.945	13.104	17,100	5,641	49,382	16,293	14,390	5,286	35,975	13,193	91,735	33,634	5.2
SF140	14.000	15.500	14.555	14.945	15.102	19,792	6,221	57,142	17,951	16,651	5,812	41,621	14,531	122,802	42,881	6.0
SF160	16.000	17.500	16.555	16.945	17.098	22,483	6,772	64,891	19,543	18,902	6,333	47,264	15,823	158,302	53,002	7.1
SF180	18.000	19.500	18.555	18.945	19.096	25,412	7,351	73,363	21,212	21,163	6,822	52,902	17,062	198,403	63,963	7.9
SF200	20.000	21.500	20.555	20.945	21.092	28,102	7,863	81,123	22,683	23,421	7,303	58,551	18,253	243,002	75,731	8.9
SF250	25.000	26.500	25.555	25.945	26.085	34,703	9,043	100,204	26,102	29,063	8,434	72,653	21,072	374,201	108,502	10.9
SF300	30.000	31.500	30.555	30.945	31.075	41,541	10,191	119,902	29,433	34,702	9,491	86,763	23,723	533,604	145,904	13.0
SF350	35.000	36.500	35.555	35.945	36.064	48,383	11,291	139,702	32,581	40,353	10,492	100,902	26,221	721,203	187,502	15.1

Note 1. Load capacities shown in this catalog are not additive

Note 2. The maximum shaft or housing fillet radius that the bearing corners will clear for this series is .080.

Note 3. Race Width Tolerance—
Single Type C, X, A Bearings:
Up thru 12" Bearing Bore +.000 –.005
Over 12" Bearing Bore +.000 –.010

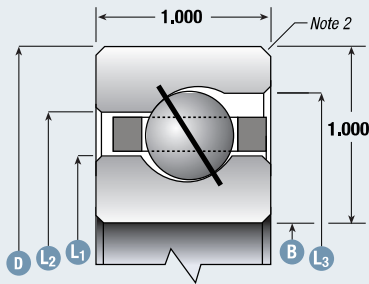
KAYDON Part No.	SILVERTHIN™ Part No.	KAYDON Part No.	SILVERTHIN™ Part No.
KF040ARO	SF040ARO	KF090ARO	SF090ARO
KF042ARO	SF042ARO	KF100ARO	SF100ARO
KF045ARO	SF045ARO	KF110ARO	SF110ARO
KF047ARO	SF047ARO	KF120ARO	SF120ARO
KF050ARO	SF050ARO	KF140ARO	SF140ARO
KF055ARO	SF055ARO	KF160ARO	SF160ARO
KF060ARO	SF060ARO	KF180ARO	SF180ARO
KF065ARO	SF065ARO	KF200ARO	SF200ARO
KF070ARO	SF070ARO	KF250ARO	SF250ARO
KF075ARO	SF075ARO	KF300ARO	SF300ARO
KF080ARO	SF080ARO	KF350ARO	SF350ARO

KAYDON Part No.	SILVERTHIN™ Part No.	KAYDON Part No.	SILVERTHIN™ Part No.
KF040CPO	SF040CPO	KF090CPO	SF090CPO
KF042CPO	SF042CPO	KF100CPO	SF100CPO
KF045CPO	SF045CPO	KF110CPO	SF110CPO
KF047CPO	SF047CPO	KF120CPO	SF120CPO
KF050CPO	SF050CPO	KF140CPO	SF140CPO
KF055CPO	SF055CPO	KF160CPO	SF160CPO
KF060CPO	SF060CPO	KF180CPO	SF180CPO
KF065CPO	SF065CPO	KF200CPO	SF200CPO
KF070CPO	SF070CPO	KF250CPO	SF250CPO
KF075CPO	SF075CPO	KF300CPO	SF300CPO
KF080CPO	SF080CPO	KF350CPO	SF350CPO

KAYDON Part No.	SILVERTHIN™ Part No.	KAYDON Part No.	SILVERTHIN™ Part No.
KF040XPO	SF040XPO	KF090XPO	SF090XPO
KF042XPO	SF042XPO	KF100XPO	SF100XPO
KF045XPO	SF045XPO	KF110XPO	SF110XPO
KF047XPO	SF047XPO	KF120XPO	SF120XPO
KF050XPO	SF050XPO	KF140XPO	SF140XPO
KF055XPO	SF055XPO	KF160XPO	SF160XPO
KF060XPO	SF060XPO	KF180XPO	SF180XPO
KF065XPO	SF065XPO	KF200XPO	SF200XPO
KF070XPO	SF070XPO	KF250XPO	SF250XPO
KF075XPO	SF075XPO	KF300XPO	SF300XPO
KF080XPO	SF080XPO	KF350XPO	SF350XPO

Type A Angular Contact

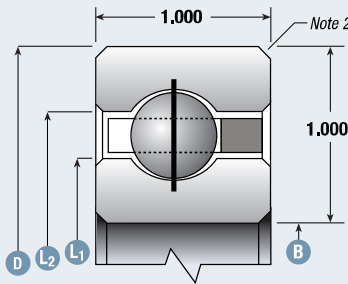
Brass circular pocket separator standard
1/2" balls



Std. Part No.: **SG [] [] ARO**

Type C Radial Contact

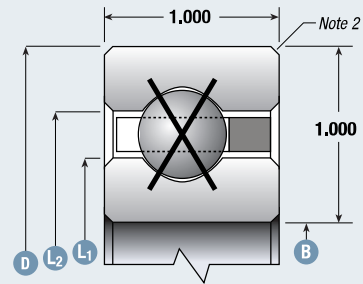
Brass snapover separator standard
1/2" balls



