# BALL BEARINGS

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# RADIAL AND ANGULAR CONTACT BEARINGS

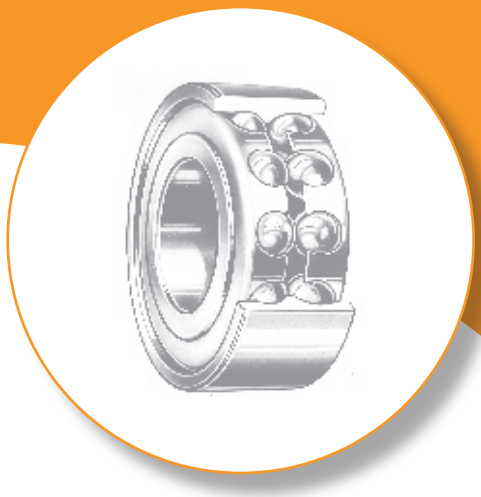
**Overview:** Timken is a premier manufacturer of ball bearings. We produce a broad range of precision ball bearings, wide inner ring ball bearings and housed units for standard industrial applications and specialized uses. From standard single-row deep groove radial ball bearings to advanced integral designs, Timken has your solution.

- **Sizes:** 3 mm - 600 mm bore.
- **Markets:** Aircraft, construction, agriculture, machine tool and general industry.
- **Features:** Special coatings for corrosion resistance, special seal designs.
- **Benefits:** Radial: Better life in contaminated environments.

  Angular: Single-row angular contact ball bearing - suited to work in lower operating temperature and high speed with a heavy thrust load. Can be mounted in a duplex arrangement. The refined bore tolerance give a higher life.

  Double-row angular contact ball bearing - excellent axial and radial rigidity in confined space.





## *Radial and Angular Contact Ball Bearings*

**Prefixes:**

| | |
|---|---|
| **A** | stainless steel |
| **F** | flanged outer ring |
| **H** | snug fit |
| **J** | extra loose internal fit |
| **JJ** | extra extra loose internal fit |
| **L** | internal self-aligning |
| **M** | precision ABEC 3 |
| **P** | loose fit |
| **R** | normal fit |
| **S** | extra small inch-dimension type |
| **T** | tight fit |
| **V** | precision ABEC 5 |
| **W** | wide-type single-row (same width inner and outer) |
| **WIR** | single-row, wide inner only |

**Bore Size:** (04 and up: multiply last two numbers by five to get bore in millimeters)

| | |
|---|---|
| **00** | 10 mm |
| **01** | 12 mm |
| **02** | 15 mm |
| **03** | 17 mm |
| **04** | 20 mm |
| **05** | 25 mm |
| **12** | 60 mm |
| **20** | 100 mm |

**Suffixes:**

| | |
|---|---|
| **C1, C2, C3, etc. (manufacturing code - Timken® use only)** | |
| **FT** | full ball complement |
| **K** | Conrad, non-filling slot type |
| **W** | maximum capacity, filling slot type |
| **WI** | angular contact, low-shoulder outer |
| **WO** | angular contact, low-shoulder inner |
| **WN** | angular contact, low-shoulder, inner and outer |

**W** **3** **05** **K** **LL**

**Numbers: Basic Type Series:**

| | |
|---|---|
| **S1** | **3, 5, 7, etc.,** single-row inch, extra small |
| **30** | single-row metric, extra small |
| **100** | single-row, extra large |
| **200** | single-row, light |
| **300** | single-row, medium |
| **5200** | double-row, light |
| **5300** | double-row, medium |
| **7200** | single-row, angular contact, light |
| **7300** | single-row, angular contact, medium |
| **7400** | single-row, angular contact, heavy |
| **9100** | single-row, extra-light |
| **9300** | single-row, ultra-light |
| **XLS** | inch-dimension, Conrad type |

**Additional Features:**

| | |
|---|---|
| **B** | spherical outside diameter |
| **BR** | cast bronze retainer |
| **D** | one shield |
| **DD** | two shields |
| **G** | Wireloc (snap ring) |
| **L** | one Mechani-Seal |
| **LL** | two Mechani-Seals |
| **MBR** | machined bronze retainer |
| **P** | one seal |
| **PP** | two seals |
| **PP2, 3, 4, etc.** | Tri-Ply Seals if prefix letter is W (example: W208PPB5) |
| **R** | one land-riding rubber seal |
| **RR** | two land-riding rubber seals |
| **S** | external self-aligning |
| **SMBR** | iron silicon bronze retainer |
| **T** | one felt seal |
| **TT** | two felt seals |

# Radial and Angular Contact Ball Bearings





# INTRODUCTION

## EXTRA SMALL SERIES

Extra small bearings are available in the 30 Metric Series, the 33 and S Inch Series and the F Flanged Series. These bearings can sustain radial, thrust and combined loads proportionate to the capacities of the small shafts for which they are designed. They are appropriate for use in fractional horsepower motors, precision instruments, domestic appliances, film projectors and similar devices.

The F flanged series has external shoulders with the bearing for mounting in through-bored housings. This series is used where compactness is essential or where it is not feasible to machine housing shoulders.

All series in the extra small family include shielded versions. The 30 Metric Series is also available with felt seals, Mechani-Seals and rubber seals, while the 33 and S Inch Series is available with rubber seals.

Some sizes in the Extra Small Series are manufactured from stainless steel.

Extra Small Series

## EXTRA SMALL 33 AND S SERIES BUSINESS MACHINE BEARINGS

Standard and special extra small bearings are available and often used in business machine applications. They include clamp-type collar bearings for slip-fit mounting on shafts, bearings with Wireloc in the outer ring, and rubber cushioned "O" series with special housed units.



## EXTRA LIGHT 9300 AND 9100 SERIES

Bearings in the Extra Light 9300 and 9100 Series are ideally suited for applications where housing diameters are restricted and it is desirable to maintain relatively large shaft diameters. Both series are made in the Conrad or non-filling slot construction with the 9300 Series having a somewhat thinner section.

The 9100 Series is generally available with shields, rubber seals and snap ring combinations. The 9300 Series is selectively available with two rubber seals. Machine tools, textile machinery and jet engine gear boxes are some of the end products in which these series have found wide use.

Extra Light 9300 and 9100 Series

## LIGHT 200 SERIES

Bearings in the 200 Series have a greater section height than the Extra Light 9300 and 9100 Series bearings and feature a close dimensional balance between bore, outside diameter and width. These characteristics make them well-suited for a broad range of applications involving light to medium loads combined with relatively high speeds.

Their versatility has made them a popular design choice of designers and has resulted in many variations in the series. They are available in either the Conrad or maximum capacity type and with shields, rubber seals, Mechani-Seals, felt seals or a combination of shield and seal. Snap ring combinations are also included.

Wide-type 200 Series rubber seal (W200PP) and Mechani-Seal (W200KLL) bearings are made with standard bores and outside diameters, but in widths equal to the corresponding sizes of double-row bearings. This series offers a larger support area for shaft and housing contact and extra space for lubricant.

Light 200 Series

## MEDIUM 300 SERIES

The 300 Series radial ball bearings are similar in construction to the 200 Series, but have considerably heavier cross sections throughout. They provide greater radial and thrust capacity and are able to withstand heavier shock loads.

Because of their rugged construction, these bearings are particularly suited for heavy-duty applications like those found in large electric motors, woodworking machinery and gear boxes. This series includes both Conrad and maximum capacity designs as well as shielded, sealed and snap ring variations.

In the 300 Series wide-type, rubber seal (W300PP) and Mechani-Seal (W300KLL) bearings are made with standard bores and outside diameters, but in width equal to the corresponding sizes of double-row bearings.

Medium 300 Series

## XLS AND EXTRA LARGE 100 SERIES

Bearings in the inch-dimension XLS Series and metric-dimension Extra Large 100 Series have extra large diameters and a compact cross section. XLS bearings are made in the Conrad and maximum capacity filling slot designs. The Extra Large 100 Series offers the maximum capacity, filling slot and counterbore types.

XLS and Extra Large 100 Series

## TRI-PLY SEAL DISK HARROW BEARINGS

Bearings with Tri-Ply Seals are designed for service involving severe contamination, such as disk harrows, disk tillers and other seed preparation equipment and certain conveyor applications. Tri-Ply sealed units come in two designs – one consisting of three Timken rubber seals separated by steel spacers and retained by steel caps in the outer ring and the other, a highly effective one-piece, molded seal design. Both designs have an exterior shroud cap to protect the seals and reinforce the exceptional sealing action of the complete unit. A patented notched seal groove design, provided on selected sizes, is one of the most positive seal retention methods ever developed.

Tri-Ply Seal Disk Harrow Bearings

## HEX BORE BEARINGS

These bearings are designed for either outer or inner ring rotation in low speed, moderately loaded applications such as farm machinery and conveyors. Their chief advantage is ease of mounting. Except for axial positioning by adjacent parts, no collars, setscrews or other external parts are required to lock the inner ring to the hex shaft.

Hex Bore Bearings

## R-SEAL DISK HARROW BEARINGS

R-Seal bearings are designed for a wide variety of farm machinery applications where single-lip positive contact seals are required. Each sealing element has a Timken Fafnir rubber seal that effectively seals the bearing with a heavy flare on the cylindrically ground O.D. (inner ring). A steel back-up plate supports the seal rubber and prevents the seal lip from inverting. An outside metal shroud cap gives maximum abrasion protection to the rubber element and completes the assembly that is rolled into the outer ring seal groove for positive retention.

R-Seal radial ball bearings are used in positions in planting, cultivating and harvesting machinery. They are available in various configurations including round bores in metric and inch dimensions and cylindrical and spherical outside diameters.

R-Seal Agricultural Bearings

## ANGULAR CONTACT – SINGLE-ROW 7000 PRODUCT FAMILY

Timken offers a 7200WN Light, 7300WN Medium and 7400WN Heavy Series single-row, angular contact bearings, which are designed for combination loading with high-thrust capacity in one direction.

The 7000WN bearings are manufactured with better than ABEC 1 inner ring bore tolerances and ABEC 3 running accuracy. These bearings, when mounted in a duplex arrangement, provide axial and/or radial rigidity in applications where control of shaft displacement is essential.

These bearings are available with various cage designs as defined in the dimension tables. The external dimensions of all 7000WN bearings interchange with corresponding sizes in the 200, 300 and 400 single-row radial series.

Single-Row Angular Contact Bearings 7000 Product Family

## ANGULAR CONTACT – DOUBLE-ROW

Double-row Angular Contact Bearings are available in the Light 5200 and Medium 5300 Series. These bearings have the same bores and outside diameters as the corresponding sizes in the 200 and 300 Series, single-row, radial type.

Chief advantages of the double-row type are rigidity, compactness and high capacity. The two rows of balls provide for bearings large radial capacity combined with moderate thrust capacity in either direction.

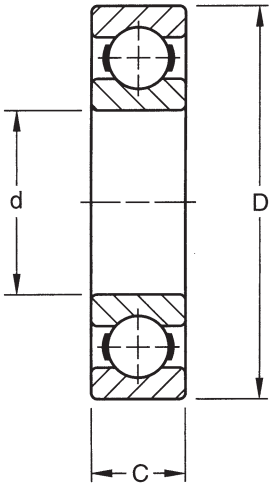
Double-row bearings are available in both the Conrad (K) construction with uninterrupted race shoulders and the maximum capacity type. The latter has a filling slot in the shoulder of both rings and a maximum ball complement.

Sizes with the W suffix have the filling slot on one side only. In these cases, thrust should be applied on the side opposite the filling slot.

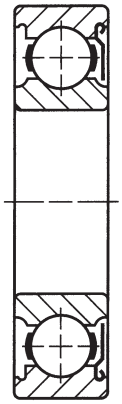
Double-Row Angular Contact

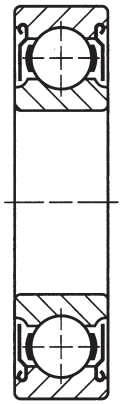
# EXTRA SMALL 30 METRIC SERIES

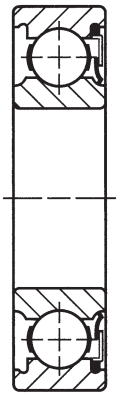
- Designed for small shafts.
- Can sustain radial, thrust and combined load proportionate to capacities of small shafts.
- Suitable for use in fractional horsepower motors, domestic appliances, precision instruments and similar devices.
- Offer various combinations of shields and seals, as listed below.
- Electric motor quality for applications where quietness is required.
- Stainless steel series, denoted by a prefix A before the bearing number. (Example: A38K)

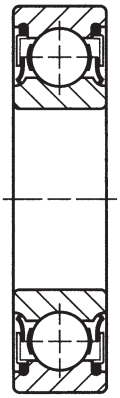


Open


One Shield
D


Two Shields
DD


One Rubber Seal
P


Two Rubber Seals
PP



## OPEN AND SHIELDED TYPES
## DIMENSIONS – TOLERANCES

| Bearing Number open | one shield D | two shield DD | Bore d +.000 mm, -0.008 mm +0.0000", -0.0003" | | Outside Diameter D tolerance +0.000 mm +0.0000" to minus | | | | Width C +0.00 mm, -.12 mm +0.000", -0.005" | | Fillet Radius(1) | | Wt. | | Static Load Rating $C_o$ | | Extended Dynamic Load Rating $C_E$(2) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | kg | lbs. | N | lbs. | N | lbs. |
| 34K | 34KD | 34KDD | 4 | 0.1575 | 16 | 0.6299 | 0.008 | 0.0003 | 5 | 0.197 | 0.3 | 0.012 | 0.005 | 0.01 | 560 | 125 | 1630 | 365 |
| 35K | 35KD | 35KDD | 5 | 0.1969 | 19 | 0.7480 | 0.009 | 0.00035 | 6 | 0.236 | 0.3 | 0.012 | 0.009 | 0.02 | 865 | 195 | 2450 | 560 |
| 36K | 36KD | 36KDD | 6 | 0.2362 | 19 | 0.7480 | 0.009 | 0.00035 | 6 | 0.236 | 0.3 | 0.012 | 0.009 | 0.02 | 865 | 195 | 2450 | 560 |
| 37K | 37KD | 37KDD | 7 | 0.2756 | 22 | 0.8661 | 0.009 | 0.00035 | 7 | 0.276 | 0.3 | 0.012 | 0.009 | 0.02 | 1400 | 312 | 3650 | 830 |
| 38K | 38KD | 38KDD | 8 | 0.3150 | 22 | 0.8661 | 0.009 | 0.00035 | 7 | 0.276 | 0.3 | 0.012 | 0.009 | 0.02 | 1400 | 312 | 3650 | 830 |
| 38KV | — | — | 8 | 0.3150 | 24 | 0.9449 | 0.009 | 0.00035 | 7 | 0.276 | 0.3 | 0.012 | 0.018 | 0.04 | 1370 | 305 | 3650 | 830 |
| 39K | 39KD | 39KDD | 9 | 0.3543 | 26 | 1.0236 | 0.009 | 0.00035 | 8 | 0.315 | 0.3 | 0.012 | 0.018 | 0.04 | 1960 | 440 | 5000 | 1120 |

(1) Maximum shaft or housing fillet radius that bearing corners will clear.
(2) Based on $10^6$ revolutions of calculated fatigue life.

## SEALED TYPES
## DIMENSIONS – TOLERANCES

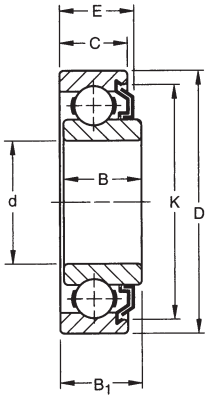
| Bearing Number one seal P | two seals PP | Bore d +0.000 mm, -.008 mm +0.0000", -.0003" | | Outside Diameter D +.000 mm, -.009 mm +0.0000", -.00035" | | Width C +0.00 mm, -.12 mm +0.000", -0.005" | | Fillet Radius(1) | | Wt. | | Static Load Rating $C_o$ | | Extended Dynamic Load Rating $C_E$(2) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | mm | in. | mm | in. | mm | in. | mm | in. | kg | lbs. | N | lbs. | N | lbs. |
| 36P | 36PP | 6 | 0.2362 | 19 | 0.7480 | 10 | 0.394 | 0.3 | 0.012 | 0.014 | 0.03 | 865 | 195 | 2450 | 560 |
| 36P2 | 36PP2 | 6 | 0.2362 | 19 | 0.7480 | 6 | 0.236 | 0.3 | 0.012 | 0.014 | 0.03 | 865 | 195 | 2450 | 560 |
| 37P | 37PP | 7 | 0.2756 | 22 | 0.8661 | 10 | 0.394 | 0.3 | 0.012 | 0.018 | 0.04 | 1370 | 305 | 3650 | 830 |
| 37P2 | 37PP2 | 7 | 0.2756 | 22 | 0.8661 | 7 | 0.276 | 0.3 | 0.012 | 0.018 | 0.04 | 1400 | 312 | 3650 | 830 |
| 38P | 38PP | 8 | 0.3150 | 22 | 0.8661 | 10 | 0.394 | 0.3 | 0.012 | 0.018 | 0.04 | 1370 | 305 | 3650 | 830 |
| 38P2 | 38PP2 | 8 | 0.3150 | 22 | 0.8661 | 7 | 0.276 | 0.3 | 0.012 | 0.018 | 0.04 | 1400 | 312 | 3650 | 830 |
| 39P | 39PP | 9 | 0.3543 | 26 | 1.0236 | 8 | 0.315 | 0.6 | 0.024 | 0.023 | 0.05 | 1960 | 440 | 5000 | 1120 |

(1) Maximum shaft or housing fillet radius that bearing corners will clear.
(2) Based on $10^6$ revolutions of calculated fatigue life.

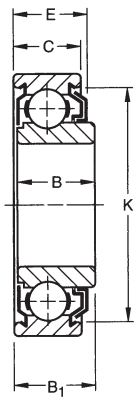
# EXTRA SMALL 30 METRIC SERIES

## MECHANI-SEALS

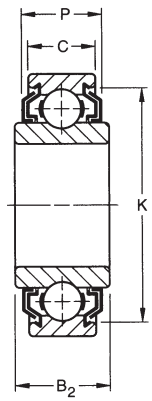
- Developed by The Timken® Company.
- Adapted to the 30 metric series for effective grease retention and exclusion of foreign matter.
- Can be operated at speeds comparable to open-type bearings.
- Available with:
  - One Mechani-Seal (suffix L).
  - One Mechani-Seal and one shield (suffix LD).
  - Two Mechani-Seals (suffix LL).




One Seal
L




One Seal and Shield
LD




Two Seals
LL

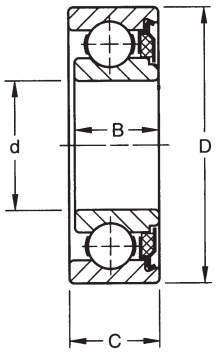
### DIMENSIONS – TOLERANCES

| Bearing Number one seal L | one seal and shield LD | two seals LL | Bore d +0.000 mm -0.008 mm +0.0000" -0.0003" mm | in. | Outside Diameter D +0.000 mm -0.009 mm +0.0000" -0.00035" mm | in. | Width $B_1$ mm | in. | Ring Width +0.00 mm, -.12 mm +0.000" -.005": inner B mm | in. | inner $B_2$[3] mm | in. | outer C mm | in. | Fillet Radius[1] mm | in. | Seal Protection width E mm | in. | width P mm | in. | O.D. K mm | in. | Inner Ring Offset[2] mm | in. | Wt. kg | lbs. | Static Load Rating $C_o$ N | lbs. | Extended Dynamic Load Rating $C_E$[4] N | lbs. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 36KL | 36KLD | 36KLL | 6 | 0.2362 | 19 | 0.7480 | 10.31 | 0.406 | 9.80 | 0.386 | 14.27 | 0.562 | 8.00 | 0.315 | 0.3 | 0.012 | 9.60 | 0.378 | 10.87 | 0.428 | 16.7 | 21/32 | 0.50 | 0.020 | 0.014 | 0.03 | 865 | 195 | 2450 | 560 |
| 36KVL | — | — | 6 | 0.2362 | 24 | 0.9449 | 10.31 | 0.406 | 9.80 | 0.386 | — | — | 8.00 | 0.315 | 0.3 | 0.012 | 9.60 | 0.378 | — | — | 19.0 | 3/4 | 0.50 | 0.020 | 0.022 | 0.05 | 865 | 195 | 2450 | 560 |
| 37KL | 37KLD | 37KLL | 7 | 0.2756 | 22 | 0.8661 | 10.31 | 0.406 | 9.80 | 0.386 | 14.27 | 0.562 | 8.00 | 0.315 | 0.3 | 0.012 | 9.60 | 0.378 | 11.18 | 0.440 | 18.7 | 47/64 | 0.50 | 0.020 | 0.018 | 0.04 | 1400 | 312 | 3650 | 830 |
| 37KVL | 37KVLD | — | 7 | 0.2756 | 24 | 0.9449 | 10.31 | 0.406 | 9.80 | 0.386 | — | — | 8.00 | 0.315 | 0.3 | 0.012 | 9.60 | 0.378 | — | — | 19.0 | 3/4 | 0.50 | 0.020 | 0.022 | 0.05 | 1400 | 312 | 3650 | 830 |
| 38KL | 38KLD | 38KLL | 8 | 0.3150 | 22 | 0.8661 | 10.31 | 0.406 | 9.80 | 0.386 | 14.27 | 0.562 | 8.00 | 0.315 | 0.3 | 0.012 | 9.60 | 0.378 | 11.18 | 0.440 | 18.7 | 47/64 | 0.50 | 0.020 | 0.018 | 0.04 | 1400 | 312 | 3650 | 830 |
| 38KVL | 38KVLD | 38KVLL | 8 | 0.3150 | 24 | 0.9449 | 10.31 | 0.406 | 9.80 | 0.386 | 14.27 | 0.562 | 8.00 | 0.315 | 0.3 | 0.012 | 9.60 | 0.378 | 11.13 | 0.438 | 19.0 | 3/4 | 0.50 | 0.020 | 0.022 | 0.05 | 1370 | 305 | 3650 | 830 |
| — | — | 38KLL2 | 8 | 0.3150 | 22 | 0.8661 | — | — | — | — | 12.62 | 0.497 | 8.00 | 0.315 | 0.3 | 0.012 | — | — | 11.18 | 0.440 | 18.7 | 47/64 | — | — | 0.022 | 0.05 | 1370 | 305 | 3650 | 830 |
| — | — | 38KVLL2 | 8 | 0.3150 | 24 | 0.9449 | — | — | — | — | 12.62 | 0.497 | 8.00 | 0.315 | 0.3 | 0.012 | — | — | 11.13 | 0.438 | 19.0 | 3/4 | — | — | 0.022 | 0.05 | 1370 | 305 | 3650 | 830 |
| 39KL2 | 39KLD2 | — | 9 | 0.3543 | 26 | 1.0236 | 10.31 | 0.406 | 9.80 | 0.386 | — | — | 8.00 | 0.315 | 0.6 | 0.024 | 9.60 | 0.378 | — | — | 21.4 | 27/32 | 0.50 | 0.020 | 0.022 | 0.05 | 1960 | 440 | 5000 | 1120 |
| — | 39KVLD | 39KVLL2 | 9 | 0.3543 | 30 | 1.1811 | — | — | — | — | 16.41 | 0.646 | 9.00 | 0.354 | 0.6 | 0.024 | — | — | 15.98 | 0.629 | 25.4 | 1 | 0.50 | 0.020 | 0.041 | 0.09 | 2650 | 595 | 6550 | 1500 |

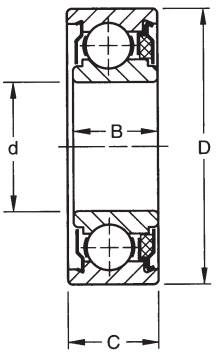
(1) Maximum shaft or housing fillet radius that bearing corners will clear.
(2) Does not apply to bearings with two seals.
**Note:** Inner ring offset is .51 mm (.020 inches) for the L, LD, and VLD versions.
(3) Two seals (suffix LL) type only.
(4) Based on $10^6$ revolutions of calculated fatigue life.

## FELT-SEALS

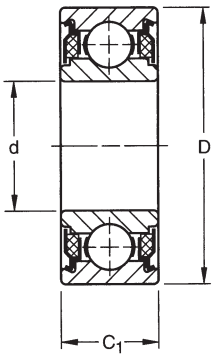
- Provide effective barrier against the entrance of foreign matter and the escape of lubricant.
- Contact seal with the felt riding on the ground surface of inner ring O.D.
- Can be operated at moderate speeds without excessive heating because the felt washer absorbs some lubricant.
- Electric motor quality where quietness is required.
- Available with:
  - One felt seal (suffix T).
  - One felt seal and one shield (suffix TD).
  - Two felt seals (suffix TT).




One Felt Seal
T




One Felt Seal and Shield
TD




Two Felt Seals
TT

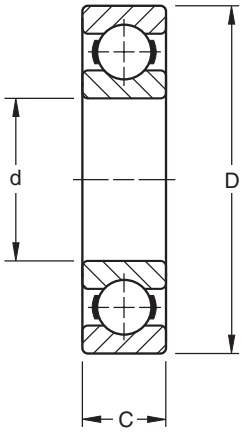
### DIMENSIONS – TOLERANCES

| Bearing Number one seal T | one seal and shield TD | two seals TT | Bore d +0.000 mm -0.008 mm +0.0000" -0.0003" mm | in. | Outside Diameter D +0.000 mm -0.009 mm +0.0000" -0.00035" mm | in. | Ring Width +0.00 mm, -.12 mm +0.000" -.005": inner B mm | in. | outer C mm | in. | $C_1$ mm | in. | Inner Ring Offset[2] mm | in. | Fillet Radius[1] mm | in. | Wt. kg | lbs. | Static Load Rating $C_o$ N | lbs. | Extended Dynamic Load Rating $C_E$[3] N | lbs. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 36KT | 36KTD | 36KTT | 6 | 0.2362 | 19 | 0.7480 | 9.80 | 0.386 | 10.31 | 0.406 | 14.27 | 0.562 | 0.50 | 0.020 | 0.3 | 0.012 | 0.014 | 0.03 | 865 | 195 | 2450 | 560 |
| 36KVT | 36KVTD | — | 6 | 0.2362 | 24 | 0.9449 | 9.80 | 0.386 | 10.31 | 0.406 | — | — | 0.50 | 0.020 | 0.3 | 0.012 | 0.027 | 0.06 | 1370 | 305 | 3650 | 830 |
| 37KT | 37KTD | — | 7 | 0.2756 | 22 | 0.8661 | 9.80 | 0.386 | 10.31 | 0.406 | — | — | 0.50 | 0.020 | 0.3 | 0.012 | 0.018 | 0.04 | 1370 | 305 | 3650 | 830 |
| 37KVT | 37KVTD | — | 7 | 0.2756 | 24 | 0.9449 | 9.80 | 0.386 | 10.31 | 0.406 | — | — | 0.50 | 0.020 | 0.3 | 0.012 | 0.022 | 0.05 | 1370 | 305 | 3650 | 830 |
| 38KT | 38KTD | 38KTT | 8 | 0.3150 | 22 | 0.8661 | 9.80 | 0.386 | 10.31 | 0.406 | 14.27 | 0.562 | 0.50 | 0.020 | 0.3 | 0.012 | 0.018 | 0.04 | 1370 | 305 | 3650 | 830 |
| 38KVT | 38KVTD | 38KVTT | 8 | 0.3150 | 24 | 0.9449 | 9.80 | 0.386 | 10.31 | 0.406 | 14.27 | 0.562 | 0.50 | 0.020 | 0.3 | 0.012 | 0.022 | 0.05 | 1370 | 305 | 3650 | 830 |
| 39KT | 39KTD | 39KTT | 9 | 0.3543 | 26 | 1.0236 | 11.10 | 0.437 | 11.51 | 0.453 | 14.27 | 0.562 | 0.40 | 0.016 | 0.6 | 0.024 | 0.027 | 0.06 | 1960 | 440 | 5000 | 1120 |
| 39KVT | 39KVTD | — | 9 | 0.3543 | 30 | 1.1811 | 12.19 | 0.480 | 12.70 | 0.500 | — | — | 0.50 | 0.020 | 0.6 | 0.024 | 0.041 | 0.09 | 2650 | 595 | 6550 | 1500 |

(1) Maximum shaft or housing fillet radius that bearing corners will clear.
(2) Does not apply to bearings with two seals.
(3) Based on $10^6$ revolutions of calculated fatigue life.

# EXTRA SMALL 33 AND S INCH SERIES

- Designed for small shafts.
- Can sustain radial, thrust and combined loads, proportionate to capacities of small shafts.
- Suitable for use in fractional horsepower motors, domestic appliances, precision instruments and similar devices.
- Include combinations of shields and seals, as listed below.
- Electric motor quality for applications where quietness is required.
- Several sizes are manufactured both in standard bearing-quality steel and stainless steel, as indicated in the tables.




## DIMENSIONS – TOLERANCES

| Bearing Number | | Bore d tolerance +0.000 mm +0.000" to minus | | | | Outside Diameter D tolerance +0.000 mm +0.000" to minus | | | | Width C +0.000 mm, -0.13 mm +0.000, -0.005" | | Fillet Radius(1) | | Wt. | | Static Load Rating $C_0$ | | Extended Dynamic Load Rating $C_E$ (2) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| standard | stainless | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | kg | lbs. | N | lbs. | N | lbs. |
| 33K3 | A33K3 | 3.175 | 0.1250 | 0.008 | 0.0003 | 9.525 | 0.3750 | 0.010 | 0.0004 | 3.96 | 0.156 | 0.3 | 0.012 | 0.005 | 0.01 | 212 | 48 | 710 | 160 |
| 33K4 | A33K4 | 3.175 | 0.1250 | 0.008 | 0.0003 | 12.700 | 0.5000 | 0.010 | 0.0004 | 4.37 | 0.172 | 0.3 | 0.012 | 0.005 | 0.01 | 490 | 110 | 1430 | 325 |
| 33K5 | A33K5 | 4.762 | 0.1875 | 0.008 | 0.0003 | 12.700 | 0.5000 | 0.010 | 0.0004 | 3.96 | 0.156 | 0.3 | 0.012 | 0.005 | 0.01 | 490 | 110 | 1430 | 325 |
| S1K7 | AS1K7 | 6.350 | 0.2500 | 0.008 | 0.0003 | 15.875 | 0.6250 | 0.010 | 0.0004 | 4.98 | 0.196 | 0.3 | 0.012 | 0.005 | 0.01 | 560 | 125 | 1630 | 365 |
| S1K | AS1K | 6.350 | 0.2500 | 0.008 | 0.0003 | 19.050 | 0.7500 | 0.010 | 0.0004 | 5.56 | 0.219 | 0.4 | 0.016 | 0.009 | 0.02 | 1160 | 260 | 3100 | 695 |
| S3K | AS3K | 9.525 | 0.3750 | 0.008 | 0.0003 | 22.225 | 0.8750 | 0.010 | 0.0004 | 5.56 | 0.219 | 0.4 | 0.016 | 0.009 | 0.02 | 1400 | 312 | 3650 | 830 |
| S5K | AS5K | 12.700 | 0.5000 | 0.008 | 0.0003 | 28.575 | 1.1250 | 0.010 | 0.0004 | 6.35 | 0.250 | 0.4 | 0.016 | 0.018 | 0.04 | 2240 | 500 | 5600 | 1270 |
| S7K | AS7K | 15.875 | 0.6250 | 0.008 | 0.0003 | 34.925 | 1.3750 | 0.013 | 0.0005 | 7.14 | 0.281 | 0.8 | 0.031 | 0.032 | 0.07 | 3050 | 682 | 7500 | 1700 |
| S8K | — | 19.050 | 0.7500 | 0.010 | 0.0004 | 41.275 | 1.6250 | 0.013 | 0.0005 | 7.92 | 0.312 | 0.8 | 0.031 | 0.050 | 0.11 | 4400 | 1000 | 10400 | 2320 |
| S9K | — | 22.225 | 0.8750 | 0.010 | 0.0004 | 47.625 | 1.8750 | 0.013 | 0.0005 | 9.52 | 0.375 | 0.8 | 0.031 | 0.064 | 0.14 | 4900 | 1120 | 11000 | 2500 |
| S10K | — | 25.400 | 1.0000 | 0.010 | 0.0004 | 50.800 | 2.0000 | 0.013 | 0.0005 | 9.52 | 0.375 | 0.8 | 0.031 | 0.082 | 0.18 | 4900 | 1120 | 11000 | 2500 |
| S11K | — | 28.575 | 1.1250 | 0.010 | 0.0004 | 53.975 | 2.1250 | 0.013 | 0.0005 | 9.52 | 0.375 | 0.8 | 0.031 | 0.091 | 0.20 | 5400 | 1220 | 11800 | 2650 |
| S12K | — | 31.750 | 1.2500 | 0.013 | 0.0005 | 57.150 | 2.2500 | 0.013 | 0.0005 | 9.52 | 0.375 | 0.8 | 0.031 | 0.100 | 0.22 | 6000 | 1340 | 12200 | 2750 |

(1) Maximum shaft or housing fillet radius that bearing corners will clear.
(2) Based on $10^6$ revolutions of calculated fatigue life.

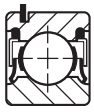
## SHIELD AND SEAL COMBINATIONS


One Shield D


Two Shields DD


One Shield And Seal PD


Two Seals PP

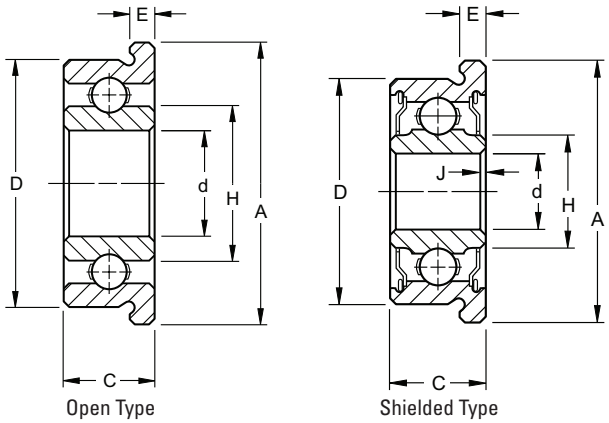

Two Seals Wireloc PPG

| Standard One Shield D | Standard Two Shields DD | Stainless One Shield D | Stainless Two Shields DD | Width +0.00 mm, -.12 mm +0.000", -.005" | | | One Shield And Seal PD | Two Seals PP | Two Seals (Wireloc) PPG | Width +0.00 mm, -.12 mm +0.000", -.005" | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | mm | in. | in. | | | | mm | in. | in. |
| 33KD3 | 33KDD3 | A33KD3 | A33KDD3 | 3.96 | 0.156 | 5/32 | — | 33PP3 | — | 3.96 | 0.156 | 5/32 |
| 33KD4 | 33KDD4 | — | — | 4.37 | 0.172 | 11/64 | — | — | — | — | — | — |
| 33KD5 | 33KDD5 | A33KD5 | A33KDD5 | 4.98 | 0.196 | — | — | 33PP5 | 33PPG5 | 4.98 | 0.196 | — |
| S1KD7 | S1KDD7 | AS1KD7 | AS1KDD7 | 4.98 | 0.196 | — | — | S1PP7 | S1PPG7 | 4.98 | 0.196 | — |
| S1KD | S1KDD | AS1KD | AS1KDD | 7.14 | 0.281 | 9/32 | — | S1PP | S1PPG | 7.14 | 0.281 | 9/32 |
| S3KD | S3KDD | AS3KD | AS3KDD | 7.14 | 0.281 | 9/32 | — | S3PP | S3PPG | 7.14 | 0.281 | 9/32 |
| S5KD | S5KDD | AS5KD | AS5KDD | 7.92 | 0.312 | 5/16 | S5PD | S5PP | S5PPG | 7.92 | 0.312 | 5/16 |
| S7KD | S7KDD | — | — | 8.74 | 0.344 | 11/32 | — | S7PP | — | 8.74 | 0.344 | 11/32 |
| S8KD | S8KDD | — | AS8KDD | 11.13 | 0.438 | 7/16 | S8PD | S8PP | — | 11.13 | 0.438 | 7/16 |
| S9KD | S9KDD | — | — | 12.70 | 0.500 | 1/2 | — | — | — | — | — | — |
| S10KD | S10KDD | — | — | 12.70 | 0.500 | 1/2 | — | S10PP2 | — | 12.70 | 0.500 | 1/2 |
| — | — | — | — | — | — | — | — | S12NPP | — | 12.70 | 0.500 | — |

# FLANGED SERIES

## CYLINDRICAL O.D.

- Four sizes offered in flanged construction.
- Integral shoulders for mounting in through-bored housings.
- Straight outside diameters.
- Interchangeable with corresponding unflanged sizes.
- Available with double shields.
- Electric motor quality for applications where quietness is required.




Open Type | Shielded Type

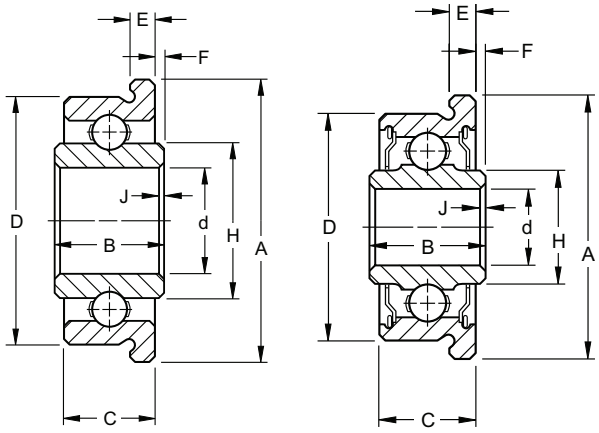
### DIMENSIONS – TOLERANCES

| Bearing Number | | Bore d +0.000 mm -0.008 mm / +0.0000″ -0.0003″ | | chamfer J x 45° +0.25 mm -0.00 mm / +0.010″ -0.000″ | | Outside Diameter D +0.000 mm -0.010 mm / +0.000″ -0.0004″ | | Width C +0.00 mm -0.13 mm / +0.000″ -0.005″ | | Inner Ring Shoulder H Min. | | Flange A +0.13 mm -0.05 mm / +0.005″ -0.002″ | | E ±0.05 mm / ±0.002″ | | Shielded Type Overall Width +0.00 mm -0.13 mm / +0.000″ -0.005″ | | H Min. | | Wt. | | Static Load Rating $C_0$ | | Extended Dynamic Load Rating $C_E$ [2] | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| open | shielded* | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | kg | lbs. | N | lbs. | N | lbs. |
| F33K3 | F33KDD3 | 3.175 | 0.1250 | 0.30 | 0.012 | 9.525 | 0.3750 | 3.96 | 0.156 | 5.13 | 0.202 | 11.18 | 0.440 | 0.76 | 0.030 | 3.96 | 0.156 | 4.65 | 0.183 | 0.005 | 0.01 | 212 | 48 | 710 | 160 |
| F33K5 | F33KDD5 | 4.762 | 0.1875 | 0.30 | 0.012 | 12.700 | 0.5000 | 3.96 | 0.156 | 6.86 | 0.270 | 14.35 | 0.565 | 1.07 | 0.042 | 4.98 | 0.196 | 6.30 | 0.248 | 0.005 | 0.01 | 490 | 110 | 1430 | 325 |
| FS1K7 | FS1KDD7[1] | 6.350 | 0.2500 | 0.30 | 0.012 | 15.875 | 0.6250 | 4.98 | 0.196 | 8.86 | 0.349 | 17.53 | 0.690 | 1.07 | 0.042 | 4.98 | 0.196 | 8.43 | 0.332 | 0.005 | 0.01 | 560 | 125 | 1630 | 365 |
| FS3K | FS3KDD[1] | 9.525 | 0.3750 | 0.41 | 0.016 | 22.225 | 0.8750 | 5.56 | 0.219 | 13.13 | 0.517 | 24.61 | 0.969 | 1.57 | 0.062 | 7.14 | 0.281 | 12.06 | 0.475 | 0.009 | 0.02 | 1400 | 310 | 3650 | 830 |

[1] Also available in stainless steel. To specify, add prefix "A" before bearing number.
[2] Based on $10^6$ revolutions of calculated fatigue life.
* Also available with two contact seals. To specify, replace "KDD" in part number with "PP".

## TAPERED O.D.

- F Flanged series has shoulders integral with the bearings for mounting in through-bored housings.
- Used where compactness is essential or where it is not desirable to machine housing shoulders.
- All sizes in series have tapered outside diameters and are available with double shields.
- Suitable applications include precision instruments, packaging machinery and motion picture projectors.
- Several sizes in the series are manufactured in both standard bearing-quality, chromium-alloy, high-carbon steel and stainless steel (stainless steel specified by suffix "A").
- Electric motor quality where quietness is required.




