

Bearings for Demanding Applications

(Material Codes S, P, X, and Y)

KAYDON stainless steel bearings are used where high precision and corrosion resistance are required.

REALI-SLIM® thin-section bearings are available in AISI 440C stainless steel races, brass or non-metallic separators, and your choice of either stainless steel or ceramic balls. Offered in either radial contact "C," angular contact "A," or four-point contact "X" configurations. These bearings, available in popular sizes, minimize the surface degradation and particulate formation so common in harsh environment applications. (See pages 49-52.)

Hybrid bearings are very well suited for applications where lubrication is marginal.

KAYDON REALI-SLIM® thin-section bearing product line has been expanded to include several additional bearing series specifically engineered to bring the advantages of REALI-SLIM® bearings to designs intended for service in the most severe or extreme environments. We offer REALI-SLIM® bearings with a variety of packaged features to meet specific operation requirements for:

- Chemical resistance/high temperature—P Series (See next page.)
- High performance/low torque—Q Series
- High performance/low particle—X, Y Series

Applications requiring low particle generation, high accuracy, high speeds, and/or which must operate in adverse or no-lube conditions, can benefit from hybrid bearings. Tests have shown that significant reductions in particle generation can be obtained with hybrid designs which incorporate the use of ceramic rolling elements on hardened steel races. In addition, the physical properties of the ceramic rolling elements (precision, hardness, light weight) provide additional benefits such as improved repeatability, low torque, high stiffness, and resistance to breakdown under marginal or no-lube conditions.

Tremendous benefits in performance can be obtained by matching not just size but also material to the application. These alternative race and ball materials interact differently than traditional chrome steel bearings. Capacities, life calculations and stiffness will differ from other products in this catalog. Contact KAYDON for technical characteristics of hybrid REALI-SLIM® bearings.

BEARINGS FOR DEMANDING APPLICATIONS (continued)

Series P—Chemical Resistant

In applications where both corrosion resistance and chemical resistance are required, series P bearings may be required. These bearings feature AISI 17-4PH steel races and ceramic balls. They're manufactured to provide a greater level of corrosion and chemical resistance than either KAYDON Series N or Series S bearings. Due to the hardening limitations of AISI 17-4PH steel, an adjustment factor of .17 must be applied to the standard dynamic capacity ratings. Thus, the use of P Series bearings should be carefully reviewed prior to selection to determine if the life and capacity are adequate.

Materials

Races	AISI 17-4PH steel
Balls	Borosilicate, glass, or ceramic
Cage	Type A; PTFE or Vespel® toroid ball spacers or 300 series steel ring
	Types C & X; Stainless steel or non-metallic composite ring

Specifications for Hybrid REALI-SLIM® Bearings

ITEM	DESCRIPTION	REFERENCE SPECIFICATION
	MATERIAL ANALYSIS	
RACES	AISI 440C Stainless steel	ASTM A-756
BALLS	AISI 440C Stainless steel or ceramic: Silicon Nitride	
SEPARATORS C, X BEARINGS A BEARINGS	P Type—Brass or non-metallic composite L Type—Nylon, fiberglass reinforced R Type—Brass or non-metallic composite G Type—Nylon, fiberglass reinforced	ASTM B-36 or B-134 ASTM B-36 or B-134
	PRECISION	
RACE DIMENSIONS	KAYDON Precision Class 1, Higher classes available	ABMA ABEC-1F or better
RACE RUNOUTS	KAYDON Precision Class 1, Higher classes available	ABMA ABEC-1F or better
BALLS	ABMA Grade 10 Stainless steel or Grade 5 ceramic	ANSI/ABMA/ISO 3290

} other options, see p. 93