Std. Part No.: **SG [] [] CPO**

Type X Four-Point Contact

Brass snapover separator standard
1/2" balls



Std. Part No.: **SG [] [] XPO**

SILVERTHIN™ PART NUMBER	DIMENSIONS IN INCHES					CAPACITIES IN POUNDS										APPROX WEIGHT POUNDS
	BORE B	OUTSIDE DIA D	LAND DIA L ₁	LAND DIA L ₂	C'BORE DIA L ₃	TYPE A				TYPE C & X		TYPE X				
						RADIAL		THRUST		RADIAL		THRUST		MOMENT (Lbs-in)		
						STATIC	DYN	STATIC	DYN	STATIC	DYN	STATIC	DYN	STATIC	DYN	
SG 040	4.000	6.000	4.742	5.258	5.491	9,480	4,722	27,363	13,634	8,210	4,508	20,524	11,262	20,53	11,261	3.6
SG 042	4.250	6.250	4.992	5.508	5.741	9,955	4,880	28,733	14,097	8,212	4,508	20,520	11,264	21,552	11,821	3.8
SG 045	4.500	6.500	5.242	5.758	5.989	10,430	5,032	30,104	14,539	8,764	4,702	21,892	11,753	24,087	12,923	4.0
SG 047	4.750	6.750	5.492	6.008	6.239	10,902	5,189	31,467	14,973	9,306	4,898	23,263	12,234	26,745	14,074	4.1
SG 050	5.000	7.000	5.742	6.258	6.489	11,374	5,332	32,830	15,402	9,853	5,081	24,621	12,714	29,557	15,255	4.3
SG 055	5.500	7.500	6.242	6.758	6.989	12,327	5,635	35,578	16,243	10,402	5,270	25,992	13,183	33,796	17,133	4.7
SG 060	6.000	8.000	6.742	7.258	7.489	13,272	5,912	38,304	17,062	11,493	5,632	28,733	14,099	40,221	19,720	5.1
SG 065	6.500	8.500	7.242	7.758	7.987	14,225	6,196	41,045	17,878	12,040	5,812	30,107	14,533	45,145	21,795	5.4
SG 070	7.000	9.000	7.742	8.258	8.487	15,161	6,461	43,782	18,653	13,132	6,168	32,837	15,401	52,534	24,635	5.8
SG 075	7.500	9.500	8.242	8.758	8.987	16,116	6,735	46,518	19,420	13,681	6,330	34,204	15,826	58,148	26,902	6.1
SG 080	8.000	10.000	8.742	9.258	9.485	17,069	6,996	49,250	20,181	14,773	6,664	36,943	16,656	66,483	29,987	6.5
SG 090	9.000	11.000	9.742	10.258	10.485	18,963	7,509	54,727	21,648	16,422	7,150	41,044	17,879	82,083	35,736	7.2
SG 100	10.000	12.000	10.742	11.258	11.483	20,855	7,990	60,192	23,064	18,068	7,627	45,148	19,043	99,326	41,880	7.9
SG 110	11.000	13.000	11.742	12.258	12.481	22,753	8,473	65,664	24,445	19,704	8,078	49,255	20,180	118,202	48,423	8.6
SG 120	12.000	14.000	12.742	13.258	13,481	24,640	8,933	71,147	25,788	21,347	8,513	53,355	21,283	138,706	55,334	9.3
SG 140	14.000	16.000	14.742	15.258	15,478	28,431	9,822	82,083	28,362	24,623	9,363	61,561	23,412	184,702	70,231	10.8
SG 160	16.000	18.000	16.742	17.258	17,474	32,222	10,683	93,022	30,833	27,912	10,181	69,773	25,452	237,203	86,533	12.3
SG 180	18.000	20.000	18.742	19.258	19,472	36,021	11,502	104,003	33,202	31,193	10,963	77,981	27,412	296,302	104,101	13.7
SG 200	20.000	22.000	20.742	21.258	21,468	39,812	12,302	114,902	35,491	34,471	11,722	86,183	29,303	362,002	123,103	15.8
SG 250	25.000	27.000	25.742	26.258	26,461	49,282	14,181	142,302	40,921	42,683	13,512	106,702	33,781	554,904	175,702	19.5
SG 300	30.000	32.000	30.742	31.258	31,451	58,763	15,941	169,603	46,023	50,891	15,194	127,204	37,981	788,803	235,503	23.3
SG 350	35.000	37.000	35.742	36.258	36,440	68,242	17,613	197,002	50,844	59,102	16,793	147,703	41,9711	1,064,002	302,202	27.1

Note 1. Load capacities shown in this catalog are not additive

Note 2. The maximum shaft or housing fillet radius that the bearing corners will clear for this series is .080.

Note 3. Race Width Tolerance—
Single Type C, X, A Bearings:
Up thru 12" Bearing Bore +.000 - .005
Over 12" Bearing Bore +.000 - .010

Type A Interchange

KAYDON Part No.	SILVERTHIN™ Part No.	KAYDON Part No.	SILVERTHIN™ Part No.
KG040ARO	SG040ARO	KG090ARO	SG090ARO
KG042ARO	SG042ARO	KG100ARO	SG100ARO
KG045ARO	SG045ARO	KG110ARO	SG110ARO
KG047ARO	SG047ARO	KG120ARO	SG120ARO
KG050ARO	SG050ARO	KG140ARO	SG140ARO
KG055ARO	SG055ARO	KG160ARO	SG160ARO
KG060ARO	SG060ARO	KG180ARO	SG180ARO
KG065ARO	SG065ARO	KG200ARO	SG200ARO
KG070ARO	SG070ARO	KG250ARO	SG250ARO
KG075ARO	SG075ARO	KG300ARO	SG300ARO
KG080ARO	SG080ARO	KG350ARO	SG350ARO

Type C Interchange

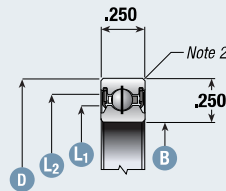
KAYDON Part No.	SILVERTHIN™ Part No.	KAYDON Part No.	SILVERTHIN™ Part No.
KG040CPO	SG040CPO	KG090CPO	SG090CPO
KG042CPO	SG042CPO	KG100CPO	SG100CPO
KG045CPO	SG045CPO	KG110CPO	SG110CPO
KG047CPO	SG047CPO	KG120CPO	SG120CPO
KG050CPO	SG050CPO	KG140CPO	SG140CPO
KG055CPO	SG055CPO	KG160CPO	SG160CPO
KG060CPO	SG060CPO	KG180CPO	SG180CPO
KG065CPO	SG065CPO	KG200CPO	SG200CPO
KG070CPO	SG070CPO	KG250CPO	SG250CPO
KG075CPO	SG075CPO	KG300CPO	SG300CPO
KG080CPO	SG080CPO	KG350CPO	SG350CPO