Open Type | Shielded Type

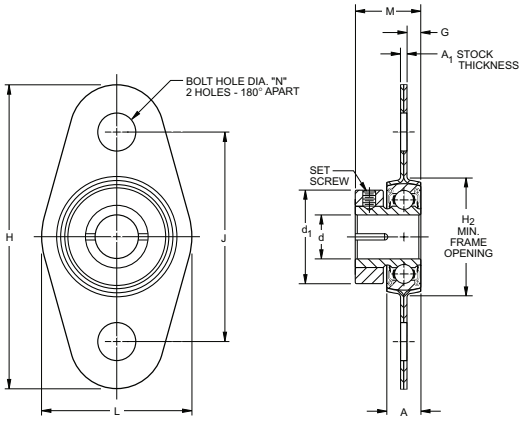
### DIMENSIONS – TOLERANCES

| Bearing Number | | Bore d +0.008 mm -0.00 mm / +0.0003″ -0.0000″ | | chamfer J x 45° +0.025 mm -.00 mm / +0.010″ -0.000″ | | Outside Diameter D +0.000 mm -0.10 mm / +0.000″ -0.0004″ | | Inner Width B ±0.3 mm / ±0.010" | | Ring Widths Inner Project F ±0.13 mm / -0.005″ | | H[3] Min. | | Outer Width C +.00 mm -0.10 mm / +0.000" -0.004″ | | Taper Per Foot | | Flange A +0.13 mm -0.05 mm / +0.005″ -0.002″ | | E ±0.05 mm / ±0.002" | | Wt. | | Static Load Rating $C_0$ | | Extended Dynamic Load $C_E$[4] | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| open | shielded | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | kg | lbs. | N | lbs. | N | lbs. |
| F2[1] | — | 4.762 | 0.1875 | 0.25 | 0.010 | 11.130 | 0.4382 | 4.80 | 0.189 | 0.41 | 0.016 | 6.93 | 0.273 | 4.14 | 0.163 | 2.03 | 0.080 | 12.70 | 0.500 | 1.07 | 0.042 | 0.005 | 0.01 | 465 | 106 | 1160 | 260 |
| — | F2DD-2 | 3.175 | 0.1250 | 0.25 | 0.010 | 9.534 | 0.3757 | 4.77 | 0.188 | 0.38 | 0.015 | 4.60 | 0.181 | 4.14 | 0.163 | 1.90 | 0.075 | 11.13 | 0.438 | 0.94 | 0.037 | 0.005 | 0.01 | 212 | 48 | 710 | 160 |
| F3 | — | 4.762 | 0.1875 | 0.25 | 0.010 | 14.305 | 0.5632 | 5.54 | 0.218 | 0.38 | 0.015 | 6.93 | 0.273 | 4.95 | 0.195 | 2.03 | 0.080 | 15.88 | 0.625 | 1.07 | 0.042 | 0.005 | 0.01 | 490 | 110 | 1430 | 325 |
| — | F3DD | 4.762 | 0.1875 | 0.25 | 0.010 | 14.305 | 0.5632 | 6.35 | 0.250 | 0.38 | 0.015 | 6.22 | 0.245 | 5.74 | 0.226 | 1.73 | 0.068 | 15.88 | 0.625 | 1.07 | 0.042 | 0.005 | 0.01 | 490 | 110 | 1430 | 325 |
| F4 | F4DD | 6.350 | 0.2500 | 0.25 | 0.010 | 15.893 | 0.6257 | 6.35 | 0.250 | 0.38 | 0.015 | 8.41 | 0.331 | 5.74 | 0.226 | 1.73 | 0.068 | 17.45 | 0.687 | 1.07 | 0.042 | 0.005 | 0.01 | 560 | 125 | 1630 | 365 |
| F5 | F5DD[2] | 7.938 | 0.3125 | 0.25 | 0.010 | 17.480 | 0.6882 | 6.35 | 0.250 | 0.38 | 0.015 | 10.41 | 0.410[2] | 5.74 | 0.226 | 1.73 | 0.068 | 19.05 | 0.750 | 1.07 | 0.042 | 0.005 | 0.01 | 865 | 196 | 2400 | 540 |

[1] Full type, no retainer. Not suggested for speeds over 500 RPM.
[2] H dimension is 9.68 mm (.381") for F5DD.
[3] Land dimension of the inner ring.
[4] Based on $10^6$ revolutions of calculated fatigue life.

## ST FLANGETTE UNIT

- Pressed steel housed units designed for light-duty applications.
- Available in shaft sizes from 6.35 mm - 12.7 mm (1/4 to 1/2 inch).
- Designed to simplify mounting on side plate or frame-type housings.
- Two identical steel stampings house a clamp-type bearing with a spherical O.D. outer ring.
- Spherical inside surface of each stamping mates with the spherical O.D. of the bearing, providing initial self-alignment at mounting.
- Offers features of basic clamp-type bearing.
- Available with sealed or shielded construction.
- Radial load capacity is 25 percent of basic bearing's dynamic load rating at 33.3 RPM.
- Inspected to ABEC-1 tolerances, except bore.
- Suggested shaft tolerance: Nominal bore size to -.0005 in. resulting in .000 in. to .001 in. loose-shaft fit.



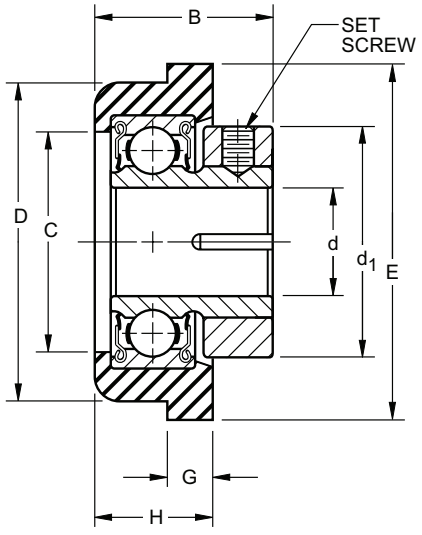

| Unit Number | Bore** d +0.13 mm -0.000 mm +0.0005" -0.0000" | | A | | d1 | | H2 | | M | | G | | A1 | | H | | L | | J | | N | | Set-screw Thread* | Max. Radial Unit Load | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | | N | lbs. |
| S1PPB7-3 ST | 6.350 | 0.2500 | 5.556 | 7/32 | 14.287 | 9/16 | 19.844 | 25/32 | 10.922 | 0.430 | 2.007 | 0.079 | 0.683 | 0.0269 | 45.244 | 1 25/32 | 22.225 | 7/8 | 30.956 | 1 7/32 | 0.219 | 7/32 | 4-40 | 312 | 70 |
| S3PPB15 ST | 7.937 | 0.3125 | 7.144 | 9/32 | 19.844 | 25/32 | 27.781 | 1 3/32 | 14.275 | 0.562 | 2.718 | 0.107 | 0.836 | 0.0329 | 53.181 | 2 3/32 | 30.163 | 1 13/16 | 38.894 | 1 17/32 | 0.219 | 7/32 | 8-36 | 668 | 150 |
| S3PPB5 ST | 9.525 | 0.3750 | 7.144 | 9/32 | 19.844 | 25/32 | 27.781 | 1 3/32 | 14.275 | 0.562 | 2.718 | 0.107 | 0.836 | 0.0329 | 53.181 | 2 3/32 | 30.163 | 1 13/16 | 38.894 | 1 17/32 | 0.219 | 7/32 | 8-36 | 668 | 150 |
| S5PPB2 ST | 12.700 | 0.5000 | 7.937 | 5/16 | 23.019 | 29/32 | 32.544 | 1 9/32 | 15.875 | 0.625 | 3.048 | 0.120 | 0.912 | 0.0359 | 59.531 | 2 11/32 | 36.512 | 1 17/16 | 45.244 | 1 25/32 | 0.219 | 7/32 | 8-36 | 980 | 220 |

* All setscrews are hex socket oval point, six fluted socket setscrews available upon request. Setscrews with fused plastic patch available at added cost.

**Bore tolerance applies prior to collar assembly.

## RTF-RUBBER TIRE FLANGE HOUSED UNIT

- Synthetic, conductive elastomer of Durometer hardness 80-85 facilitates mounting of standard cylindrical O.D. bearings in side plate of frame-type housings.
- Generous taper on entrance corner of rubber cartridge simplifies insertion of unit into side panel, assuring reasonable squareness of bearings when fully mounted.
- Bearing is positioned by integral flange of the rubber cartridge.
- Resiliency of elastomer accommodates wider than the standard suggested housing bore tolerance.
- Greater flexibility in adjusting to minor shaft and/or housing alignment.
- Helps reduce airborne noise and structural vibration.
- Additional advantages are similar to features of basic clamp-type bearing design.
- Due to deflection characteristics of the elastomer, radial and thrust ratings for the RTF Series are 10 percent of the basic bearing's dynamic load rating at 33.3 RPM.




| Unit Number | Bore** d +0.13 mm -0.000 mm +0.0005" -0.0000" | | D RTF O.D. ±0.13 mm ±0.005" | | D HSG Bore ±0.13 mm ±0.005" | | C | | d1 | | E | | B | | G | | H | | Set-screw Thread* | Max. Radial Unit Load | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | | N | lbs. |
| S1PP73RTF | 6.350 | 0.2500 | 19.355 | 0.762 | 19.050 | 0.750 | 13.494 | 17/32 | 14.287 | 9/16 | 22.225 | 7/8 | 11.906 | 15/32 | 1.984 | 5/64 | 7.541 | 19/64 | 4-40 | 116 | 26 |
| S3PP16RTF | 7.937 | 0.3125 | 27.280 | 1.074 | 26.975 | 1.062 | 19.050 | 3/4 | 19.844 | 25/32 | 30.956 | 1 7/32 | 15.875 | 5/8 | 3.969 | 5/32 | 10.319 | 13/32 | 8-36 | 258 | 58 |
| S3PP4RTF | 9.525 | 0.3750 | 27.280 | 1.074 | 26.975 | 1.062 | 19.050 | 3/4 | 19.844 | 25/32 | 30.956 | 1 7/32 | 15.875 | 5/8 | 3.969 | 5/32 | 10.319 | 13/32 | 8-36 | 258 | 58 |
| S5PP2RTF | 12.700 | 0.5000 | 35.255 | 1.388 | 34.925 | 1.375 | 25.400 | 1 | 23.019 | 29/32 | 38.894 | 1 17/32 | 17.859 | 45/64 | 3.969 | 5/32 | 11.906 | 15/32 | 8-36 | 392 | 88 |

* All setscrews are hex socket oval point, six fluted socket setscrews available upon request. Setscrews with fused plastic patch available at added cost.

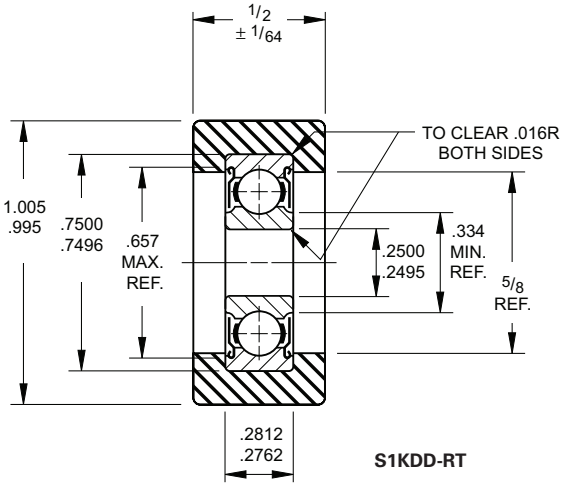
**Bore tolerance applies prior to collar assembly.

## SPECIAL BEARINGS

- Pulley, guide roller and pinch roll bearings:
  - Available in several bore sizes.
  - Lightweight, low inertia, low torque and accurate running characteristics with minimum runout and wobble.
  - Many units feature outer ring assemblies with integral molded tires.
  - Most common tire materials are aluminum, steel and a variety of engineered plastics such as nylon, polycarbonate, acetal resin or polyurethane.
  - Tire material and configuration are determined by application requirements.
  - Standard materials and shapes can be made in many sizes.
  - Timken engineering may assist in testing materials you feel are suitable for your applications.

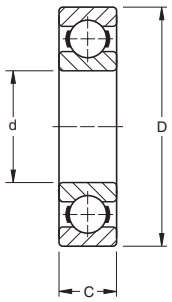
- Timken universal ring design:
  - Sealed or shielded versions readily available in the most basic bearing sizes.
  - Varying degrees of seal drag, to suit the sealing torque requirements dictated by the environmental conditions of the application.

- Integral assembly design concept:
  - Complete package of bearings, housings, shafts, etc.
  - Assembled and ready to mount.
  - Custom designed to solve customer assembly problems and minimize inventory of multiple components.
  - Overall cost savings.
  - Bearing units shown have been developed especially for business machine applications.



## ULTRA LIGHT 9300K SERIES

- Designed for applications where housing diameters are restricted and it is desirable to maintain relatively large shaft diameters.
- Resembles the 9100K Series, except corresponding sizes of the 9300K Series have a somewhat thinner section.
- Used extensively in machine tools, textile machinery and jet engine gearbox applications.




### DIMENSIONS – TOLERANCES

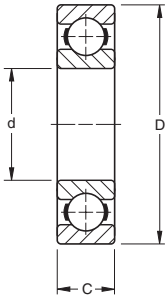
| Bearing Number | Bore d | | tolerance +0.000 mm +0.0000" to minus | | Outside Diameter D | | tolerance +0.000 mm +0.0000" to minus | | Width C | | tolerance +0.000 mm +0.0000" to minus | | Fillet Radius(1) | | Wt. | | Static Load Rating $C_o$ | | Extended Dynamic Load Rating $C_E$(4) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | kg | lbs. | N | lbs. | N | lbs. |
| 9301K | 12 | 0.4724 | 0.008 | 0.0003 | 24 | 0.9449 | 0.009 | 0.00035 | 6 | 0.236 | 0.12 | 0.005 | 0.3 | 0.012 | 0.014 | 0.03 | 1600 | 360 | 3650 | 830 |
| 9302K | 15 | 0.5906 | 0.008 | 0.0003 | 28 | 1.1024 | 0.009 | 0.00035 | 7 | 0.276 | 0.12 | 0.005 | 0.3 | 0.012 | 0.018 | 0.04 | 2270 | 510 | 4890 | 1100 |
| 9303K(2) | 17 | 0.6693 | 0.008 | 0.0003 | 30 | 1.1811 | 0.009 | 0.00035 | 7 | 0.276 | 0.12 | 0.005 | 0.3 | 0.012 | 0.027 | 0.06 | 2540 | 570 | 5250 | 1180 |
| 9305K(2) | 25 | 0.9843 | 0.010 | 0.0004 | 42 | 1.6535 | 0.011 | 0.00045 | 9 | 0.354 | 0.12 | 0.005 | 0.3 | 0.012 | 0.045 | 0.10 | 4540 | 1020 | 8010 | 1800 |
| 9306K(2)(3) | 30 | 1.1811 | 0.010 | 0.0004 | 47 | 1.8504 | 0.011 | 0.00045 | 9 | 0.354 | 0.12 | 0.005 | 0.3 | 0.012 | 0.075 | 0.16 | 4980 | 1120 | 8270 | 1860 |
| 9307K | 35 | 1.3780 | 0.012 | 0.00045 | 55 | 2.1654 | 0.013 | 0.0005 | 10 | 0.394 | 0.12 | 0.005 | 0.6 | 0.024 | 0.095 | 0.21 | 8010 | 1800 | 13300 | 3000 |
| 9308K | 40 | 1.5748 | 0.012 | 0.00045 | 62 | 2.4409 | 0.013 | 0.0005 | 12 | 0.472 | 0.12 | 0.005 | 0.6 | 0.024 | 0.141 | 0.31 | 8900 | 2000 | 13800 | 3100 |
| 9310K | 50 | 1.9685 | 0.012 | 0.00045 | 72 | 2.8346 | 0.013 | 0.0005 | 12 | 0.472 | 0.12 | 0.005 | 0.6 | 0.024 | 0.168 | 0.37 | 11560 | 2600 | 16700 | 3750 |
| 9311K | 55 | 2.1654 | 0.015 | 0.0006 | 80 | 3.1496 | 0.013 | 0.0005 | 13 | 0.512* | 0.15 | 0.006 | 1.0 | 0.039 | 0.209 | 0.46 | 14010 | 3150 | 18900 | 4250 |
| 9313K | 65 | 2.5591 | 0.015 | 0.0006 | 90 | 3.5433 | 0.015 | 0.0006 | 13 | 0.512* | 0.15 | 0.006 | 1.0 | 0.039 | 0.250 | 0.55 | 16010 | 3600 | 19600 | 4400 |
| 9316K | 80 | 3.1496 | 0.015 | 0.0006 | 110 | 4.3307 | 0.015 | 0.0006 | 16 | 0.630* | 0.15 | 0.006 | 1.0 | 0.039 | 0.363 | 0.80 | 24020 | 5400 | 28500 | 6400 |

(1) Maximum shaft or housing fillet radius that bearing corners will clear.
(2) Also available with rubber seals, e.g., 9303PP.
(3) Also available with two shields, e.g., 9306KDD.
(4) Based on $10^6$ revolutions of calculated fatigue life.

* Width tolerance is +.00 mm to -.15 mm (+.000" to -.006").

## EXTRA LIGHT 9100K SERIES

- For applications where housing diameters are restricted and it is desirable to maintain relatively large shaft diameters.
- Electric motor quality for applications where quietness is a requirement.




### DIMENSIONS – TOLERANCES

| Bearing Number | Bore d | | tolerance +0.000 mm +0.0000" to minus | | Outside Diameter D | | tolerance +0.000 mm +0.0000" to minus | | Width C | | tolerance +0.000 mm +0.0000" to minus | | Fillet Radius(1) | | Wt. | | Static Load Rating $C_o$ | | Extended Dynamic Load Rating $C_E$(2) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | kg | lbs. | N | lbs. | N | lbs. |
| 9100K | 10 | 0.3937 | 0.008 | 0.0003 | 26 | 1.0236 | 0.009 | 0.00035 | 8 | 0.3150 | 0.12 | 0.005 | 0.3 | 0.012 | 0.018 | 0.04 | 1960 | 440 | 5160 | 1160 |
| 9101K | 12 | 0.4724 | 0.008 | 0.0003 | 28 | 1.1024 | 0.009 | 0.00035 | 8 | 0.3150 | 0.12 | 0.005 | 0.3 | 0.012 | 0.018 | 0.04 | 2360 | 530 | 5870 | 1320 |
| 9102K | 15 | 0.5906 | 0.008 | 0.0003 | 32 | 1.2598 | 0.011 | 0.00045 | 9 | 0.3543 | 0.12 | 0.005 | 0.3 | 0.012 | 0.027 | 0.06 | 2800 | 630 | 6360 | 1430 |
| 9103K | 17 | 0.6693 | 0.008 | 0.0003 | 35 | 1.3780 | 0.011 | 0.00045 | 10 | 0.3937 | 0.12 | 0.005 | 0.3 | 0.012 | 0.041 | 0.09 | 3200 | 720 | 6800 | 1530 |
| 9104K | 20 | 0.7874 | 0.010 | 0.0004 | 42 | 1.6535 | 0.011 | 0.00045 | 12 | 0.4724 | 0.12 | 0.005 | 0.6 | 0.024 | 0.073 | 0.16 | 5000 | 1120 | 10700 | 2400 |
| 9105K | 25 | 0.9843 | 0.010 | 0.0004 | 47 | 1.8504 | 0.011 | 0.00045 | 12 | 0.4724 | 0.12 | 0.005 | 0.6 | 0.024 | 0.077 | 0.17 | 5740 | 1290 | 11300 | 2550 |
| 9106K | 30 | 1.1811 | 0.010 | 0.0004 | 55 | 2.1654 | 0.013 | 0.0005 | 13 | 0.5118 | 0.12 | 0.005 | 1.0 | 0.039 | 0.118 | 0.26 | 8010 | 1800 | 14600 | 3350 |
| 9107K | 35 | 1.3780 | 0.012 | 0.00045 | 62 | 2.4409 | 0.013 | 0.0005 | 14 | 0.5512 | 0.12 | 0.005 | 1.0 | 0.039 | 0.145 | 0.32 | 9960 | 2240 | 18000 | 4050 |
| 9108K | 40 | 1.5748 | 0.012 | 0.00045 | 68 | 2.6772 | 0.013 | 0.0005 | 15 | 0.5906 | 0.12 | 0.005 | 1.0 | 0.039 | 0.195 | 0.43 | 12200 | 2750 | 20000 | 4500 |
| 9109K | 45 | 1.7717 | 0.012 | 0.00045 | 75 | 2.9528 | 0.013 | 0.0005 | 16 | 0.6299 | 0.12 | 0.005 | 1.0 | 0.039 | 0.249 | 0.55 | 14900 | 3350 | 24000 | 5400 |
| 9110K | 50 | 1.9685 | 0.012 | 0.00045 | 80 | 3.1496 | 0.013 | 0.0005 | 16 | 0.6299 | 0.12 | 0.005 | 1.0 | 0.039 | 0.272 | 0.60 | 16000 | 3600 | 24900 | 5600 |
| 9111K | 55 | 2.1654 | 0.015 | 0.0006 | 90 | 3.5433 | 0.015 | 0.0006 | 18 | 0.7087 | 0.15 | 0.006 | 1.0 | 0.039 | 0.390 | 0.86 | 20700 | 4650 | 32000 | 7200 |
| 9112K | 60 | 2.3622 | 0.015 | 0.0006 | 95 | 3.7402 | 0.015 | 0.0006 | 18 | 0.7087 | 0.15 | 0.006 | 1.0 | 0.039 | 0.417 | 0.92 | 22600 | 5100 | 33400 | 7500 |
| 9113K | 65 | 2.5591 | 0.015 | 0.0006 | 100 | 3.9370 | 0.015 | 0.0006 | 18 | 0.7087 | 0.15 | 0.006 | 1.0 | 0.039 | 0.445 | 0.98 | 24500 | 5500 | 34700 | 7800 |
| 9114K | 70 | 2.7559 | 0.015 | 0.0006 | 110 | 4.3307 | 0.015 | 0.0006 | 20 | 0.7874 | 0.15 | 0.006 | 1.0 | 0.039 | 0.630 | 1.39 | 29800 | 6700 | 43200 | 9720 |
| 9115K | 75 | 2.9528 | 0.015 | 0.0006 | 115 | 4.5276 | 0.015 | 0.0006 | 20 | 0.7874 | 0.15 | 0.006 | 1.0 | 0.039 | 0.680 | 1.50 | 32700 | 7350 | 44500 | 10000 |
| 9116K | 80 | 3.1496 | 0.015 | 0.0006 | 125 | 4.9213 | 0.018 | 0.0007 | 22 | 0.8661 | 0.15 | 0.006 | 1.0 | 0.039 | 0.885 | 1.95 | 35600 | 8000 | 54300 | 12200 |
| 9117K | 85 | 3.3465 | 0.020 | 0.0008 | 130 | 5.1181 | 0.018 | 0.0007 | 22 | 0.8661 | 0.20 | 0.008 | 1.0 | 0.039 | 0.966 | 2.13 | 35600 | 8000 | 56500 | 12700 |
| 9118K | 90 | 3.5433 | 0.020 | 0.0008 | 140 | 5.5118 | 0.018 | 0.0007 | 24 | 0.9449 | 0.20 | 0.008 | 1.5 | 0.059 | 1.157 | 2.55 | 48000 | 10800 | 66700 | 15000 |
| 9119K | 95 | 3.7402 | 0.020 | 0.0008 | 145 | 5.7087 | 0.018 | 0.0007 | 24 | 0.9449 | 0.20 | 0.008 | 1.5 | 0.059 | 1.188 | 2.62 | 52500 | 11800 | 68100 | 15300 |
| 9120K | 100 | 3.9370 | 0.020 | 0.0008 | 150 | 5.9055 | 0.018 | 0.0007 | 24 | 0.9449 | 0.20 | 0.008 | 1.5 | 0.059 | 1.315 | 2.90 | 52500 | 11800 | 68100 | 15300 |

(1) Maximum shaft or housing fillet radius that bearing corners will clear.
(2) Based on $10^6$ revolutions of calculated fatigue life.

*Continued on the next page.*

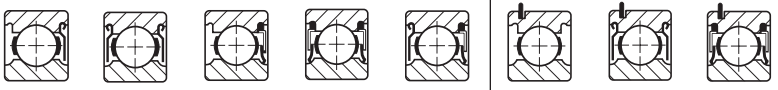
# EXTRA LIGHT 9100K SERIES *(continued)*

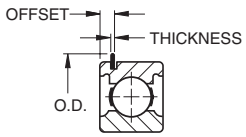
## DIMENSIONS – TOLERANCES

| Bearing Number | Bore d | | tolerance +0.000 mm +0.0000" to minus | | Outside Diameter D | | tolerance +0.000 mm +0.0000" to minus | | Width C | | tolerance +0.000 mm +0.0000" to minus | | Fillet Radius(1) | | Wt. | | Static Load Rating $C_o$ | | Extended Dynamic Load Rating $C_E$(2) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | kg | lbs. | N | lbs. | N | lbs. |
| 9121K | 105 | 4.1339 | 0.020 | 0.0008 | 160 | 6.2992 | 0.025 | 0.0010 | 26 | 1.0236 | 0.20 | 0.008 | 2.0 | 0.079 | 1.6 | 3.6 | 59600 | 13400 | 76900 | 17600 |
| 9122K | 110 | 4.3307 | 0.020 | 0.0008 | 170 | 6.6929 | 0.025 | 0.0010 | 28 | 1.1024 | 0.20 | 0.008 | 2.0 | 0.080 | — | — | 71100 | 16000 | 92500 | 20800 |
| 9124K | 120 | 4.7244 | 0.020 | 0.0008 | 180 | 7.0866 | 0.025 | 0.0010 | 28 | 1.1024 | 0.20 | 0.008 | 2.0 | 0.079 | 2.2 | 4.9 | 71100 | 16000 | 88900 | 20000 |
| 9126K | 130 | 5.1181 | 0.025 | 0.0010 | 200 | 7.8740 | 0.030 | 0.0012 | 33 | 1.2992 | 0.25 | 0.010 | 2.0 | 0.079 | 3.4 | 7.4 | 90700 | 20400 | 115600 | 26000 |
| 9128K | 140 | 5.5118 | 0.025 | 0.0010 | 210 | 8.2677 | 0.030 | 0.0012 | 33 | 1.2992 | 0.25 | 0.010 | 2.0 | 0.080 | 3.6 | 8.0 | 105000 | 23600 | 124500 | 28000 |
| 9130K | 150 | 5.9055 | 0.025 | 0.0010 | 225 | 8.8583 | 0.030 | 0.0012 | 35 | 1.3780 | 0.25 | 0.010 | 2.0 | 0.080 | 5.5 | 12.0 | 92500 | 20800 | 113400 | 25500 |
| 9132K | 160 | 6.2992 | 0.025 | 0.0010 | 240 | 9.4488 | 0.030 | 0.0012 | 38 | 1.4961 | 0.25 | 0.010 | 2.0 | 0.080 | 6.7 | 14.8 | 138000 | 31000 | 166800 | 37500 |
| 9134K | 170 | 6.6929 | 0.025 | 0.0010 | 260 | 10.2362 | 0.035 | 0.0014 | 42 | 1.6535 | 0.25 | 0.010 | 2.0 | 0.080 | 9.0 | 19.8 | 160000 | 36000 | 189000 | 42500 |
| 9136K | 180 | 7.0866 | 0.025 | 0.0010 | 280 | 11.0236 | 0.035 | 0.0014 | 44 | 1.8110 | 0.25 | 0.010 | 2.0 | 0.080 | 11.0 | 24.3 | 195700 | 44000 | 222000 | 50000 |
| 9138K | 190 | 7.4803 | 0.030 | 0.0012 | 290 | 11.4173 | 0.035 | 0.0014 | 46 | 1.8110 | 0.30 | 0.012 | 2.0 | 0.080 | 12.0 | 26.5 | 204000 | 45500 | 216000 | 48000 |
| 9140K | 200 | 7.8740 | 0.030 | 0.0012 | 310 | 12.2047 | 0.035 | 0.0014 | 51 | 2.0079 | 0.30 | 0.012 | 2.0 | 0.080 | 15.4 | 34.0 | 245000 | 55000 | 245000 | 55000 |
| 9144K | 220 | 8.6614 | 0.030 | 0.0012 | 340 | 13.3858 | 0.040 | 0.0016 | 56 | 2.2047 | 0.30 | 0.012 | 2.5 | 0.100 | 20.0 | 44.2 | 290000 | 65500 | 280000 | 63000 |
| 9146K | 240 | 9.4488 | 0.030 | 0.0012 | 360 | 14.1732 | 0.040 | 0.0016 | 56 | 2.2047 | 0.30 | 0.012 | 2.5 | 0.100 | 21.5 | 47.3 | 320000 | 72000 | 290000 | 65500 |
| 9152K | 260 | 10.2362 | 0.035 | 0.0014 | 400 | 15.7480 | 0.040 | 0.0016 | 65 | 2.5591 | 0.35 | 0.014 | 3.0 | 0.120 | 31.6 | 69.6 | 400000 | 90000 | 345000 | 78000 |
| 9156K | 280 | 11.0236 | 0.035 | 0.0014 | 420 | 16.5354 | 0.045 | 0.0018 | 65 | 2.5591 | 0.35 | 0.014 | 3.0 | 0.120 | 33.5 | 73.8 | 355000 | 80000 | 360000 | 80000 |
| 9160K | 300 | 11.8110 | 0.035 | 0.0014 | 460 | 18.1102 | 0.045 | 0.0018 | 74 | 2.9134 | 0.35 | 0.014 | 3.0 | 0.120 | 46.6 | 102.9 | 520000 | 118000 | 415000 | 93000 |
| 9164K | 320 | 12.5984 | 0.040 | 0.0016 | 480 | 18.8976 | 0.045 | 0.0018 | 74 | 2.9134 | 0.40 | 0.016 | 3.0 | 0.120 | 49.1 | 108.3 | 570000 | 127000 | 430000 | 98000 |
| 9180K | 400 | 15.7480 | 0.040 | 0.0016 | 600 | 23.6220 | 0.050 | 0.0020 | 90 | 3.5433 | 0.40 | 0.016 | 4.0 | 0.160 | — | — | 815000 | 180000 | 550000 | 122000 |

(1) Maximum shaft or housing fillet radius that bearing corners will clear.
(2) Based on $10^6$ revolutions of calculated fatigue life.

## SHIELDS, SEALS AND SNAP RING COMBINATIONS



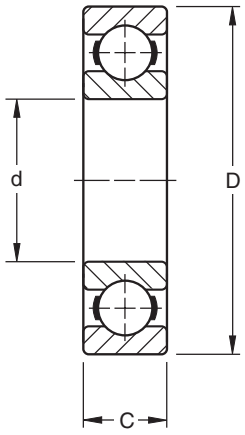




| One Shield D | Two Shields DD | One Seal P | Two Seals PP | One Shield And Seal PD | Open Type G | Two Shields DDG | Two Seals PPG | O.D. | | Thickness | | Offset | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | mm | in. | mm | in. | mm | in. |
| 9100KD | 9100KDD | 9100P | 9100PP | 9100PD | — | — | — | — | — | — | — | — | — |
| 9101KD | 9101KDD | 9101P | 9101PP | 9101PD | — | — | — | — | — | — | — | — | — |
| 9102KD | 9102KDD | 9102P | 9102PP | — | 9102KG | 9102KDDG | 9102PPG | 36.5 | 1 7/16 | 1.07 | 0.042 | 3.05 | 0.120 |
| 9103KD | 9103KDD | 9103P | 9103PP | 9103PD2(2) | 9103KG | 9103KDDG | 9103PPG | 39.3 | 1 35/64 | 1.07 | 0.042 | 3.05 | 0.120 |
| 9104KD | 9104KDD | 9104P | 9104PP | — | 9104KG | 9104KDDG | 9104PPG | 46.0 | 1 13/16 | 1.07 | 0.042 | 3.05 | 0.120 |
| 9105KD | 9105KDD | 9105P | 9105PP | — | — | — | — | 52.4 | 2 1/16 | 1.07 | 0.042 | 3.05 | 0.120 |
| 9106KD | 9106KDD | 9106P | 9106PP | 9106PD | 9106KG | 9106KDDG | 9106PPG | 60.3 | 2 3/8 | 1.07 | 0.042 | 3.05 | 0.120 |
| 9107KD | 9107KDD | 9107P | 9107PP | — | 9107KG | 9107KDDG | 9107PPG | 67.5 | 2 21/32 | 1.65 | 0.065 | 3.63 | 0.143 |
| 9108KD | 9108KDD | 9108P | 9108PP | — | 9108KG | 9108KDDG | 9108PPG | 74.2 | 2 59/64 | 1.65 | 0.065 | 4.04 | 0.159 |
| 9109KD | 9109KDD | 9109P | 9109PP | 9109PD | 9109KG | 9109KDDG | 9109PPG | 81.4 | 3 13/64 | 1.65 | 0.065 | 4.04 | 0.159 |
| 9110KD | 9110KDD | 9110P | 9110PP | — | 9110KG | — | — | 86.5 | 3 13/32 | 1.65 | 0.065 | 4.04 | 0.159 |
| 9111KD | 9111KDD | 9111P | 9111PP | — | 9111KG | — | 9111PPG | 96.4 | 3 51/64 | 2.41 | 0.095 | 5.18 | 0.204 |
| 9112KD | 9112KDD | 9112P | 9112PP | — | 9112KG | — | — | 101.2 | 3 63/64 | 2.41 | 0.095 | 5.18 | 0.204 |
| 9113KD | 9113KDD | 9113P | 9113PP | 9113PD | 9113KG | — | 9113PPG | 106.4 | 4 3/16 | 2.41 | 0.095 | 5.18 | 0.204 |
| 9114KD | 9114KDD | 9114P | 9114PP | — | 9114KG | — | — | 116.3 | 4 37/64 | 2.41 | 0.095 | 5.18 | 0.204 |
| 9115KD | 9115KDD | 9115P | 9115PP | — | — | — | — | 121.4 | 4 25/32 | 2.41 | 0.095 | 5.18 | 0.204 |
| — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 9117KD | — | — | — | — | 9117KG | 9117KDDG | — | 139.7 | 5 1/2 | 2.77 | 0.109 | 5.54 | 0.218 |
| — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 9120KD | — | — | 9120NPP | — | — | — | — | 159.5 | 6 9/32 | 2.77 | 0.109 | 6.35 | 0.250 |
| 9121KD | — | — | — | — | — | — | — | 169.5 | 6 43/64 | 2.77 | 0.109 | 6.35 | 0.250 |
| — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 9124KD | — | 9124P | 9124PP | — | 9124KG | — | — | 192.9 | 7 19/32 | 3.05 | 0.120 | 6.63 | 0.261 |
| — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — | — | — | — | — |

(1) The snap ring is normally packaged separately in the box with bearing.
(2) Width of bearing is 12.700 mm (.5000").

## LIGHT 200K SERIES

- Conrad-type bearing is well-balanced, with deep races and uninterrupted race shoulders. Excellent, general-purpose bearing.
- Capacity to carry radial and thrust in either direction or combined loads.
- Electric motor quality for applications where quietness is a requirement.



