

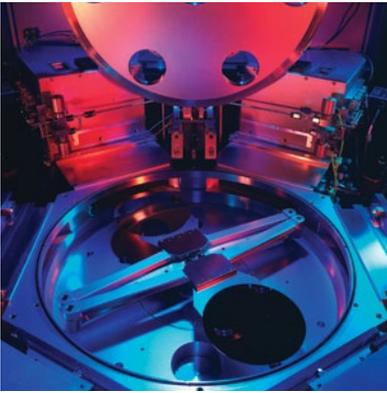
**Stainless Steel**

Reali-Slim® Thin Section Bearings



an SKF Group brand

Kaydon **Thinfinite**®  
bearing solutions  
for Harsh Environments



[www.kaydonbearings.com](http://www.kaydonbearings.com)

# Thin-section bearings that resist corrosion

When an application requires corrosion resistance as well as space and weight savings, stainless steel Reali-Slim® bearings are the answer. Like all of Kaydon's Thinfinite® solutions, they are specially designed with features that assure you of top performance in the most challenging conditions:

- stainless steel races
- brass or non-metallic separators
- stainless steel or ceramic balls
- a range of popular sizes

Stainless steel minimizes the surface degradation and particulate formation (common in harsh environments) that adversely affect performance. Kaydon typically uses AISI 440C stainless steel, for a hardness level of 58 HRC with the load capacity of 52100 chrome steel. Other grades (e.g., 17-4PH) are used as the application demands.

The combination of stainless steel races with ceramic rolling elements (known as a hybrid design) has been shown to produce even more stiffness and lower torque. This further enhances accuracy and repeatability, especially in marginal lube conditions.

## Design flexibility

Like any Reali-Slim bearing, our stainless steel models have a cross-section that stays constant when the bore size changes, minimizing space requirements and bearing weight. This makes it easier for designers to standardize products that must be

produced in multiple sizes.

Stainless steel Reali-Slim bearings are available in three configurations: radial contact (C), angular contact (A) and 4-point contact (X). All are available in open or sealed styles. Standard bore sizes (below) range from 1" to 6", or we can produce a custom size for you.



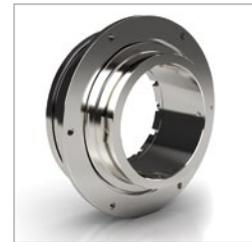
**Open bearings** – keep friction low and are easily cleaned and lubricated



**Ultra-Slim® bearings** – 2.5 mm cross-section fits in the tightest spaces



**Sealed bearings** – seals and/or shields retain lubricant without increasing space requirements



**Custom bearings** – let Kaydon design a thin section bearing to meet your specific needs, up to 72" in diameter

## Stainless Steel Reali-Slim® Series - standard sizes\*



**Type A** = Angular Contact



**Type C** = Radial Contact



**Type X** = Four-Point Contact

Series	Type	Bore Diameter in Inches (standard sizes)							
		1	1½	2	2½	3	3½	4	6
SAA Series 3/16" Radial Section	A	■	■	■	■	■	■	■	■
	C	■	■	■	■	■	■	■	■
	X	■	■	■	■	■	■	■	■
SA Series 1/4" Radial Section	A	■	■	■	■	■	■	■	■
	C	■	■	■	■	■	■	■	■
	X	■	■	■	■	■	■	■	■
SB Series 5/16" Radial Section	A	■	■	■	■	■	■	■	■
	C	■	■	■	■	■	■	■	■
	X	■	■	■	■	■	■	■	■

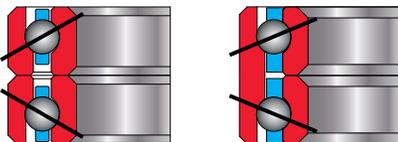
\*Contact Kaydon for lead time and minimum purchase requirement.

# Duplex mountings

These stainless steel bearings can be duplexed when high speed or smooth torque are primary requirements, even as a single bearing.