Type X Interchange

KAYDON Part No.	SILVERTHIN™ Part No.	KAYDON Part No.	SILVERTHIN™ Part No.
KG040XPO	SG040XPO	KG090XPO	SG090XPO
KG042XPO	SG042XPO	KG100XPO	SG100XPO
KG045XPO	SG045XPO	KG110XPO	SG110XPO
KG047XPO	SG047XPO	KG120XPO	SG120XPO
KG050XPO	SG050XPO	KG140XPO	SG140XPO
KG055XPO	SG055XPO	KG160XPO	SG160XPO
KG060XPO	SG060XPO	KG180XPO	SG180XPO
KG065XPO	SG065XPO	KG200XPO	SG200XPO
KG070XPO	SG070XPO	KG250XPO	SG250XPO
KG075XPO	SG075XPO	KG300XPO	SG300XPO
KG080XPO	SG080XPO	KG350XPO	SG350XPO

Type C Radial Contact

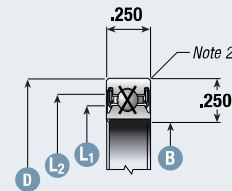
Brass Snapover separator standard
1/8" balls



Std. Part No.: **JSA [] [] CPO**

Type X Four-Point Contact

Brass Snapover separator standard
1/8" balls



Std. Part No.: **JSA [] [] XPO**

SILVERTHIN™ PART NUMBER	DIMENSIONS IN INCHES				CAPACITIES IN POUNDS						TYPE C LIMITING SPEEDS (RPM)	TYPE X LIMITING SPEEDS (RPM)	TORQUE MAX NO LOAD (Oz-in)	APPROX WEIGHT POUNDS
	BORE B	OUTSIDE DIA D	LAND DIA		TYPE C & X RADIAL		TYPE X THRUST		TYPE X MOMENT (Lbs-in)					
			L ₁	L ₂	STATIC	DYN	STATIC	DYN	STATIC	DYN				
JSA 020	2.000	2.500	2.148	2.356	684	326	1,712	793	770	361			6	.10
JSA 025	2.500	3.000	2.648	2.856	832	360	2,095	912	1,158	509	CONSULT	CONSULT	8	.12
JSA 030	3.000	3.500	3.148	3.356	992	413	2,475	1,010	1,604	662	FACTORY	FACTORY	12	.14
JSA 035	3.500	4.000	3.648	3.856	1,141	456	2,857	1,112	2,138	842			16	.17
JSA0 40	4.000	4.500	4.148	4.356	1,292	481	3,223	1,214	2,740	1,031			20	.19
JSA0 42	4.250	4.750	4.398	4.606	1,374	500	3,412	1,264	3,072	1,133			24	.20
JSA 045	4.500	5.000	4.648	4.856	1,446	524	3,602	1,312	3,423	1,244			28	.21
JSA 047	4.750	5.250	4.898	5.106	1,520	541	3,795	1,356	3,798	1,350			32	.22
JSA 050	5.000	5.500	5.148	5.356	1,591	562	3,982	1,405	4,182	1,464			36	.23
JSA 055	5.500	6.000	5.648	5.856	1,752	599	4,367	1,488	5,022	1,703			44	.25
JSA 060	6.000	6.500	6.148	6.356	1,903	636	4,747	1,578	5,931	1,964			52	.28
JSA 065	6.500	7.000	6.648	6.856	2,051	664	5,122	1,652	6,910	2,236			61	.30

Note 1. Load capacities shown in this catalog are not additive

Note 2. The maximum shaft or housing fillet radius that the bearing corners will clear for this series is .025.

Note 3. Race Width Tolerance— +.000 –.005
Single Type C, X, A Bearings



The arrow on the OD of the bearing should be used to verify correct bearing orientation in relation to the retainer. When the bearing is installed horizontally, up to 45° of the vertical axis, the arrow should be pointing "UP".

This is recommended for proper retainer function.

- Standard seals are Buna N rubber-metal reinforced
- Standard lubricant is 20–30% fill of MIL-G-81322 grease

Type C Interchange

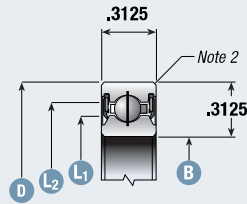
KAYDON Part No.	SILVERTHIN™ Part No.
JA040CPO	JSA020CPO
JA025CPO	JSA025CPO
JA030CPO	JSA030CPO
JA035CPO	JSA035CPO
JA040CPO	JSA040CPO
JA042CPO	JSA042CPO
JA045CPO	JSA045CPO
JA047CPO	JSA047CPO
JA050CPO	JSA050CPO
JA055CPO	JSA055CPO
JA060CPO	JSA060CPO
JA065CPO	JSA065CPO

Type X Interchange

KAYDON Part No.	SILVERTHIN™ Part No.
JA040XPO	JSA020XPO
JA025XPO	JSA025XPO
JA030XPO	JSA030XPO
JA035XPO	JSA035XPO
JA040XPO	JSA040XPO
JA042XPO	JSA042XPO
JA045XPO	JSA045XPO
JA047XPO	JSA047XPO
JA050XPO	JSA050XPO
JA055XPO	JSA055XPO
JA060XPO	JSA060XPO
JA065XPO	JSA065XPO

Type C Radial Contact

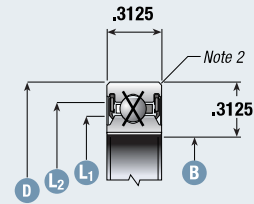
Brass Snapover separator standard
5/32" balls



