Low Torque Seals or Non-contacting Shields

Engineering assistance provided for optimum performance when evaluating application requirements.

- Lower total cost of ownership.
- Superior performance compared to conventional approach.
- Integrated assemblies are simply bolted in place, eliminating individual bearing fit-up time and assembly errors in the field.
- Bearing fit-ups are factory-optimized and pre-loaded for repeatable stiffness and torque.
- Repeatable stiffness and torque.

General Features and Technical Specifications

- Integrated Assemblies
- Lower total cost of ownership.
- Superior performance compared to conventional approach.
- Integrated assemblies are simply bolted in place, eliminating individual bearing fit-up time and assembly errors in the field.
- Bearing fit-ups are factory-optimized and pre-loaded for repeatable stiffness and torque.
- Repeatable stiffness and torque.

Silicon Nitride Load Balls (Si3N4)

- Si3N4 balls promote a much lower coefficient of friction versus steel balls, therefore providing enhanced survivability under marginal lubrication.
- Si3N4 balls also have a higher modulus of elasticity – 50% higher than steel balls to provide higher stiffness.

440C Ring Material

- Eliminates thin dense corrosion while providing corrosion resistance protection and maintaining the precision, tolerance, and finish.

440C Spacer Balls

- Spacer balls are smaller than load balls by 0.5-1%. In pre-loaded bearings, other separator options may generate particle shedding – resulting in erratic torque fluctuations.

SuperDuplex™ Design

- A one-piece ring on a double row seal design offers improved ring stiffness and reduced risk of deflected face-to-face runout, and parallelism.
- As a result, the bearing offers superior accuracy and performance reliability, including improved alignment and ease of next level assemblies.

Spherical Plain Bearings

- Precise, angular contact, low-cost, high performance. Available in inch and metric sizes.

Thin Section Ball Bearings

- Standard cross sections to one inch, 0.5-1% lower in load balls than steel ball.
- Available in inch and metric sizes.

Tapered Roller Bearings

- Tapered roller bearings, high performance, high loads. Available in inch and metric sizes.

Airframe Control Bearings

- Ball bearings, self-lubricating types, needle roller track rollers.

Dowel Pins, Loose Needle Rollers, Shafts

- Precision dowel pins, needle rollers, and shafts.

Integrated Assemblies

- Foracias and other process tool applications. Engineering design assistance. Productive volume.

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Thin Section Ball Bearings

unique design solutions
to complex problems.

A Global Leader in Industrial and Medical Automation Bearings

www.rbcbearings.com

high performance.
innovative sealing.
extended life.
RBC Thin Section Ball Bearings
Part Number Designation

LOAD CONDITION

Position 1 - Material

Rings, Balls           Seals, Shields, Coating

J 52100 Bearing steel    Two seals - molded rubber, steel reinforced
M 52100 Bearing steel    No seals or shields
N M-50 Tool shield         No seals or shields
S 440C Stainless steel   Thin dense chrome plating
Z Other

Positions 3, 4, 5 - Size

Bore size (inches) multiplied by 10

Positions 6, 7 - Type

Type Description

A Angular contact single bearing
B Back-to-back angular contact duplex pair
C Radial contact
F Face-to-face angular contact duplex pair
M SuperDuplex™ back-to-back
T Tandem angular contact duplex pair
W SuperDuplex™ face-to-face
X Four-point contact

Positions 9 - Radial Clearance (G)
Radial or Axial Pre-load (P)

Positions 8 - RBC Precision Class

Class Description

ABEC 1F
ABEC 3F
ABEC 5F
ABEC 7F

Reference: ANSI/ABMA Std 26.2

Note: Radially and axially pre-loaded bearings meet bore and O.D. tolerances prior to pre-load.

EXAMPLE KA 1 2 0 X P 0 M* RBC

NOMENCLATURE Material Series Size Type Separator Precision Radial Play
POSITION 1 2 3 4 5 6 7 8

C-Type (Radial Contact)

A-Type (Angular Contact)

X-Type (4-Point Contact)

B-Type Duplex Back-to-Back (DB)

F-Type Duplex Face-to-Face (DF)

T-Type Duplex Tandem (DT)

M-Type SuperDuplex™ Back-to-Back

W-Type SuperDuplex™ Face-to-Face

EXAMPLE 440C Stainless Steel 1.000 X SuperDuplex™ Back-to-Back 0 M* RBC

Note: ball and cage walls are pre-sealed to 100% capacity prior to seal installation.

*The alphanumeric identification system is used under license.

PART NUMBER

D X Y Z M N S

Simplex™ Bearing Series – SuperDuplex™ (DB) Sealed Bearings

- SuperDuplex™ back-to-back
- ABEC-3
- High stiffness
- Low torque
- 440C stainless steel rings
- Si3N4 ceramic load balls
- Low torque PTFE seals

C-Type (Radial Contact)

A-Type (Angular Contact)

X-Type (4-Point Contact)

B-Type Duplex Back-to-Back (DB)

F-Type Duplex Face-to-Face (DF)

T-Type Duplex Tandem (DT)

M-Type SuperDuplex™ Back-to-Back

W-Type SuperDuplex™ Face-to-Face

RBC Thin Section Ball Bearings
Part Number Designation

EXAMPLE 440C Stainless Steel 1.000 X SuperDuplex™ Back-to-Back 0 M* RBC

Note: ball and cage walls are pre-sealed to 100% capacity prior to seal installation.

*The alphanumeric identification system is used under license.