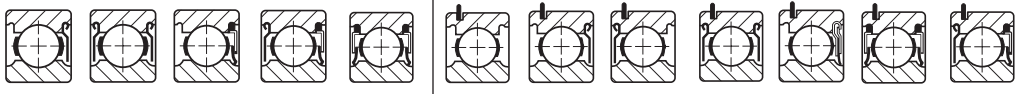

### DIMENSIONS – TOLERANCES

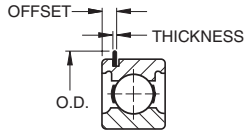
| Bearing Number | Bore d | | tolerance +0.000 mm +0.0000" to minus | | Outside Diameter D | | tolerance +0.000 mm +0.0000" to minus | | Width C | | tolerance +0.000 mm +0.0000" to minus | | Fillet Radius(1) | | Wt. | | Static Load Rating $C_o$ | | Extended Dynamic Load Rating $C_E$(2) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | kg | lbs. | N | lbs. | N | lbs. |
| 200K | 10 | 0.3937 | 0.008 | 0.0003 | 30 | 1.1811 | 0.009 | 0.00035 | 9 | 0.3543 | 0.12 | 0.005 | 0.6 | 0.024 | 0.027 | 0.06 | 2600 | 585 | 6800 | 1530 |
| 201K | 12 | 0.4724 | 0.008 | 0.0003 | 32 | 1.2598 | 0.011 | 0.00043 | 10 | 0.3937 | 0.12 | 0.005 | 0.6 | 0.024 | 0.036 | 0.08 | 3000 | 680 | 7600 | 1730 |
| 202K | 15 | 0.5906 | 0.008 | 0.0003 | 35 | 1.3780 | 0.011 | 0.00043 | 11 | 0.4331 | 0.12 | 0.005 | 0.6 | 0.024 | 0.041 | 0.09 | 3470 | 830 | 8650 | 1930 |
| 203K | 17 | 0.6693 | 0.008 | 0.0003 | 40 | 1.5748 | 0.011 | 0.00043 | 12 | 0.4724 | 0.12 | 0.005 | 0.6 | 0.024 | 0.064 | 0.14 | 4700 | 1060 | 10900 | 2450 |
| 204K | 20 | 0.7874 | 0.010 | 0.0004 | 47 | 1.8504 | 0.011 | 0.00043 | 14 | 0.5512 | 0.12 | 0.005 | 1.0 | 0.039 | 0.104 | 0.23 | 6500 | 1460 | 14400 | 3250 |
| 205K | 25 | 0.9843 | 0.010 | 0.0004 | 52 | 2.0472 | 0.013 | 0.0005 | 15 | 0.5906 | 0.12 | 0.005 | 1.0 | 0.039 | 0.127 | 0.28 | 7800 | 1760 | 16000 | 3600 |
| 206K | 30 | 1.1811 | 0.010 | 0.0004 | 62 | 2.4409 | 0.013 | 0.0005 | 16 | 0.6299 | 0.12 | 0.005 | 1.0 | 0.039 | 0.195 | 0.43 | 11300 | 2550 | 22200 | 5000 |
| 207K | 35 | 1.3780 | 0.012 | 0.00047 | 72 | 2.8346 | 0.013 | 0.0005 | 17 | 0.6693 | 0.12 | 0.005 | 1.0 | 0.039 | 0.290 | 0.64 | 15300 | 3450 | 29100 | 6550 |
| 208K | 40 | 1.5748 | 0.012 | 0.00047 | 80 | 3.1496 | 0.013 | 0.0005 | 18 | 0.7087 | 0.12 | 0.005 | 1.0 | 0.039 | 0.376 | 0.83 | 19800 | 4460 | 36200 | 8130 |
| 209K | 45 | 1.7717 | 0.012 | 0.00047 | 85 | 3.3465 | 0.015 | 0.0006 | 19 | 0.7480 | 0.12 | 0.005 | 1.0 | 0.039 | 0.426 | 0.94 | 20500 | 4600 | 36300 | 8160 |
| 210K | 50 | 1.9685 | 0.012 | 0.00047 | 90 | 3.5433 | 0.015 | 0.0006 | 20 | 0.7874 | 0.12 | 0.005 | 1.0 | 0.039 | 0.476 | 1.05 | 23100 | 5200 | 40000 | 9000 |
| 211K | 55 | 2.1654 | 0.015 | 0.0006 | 100 | 3.9370 | 0.015 | 0.0006 | 21 | 0.8268 | 0.15 | 0.006 | 1.5 | 0.059 | 0.635 | 1.40 | 29100 | 6550 | 49000 | 11000 |
| 212K | 60 | 2.3622 | 0.015 | 0.0006 | 110 | 4.3307 | 0.015 | 0.0006 | 22 | 0.8661 | 0.15 | 0.006 | 1.5 | 0.059 | 0.807 | 1.78 | 35500 | 8000 | 62100 | 13400 |
| 213K | 65 | 2.5591 | 0.015 | 0.0006 | 120 | 4.7244 | 0.015 | 0.0006 | 23 | 0.9055 | 0.15 | 0.006 | 1.5 | 0.059 | 1.016 | 2.24 | 39900 | 9000 | 62100 | 14600 |
| 214K | 70 | 2.7559 | 0.015 | 0.0006 | 125 | 4.9213 | 0.018 | 0.0007 | 24 | 0.9449 | 0.15 | 0.006 | 1.5 | 0.059 | 1.107 | 2.44 | 44000 | 9890 | 69000 | 15500 |
| 215K | 75 | 2.9528 | 0.015 | 0.0006 | 130 | 5.1181 | 0.018 | 0.0007 | 25 | 0.9843 | 0.15 | 0.006 | 1.5 | 0.059 | 1.198 | 2.64 | 44800 | 10100 | 68900 | 15500 |
| 216K | 80 | 3.1496 | 0.015 | 0.0006 | 140 | 5.5118 | 0.018 | 0.0007 | 26 | 1.0236 | 0.15 | 0.006 | 2.0 | 0.079 | 1.483 | 3.27 | 54200 | 12200 | 81300 | 18300 |
| 217K | 85 | 3.3465 | 0.020 | 0.0008 | 150 | 5.9055 | 0.018 | 0.0007 | 28 | 1.1024 | 0.20 | 0.008 | 2.0 | 0.079 | 1.860 | 4.10 | 62200 | 14000 | 95900 | 21600 |
| 218K | 90 | 3.5433 | 0.020 | 0.0008 | 160 | 6.2992 | 0.025 | 0.0010 | 30 | 1.1811 | 0.20 | 0.008 | 2.0 | 0.079 | 2.209 | 4.87 | 71100 | 16000 | 109000 | 24500 |
| 220K | 100 | 3.9370 | 0.020 | 0.0008 | 180 | 7.0866 | 0.025 | 0.0010 | 34 | 1.3386 | 0.20 | 0.008 | 2.0 | 0.080 | 4.077 | 8.98 | 93000 | 20800 | 134000 | 30500 |
| 221K | 105 | 4.1339 | 0.020 | 0.0008 | 190 | 7.4803 | 0.030 | 0.0012 | 36 | 1.4173 | 0.20 | 0.008 | 2.0 | 0.080 | 3.777 | 8.32 | 93000 | 20800 | 127000 | 28500 |
| 222K | 110 | 4.3307 | 0.020 | 0.0008 | 200 | 7.8740 | 0.030 | 0.0012 | 38 | 1.4961 | 0.20 | 0.008 | 2.0 | 0.080 | 4.300 | 9.47 | 104900 | 23600 | 153000 | 34500 |
| 224K | 120 | 4.7244 | 0.020 | 0.0008 | 215 | 8.4646 | 0.030 | 0.0012 | 40 | 1.5748 | 0.20 | 0.008 | 2.0 | 0.080 | 7.064 | 15.56 | 133000 | 30000 | 173000 | 39000 |
| 226K | 130 | 5.1181 | 0.020 | 0.0010 | 230 | 9.0551 | 0.030 | 0.0012 | 40 | 1.5748 | 0.25 | 0.010 | 3.0 | 0.120 | 6.642 | 14.63 | 149000 | 33500 | 189000 | 42500 |
| 228K | 140 | 5.5118 | 0.025 | 0.0010 | 250 | 9.8425 | 0.030 | 0.0012 | 42 | 1.6535 | 0.25 | 0.010 | 3.0 | 0.120 | 11.196 | 24.66 | 162000 | 36500 | 200000 | 45000 |
| 230K | 150 | 5.9055 | 0.025 | 0.0010 | 270 | 10.6299 | 0.035 | 0.0014 | 45 | 1.7717 | 0.25 | 0.010 | 3.0 | 0.120 | 12.17 | 26.8 | 180000 | 40500 | 218000 | 49000 |
| 232K | 160 | 6.2992 | 0.025 | 0.0010 | 290 | 11.4173 | 0.035 | 0.0014 | 48 | 1.8898 | 0.25 | 0.010 | 3.0 | 0.120 | 15.03 | 33.1 | 235000 | 53000 | 260000 | 58500 |
| 234K | 170 | 6.6929 | 0.025 | 0.0010 | 310 | 12.2047 | 0.035 | 0.0014 | 52 | 2.0472 | 0.25 | 0.010 | 4.0 | 0.160 | 18.66 | 41.1 | 276000 | 62000 | 291000 | 65500 |
| 236K | 180 | 7.0866 | 0.025 | 0.0010 | 320 | 12.5984 | 0.040 | 0.0016 | 52 | 2.0472 | 0.25 | 0.010 | 4.0 | 0.160 | 19.39 | 42.7 | 298000 | 67000 | 309000 | 69500 |
| 238K | 190 | 7.4803 | 0.030 | 0.0012 | 340 | 13.3858 | 0.040 | 0.0016 | 55 | 2.1654 | 0.30 | 0.012 | 4.0 | 0.160 | 23.02 | 50.7 | 290000 | 65000 | 300000 | 67000 |
| 240K | 200 | 7.8740 | 0.030 | 0.0012 | 360 | 14.1732 | 0.040 | 0.0016 | 58 | 2.2835 | 0.30 | 0.012 | 4.0 | 0.160 | 26.42 | 58.2 | 375000 | 83000 | 355000 | 80000 |
| 242K | 210 | 8.2677 | 0.030 | 0.0012 | 380 | 14.9606 | 0.040 | 0.0016 | 61 | 2.4016 | 0.30 | 0.012 | 4.0. | 0.160 | 32.42 | 71.4 | 335000 | 76500 | 325000 | 73500 |
| 244K | 220 | 8.6614 | 0.030 | 0.0012 | 400 | 15.7480 | 0.040 | 0.0016 | 65 | 2.5591 | 0.30 | 0.012 | 4.0 | 0.160 | 36.96 | 81.4 | 380000 | 86500 | 355000 | 80000 |
| 246K | 230 | 9.0551 | 0.030 | 0.0012 | 420 | 16.5354 | 0.045 | 0.0018 | 68 | 2.6772 | 0.30 | 0.012 | 4.0 | 0.160 | 42.36 | 93.3 | 425000 | 95000 | 380000 | 85000 |
| 248K | 240 | 9.4488 | 0.030 | 0.0012 | 440 | 17.3228 | 0.045 | 0.0018 | 72 | 2.8346 | 0.30 | 0.012 | 4.0 | 0.160 | 46.81 | 103.1 | 520000 | 116000 | 455000 | 102000 |
| 250K | 250 | 9.8425 | 0.035 | 0.0014 | 460 | 18.1102 | 0.045 | 0.0018 | 76 | 2.9921 | 0.30 | 0.012 | 4.0 | 0.160 | 55.57 | 122.4 | 585000 | 129000 | 490000 | 110000 |
| 252K | 260 | 10.2362 | 0.035 | 0.0014 | 480 | 18.8976 | 0.045 | 0.0018 | 80 | 3.1496 | 0.35 | 0.014 | 5.0 | 0.200 | 63.11 | 139.0 | 640000 | 143000 | 520000 | 118000 |
| 256K | 280 | 11.0236 | 0.035 | 0.0014 | 500 | 19.6850 | 0.045 | 0.0018 | 80 | 3.1496 | 0.35 | 0.014 | 5.0 | 0.200 | 64.20 | 141.4 | 710000 | 160000 | 560000 | 125000 |
| 260K | 300 | 11.8110 | 0.035 | 0.0014 | 540 | 21.2598 | 0.050 | 0.0020 | 85 | 3.3465 | 0.35 | 0.014 | 5.0 | 0.200 | 87.49 | 192.7 | 670000 | 150000 | 520000 | 116000 |
| 264K | 320 | 12.5984 | 0.040 | 0.0016 | 580 | 22.8346 | 0.050 | 0.0020 | 92 | 3.6220 | 0.40 | 0.016 | 5.0 | 0.200 | 94.66 | 208.5 | 980000 | 220000 | 710000 | 160000 |

(1) Maximum shaft or housing fillet radius that bearing corners will clear.
(2) Based on $10^6$ revolutions of calculated fatigue life.

## SHIELDS, SEALS AND SNAP RING COMBINATIONS

**Shields and Seals** | **Snap Ring (Wireloc) [1]**



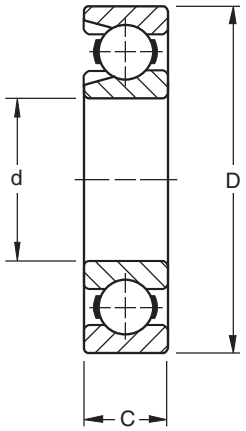



| One Shield D | Two Shields DD | One Seal (N) P | One Seal One Shield PD | Two[3] Seals (N) PP | Open Type G | One Shield DG | One Shield GD | Two Shields DDG | One Seal PG | Two Seals PPG | One Seal One Shield PDG | O.D. Snap Ring | | Thickness | | Offset | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | mm | in. | mm | in. | mm | in. |
| 200KD | 200KDD | 200P | 200PD[2] | 200PP | — | — | — | 200KDDG | — | 200PPG | — | 34.5 | 1 23/64 | 1.07 | 0.042 | 3.05 | 0.120 |
| 201KD | 201KDD | 201P | 201PD | 201PP | 201KG | 201KDG | — | 201KDDG | — | 201PPG | — | 36.5 | 1 7/16 | 1.07 | 0.042 | 3.05 | 0.120 |
| 202KD | 202KDD | 202P | 202PD | 202PP | 202KG | 202KDG | — | 202KDDG | — | 202PPG | — | 39.3 | 1 35/64 | 1.07 | 0.042 | 3.05 | 0.120 |
| 203KD | 203KDD | 203P | 203PD | 203PP | 203KG | 203KDG | — | 203KDDG | — | 203PPG | — | 44.4 | 1 3/4 | 1.07 | 0.042 | 3.05 | 0.120 |
| 204KD | 204KDD | 204P | 204PD | 204PP | 204KG | 204KDG | — | 204KDDG | — | 204PPG | — | 52.4 | 2 1/16 | 1.07 | 0.042 | 3.45 | 0.136 |
| 205KD | 205KDD | 205P | 205PD | 205PP | 205KG | 205KDG | — | 205KDDG | — | 205PPG | — | 57.5 | 2 17/64 | 1.07 | 0.042 | 3.45 | 0.136 |
| 206KD | 206KDD | 206P | 206PD | 206PP | 206KG | 206KDG | — | 206KDDG | — | 206PPG | — | 67.6 | 2 21/32 | 1.65 | 0.065 | 4.83 | 0.190 |
| 207KD | 207KDD | 207P | 207PD | 207PP | 207KG | 207KDG | — | 207KDDG | — | 207PPG | — | 78.2 | 3 5/64 | 1.65 | 0.065 | 4.83 | 0.190 |
| 208KD | 208KDD | 208P | — | 208PP | 208KG | 208KDG | — | 208KDDG | — | 208PPG | — | 86.5 | 3 13/32 | 1.65 | 0.065 | 4.83 | 0.190 |
| 209KD | 209KDD | 209P | — | 209PP | 209KG | 209KDG | — | 209KDDG | — | — | — | 91.3 | 3 19/32 | 1.65 | 0.065 | 4.83 | 0.190 |
| 210KD | 210KDD | 210P | — | 210PP | 210KG | 210KDG | — | 210KDDG | — | 210NPPG | — | 96.4 | 3 51/64 | 2.41 | 0.095 | 5.59 | 0.220 |
| 211KD | 211KDD | 211NP | 211NPD | 211NPP | 211KG | 211KDG | 211KGD | 211KDDG | — | 211NPPG | 211NPDG | 106.3 | 4 3/16 | 2.41 | 0.095 | 5.59 | 0.220 |
| 212KD | 212KDD | 212NP | 212NPD | 212NPP | 212KG | 212KDG | — | — | — | 212NPPG | 212NPDG | 116.3 | 4 37/64 | 2.41 | 0.095 | 5.59 | 0.220 |
| 213KD | 213KDD | 213NP | — | 213NPP | 213KG | — | — | 213KDDG | — | 213NPPG | 213NPDG | 129.4 | 5 3/32 | 2.77 | 0.109 | 6.73 | 0.265 |
| 214KD | 214KDD | 214P | — | 214NPP | 214KG | 214KDG | — | — | — | — | — | 134.5 | 5 19/64 | 2.77 | 0.109 | 6.73 | 0.265 |
| 215KD | 215KDD | 215P | — | 215NPP | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 216KD | 216KDD | — | — | 216NPP | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 217KD | 217KDD | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 218KD | 218KDD | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 222KD | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

[1] The snap ring is normally packaged separately in the box with the bearing.
[2] Available with snap ring as 200PDG.
[3] Also available in "VV" sealed design. Check for availability.
**Note:** "N" prefix for NP(P) seals indicate non-removable seal.

## LIGHT 200W SERIES

- 200W Series, maximum capacity type, is dimensionally interchangeable with the 200K type, but has greater capacity for supporting heavier radial loads and light thrust loads in either direction.
- Maximum capacity bearings feature a filling slot in shoulder of each raceway to assemble an extra-large complement of balls.
- Consult your Timken representative for the availability of sizes other than those listed here.




### DIMENSIONS – TOLERANCES

| Bearing Number | Bore d tolerance +0.000 mm +0.0000" to minus | | | | Outside Diameter D tolerance +0.000 mm +0.0000" to minus | | | | Width C tolerance +0.000 mm +0.0000" to minus | | | | Fillet Radius[1] | | Wt. | | Static Load Rating $C_o$ | | Extended Dynamic Load Rating* $C_E$[3] | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | kg | lbs. | N | lbs. | N | lbs. |
| 202W | 15 | 0.5906 | 0.008 | 0.0003 | 35 | 1.3780 | 0.011 | 0.00045 | 11 | 0.4331 | 0.12 | 0.005 | 0.6 | 0.024 | 0.054 | 0.12 | 5060 | 1140 | 11000 | 2450 |
| 204W[2] | 20 | 0.7874 | 0.010 | 0.0004 | 47 | 1.8504 | 0.011 | 0.00045 | 14 | 0.5512 | 0.12 | 0.005 | 1.0 | 0.039 | 0.113 | 0.25 | 9300 | 2120 | 19500 | 4400 |
| 205W[2] | 25 | 0.9843 | 0.010 | 0.0004 | 52 | 2.0472 | 0.013 | 0.0005 | 15 | 0.5906 | 0.12 | 0.005 | 1.0 | 0.039 | 0.141 | 0.31 | 12200 | 2750 | 22600 | 5100 |
| 206W | 30 | 1.1811 | 0.010 | 0.0004 | 62 | 2.4409 | 0.013 | 0.0005 | 16 | 0.6299 | 0.12 | 0.005 | 1.0 | 0.039 | 0.213 | 0.47 | 16900 | 3800 | 31000 | 6950 |
| 207W | 35 | 1.3780 | 0.012 | 0.00047 | 72 | 2.8346 | 0.013 | 0.0005 | 17 | 0.6693 | 0.12 | 0.005 | 1.0 | 0.039 | 0.313 | 0.69 | 22600 | 5100 | 40000 | 9000 |
| 208W | 40 | 1.5748 | 0.012 | 0.00047 | 80 | 3.1496 | 0.013 | 0.0005 | 18 | 0.7087 | 0.12 | 0.005 | 1.0 | 0.039 | 0.413 | 0.91 | 28400 | 6400 | 47000 | 10600 |
| 209W | 45 | 1.7717 | 0.012 | 0.00047 | 85 | 3.3465 | 0.015 | 0.0006 | 19 | 0.7480 | 0.12 | 0.005 | 1.0 | 0.039 | 0.463 | 1.02 | 31500 | 7100 | 50000 | 11200 |
| 210W | 50 | 1.9685 | 0.012 | 0.00047 | 90 | 3.5433 | 0.015 | 0.0006 | 20 | 0.7874 | 0.12 | 0.005 | 1.0 | 0.039 | 0.522 | 1.15 | 34600 | 7800 | 52000 | 11800 |
| 211W | 55 | 2.1654 | 0.015 | 0.0006 | 100 | 3.9370 | 0.015 | 0.0006 | 21 | 0.8268 | 0.15 | 0.006 | 1.5 | 0.059 | 0.681 | 1.50 | 40600 | 9150 | 61000 | 13700 |
| 212W | 60 | 2.3622 | 0.015 | 0.0006 | 110 | 4.3307 | 0.015 | 0.0006 | 22 | 0.8661 | 0.15 | 0.006 | 1.5 | 0.059 | 0.885 | 1.95 | 54200 | 12200 | 78000 | 17600 |
| 213W | 65 | 2.5591 | 0.015 | 0.0006 | 120 | 4.7244 | 0.015 | 0.0006 | 23 | 0.9055 | 0.15 | 0.006 | 1.5 | 0.059 | 1.207 | 2.66 | 64800 | 14600 | 92000 | 20800 |
| 214W | 70 | 2.7559 | 0.015 | 0.0006 | 125 | 4.9213 | 0.018 | 0.0007 | 24 | 0.9449 | 0.15 | 0.006 | 1.5 | 0.059 | 1.225 | 2.70 | 71100 | 16000 | 96000 | 21600 |
| 215W | 75 | 2.9528 | 0.015 | 0.0006 | 130 | 5.1181 | 0.018 | 0.0007 | 25 | 0.9843 | 0.15 | 0.006 | 1.5 | 0.059 | 1.334 | 2.94 | 75500 | 17000 | 99000 | 22400 |
| 216W | 80 | 3.1496 | 0.015 | 0.0006 | 140 | 5.5118 | 0.018 | 0.0007 | 26 | 1.0236 | 0.15 | 0.006 | 2.0 | 0.079 | 1.633 | 3.60 | 90600 | 20400 | 114000 | 26000 |
| 217W | 85 | 3.3465 | 0.020 | 0.0008 | 150 | 5.9055 | 0.018 | 0.0007 | 28 | 1.1024 | 0.20 | 0.008 | 2.0 | 0.079 | 2.019 | 4.45 | 96000 | 22400 | 129000 | 29000 |
| 218W | 90 | 3.5433 | 0.020 | 0.0008 | 160 | 6.2992 | 0.025 | 0.0010 | 30 | 1.1811 | 0.20 | 0.008 | 2.0 | 0.079 | 2.493 | 5.49 | 96500 | 25500 | 149000 | 33500 |
| 219W | 95 | 3.7402 | 0.020 | 0.0008 | 170 | 6.6929 | 0.025 | 0.0010 | 32 | 1.2598 | 0.20 | 0.008 | 2.0 | 0.079 | 3.039 | 6.70 | 112000 | 29000 | 169000 | 38000 |
| 220W | 100 | 3.9370 | 0.020 | 0.0008 | 180 | 7.0866 | 0.025 | 0.0010 | 34 | 1.3386 | 0.20 | 0.008 | 2.0 | 0.080 | 3.673 | 8.09 | 127000 | 33500 | 188000 | 42500 |
| 221W | 105 | 4.1339 | 0.020 | 0.0008 | 190 | 7.4803 | 0.030 | 0.0012 | 36 | 1.4173 | 0.20 | 0.008 | 2.0 | 0.080 | 4.277 | 9.43 | 134000 | 35500 | 195000 | 44000 |
| 222W | 110 | 4.3307 | 0.020 | 0.0008 | 200 | 7.8740 | 0.030 | 0.0012 | 38 | 1.4961 | 0.20 | 0.008 | 2.0 | 0.080 | 5.144 | 11.34 | 160000 | 42500 | 222000 | 50000 |
| 224W3 | 120 | 4.7244 | 0.020 | 0.0008 | 215 | 8.4646 | 0.030 | 0.0012 | 40 | 1.5748 | 0.25 | 0.010 | 2.0 | 0.080 | 6.586 | 14.52 | 156000 | 41500 | 222000 | 50000 |
| 226W3 | 130 | 5.1181 | 0.020 | 0.0010 | 230 | 9.0551 | 0.030 | 0.0012 | 40 | 1.5748 | 0.25 | 0.010 | 3.0 | 0.120 | 7.627 | 16.80 | 196000 | 53000 | 260000 | 58500 |
| 228W3 | 140 | 5.5118 | 0.025 | 0.0010 | 250 | 9.8425 | 0.030 | 0.0012 | 42 | 1.6535 | 0.25 | 0.010 | 3.0 | 0.120 | 9.307 | 20.50 | 260000 | 58500 | 270000 | 61000 |
| 230W | 150 | 5.9055 | 0.025 | 0.0010 | 270 | 10.6299 | 0.035 | 0.0014 | 45 | 1.7717 | 0.25 | 0.010 | 3.0 | 0.120 | 12.485 | 27.50 | 290000 | 65500 | 300000 | 67000 |
| 232W | 160 | 6.2992 | 0.025 | 0.0010 | 290 | 11.4173 | 0.035 | 0.0014 | 48 | 1.8898 | 0.25 | 0.010 | 3.0 | 0.120 | 15.436 | 34.00 | 340000 | 76500 | 325000 | 73500 |
| 234W | 170 | 6.6929 | 0.025 | 0.0010 | 310 | 12.2047 | 0.035 | 0.0014 | 52 | 2.0472 | 0.25 | 0.010 | 4.0 | 0.160 | 19.068 | 42.00 | 375000 | 85000 | 345000 | 78000 |
| 236W | 180 | 7.0866 | 0.025 | 0.0010 | 320 | 12.5984 | 0.040 | 0.0016 | 52 | 2.0472 | 0.25 | 0.010 | 4.0 | 0.160 | 19.886 | 43.80 | 405000 | 90000 | 365000 | 81500 |
| 238W | 190 | 7.4803 | 0.030 | 0.0012 | 340 | 13.3858 | 0.040 | 0.0016 | 55 | 2.1654 | 0.30 | 0.012 | 4.0 | 0.160 | 23.608 | 52.00 | 465000 | 104000 | 405000 | 91500 |
| 240W | 200 | 7.8740 | 0.030 | 0.0012 | 360 | 14.1732 | 0.040 | 0.0016 | 58 | 2.2835 | 0.30 | 0.012 | 4.0 | 0.160 | 27.150 | 59.80 | 560000 | 125000 | 465000 | 106000 |
| 242W | 210 | 8.2677 | 0.030 | 0.0012 | 380 | 14.9606 | 0.040 | 0.0016 | 61 | 2.4016 | 0.30 | 0.012 | 4.0 | 0.160 | 33.279 | 73.30 | 570000 | 129000 | 465000 | 104000 |
| 244W | 220 | 8.6614 | 0.030 | 0.0012 | 400 | 15.7480 | 0.040 | 0.0016 | 65 | 2.5591 | 0.30 | 0.012 | 4.0 | 0.160 | 38.091 | 83.90 | 680000 | 153000 | 530000 | 120000 |
| 246W | 230 | 9.0551 | 0.030 | 0.0012 | 420 | 16.5354 | 0.045 | 0.0018 | 68 | 2.6772 | 0.30 | 0.012 | 4.0 | 0.160 | 45.719 | 100.70 | 695000 | 156000 | 530000 | 118000 |
| 248W | 240 | 9.4488 | 0.030 | 0.0012 | 440 | 17.3228 | 0.045 | 0.0018 | 72 | 2.8346 | 0.30 | 0.012 | 4.0 | 0.160 | 48.761 | 107.40 | 865000 | 193000 | 640000 | 143000 |
| 250W | 250 | 9.8425 | 0.030 | 0.0012 | 460 | 18.1102 | 0.045 | 0.0018 | 76 | 2.9921 | 0.30 | 0.012 | 4.0 | 0.160 | 57.568 | 126.80 | 930000 | 208000 | 670000 | 150000 |
| 252W | 260 | 10.2362 | 0.035 | 0.0014 | 480 | 18.8976 | 0.045 | 0.0018 | 80 | 3.1496 | 0.35 | 0.014 | 5.0 | 0.200 | 65.468 | 144.20 | 1020000 | 232000 | 720000 | 160000 |
| 256W | 280 | 11.0236 | 0.035 | 0.0014 | 500 | 19.6850 | 0.045 | 0.0018 | 80 | 3.1496 | 0.35 | 0.014 | 5.0 | 0.200 | 66.921 | 147.40 | 1120000 | 255000 | 765000 | 170000 |
| 260W | 300 | 11.8110 | 0.035 | 0.0014 | 540 | 21.2598 | 0.050 | 0.0020 | 85 | 3.3465 | 0.35 | 0.014 | 5.0 | 0.200 | 89.894 | 198.00 | 1100000 | 245000 | 720000 | 160000 |
| 264W | 320 | 12.5984 | 0.040 | 0.0016 | 580 | 22.8346 | 0.050 | 0.0020 | 92 | 3.6220 | 0.40 | 0.016 | 5.0 | 0.200 | 99.473 | 219.10 | 1560000 | 355000 | 965000 | 216000 |

[1] Maximum shaft or housing fillet radius that bearing corners will clear.
[2] These sizes have molded nylon cages.
[3] Based on $10^6$ revolutions of calculated fatigue life.

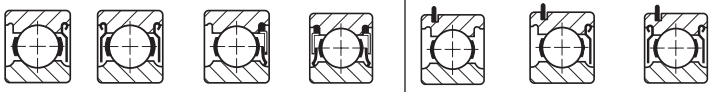
* For applications where thrust load exceeds 60% of radial load, consult your Timken representative.

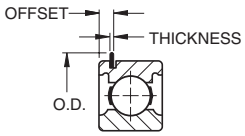
Listed in the table below are Timken maximum capacity type bearings (200W Series) with shields, seals and snap ring combinations.

The suffixes of the bearing numbers denote the following:

- **WD** - Filling slot opposite single shield
- **WNP** - Filling slot opposite single seal
- **WG** - Filling slot opposite snap ring
- **WDD** - Two shields
- **WNPP** - Two seals
- **WDG** - Filling slot and snap ring opposite shield
- **WDDG** - Two shields with filling slot opposite snap ring

## SHIELDS, SEALS AND SNAP RING COMBINATIONS






| Shields and Seals | | | | Snap Ring (Wireloc)[1] | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| One Shield D | Two Shields DD | One Seal P | Two Seals PP | Open Type G | One Shield DG | Two Shields DDG | O.D. | | Thickness | | Offset | |
| | | | | | | | mm | in. | mm | in. | mm | in. |
| 204WD | — | — | — | 204WG | — | — | 52.4 | 2 1/16 | 1.07 | 0.042 | 3.45 | 0.136 |
| 205WD | — | — | — | 205WG | — | — | 57.5 | 2 17/64 | 1.07 | 0.042 | 3.45 | 0.136 |
| 206WD | — | — | — | 206WG | 206WDG | — | 67.5 | 2 21/32 | 1.65 | 0.065 | 4.83 | 0.190 |
| 207WD | — | — | — | 207WG | 207WDG | — | 78.2 | 3 5/64 | 1.65 | 0.065 | 4.83 | 0.190 |
| 208WD | 208WDD | — | — | 208WG | 208WDG | 208WDDG | 86.5 | 3 13/32 | 1.65 | 0.065 | 4.83 | 0.190 |
| 209WD | 209WDD | — | — | 209WG | 209WDG | — | 91.3 | 3 19/32 | 1.65 | 0.065 | 4.83 | 0.190 |
| 210WD | 210WDD | — | — | 210WG | 210WDG[2] | — | 96.4 | 3 51/64 | 2.41 | 0.095 | 5.59 | 0.220 |
| 211WD | 211WDD | — | — | 211WG[3] | 211WDG | — | 106.4 | 4 3/16 | 2.41 | 0.095 | 5.59 | 0.220 |
| 212WD | 212WDD | — | — | 212WG | 212WDG | 212WDDG | 116.3 | 4 37/64 | 2.41 | 0.095 | 5.59 | 0.220 |
| 213WD | 213WDD | 213WNP | 213WNPP | 213WG | 213WDG | 213WDDG | 129.4 | 5 3/32 | 2.77 | 0.109 | 6.73 | 0.265 |
| 214WD | 214WDD | — | — | 214WG | 214WDG | — | 134.5 | 5 19/64 | 2.77 | 0.109 | 6.73 | 0.265 |
| 215WD | 215WDD | 215WNP | 215WNPP | 215WG | 215WDG | 215WDDG | 139.7 | 5 1/2 | 2.77 | 0.109 | 6.73 | 0.265 |
| 216WD | 216WDD | — | — | 216WG | 216WDG | — | 149.6 | 5 57/64 | 2.77 | 0.109 | 7.54 | 0.297 |
| 217WD | 217WDD | — | — | 217WG | 217WDG | — | 159.5 | 6 9/32 | 2.77 | 0.109 | 7.54 | 0.297 |
| 218WD | 218WDD | 218WNP | — | 218WG | — | — | 169.5 | 6 43/64 | 2.77 | 0.109 | 7.54 | 0.297 |
| 219WD | 219WDD | — | — | — | — | — | — | — | — | — | — | — |
| 220WD | 220WDD | — | — | 220WG | — | — | 192.9 | 7 19/32 | 3.05 | 0.12 | 8.61 | 0.339 |
| 221WD | — | — | — | — | — | — | — | — | — | — | — | — |
| 222WD | — | — | — | — | — | — | — | — | — | — | — | — |
| 224WD[4] | — | — | — | — | — | — | — | — | — | — | — | — |

[1] The snap ring is normally packaged separately in the box with the bearing.
[2] Also available as a GWD-type filling slot opposite the shield and snap ring.
[3] Also available as 211GW with filling slot on same side as snap ring.
[4] Width is 1.6535" for the 224WD bearing.

# LIGHT 200 SERIES EXTRA WIDTH INNER RING

- Sizes available in rubber seal (P) and Mechani-Seal (L) design.
- Extra width inner ring provides greater shaft support.
- P seal version uses a Buna N rubber contact seal.
- L seal employs a frictionless metallic member to form a labyrinth.
- Used extensively in high-speed pneumatic tools, small pumps, electric motors, domestic appliances, etc.
- Electric motor quality for applications where quietness is a requirement.

## DIMENSIONS – TOLERANCES

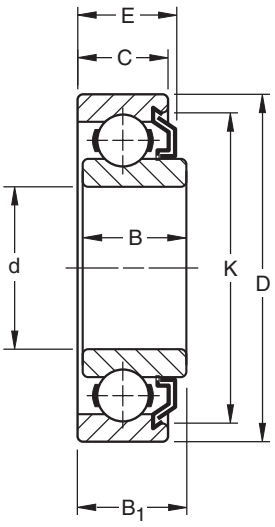
| Bearing Number | | Bore d | | | | Outside Diameter D | | | | Width $B_1$ | | Inner Ring Offset | | Ring Widths 0.00, -.12 mm +0.000", - .005" | | | | Fillet Radius(1) | | Wt. | | Static Load Rating $C_o$ | | Extended Dynamic Load Rating $C_E$(1) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | tolerance +0.000 mm +0.0000" to minus | | | | tolerance +0.000 mm +0.0000" to minus | | | | | | Inner B | | Outer C | | | | | | | | | |
| one seal L | one seal and shield LD | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | kg | lbs. | N | lbs. | N | lbs. |
| 200KL | 200KLD | 10 | 0.3937 | 0.008 | 0.0003 | 30 | 1.1811 | 0.009 | 0.00035 | 12.70 | 0.500 | 0.51 | 0.020 | 12.19 | 0.480 | 8.99 | 0.354 | 0.6 | 0.024 | 0.036 | 0.08 | 2650 | 585 | 6550 | 1530 |
| 201KL | 201KLD | 12 | 0.4724 | 0.008 | 0.0003 | 32 | 1.2598 | 0.011 | 0.00045 | 12.70 | 0.500 | 0.51 | 0.020 | 12.19 | 0.480 | 10.01 | 0.394 | 0.6 | 0.024 | 0.041 | 0.09 | 3000 | 680 | 7500 | 1730 |
| — | 201KLD2 | 13 | 0.5118 | 0.008 | 0.0003 | 32 | 1.2598 | 0.011 | 0.00045 | 12.70 | 0.500 | 0.51 | 0.020 | 12.19 | 0.480 | 10.01 | 0.394 | 0.6 | 0.024 | 0.041 | 0.09 | 3000 | 680 | 7500 | 1730 |
| 201KL3 | — | 11.07 | 0.4358 | 0.008 | 0.0003 | 32 | 1.2598 | 0.011 | 0.00045 | 12.70 | 0.500 | 0.51 | 0.020 | 12.19 | 0.480 | 10.01 | 0.394 | 0.6 | 0.024 | 0.041 | 0.09 | 3000 | 680 | 7500 | 1730 |
| 202KL4 | 202KLD4 | 14 | 0.5512 | 0.008 | 0.0003 | 35 | 1.3780 | 0.011 | 0.00045 | 12.70 | 0.500 | 0.51 | 0.020 | 12.19 | 0.480 | 11.00 | 0.433 | 0.6 | 0.024 | 0.045 | 0.10 | 3690 | 830 | 8650 | 1930 |
| 202KL | 202KLD | 15 | 0.5906 | 0.008 | 0.0003 | 35 | 1.3780 | 0.011 | 0.00045 | 12.70 | 0.500 | 0.51 | 0.020 | 12.19 | 0.480 | 11.00 | 0.433 | 0.6 | 0.024 | 0.045 | 0.10 | 3450 | 830 | 8650 | 1930 |
| 202KL3 | 202KLD3 | 16 | 0.6299 | 0.008 | 0.0003 | 35 | 1.3780 | 0.011 | 0.00045 | 12.70 | 0.500 | 0.51 | 0.020 | 12.19 | 0.480 | 11.00 | 0.433 | 0.6 | 0.024 | 0.045 | 0.10 | 3450 | 830 | 8650 | 1930 |
| 203KL | 203KLD | 17 | 0.6693 | 0.008 | 0.0003 | 40 | 1.5748 | 0.011 | 0.00045 | 14.30 | 0.563 | 0.64 | 0.025 | 13.67 | 0.538 | 11.99 | 0.472 | 0.6 | 0.024 | 0.073 | 0.16 | 4700 | 1060 | 10800 | 2450 |
| 204KL | 204KLD | 20 | 0.7874 | 0.010 | 0.0004 | 47 | 1.8504 | 0.011 | 0.00045 | 15.88 | 0.625 | 0.64 | 0.025 | 15.24 | 0.600 | 14.00 | 0.551 | 1.0 | 0.039 | 0.113 | 0.25 | 6200 | 1460 | 14300 | 3200 |
| 205KL | 205KLD | 25 | 0.9843 | 0.010 | 0.0004 | 52 | 2.0472 | 0.013 | 0.0005 | 15.88 | 0.625 | 0.64 | 0.025 | 15.24 | 0.600 | 15.01 | 0.591 | 1.0 | 0.039 | 0.132 | 0.29 | 7800 | 1760 | 16000 | 3600 |
| 206KL | 206KLD | 30 | 1.1811 | 0.010 | 0.0004 | 62 | 2.4409 | 0.013 | 0.0005 | 20.00 | 0.787 | 0.99 | 0.039 | 19.00 | 0.748 | 16.00 | 0.630 | 1.0 | 0.039 | 0.231 | 0.51 | 10000 | 2550 | 22200 | 5000 |
| 207KL | 207KLD | 35 | 1.3780 | 0.012 | 0.00045 | 72 | 2.8346 | 0.013 | 0.0005 | 21.00 | 0.827 | 0.99 | 0.039 | 20.00 | 0.787 | 17.00 | 0.669 | 1.0 | 0.039 | 0.322 | 0.71 | 13700 | 3450 | 29000 | 6550 |
| 209KL | 209KLD | 45 | 1.7717 | 0.012 | 0.00045 | 85 | 3.3465 | 0.015 | 0.0006 | 26.00 | 1.024 | — | — | 26.00 | 1.024 | 19.00 | 0.748 | 1.0 | 0.039 | 0.508 | 1.12 | 17600 | 4550 | 37000 | 8300 |
| 211KL | 211KLD | 55 | 2.1654 | 0.015 | 0.0006 | 100 | 3.9370 | 0.015 | 0.0006 | 27.00 | 1.063 | — | — | 27.00 | 1.063 | 21.01 | 0.827 | 1.5 | 0.059 | 0.748 | 1.65 | 29100 | 6550 | 49000 | 11000 |

(1) Based on $10^6$ revolutions of calculated fatigue life.

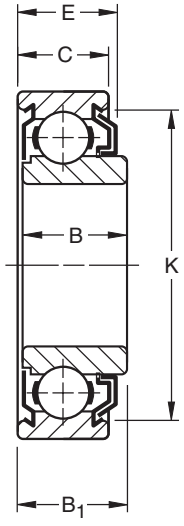
## DIMENSIONS – TOLERANCES

| Bearing Number | | Bore d | | | | Outside Diameter D | | | | Ring Widths 0.00, -.12 mm +0.000", -.005" | | | | Fillet Radius(1) | | Wt. | | Static Load Rating $C_o$ | | Extended Dynamic Load Rating $C_E$(5) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | tolerance +0.000 mm +0.0000" to minus | | | | tolerance +0.000 mm +0.0000" to minus | | Inner $B_2$ | | Outer C | | | | | | | | | |
| two seals LL | two seals NPP | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | kg | lbs. | N | lbs. | N | lbs. |
| 200KLL2 | 200KRR3(4) | 10 | 0.3937 | 0.008 | 0.0003 | 30 | 1.1811 | 0.009 | 0.00035 | 16.40 | 0.646 | 8.99 | 0.354 | 0.6 | 0.024 | 0.036 | 0.08 | 2650 | 585 | 6800 | 1530 |
| 201KLL2 | — | 12 | 0.4724 | 0.008 | 0.0003 | 32 | 1.2598 | 0.011 | 0.00045 | 15.40 | 0.606 | 10.01 | 0.394 | 0.6 | 0.024 | 0.041 | 0.09 | 3000 | 680 | 7500 | 1700 |
| 201KLL3 | — | 13 | 0.5118 | 0.008 | 0.0003 | 32 | 1.2598 | 0.011 | 0.00045 | 15.40 | 0.606 | 10.01 | 0.394 | 0.6 | 0.024 | 0.041 | 0.09 | 3000 | 680 | 7500 | 1700 |
| 202KLL2 | — | 15 | 0.5906 | 0.008 | 0.0003 | 35 | 1.3780 | 0.011 | 0.00045 | 14.40 | 0.567 | 11.00 | 0.433 | 0.6 | 0.024 | 0.045 | 0.10 | 3690 | 830 | 8650 | 1930 |
| 202KLL3 | 202NPP11 | 16 | 0.6299 | 0.008 | 0.0003 | 35 | 1.3780 | 0.011 | 0.00045 | 14.40 | 0.567 | 11.00 | 0.433 | 0.6 | 0.024 | 0.045 | 0.10 | 3690 | 830 | 8650 | 1930 |
| 203KLL2(2) | 203NPP8 | 17 | 0.6693 | 0.008 | 0.0003 | 40 | 1.5748 | 0.011 | 0.00045 | 16.60 | 0.654 | 11.99 | 0.472 | 0.6 | 0.024 | 0.073 | 0.16 | 4700 | 1060 | 10800 | 2450 |
| 204KLL2 | 204NPP7 | 20 | 0.7874 | 0.010 | 0.0004 | 47 | 1.8504 | 0.011 | 0.00045 | 17.75 | 0.699 | 14.00 | 0.551 | 1.0 | 0.039 | 0.113 | 0.25 | 6200 | 1460 | 14300 | 3200 |
| 205KLL2(3) | 205NPP2 | 25 | 0.9843 | 0.010 | 0.0004 | 52 | 2.0472 | 0.013 | 0.0005 | 16.75 | 0.659 | 15.01 | 0.591 | 1.0 | 0.039 | 0.132 | 0.29 | 7800 | 1760 | 16000 | 3600 |
| 206KLL | 206NPP2 | 30 | 1.1811 | 0.010 | 0.0004 | 62 | 2.4409 | 0.013 | 0.0005 | 24.00 | 0.945 | 16.00 | 0.630 | 1.0 | 0.039 | 0.231 | 0.51 | 11300 | 2550 | 22200 | 5000 |
| 207KLL | — | 35 | 1.3780 | 0.012 | 0.00045 | 72 | 2.8346 | 0.013 | 0.0005 | 25.00 | 0.984 | 17.00 | 0.669 | 1.0 | 0.039 | 0.322 | 0.71 | 15300 | 3450 | 29000 | 6550 |
| 208KLL | — | 40 | 1.5748 | 0.012 | 0.00045 | 80 | 3.1496 | 0.013 | 0.0005 | 30.18 | 1.188 | 18.01 | 0.709 | 1.0 | 0.039 | 0.463 | 1.02 | 20200 | 4550 | 36000 | 8150 |
| 209KLL | — | 45 | 1.7717 | 0.012 | 0.00045 | 85 | 3.3465 | 0.015 | 0.0006 | 30.00 | 1.181 | 19.00 | 0.748 | 1.0 | 0.039 | 0.508 | 1.12 | 20200 | 4550 | 37000 | 8300 |

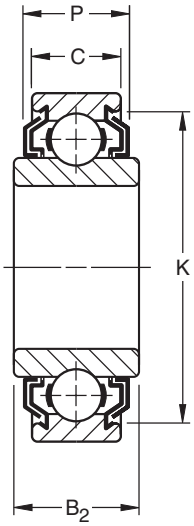
(1) Maximum shaft or housing fillet radius that bearing corners will clear.
(2) Also available as 203KLL with 18.24 mm (.718") inner ring width.
(3) Also available as 205KLL with 20.64 mm (.812") inner ring width.
(4) Equipped with R-Seal.
(5) Based on $10^6$ revolutions of calculated fatigue life.