Std. Part No.: **JSB-XXX-CPO**

Type X Four-Point Contact

Brass Snapover separator standard
5/32" balls



Std. Part No.: **JSB-XXX-XPO**

SILVERTHIN™ PART NUMBER	DIMENSIONS IN INCHES				CAPACITIES IN POUNDS						TYPE C LIMITING SPEEDS (RPM)	TYPE X LIMITING SPEEDS (RPM)	TORQUE MAX NO LOAD (Oz-in)	APPROX WEIGHT POUNDS
	BORE B	OUTSIDE DIA D	LAND DIA		TYPE C & X		TYPE X							
			L ₁	L ₂	RADIAL		THRUST		MOMENT (Lbs-in)					
					STATIC	DYN	STATIC	DYN	STATIC	DYN				
JSB 0 20	2.000	2.625	2.136	2.362	933	451	2,348	1,132	1,080	523	CONSULT	CONSULT	6	.15
JSB 0 25	2.500	3.125	2.636	2.862	1,141	522	2,847	1,293	1,602	736	FACTORY	FACTORY	8	.19
JSB 0 30	3.000	3.625	3.136	3.362	1,345	588	3,355	1,443	2,222	968			12	.22
JSB 0 35	3.500	4.125	3.636	3.862	1,540	634	3,866	1,597	2,941	1,215			16	.27
JSB 0 40	4.000	4.625	4.136	4.362	1,751	696	4,379	1,721	3,773	1,493			20	.30
JSB 0 42	4.250	4.875	4.386	4.662	1,832	713	4,573	1,785	4,175	1,627			24	.31
JSB 0 45	4.500	5.125	4.636	4.862	1,957	748	4,883	1,855	4,690	1,789			28	.34
JSB 0 47	4.750	5.375	4.886	5.162	2,033	760	5,084	1,900	5,141	1,934			32	.35
JSB 0 50	5.000	5.625	5.136	5.362	2,158	791	5,386	1,982	5,722	2,105			36	.37
JSB 0 55	5.500	6.125	5.636	5.862	2,364	849	5,896	2,103	6,852	2,441			44	.40
JSB 0 60	6.000	6.625	6.136	6.362	2,562	898	6,403	2,223	8,086	2,800			52	.44
JSB 0 65	6.500	7.125	6.636	6.862	2,761	932	6,913	2,347	9,414	3,186			61	.47

Note 1. Load capacities shown in this catalog are not additive

Note 2. The maximum shaft or housing fillet radius that the bearing corners will clear for this series is .040.

Note 3. Race Width Tolerance— +.000 –.005
Single Type C, X, A Bearings



The arrow on the OD of the bearing should be used to verify correct bearing orientation in relation to the retainer. When the bearing is installed horizontally, up to 45° of the vertical axis, the arrow should be pointing "UP". This is recommended for proper retainer function.

- Standard seals are Buna N rubber-metal reinforced
- Standard lubricant is 20–30% fill of MIL-G-81322 grease

Type C Interchange

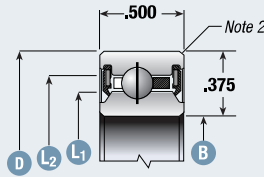
KAYDON Part No.	SILVERTHIN™ Part No.
JB040CPO	JSB020CPO
JB025CPO	JSB025CPO
JB030CPO	JSB030CPO
JB035CPO	JSB035CPO
JB040CPO	JSB040CPO
JB042CPO	JSB042CPO
JB045CPO	JSB045CPO
JB047CPO	JSB047CPO
JB050CPO	JSB050CPO
JB055CPO	JSB055CPO
JB060CPO	JSB060CPO
JB065CPO	JSB065CPO

Type X Interchange

KAYDON Part No.	SILVERTHIN™ Part No.
JB040XPO	JSB020XPO
JB025XPO	JSB025XPO
JB030XPO	JSB030XPO
JB035XPO	JSB035XPO
JB040XPO	JSB040XPO
JB042XPO	JSB042XPO
JB045XPO	JSB045XPO
JB047XPO	JSB047XPO
JB050XPO	JSB050XPO
JB055XPO	JSB055XPO
JB060XPO	JSB060XPO
JB065XPO	JSB065XPO

Type C Radial Contact

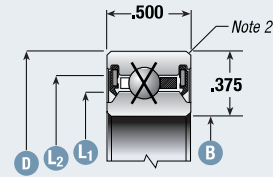
Brass Snapover separator standard
3/16" balls



Std. Part No.: JSU--CPO

Type X Four-Point Contact

Brass Snapover separator standard
3/16" balls



Std. Part No.: JSU--XPO

SILVERTHIN™ PART NUMBER	DIMENSIONS IN INCHES				CAPACITIES IN POUNDS						TYPE C LIMITING SPEEDS (RPM)	TYPE X LIMITING SPEEDS (RPM)	TORQUE MAX NO LOAD (Lbs-In)	APPROX WEIGHT POUNDS
	BORE B	OUTSIDE DIA D	LAND DIA L ₁	LAND DIA L ₂	TYPE C & X		TYPE X							
					RADIAL		THRUST		MOMENT (Lbs-in)					
					STATIC	DYN	STATIC	DYN	STATIC	DYN				
JSU 040	4.000	4.750	4.150	4.547	2,103	881	5,262	2,216	4,608	1,932	CONSULT	CONSULT	2.9	.55
JSU 042	4.250	5.000	4.400	4.797	2,220	923	5,562	2,295	5,145	2,124	FACTORY	FACTORY	3.2	.58
JSU 045	4.500	5.250	4.650	5.047	2,342	957	5,864	2,386	5,718	2,322			3.5	.61
JSU 047	4.750	5.500	4.900	5.295	2,467	986	6,162	2,461	6,320	2,523			3.9	.65
JSU 050	5.000	5.750	5.150	5.545	2,595	1,015	6,467	2,549	6,953	2,732			4.3	.68
JSU 055	5.500	6.250	5.650	6.042	2,832	1,088	7,066	2,691	8,301	3,162			5.1	.74
JSU 060	6.000	6.750	6.150	6.542	3,071	1,144	7,668	2,843	9,772	3,622			6.1	.81
JSU 065	6.500	7.250	6.650	7.037	3,319	1,209	8,273	2,997	11,374	4,111			7.0	.87
JSU 070	7.000	7.750	7.150	7.537	3,558	1,252	8,870	3,138	13,089	4,627			8.1	.93
JSU 075	7.500	8.250	7.650	8.037	3,796	1,317	9,472	3,271	14,912	5,150			9.2	.99
JSU 080	8.000	8.750	8.150	8.537	4,033	1,368	10,076	3,417	16,878	5,713			10.4	1.06
JSU 090	9.000	9.750	9.150	9.535	4,510	1,471	11,272	3,675	21,132	6,891			13.0	1.18
JSU 100	10.000	10.750	10.150	10.535	4,991	1,576	12,479	3,933	25,888	8,162			16.0	1.31
JSU 110	11.000	11.750	11.150	11.535	5,474	1,671	13,683	4,181	31,110	9,511			19.2	1.43
JSU 120	12.000	12.750	12.150	12.535	5,952	1,776	14,884	4,428	36,832	10,944			22.8	1.56