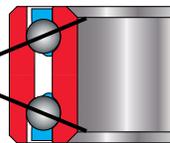
Our **Super Duplex** has a common race (single outer or single inner) with two bearing paths. Since these paths are ground at the same time, they “run out” together and avoid any increases in torque from radial and axial runout variations. This design also improves overall stiffness.

The Kaydon **Cartridge** bearing takes this design a step further, with both a single inner race and a single outer race for optimal torque performance.



Plain Duplex

Super Duplex



Cartridge

# Assemblies

Kaydon is often called upon to apply its considerable experience in high-precision design and manufacturing to products that are integrated with our bearings, such as flanges, gears and ears. We are also known for high-value integrated assemblies featuring bearings and surrounding components, in which the bearing races are integrated into those components.

# Typical applications

Stainless steel Reali-Slim bearings are depended upon in many industries. Here is a representative sampling of our many successful applications.

## Semiconductor



Image courtesy of Rorze Corp.

- Atmospheric and vacuum transfers
- Die bonders
- Lapping equipment
- Pick-and-place robotics
- Photolithography
- Thin-film and vacuum deposition systems
- Wafer etching, scrubbing and polishing
- Wafer inspection and metrology equipment

## Medical



- Blood analyzers
- Centrifuges
- Diagnostic equipment
- Surgical instruments
- Robotics

## Aerospace/Defense



- Airborne cameras
- Aircraft test equipment
- Antennas (airplane, satellite)
- Hubble telescope components
- Mars Rovers – 3 missions
- Pedestals for radar, antenna and satellite dishes
- Navigation and surveillance
- Target systems and tank sights
- Weapons elevation and azimuth positioning

## Machinery



- Astronomy telescope elevation and positioning
- Cleanroom equipment
- Cryogenic test equipment
- Nuclear handling equipment
- Optic lenses, filters and shaft encoders
- Process control metrology systems
- Robotic painting equipment
- Tables – index, rotary
- Thermal imaging equipment

Kaydon  
**Thinfinite**<sup>®</sup>  
bearing  
solutions



Rigorous testing confirms the superior performance of Reali-Slim bearings.

## Why Reali-Slim<sup>®</sup> bearings?

Every Reali-Slim bearing is designed to meet or exceed specific application requirements, then manufactured with processes and materials that assure precision and long life. Details are in the Kaydon white paper, "Not All Thin Section Bearings Are Created Equal," developed from 2009 papers presented at ASTM and ASME/STLE technical conferences and reviewed by those organizations.\* For a copy, scan the code below.

Superior performance is just one reason to specify Reali-Slim thin section bearings. Here are some other factors that make these premium products the bearings you can depend on, cycle after cycle:

**Unsurpassed experience** – No manufacturer knows thin section bearings like Kaydon, who invented them more than half a century ago. Proven in countless applications in a wide range of markets, the Reali-Slim brand continues to be the global leader.

**Highest quality** – Reali-Slim bearings are made with top-quality materials by skilled craftsmen, using the latest manufacturing and quality

control processes. Our strategically-located facilities have not only earned ISO 9001:2008 certification, but important industry and customer certifications, such as AS9100C for aerospace. The result: long service life that pays for itself by minimizing downtime.

**Custom solutions** – Kaydon Bearings has been optimizing bearing designs for over 70 years. With a combined 300 years of experience — 250 of them bearing-specific — our product engineers are uniquely qualified to help you meet whatever design challenge you face.

**Technical support** – We have 3-D CAD drawings, design software and more ready for download at our website, with a fully-equipped testing lab and global service network ready to support you as needed. Kaydon R&D facilities conduct in-house torque, vibration, sound, and environmental testing, just to name a few capabilities.

When it comes to thin section bearings, there's nothing like the real thing. Go with the original and global leader — specify Reali-Slim.

\*Proceedings of the ASME/STLE International Joint Tribology Conference, IJTC2009, Oct. 19-21, 2009, Memphis, Tenn., USA - IJTC2009-15254



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