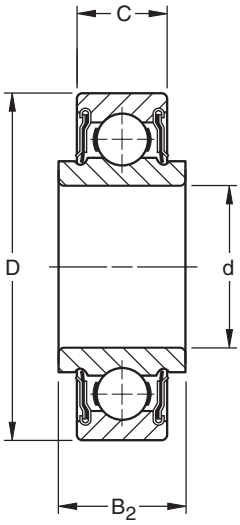

One Mechani-Seal
L




One Shield and
Mechani-Seal
LD

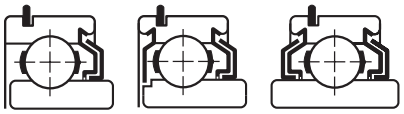



Two Mechani-Seals
LL

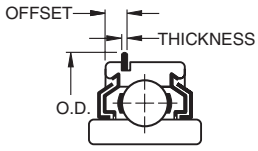



Two Rubber Seals
NPP[2]

## MECHANI-SEAL SNAP RING COMBINATIONS



LG LDG LLG

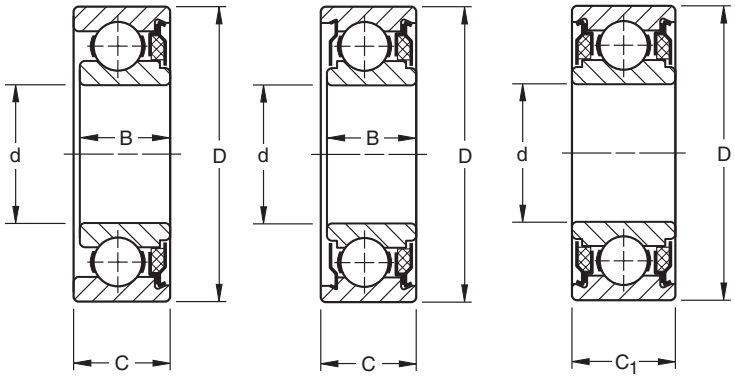



| (Seal Projection) (L, LD, LL Types Only) | | | | | | One Mechani-Seal | One Mechani-Seal and Shield | Two Mechani-Seals | Snap Ring[1] | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Width E | | P | | O.D. K | | LG | LDG | LLG | O.D. | | Thickness | | Offset | |
| mm | in. | mm | in. | mm | in. | | | | mm | in. | mm | in. | mm | in. |
| 12.22 | 0.481 | 15.57 | 0.613 | 25.4 | 1 | — | — | 200KLLG2 | 34.5 | $1\frac{23}{64}$ | 1.07 | 0.042 | 3.05 | 0.120 |
| 12.19 | 0.480 | 14.40 | 0.567 | 27.0 | $1\frac{1}{16}$ | — | — | 201KLLG2 | 36.5 | $1\frac{7}{16}$ | 1.07 | 0.042 | 3.05 | 0.120 |
| 12.19 | 0.480 | 14.40 | 0.567 | 27.0 | $1\frac{1}{16}$ | — | 201KLDG3 | — | 36.5 | $1\frac{7}{16}$ | 1.07 | 0.042 | 3.05 | 0.120 |
| 12.37 | 0.487 | 13.79 | 0.543 | 30.2 | $1\frac{3}{16}$ | — | 202KLDG | 202KLLG2 | 39.3 | $1\frac{35}{64}$ | 1.07 | 0.042 | 3.05 | 0.120 |
| 12.37 | 0.487 | 13.79 | 0.543 | 30.2 | $1\frac{3}{16}$ | — | — | 202KLLG3 | 39.3 | $1\frac{35}{64}$ | 1.07 | 0.042 | 3.05 | 0.120 |
| 14.00 | 0.551 | 16.00 | 0.630 | 34.9 | $1\frac{3}{8}$ | 203KLG | — | 203KLLG2 | 44.4 | $1\frac{3}{4}$ | 1.07 | 0.042 | 3.05 | 0.120 |
| 15.57 | 0.613 | 17.14 | 0.675 | 40.1 | $1\frac{37}{64}$ | 204KLG2 | — | 204KLLG2 | 52.4 | $2\frac{1}{16}$ | 1.07 | 0.042 | 3.45 | 0.136 |
| 15.57 | 0.613 | 16.13 | 0.635 | 45.6 | $1\frac{51}{64}$ | 205KLG2 | — | 205KLLG2 | 57.5 | $2\frac{17}{64}$ | 1.07 | 0.042 | 3.45 | 0.136 |
| 19.48 | 0.767 | 22.99 | 0.905 | 54.4 | $2\frac{9}{64}$ | — | — | 206KLLG | 67.5 | $2\frac{21}{32}$ | 1.65 | 0.065 | 4.83 | 0.190 |
| 20.50 | 0.807 | 23.98 | 0.944 | 62.7 | $2\frac{15}{32}$ | — | — | 207KLLG | 78.2 | $3\frac{5}{64}$ | 1.65 | 0.065 | 4.83 | 0.190 |
| 23.32 | 0.918 | 28.63 | 1.127 | 69.8 | $2\frac{3}{4}$ | — | — | — | 86.5 | $3\frac{13}{32}$ | 1.65 | 0.065 | 4.83 | 0.190 |
| 24.23 | 0.954 | 29.46 | 1.160 | 75.4 | $2\frac{31}{32}$ | — | — | 209KLLG | 91.3 | $3\frac{19}{32}$ | 1.65 | 0.065 | 4.83 | 0.190 |

[1] The snap ring is normally packaged separately in the box with the bearing.
**NOTE:** "N" prefix indicates a non-removable seal.

# LIGHT 200 SERIES FELT SEAL TYPE

- Permits certain design economies, but cannot be assumed to be suitable for all conditions of service.
- In many cases, they are supplemented by adjacent parts in the application for adequate bearing protection in small equipment such as fractional horsepower motors, electric vacuum cleaners, small gear units, electric and pneumatic tools, etc.
- Suggested for effective grease retention and exclusion of foreign matter.
- Electric motor quality for applications where quietness is a requirement.




One Seal
T

One Seal and Shield
TD

Two Seals
TT

## DIMENSIONS – TOLERANCES

| Bearing Number one seals T | Bearing Number one seal and shield TD | Bore d tolerance +0.000 mm +0.0000" to minus | | | | Outside Diameter D tolerance +0.000 mm +0.0000" to minus | | | | Ring Widths +0.00 mm, -0.12 mm 0.000, -0.005" | | | | Inner Ring Offset | | Fillet Radius(1) | | Wt. | | Static Load Rating $C_o$ | | Extended Dynamic Load Rating $C_E$(3) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | kg | lbs. | N | lbs. | N | lbs. |
| 200KT | 200KTD | 10 | 0.3937 | 0.008 | 0.0003 | 30 | 1.1811 | 0.009 | 0.00035 | 12.19 | 0.480 | 12.70 | 0.500 | 0.51 | 0.020 | 0.6 | 0.024 | 0.045 | 0.10 | 2600 | 585 | 6790 | 1530 |
| — | 200KTD2 | 12 | 0.4724 | 0.008 | 0.0003 | 30 | 1.1811 | 0.009 | 0.00035 | 12.19 | 0.480 | 12.70 | 0.500 | 0.51 | 0.020 | 0.6 | 0.024 | 0.045 | 0.10 | 2600 | 585 | 6790 | 1530 |
| 201KT | 201KTD | 12 | 0.4724 | 0.008 | 0.0003 | 32 | 1.2598 | 0.011 | 0.00045 | 12.19 | 0.480 | 12.70 | 0.500 | 0.51 | 0.020 | 0.6 | 0.024 | 0.045 | 0.10 | 3000 | 680 | 7680 | 1730 |
| 201KT2 | 201KTD2 | 13 | 0.5118 | 0.008 | 0.0003 | 32 | 1.2598 | 0.011 | 0.00045 | 12.19 | 0.480 | 12.70 | 0.500 | 0.51 | 0.020 | 0.6 | 0.024 | 0.045 | 0.10 | 3000 | 680 | 7680 | 1730 |
| 202KT | 202KTD | 15 | 0.5906 | 0.008 | 0.0003 | 35 | 1.3780 | 0.011 | 0.00045 | 12.19 | 0.480 | 12.70 | 0.500 | 0.51 | 0.020 | 0.6 | 0.024 | 0.050 | 0.11 | 3600 | 830 | 8650 | 1930 |
| 202KT3(2) | 202KTD3(2) | 16 | 0.6299 | 0.008 | 0.0003 | 35 | 1.3780 | 0.011 | 0.00045 | 12.19 | 0.480 | 12.70 | 0.500 | 0.51 | 0.020 | 0.6 | 0.024 | 0.050 | 0.11 | 3600 | 830 | 8650 | 1930 |
| 203KT | 203KTD | 17 | 0.6693 | 0.008 | 0.0003 | 40 | 1.5748 | 0.011 | 0.00045 | 13.67 | 0.538 | 14.30 | 0.563 | 0.64 | 0.025 | 0.6 | 0.024 | 0.077 | 0.17 | 4700 | 1060 | 10900 | 2450 |
| 204KT | 204KTD | 20 | 0.7874 | 0.010 | 0.0004 | 47 | 1.8504 | 0.011 | 0.00045 | 15.24 | 0.600 | 15.88 | 0.625 | 0.64 | 0.025 | 1.0 | 0.039 | 0.118 | 0.26 | 6500 | 1460 | 14400 | 3250 |
| 205KT | 205KTD | 25 | 0.9843 | 0.010 | 0.0004 | 52 | 2.0472 | 0.013 | 0.00050 | 15.24 | 0.600 | 15.88 | 0.625 | 0.64 | 0.025 | 1.0 | 0.039 | 0.132 | 0.29 | 7800 | 1760 | 16000 | 3600 |
| 206KT | 206KTD | 30 | 1.1811 | 0.010 | 0.0004 | 62 | 2.4409 | 0.013 | 0.00050 | 19.00 | 0.748 | 19.99 | 0.788 | 0.99 | 0.039 | 1.0 | 0.039 | 0.245 | 0.54 | 11300 | 2550 | 22200 | 5000 |
| 207KT | 207KTD | 35 | 1.3780 | 0.012 | 0.00045 | 72 | 2.8346 | 0.013 | 0.00050 | 19.99 | 0.787 | 21.01 | 0.827 | 0.99 | 0.039 | 1.0 | 0.039 | 0.358 | 0.79 | 15300 | 3450 | 29000 | 6550 |

(1) Maximum shaft or housing fillet radius that bearing corners will clear.
(2) 202KT3 has 12.29 mm (.484") inner ring width.
(3) Based on $10^6$ revolutions of calculated fatigue life.

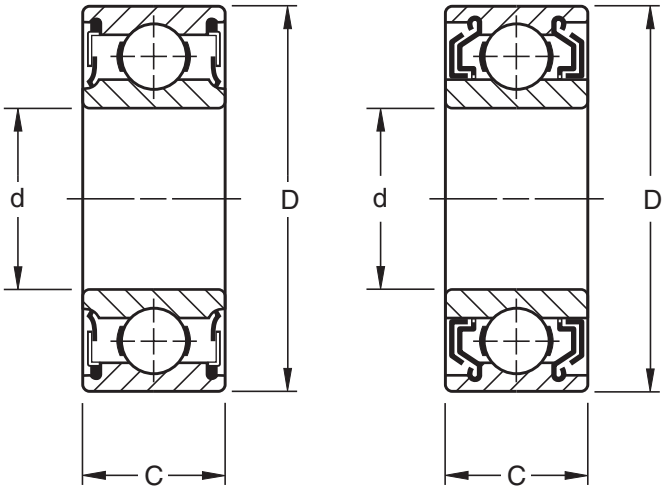
## DIMENSIONS – TOLERANCES

| Bearing Number two seals TT | Bore d tolerance +0.000 mm +0.0000" to minus | | | | Outside Diameter D tolerance +0.000 mm +0.0000" to minus | | | | Ring Width $C_1$ +0.00 mm -0.12 mm +0.000 -0.005" | | Fillet Radius(1) | | Wt. | | Static Load Rating $C_o$ | | Extended Dynamic Load Rating $C_E$(2) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | kg | lbs. | N | lbs. | N | lbs. |
| 200KTT | 10 | 0.3937 | 0.008 | 0.0003 | 30 | 1.1811 | 0.009 | 0.00035 | 16.66 | 0.656 | 0.6 | 0.024 | 0.045 | 0.10 | 2600 | 585 | 6790 | 1530 |
| 201KTT | 12 | 0.4724 | 0.008 | 0.0003 | 32 | 1.2598 | 0.011 | 0.00043 | 16.66 | 0.656 | 0.6 | 0.024 | 0.045 | 0.10 | 3000 | 680 | 7680 | 1730 |
| 201KTT3 | 13 | 0.5118 | 0.008 | 0.0003 | 32 | 1.2598 | 0.011 | 0.00043 | 16.66 | 0.656 | 0.6 | 0.024 | 0.045 | 0.10 | 3000 | 680 | 7680 | 1730 |
| 202KTT | 15 | 0.5906 | 0.008 | 0.0003 | 35 | 1.3780 | 0.011 | 0.00043 | 16.66 | 0.656 | 0.6 | 0.024 | 0.050 | 0.11 | 3600 | 830 | 8650 | 1930 |
| 203KTT | 17 | 0.6693 | 0.008 | 0.0003 | 40 | 1.5748 | 0.011 | 0.00043 | 18.24 | 0.718 | 0.6 | 0.024 | 0.077 | 0.17 | 4700 | 1060 | 10900 | 2450 |
| 204KTT | 20 | 0.7874 | 0.010 | 0.0004 | 47 | 1.8504 | 0.011 | 0.00043 | 20.62 | 0.812 | 1.0 | 0.039 | 0.118 | 0.26 | 6500 | 1460 | 14400 | 3250 |
| 205KTT | 25 | 0.9843 | 0.010 | 0.0004 | 52 | 2.0472 | 0.013 | 0.00051 | 20.62 | 0.812 | 1.0 | 0.039 | 0.132 | 0.29 | 7800 | 1760 | 16000 | 3600 |
| 206KTT | 30 | 1.1811 | 0.010 | 0.0004 | 62 | 2.4409 | 0.013 | 0.00051 | 24.00 | 0.945 | 1.0 | 0.039 | 0.245 | 0.54 | 11300 | 2550 | 22200 | 5000 |
| 207KTT | 35 | 1.3780 | 0.012 | 0.00045 | 72 | 2.8346 | 0.013 | 0.00051 | 25.00 | 0.984 | 1.0 | 0.039 | 0.358 | 0.79 | 15300 | 3450 | 29000 | 6550 |

(1) Maximum shaft or housing fillet radius that bearing corners will clear.
(2) Based on $10^6$ revolutions of calculated fatigue life.

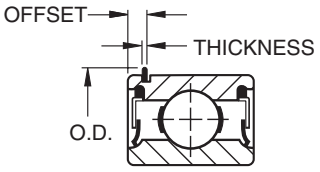
# LIGHT, WIDE TYPE W200PP SERIES W200KLL SERIES

- Rubber seal (W200PP) and Mechani-Seal (W200KLL) types.
- Made with standard bores, standard outside diameters and a single row of balls.
- Same widths as double-row bearings of corresponding size.
- Extra width offers a larger support area for shaft and housing contact and added space for prepacked lubricant.
- Wide-type rubber seal bearings are particularly suited for use in electric motors, where they simplify housing design by eliminating auxiliary seals.
- Wide-type Mechani-Seal ball bearings are designed for applications where frictionless sealing and large grease capacity are required.
- Extremely effective grease retention and exclusion of foreign matter are assured by close running clearance between the seal members and slinger action of the outer member.




Rubber Seals PP

Mechani-Seals LL



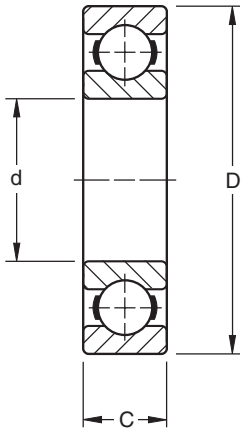

## DIMENSIONS – TOLERANCES

| Bearing Number | | Bore d | | | | Outside Diameter D | | | | Width C | | Fillet Radius[1] | | Wt. | | Static Load Rating $C_o$ | | Extended Dynamic Load $C_E$[4] | | Snap Ring PPG[3] | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Contact Seal PP | Mechani-seal LL | | | tolerance +0.000 mm +0.0000" to minus | | | | tolerance +0.000 mm +0.0000" to minus | | +0.00 mm -0.12 mm +0.000" -.005" | | | | | | | | | | O.D. | | thickness | | offset | |
| | | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | kg | lbs. | N | lbs. | N | lbs. | mm | in. | mm | in. | mm | in. |
| W200PP | — | 10 | 0.3937 | 0.008 | 0.0003 | 30 | 1.1811 | 0.009 | 0.00035 | 14.27 | 0.562 | 0.6 | 0.024 | 0.045 | 0.10 | 2650 | 600 | 6550 | 1500 | — | — | — | — | — | — |
| W201PP | — | 12 | 0.4724 | 0.008 | 0.0003 | 32 | 1.2598 | 0.011 | 0.00045 | 15.88 | 0.625 | 0.6 | 0.024 | 0.054 | 0.12 | 3000 | 695 | 7500 | 1700 | — | — | — | — | — | — |
| W202PP | — | 15 | 0.5906 | 0.008 | 0.0003 | 35 | 1.3780 | 0.011 | 0.00045 | 15.88 | 0.625 | 0.6 | 0.024 | 0.064 | 0.14 | 3450 | 780 | 8650 | 1930 | — | — | — | — | — | — |
| W203PP[2] | — | 17 | 0.6693 | 0.008 | 0.0003 | 40 | 1.5748 | 0.011 | 0.00045 | 17.48 | 0.688 | 0.6 | 0.024 | 0.091 | 0.20 | 4400 | 1000 | 10600 | 2360 | 44.4 | $1\frac{3}{4}$ | 1.07 | 0.042 | 4.7 | 0.185 |
| W204PP | W204KLL | 20 | 0.7874 | 0.010 | 0.0004 | 47 | 1.8504 | 0.011 | 0.00045 | 20.62 | 0.812 | 1.0 | 0.039 | 0.150 | 0.33 | 6200 | 1400 | 14300 | 3200 | — | — | — | — | — | — |
| W205PP[2] | W205KLL | 25 | 0.9843 | 0.010 | 0.0004 | 52 | 2.0472 | 0.013 | 0.0005 | 20.62 | 0.812 | 1.0 | 0.039 | 0.177 | 0.39 | 6950 | 1560 | 15600 | 3450 | 57.5 | $2\frac{17}{64}$ | 1.07 | 0.042 | 5.72 | 0.225 |
| W206PP[2] | W206KLL | 30 | 1.1811 | 0.010 | 0.0004 | 62 | 2.4409 | 0.013 | 0.0005 | 23.83 | 0.938 | 1.0 | 0.039 | 0.295 | 0.65 | 10000 | 2280 | 21600 | 4800 | 67.5 | $2\frac{21}{32}$ | 1.65 | 0.065 | 6.15 | 0.242 |
| W207PP | W207KLL | 35 | 1.3780 | 0.012 | 0.00045 | 72 | 2.8346 | 0.013 | 0.0005 | 26.97 | 1.062 | 1.0 | 0.039 | 0.458 | 1.01 | 13700 | 3050 | 28500 | 6400 | — | — | — | — | — | — |
| W208PP | W208KLL | 40 | 1.5748 | 0.012 | 0.00045 | 80 | 3.1496 | 0.013 | 0.0005 | 30.18 | 1.188 | 1.0 | 0.039 | 0.630 | 1.39 | 17600 | 4000 | 36000 | 8150 | — | — | — | — | — | — |
| W209PP | W209KLL | 45 | 1.7717 | 0.012 | 0.00045 | 85 | 3.3465 | 0.015 | 0.0006 | 30.18 | 1.188 | 1.0 | 0.039 | 0.668 | 1.47 | 17600 | 4000 | 36000 | 8150 | — | — | — | — | — | — |
| W210PP | — | 50 | 1.9685 | 0.012 | 0.00045 | 90 | 3.5433 | 0.015 | 0.0006 | 30.18 | 1.188 | 1.0 | 0.039 | 0.767 | 1.69 | 19600 | 4500 | 39000 | 8800 | — | — | — | — | — | — |
| W214PP | — | 70 | 2.7559 | 0.015 | 0.0006 | 125 | 4.9213 | 0.018 | 0.0007 | 39.67 | 1.562 | 1.5 | 0.059 | 1.810 | 3.99 | 37500 | 8500 | 69500 | 15600 | — | — | — | — | — | — |

(1) Maximum shaft or housing fillet radius that bearing corners will clear.
(2) Also available with snap ring. To order, add suffix "G" to bearing number. Example: W205PPG.
(3) The snap ring is normally packaged separately in the box with the bearing.
(4) Based on $10^6$ revolutions of calculated fatigue life.

## MEDIUM 300K SERIES

- A heavier cross section than the 200 Series.
- Capable of carrying considerably heavier radial, thrust and combined loads for a given bore size.
- Capable of withstanding heavy shock loads. A ball bearing of heavier cross section is rarely required.
- Uses Conrad-type bearing that is well-balanced, with deep races and uninterrupted race shoulders.
- Electric motor quality where quietness is a requirement.

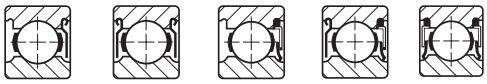


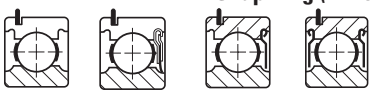

### DIMENSIONS – TOLERANCES

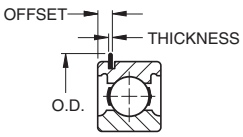
| Bearing Number | Bore d tolerance +0.000 mm +0.0000" to minus | | | | Outside Diameter D tolerance +0.000 mm +0.0000" to minus | | | | Width C tolerance +0.000 mm +0.0000" to minus | | | | Fillet Radius(1) | | Wt. | | Static Load Rating $C_o$ | | Extended Dynamic Load Rating $C_E$(2) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | kg | lbs. | N | lbs. | N | lbs. |
| 300K | 10 | 0.3937 | 0.008 | 0.0003 | 35 | 1.3780 | 0.011 | 0.00043 | 11 | 0.433 | 0.12 | 0.005 | 0.6 | 0.024 | 0.054 | 0.12 | 3460 | 780 | 9200 | 2080 |
| 301K | 12 | 0.4724 | 0.008 | 0.0003 | 37 | 1.4567 | 0.011 | 0.00043 | 12 | 0.472 | 0.12 | 0.005 | 1.0 | 0.039 | 0.064 | 0.14 | 3620 | 815 | 9400 | 2120 |
| 302K | 15 | 0.5906 | 0.008 | 0.0003 | 42 | 1.6535 | 0.011 | 0.00043 | 13 | 0.512 | 0.12 | 0.005 | 1.0 | 0.039 | 0.082 | 0.18 | 5240 | 1180 | 13300 | 3000 |
| 303K | 17 | 0.6693 | 0.008 | 0.0003 | 47 | 1.8504 | 0.011 | 0.00043 | 14 | 0.551 | 0.12 | 0.005 | 1.0 | 0.039 | 0.109 | 0.24 | 6550 | 1460 | 15300 | 3450 |
| 304K | 20 | 0.7874 | 0.010 | 0.0004 | 52 | 2.0472 | 0.013 | 0.0005 | 15 | 0.591 | 0.12 | 0.005 | 1.0 | 0.039 | 0.141 | 0.31 | 7800 | 1760 | 17900 | 4050 |
| 305K | 25 | 0.9843 | 0.010 | 0.0004 | 62 | 2.4409 | 0.013 | 0.0005 | 17 | 0.669 | 0.12 | 0.005 | 1.0 | 0.039 | 0.236 | 0.52 | 12200 | 2750 | 26600 | 6000 |
| 306K | 30 | 1.1811 | 0.010 | 0.0004 | 72 | 2.8346 | 0.013 | 0.0005 | 19 | 0.748 | 0.12 | 0.005 | 1.0 | 0.039 | 0.354 | 0.78 | 15600 | 3550 | 33900 | 7650 |
| 307K | 35 | 1.3780 | 0.012 | 0.00047 | 80 | 3.1496 | 0.013 | 0.0005 | 21 | 0.827 | 0.12 | 0.005 | 1.5 | 0.059 | 0.472 | 1.04 | 18400 | 4150 | 37700 | 8500 |
| 308K | 40 | 1.5748 | 0.012 | 0.00047 | 90 | 3.5433 | 0.015 | 0.0006 | 23 | 0.906 | 0.12 | 0.005 | 1.5 | 0.059 | 0.644 | 1.42 | 25900 | 5850 | 50600 | 11400 |
| 309K | 45 | 1.7717 | 0.012 | 0.00047 | 100 | 3.9370 | 0.015 | 0.0006 | 25 | 0.984 | 0.12 | 0.005 | 1.5 | 0.059 | 0.862 | 1.90 | 31500 | 7100 | 59500 | 13400 |
| 310K | 50 | 1.9685 | 0.012 | 0.00047 | 110 | 4.3307 | 0.015 | 0.0006 | 27 | 1.063 | 0.12 | 0.005 | 2.0 | 0.079 | 1.125 | 2.48 | 37700 | 8500 | 69300 | 15600 |
| 311K | 55 | 2.1654 | 0.015 | 0.0006 | 120 | 4.7244 | 0.015 | 0.0006 | 29 | 1.142 | 0.15 | 0.006 | 2.0 | 0.079 | 1.424 | 3.14 | 44400 | 10000 | 81200 | 18300 |
| 312K | 60 | 2.3622 | 0.015 | 0.0006 | 130 | 5.1181 | 0.018 | 0.0007 | 31 | 1.220 | 0.15 | 0.006 | 2.0 | 0.079 | 1.765 | 3.89 | 51500 | 11600 | 92300 | 20800 |
| 313K | 65 | 2.5591 | 0.015 | 0.0006 | 140 | 5.5118 | 0.018 | 0.0007 | 33 | 1.299 | 0.15 | 0.006 | 2.0 | 0.079 | 2.168 | 4.78 | 59500 | 13400 | 104000 | 23600 |
| 314K | 70 | 2.7559 | 0.015 | 0.0006 | 150 | 5.9055 | 0.025 | 0.0010 | 35 | 1.378 | 0.15 | 0.006 | 2.0 | 0.079 | 2.617 | 5.77 | 67900 | 15300 | 116000 | 26000 |
| 315K | 75 | 2.9528 | 0.015 | 0.0006 | 160 | 6.2992 | 0.018 | 0.0007 | 37 | 1.457 | 0.15 | 0.006 | 2.0 | 0.079 | 3.175 | 7.00 | 76800 | 17300 | 128000 | 29000 |
| 316K | 80 | 3.1496 | 0.015 | 0.0006 | 170 | 6.6929 | 0.025 | 0.0010 | 39 | 1.535 | 0.15 | 0.006 | 2.0 | 0.079 | 3.756 | 8.28 | 85700 | 19300 | 139000 | 31500 |
| 317K | 85 | 3.3465 | 0.020 | 0.0008 | 180 | 7.0866 | 0.025 | 0.0010 | 41 | 1.614 | 0.20 | 0.008 | 2.5 | 0.098 | 5.008 | 11.04 | 95900 | 21600 | 151000 | 34000 |
| 318K | 90 | 3.5433 | 0.020 | 0.0008 | 190 | 7.4803 | 0.030 | 0.0012 | 43 | 1.693 | 0.20 | 0.008 | 2.5 | 0.098 | 5.121 | 11.29 | 106000 | 24000 | 162000 | 36500 |
| 320K | 100 | 3.9370 | 0.020 | 0.0008 | 215 | 8.4646 | 0.030 | 0.0012 | 47 | 1.850 | 0.20 | 0.008 | 2.5 | 0.098 | 7.085 | 15.62 | 139000 | 31500 | 195000 | 41500 |
| 321K | 105 | 4.1339 | 0.020 | 0.0008 | 225 | 8.8583 | 0.030 | 0.0012 | 49 | 1.929 | 0.20 | 0.008 | 2.5 | 0.098 | 10.21 | 22.52 | 163000 | 36500 | 126000 | 48000 |
| 322K | 110 | 4.3307 | 0.020 | 0.0008 | 240 | 9.4488 | 0.030 | 0.0012 | 50 | 1.969 | 0.20 | 0.008 | 2.5 | 0.098 | 12.17 | 26.82 | 166000 | 37500 | 220000 | 49000 |
| 326K | 130 | 5.1181 | 0.020 | 0.0010 | 280 | 11.0236 | 0.035 | 0.0014 | 58 | 2.323 | 0.25 | 0.010 | 2.5 | 0.098 | 18.90 | 41.60 | 240000 | 54000 | 280000 | 63000 |
| 330K | 150 | 5.9055 | 0.025 | 0.0010 | 320 | 12.5984 | 0.040 | 0.0016 | 65 | 2.559 | 0.25 | 0.010 | 2.5 | 0.098 | 27.10 | 59.70 | 310000 | 69500 | 335000 | 75000 |
| 332K | 160 | 6.2992 | 0.025 | 0.0010 | 340 | 13.3858 | 0.040 | 0.0016 | 68 | 2.677 | 0.25 | 0.010 | 2.5 | 0.098 | 31.51 | 69.40 | 310000 | 69500 | 335000 | 75000 |
| 334K | 170 | 6.6929 | 0.025 | 0.0010 | 360 | 14.1732 | 0.040 | 0.0016 | 72 | 2.835 | 0.25 | 0.010 | 2.5 | 0.098 | 36.82 | 81.10 | 355000 | 80000 | 360000 | 81500 |
| 336K | 180 | 7.0866 | 0.025 | 0.0010 | 380 | 14.9606 | 0.040 | 0.0016 | 75 | 2.953 | 0.25 | 0.010 | 2.5 | 0.098 | 42.04 | 92.60 | 390000 | 88000 | 390000 | 88000 |
| 338K | 190 | 7.4803 | 0.030 | 0.0012 | 400 | 15.7480 | 0.040 | 0.0016 | 78 | 3.071 | 0.30 | 0.012 | 4.0 | 0.16 | 47.6 | 105.0 | 440000 | 98000 | 425000 | 95000 |
| 340K | 200 | 7.8740 | 0.030 | 0.0012 | 420 | 16.5354 | 0.045 | 0.0018 | 80 | 3.150 | 0.30 | 0.012 | 4.0 | 0.16 | 56.1 | 123.6 | 465000 | 104000 | 425000 | 95000 |
| 342K | 210 | 8.2677 | 0.030 | 0.0012 | 440 | 17.3228 | 0.045 | 0.0018 | 84 | 3.307 | 0.30 | 0.012 | 4.0 | 0.16 | 58.1 | 128.2 | 570000 | 129000 | 510000 | 114000 |
| 344K | 220 | 8.6614 | 0.030 | 0.0012 | 460 | 18.1102 | 0.045 | 0.0018 | 88 | 3.465 | 0.30 | 0.012 | 4.0 | 0.16 | 69.8 | 154.0 | 610000 | 137000 | 520000 | 116000 |
| 348K | 240 | 9.4488 | 0.030 | 0.0012 | 500 | 19.6850 | 0.045 | 0.0018 | 95 | 3.740 | 0.30 | 0.012 | 4.0 | 0.16 | 81.1 | 178.9 | 735000 | 163000 | 600000 | 134000 |
| 352K | 260 | 10.2362 | 0.035 | 0.0014 | 540 | 21.2598 | 0.050 | 0.0020 | 102 | 4.016 | 0.35 | 0.014 | 4.0 | 0.16 | 98.4 | 217.0 | 850000 | 190000 | 670000 | 150000 |
| 356K | 280 | 11.0236 | 0.035 | 0.0014 | 580 | 22.8346 | 0.050 | 0.0020 | 108 | 4.252 | 0.35 | 0.014 | 4.0 | 0.16 | 142.8 | 315.0 | 780000 | 176000 | 585000 | 134000 |

(1) Maximum shaft or housing fillet radius that bearing corners will clear.
(2) Based on $10^6$ revolutions of calculated fatigue life.

## SHIELDS, SEALS AND SNAP RING COMBINATIONS







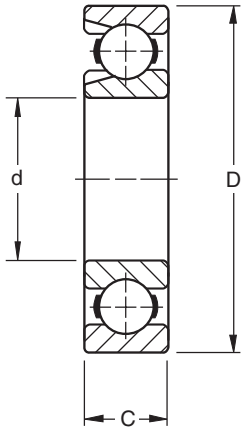

| Shields and Seals | | | | | Snap Ring (Wireloc)[1] | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| One Shield D | Two Shields DD | One Seal P | One Seal One Shield PD | Two Seals PP | Open Type G | One Shield PG | One Shield DG | Two Shields DDG | O.D. | | Thickness | | Offset | |
| | | | | | | | | | mm | in. | mm | in. | mm | in. |
| 300KD | 300KDD | 300P | — | — | — | — | — | — | 39.3 | $1\frac{35}{64}$ | 1.07 | 0.042 | 3.05 | 0.120 |
| 301KD | 301KDD | — | — | — | — | — | — | — | 40.9 | $1\frac{39}{64}$ | 1.07 | 0.042 | 3.05 | 0.120 |
| 302KD | 302KDD | — | — | — | — | — | — | — | 46.0 | $1\frac{13}{16}$ | 1.07 | 0.042 | 3.05 | 0.120 |
| 303KD | 303KDD | 303P | — | 303PP | 303KG | — | — | — | 52.4 | $2\frac{1}{16}$ | 1.07 | 0.042 | 3.45 | 0.136 |
| 304KD | 304KDD | 304P | — | 304PP | 304KG | — | 304KDG | 304KDDG | 57.5 | $2\frac{17}{64}$ | 1.07 | 0.042 | 3.45 | 0.136 |
| 305KD | 305KDD | 305P | — | 305PP | 305KG | — | 305KDG | 305KDDG | 67.5 | $2\frac{21}{32}$ | 1.65 | 0.065 | 4.83 | 0.190 |
| 306KD | 306KDD | 306P | — | 306PP | 306KG | — | 306KDG | 306KDDG | 78.2 | $3\frac{5}{64}$ | 1.65 | 0.065 | 4.83 | 0.190 |
| 307KD | 307KDD | 307P | — | 307PP | 307KG | — | 307KDG | 307KDDG | 86.5 | $3\frac{13}{32}$ | 1.65 | 0.065 | 4.83 | 0.190 |
| 308KD | 308KDD | 308P | — | 308PP | 308KG | — | 308KDG | 308KDDG | 96.4 | $3\frac{51}{64}$ | 2.41 | 0.095 | 5.59 | 0.220 |
| 309KD | 309KDD | 309P | — | 309PP | 309KG | — | 309KDG | 309KDDG | 106.4 | $4\frac{3}{16}$ | 2.41 | 0.095 | 5.59 | 0.220 |
| 310KD | 310KDD | 310P | — | 310PP | 310KG | — | 310KDG | 310KDDG | 116.3 | $4\frac{37}{64}$ | 2.41 | 0.095 | 5.59 | 0.220 |
| 311KD | 311KDD | 311NP | 311NPD | 311NPP | 311KG | 311NPG | — | 311KDDG | 129.4 | $5\frac{3}{32}$ | 2.77 | 0.109 | 6.73 | 0.265 |
| 312KD | 312KDD | — | — | 312NPP | 312KG | — | — | 312KDDG | 139.7 | $5\frac{1}{2}$ | 2.77 | 0.109 | 6.73 | 0.265 |
| 313KD | 313KDD | — | — | — | — | — | — | 313KDDG | 149.6 | $5\frac{57}{64}$ | 2.77 | 0.109 | 7.54 | 0.297 |
| 314KD | 314KDD | — | — | — | — | — | — | — | — | —— | — | — | — | |
| 315KD | 315KDD | — | — | — | — | — | — | — | — | —— | — | — | — | |
| 316KD | 316KDD | — | — | — | — | — | — | — | — | —— | — | — | — | |
| 317KD | 317KDD | — | — | — | — | — | — | — | — | —— | — | — | — | |
| — | — | — | — | — | — | — | — | — | — | —— | — | — | — | |
| 320KD | 320KDD | — | — | — | — | — | — | — | — | —— | — | — | — | |

[1] The snap ring is normally packaged separately in the box with the bearing.

**Note:** "N" prefix indicates a non-removable seal in NP (P) designs.

## MEDIUM 300W SERIES

- A heavier cross section than the 200 Series.
- Capable of carrying considerably heavier radial, thrust and combined loads for a given bore size.
- Capable of withstanding heavy shock loads. A ball bearing of heavier cross section is rarely required.
- 300W Series bearings are dimensionally interchangeable with the 300K Series. However, bearings within the 300W Series are capable of carrying heavier radial loads, due to their larger ball complements.