Note 1. Load capacities shown in this catalog are not additive

Note 2. The maximum shaft or housing fillet radius that the bearing corners will clear for this series is .015.

Note 3. Race Width Tolerance— +.000 –.005
Single Type C, X, A Bearings



The arrow on the OD of the bearing should be used to verify correct bearing orientation in relation to the retainer. When the bearing is installed horizontally, up to 45° of the vertical axis, the arrow should be pointing "UP".

This is recommended for proper retainer function.

- Standard seals are Buna N rubber-metal reinforced
- Standard lubricant is 20–30% fill of MIL-G-81322 grease

Type C Interchange

KAYDON Part No.	SILVERTHIN™ Part No.	KAYDON Part No.	SILVERTHIN™ Part No.
JU040CPO	JSU040CPO	JU070CPO	JSU070CPO
JU042CPO	JSU042CPO	JU075CPO	JSU075CPO
JU045CPO	JSU045CPO	JU080CPO	JSU080CPO
JU047CPO	JSU047CPO	JU090CPO	JSU090CPO
JU050CPO	JSU050CPO	JU100CPO	JSU100CPO
JU055CPO	JSU055CPO	JU110CPO	JSU110CPO
JU060CPO	JSU060CPO	JU120CPO	JSU120CPO
JU065CPO	JSU065CPO		

Type X Interchange

KAYDON Part No.	SILVERTHIN™ Part No.	KAYDON Part No.	SILVERTHIN™ Part No.
JU040XPO	JSU040XPO	JU070XPO	JSU070XPO
JU042XPO	JSU042XPO	JU075XPO	JSU075XPO
JU045XPO	JSU045XPO	JU080XPO	JSU080XPO
JU047XPO	JSU047XPO	JU090XPO	JSU090XPO
JU050XPO	JSU050XPO	JU100XPO	JSU100XPO
JU055XPO	JSU055XPO	JU110XPO	JSU110XPO
JU060XPO	JSU060XPO	JU120XPO	JSU120XPO
JU065XPO	JSU065XPO		

Type C Precision Class 1 (Ref. ABEC 1F)

For standard clearance bearings only

Bearing Size (All Sizes)	Bearing Diameters		Radial & Axial Runout		Rotating Shaft or Duplex F Mounting		Stationary Shaft or Duplex B Mounting				Standard Bearing Diametral Clearance*	
	Bearing Bore Nominal +.0000	Bearing O.D. Nominal +.0000	Inner Race Radial & Axial	Outer Race Radial & Axial	Shaft Diameter	Housing Bore	Shaft Diameter		Housing Bore		Before Installation	
					Nominal +.0000	Nominal +.0000	Nominal		Nominal			
10	-.0004	-.0005	.0005	.0008	+0.004	+0.005	-.0004	-.0008	-.0005	-.0010	.0010	.0016
15	-.0005	-.0005	.0006	.0008	+0.005	+0.005	-.0005	-.0010	-.0005	-.0010	.0012	.0018
17	-.0006	-.0005	.0008	.0010	+0.006	+0.005	-.0006	-.0012	-.0005	-.0010	.0012	.0024
020	-.0006	-.0005	.0008	.0010	+0.006	+0.005	-.0006	-.0012	-.0005	-.0010	.0012	.0024
025	-.0006	-.0005	.0008	.0010	+0.006	+0.005	-.0006	-.0012	-.0005	-.0010	.0012	.0024
030	-.0006	-.0006	.0008	.0010	+0.006	+0.006	-.0006	-.0012	-.0006	-.0012	.0012	.0024
035	-.0008	-.0006	.0010	.0012	+0.008	+0.006	-.0008	-.0016	-.0006	-.0012	.0016	.0028
040	-.0008	-.0006	.0010	.0012	+0.008	+0.006	-.0008	-.0016	-.0006	-.0012	.0016	.0028
042	-.0008	-.0008	.0010	.0014	+0.008	+0.008	-.0008	-.0016	-.0008	-.0016	.0016	.0028
045	-.0008	-.0008	.0010	.0014	+0.008	+0.008	-.0008	-.0016	-.0008	-.0016	.0016	.0028
047	-.0010	-.0008	.0008	.0014	+0.010	+0.008	-.0010	-.0020	-.0008	-.0016	.0020	.0034
050	-.0010	-.0008	.0012	.0014	+0.010	+0.008	-.0010	-.0020	-.0008	-.0016	.0020	.0034
055	-.0010	-.0010	.0012	.0016	+0.010	+0.010	-.0010	-.0020	-.0010	-.0020	.0020	.0034
060	-.0010	-.0010	.0012	.0016	+0.010	+0.010	-.0010	-.0020	-.0010	-.0020	.0020	.0034
065	-.0010	-.0010	.0012	.0016	+0.010	+0.010	-.0010	-.0020	-.0010	-.0020	.0020	.0034
070	-.0010	-.0012	.0012	.0016	+0.010	+0.012	-.0010	-.0020	-.0012	-.0024	.0020	.0034
075	-.0012	-.0012	.0016	.0018	+0.012	+0.012	-.0012	-.0024	-.0012	-.0024	.0024	.0042
080	-.0012	-.0012	.0016	.0018	+0.012	+0.012	-.0012	-.0024	-.0012	-.0024	.0024	.0042
090	-.0012	-.0012	.0016	.0018	+0.012	+0.012	-.0012	-.0024	-.0012	-.0024	.0024	.0042
100	-.0014	-.0014	.0018	.0020	+0.014	+0.014	-.0014	-.0028	-.0014	-.0028	.0028	.0048
110	-.0014	-.0014	.0018	.0020	+0.014	+0.014	-.0014	-.0028	-.0014	-.0028	.0028	.0048
120	-.0014	-.0014	.0018	.0020	+0.014	+0.014	-.0014	-.0028	-.0014	-.0028	.0028	.0048
140	-.0016	-.0016	.0018	.0020	+0.016	+0.016	-.0016	-.0032	-.0016	-.0032	.0032	.0052
160	-.0018	-.0018	.0018	.0020	+0.018	+0.018	-.0018	-.0036	-.0018	-.0036	.0036	.0056
180	-.0018	-.0018	.0020	.0020	+0.018	+0.018	-.0018	-.0036	-.0018	-.0036	.0036	.0056
200	-.0020	-.0020	.0020	.0020	+0.020	+0.020	-.0020	-.0040	-.0020	-.0040	.0040	.0060
250	-.0030	-.0030	.0020	.0020	+0.030	+0.030	-.0030	-.0060	-.0030	-.0060	.0060	.0080
300	-.0030	-.0030	.0020	.0020	+0.030	+0.030	-.0030	-.0060	-.0030	-.0060	.0060	.0080
350	-.0040	-.0040	.0020	.0020	+0.040	+0.040	-.0040	-.0080	-.0040	-.0080	.0080	.0100