### DIMENSIONS – TOLERANCES

| Bearing Number | Bore d | | tolerance +0.000 mm +0.0000" to minus | | Outside Diameter D | | tolerance +0.000 mm +0.0000" to minus | | Width C | | tolerance +0.000 mm +0.0000" to minus | | Fillet Radius(1) | | Wt. | | Static Load Rating $C_o$ | | Extended Dynamic Load Rating $C_E$(2) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | kg | lbs. | N | lbs. | N | lbs. |
| 303W | 17 | 0.6693 | 0.008 | 0.0003 | 47 | 1.8504 | 0.011 | 0.00045 | 14 | 0.551 | 0.12 | 0.005 | 1.0 | 0.039 | 0.118 | 0.26 | 9400 | 2120 | 20600 | 4650 |
| 304W | 20 | 0.7874 | 0.010 | 0.0004 | 52 | 2.0472 | 0.013 | 0.0005 | 15 | 0.591 | 0.12 | 0.005 | 1.0 | 0.039 | 0.154 | 0.34 | 11300 | 2550 | 23900 | 5400 |
| 305W | 25 | 0.9843 | 0.010 | 0.0004 | 62 | 2.4409 | 0.013 | 0.0005 | 17 | 0.669 | 0.12 | 0.005 | 1.0 | 0.039 | 0.259 | 0.57 | 17300 | 3900 | 33900 | 7650 |
| 306W | 30 | 1.1811 | 0.010 | 0.0004 | 72 | 2.8346 | 0.013 | 0.0005 | 19 | 0.748 | 0.12 | 0.005 | 1.0 | 0.039 | 0.386 | 0.85 | 22600 | 5100 | 42800 | 9650 |
| 307W | 35 | 1.3780 | 0.012 | 0.00047 | 80 | 3.1496 | 0.013 | 0.0005 | 21 | 0.827 | 0.12 | 0.005 | 1.5 | 0.059 | 0.513 | 1.13 | 29000 | 6550 | 51500 | 11600 |
| 308W | 40 | 1.5748 | 0.012 | 0.00047 | 90 | 3.5433 | 0.015 | 0.0006 | 23 | 0.906 | 0.12 | 0.005 | 1.5 | 0.059 | 0.844 | 1.86 | 39000 | 8000 | 66000 | 15000 |
| 309W | 45 | 1.7717 | 0.012 | 0.00047 | 100 | 3.9370 | 0.015 | 0.0006 | 25 | 0.984 | 0.12 | 0.005 | 1.5 | 0.059 | 0.934 | 2.06 | 47000 | 10600 | 78100 | 17600 |
| 310W | 50 | 1.9685 | 0.012 | 0.00047 | 110 | 4.3307 | 0.015 | 0.0006 | 27 | 1.063 | 0.12 | 0.005 | 2.0 | 0.079 | 1.207 | 2.66 | 56000 | 12700 | 92000 | 20800 |
| 311W | 55 | 2.1654 | 0.015 | 0.0006 | 120 | 4.7244 | 0.015 | 0.0006 | 29 | 1.142 | 0.15 | 0.006 | 2.0 | 0.079 | 1.542 | 3.40 | 66000 | 15000 | 106000 | 24000 |
| 312W | 60 | 2.3622 | 0.015 | 0.0006 | 130 | 5.1181 | 0.018 | 0.0007 | 31 | 1.220 | 0.15 | 0.006 | 2.0 | 0.079 | 1.923 | 4.24 | 78000 | 17600 | 122000 | 27500 |
| 313W | 65 | 2.5591 | 0.015 | 0.0006 | 140 | 5.5118 | 0.018 | 0.0007 | 33 | 1.299 | 0.15 | 0.006 | 2.0 | 0.079 | 2.413 | 5.32 | 96000 | 21600 | 144000 | 32500 |
| 314W | 70 | 2.7559 | 0.015 | 0.0006 | 150 | 5.9055 | 0.018 | 0.0007 | 35 | 1.378 | 0.15 | 0.006 | 2.0 | 0.079 | 2.885 | 6.36 | 101000 | 22800 | 153000 | 34500 |
| 315W | 75 | 2.9528 | 0.015 | 0.0006 | 160 | 6.2992 | 0.025 | 0.0010 | 37 | 1.457 | 0.15 | 0.006 | 2.0 | 0.079 | 3.497 | 7.71 | 127000 | 28500 | 180000 | 40500 |
| 316W | 80 | 3.1496 | 0.015 | 0.0006 | 170 | 6.6929 | 0.025 | 0.0010 | 39 | 1.535 | 0.15 | 0.006 | 2.0 | 0.079 | 4.154 | 9.15 | 142000 | 32000 | 195000 | 44000 |
| 317W | 85 | 3.3465 | 0.020 | 0.0008 | 180 | 7.0866 | 0.025 | 0.0010 | 41 | 1.614 | 0.20 | 0.008 | 2.5 | 0.098 | 4.872 | 10.74 | 157000 | 35500 | 211000 | 47500 |
| 318W | 90 | 3.5433 | 0.020 | 0.0008 | 190 | 7.4803 | 0.030 | 0.0012 | 43 | 1.693 | 0.20 | 0.008 | 2.5 | 0.098 | 5.625 | 12.39 | 173000 | 39000 | 226000 | 51000 |
| 319W | 95 | 3.7402 | 0.020 | 0.0008 | 200 | 7.8740 | 0.030 | 0.0012 | 45 | 1.772 | 0.20 | 0.008 | 2.5 | 0.098 | 6.514 | 14.36 | 191000 | 43000 | 239000 | 54000 |
| 320W | 100 | 3.9370 | 0.020 | 0.0008 | 215 | 8.4646 | 0.030 | 0.0012 | 47 | 1.850 | 0.20 | 0.008 | 2.5 | 0.098 | 7.992 | 17.62 | 226000 | 51000 | 270000 | 61000 |
| 321W | 105 | 4.1339 | 0.020 | 0.0008 | 225 | 8.8583 | 0.030 | 0.0012 | 49 | 1.929 | 0.20 | 0.008 | 2.5 | 0.098 | 9.117 | 20.10 | 244000 | 55000 | 284000 | 64000 |
| 322W | 110 | 4.3307 | 0.020 | 0.0008 | 240 | 9.4488 | 0.030 | 0.0012 | 50 | 1.968 | 0.20 | 0.008 | 2.5 | 0.098 | 10.81 | 23.84 | 266000 | 60000 | 302000 | 68000 |
| 324W | 120 | 4.7244 | 0.020 | 0.0008 | 260 | 10.2362 | 0.035 | 0.0014 | 55 | 2.165 | 0.20 | 0.008 | 2.5 | 0.098 | 15.01 | 33.10 | 284000 | 64000 | 319000 | 72000 |
| 326W | 130 | 5.1181 | 0.025 | 0.0010 | 280 | 11.0236 | 0.035 | 0.0014 | 58 | 2.323 | 0.25 | 0.010 | 2.5 | 0.098 | 19.56 | 43.12 | 326000 | 73500 | 355000 | 80000 |
| 328W | 140 | 5.5118 | 0.025 | 0.0010 | 300 | 11.8110 | 0.035 | 0.0014 | 62 | 2.441 | 0.25 | 0.010 | 2.5 | 0.098 | 23.06 | 50.80 | 410000 | 91500 | 400000 | 90000 |
| 330W | 150 | 5.9055 | 0.025 | 0.0010 | 320 | 12.5984 | 0.040 | 0.0016 | 65 | 2.559 | 0.25 | 0.010 | 2.5 | 0.098 | 26.81 | 59.10 | 422000 | 95000 | 422000 | 95000 |
| 336W | 180 | 7.0866 | 0.025 | 0.0010 | 380 | 14.9606 | 0.040 | 0.0016 | 79 | 3.110 | 0.25 | 0.010 | 2.5 | 0.098 | 47.66 | 105.10 | 600000 | 132000 | 524000 | 118000 |
| 338W | 190 | 7.4803 | 0.030 | 0.0012 | 400 | 15.7480 | 0.040 | 0.0016 | 78 | 3.071 | 0.30 | 0.012 | 4.0 | 0.160 | 49.21 | 108.40 | 720000 | 160000 | 580000 | 129000 |
| 340W | 200 | 7.8740 | 0.030 | 0.0012 | 420 | 16.5354 | 0.045 | 0.0018 | 80 | 3.150 | 0.30 | 0.012 | 4.0 | 0.160 | 57.48 | 126.60 | 730000 | 163000 | 570000 | 127000 |
| 342W | 210 | 8.2677 | 0.030 | 0.0012 | 440 | 17.3228 | 0.045 | 0.0018 | 84 | 3.307 | 0.30 | 0.012 | 4.0 | 0.160 | 60.70 | 133.70 | 935000 | 208000 | 720000 | 160000 |
| 344W | 220 | 8.6614 | 0.030 | 0.0012 | 460 | 18.1102 | 0.045 | 0.0018 | 88 | 3.465 | 0.30 | 0.012 | 4.0 | 0.160 | 72.10 | 158.80 | 880000 | 196000 | 700000 | 150000 |
| 348W | 240 | 9.4488 | 0.030 | 0.0012 | 500 | 19.6850 | 0.045 | 0.0018 | 95 | 3.740 | 0.30 | 0.012 | 4.0 | 0.160 | 84.99 | 187.20 | 1200000 | 260000 | 850000 | 186000 |
| 352W | 260 | 10.2362 | 0.035 | 0.0014 | 540 | 21.2598 | 0.050 | 0.0020 | 102 | 4.016 | 0.35 | 0.014 | 4.0 | 0.160 | 103.38 | 227.70 | 1400000 | 310000 | 950000 | 208000 |
| 356W | 280 | 11.0236 | 0.035 | 0.0014 | 580 | 22.8346 | 0.050 | 0.0020 | 108 | 4.252 | 0.35 | 0.014 | 4.0 | 0.160 | 146.78 | 323.30 | 1350000 | 300000 | 855000 | 190000 |

(1) Maximum shaft or housing fillet radius that bearing corners will clear.

(2) Based on $10^6$ revolutions of calculated fatigue life.

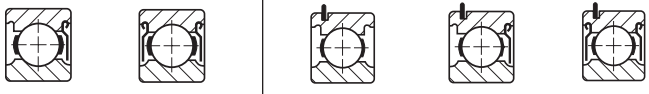
For applications where thrust load exceeds 60% Radial Load, consult your Timken representative.

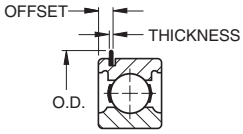
Listed in the table below are Timken maximum capacity type bearings (300W Series) with shields, seals and snap ring combinations.

The bearing number suffixes denote the following:

- **WD** - filling slot opposite single shield
- **WG** - filling slot opposite snap ring
- **WDD** - two shields
- **WDG** - filling slot and snap ring opposite shield

## SHIELDS, SEALS AND SNAP RING COMBINATIONS



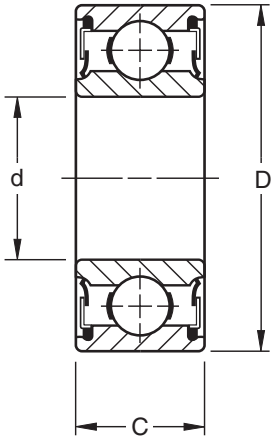



| Shields and Seals | | Snap Ring (Wireloc)[1] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| One Shield D | Two Shields DD | Open Type G | Open Shield DG | Two Shields DDG | O.D. | | Thickness | | Offset | |
| | | | | | mm | in. | mm | in. | mm | in. |
| — | — | — | — | — | — | — | — | — | — | — |
| — | — | 304WG | — | — | 57.5 | 2 17/64 | 1.07 | 0.042 | 3.45 | 0.136 |
| 305WD | — | 305WG | — | — | 67.5 | 2 21/32 | 1.65 | 0.065 | 4.83 | 0.190 |
| 306WD | 306WDD | 306WG | 306WDG | — | 78.2 | 3 5/64 | 1.65 | 0.065 | 4.83 | 0.190 |
| 307WD | 307WDD | 307WG | 307WDG | — | 86.5 | 3 13/32 | 1.65 | 0.065 | 4.83 | 0.190 |
| 308WD | 308WDD | 308WG[2] | 308WDG | — | 96.4 | 3 51/64 | 2.41 | 0.095 | 5.59 | 0.220 |
| 309WD | 309WDD | 309WG | 309WDG | — | 106.4 | 4 3/16 | 2.41 | 0.095 | 5.59 | 0.220 |
| 310WD | 310WDD | 310WG | 310WDG | 310WDDG | 116.3 | 4 37/64 | 2.41 | 0.095 | 5.59 | 0.220 |
| 311WD | 311WDD | 311WG | 311WDG | — | 129.4 | 5 3/32 | 2.77 | 0.109 | 6.73 | 0.265 |
| 312WD | 312WDD | 312WG[3] | 312WDG | 312WDDG | 139.7 | 5 1/2 | 2.77 | 0.109 | 6.73 | 0.265 |
| 313WD | 313WDD | 313WG | 313WDG | 313WDDG | 149.6 | 5 57/64 | 2.77 | 0.109 | 7.54 | 0.297 |
| 314WD | 314WDD | — | — | — | — | — | — | — | — | — |
| 315WD | 315WDD | — | — | — | — | — | — | — | — | — |
| 316WD | 316WDD | 316WG | — | — | 182.6 | 7 3/16 | 3.05 | 0.120 | 8.61 | 0.339 |
| 317WD | 317WDD | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — | — |
| 320WD | — | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — | — |
| — | — | 322WG | — | — | 252.8 | 9 61/64 | 3.05 | 0.120 | 8.61 | 0.339 |

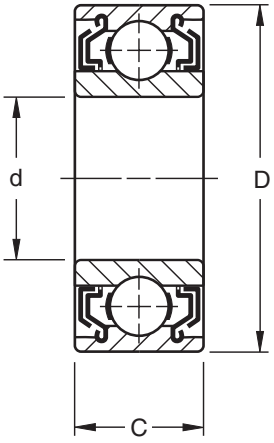
[1] The snap ring is normally packaged separately in the box with the bearing.
[2] Also available as a GW-Type filling slot and snap ring on same side. Also available 308GW2 with 20 mm width.
[3] Also available as 312WG-3 with filling slot on same side as snap ring.

# MEDIUM, WIDE TYPE W300PP SERIES AND W300KLL SERIES

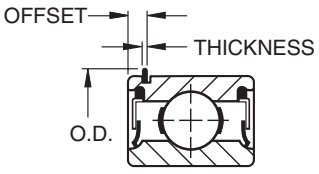
- The W300PP (rubber seal) Series and the W300KLL (Mechani-Seal) Series have the same bores and outside diameters as standard 300 Series ball bearings.
- Widths are equal to 5300 Series double-row ball bearings.
- Added width provides extra support on shafts and in housings and eliminates the need for locknuts and lockwashers on applications such as electric motors.
- Prepacked with the right amount of long-life, factory-filtered grease.
- These series incorporate the same advantages as the standard width Mechani-Seal and rubber seal bearings.
- Electric motor quality for applications where quietness is a requirement.



Rubber Seals
PP



Mechani-Seals
LL




D

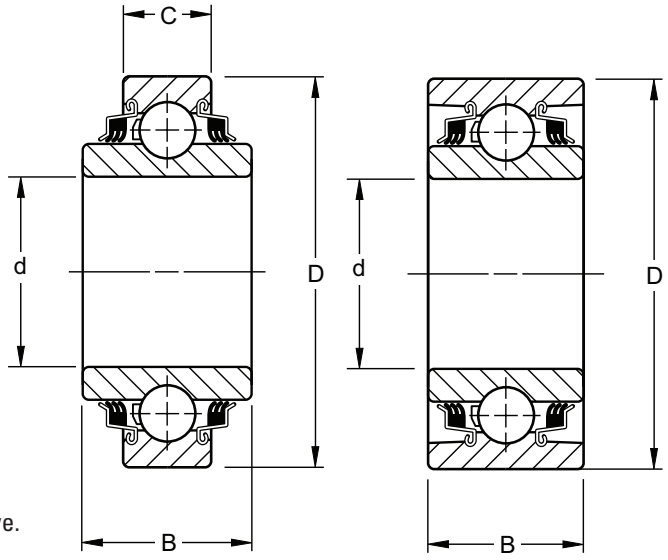
## DIMENSIONS – TOLERANCES

| Bearing Number | | Bore d | | | | Outside Diameter D | | | | Width C | | Fillet Radius[1] | | Wt. | | Static Load Rating $C_o$ | | Extended Dynamic Load $C_E$[4] | | Snap Ring PPG | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Contact Seal PP | Mechani-Seal LL | tolerance +0.000 mm +0.0000" to minus | | | | tolerance +0.000 mm +0.0000" to minus | | | | +0.00 mm -.12 mm +0.000" -.005" | | | | | | | | | | O.D. | | Thickness | | Offset | |
| | | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | kg | lbs. | N | lbs. | N | lbs. | mm | in. | mm | in. | mm | in. |
| W304PP | — | 20 | 0.7874 | 0.010 | 0.0004 | 52 | 2.0472 | 0.013 | 0.0005 | 22.22 | 0.875 | 1.0 | 0.039 | 0.213 | 0.47 | 7800 | 1760 | 17900 | 4050 | — | — | — | — | — | — |
| W305PP[2] | — | 25 | 0.9843 | 0.010 | 0.0004 | 62 | 2.4409 | 0.013 | 0.0005 | 25.40 | 1.000 | 1.0 | 0.039 | 0.354 | 0.78 | 12200 | 2750 | 26600 | 6000 | 67.5 | $2\frac{21}{35}$ | 1.65 | 0.065 | 4.82 | 0.190 |
| W306PP | — | 30 | 1.1811 | 0.010 | 0.0004 | 72 | 2.8346 | 0.013 | 0.0005 | 30.18 | 1.188 | 1.0 | 0.039 | 0.558 | 1.23 | 15600 | 3550 | 33900 | 7650 | — | — | — | — | — | — |
| W307PP | W307KLL | 35 | 1.3780 | 0.012 | 0.00047 | 80 | 3.1496 | 0.013 | 0.0005 | 34.92 | 1.375 | 1.5 | 0.059 | 0.780 | 1.72 | 18400 | 4150 | 37700 | 8500 | — | — | — | — | — | — |
| W308PP[2] | W308KLL[2] | 40 | 1.5748 | 0.012 | 0.00047 | 90 | 3.5433 | 0.015 | 0.0006 | 36.53 | 1.438 | 1.5 | 0.059 | 1.021 | 2.25 | 25900 | 5850 | 50600 | 11400 | 96.4 | $3\frac{51}{64}$ | 2.41 | 0.095 | 5.59 | 0.220 |
| W309PP | W309KLL | 45 | 1.7717 | 0.012 | 0.00047 | 100 | 3.9370 | 0.015 | 0.0006 | 39.67 | 1.562 | 1.5 | 0.059 | 1.370 | 3.02 | 31500 | 7100 | 59000 | 13400 | — | — | — | — | — | — |
| W310PP | — | 50 | 1.9685 | 0.012 | 0.00047 | 110 | 4.3307 | 0.015 | 0.0006 | 44.45 | 1.750 | 2.0 | 0.079 | 1.828 | 4.03 | 37700 | 8500 | 69000 | 15600 | — | — | — | — | — | — |
| W311PP[2] | W311KLL | 55 | 2.1654 | 0.015 | 0.0006 | 120 | 4.7244 | 0.015 | 0.0006 | 49.23 | 1.938[3] | 2.0 | 0.079 | 2.386 | 5.26 | 44400 | 10000 | 81000 | 18300 | 129.4 | $5\frac{3}{32}$ | 2.77 | 0.109 | 0.73 | 0.265 |
| W312PP[2] | W312KLL | 60 | 2.3622 | 0.015 | 0.0006 | 130 | 5.1181 | 0.018 | 0.0007 | 53.98 | 2.125[3] | 2.0 | 0.079 | 3.053 | 6.73 | 51500 | 11600 | 92000 | 20800 | 139.7 | $5\frac{1}{2}$ | 2.77 | 0.109 | 0.73 | 0.265 |
| W313PP | — | 65 | 2.5591 | 0.015 | 0.0006 | 140 | 5.5118 | 0.018 | 0.0007 | 58.72 | 2.312[3] | 2.0 | 0.079 | 3.883 | 8.56 | 59500 | 13400 | 104000 | 23600 | — | — | — | — | — | — |
| W314PP | — | 70 | 2.7559 | 0.015 | 0.0006 | 150 | 5.9055 | 0.018 | 0.0007 | 63.50 | 2.500[3] | 2.0 | 0.079 | 4.731 | 10.43 | 67000 | 15300 | 116000 | 26000 | — | — | — | — | — | — |
| W315PP | — | 75 | 2.9528 | 0.015 | 0.0006 | 160 | 6.2992 | 0.025 | 0.0010 | 68.28 | 2.688[3] | 2.0 | 0.079 | 5.811 | 12.81 | 76000 | 17300 | 128000 | 29000 | — | — | — | — | — | — |

[1] Maximum shaft or housing fillet radius that bearing corners will clear.
[2] Also available with snap ring. To order, add suffix "G" to bearing number. Example: W305PPG. The snap ring is normally packaged separately in the box with the bearing.
[3] Width tolerance is .00 mm to -.15 mm (.000" to -.006").
[4] Based on $10^6$ revolutions of calculated fatigue life.

# TRI-PLY SEAL SERIES NON-RELUBRICATABLE TYPE CYLINDRICAL O.D.

- Designed for environments where severe contamination is present, such as agricultural tillage equipment.
- One-piece Tri-Ply seals:
  - Incorporate a highly effective design molded to an exterior shroud cap.
  - Provide exceptionally effective protection against loss of lubricant and entrance of wet or abrasive contaminants.
- Seven-piece Tri-Ply construction:
  - Standard on certain sizes.
  - Shroud cap nests closely with the outside seal.
  - Helps protect the rubber seal members from fiber wrap warpage and abrasion.
  - Balanced design, identified by deep races, large balls and extra-wide or heavy, shock-resistant inner and outer rings.
- Use of Tri-Ply Seal bearings simplifies housing designs and their extra inner ring width provides greater support on the shaft.
- For speeds in excess of 500 RPM, consult your Timken representative.




Type 1 Type 2

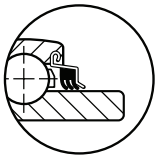


Figure 1

Figure 2

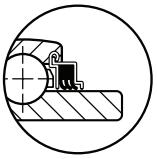


Figure 3

## ROUND BORE

| Bearing Number | Type-Fig. | Bore d | | tolerance +0.000 mm +0.0000" to minus | | Outside Diameter D | | tolerance +0.000 mm +0.0000" to minus | | Ring Widths 0.00, -.12 mm +0.000", -0.005" B Inner | | C Outer | | Balls No. | Balls Size | Wt. | | Static Load Rating $C_o$ | | Extended Dynamic Load Rating $C_E$[2] | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | kg | lbs. | N | lbs. | N | lbs. |
| W208PP10 | 1-1 | 38.113 | 1.5005 | 0.013 | 0.0005 | 80 | 3.1496 | 0.013 | 0.0005 | 42.87 | 1.688 | 21.00 | 0.827 | 9 | 1/2 | 0.681 | 1.50 | 19900 | 4500 | 36800 | 8300 |
| W210PP8 | 2- | 38.860 | 1.5300 | 0.250 | 0.0100 | 90 | 3.5433 | 0.015 | 0.0006 | 30.18 | 1.188 | 30.18 | 1.188 | 10 | 1/2 | 0.894 | 1.97 | 23000 | 5200 | 39900 | 9000 |
| W210PP2 | 2- | 49.230 | 1.9380 | 0.013 | 0.0005 | 90 | 3.5433 | 0.015 | 0.0006 | 30.18 | 1.188 | 30.18 | 1.188 | 10 | 1/2 | 0.767 | 1.69 | 23000 | 5200 | 39900 | 9000 |
| W211PP2 | 2-2 | 55.580 | 2.1880 | 0.015 | 0.0006 | 100 | 3.9370 | 0.015 | 0.0006 | 33.34[1] | 1.312 | 33.34 | 1.312 | 10 | 9/16 | 1.056 | 2.33 | 29000 | 6550 | 48800 | 11000 |
| W214PP2 | 2- | 70.000 | 2.7559 | 0.015 | 0.0006 | 125 | 4.9213 | 0.020 | 0.0008 | 39.69[1] | 1.562 | 39.69 | 1.562 | 10 | 1 1/16 | 1.901 | 4.19 | 43500 | 9800 | 71000 | 16000 |
| W315PP2 | 2- | 76.342 | 3.0056 | 0.015 | 0.0006 | 160 | 6.2992 | 0.025 | 0.0010 | 68.26[1] | 2.688 | 68.26 | 2.688 | 8 | 1 1/16 | 5.956 | 13.13 | 76800 | 17300 | 128000 | 29000 |

[1] Inner and outer width tolerance is .00 mm to -.15 mm (.000" to .006").
[2] Based on $10^6$ revolutions of calculated fatigue life.

## SQUARE BORE

| Bearing Number | Type-Fig. | Shaft Size d | | Outside Diameter D | | tolerance +0.000 mm +0.0000" to minus | | Ring Widths 0.00, -.12 mm +0.000", -0.005" B Inner | | C Outer | | Balls No. | Balls Size | Wt. | | Static Load Rating $C_o$ | | Extended Dynamic Load Rating $C_E$[2] | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | kg | lbs. | N | lbs. | N | lbs. |
| W208PP6 | 1–1 | 25.4 | 1 | 80 | 3.1496 | 0.013 | 0.0005 | 36.51 | 1.438 | 18 | 0.709 | 9 | 1/2 | 0.73 | 1.62 | 19900 | 4500 | 36800 | 8300 |
| W208PP5 | 1–1 | 28.6 | 1 1/8 | 80 | 3.1496 | 0.013 | 0.0005 | 36.51 | 1.438 | 18 | 0.709 | 9 | 1/2 | 0.68 | 1.50 | 19900 | 4500 | 36800 | 8300 |
| W208PP8 | 1–1 | 28.6 | 1 1/8 | 80 | 3.1496 | 0.013 | 0.0005 | 36.51 | 1.438 | 30.18 | 1.188 | 9 | 1/2 | 0.75 | 1.66 | 19900 | 4500 | 36800 | 8300 |
| W211PP3 | 2–2 | 38.1 | 1 1/2 | 100 | 3.9370 | 0.015 | 0.0006 | 33.34[1] | 1.312 | 33.34 | 1.312 | 10 | 9/16 | 1.27 | 2.79 | 29000 | 6550 | 48800 | 11000 |
| W211PP5 | 1–2 | 38.1 | 1 1/2 | 101.6 | 4.0000 | 0.015 | 0.0006 | 44.45[1] | 1.750 | 36.52 | 1.438 | 10 | 7/16 | 1.58 | 3.48 | 29000 | 6550 | 48800 | 11000 |

[1] Inner and outer width tolerance is .00 mm to -.15 mm (.000" to .006").
[2] Based on $10^6$ revolutions of calculated fatigue life.

# TRI-PLY SEAL SERIES NON-RELUBRICATABLE TYPE SPHERICAL O.D.

- Similar in design and features to bearings shown on D27, except for a spherical O.D.

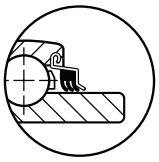


Figure 1

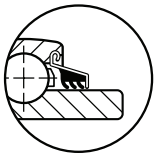


Figure 2

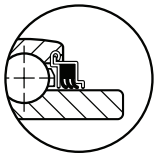
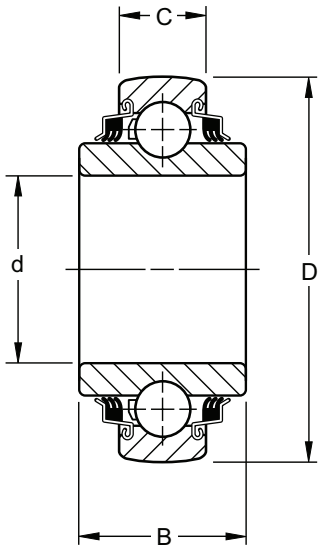
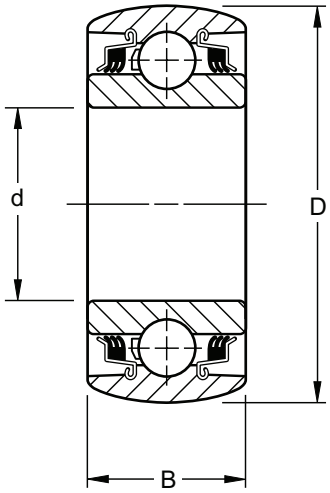


Figure 3




Type 1




Type 2

## ROUND BORE

| Bearing Number | Type-Fig. | Bore d | | tolerance +0.000 mm +0.0000" to minus | | Outside Diameter D | | tolerance +0.000 mm +0.0000" to minus | | Ring Widths +0.00, -.12 mm +0.000", -0.005" B Inner | | C Outer | | Balls No. | Stamping Size | Wt. | | Static Load Rating $C_o$ | | Extended Dynamic Load Rating $C_E$[2] | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | | kg | lbs. | N | lbs. | N | lbs. |
| W208PPB7 | 1–1 | 30.170 | 1.1880 | 0.013 | 0.0005 | 80 | 3.150 | 0.013 | 0.0005 | 30.18 | 1.188 | 18.00 | 0.709 | 9 | 1/2 80MS | 0.640 | 1.41 | 19900 | 4500 | 36800 | 8300 |
| W208PPB2 | 1– | 38.113 | 1.5005 | 0.013 | 0.0005 | 80 | 3.150 | 0.013 | 0.0005 | 42.96 | 1.688 | 18.00 | 0.709 | 9 | 1/2 80MS | 0.721 | 1.59 | 19900 | 4500 | 36800 | 8300 |
| W208PPB23 | 1–1 | 38.113 | 1.5005 | 0.013 | 0.0005 | 80 | 3.150 | 0.013 | 0.0005 | 42.96 | 1.688 | 30.18 | 1.188 | 9 | 15/32 80MS | 0.681 | 1.50 | 15600 | 3550 | 32000 | 7200 |
| W209PPB2 | 2–2 | 45.000 | 1.7717 | 0.013 | 0.0005 | 85 | 3.346 | 0.015 | 0.0006 | 30.18 | 1.188 | 30.18 | 1.188 | 9 | 1/2 85MS | 0.653 | 1.44 | 20200 | 4550 | 36800 | 8300 |
| W209PPB4 | 2–2 | 39.000 | 1.5350 | 0.250 | 0.0100 | 85 | 3.346 | 0.015 | 0.0006 | 30.18 | 1.188 | 30.18 | 1.188 | 9 | 1/2 85MS | 0.748 | 1.65 | 20200 | 4550 | 36800 | 8300 |
| W210PPB2 | 2– | 49.230 | 1.9380 | 0.013 | 0.0005 | 90 | 3.543 | 0.015 | 0.0006 | 30.18 | 1.188 | 30.18 | 1.188 | 10 | 1/2 90MS | 0.708 | 1.56 | 23000 | 5200 | 39900 | 9000 |
| W210PPB5 | 2– | 45.340 | 1.7850 | 0.250 | 0.0100 | 90 | 3.543 | 0.015 | 0.0006 | 30.18 | 1.188 | 30.18 | 1.188 | 10 | 1/2 90MS | 0.794 | 1.75 | 23000 | 5200 | 39900 | 9000 |
| W211PPB2 | 2–2 | 55.580 | 2.1880 | 0.015 | 0.0006 | 100 | 3.937 | 0.015 | 0.0006 | 33.34[1] | 1.312 | 33.34 | 1.312 | 10 | 9/16 100MS | 0.966 | 3.63 | 29000 | 6550 | 48800 | 11000 |
| W214PPB2 | 2– | 70.000 | 2.7559 | 0.015 | 0.0006 | 125 | 4.921 | 0.02 | 0.0008 | 39.69[1] | 1.562 | 39.69 | 1.562 | 10 | 11/16 — | 1.796 | 3.96 | 43500 | 9800 | 71000 | 16000 |
| W214PPB9 | 1– | 70.260 | 2.7660 | 0.025 | 0.0010 | 125 | 4.921 | 0.02 | 0.0008 | 44.45[1] | 1.750 | 28.00 | 1.102 | 10 | 11/16 — | 1.796 | 3.96 | 43500 | 9800 | 71000 | 16000 |

[1] Inner and outer width tolerance is .00 mm to -.15 mm (.000" to -.006").
[2] Based on $10^6$ revolutions of calculated fatigue life.

## SQUARE BORE

| Bearing Number | Type-Fig. | Shaft Size | to minus | Outside Diameter D | | tolerance +0.000 mm +0.0000" to minus | | Ring Widths +0.00, -.12 mm +0.000", -0.005" B Inner | | C Outer | | Balls No. | Stamping Size | Wt. | | Static Load Rating $C_o$ | | Extended Dynamic Load Rating $C_E$[2] | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | | mm | in. | kg | lbs. | N | lbs. |
| W208PPB13 | 1–1 | 22.2 | 7/8 | 80 | 3.1496 | 0.013 | 0.0005 | 36.53 | 1.438 | 18.00 | 0.709 | 9 | 1/2 80MS | 0.735 | 1.62 | 19900 | 4500 | 36800 | 8300 |
| W208PPB6 | 1–1 | 25.4 | 1 | 80 | 3.1496 | 0.013 | 0.0005 | 36.53 | 1.438 | 18.00 | 0.709 | 9 | 1/2 80MS | 0.721 | 1.59 | 19900 | 4500 | 36800 | 8300 |
| W208PPB5 | 1–1 | 28.6 | 1 1/8 | 80 | 3.1496 | 0.013 | 0.0005 | 36.53 | 1.438 | 18.00 | 0.709 | 9 | 1/2 80MS | 0.667 | 1.47 | 19900 | 4500 | 36800 | 8300 |
| W209PPB5 | 1–2 | 31.8 | 1 1/4 | 85 | 3.3465 | 0.015 | 0.0006 | 36.53 | 1.438 | 30.18 | 1.188 | 9 | 1/2 85MS | 0.794 | 1.75 | 20200 | 4550 | 36800 | 8300 |
| W210PPB4 | 2– | 28.6 | 1 1/8 | 90 | 3.5433 | 0.015 | 0.0006 | 30.18 | 1.188 | 30.18 | 1.188 | 10 | 1/2 90MS | 0.957 | 2.11 | 23000 | 5200 | 39900 | 9000 |
| W210PPB6 | 1– | 28.6 | 1 1/8 | 90 | 3.5433 | 0.015 | 0.0006 | 36.53 | 1.438 | 30.18 | 1.188 | 10 | 1/2 90MS | 1.021 | 2.25 | 23000 | 5200 | 39900 | 9000 |
| W211PPB3 | 2–2 | 38.1 | 1 1/2 | 100 | 3.9370 | 0.015 | 0.0006 | 33.34[1] | 1.312 | 33.34 | 1.312 | 10 | 9/16 100MS | 1.207 | 2.66 | 29000 | 6550 | 48800 | 11000 |

[1] Inner and outer width tolerance is .00 mm to -.15 mm (.000" to -.006").
[2] Based on $10^6$ revolutions of calculated fatigue life.

# TRI-PLY SEAL SERIES RELUBRICATABLE TYPE

- Similar in design and features to those shown on the preceding two pages.
- Includes a provision for relubrication.

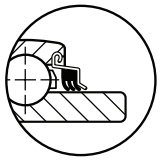


Figure 1

Figure 2

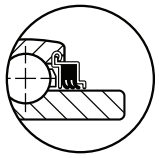
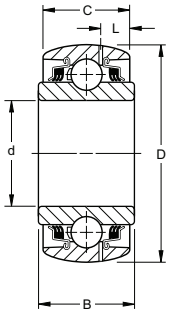
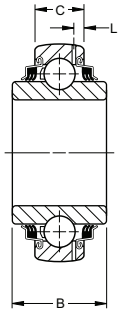


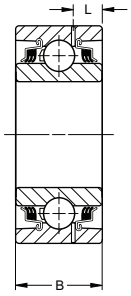
Figure 3



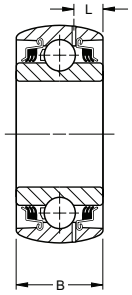

Type 1




Type 2




Type 3




Type 4

## ROUND BORE

| Bearing Number | Type-Fig. | Bore d | | tolerance +0.000 mm +0.0000" to minus | | Outside Diameter D | | tolerance +0.000 mm +0.0000" to minus | | Ring Width +0.00 mm, -0.12 mm +0.000", -.005" B Inner | | C Outer | | Balls No. | Size | L | | Wt. | | Static Load Rating $C_o$ | | Extended Dynamic Load $C_E$[3] | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **ROUND BORE** | | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | | in. | mm | in. | kg | lbs. | N | lbs. | N | lbs. |
| GW209PPB4 | 4–2 | 39.00 | 1.5350 | 0.250 | 0.0100 | 85 | 3.3465 | 0.015 | 0.0006 | 30.18 | 1.188 | 30.18 | 1.188 | 9 | 1/2 | 8.79 | 0.346 | 0.748 | 1.65 | 20200 | 4550 | 36800 | 8300 |
| GW209PPB2 | 4–2 | 45.00 | 1.7717 | 0.013 | 0.0005 | 85 | 3.3465 | 0.015 | 0.0006 | 30.18 | 1.188 | 30.18 | 1.188 | 9 | 1/2 | 8.79 | 0.346 | 0.653 | 1.44 | 20200 | 4550 | 36800 | 8300 |
| GW209PPB11 | 2–2 | 45.24 | 1.7810 | 0.250 | 0.0100 | 85 | 3.3465 | 0.015 | 0.0006 | 36.53 | 1.438 | 22.00 | 0.866 | 9 | 1/2 | 4.55 | 0.179 | 0.621 | 1.37 | 20200 | 4550 | 36800 | 8300 |
| GW210PP3 | 3– | 37.53 | 1.4065 | 0.013 | 0.0005 | 90 | 3.5433 | 0.015 | 0.0006 | 30.18 | 1.188 | 30.18 | 1.188 | 10 | 1/2 | 9.02 | 0.355 | 1.021 | 2.25 | 23000 | 5200 | 39900 | 9000 |
| GW210PPB5 | 4– | 45.34 | 1.7850 | 0.250 | 0.0100 | 90 | 3.5433 | 0.015 | 0.0006 | 30.18 | 1.188 | 30.18 | 1.188 | 10 | 1/2 | 9.02 | 0.355 | 0.794 | 1.75 | 23000 | 5200 | 39900 | 9000 |
| GW210PPB2 | 4– | 49.23 | 1.9380 | 0.013 | 0.0005 | 90 | 3.5433 | 0.015 | 0.0006 | 30.18 | 1.188 | 30.18 | 1.188 | 10 | 1/2 | 9.02 | 0.355 | 0.681 | 1.50 | 23000 | 5200 | 39900 | 9000 |
| GW210PP9[1] | 2– | 49.40 | 1.9450 | 0.180 | 0.0070 | 90 | 3.5433 | 0.015 | 0.0006 | 36.53 | 1.438 | 23.00 | 0.906 | 10 | 1/2 | 4.70 | 0.185 | 0.794 | 1.75 | 23000 | 5200 | 39900 | 9000 |
| GW211PPB13 | 2–2 | 45.34 | 1.7850 | 0.250 | 0.0100 | 100 | 3.9370 | 0.015 | 0.0006 | 33.34 | 1.312 | 25.00 | 0.984 | 10 | 9/16 | 5.82 | 0.299 | 0.916 | 2.02 | 29000 | 6550 | 48800 | 11000 |
| GW211PPB10 | 4–2 | 49.23 | 1.9380 | 0.015 | 0.0006 | 100 | 3.9370 | 0.015 | 0.0006 | 33.34[2] | 1.312 | 33.34 | 1.312 | 10 | 9/16 | 9.96 | 0.392 | 1.025 | 2.26 | 29000 | 6550 | 48800 | 11000 |
| GW211PPB14 | 2–2 | 51.18 | 2.0150 | 0.250 | 0.0100 | 100 | 3.9370 | 0.015 | 0.0006 | 33.34[2] | 1.312 | 25.00 | 0.984 | 10 | 9/16 | 5.82 | 0.229 | 0.907 | 2.00 | 29000 | 6550 | 48800 | 11000 |
| GW211PP2 | 3–2 | 55.58 | 2.1880 | 0.015 | 0.0006 | 100 | 3.9370 | 0.015 | 0.0006 | 33.34[2] | 1.312 | 33.34 | 1.312 | 10 | 9/16 | 9.96 | 0.392 | 1.361 | 3.00 | 29000 | 6550 | 48800 | 11000 |
| GW211PPB2 | 4–2 | 55.58 | 2.1880 | 0.015 | 0.0006 | 100 | 3.9370 | 0.015 | 0.0006 | 33.34[2] | 1.312 | 33.34 | 1.312 | 10 | 9/16 | 9.96 | 0.392 | 1.188 | 2.62 | 29000 | 6550 | 48800 | 11000 |
| GW211PPB8 | 2–2 | 55.58 | 2.1880 | 0.015 | 0.0006 | 100 | 3.9370 | 0.015 | 0.0006 | 33.34[2] | 1.312 | 25.00 | 0.984 | 10 | 9/16 | 5.82 | 0.229 | 0.839 | 1.85 | 29000 | 6550 | 48800 | 11000 |
| GW211PPB9 | 2–2 | 55.75 | 2.1950 | 0.180 | 0.0070 | 100 | 3.9370 | 0.015 | 0.0006 | 39.69[2] | 1.562 | 25.00 | 0.984 | 10 | 9/16 | 5.41 | 0.213 | 0.916 | 2.02 | 29000 | 6550 | 48800 | 11000 |
| GW214PPB6 | 2– | 68.28 | 2.6881 | 0.015 | 0.0006 | 125 | 4.9213 | 0.020 | 0.0008 | 68.26[2] | 2.688 | 28.00 | 1.102 | 10 | 11/16 | 5.54 | 0.218 | 2.155 | 4.75 | 43500 | 9800 | 71000 | 16000 |
| GW214PP2 | 3– | 70.00 | 2.7559 | 0.015 | 0.0006 | 125 | 4.9213 | 0.020 | 0.0008 | 39.69[2] | 1.562 | 39.69 | 1.562 | 10 | 11/16 | 10.52 | 0.414 | 1.901 | 4.19 | 43500 | 9800 | 71000 | 16000 |
| GW214PPB2 | 4– | 70.00 | 2.7559 | 0.015 | 0.0006 | 125 | 4.9213 | 0.020 | 0.0008 | 39.69[2] | 1.562 | 39.69 | 1.562 | 10 | 11/16 | 10.52 | 0.414 | 1.796 | 3.96 | 43500 | 9800 | 71000 | 16000 |
| GW214PPB5 | 1– | 70.00 | 2.7559 | 0.015 | 0.0006 | 125 | 4.9213 | 0.020 | 0.0008 | 61.90[2] | 2.438 | 39.69 | 1.562 | 10 | 11/16 | 10.52 | 0.414 | 2.155 | 4.75 | 43500 | 9800 | 71000 | 16000 |
| GW216PPB3 | 2–3 | 76.45 | 3.0100 | 0.250 | 0.0100 | 140 | 5.5118 | 0.020 | 0.0008 | 63.50[2] | 2.500 | 30.00 | 1.181 | 11 | 23/32 | 6.10 | 0.240 | — | — | 54000 | 12200 | 81000 | 18300 |
| GW216PP5 | 3–3 | 63.88 | 2.5150 | 0.250 | 0.0100 | 140 | 5.5118 | 0.020 | 0.0008 | 63.50[2] | 2.500 | 30.00 | 1.181 | 11 | 23/32 | 6.10 | 0.240 | — | — | 54000 | 12200 | 81000 | 18300 |

## SQUARE BORE

| | | Shaft Size | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SQUARE BORE** | | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | | in. | mm | in. | kg | lbs. | N | lbs. | N | lbs. | | |
| GW208PPB6 | 2–1 | 25.4 | 1 | 80 | 3.1496 | 0.013 | 0.0005 | 36.53 | 1.438 | 21.00 | 0.827 | 9 | 1/2 | 5.66 | 0.223 | 0.794 | 1.75 | 19900 | 4500 | 36800 | 8300 | | |
| GW208PPB5 | 2–1 | 28.6 | 1 1/8 | 80 | 3.1496 | 0.013 | 0.0005 | 36.53 | 1.438 | 21.00 | 0.827 | 9 | 1/2 | 5.66 | 0.223 | 0.667 | 1.47 | 19900 | 4500 | 36800 | 8300 | | |
| GW208PPB8 | 1–1 | 28.6 | 1 1/8 | 80 | 3.1496 | 0.013 | 0.0005 | 36.53 | 1.438 | 30.18 | 1.188 | 9 | 1/2 | 8.36 | 0.329 | 0.794 | 1.75 | 19900 | 4500 | 36800 | 8300 | | |
| GW208PPB17 | 3–1 | 28.6 | 1 1/8 | 80 | 3.3755 | 0.013 | 0.0005 | 36.53 | 1.438 | 30.18 | 1.188 | 9 | 1/2 | 8.28 | 0.326 | 0.925 | 2.04 | 19900 | 4500 | 36800 | 8300 | | |
| GW209PPB5 | 1–2 | 31.8 | 1 1/4 | 85 | 3.3456 | 0.015 | 0.0006 | 36.53 | 1.438 | 30.18 | 1.188 | 9 | 1/2 | 8.79 | 0.346 | 0.794 | 1.75 | 20200 | 4550 | 36800 | 8300 | | |
| GW209PPB8 | 2–2 | 31.8 | 1 1/4 | 85 | 3.3456 | 0.015 | 0.0006 | 36.53 | 1.438 | 22.00 | 0.866 | 9 | 1/2 | 4.55 | 0.179 | 0.748 | 1.65 | 20200 | 4550 | 36800 | 8300 | | |
| GW210PP4 | 3– | 28.6 | 1 1/8 | 90 | 3.5433 | 0.015 | 0.0006 | 30.18 | 1.188 | 30.18 | 1.188 | 10 | 1/2 | 9.02 | 0.355 | 1.048 | 2.31 | 23000 | 5200 | 39900 | 9000 | | |
| GW210PPB4 | 4– | 28.6 | 1 1/8 | 90 | 3.5433 | 0.015 | 0.0006 | 30.18 | 1.188 | 30.18 | 1.188 | 10 | 1/2 | 9.02 | 0.355 | 0.794 | 1.75 | 23000 | 5200 | 39900 | 9000 | | |
| GW211PP3 | 3–2 | 38.1 | 1 1/2 | 100 | 3.9370 | 0.015 | 0.0006 | 33.34[2] | 1.312 | 33.34 | 1.312 | 10 | 9/16 | 9.96 | 0.392 | 1.266 | 2.79 | 29000 | 6550 | 48800 | 11000 | | |
| GW211PPB3 | 4–2 | 38.1 | 1 1/2 | 100 | 3.9370 | 0.015 | 0.0006 | 33.34[2] | 1.312 | 33.34 | 1.312 | 10 | 9/16 | 9.96 | 0.392 | 1.207 | 2.66 | 29000 | 6550 | 48800 | 11000 | | |
| GW211PP17 | 3–2 | 38.1 | 1 1/2 | 100 | 3.9370 | 0.015 | 0.0006 | 44.45[2] | 1.750 | 33.34 | 1.312 | 10 | 9/16 | 9.96 | 0.392 | 1.188 | 2.62 | 29000 | 6550 | 48800 | 11000 | | |
| GW214PPB4 | 4– | 50.8 | 2 | 125 | 4.9213 | 0.020 | 0.0008 | 39.69[2] | 1.562 | 39.69 | 1.562 | 10 | 11/16 | 10.52 | 0.414 | 2.155 | 4.75 | 43500 | 9800 | 71000 | 16000 | | |
| GW216PPB4 | 2–3 | 44.4 | 1 3/4 | 140 | 5.5118 | 0.020 | 0.0008 | 63.50[2] | 2.500 | 30.00 | 1.181 | 11 | 23/32 | 6.10 | 0.240 | — | — | 54000 | 12200 | 81000 | 18300 | | |
| GW216PP2[1] | 2–3 | 57.2 | 2 1/4 | 140 | 5.5118 | 0.020 | 0.0008 | 63.50[2] | 2.500 | 30.00 | 1.181 | 11 | 23/32 | 6.10 | 0.240 | — | — | 54000 | 12200 | 81000 | 18300 | | |
| GW226PPB2 | 2–3 | 57.2 | 2 1/4 | 140 | 5.5118 | 0.020 | 0.0008 | 63.50[2] | 2.500 | 30.00 | 1.181 | 11 | 23/32 | 6.10 | 0.240 | — | — | 54000 | 12200 | 81000 | 18300 | | |

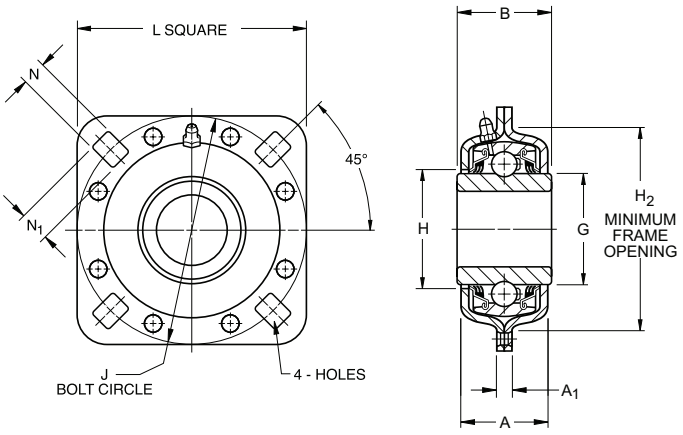
(1) Cylindrical O.D.

(2) Inner and outer width tolerance is .00 mm to-.15 mm (.000" to -.006").

(3) Based on $10^6$ revolutions of calculated fatigue life.

# TRI-PLY SERIES DISK HARROW UNITS

- The answer to versatility in design.
- For extra-special design needs, this unit incorporates a Tri-Ply bearing mounted in two stampings, riveted together with two o-rings.
- Available in two basic size groups, one incorporating a 209 and the other a 211 bearing.
- Both size groups offer these features:
  - Dynamic alignment capability (±3°).
  - Shroud effect from close clearance of stamping to inner ring.
  - Relubrication.
  - One unit piece for ease of handling and assembly.
  - Fitting flange mates with outer ring milled recess, preventing possibility of outer ring circumferential movement.
  - Stampings are case hardened to minimize wear.
  - Units are equipped with nylon retainer, molded one-piece seals and patented notched outer ring seal grooves.




## 209 METRIC SERIES

| Unit Number | Shaft Diameter | B | $H_2$ | J | $N_1$ | N | L | G Ref. | H | A | $A_1$ | Static Load Rating $C_o$ | Extended Dynamic Load Rating $C_E$[1] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | N | N |
| DHU 30S–209 | 30 SQ. | 43 | 101.6 | 127.0 | 16.7 | 13.5 | 127.0 | 57.9 | 59.9 | 42.5 | 6.7 | 18000 | 36500 |
| DHU 40R–209 | 40 SQ. | 43 | 101.6 | 127.0 | 16.7 | 13.5 | 127.0 | 57.9 | 59.9 | 42.5 | 6.7 | 18000 | 36500 |
| DHU 45R–209 | 45 RD. | 43 | 101.6 | 127.0 | 16.7 | 13.5 | 127.0 | 57.9 | 59.9 | 42.5 | 6.7 | 18000 | 36500 |

## 211 METRIC SERIES

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DHU 40S–211 | 40 SQ. | 51 | 113.5 | 139.7 | 15.1 | 13.5 | 139.7 | 69.7 | 73.0 | 49.2 | 7.5 | 25000 | 48000 |
| DHU 50R–211 | 50 RD. | 51 | 113.5 | 139.7 | 15.1 | 13.5 | 139.7 | 69.7 | 73.0 | 49.2 | 7.5 | 25000 | 48000 |
| DHU 55R–211 | 55 RD. | 51 | 113.5 | 139.7 | 15.1 | 13.5 | 139.7 | 69.7 | 73.0 | 49.2 | 7.5 | 25000 | 48000 |

## 209 SERIES

| Unit Number | Shaft Diameter | B | $H_2$ | J | $N_1$ | N | L | G Ref. | H | A | $A_1$ | Static Load Rating $C_o$ | Extended Dynamic Load Rating $C_E$[1] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | lbs. | lbs. |
| DHU 1½ R–209 | 1 ½ RD. | 1 11/16 | 4 | 5 | 21/32 | 17/32 | 5 | 2.279 | 2 23/64 | 1 43/64 | 17/64 | 4000 | 8150 |
| DHU 1⅛ S–209 | 1 ⅛ SQ. | 1 11/16 | 4 | 5 | 21/32 | 17/32 | 5 | 2.279 | 2 23/64 | 1 43/64 | 17/64 | 4000 | 8150 |
| DHU 1¾ R–209 | 1 ¾ RD. | 1 11/16 | 4 | 5 | 21/32 | 17/32 | 5 | 2.279 | 2 23/64 | 1 43/64 | 17/64 | 4000 | 8150 |
| DHU 1¼S–209 | 1 ¼ SQ. | 1 ¾ | 4 | 5 | 21/32 | 17/32 | 5 | 2.279 | 2 23/64 | 1 43/64 | 17/64 | 4000 | 8150 |
| DHU 491 A | 1 ¾ RD. | 1 ¾ | 4 | 5 | 21/32 | 17/32 | 5 | 2.279 | 2 23/64 | 1 43/64 | 17/64 | 4000 | 8150 |

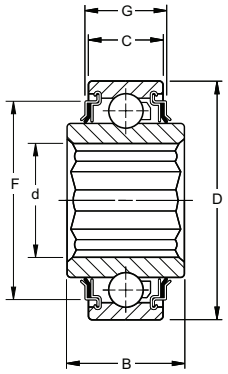
## 211 SERIES

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DHU 1½ S–211 | 1 ½ SQ. | 2 | 4 | 5 ½ | 19/32 | 17/32 | 5 ½ | 2.746 | 2 7/8 | 1 15/16 | 19/64 | 5600 | 10800 |
| DHU 1¾ R–211 | 1 ¾ RD. | 2 ⅛ | 4 | 5 ½ | 19/32 | 17/32 | 5 ½ | 2.746 | 2 7/8 | 1 15/16 | 19/64 | 5600 | 10800 |
| DHU 2 3/16 R–211 | 2 3/16 RD. | 2 3/16 | 4 | 5 ½ | 19/32 | 17/32 | 5 ½ | 2.746 | 2 7/8 | 1 15/16 | 19/64 | 5600 | 10800 |

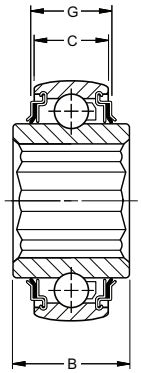
[2] Based on $10^6$ revolutions of calculated fatigue life.

## HEX BORE BEARINGS

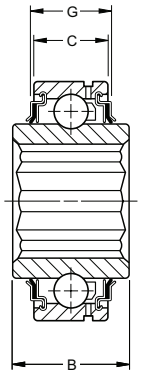
- Designed to be used for outer or inner ring rotation in low-speed, moderately-loaded applications, primarily in agricultural implements and conveyors.
- Tolerances of the hex bore are suitable for mounting on cold rolled hex shafting.
- Main advantage is ease of mounting. Except for axial positioning by adjacent parts, no collars, setscrews or other locking devices are required to lock the inner ring to the hex shaft.
- Utilize the R-Type shroud seal.



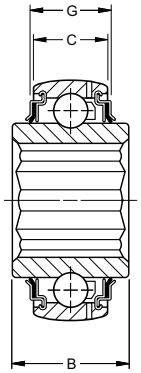
Type 1



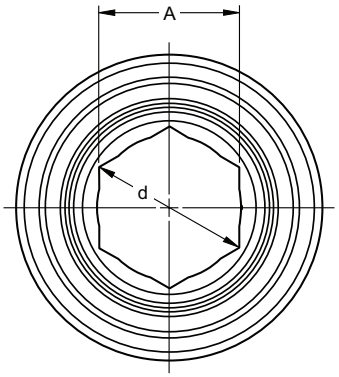
Type 2



Type 3



Type 4

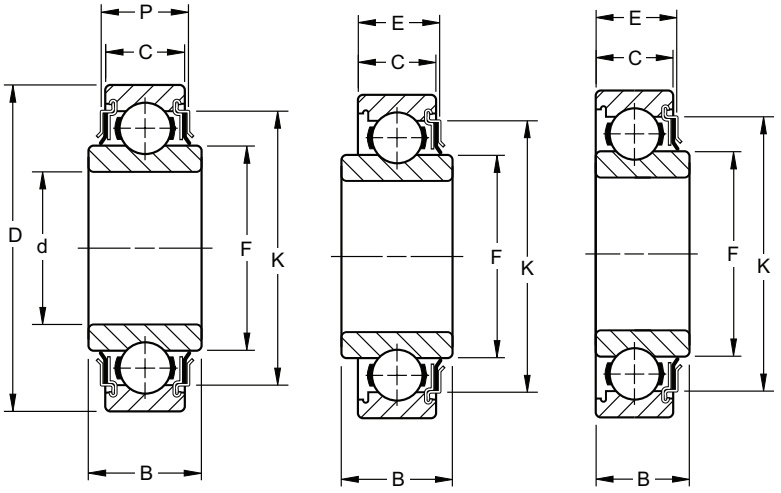



| Bearing Number | Type | Hex Shaft Size | A Across Flats | | Hex Bore tolerance -0.00 mm +0.000" to plus | | d Across corners min. | | Outside Diameter D tolerance +0.000 mm +0.0000" to minus | | | | Width +0.000 mm +0.0000" C Outer | | -0.12 mm -.005" B Inner | | F | | G | | Balls No. | Size | Wt. | | Static Load Rating $C_0$ | | Extended Dynamic Load Rating $C_E$[3] | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | | in. | kg | lbs. | N | lbs. | N | lbs. |
| **NON-RELUBRICATABLE TYPE** | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 202KRR3 | 1 | 9/16 | 14.30 | 0.563 | 0.13 | 0.005 | 16.46 | 0.648 | 35 | 1.3780 | 0.013 | 0.0005 | 11 | 0.433 | 13.00 | 0.512 | — | — | — | — | 8 | 7/32 | 0.054 | 0.12 | 4400 | 1000 | 10600 | 2360 |
| 204KRR2 | 1 | 11/16 | 17.65 | 0.695 | 0.13 | 0.005 | 20.22 | 0.796 | 47 | 1.8504 | 0.013 | 0.0005 | 14 | 0.551 | 20.96 | 0.825 | — | — | — | — | 8 | 5/16 | 0.145 | 0.32 | 6200 | 1400 | 14300 | 3200 |
| 205KRR2 | 1 | 7/8 | 22.25 | 0.876 | 0.13 | 0.005 | 25.65 | 1.010 | 52 | 2.0472 | 0.013 | 0.0005 | 15 | 0.591 | 25.40 | 1.000 | — | — | — | — | 9 | 5/16 | 0.200 | 0.44 | 6950 | 1560 | 15600 | 3450 |
| 205KRRB2 | 2 | 7/8 | 22.25 | 0.876 | 0.13 | 0.005 | 25.65 | 1.010 | 52 | 2.0472 | 0.013 | 0.0005 | 15 | 0.591 | 25.40 | 1.000 | — | — | — | — | 9 | 5/16 | 0.200 | 0.44 | 6950 | 1560 | 15600 | 3450 |
| 205PPB13[1] | 2 | 7/8 | 22.25 | 0.876 | 0.13 | 0.005 | 25.65 | 1.010 | 52 | 2.0472 | 0.013 | 0.0005 | 15 | 0.591 | 25.40 | 1.000 | 42.67 | 1.680 | 20.19 | 0.795 | 9 | 5/16 | 0.200 | 0.44 | 6950 | 1560 | 15600 | 3450 |
| 206KPP3[1] | 1 | 1 | 25.43 | 1.001 | 0.13 | 0.005 | 29.31 | 1.154 | 62 | 2.4409 | 0.013 | 0.0005 | 16 | 0.630 | 24.00 | 0.945 | 52.07 | 2.050 | 19.56 | 0.770 | 9 | 3/8 | 0.345 | 0.76 | 10000 | 2280 | 21600 | 4800 |
| 206KPPB3[1] | 2 | 1 | 25.43 | 1.001 | 0.13 | 0.005 | 29.31 | 1.154 | 62 | 2.4409 | 0.013 | 0.0005 | 16 | 0.630 | 24.00 | 0.945 | 52.07 | 2.050 | 19.56 | 0.770 | 9 | 3/8 | 0.345 | 0.76 | 10000 | 2280 | 21600 | 4800 |
| 206KRR6 | 1 | 1 | 25.43 | 1.001 | 0.13 | 0.005 | 29.31 | 1.154 | 62 | 2.4409 | 0.013 | 0.0005 | 16 | 0.630 | 24.00 | 0.945 | 52.07 | 2.050 | 19.56 | 0.770 | 9 | 3/8 | 0.341 | 0.75 | 10000 | 2280 | 21600 | 4800 |
| 206KRRB6 | 2 | 1 | 25.43 | 1.001 | 0.13 | 0.005 | 29.31 | 1.154 | 62 | 2.4409 | 0.013 | 0.0005 | 16 | 0.630 | 24.00 | 0.945 | 52.07 | 2.050 | 19.56 | 0.770 | 9 | 3/8 | 0.341 | 0.75 | 10000 | 2280 | 21600 | 4800 |
| 207KPP3 | 1 | 1 1/4 | 31.77 | 1.251 | 0.13 | 0.005 | 36.40 | 1.433 | 72 | 2.8346 | 0.013 | 0.0005 | 17 | 0.669 | 37.70 | 1.484 | 60.35 | 2.376 | 19.68 | 0.775 | 9 | 7/16 | 0.454 | 1.00 | 13700 | 3050 | 28500 | 6400 |
| 207KPPB3 | 2 | 1 1/4 | 31.77 | 1.251 | 0.13 | 0.005 | 36.40 | 1.433 | 72 | 2.8346 | 0.013 | 0.0005 | 17 | 0.669 | 25.00 | 0.984 | 60.35 | 2.376 | 19.68 | 0.775 | 9 | 7/16 | 0.395 | 0.87 | 13700 | 3050 | 28500 | 6400 |
| 207KRRB9 | 2 | 1 1/8 | 28.60 | 1.126 | 0.13 | 0.005 | 32.97 | 1.298 | 72 | 2.8346 | 0.013 | 0.0005 | 17 | 0.669 | 37.70 | 1.484 | 60.35 | 2.376 | 19.68 | 0.775 | 9 | 7/16 | 0.454 | 1.00 | 13700 | 3050 | 28500 | 6400 |
| 207KRRB12 | 2 | 1 1/8 | 28.60 | 1.126 | 0.13 | 0.005 | 32.97 | 1.298 | 72 | 2.8346 | 0.013 | 0.0005 | 17 | 0.669 | 25.00 | 0.984 | 60.35 | 2.376 | 19.68 | 0.775 | 9 | 7/16 | 0.395 | 0.87 | 13700 | 3050 | 28500 | 6400 |
| 207KRR17 | 1 | 1 1/4 | 31.77 | 1.251 | 0.13 | 0.005 | 36.65 | 1.443 | 72 | 2.8346 | 0.013 | 0.0005 | 17 | 0.669 | 25.00 | 0.984 | 60.35 | 2.376 | 19.68 | 0.775 | 9 | 7/16 | 0.395 | 0.87 | 13700 | 3050 | 28500 | 6400 |
| 207KRRB17 | 2 | 1 1/4 | 31.77 | 1.251 | 0.13 | 0.005 | 36.65 | 1.443 | 72 | 2.8346 | 0.013 | 0.0005 | 17 | 0.669 | 25.00 | 0.984 | 60.35 | 2.376 | 19.68 | 0.775 | 9 | 7/16 | 0.395 | 0.87 | 13700 | 3050 | 28500 | 6400 |
| W208PPB16[1] | 2 | 1 1/4 | 31.77 | 1.251 | 0.13 | 0.005 | 36.65 | 1.443 | 80 | 3.1496 | 0.013 | 0.0005 | 18 | 0.709 | 36.53 | 1.438 | 68.43 | 2.694 | 25.27 | 0.995 | 9 | 1/2 | 0.658 | 1.45 | 17600 | 4000 | 36000 | 8150 |
| W208KRRB6 | 2 | 1 3/8 | 34.95 | 1.376 | 0.13 | 0.005 | 40.30 | 1.587 | 80 | 3.1496 | 0.013 | 0.0005 | 21 | 0.827 | 36.53 | 1.438 | 68.43 | 2.694 | 23.54 | 0.927 | 9 | 1/2 | — | — | 17600 | 4000 | 36000 | 8150 |
| W208KRR8 | 1 | 1 1/4 | 31.77 | 1.251 | 0.13 | 0.005 | 36.65 | 1.443 | 80 | 3.1496 | 0.013 | 0.0005 | 18 | 0.709 | 36.53 | 1.438 | 68.43 | 2.694 | 20.45 | 0.805 | 9 | 1/2 | 0.658 | 1.45 | 17600 | 4000 | 36000 | 8150 |
| 209KRRB2 | 2 | 1 1/2 | 38.12 | 1.501 | 0.13 | 0.005 | 43.99 | 1.732 | 85 | 3.3456 | 0.015 | 0.0006 | 19 | 0.748 | 30.00 | 1.181 | 73.86 | 2.908 | 23.27 | 0.916 | 9 | 1/2 | 0.576 | 1.27 | 17600 | 4000 | 36000 | 8150 |
| W210PPB7[1] | 2 | 1 5/8 | 41.30 | 1.626 | 0.13 | 0.005 | 47.65 | 1.876 | 90 | 3.5433 | 0.015 | 0.0006 | 30.18 | 1.188 | 30.18 | 1.188 | — | — | — | — | 10 | 1/2 | 0.794 | 1.75 | 19600 | 4500 | 39000 | 8800 |
| **RELUBRICATABLE TYPE** | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| G206KPP4[1] | 3 | 1 | 25.43 | 1.001 | 0.13 | 0.005 | 29.26 | 1.152 | 62 | 2.4409 | 0.13 | 0.005 | 18 | 0.709 | 24.00 | 0.945 | — | — | — | — | 9 | 3/8 | 0.281 | 0.62 | 10000 | 2280 | 21600 | 4800 |
| G206KPPB4[1] | 4 | 1 | 25.43 | 1.001 | 0.13 | 0.005 | 29.26 | 1.152 | 62 | 2.4409 | 0.13 | 0.005 | 18 | 0.709 | 24.00 | 0.945 | 52.07 | 2.050 | 19.56 | 0.770 | 9 | 3/8 | 0.277 | 0.61 | 10000 | 2280 | 21600 | 4800 |
| G206KRRB6 | 4 | 1 | 25.43 | 1.001 | 0.13 | 0.005 | 29.26 | 1.152 | 62 | 2.4409 | 0.13 | 0.005 | 18 | 0.709 | 24.00 | 0.945 | 52.07 | 2.050 | 19.56 | 0.770 | 9 | 3/8 | 0.268 | 0.59 | 10000 | 2280 | 21600 | 4800 |
| G207KPPB2[1] | 4 | 1 1/8 | 28.60 | 1.126 | 0.13 | 0.005 | 32.97 | 1.298 | 72 | 2.8346 | 0.13 | 0.005 | 19 | 0.748 | 37.70 | 1.484 | 60.32 | 2.375 | 25.40 | 1.000 | 9 | 7/16 | 0.454 | 1.00 | 13700 | 3050 | 28500 | 6400 |
| GW208KRRB5 | 4 | 1 1/4 | 31.77 | 1.251 | 0.13 | 0.005 | 36.65 | 1.443 | 80 | 3.1496 | 0.13 | 0.005 | 21 | 0.827 | 36.51 | 1.438 | 60.35 | 2.694 | 22.43 | 0.883 | 9 | 1/2 | 0.635 | 1.40 | 17600 | 4000 | 36000 | 8150 |
| GW208PPB22[1] | 2 | 1 1/4 | 31.88 | 1.255 | 0.13 | 0.005 | 36.75 | 1.447 | 80 | 3.1496 | 0.13 | 0.005 | 21 | 0.827 | 36.51 | 1.438 | 52.07 | 2.050 | 28.32 | 1.115 | 9 | 1/2 | 0.681 | 1.50 | 17600 | 4000 | 36000 | 8150 |
| GC1200KPPB2[1] | | 1 3/4 | 44.48 | 1.751 | 0.13 | 0.005 | 51.31 | 2.020 | 100 | 3.9370 | 0.015 | 0.0006 | 25[2] | 0.984 | 57.15 | 2.250 | 86.11 | 3.390 | 29.01 | 1.142 | 10 | 9/16 | 1.521 | 3.35 | 19600 | 4500 | 39000 | 8800 |

[1] Tri-Ply Seal bearing.
[2] Inner and outer ring tolerance is .00 mm to -15 mm (.000" to -.006").
[3] Based on $10^6$ revolutions of calculated fatigue life.

## LIGHT 200 SERIES R-SEAL TYPE

- Consists of deep groove, Conrad-type bearings.
- Incorporates a flare-out, contact R-Seal.
- Synthetic rubber impregnated washer is enclosed between two metal shields, providing excellent protection against contaminants.
- Because of the heavy contact seal, this series is normally employed in moderate-speed service.




Type 1 Type 2 Type 3

### DIMENSIONS – TOLERANCES

| Bearing Type Number | | Bore d tolerance +0.000 mm +0.0000" to minus | | | | Outside Diameter D tolerance +0.000 mm +0.0000" to minus | | | | Width +0.00 -0.12 mm +0.000 -.005" B Inner | | C Outer | | E Max. | | P Max. | | K Max. | | Fillet Radius(1) | | F | | Static Load Rating $C_0$ | | Extended Dynamic Load Rating $C_E$(3) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm. | in. | mm. | in. | N | lbs. | N | lbs. |
| 203KR2 | 3 | 15.883 | 0.6253 | 0.008 | 0.0003 | 40 | 1.5748 | 0.013 | 0.0005 | 14.00 | 0.551 | 12 | 0.472 | — | — | — | — | — | — | 0.6 | 0.024 | 24.44 | 0.962 | 4700 | 1060 | 10900 | 2450 |
| 203KRR2 | 1 | 16.256 | 0.6400 | 0.130 | 0.0005 | 40 | 1.5748 | 0.013 | 0.0005 | 18.29 | 0.720 | 12 | 0.472 | — | — | — | — | — | — | 0.6 | 0.024 | 24.44 | 0.962 | 4700 | 1060 | 10900 | 2450 |
| 203KRR5 | 1 | 13.081 | 0.5150 | 0.130 | 0.0005 | 40 | 1.5748 | 0.013 | 0.0005 | 18.29 | 0.720 | 12 | 0.472 | — | — | — | — | — | — | 0.6 | 0.024 | 24.44 | 0.962 | 4700 | 1060 | 10900 | 2450 |
| 203KRR7 | 1 | 17 | 0.6693 | 0.008 | 0.0003 | 40 | 1.5748 | 0.013 | 0.0005 | 16.61 | 0.654 | 12 | 0.472 | — | — | — | — | — | — | 0.6 | 0.024 | 24.44 | 0.962 | 4700 | 1060 | 10900 | 2450 |
| 204KR2 | 3 | 19.063 | 0.7505 | 0.013 | 0.0005 | 45.225 | 1.7805 | 0.013 | 0.0005 | 15.49 | 0.610 | 15.49 | 0.610 | — | — | — | — | — | — | 1 | 0.039 | 28.73 | 1.131 | 6500 | 1460 | 14400 | 3250 |
| 204KRR3 | 1 | 20 | 0.7874 | 0.010 | 0.0004 | 47 | 1.8504 | 0.013 | 0.0005 | 17.75 | 0.699 | 14 | 0.551 | — | — | — | — | — | — | 1 | 0.039 | 28.73 | 1.131 | 6500 | 1460 | 14400 | 3250 |
| 205KR4 | 2 | 25.413 | 1.0005 | 0.013 | 0.0005 | 52 | 2.0472 | 0.013 | 0.0005 | 25.40 | 1.000 | 15 | 0.591 | 15.875 | 0.625 | — | — | 42.67 | 1.68 | 1 | 0.039 | 33.81 | 1.331 | 7800 | 1760 | 16000 | 3600 |
| 206KR7 | 2 | 30 | 1.1811 | 0.010 | 0.0004 | 62 | 2.4409 | 0.013 | 0.0005 | 24.00 | 0.945 | 16 | 0.630 | 17.780 | 0.700 | — | — | 52.07 | 2.05 | 1 | 0.039 | 40.28 | 1.586 | 11300 | 2550 | 21800 | 4900 |
| 206KRR8 | 1 | 30 | 1.1811 | 0.013 | 0.0004 | 62 | 2.4409 | 0.013 | 0.0005 | 24.00 | 0.945 | 16 | 0.630 | — | — | 19.56 | 0.77 | 52.07 | 2.05 | 1 | 0.039 | 39.09 | 1.539 | 11300 | 2250 | 21800 | 4900 |
| 207KRR | 1 | 35 | 1.3780 | 0.013 | 0.0005 | 72 | 2.8346 | 0.013 | 0.0005 | 25.00 | 0.984 | 17 | 0.669 | — | — | 19.68 | 0.775 | 60.35 | 2.376 | 1 | 0.039 | 46.94 | 1.848 | 15000 | 3450 | 29000 | 6550 |
| 208KRR2 | 1 | 40 | 1.5748 | 0.013 | 0.0005 | 80 | 3.1496 | 0.013 | 0.0005 | 27.00 | 1.063 | 21 | 0.827 | — | — | 21.31 | 0.839 | 68.45 | 2.695 | 1 | 0.039 | 52.25 | 2.057 | 19800 | 4460 | 36200 | 8130 |
| 209KRR3 | 1 | 45 | 1.7717 | 0.013 | 0.0005 | 85 | 3.3465 | 0.013 | 0.0005 | 27.00 | 1.063 | 21 | 0.827 | — | — | 24.18 | 0.952 | 72.42 | 2.851 | 1 | 0.039 | 57.89 | 2.279 | 20500 | 4600 | 36300 | 8160 |
| 210KRR | 1 | 50 | 1.9685 | 0.013 | 0.0005 | 90 | 3.5433 | 0.015 | 0.0006 | 30.00 | 1.181 | 20 | 0.787 | — | — | 24.03 | 0.946 | 77.60 | 3.055 | 1 | 0.039 | 62.81 | 2.473 | 23100 | 5200 | 40000 | 9000 |
| 212KRR | 1 | 60 | 2.3622 | 0.015 | 0.0006 | 110 | 4.3307 | 0.015 | 0.0006 | 36.00(2) | 1.417 | 22 | 0.886 | — | — | 30.02 | 1.182 | 99.87 | 3.932 | 1 | 0.039 | 76.45 | 3.010 | 35500 | 8000 | 58600 | 13200 |

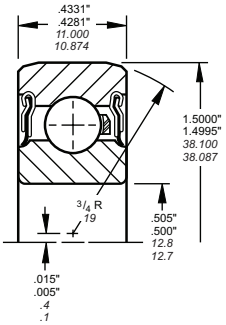
(1) Maximum shaft or housing fillet radius which bearing corners will clear.
(2) Inner and outer width tolerance is .00 mm to -.15 mm (.000" to .0006").
(3) Based on $10^6$ revolutions of calculated fatigue life.

## FARM RADIAL SPECIALS

### BEARING NUMBER 202NPP9

**SPECIAL FEATURES**
- ½ in. Bore
- O.D. corner turned to a ¾ in. radius
- Special heavy stiff seals of Buna-N rubber
- Crimped-in seal

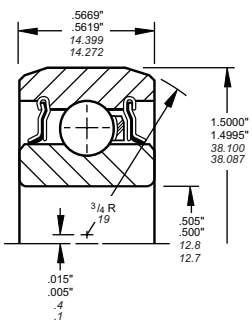
**TYPICAL APPLICATIONS**
Cam Follower




### BEARING NUMBER 202KRR7

**SPECIAL FEATURES**
- ½ in. Bore
- 1½ in. O.D.
- Thick outer ring

**TYPICAL APPLICATIONS**
Cam Follower



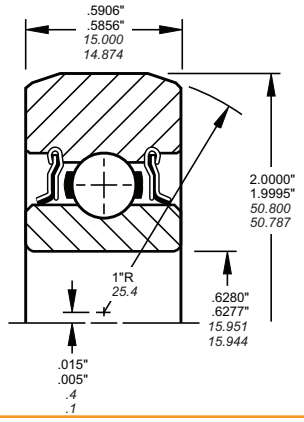

*Continued on the next page.*

## FARM RADIAL SPECIALS *(continued)*

### BEARING NUMBER 203KRR3

**SPECIAL FEATURES**
- 5/8 in. Bore
- 2 in. O.D.
- Thick outer ring

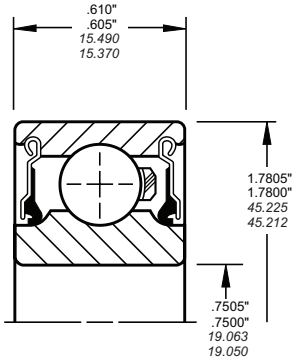
**TYPICAL APPLICATIONS**
Cam Follower
Guide Rolls for Baler Plunger




### BEARING NUMBER P204RR6

**SPECIAL FEATURES**
- 3/4 in. Bore
- 1.7805 in. O.D.
- Replaces 204KRNP2

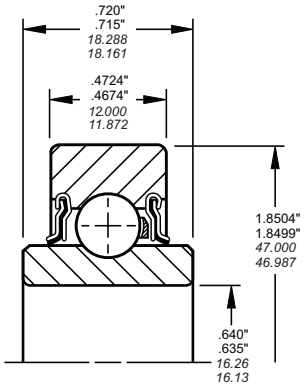
**TYPICAL APPLICATIONS**
Mower Spindle




### BEARING NUMBER 203KRR6

**SPECIAL FEATURES**
- 5/8 in. Bore
- 47 mm O.D.
- Thick outer ring

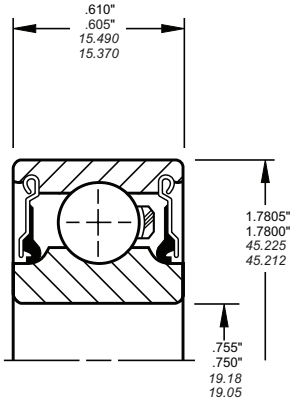
**TYPICAL APPLICATIONS**
Idler Pulley
Idler Sprocket




### BEARING NUMBER 204RR7

**SPECIAL FEATURES**
- 3/4 in. Bore
- 1.7805 in. O.D.
- Replaces 204KRNP3

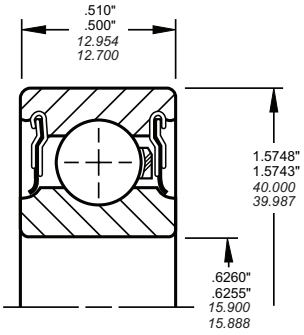
**TYPICAL APPLICATIONS**
Rolling Cultivator
Disk




### BEARING NUMBER 203NPP9

**SPECIAL FEATURES**
- 5/8 in. Bore
- Width .500"

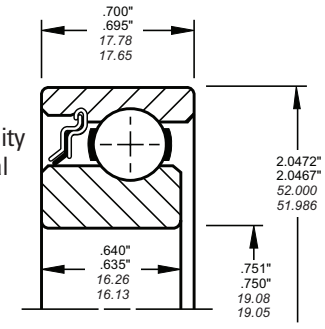
**TYPICAL APPLICATIONS**
Disk Grain Drill




### BEARING NUMBER 205KR3

**SPECIAL FEATURES**
- 3/4 in. Bore
- Excellent moment load capacity available from special internal geometry of races
- Heavy contact flare-out type R-Seal with shroud cap

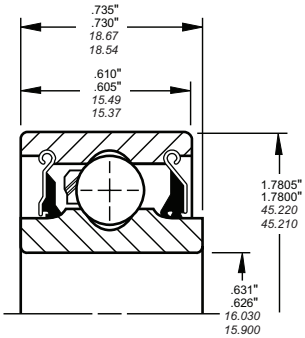
**TYPICAL APPLICATIONS**
Disk Hiller, Planter




### BEARING NUMBER 204RY2

**SPECIAL FEATURES**
- 5/8 in. Bore
- Gothic Arch Race

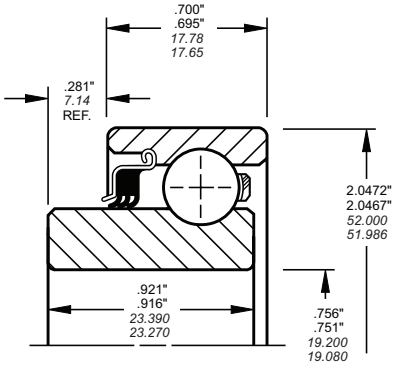
**TYPICAL APPLICATIONS**
Planter
Double Disk Opener




### BEARING NUMBER 205KP6

**SPECIAL FEATURES**
- 3/4 in. Bore
- Tri-Ply Seal on one side with shroud cap

**TYPICAL APPLICATIONS**
Rolling Cultivator



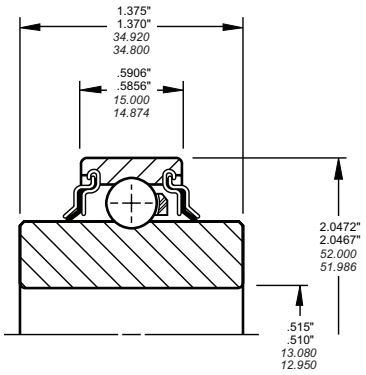

*Continued on the next page.*

## FARM RADIAL SPECIALS *(continued)*

### BEARING NUMBER 205KRR6

**SPECIAL FEATURES**
- ½ in. Bore
- Extended inner ring

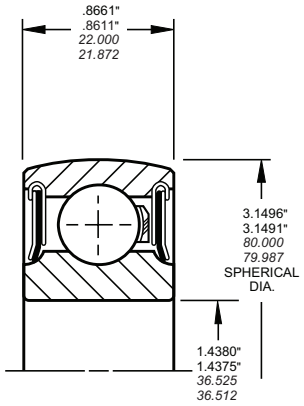
**TYPICAL APPLICATIONS**
Potato Harvester




### BEARING NUMBER 208NPPB5

**SPECIAL FEATURES**
- 1 7/16 in. Bore
- PP Seals with shroud cap

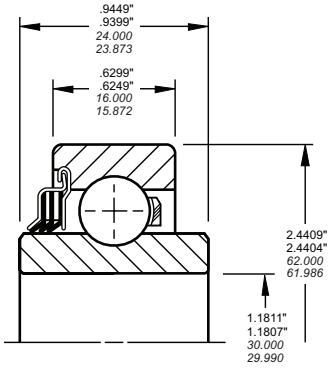
**TYPICAL APPLICATIONS**
Baler Crank Pin




### BEARING NUMBER 206KP2

**SPECIAL FEATURES**
- Tri-Ply Seal on one side with shroud cap

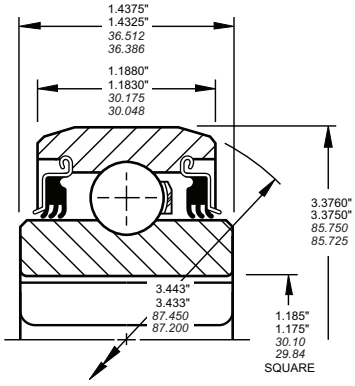
**TYPICAL APPLICATIONS**
Combine




### BEARING NUMBER 208PPB12

**SPECIAL FEATURES**
- 1⅛ in. Square Bore
- Molded Tri-Ply seal
- Heavy outer ring

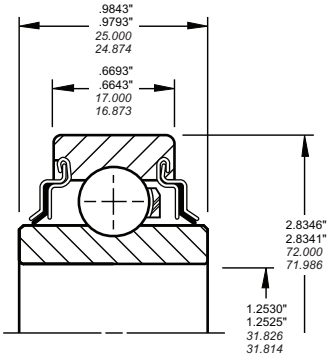
**TYPICAL APPLICATIONS**
Disk Harrow




### BEARING NUMBER 207KRR14

**SPECIAL FEATURES**
- 1¼ in. Bore

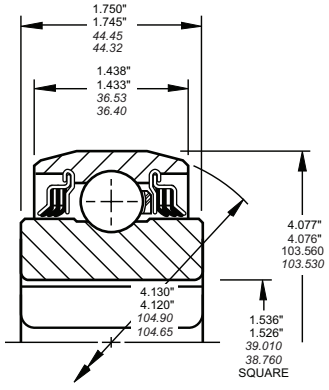
**TYPICAL APPLICATIONS**
Disk Harrow
Transport Wheel




### BEARING NUMBER W211PPB6

**SPECIAL FEATURES**
- 1½ in. Square Bore
- Tri-Ply seal with shroud cap
- Heavy outer ring

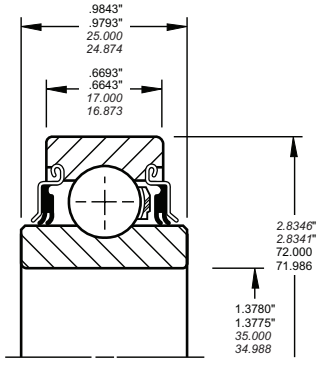
**TYPICAL APPLICATIONS**
Disk Harrow




### BEARING NUMBER 207KYY

**SPECIAL FEATURES**
- Molded double lip seal

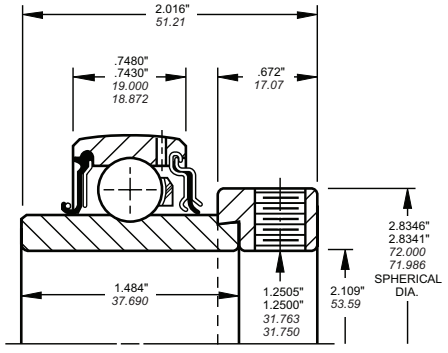
**TYPICAL APPLICATIONS**
Disk Harrow
Transport Wheel