- Tolerances for shaft and housing are for steel material under normal ambient conditions
- Diametral clearance after installation could vary significantly if bearing, housing, and shaft tolerances are at either end of their range.
- Race Width Tolerance Single Type C, X, A Bearings:
 Up thru 12" Bearing Bore +.000 - .005
 Over 12" Bearing Bore +.000 - .010

Type A & X Precision Class 1 (Ref. ABEC 1F)

For standard clearance bearings only

Bearing Size (All Sizes)	Bearing Diameters		Radial & Axial Runout		Rotating Shaft or Duplex F Mounting		Stationary Shaft or Duplex B Mounting				Standard Bearing Diametral Clearance* Type X Only	
	Bearing Bore Nominal +.0000	Bearing O.D. Nominal +.0000	Inner Race Radial & Axial	Outer Race Radial & Axial	Shaft Diameter	Housing Bore	Shaft Diameter		Housing Bore		Before Installation	
					Nominal +.0000	Nominal +.0000	Nominal		Nominal			
10	-.0004	-.0005	.0003	.0004	+.0004	+.0005	-.0004	-.0008	-.0005	-.0010	.0010	.0015
15	-.0005	-.0005	.0004	.0004	+.0005	+.0005	-.0005	-.0010	-.0005	-.0010	.0012	.0017
17	-.0006	-.0005	.0005	.0005	+.0006	+.0005	-.0006	-.0012	-.0005	-.0010	.0012	.0022
020	-.0006	-.0005	.0005	.0005	+.0006	+.0005	-.0006	-.0012	-.0005	-.0010	.0012	.0022
025	-.0006	-.0005	.0005	.0005	+.0006	+.0005	-.0006	-.0012	-.0005	-.0010	.0012	.0022
030	-.0006	-.0006	.0006	.0006	+.0006	+.0006	-.0006	-.0012	-.0006	-.0012	.0012	.0022
035	-.0008	-.0006	.0006	.0006	+.0008	+.0006	-.0008	-.0016	-.0006	-.0012	.0016	.0026
040	-.0008	-.0006	.0006	.0006	+.0008	+.0006	-.0008	-.0016	-.0006	-.0012	.0016	.0026
042	-.0008	-.0008	.0008	.0008	+.0008	+.0008	-.0008	-.0016	-.0008	-.0016	.0016	.0026
045	-.0008	-.0008	.0008	.0008	+.0008	+.0008	-.0008	-.0016	-.0008	-.0016	.0016	.0026
047	-.0010	-.0008	.0008	.0008	+.0010	+.0008	-.0010	-.0020	-.0008	-.0016	.0020	.0030
050	-.0010	-.0008	.0008	.0008	+.0010	+.0008	-.0010	-.0020	-.0008	-.0016	.0020	.0030
055	-.0010	-.0010	.0010	.0010	+.0010	+.0010	-.0010	-.0020	-.0010	-.0020	.0020	.0030
060	-.0010	-.0010	.0010	.0010	+.0010	+.0010	-.0010	-.0020	-.0010	-.0020	.0020	.0030
065	-.0010	-.0010	.0010	.0010	+.0010	+.0010	-.0010	-.0020	-.0010	-.0020	.0020	.0030
070	-.0010	-.0012	.0010	.0010	+.0010	+.0012	-.0010	-.0020	-.0012	-.0024	.0020	.0030
075	-.0012	-.0012	.0012	.0012	+.0012	+.0012	-.0012	-.0024	-.0012	-.0024	.0024	.0034
080	-.0012	-.0012	.0012	.0012	+.0012	+.0012	-.0012	-.0024	-.0012	-.0024	.0024	.0034
090	-.0012	-.0012	.0012	.0012	+.0012	+.0012	-.0012	-.0024	-.0012	-.0024	.0024	.0034
100	-.0014	-.0014	.0014	.0014	+.0014	+.0014	-.0014	-.0028	-.0014	-.0028	.0028	.0038
110	-.0014	-.0014	.0014	.0014	+.0014	+.0014	-.0014	-.0028	-.0014	-.0028	.0028	.0038
120	-.0014	-.0014	.0014	.0014	+.0014	+.0014	-.0014	-.0028	-.0014	-.0028	.0028	.0038
140	-.0014	-.0014	.0014	.0014	+.0014	+.0014	-.0014	-.0028	-.0014	-.0028	.0028	.0038
160	-.0016	-.0016	.0016	.0016	+.0016	+.0016	-.0016	-.0032	-.0016	-.0032	.0032	.0042
180	-.0016	-.0016	.0016	.0016	+.0016	+.0016	-.0016	-.0032	-.0016	-.0032	.0032	.0042
200	-.0018	-.0018	.0018	.0018	+.0018	+.0018	-.0018	-.0036	-.0018	-.0036	.0036	.0046
220	-.0018	-.0018	.0018	.0018	+.0018	+.0018	-.0018	-.0036	-.0018	-.0036	.0036	.0046
250	-.0018	-.0018	.0018	.0018	+.0018	+.0018	-.0018	-.0036	-.0018	-.0036	.0036	.0046
300	-.0018	-.0018	.0018	.0018	+.0018	+.0018	-.0018	-.0036	-.0018	-.0036	.0036	.0046
350	-.0020	-.0020	.0020	.0020	+.0020	+.0020	-.0020	-.0040	-.0020	-.0040	.0040	.0050

- Tolerances for shaft and housing are for steel material under normal ambient conditions
- Diametral clearance after installation could vary significantly if bearing, housing, and shaft tolerances are at either end of their range.
- Total Width Tolerance Duplexed Type A Bearings:
 - Up thru 2" Bearing Bore +.000 - .020
 - Over 2" thru 5" Bore +.000 - .030
 - Over 5" thru 14" Bore +.000 - .040
 - Over 14" Bore +.000 - .050
- Race Width Tolerance Single Type C, X, A Bearings:
 - Up thru 12" Bearing Bore +.000 - .005
 - Over 12" Bearing Bore +.000 - .010

Type A, C & X Precision Class 3 (Ref. ABEC 3F)

For standard clearance bearings only

Bearing Size (All Sizes)	Bearing Diameters		Radial & Axial Runout		Rotating Shaft or Duplex F Mounting		Stationary Shaft or Duplex B Mounting				Standard Bearing Diametral Clearance* Type X & C Only	
	Bearing Bore	Bearing O.D.	Inner Race Radial & Axial	Outer Race Radial & Axial	Shaft Diameter	Housing Bore	Shaft Diameter	Housing Bore		Before Installation		
	Nominal +.0000	Nominal +.0000			Nominal +.0000	Nominal +.0000		Nominal				
10	-.0002	-.0003	.0003	.0004	+.0002	+.0003	-.0002	-.0004	-.0003	-.0006	.0007	.0011
15	-.0003	-.0003	.0004	.0004	+.0003	+.0003	-.0003	-.0006	-.0003	-.0006	.0008	.0012
17	-.0004	-.0004	.0004	.0005	+.0004	+.0004	-.0004	-.0008	-.0004	-.0008	.0008	.0018
020	-.0004	-.0004	.0004	.0005	+.0004	+.0004	-.0004	-.0008	-.0004	-.0008	.0008	.0018
025	-.0004	-.0004	.0004	.0005	+.0004	+.0004	-.0004	-.0008	-.0004	-.0008	.0008	.0018
030	-.0004	-.0004	.0004	.0006	+.0004	+.0004	-.0004	-.0008	-.0004	-.0008	.0008	.0018
035	-.0005	-.0004	.0005	.0006	+.0005	+.0004	-.0005	-.0010	-.0004	-.0008	.0010	.0020
040	-.0005	-.0004	.0005	.0006	+.0005	+.0004	-.0005	-.0010	-.0004	-.0008	.0010	.0020
042	-.0005	-.0005	.0005	.0008	+.0005	+.0005	-.0005	-.0010	-.0005	-.0010	.0010	.0020
045	-.0005	-.0005	.0005	.0008	+.0005	+.0005	-.0005	-.0010	-.0005	-.0010	.0010	.0020
047	-.0006	-.0005	.0006	.0008	+.0006	+.0005	-.0006	-.0012	-.0005	-.0010	.0012	.0022
050	-.0006	-.0005	.0006	.0008	+.0006	+.0005	-.0006	-.0012	-.0005	-.0010	.0012	.0022
055	-.0006	-.0006	.0006	.0009	+.0006	+.0006	-.0006	-.0012	-.0006	-.0012	.0012	.0022
060	-.0006	-.0006	.0006	.0009	+.0006	+.0006	-.0006	-.0012	-.0006	-.0012	.0012	.0022
065	-.0006	-.0006	.0006	.0009	+.0006	+.0006	-.0006	-.0012	-.0006	-.0012	.0012	.0022
070	-.0006	-.0007	.0006	.0010	+.0006	+.0007	-.0006	-.0012	-.0007	-.0014	.0014	.0024
075	-.0007	-.0007	.0008	.0010	+.0007	+.0007	-.0007	-.0014	-.0007	-.0014	.0014	.0024
080	-.0007	-.0007	.0008	.0010	+.0007	+.0007	-.0007	-.0014	-.0007	-.0014	.0014	.0024
090	-.0007	-.0007	.0008	.0010	+.0007	+.0007	-.0007	-.0014	-.0007	-.0014	.0014	.0024
100	-.0008	-.0008	.0010	.0012	+.0008	+.0008	-.0008	-.0016	-.0008	-.0016	.0016	.0026
110	-.0008	-.0008	.0010	.0012	+.0008	+.0008	-.0008	-.0016	-.0008	-.0016	.0016	.0026
120	-.0008	-.0009	.0010	.0014	+.0008	+.0009	-.0008	-.0016	-.0009	-.0018	.0018	.0028
140	-.0008	-.0009	.0012	.0014	+.0008	+.0009	-.0008	-.0016	-.0009	-.0018	.0018	.0028
160	-.0009	-.0010	.0014	.0016	+.0009	+.0010	-.0009	-.0018	-.0010	-.0020	.0020	.0030
180	-.0009	-.0010	.0014	.0016	+.0009	+.0010	-.0009	-.0018	-.0010	-.0020	.0020	.0030
200	-.0010	-.0012	.0016	.0018	+.0010	+.0012	-.0010	-.0020	-.0012	-.0024	.0024	.0034