### BEARING NUMBER G1104KRXB2

**SPECIAL FEATURES**
- Oil Seal on one side

**TYPICAL APPLICATIONS**
Chain Case

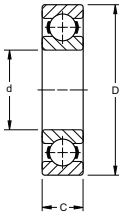


# SPECIAL BEARINGS

| Size | Special Features | Typical Application |
|---|---|---|
| 200KRR3 | Inner Ring Width .6457/.6407 One piece molded seals | Windrower |
| J202KRR8 | Extended Inner Width .880/.875 | Tobacco Harvester |
| 202NPP9 | ½" Bore-O.D. corner turned to ¾" radius | Baler Cam Foller |
| P202NPP11 | Extra Wide Inner .5669/.5619 Bore 16mm .6299/.6296 | Cam Follower |
| P203KRR3 | ⅝" Bore 2" O.D. Heavy section outer ring | Cam Follower Guide Rolls for Baler Plunger |
| 203KRR6 | ⅝" Bore 47mm O.D.Heavy section outer ring | Baler Pick-up |
| 203NPP9 | ⅝" Bore .500" width | Disk Grain Drill Opener |
| P203PP10 | .6255/.6260" Bore | Light Duty Disk Applications |
| BB203KRR2 A2139 | Wide Inner .720/.715 Bore .6400/.6350 Gothic arch races | Rotary Hoe |
| P204KR2 | Bore .7505/.7500 Width .610/.605 O.D. 1.7805/1.7800 | Rotary Lawn Tractor Blade Spindle Bearing |
| 204KRD4 | ⅝" Bore extended inner R-Seal side .689/.685 | Disk Opener Seed Drill |
| 204KRNP5 | Bore .631/.626 Extended Inner Width 1.125/1.120 | Planter Opener Wheels |
| P204KRRB5 | Bore .793/.788 Inner Width .6988/.6938 | Row Crop Machine |
| 204RR6 E8728 | Ground Bore .7505/.7500 Width .610 O.D. 1.7805 Extra loose radial play. Replaces 204KRNP2 E8728 | Planter Gage Wheels |
| P204RR6 | Same as above except standard radial play. Replaces 204KRNP2 | Garden Tractor Mower Spindle |
| H204KRNP6 | Bore, O.D., Width same as P204KR2 | Planter |
| 204RR7 E8728 | ¾" Bore 1.7805 O.D. .610 Width Extra loose radial play. Replaces 204KRNP2 E8728 | Rolling Cultivator Disk Sprockets, Pulleys and Disk Opener |
| 205NPP2 | Inner Width .6594/.6544 | Miscellaneous |
| 205KR3 | ¾" Bore , Special Races, Heavy R-Seal with Shroud Cap | Disk Hiller Planter and Cotton Picker |
| 205KP6 | ¾" Bore Tri-Ply seal on one side with shroud cap | Rolling Cultivator Coulter Bearing |
| 205KRR6 | ½" Bore extended inner ring | Windrow Digger |
| 205KRR7 | ½" Bore 1.500/1.495 Extended Inner Ring with Offset race | Cone Roller Beet and Potato Harvester |
| 205PPB7 FS544 | $15/16$" Bore Tri-Ply Seals 1.375/1.3760 Inner Width | Rolling Cultivator |
| G205KPRB11 | ⅞" Hex Bore, One R-Seal and one Tri-Ply Seal Inner Width 1.000/.975 | Corn Head Mechanism |
| 205PP9 FS544 | ¾" Bore Inner Width 1.3750/1.3700 Tri-Ply Seals | Cultivator |
| 205PP10 | ⅝" Bore Inner Width 1.375/1.370 Tri-Ply Seals | Potato Harvester |
| 205PP11 | 1" Bore Inner Width 1.187/1.185 Tri-Ply Seals | Marker Wheel |

| Size | Special Features | Typical Application |
|---|---|---|
| 205PP12 | ⅝" Bore Inner Width 1.500/1.495 Tri-Ply Seals | Cone Roller, Beet and Potato Harvester |
| 205PP13 | ⅞" Hex Bore Inner Width 1.000/.995 Tri-Ply Seals | Corn Head Mechanism |
| 206KRD | Offset Rings Inner Width .748/.743 Outer Width .6299/.6249 R-Seal on extended inner side | Combine |
| 206KP2 | Tri-Ply Seal one side Wide Inner Ring .9449/.9399 | Combine |
| 206KPP2 | Tri-Ply Seals Wide Inner Ring .9449/.9399 | Forrage Harvester |
| H206KRP2 A1391 | ¾" Bore Wide Inner Ring .9449/ .9399 Extended on R-Seal side | Disk Hiller and Bedders |
| 206KPPB3 | 1" Hex Bore Tri-Ply Seals Inner Ring Width .9449/.9399 | Disk Harrow |
| 206KRR4 | Large Inner Ring Bore Corner to clear .090 R Shaft Fillet | Drive Shaft Bearing |
| 206KRRB3 | 1⅛ Bore Flare out type R-Seal with Shroud Cap | Corn Picker Snapping Rolls |
| 206KRRB9 | 1" Bore Inner Width .9450/.9400 | Planter |
| 206KRR13 | ¾" Bore | Idler Sprocket Bearing for round Baler |
| 207KRR3 | Large Inner Ring Bore Corner to clear .090 R Shaft Fillet | Trencher |
| 207KRR8 | Large Inner Ring Bore Corner to clear .090 R Shaft Fillet Narrow Inner .8499/.8399" | Baler |
| P207KRRB10 | 1¼ Bore Flare out type R-Seal with Shroud Cap | Corn Picker Snapping Rolls |
| 207KRR12 | 1⅛" Hex Bore | Forage Harvester |
| P207KRNPB13 | Bore 1.2505/1.2500 Extended Inner 1.000/.945 on R-Seal Side | Corn Picker Gathering Chain |
| 207KRR14 | Bore 1.2530/1.2525 | Disk Harrow Transport Wheel |
| 207KYY | Double Lip Seal | Disk Harrow Transport Wheel |
| P208KRR4 A1849 | Bore 1.5312/1.5307 Large Inner Ring Bore Corner to clear .090R Shaft Fillet | Clutch Shaft |
| 208NPPB5 | Bore 1.4380/1.4375 Plya Seals with Shroud Cap | Crank Pin for Square Baler |
| 209KRRB2 | 1" Hex Bore | Round Baler |
| 304KR2 | Offset Inner Ring with .7087/ .7037 Width | Tractor Water Pump |
| BB9105KRR2 | 1" Bore Inner Extended on one side with 1.000/.995 Width Two 17/64 dia. holes in Inner Ring 180° apart | Hay Rake |
| 9113KDD3 FS264C | Cap Extends Past Inner Face on one side | PTO Drive |
| 9114KDD3 FS264C | Cap Extends Past Inner Face on one side | PTO Drive |
| 9117K3 | Bore 3.2500/3.2492 O.D. 5.000/4.9992 | PTO Drive |

# XLS/BIC SERIES – CONRAD TYPE




- An inch-dimension series with extra large diameters.
- Conrad or non-filling slot design.
- Compact sections for adaptability in applications where space is restricted.

## DIMENSIONS – TOLERANCES

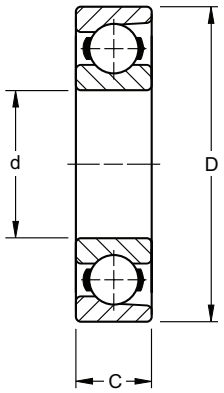
| Bearing Number | Bore d | | tolerance +0.000 mm +0.0000" to minus | | Outside Diameter D | | tolerance +0.000 mm +0.0000" to minus | | Width C | | tolerance +0.000 mm +0.0000" to minus | | Fillet Radius[1] | | Wt. | | Static Load Rating $C_o$ | | Extended Dynamic Load Rating $C_E$[2] | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | kg | lbs. | N | lbs. | N | lbs. |
| XLS44K | 69.850 | 2.7500 | 0.015 | 0.0006 | 104.775 | 4.1250 | 0.015 | 0.0006 | 17.460 | 0.6875 | 0.13 | 0.005 | 1.2 | 0.047 | 0.449 | 0.99 | 22000 | 4900 | 28500 | 6400 |
| XLS48K2 | 76.200 | 3.0000 | 0.015 | 0.0006 | 114.300 | 4.5000 | 0.015 | 0.0006 | 19.050 | 0.7500 | 0.13 | 0.005 | 1.2 | 0.047 | 0.567 | 1.25 | 33500 | 7500 | 44000 | 9800 |
| XLS52K | 82.550 | 3.2500 | 0.020 | 0.0008 | 120.650 | 4.7500 | 0.020 | 0.0008 | 19.050 | 0.7500 | 0.13 | 0.005 | 1.2 | 0.047 | 0.626 | 1.38 | 30000 | 6700 | 35500 | 8000 |
| XLS56K | 88.900 | 3.5000 | 0.020 | 0.0008 | 127.000 | 5.0000 | 0.020 | 0.0008 | 19.050 | 0.7500 | 0.13 | 0.005 | 1.7 | 0.065 | 0.671 | 1.48 | 31500 | 7100 | 36500 | 8150 |
| XLS60K2 | 95.250 | 3.7500 | 0.020 | 0.0008 | 133.350 | 5.2500 | 0.020 | 0.0008 | 19.050 | 0.7500 | 0.13 | 0.005 | 1.6 | 0.063 | 0.712 | 1.57 | 34500 | 7800 | 39000 | 8650 |
| XLS64K2 | 101.600 | 4.0000 | 0.020 | 0.0008 | 142.849 | 5.6240 | 0.025 | 0.0010 | 22.230 | 0.8750 | 0.13 | 0.005 | 2.0 | 0.080 | 0.794 | 1.75 | 41500 | 9500 | 47500 | 10600 |
| 41BIC196 | 104.648 | 4.1250 | 0.020 | 0.0008 | 152.400 | 6.0000 | 0.025 | 0.0010 | 22.230 | 0.8750 | 0.20 | 0.008 | 2.5 | 0.100 | 1.471 | 3.24 | 47500 | 10600 | 55000 | 12500 |
| 42BIC196 | 107.950 | 4.2500 | 0.020 | 0.0008 | 152.400 | 6.0000 | 0.025 | 0.0010 | 22.230 | 0.8750 | 0.20 | 0.008 | 2.5 | 0.100 | 1.374 | 3.03 | 47500 | 10600 | 55000 | 12500 |
| 43BIC206 | 111.125 | 4.3750 | 0.020 | 0.0008 | 158.750 | 6.2500 | 0.025 | 0.0010 | 22.230 | 0.8750 | 0.20 | 0.008 | 2.5 | 0.100 | 1.542 | 3.40 | 51000 | 11400 | 57000 | 12900 |
| XLS72KD2 | 114.300 | 4.5000 | 0.020 | 0.0008 | 158.730 | 6.2490 | 0.025 | 0.0010 | 22.230 | 0.8750 | 0.20 | 0.008 | 2.0 | 0.080 | 1.121 | 2.47 | 54000 | 12000 | 60000 | 13400 |
| 45BIC206 | 114.300 | 4.5000 | 0.020 | 0.0008 | 158.750 | 6.2500 | 0.025 | 0.0010 | 22.230 | 0.8750 | 0.20 | 0.008 | 2.5 | 0.100 | 1.442 | 3.18 | 51000 | 11400 | 57000 | 12900 |
| 46BIC216 | 117.475 | 4.6250 | 0.020 | 0.0008 | 165.100 | 6.5000 | 0.025 | 0.0010 | 22.230 | 0.8750 | 0.20 | 0.008 | 2.5 | 0.100 | 1.615 | 3.56 | 54000 | 12000 | 58500 | 13200 |
| 47BIC216 | 120.650 | 4.7500 | 0.025 | 0.0010 | 165.100 | 6.5000 | 0.025 | 0.0010 | 22.230 | 0.8750 | 0.25 | 0.010 | 2.5 | 0.100 | 1.512 | 3.33 | 57000 | 12700 | 61000 | 13700 |
| 48BIC225 | 123.825 | 4.8750 | 0.025 | 0.0010 | 177.800 | 7.0000 | 0.025 | 0.0010 | 25.400 | 1.0000 | 0.25 | 0.010 | 2.5 | 0.100 | 2.254 | 4.97 | 65500 | 15000 | 75000 | 16600 |
| XLS76K2 | 120.650 | 4.7500 | 0.025 | 0.0010 | 165.100 | 6.5000 | 0.025 | 0.0010 | 22.230 | 0.8750 | 0.25 | 0.010 | 1.7 | 0.065 | 1.157 | 2.55 | 57000 | 12700 | 61000 | 13700 |
| XLS80K2 | 127.000 | 5.0000 | 0.025 | 0.0010 | 177.775 | 6.9990 | 0.025 | 0.0010 | 25.400 | 1.0000 | 0.25 | 0.010 | 2.0 | 0.080 | 1.611 | 3.55 | 67000 | 15000 | 72000 | 16300 |
| 50BIC225 | 127.000 | 5.0000 | 0.025 | 0.0010 | 177.800 | 7.0000 | 0.025 | 0.0010 | 25.400 | 1.0000 | 0.25 | 0.010 | 2.5 | 0.100 | 2.3 | 5.0 | 65500 | 15000 | 75000 | 16600 |
| 51BIC240 | 130.175 | 5.1250 | 0.025 | 0.0010 | 184.150 | 7.2500 | 0.030 | 0.0012 | 25.400 | 1.0000 | 0.25 | 0.010 | 2.5 | 0.100 | 2.5 | 5.5 | 69500 | 15600 | 76500 | 17300 |
| 52BIC240 | 133.350 | 5.2500 | 0.025 | 0.0010 | 184.150 | 7.2500 | 0.030 | 0.0012 | 25.400 | 1.0000 | 0.25 | 0.010 | 2.5 | 0.100 | 2.4 | 5.2 | 69500 | 15600 | 76500 | 17300 |
| 53BIC247 | 136.525 | 5.3750 | 0.025 | 0.0010 | 190.500 | 7.5000 | 0.030 | 0.0012 | 25.400 | 1.0000 | 0.25 | 0.010 | 2.5 | 0.100 | 2.6 | 5.7 | 75000 | 16600 | 80000 | 17600 |
| 55BIC247 | 139.700 | 5.5000 | 0.025 | 0.0010 | 190.500 | 7.5000 | 0.030 | 0.0012 | 25.400 | 1.0000 | 0.25 | 0.010 | 2.5 | 0.100 | 2.5 | 5.4 | 75000 | 16600 | 80000 | 17600 |
| 56BIC251 | 142.875 | 5.6250 | 0.025 | 0.0010 | 196.850 | 7.7500 | 0.030 | 0.0012 | 25.400 | 1.0000 | 0.25 | 0.010 | 2.5 | 0.100 | 2.7 | 5.9 | 75000 | 16600 | 80000 | 17600 |
| 57BIC251 | 146.050 | 5.7500 | 0.025 | 0.0010 | 196.850 | 7.7500 | 0.030 | 0.0012 | 25.400 | 1.0000 | 0.25 | 0.010 | 2.5 | 0.100 | 2.5 | 5.6 | 75000 | 16600 | 80000 | 17600 |
| 58BIC258 | 149.225 | 5.8750 | 0.025 | 0.0010 | 203.200 | 8.0000 | 0.030 | 0.0012 | 25.400 | 1.0000 | 0.25 | 0.010 | 2.5 | 0.100 | 2.8 | 6.1 | 78000 | 17300 | 81500 | 18000 |
| 60BIC258 | 152.400 | 6.0000 | 0.025 | 0.0010 | 203.200 | 8.0000 | 0.030 | 0.0012 | 25.400 | 1.0000 | 0.25 | 0.010 | 2.5 | 0.100 | 2.6 | 5.8 | 78000 | 17300 | 81500 | 18000 |
| 62BIC290 | 158.750 | 6.2500 | 0.025 | 0.0010 | 215.900 | 8.5000 | 0.030 | 0.0012 | 28.575 | 1.1250 | 0.25 | 0.010 | 3.0 | 0.120 | 3.5 | 7.7 | 104000 | 23200 | 106000 | 23600 |
| 65BIC298 | 165.100 | 6.5000 | 0.025 | 0.0010 | 222.250 | 8.7500 | 0.030 | 0.0012 | 28.575 | 1.1250 | 0.25 | 0.010 | 3.0 | 0.120 | 3.6 | 7.9 | 98000 | 22000 | 102000 | 22800 |
| 67BIC301 | 171.450 | 6.7500 | 0.025 | 0.0010 | 228.600 | 9.0000 | 0.030 | 0.0012 | 28.575 | 1.1250 | 0.25 | 0.010 | 3.0 | 0.120 | 3.7 | 8.2 | 104000 | 23200 | 104000 | 23600 |
| 70BIC309 | 177.800 | 7.0000 | 0.025 | 0.0010 | 241.300 | 9.5000 | 0.030 | 0.0012 | 31.750 | 1.2500 | 0.25 | 0.010 | 3.0 | 0.120 | 4.8 | 10.6 | 116000 | 26000 | 118000 | 26500 |
| 72BIC340 | 184.150 | 7.2500 | 0.030 | 0.0012 | 247.650 | 9.7500 | 0.030 | 0.0012 | 31.750 | 1.2500 | 0.31 | 0.012 | 3.0 | 0.120 | 4.9 | 10.8 | 122000 | 27500 | 122000 | 27000 |
| 75BIC348 | 190.500 | 7.5000 | 0.030 | 0.0012 | 254.000 | 10.0000 | 0.036 | 0.0014 | 31.750 | 1.2500 | 0.31 | 0.012 | 3.0 | 0.120 | 5.0 | 11.1 | 122000 | 27500 | 122000 | 27000 |
| 77BIC351 | 196.850 | 7.7500 | 0.030 | 0.0012 | 266.700 | 10.5000 | 0.036 | 0.0014 | 34.925 | 1.3750 | 0.31 | 0.012 | 3.0 | 0.120 | 6.3 | 13.9 | 146000 | 32500 | 143000 | 32500 |
| 80BIC359 | 203.200 | 8.0000 | 0.030 | 0.0012 | 273.050 | 10.7500 | 0.036 | 0.0014 | 34.925 | 1.3750 | 0.31 | 0.012 | 3.0 | 0.120 | 6.5 | 14.2 | 146000 | 32500 | 143000 | 32500 |
| 82BIC390 | 209.550 | 8.2500 | 0.030 | 0.0012 | 279.400 | 11.0000 | 0.036 | 0.0014 | 34.925 | 1.3750 | 0.31 | 0.012 | 3.0 | 0.120 | 6.6 | 14.6 | 153000 | 34500 | 150000 | 33500 |
| 85BIC391 | 215.900 | 8.5000 | 0.030 | 0.0012 | 292.100 | 11.5000 | 0.036 | 0.0014 | 38.100 | 1.5000 | 0.31 | 0.012 | 3.0 | 0.120 | 8.2 | 18.0 | 166000 | 37500 | 163000 | 36500 |
| 87BIC393 | 222.250 | 8.7500 | 0.030 | 0.0012 | 298.450 | 11.7500 | 0.036 | 0.0014 | 38.100 | 1.5000 | 0.31 | 0.012 | 3.0 | 0.120 | 8.4 | 18.5 | 176000 | 40000 | 170000 | 38000 |
| 90BIC401 | 228.600 | 9.0000 | 0.030 | 0.0012 | 304.800 | 12.0000 | 0.036 | 0.0014 | 38.100 | 1.5000 | 0.31 | 0.012 | 3.0 | 0.120 | 8.6 | 18.9 | 176000 | 40000 | 166000 | 37500 |
| 95BIC430 | 241.300 | 9.5000 | 0.030 | 0.0012 | 323.850 | 12.7500 | 0.041 | 0.0016 | 41.275 | 1.6250 | 0.36 | 0.014 | 4.0 | 0.160 | 10.6 | 23.4 | 200000 | 45000 | 190000 | 42500 |
| 100BIC439 | 254.000 | 10.0000 | 0.036 | 0.0014 | 336.550 | 13.2500 | 0.041 | 0.0016 | 41.275 | 1.6250 | 0.36 | 0.014 | 4.0 | 0.160 | 11.1 | 24.4 | 212000 | 47500 | 193000 | 43000 |
| 105BIC470 | 266.700 | 10.5000 | 0.036 | 0.0014 | 355.600 | 14.0000 | 0.041 | 0.0016 | 44.450 | 1.7500 | 0.36 | 0.014 | 4.0 | 0.160 | 13.5 | 29.8 | 255000 | 57000 | 224000 | 50000 |
| 110BIC479 | 279.400 | 11.0000 | 0.036 | 0.0014 | 368.300 | 14.5000 | 0.041 | 0.0016 | 44.450 | 1.7500 | 0.36 | 0.014 | 4.0 | 0.160 | 14.1 | 31.0 | 255000 | 57000 | 220000 | 50000 |
| 115BIC510 | 292.100 | 11.5000 | 0.036 | 0.0014 | 387.350 | 15.2500 | 0.041 | 0.0016 | 47.625 | 1.8750 | 0.36 | 0.014 | 5.0 | 0.200 | 16.9 | 37.2 | 280000 | 64000 | 240000 | 54000 |
| 120BIC519 | 304.800 | 12.0000 | 0.036 | 0.0014 | 406.400 | 16.0000 | 0.046 | 0.0018 | 50.800 | 2.0000 | 0.36 | 0.014 | 5.0 | 0.200 | 20.0 | 44.1 | 315000 | 71000 | 255000 | 58500 |
| 125BIC550 | 317.500 | 12.5000 | 0.041 | 0.0016 | 419.100 | 16.5000 | 0.046 | 0.0018 | 50.800 | 2.0000 | 0.41 | 0.016 | 5.0 | 0.200 | 20.7 | 45.7 | 325000 | 73500 | 265000 | 60000 |
| 135BIC580 | 342.900 | 13.5000 | 0.041 | 0.0016 | 457.200 | 18.0000 | 0.046 | 0.0018 | 57.150 | 2.2500 | 0.41 | 0.016 | 5.0 | 0.200 | 27.9 | 61.6 | 415000 | 93000 | 315000 | 71000 |
| 140BIC588 | 355.600 | 14.0000 | 0.041 | 0.0016 | 469.900 | 18.5000 | 0.046 | 0.0018 | 57.150 | 2.2500 | 0.41 | 0.016 | 5.0 | 0.200 | 28.8 | 63.4 | 415000 | 93000 | 310000 | 69500 |
| 145BIC610 | 368.300 | 14.5000 | 0.041 | 0.0016 | 495.300 | 19.5000 | 0.046 | 0.0018 | 63.500 | 2.5000 | 0.41 | 0.016 | 5.0 | 0.200 | 37.4 | 82.5 | 490000 | 110000 | 355000 | 80000 |
| 150BIC613 | 381.000 | 15.0000 | 0.041 | 0.0016 | 508.000 | 20.0000 | 0.051 | 0.0020 | 63.500 | 2.5000 | 0.41 | 0.016 | 5.0 | 0.200 | 38.5 | 84.8 | 490000 | 110000 | 355000 | 80000 |
| 155BIC615 | 393.700 | 15.5000 | 0.041 | 0.0016 | 520.700 | 20.5000 | 0.051 | 0.0020 | 63.500 | 2.5000 | 0.41 | 0.016 | 5.0 | 0.200 | 39.5 | 87.1 | 490000 | 110000 | 345000 | 78000 |
| 160BIC647 | 406.400 | 16.0000 | 0.046 | 0.0018 | 546.100 | 21.5000 | 0.051 | 0.0020 | 69.850 | 2.7500 | 0.46 | 0.018 | 5.0 | 0.200 | 48.8 | 107.6 | 585000 | 132000 | 400000 | 90000 |
| 165BIC660 | 419.100 | 16.5000 | 0.046 | 0.0018 | 558.800 | 22.0000 | 0.051 | 0.0020 | 69.850 | 2.7500 | 0.46 | 0.018 | 5.0 | 0.200 | 50.2 | 110.6 | 620000 | 137000 | 415000 | 93000 |
| 170BIC661 | 431.800 | 17.0000 | 0.046 | 0.0018 | 571.500 | 22.5000 | 0.051 | 0.0020 | 69.850 | 2.7500 | 0.46 | 0.018 | 5.0 | 0.200 | 51.4 | 113.3 | 620000 | 137000 | 415000 | 93000 |
| 175BIC680 | 444.500 | 17.5000 | 0.046 | 0.0018 | 596.900 | 23.5000 | 0.051 | 0.0020 | 76.200 | 3.0000 | 0.46 | 0.018 | 5.0 | 0.200 | 63.8 | 140.8 | 710000 | 160000 | 455000 | 102000 |
| 180BIC687 | 457.200 | 18.0000 | 0.046 | 0.0018 | 609.600 | 24.0000 | 0.051 | 0.0020 | 76.200 | 3.0000 | 0.46 | 0.018 | 5.0 | 0.200 | 65.3 | 144.0 | 710000 | 160000 | 455000 | 102000 |
| 185BIC695 | 469.900 | 18.5000 | 0.046 | 0.0018 | 622.300 | 24.5000 | 0.051 | 0.0020 | 76.200 | 3.0000 | 0.46 | 0.018 | 5.0 | 0.200 | 66.8 | 147.3 | 710000 | 160000 | 455000 | 102000 |
| 190BIC696 | 482.600 | 19.0000 | 0.046 | 0.0018 | 647.700 | 25.5000 | 0.076 | 0.0030 | 82.550 | 3.2500 | 0.46 | 0.018 | 5.0 | 0.200 | 80.7 | 177.9 | 800000 | 180000 | 500000 | 112000 |
| 195BIC710 | 495.300 | 19.5000 | 0.051 | 0.0020 | 660.400 | 26.0000 | 0.076 | 0.0030 | 82.550 | 3.2500 | 0.46 | 0.018 | 5.0 | 0.200 | 82.4 | 181.7 | 800000 | 180000 | 500000 | 112000 |
| 200BIC717 | 508.000 | 20.0000 | 0.051 | 0.0020 | 673.100 | 26.5000 | 0.076 | 0.0030 | 82.550 | 3.2500 | 0.51 | 0.020 | 5.0 | 0.200 | 84.3 | 185.9 | 850000 | 190000 | 510000 | 114000 |
| 205BIC725 | 520.700 | 20.5000 | 0.051 | 0.0020 | 698.500 | 27.5000 | 0.076 | 0.0030 | 88.900 | 3.5000 | 0.51 | 0.020 | 5.0 | 0.200 | 97.5 | 215.0 | 965000 | 216000 | 570000 | 129000 |
| 210BIC726 | 533.400 | 21.0000 | 0.051 | 0.0020 | 711.200 | 28.0000 | 0.076 | 0.0030 | 88.900 | 3.5000 | 0.51 | 0.020 | 5.0 | 0.200 | 99.7 | 219.8 | 1020000 | 228000 | 585000 | 132000 |

(1) Maximum shaft or housing fillet radius that bearing corners will clear.

(2) Based on $10^6$ revolutions of calculated fatigue life.

## BIH SERIES – MAXIMUM CAPACITY TYPE

- An inch-dimension series with extra large diameters.
- Maximum capacity design.
- Feature a counterbored outer ring to permit increased number of balls.
- Can carry thrust in one direction only, against the full shouldered side of the outer race.
- Compact sections for adaptability to applications where space is restricted.



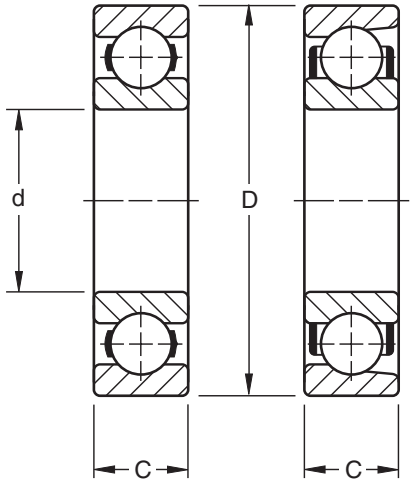

### DIMENSIONS – TOLERANCES BIH SERIES

| Bearing Number | Bore d | | tolerance +0.000 mm +0.0000" to minus | | Outside Diameter D | | tolerance +0.000 mm +0.0000" to minus | | Width C | | tolerance +0.000 mm +0.0000" to minus | | Fillet Radius[1] | | Wt. | | Static Load Rating $C_o$ | | Extended Dynamic Load Rating $C_E$[2] | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | kg | lbs. | N | lbs. | N | lbs. |
| 41BIH196 | 104.775 | 4.1250 | 0.020 | 0.0008 | 152.400 | 6.0000 | 0.025 | 0.0010 | 22.23 | 0.8750 | 0.20 | 0.008 | 2.5 | 0.10 | 1.411 | 3.11 | 63000 | 14000 | 65500 | 14600 |
| 42BIH196 | 107.950 | 4.2500 | 0.020 | 0.0008 | 152.400 | 6.0000 | 0.025 | 0.0010 | 22.23 | 0.8750 | 0.20 | 0.008 | 2.5 | 0.10 | 1.321 | 2.91 | 71000 | 16000 | 72000 | 16300 |
| 43BIH206 | 111.125 | 4.3750 | 0.020 | 0.0008 | 158.750 | 6.2500 | 0.025 | 0.0010 | 22.23 | 0.8750 | 0.20 | 0.008 | 2.5 | 0.10 | 1.483 | 3.27 | 51000 | 11400 | 57000 | 12900 |
| 45BIH206 | 114.300 | 4.5000 | 0.020 | 0.0008 | 158.750 | 6.2500 | 0.025 | 0.0010 | 22.23 | 0.8750 | 0.20 | 0.008 | 2.5 | 0.10 | 1.383 | 3.05 | 75000 | 16600 | 73500 | 16600 |
| 46BIH216 | 117.475 | 4.6250 | 0.020 | 0.0008 | 165.100 | 6.5000 | 0.025 | 0.0010 | 22.23 | 0.8750 | 0.20 | 0.008 | 2.5 | 0.10 | 1.561 | 3.44 | 80000 | 18000 | 76500 | 17300 |
| 48BIH225 | 123.825 | 4.8750 | 0.025 | 0.0010 | 177.800 | 7.0000 | 0.025 | 0.0010 | 25.40 | 1.0000 | 0.25 | 0.010 | 2.5 | 0.10 | 2.209 | 4.87 | 104000 | 23200 | 100000 | 22400 |
| 50BIH225 | 127.000 | 5.0000 | 0.025 | 0.0010 | 177.800 | 7.0000 | 0.025 | 0.0010 | 25.40 | 1.0000 | 0.25 | 0.010 | 2.5 | 0.10 | 2.3 | 5.0 | 104000 | 23200 | 100000 | 22400 |
| 51BIH240 | 130.175 | 5.1250 | 0.025 | 0.0010 | 184.150 | 7.2500 | 0.030 | 0.0012 | 25.40 | 1.0000 | 0.25 | 0.010 | 2.5 | 0.10 | 2.5 | 5.5 | 108000 | 24000 | 102000 | 22800 |
| 52BIH240 | 133.350 | 5.2500 | 0.025 | 0.0010 | 184.150 | 7.2500 | 0.030 | 0.0012 | 25.40 | 1.0000 | 0.25 | 0.010 | 2.5 | 0.10 | 2.4 | 5.2 | 104000 | 23200 | 100000 | 22400 |
| 53BIH247 | 136.525 | 5.3750 | 0.025 | 0.0010 | 190.500 | 7.5000 | 0.030 | 0.0012 | 25.40 | 1.0000 | 0.25 | 0.010 | 2.5 | 0.10 | 2.6 | 5.7 | 112000 | 25000 | 104000 | 23200 |
| 55BIH247 | 139.700 | 5.5000 | 0.025 | 0.0010 | 190.500 | 7.5000 | 0.030 | 0.0012 | 25.40 | 1.0000 | 0.25 | 0.010 | 2.5 | 0.10 | 2.5 | 5.4 | 112000 | 25000 | 104000 | 23200 |
| 56BIH251 | 142.875 | 5.6250 | 0.025 | 0.0010 | 196.850 | 7.7500 | 0.030 | 0.0012 | 25.40 | 1.0000 | 0.25 | 0.010 | 2.5 | 0.10 | 2.7 | 5.9 | 116000 | 26000 | 106000 | 23600 |
| 57BIH251 | 146.050 | 5.7500 | 0.025 | 0.0010 | 196.850 | 7.7500 | 0.030 | 0.0012 | 25.40 | 1.0000 | 0.25 | 0.010 | 2.5 | 0.10 | 2.5 | 5.6 | 116000 | 26000 | 106000 | 23600 |
| 58BIH258 | 149.225 | 5.8750 | 0.025 | 0.0010 | 203.200 | 8.0000 | 0.030 | 0.0012 | 25.40 | 1.0000 | 0.25 | 0.010 | 2.5 | 0.10 | 2.8 | 6.1 | 118000 | 26500 | 108000 | 24000 |
| 60BIH258 | 152.400 | 6.0000 | 0.025 | 0.0010 | 203.200 | 8.0000 | 0.030 | 0.0012 | 25.40 | 1.0000 | 0.25 | 0.010 | 2.5 | 0.10 | 2.6 | 5.8 | 118000 | 26500 | 108000 | 24000 |
| 62BIH290 | 158.750 | 6.2500 | 0.025 | 0.0010 | 215.900 | 8.5000 | 0.030 | 0.0012 | 28.575 | 1.1250 | 0.25 | 0.010 | 3.0 | 0.12 | 3.5 | 7.7 | 146000 | 33500 | 134000 | 30000 |
| 65BIH298 | 165.100 | 6.5000 | 0.025 | 0.0010 | 222.250 | 8.7500 | 0.030 | 0.0012 | 28.575 | 1.1250 | 0.25 | 0.010 | 3.0 | 0.12 | 3.6 | 7.9 | 153000 | 34500 | 137000 | 30500 |
| 67BIH301 | 171.450 | 6.7500 | 0.025 | 0.0010 | 228.600 | 9.0000 | 0.030 | 0.0012 | 28.575 | 1.1250 | 0.25 | 0.010 | 3.0 | 0.12 | 3.7 | 8.2 | 160000 | 35500 | 137000 | 31000 |
| 70BIH309 | 177.800 | 7.0000 | 0.025 | 0.0010 | 241.300 | 9.5000 | 0.030 | 0.0012 | 31.750 | 1.2500 | 0.25 | 0.010 | 3.0 | 0.12 | 4.8 | 10.6 | 180000 | 40500 | 160000 | 35500 |
| 72BIH340 | 184.150 | 7.2500 | 0.030 | 0.0012 | 247.650 | 9.7500 | 0.030 | 0.0012 | 31.750 | 1.2500 | 0.31 | 0.012 | 3.0 | 0.12 | 4.9 | 10.8 | 186000 | 42500 | 160000 | 36000 |
| 75BIH348 | 190.500 | 7.5000 | 0.030 | 0.0012 | 254.000 | 10.0000 | 0.036 | 0.0014 | 31.750 | 1.2500 | 0.31 | 0.012 | 3.0 | 0.12 | 5.0 | 11.1 | 193000 | 43000 | 163000 | 36500 |
| 77BIH351 | 196.850 | 7.7500 | 0.030 | 0.0012 | 266.700 | 10.5000 | 0.036 | 0.0014 | 34.925 | 1.3750 | 0.31 | 0.012 | 3.0 | 0.12 | 6.3 | 13.9 | 228000 | 51000 | 193000 | 44000 |
| 80BIH359 | 203.200 | 8.0000 | 0.030 | 0.0012 | 273.050 | 10.7500 | 0.036 | 0.0014 | 34.925 | 1.3750 | 0.31 | 0.012 | 3.0 | 0.12 | 6.5 | 14.2 | 236000 | 53000 | 200000 | 45000 |
| 82BIH390 | 209.550 | 8.2500 | 0.030 | 0.0012 | 279.400 | 11.0000 | 0.036 | 0.0014 | 34.925 | 1.3750 | 0.31 | 0.012 | 3.0 | 0.12 | 6.6 | 10.6 | 245000 | 55000 | 200000 | 45500 |
| 85BIH391 | 215.900 | 8.5000 | 0.030 | 0.0012 | 292.100 | 11.5000 | 0.036 | 0.0014 | 38.100 | 1.5000 | 0.31 | 0.012 | 3.0 | 0.12 | 8.2 | 18.0 | 270000 | 61000 | 224000 | 50000 |
| 87BIH393 | 222.250 | 8.7500 | 0.030 | 0.0012 | 298.450 | 11.7500 | 0.036 | 0.0014 | 38.100 | 1.5000 | 0.31 | 0.012 | 3.0 | 0.12 | 8.4 | 18.5 | 270000 | 61000 | 224000 | 50000 |
| 90BIH401 | 228.600 | 9.0000 | 0.030 | 0.0012 | 304.800 | 12.0000 | 0.036 | 0.0014 | 38.100 | 1.5000 | 0.31 | 0.012 | 3.0 | 0.12 | 8.6 | 18.9 | 280000 | 63000 | 228000 | 51000 |
| 95BIH430 | 241.300 | 9.5000 | 0.030 | 0.0012 | 323.850 | 12.7500 | 0.036 | 0.0014 | 41.275 | 1.6250 | 0.36 | 0.014 | 4.0 | 0.16 | 10.6 | 23.4 | 315000 | 71000 | 255000 | 57000 |
| 100BIH439 | 254.00 | 10.0000 | 0.036 | 0.0014 | 336.550 | 13.2500 | 0.041 | 0.0016 | 41.275 | 1.6250 | 0.36 | 0.014 | 4.0 | 0.16 | 11.1 | 24.4 | 325000 | 73500 | 260000 | 58500 |
| 105BIH470 | 266.700 | 10.5000 | 0.036 | 0.0014 | 355.600 | 14.0000 | 0.041 | 0.0016 | 44.450 | 1.7500 | 0.36 | 0.014 | 4.0 | 0.16 | 13.5 | 29.8 | 400000 | 90000 | 300000 | 68000 |
| 110BIH479 | 279.400 | 11.0000 | 0.036 | 0.0014 | 368.300 | 14.5000 | 0.041 | 0.0016 | 44.450 | 1.7500 | 0.36 | 0.014 | 4.0 | 0.16 | 14.1 | 31.0 | 415000 | 93000 | 305000 | 69500 |
| 115BIH510 | 292.100 | 11.5000 | 0.036 | 0.0014 | 387.350 | 15.2500 | 0.041 | 0.0016 | 47.625 | 1.8750 | 0.36 | 0.014 | 5.0 | 0.20 | 16.9 | 37.2 | 465000 | 104000 | 335000 | 75000 |
| 120BIH519 | 304.800 | 12.0000 | 0.036 | 0.0014 | 406.400 | 16.0000 | 0.046 | 0.0018 | 50.800 | 2.0000 | 0.36 | 0.014 | 5.0 | 0.20 | 20.0 | 44.1 | 510000 | 116000 | 355000 | 80000 |
| 135BIH580 | 342.900 | 13.5000 | 0.041 | 0.0016 | 457.200 | 18.0000 | 0.046 | 0.0018 | 57.150 | 2.2500 | 0.41 | 0.016 | 5.0 | 0.20 | 27.9 | 61.6 | 655000 | 146000 | 425000 | 95000 |
| 140BIH588 | 355.600 | 14.0000 | 0.041 | 0.0016 | 469.900 | 18.5000 | 0.046 | 0.0018 | 57.150 | 2.2500 | 0.41 | 0.016 | 5.0 | 0.20 | 28.8 | 63.4 | 680000 | 150000 | 430000 | 96500 |

(1) Maximum shaft or housing fillet radius that bearing corners will clear.
(2) Based on $10^6$ revolutions of calculated fatigue life.

## EXTRA LARGE 100 SERIES

- Dimensions originally established to meet specific design requirements, before standard dimensions were established by the American Bearing Manufacturers Association (ABMA).
- A metric series.
- Available in the 100 Series (extra light).
- Available in a radially-fitted counterbore type, having a maximum complement of balls.
- Identified by the suffix "WI," these are designed to take thrust in one direction only.