- Tolerances for shaft and housing are for steel material under normal ambient conditions
- Diametral clearance after installation could vary significantly if bearing, housing, and shaft tolerances are at either end of their range.
- Total Width Tolerance—Duplexed Type A Bearings:
 - Up thru 2" Bearing Bore +.000 - .020
 - Over 2" thru 5" Bore +.000 - .030
 - Over 5" thru 14" Bore +.000 - .040
 - Over 14" Bore +.000 - .050
- Race Width Tolerance Single Type C, X, A Bearings:
 - Up thru 12" Bearing Bore +.000 - .005
 - Over 12" Bearing Bore +.000 - .010

Type A, C & X Precision Class 5 (Ref. ABEC 5F)

For standard clearance bearings only

Bearing Size (All Sizes)	Bearing Diameters		Radial & Axial Runout				Rotating Shaft or Duplex F Mounting		Stationary Shaft or Duplex B Mounting				Standard Bearing Diametral Clearance* Type X & C Only	
	Bearing Bore Nominal +.0000	Bearing O.D. Nominal +.0000	Inner Race		Outer Race		Shaft Diameter	Housing Bore	Shaft Diameter		Housing Bore		Before Installation	
			Radial	Axial	Radial	Axial	Nominal +.0000	Nominal +.0000	Nominal		Nominal			
10	-.0002	-.0002	.0002	.0003	.0002	.0003	+.0002	+.0002	-.0002	-.0004	-.0002	-.0004	.0005	.0009
15	-.0002	-.0002	.0002	.0003	.0002	.0003	+.0002	+.0002	-.0002	-.0004	-.0002	-.0004	.0005	.0009
17	-.0003	-.0003	.0002	.0003	.0003	.0004	+.0003	+.0003	-.0003	-.0006	-.0003	-.0006	.0006	.0012
020	-.0003	-.0003	.0002	.0003	.0003	.0004	+.0003	+.0003	-.0003	-.0006	-.0003	-.0006	.0006	.0012
025	-.0003	-.0003	.0002	.0003	.0003	.0004	+.0003	+.0003	-.0003	-.0006	-.0003	-.0006	.0006	.0012
030	-.0003	-.0003	.0002	.0003	.0004	.0005	+.0003	+.0003	-.0003	-.0006	-.0003	-.0006	.0006	.0012
035	-.0003	-.0003	.0003	.0004	.0004	.0005	+.0003	+.0003	-.0003	-.0006	-.0003	-.0006	.0006	.0012
040	-.0003	-.0003	.0003	.0004	.0004	.0005	+.0003	+.0003	-.0003	-.0016	-.0003	-.0006	.0006	.0012
042	-.0003	-.0004	.0003	.0004	.0004	.0005	+.0003	+.0004	-.0003	-.0006	-.0004	-.0008	.0008	.0014
045	-.0003	-.0004	.0003	.0004	.0004	.0005	+.0003	+.0004	-.0003	-.0006	-.0004	-.0008	.0008	.0014
047	-.0004	-.0004	.0003	.0004	.0004	.0005	+.0004	+.0004	-.0004	-.0008	-.0004	-.0008	.0008	.0014
050	-.0004	-.0004	.0003	.0004	.0004	.0005	+.0004	+.0004	-.0004	-.0008	-.0004	-.0008	.0008	.0014
055	-.0004	-.0005	.0003	.0004	.0005	.0006	+.0004	+.0005	-.0004	-.0008	-.0005	-.0010	.0010	.0016
060	-.0004	-.0005	.0003	.0004	.0005	.0006	+.0004	+.0005	-.0004	-.0008	-.0005	-.0010	.0010	.0016
065	-.0004	-.0005	.0003	.0004	.0005	.0006	+.0004	+.0005	-.0004	-.0008	-.0005	-.0010	.0010	.0016
070	-.0004	-.0005	.0003	.0004	.0005	.0006	+.0004	+.0005	-.0004	-.0008	-.0005	-.0010	.0010	.0016
075	-.0005	-.0005	.0004	.0005	.0005	.0006	+.0005	+.0005	-.0005	-.0010	-.0005	-.0010	.0010	.0016
080	-.0005	-.0005	.0004	.0005	.0005	.0006	+.0005	+.0005	-.0005	-.0010	-.0005	-.0010	.0010	.0016
090	-.0005	-.0005	.0004	.0005	.0005	.0006	+.0005	+.0005	-.0005	-.0010	-.0005	-.0010	.0010	.0016
100	-.0005	-.0005	.0005	.0006	.0006	.0007	+.0005	+.0005	-.0005	-.0010	-.0005	-.0010	.0010	.0016
110	-.0005	-.0005	.0005	.0006	.0006	.0007	+.0005	+.0005	-.0005	-.0010	-.0005	-.0010	.0010	.0016
120	-.0005	-.0006	.0005	.0006	.0007	.0008	+.0005	+.0006	-.0005	-.0010	-.0006	-.0012	.0012	.0018
140	-.0006	-.0006	.0005	.0007	.0007	.0008	+.0006	+.0006	-.0006	-.0012	-.0006	-.0012	.0012	.0018
160	-.0006	-.0007	.0007	.0008	.0008	.0009	+.0006	+.0007	-.0006	-.0012	-.0007	-.0014	.0014	.0020
180	-.0006	-.0007	.0007	.0008	.0008	.0009	+.0006	+.0007	-.0006	-.0012	-.0007	-.0014	.0014	.0020
200	-.0007	-.0008	.0008	.0009	.0009	.0010	+.0007	+.0008	-.0006	-.0014	-.0007	-.0016	.0014	.0022

- Tolerances for shaft and housing are for steel material under normal ambient conditions
- Diametral clearance after installation could vary significantly if bearing, housing, and shaft tolerances are at either end of their range.
- Total Width Tolerance—Duplexed Type A Bearings:
 - Up thru 2" Bearing Bore +.000 –.020
 - Over 2" thru 5" Bore +.000 –.030
 - Over 5" thru 14" Bore +.000 –.040
 - Over 14" Bore +.000 –.050
- Race Width Tolerance Single Type C, X, A Bearings:
 - Up thru 12" Bearing Bore +.000 –.005
 - Over 12" Bearing Bore +.000 –.010