Filling-Slot Type  Counterbore Type

### DIMENSIONS – TOLERANCES

| Bearing Number | | | Bore d | | | | Outside Diameter D | | | | Width C | | Fillet Radius[1] | | Wt. | | | | | | Static Load Rating $C_o$ | | Extended Dynamic Load $C_E$[5] | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Filling-slot Type | Counter-bore Type | One Shield D | | | tolerance +0.000 mm +0.0000" to minus | | | | tolerance +0.000 mm +0.0000" to minus | | +0.00 mm -.25 mm +0.000" -.010" | | | | Filling-slot Type | | Counter-bore Type | | Shielded Type | | | | | |
| | | | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | kg | lbs. | kg | lbs. | kg | lbs. | N | lbs. | N | lbs. |
| 120W2 | — | 120WD2N | 100 | 3.9370 | 0.020 | 0.0008 | 160 | 6.2992 | 0.025 | 0.0010 | 28 | 1.102[4] | 2.01 | 0.079 | 2.041 | 4.50 | — | — | 2.041 | 4.50 | 75000 | 17000 | 106000 | 24000 |
| 122W | 122WI | 122WD2N[3] | 110 | 4.3307 | 0.020 | 0.0008 | 175 | 6.8898 | 0.025 | 0.0010 | 30 | 1.181[4] | 2.01 | 0.079 | 2.762 | 6.09 | 2.835 | 6.25 | 3.157 | 6.96 | 80000 | 18000 | 116000 | 26000 |
| 124W | 124WI | 124WD | 120 | 4.7244 | 0.020 | 0.0008 | 190 | 7.4803 | 0.030 | 0.0012 | 32 | 1.260[4] | 2.01 | 0.079 | 3.475 | 7.66 | 3.538 | 7.80 | 3.466 | 7.64 | 98000 | 22400 | 140000 | 31500 |
| 126W | 126WI | 126WD | 130 | 5.1181 | 0.025 | 0.0010 | 205 | 8.0709 | 0.030 | 0.0012 | 34 | 1.339 | 2.01 | 0.079 | 4.336 | 9.56 | 4.318 | 9.52 | 4.332 | 9.55 | 110000 | 24500 | 146000 | 33500 |
| 128W | 128WI | 128WD | 140 | 5.5118 | 0.025 | 0.0010 | 220 | 8.6614 | 0.030 | 0.0012 | 36 | 1.417 | 2.01 | 0.079 | 5.239 | 11.55 | 5.244 | 11.56 | 5.294 | 11.67 | 122000 | 27000 | 163000 | 36500 |
| 130W | — | 130WD | 150 | 5.9055 | 0.025 | 0.0010 | 235 | 9.2520 | 0.030 | 0.0012 | 38 | 1.496 | 2.01 | 0.079 | 6.278 | 13.84 | — | — | 6.437 | 14.19 | 140000 | 31500 | 183000 | 41500 |
| 132W | — | 132WD | 160 | 6.2992 | 0.025 | 0.0010 | 250 | 9.8425 | 0.030 | 0.0012 | 40 | 1.575 | 2.49 | 0.098 | 7.394 | 16.30 | — | — | 7.484 | 16.50 | 160000 | 35500 | 208000 | 46500 |
| 134W | — | — | 170 | 6.6929 | 0.025 | 0.0010 | 265 | 10.4331 | 0.035 | 0.0014 | 42 | 1.654 | 2.49 | 0.098 | 9.049 | 19.95 | — | — | — | — | 180000 | 40000 | 224000 | 51000 |
| — | — | 136WD2N | 180 | 7.0866 | 0.025 | 0.0010 | 280 | 11.0236 | 0.035 | 0.0014 | 49 | 1.929 | 2.49 | 0.098 | — | — | — | — | 11.004 | 24.26 | 200000 | 45000 | 245000 | 55000 |
| 138W | — | — | 190 | 7.4803 | 0.03 | 0.0120 | 300 | 11.8110 | 0.035 | 0.0014 | 46 | 1.811[2] | 2.49 | 0.098 | 12.928 | 28.50 | — | — | — | — | 245000 | 56000 | 285000 | 64000 |

[1] Maximum shaft or housing fillet radius that bearing corners will clear.
[2] +.00 mm, -25 mm (+000", -.010").
[3] 35 mm width.
[4] Width tolerance is +.00 mm, -.20 mm (+.000", -.008").
[5] Based on $10^6$ revolutions of calculated fatigue life.

# 7000WN PRODUCT FAMILY

## INTRODUCTION

The high performance 7000WN Angular Contact Product Family is specifically designed to support heavy thrust loads at lower operating temperatures at high speeds. Included in the angular contact series are the following design features:

- Refined bore diameter tolerance
- Increased thrust capacity
- Extended load capacity
- Lower operating temperatures
- Better than ABEC 1 bore diameter tolerances
- High operating contact angle
- Improved ball section ratio
- Low shoulder inner and outer rings improve oil flow

A feature of this series is the refined bore diameter tolerance. The closer bore tolerance in the WN product family reduces the broad range of interference and thus prevents the development of undesirable high preload in mounted duplex pairs. As a result, longer bearing life is achieved and high operating temperatures are avoided.

This product family can support heavy thrust loads by combining high shoulders on the thrust side of both rings with a high operating angle. In addition, uniformity of load per ball under combined loads is more favorable with a high contact angle and results in longer bearing life.

Maximum clearance between the one-piece brass or bronze cage and the land diameters of both rings is achieved in the WN construction. Utilizing low shoulder diameters on the non-thrust sides of inner and outer rings promotes efficient oil passage through the bearing resulting in lower operating temperatures and longer bearing life.

The 7000WN Product Family is divided into several designs. Sizes 7207-7218WN and 7304-7318WN have a 40 degree contact angle and a one-piece, ball-piloted, pressed brass cage. Sizes 7219-7230WN and 7319-7330WN have a 40 degree contact angle and a one-piece, outer ring-piloted, high-strength machined bronze cage. The 7412WN and 7415WN both have a 40 degree contact angle and a one-piece conical, high-strength machined bronze cage.

The 7000WN Product Family is available as single bearings and duplex sets. A single with the suffix "SU" is flush ground on both faces for universal mounting. Such bearings can be used as singles or duplex mounted back-to-back (DB), face-to-face (DF) or tandem (DT), depending on the functional requirements of the design. The mounting of duplex "SU" bearings will result in a preload range of minimum internal clearance to a solid preload.

Bearings without the "SU" designation are not flush ground and are intended to be used as singles. These bearings are used to support thrust from one direction and are often accompanied by a preload spring.

Bearings with the suffix "DU" are flush ground on both faces for universal mounting. A duplex pair of "DU" bearings can be mounted (DB, DF, or DT), depending on the functional requirements of the design. These bearings, after mounting, will result in a range of positive light preload.

## APPLICATIONS

These design features are advantageous in applications such as oil refining pump systems where higher productivity and longer system life is important. Other applications where these features are equally suited are deep well pump motors, vertical and horizontal pumps, worm gear and right angle drives, spindles, live centers and gearboxes. For applications requiring a high degree of axial and radial rigidity, these bearings are suggested in preloaded duplex mountings.

## MOUNTING

Although each 7000WN Product Family bearing is a self-contained unit, the construction is such that they are frequently mounted as two bearings opposed, so that thrust can be carried in either direction.

Unlike the radial type, the angular contact bearing, when mounted alone, requires adjustment and must be installed with care. As the bearing is relatively loose axially before mounting, it is important that the design incorporate some means to move the outer ring axially into its correct position relative to the inner ring. This adjustment should be made when the bearing is mounted. A common method is to place a preload spring or shims at one bearing location.

The correct adjustment of the single bearing is obtained when the initial axial looseness of the assembly is removed. This eliminates the possibility of premature bearing damage due to excessive preloading or looseness through improper adjustment.

Bearings designated "SU" are ground on both surfaces to permit universal mounting. These duplex sets are ideally suited for applications which involve a combination of radial loads from either direction. "SU" bearings are flush ground so that under a specific axial gage load the inner ring will protrude beyond the face of the outer ring. This design results in an internal axial clearance within the bearing pair that helps to minimize build-up of excessive preload within the bearings when mounted on a shaft with maximum interference.

To assure correct mounting of bearings in the 7000WN Product Family, the word THRUST is marked on the thrust face of both the inner and outer rings. This face should abut against the housing shoulder or the end cover, depending on the required direction of "thrust".

## ORDERING INFORMATION

**"SU" Suffix:** All bearings are packaged singly.
To obtain a pair of SU flush ground bearings for duplex mounting, specify two bearings.
Example: (2) 7210WN SU bearings.

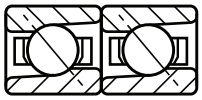
**"DU" Suffix:** All bearings are packaged as a pair in a single box.
To obtain a pair of DU flush ground bearings for duplex mounting, specify one pair.
Example: one pair-7219WN MBR-DU.

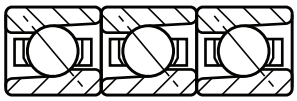
**No Suffix:** All bearings are packaged singly.
No other designation is required to obtain

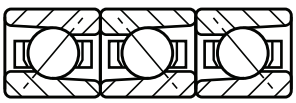
# MOUNTING ARRANGEMENTS


Duplex- DB
Back-to-Back


Duplex- DF
Face-to-Face

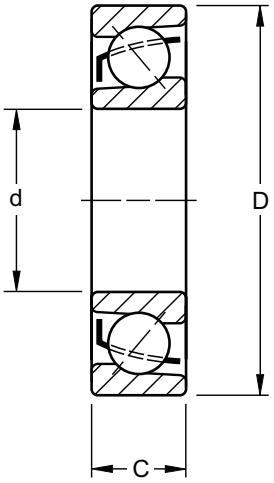

Duplex- DT Tandem


Three Bearings in Tandem

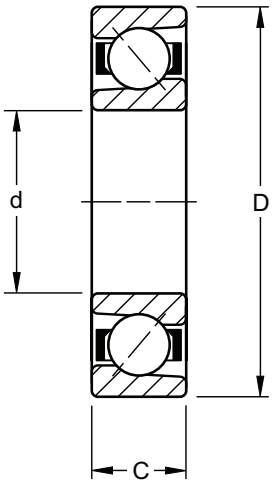

Two in Tandem Opposed
with a Single Bearing

## LIGHT 7200WN SERIES

- Dimensionally interchangeable with the radial 200 Series.
- 7000WN Product Family includes a refined bore diameter.
- A single bearing is suggested for applications in which the thrust load is in one direction or, in the case of combined loads, the thrust load is high in relation to the radial load.
- A duplex pair is suggested for applications where thrust is present in both directions or where axial displacement of the shaft must be restricted.
- For exceptionally high thrust loads in one direction, a tandem pair can be used, opposed by a third bearing.
- Sizes 7201K through 7203WN have a 20 degree contact angle and a nylon cage.
- Sizes 7204WN through 7218WN have a 40 degree contact angle and a one-piece, ball-piloted, pressed brass cage.
- Larger sizes 7219WN through 7230WN have a 40 degree contact angle and a one-piece, outer ring piloted high-strength machined bronze cage.




7207-7218WN
40° Contact Angle




7219-7230WN MBR
40° Contact Angle

### DIMENSIONS – TOLERANCES

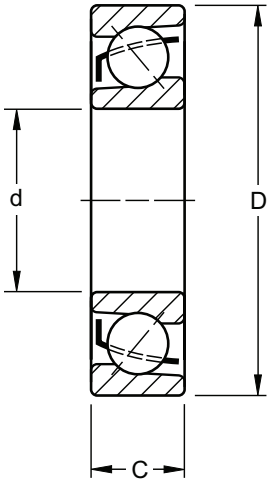
| Bearing Number | Bore d tolerance +0.000 mm +0.0000" to minus | | | | Outside Diameter D tolerance +0.000 mm +0.0000" to minus | | | | Width C tolerance +0.000 mm +0.0000" to minus | | | | Fillet Radius(1) | | Wt. | | Static Load Rating $C_o$ | | Extended Dynamic Load Rating $C_E$(4) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | kg | lbs. | N | lbs. | N | lbs. |
| 7201K | 12 | 0.4724 | 0.008 | 0.0003 | 32 | 1.2598 | 0.011 | 0.00043 | 10 | 0.3937 | 0.12 | 0.005 | 0.6 | 0.024 | 0.036 | 0.08 | 2790 | 630 | 7100 | 1600 |
| 7202W | 15 | 0.5906 | 0.008 | 0.0003 | 35 | 1.3780 | 0.011 | 0.00043 | 11 | 0.4331 | 0.12 | 0.005 | 0.6 | 0.024 | 0.045 | 0.10 | 4700 | 1060 | 10300 | 2320 |
| 7203W | 17 | 0.6693 | 0.008 | 0.0003 | 40 | 1.5748 | 0.011 | 0.00043 | 12 | 0.4727 | 0.12 | 0.005 | 0.6 | 0.024 | 0.068 | 0.15 | 6930 | 1560 | 14200 | 3200 |
| 7204WN(2)(3) | 20 | 0.7874 | 0.010 | 0.0004 | 47 | 1.8504 | 0.011 | 0.00043 | 14 | 0.5512 | 0.12 | 0.005 | 1.0 | 0.039 | 0.104 | 0.23 | 8100 | 1830 | 16800 | 3800 |
| 7205WN(3) | 25 | 0.9843 | 0.010 | 0.0004 | 52 | 2.0472 | 0.013 | 0.0005 | 15 | 0.5906 | 0.12 | 0.005 | 1.0 | 0.039 | 0.132 | 0.29 | 9400 | 2120 | 16600 | 3750 |
| 7206WN | 30 | 1.1811 | 0.010 | 0.0004 | 62 | 2.4409 | 0.013 | 0.0005 | 16 | 0.6299 | 0.12 | 0.005 | 1.0 | 0.039 | 0.209 | 0.46 | 13500 | 3050 | 23000 | 5200 |
| 7207WN | 35 | 1.3780 | 0.010 | 0.0004 | 72 | 2.8346 | 0.013 | 0.0005 | 17 | 0.6693 | 0.12 | 0.005 | 1.0 | 0.039 | 0.286 | 0.63 | 18000 | 4150 | 30800 | 6950 |
| 7208WN | 40 | 1.5748 | 0.010 | 0.0004 | 80 | 3.1496 | 0.013 | 0.0005 | 18 | 0.7087 | 0.12 | 0.005 | 1.0 | 0.039 | 0.331 | 0.73 | 23000 | 5200 | 36000 | 8150 |
| 7209WN | 45 | 1.7717 | 0.010 | 0.0004 | 85 | 3.3465 | 0.015 | 0.0006 | 19 | 0.7480 | 0.12 | 0.005 | 1.0 | 0.039 | 0.435 | 0.96 | 25900 | 5850 | 40500 | 9150 |
| 7210WN | 50 | 1.9685 | 0.010 | 0.0004 | 90 | 3.5433 | 0.015 | 0.0006 | 20 | 0.7874 | 0.12 | 0.005 | 1.0 | 0.039 | 0.508 | 1.12 | 28400 | 6400 | 42500 | 9500 |
| 7211WN | 55 | 2.1654 | 0.010 | 0.0004 | 100 | 3.9370 | 0.015 | 0.0006 | 21 | 0.8268 | 0.15 | 0.006 | 1.5 | 0.059 | 0.635 | 1.40 | 36200 | 8150 | 52000 | 11800 |
| 7212WN | 60 | 2.3622 | 0.010 | 0.0004 | 110 | 4.3307 | 0.015 | 0.0006 | 22 | 0.8661 | 0.15 | 0.006 | 1.5 | 0.059 | 0.835 | 1.84 | 44000 | 10000 | 63000 | 14300 |
| 7213WN | 65 | 2.5591 | 0.010 | 0.0004 | 120 | 4.7244 | 0.015 | 0.0006 | 23 | 0.9055 | 0.15 | 0.006 | 1.5 | 0.059 | 1.061 | 2.34 | 52400 | 11800 | 72400 | 16300 |
| 7214WN | 70 | 2.7559 | 0.010 | 0.0004 | 125 | 4.9213 | 0.018 | 0.0007 | 24 | 0.9449 | 0.15 | 0.006 | 1.5 | 0.059 | 1.171 | 2.58 | 57300 | 12900 | 78000 | 17600 |
| 7215WN | 75 | 2.9528 | 0.010 | 0.0004 | 130 | 5.1181 | 0.018 | 0.0007 | 25 | 0.9843 | 0.15 | 0.006 | 1.5 | 0.059 | 1.271 | 2.80 | 58000 | 13200 | 78000 | 17600 |
| 7216WN | 80 | 3.1496 | 0.010 | 0.0004 | 140 | 5.5118 | 0.018 | 0.0007 | 26 | 1.0236 | 0.15 | 0.006 | 2.0 | 0.079 | 1.483 | 3.27 | 65500 | 15600 | 91500 | 20400 |
| 7217WN | 85 | 3.3465 | 0.013 | 0.0005 | 150 | 5.9055 | 0.018 | 0.0007 | 28 | 1.1024 | 0.20 | 0.008 | 2.0 | 0.079 | 2.096 | 4.62 | 76500 | 18300 | 106000 | 23600 |
| 7218WN | 90 | 3.5433 | 0.013 | 0.0005 | 160 | 6.2992 | 0.025 | 0.0010 | 30 | 1.1811 | 0.20 | 0.008 | 2.0 | 0.079 | 2.567 | 5.66 | 88000 | 21200 | 119000 | 27000 |
| 7219WN MBR | 95 | 3.7402 | 0.013 | 0.0005 | 170 | 6.6929 | 0.025 | 0.0010 | 32 | 1.2600 | 0.20 | 0.008 | 2.0 | 0.079 | 3.025 | 6.67 | 93000 | 22800 | 133000 | 30000 |
| 7220WN MBR | 100 | 3.9370 | 0.013 | 0.0005 | 180 | 7.0866 | 0.025 | 0.0010 | 34 | 1.3390 | 0.20 | 0.008 | 2.0 | 0.079 | 3.460 | 7.62 | 106000 | 25500 | 146000 | 33500 |
| 7222WN MBR | 110 | 4.3307 | 0.013 | 0.0005 | 200 | 7.8740 | 0.030 | 0.0012 | 38 | 1.4960 | 0.20 | 0.008 | 2.0 | 0.079 | 5.162 | 11.38 | 134000 | 32500 | 173000 | 39000 |
| 7224WN MBR | 120 | 4.7244 | 0.013 | 0.0005 | 215 | 8.4646 | 0.030 | 0.0012 | 40 | 1.5750 | 0.20 | 0.008 | 2.0 | 0.079 | 6.354 | 14.01 | 160000 | 36500 | 188000 | 42500 |
| 7226WN MBR | 130 | 5.1181 | 0.018 | 0.0007 | 230 | 9.0551 | 0.030 | 0.0012 | 40 | 1.5750 | 0.25 | 0.010 | 2.5 | 0.098 | 7.543 | 16.63 | 176000 | 43000 | 211000 | 47500 |
| 7228WN MBR | 140 | 5.5118 | 0.018 | 0.0007 | 250 | 9.8425 | 0.030 | 0.0012 | 42 | 1.6540 | 0.25 | 0.010 | 2.5 | 0.098 | 9.634 | 21.24 | 200000 | 47500 | 224000 | 50000 |
| 7230WN MBR | 150 | 5.9055 | 0.018 | 0.0007 | 270 | 10.6299 | 0.035 | 0.0014 | 45 | 1.7720 | 0.25 | 0.010 | 2.5 | 0.098 | 11.731 | 25.84 | 240000 | 56000 | 248000 | 56000 |

(1) Maximum shaft or housing fillet radius that bearing corners will clear.
(2) Also available as W design.
(3) Also available with 20° contact angle and nylon cage.
(4) Based on $10^6$ revolutions of calculated fatigue life.

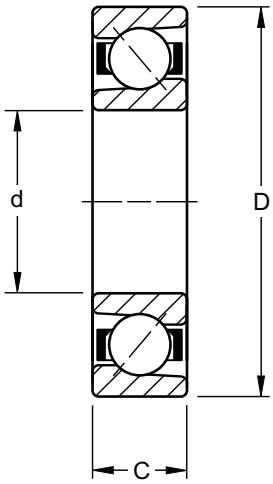
**Note:** 7208WN-7212WN also available with a one-piece, high-strength machined bronze retainer (MBR). This cage can be quoted on the other sizes by request.

## MEDIUM 7300WN SERIES

- Dimensionally interchangeable with the radial 300 Series.
- The 7000WN Product Family includes a refined bore diameter. The 7300WN Series can sustain heavier thrust and combined loads than the 7200WN Series.
- A single bearing is suggested for applications in which the thrust load is in one direction or, in the case of combined loads, the thrust load is high in relation to the radial load.
- A duplex pair is suggested for applications where thrust is present in both directions or where axial displacement of the shaft must be restricted.
- For exceptionally high thrust loads in one direction, a tandem pair can be used, opposed by a third bearing.
- Size 7303W has a 20 degree contact angle and a steel cage.
- Sizes 7304WN through 7318WN have a 40 degree contact angle and a one-piece, ball-piloted, pressed brass cage.
- Larger sizes 7319WN through 7330WN have a 40 degree contact angle and a one-piece, outer ring piloted high-strength machined bronze cage.
- Sizes 7306WN to 7318WN also available with a one-piece, high-strength, machined bronze retainer.




7304-7318WN
40° Contact Angle




7319-7330WN MBR
40° Contact Angle

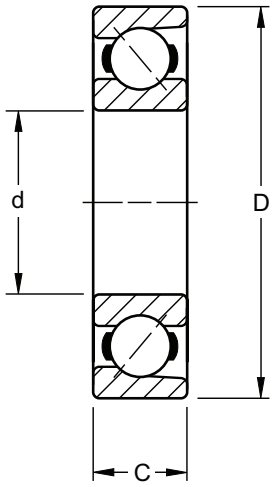
### DIMENSIONS – TOLERANCES

| Bearing Number | Bore d tolerance +0.000 mm +0.0000" to minus | | | | Outside Diameter D tolerance +0.000 mm +0.0000" to minus | | | | Width C tolerance +0.000 mm +0.0000" to minus | | | | Fillet Radius(1) | | Wt. | | Static Load Rating $C_o$ | | Extended Dynamic Load Rating $C_E$(2) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | kg | lbs. | N | lbs. | N | lbs. |
| 7303W | 17 | 0.6693 | 0.008 | 0.0003 | 47 | 1.8504 | 0.011 | 0.00045 | 14 | 0.5512 | 0.12 | 0.005 | 1.0 | 0.039 | 0.118 | 0.26 | 9200 | 2080 | 20200 | 4550 |
| 7304WN | 20 | 0.7874 | 0.010 | 0.0004 | 52 | 2.0472 | 0.013 | 0.0005 | 15 | 0.5906 | 0.12 | 0.005 | 1.0 | 0.039 | 0.150 | 0.33 | 9590 | 2160 | 19500 | 4400 |
| 7305WN | 25 | 0.9843 | 0.010 | 0.0004 | 62 | 2.4409 | 0.013 | 0.0005 | 17 | 0.6693 | 0.12 | 0.005 | 1.0 | 0.039 | 0.241 | 0.53 | 13300 | 3000 | 26500 | 5850 |
| 7306WN | 30 | 1.1811 | 0.010 | 0.0004 | 72 | 2.8346 | 0.013 | 0.0005 | 19 | 0.7480 | 0.12 | 0.005 | 1.0 | 0.039 | 0.363 | 0.80 | 20800 | 4650 | 34600 | 7800 |
| 7307WN | 35 | 1.3780 | 0.010 | 0.0004 | 80 | 3.1496 | 0.013 | 0.0005 | 21 | 0.8268 | 0.12 | 0.005 | 1.5 | 0.059 | 0.408 | 0.90 | 23900 | 5400 | 41300 | 9300 |
| 7308WN | 40 | 1.5748 | 0.010 | 0.0004 | 90 | 3.5433 | 0.015 | 0.0006 | 23 | 0.9055 | 0.12 | 0.005 | 1.5 | 0.059 | 0.667 | 1.47 | 30200 | 6800 | 50600 | 11400 |
| 7309WN | 45 | 1.7717 | 0.010 | 0.0004 | 100 | 3.9370 | 0.015 | 0.0006 | 25 | 0.9843 | 0.12 | 0.005 | 1.5 | 0.059 | 0.885 | 1.95 | 39900 | 9000 | 66600 | 15000 |
| 7310WN | 50 | 1.9685 | 0.010 | 0.0004 | 110 | 4.3307 | 0.015 | 0.0006 | 27 | 1.0630 | 0.12 | 0.005 | 2.0 | 0.079 | 1.139 | 2.51 | 47900 | 10800 | 76800 | 17300 |
| 7311WN | 55 | 2.1654 | 0.010 | 0.0004 | 120 | 4.7244 | 0.015 | 0.0006 | 29 | 1.1417 | 0.15 | 0.006 | 2.0 | 0.079 | 1.592 | 3.51 | 56400 | 12700 | 88800 | 20000 |
| 7312WN | 60 | 2.3622 | 0.010 | 0.0004 | 130 | 5.1181 | 0.018 | 0.0007 | 31 | 1.2205 | 0.15 | 0.006 | 2.0 | 0.079 | 1.969 | 4.34 | 64800 | 14600 | 101000 | 22800 |
| 7313WN | 65 | 2.5591 | 0.010 | 0.0004 | 140 | 5.5118 | 0.018 | 0.0007 | 33 | 1.2992 | 0.15 | 0.006 | 2.0 | 0.079 | 2.477 | 5.46 | 75500 | 17000 | 115000 | 26000 |
| 7314WN | 70 | 2.7559 | 0.010 | 0.0004 | 150 | 5.9055 | 0.018 | 0.0007 | 35 | 1.3780 | 0.15 | 0.006 | 2.0 | 0.079 | 2.676 | 5.90 | 85700 | 19300 | 128000 | 29000 |
| 7315WN | 75 | 2.9528 | 0.010 | 0.0004 | 160 | 6.2992 | 0.025 | 0.0010 | 37 | 1.4567 | 0.15 | 0.006 | 2.0 | 0.079 | 3.452 | 7.61 | 98000 | 22000 | 142000 | 32000 |
| 7316WN | 80 | 3.1496 | 0.010 | 0.0004 | 170 | 6.6929 | 0.025 | 0.0010 | 39 | 1.5354 | 0.15 | 0.006 | 2.0 | 0.079 | 4.504 | 9.92 | 108000 | 24500 | 153000 | 34500 |
| 7317WN | 85 | 3.3465 | 0.013 | 0.0005 | 180 | 7.0866 | 0.025 | 0.0010 | 41 | 1.6124 | 0.20 | 0.008 | 2.5 | 0.098 | 4.940 | 10.88 | 122000 | 27500 | 166000 | 37500 |
| 7318WN | 90 | 3.5433 | 0.013 | 0.0005 | 190 | 7.4803 | 0.030 | 0.0012 | 43 | 1.6929 | 0.20 | 0.008 | 2.5 | 0.098 | 6.247 | 13.76 | 135000 | 30500 | 177000 | 40000 |
| 7319WN MBR | 95 | 3.7402 | 0.013 | 0.0005 | 200 | 7.8740 | 0.030 | 0.0012 | 45 | 1.7717 | 0.20 | 0.008 | 2.5 | 0.098 | 6.706 | 14.77 | 148000 | 33500 | 191000 | 43000 |
| 7320WN MBR | 100 | 3.9370 | 0.013 | 0.0005 | 215 | 8.4646 | 0.030 | 0.0012 | 47 | 1.8504 | 0.20 | 0.008 | 2.5 | 0.098 | 8.227 | 18.12 | 177000 | 40000 | 217000 | 49000 |
| 7321WN MBR | 105 | 4.1339 | 0.013 | 0.0005 | 225 | 8.8583 | 0.030 | 0.0012 | 49 | 1.9291 | 0.20 | 0.008 | 2.5 | 0.098 | 9.498 | 20.92 | 191000 | 43000 | 226000 | 51000 |
| 7322WN MBR | 110 | 4.3307 | 0.013 | 0.0005 | 240 | 9.4488 | 0.030 | 0.0012 | 50 | 1.9685 | 0.20 | 0.008 | 2.5 | 0.098 | 10.892 | 23.99 | 226000 | 51000 | 253000 | 57000 |
| 7324WN MBR | 120 | 4.7244 | 0.013 | 0.0005 | 260 | 10.2362 | 0.035 | 0.0014 | 55 | 2.1654 | 0.20 | 0.008 | 2.5 | 0.098 | 14.356 | 31.62 | 259000 | 58500 | 284000 | 64000 |
| 7326WN MBR | 130 | 5.1181 | 0.018 | 0.0007 | 280 | 11.0236 | 0.035 | 0.0014 | 58 | 2.2835 | 0.25 | 0.010 | 3.0 | 0.118 | 17.339 | 38.19 | 302000 | 68000 | 315000 | 71000 |
| 7328WN MBR | 140 | 5.5118 | 0.018 | 0.0007 | 300 | 11.8110 | 0.035 | 0.0014 | 62 | 2.4409 | 0.25 | 0.010 | 3.0 | 0.118 | 20.294 | 44.70 | 346000 | 78000 | 339000 | 76500 |
| 7330WN MBR | 150 | 5.9055 | 0.018 | 0.0007 | 320 | 12.5984 | 0.040 | 0.0016 | 65 | 2.5591 | 0.25 | 0.010 | 3.0 | 0.118 | 24.907 | 54.86 | 390000 | 88000 | 368000 | 83000 |

(1) Maximum shaft or housing fillet radius that bearing corners will clear.
(2) Based on $10^6$ revolutions of calculated fatigue life.

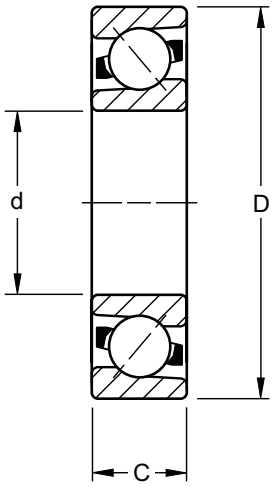
## HEAVY 7400 SERIES

- Dimensionally interchangeable with the radial 400 Series.
- Sizes with a "WN" suffix include a refined bore diameter tolerance.
- Can sustain heavier thrust and combined loads than the 7300WN Series.
- A single bearing is suggested for applications in which the thrust load is in one direction or, in the case of combined loads, the thrust load is high in relation to the radial load.
- A duplex pair is suggested for applications where thrust is present in both directions or where axial displacement of the shaft must be restricted.
- For exceptionally high thrust loads in one direction, a tandem pair can be used, opposed by a third bearing.
- Sizes with a suffix "W" have a 20 degree contact angle and a steel retainer.
- Sizes with a suffix "PW" have a 35 degree contact angle and a steel retainer.
- Sizes with a "WN" suffix have a 40 degree contact angle and a one-piece, high-strength machined bronze cage.




7405W-7409W
20° Contact Angle

7410PW-7420PW
35° Contact Angle




7412WN and 7415WN MBR
40° Contact Angle

D

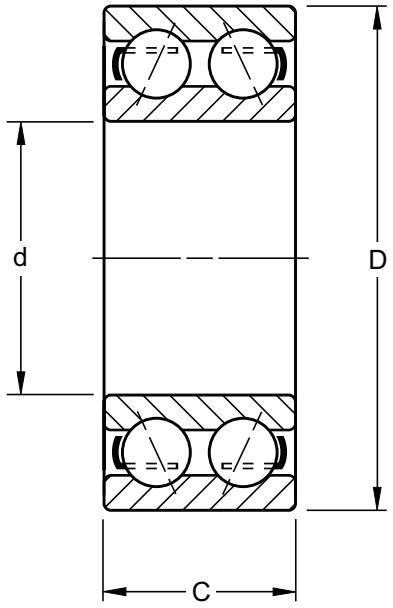
### DIMENSIONS – TOLERANCES

| Bearing Number | Bore d | | tolerance +0.000 mm +0.0000" to minus | | Outside Diameter D | | tolerance +0.000 mm +0.0000" to minus | | Width C | | tolerance +0.000 mm +0.0000" to minus | | Fillet Radius(1) | | Wt. | | Static Load Rating $C_0$ | | Extended Dynamic Load Rating $C_E$(2) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | kg | lbs. | N | lbs. | N | lbs. |
| 7405W | 25 | 0.9843 | 0.010 | 0.0004 | 80 | 3.1496 | 0.013 | 0.0005 | 21 | 0.8268 | 0.12 | 0.005 | 1.5 | 0.060 | 0.925 | 2.04 | 25900 | 5850 | 53300 | 12000 |
| 7406W | 30 | 1.1811 | 0.010 | 0.0004 | 90 | 3.5433 | 0.015 | 0.0006 | 23 | 0.9055 | 0.12 | 0.005 | 1.5 | 0.060 | 0.957 | 2.11 | 35500 | 8000 | 69000 | 15600 |
| 7407W | 35 | 1.3780 | 0.012 | 0.00045 | 100 | 3.9370 | 0.015 | 0.0006 | 25 | 0.9843 | 0.12 | 0.005 | 1.5 | 0.060 | 1.002 | 2.21 | 42800 | 9650 | 79900 | 18000 |
| 7408W | 40 | 1.5748 | 0.012 | 0.00045 | 110 | 4.3307 | 0.015 | 0.0006 | 27 | 1.0630 | 0.12 | 0.005 | 2.0 | 0.080 | 1.311 | 2.89 | 56400 | 12700 | 99500 | 22400 |
| 7409W | 45 | 1.7717 | 0.012 | 0.00045 | 120 | 4.7244 | 0.015 | 0.0006 | 29 | 1.1417 | 0.12 | 0.005 | 2.0 | 0.080 | 1.647 | 3.63 | 62000 | 14000 | 106000 | 24000 |
| 7410WN | 50 | 1.9685 | 0.012 | 0.00045 | 130 | 5.1181 | 0.018 | 0.0007 | 31 | 1.2205 | 0.12 | 0.005 | 2.0 | 0.080 | 2.195 | 4.84 | 66600 | 15000 | 115000 | 26000 |
| 7411PW | 55 | 2.1654 | 0.015 | 0.0006 | 140 | 5.5118 | 0.018 | 0.0007 | 33 | 1.2992 | 0.15 | 0.006 | 2.0 | 0.080 | 2.681 | 5.91 | 71000 | 16000 | 122000 | 27500 |
| 7412WN | 60 | 2.3622 | 0.010 | 0.0004 | 150 | 5.9055 | 0.018 | 0.0007 | 35 | 1.3780 | 0.15 | 0.006 | 2.0 | 0.080 | 3.257 | 7.18 | 85700 | 19300 | 135000 | 30500 |
| 7413WN | 65 | 2.5591 | 0.015 | 0.0006 | 160 | 6.2992 | 0.025 | 0.0010 | 37 | 1.4567 | 0.15 | 0.006 | 2.0 | 0.080 | 3.896 | 8.59 | 91500 | 20400 | 142000 | 32000 |
| 7414WN | 70 | 2.7559 | 0.015 | 0.0006 | 180 | 7.0866 | 0.025 | 0.0010 | 42 | 1.6535 | 0.15 | 0.006 | 2.5 | 0.100 | 5.688 | 12.54 | 115500 | 26000 | 173000 | 39000 |
| 7415WN | 75 | 2.9528 | 0.010 | 0.0004 | 190 | 7.4803 | 0.030 | 0.0012 | 45 | 1.7717 | 0.15 | 0.006 | 2.5 | 0.100 | 6.745 | 14.87 | 148000 | 33500 | 202000 | 45500 |
| 7416WN | 80 | 3.1496 | 0.015 | 0.0006 | 200 | 7.8740 | 0.030 | 0.0012 | 48 | 1.8898 | 0.15 | 0.006 | 2.5 | 0.100 | 7.747 | 17.08 | 153000 | 34500 | 206000 | 46500 |
| 7418PW | 90 | 3.5433 | 0.020 | 0.0008 | 225 | 8.8583 | 0.030 | 0.0012 | 54 | 2.1268 | 0.20 | 0.008 | 3.0 | 0.120 | 11.159 | 24.60 | 200000 | 45000 | 236000 | 53000 |
| 7420PW | 100 | 3.9370 | 0.020 | 0.0008 | 265 | 10.4331 | 0.036 | 0.0014 | 60 | 2.3622 | 0.20 | 0.008 | 3.0 | 0.120 | 18.643 | 41.10 | 279000 | 63000 | 315000 | 71000 |

(1) Maximum shaft or housing fillet radius that bearing corners will clear.
(2) Based on $10^6$ revolutions of calculated fatigue life.

## LIGHT 5200 SERIES

- Features the same bores and outside diameters as the corresponding bearings in the 200 Series single-row radial type.
- Double-row angular contact ball bearings meet the demand for increased axial and radial rigidity in applications where the design limits space.
- Available in both Conrad and maximum capacity types.
- Suffix "K" denotes Conrad (example: 5203K).
- Suffix "W" or no suffix denotes maximum capacity type (example: 5212W, 5213).
- Please note: these double-row series bearings are not prelubricated.




### DIMENSIONS – TOLERANCES

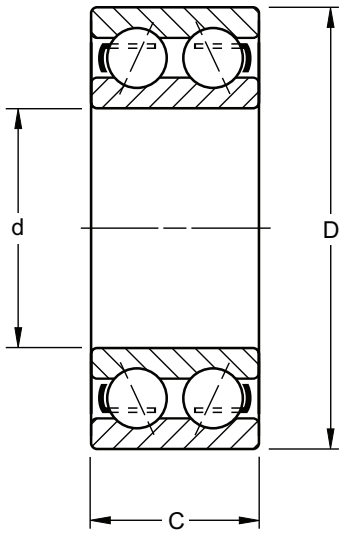
| Bearing Number | Bore d | | tolerance +0.000 mm +0.0000" to minus | | Outside Diameter D | | tolerance +0.000 mm +0.0000" to minus | | Width C | | | Fillet Radius[1] | | Contact Angle | Wt. | | Static Load Rating $C_o$ | | Extended Dynamic Load Rating $C_E$[6] | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | +0.00 mm, -0.12 mm +0.000", -0.005" | | | | | | | | | | | |
| | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | in. | mm | in. | | kg | lbs. | N | lbs. | N | lbs. |
| 5200K[2] | 10 | 0.3937 | 0.008 | 0.0003 | 30 | 1.1811 | 0.009 | 0.00035 | 14.27 | 0.562 | 9/16 | 0.6 | 0.024 | 20° | 0.054 | 0.12 | 5060 | 1140 | 10600 | 2400 |
| 5201K[2] | 12 | 0.4724 | 0.008 | 0.0003 | 32 | 1.2598 | 0.012 | 0.00045 | 15.88 | 0.625 | 5/8 | 0.6 | 0.024 | 20° | 0.068 | 0.15 | 4700 | 1060 | 9060 | 2040 |
| 5202K[2] | 15 | 0.5906 | 0.008 | 0.0003 | 35 | 1.3780 | 0.012 | 0.00045 | 15.88 | 0.625 | 5/8 | 0.6 | 0.024 | 20° | 0.073 | 0.16 | 7100 | 1600 | 13500 | 3050 |
| 5203K[2] | 17 | 0.6693 | 0.008 | 0.0003 | 40 | 1.5748 | 0.012 | 0.00045 | 17.48 | 0.688 | 11/16 | 0.6 | 0.024 | 20° | 0.104 | 0.23 | 9200 | 2080 | 16800 | 3800 |
| 5204K[2] | 20 | 0.7874 | 0.010 | 0.0004 | 47 | 1.8504 | 0.012 | 0.00045 | 20.62 | 0.812 | 13/16 | 1.0 | 0.039 | 20° | 0.163 | 0.36 | 12600 | 2850 | 22600 | 5100 |
| 5205K[2] | 25 | 0.9843 | 0.010 | 0.0004 | 52 | 2.0472 | 0.013 | 0.0005 | 20.62 | 0.812 | 13/16 | 1.0 | 0.039 | 20° | 0.186 | 0.41 | 15100 | 3400 | 24800 | 5600 |
| 5206K | 30 | 1.1811 | 0.010 | 0.0004 | 62 | 2.4409 | 0.013 | 0.0005 | 23.83 | 0.938 | 15/16 | 1.0 | 0.039 | 20° | 0.295 | 0.65 | 21700 | 4900 | 34600 | 7800 |
| 5206W | 30 | 1.1811 | 0.010 | 0.0004 | 62 | 2.4409 | 0.013 | 0.0005 | 23.83 | 0.938 | 15/16 | 1.0 | 0.039 | 30° | 0.295 | 0.65 | 27000 | 6100 | 39000 | 8800 |
| 5207K | 35 | 1.3780 | 0.012 | 0.00047 | 72 | 2.8346 | 0.013 | 0.0005 | 26.97 | 1.062 | 1 1/16 | 1.0 | 0.039 | 20° | 0.481 | 1.06 | 29000 | 6550 | 45000 | 10200 |
| 5207W | 35 | 1.3780 | 0.012 | 0.00047 | 72 | 2.8346 | 0.013 | 0.0005 | 26.97 | 1.062 | 1 1/16 | 1.0 | 0.039 | 30° | 0.481 | 1.06 | 36800 | 8300 | 51500 | 11600 |
| 5208K | 40 | 1.5748 | 0.012 | 0.00047 | 80 | 3.1496 | 0.013 | 0.0005 | 30.17 | 1.188 | 1 3/16 | 1.0 | 0.039 | 20° | 0.566 | 1.32 | 33900 | 7650 | 51500 | 11600 |
| 5208W | 40 | 1.5748 | 0.012 | 0.00047 | 80 | 3.1496 | 0.013 | 0.0005 | 30.17 | 1.188 | 1 3/16 | 1.0 | 0.039 | 30° | 0.599 | 1.32 | 47000 | 10600 | 62000 | 14000 |
| 5209K | 45 | 1.7717 | 0.012 | 0.00047 | 85 | 3.3456 | 0.015 | 0.0006 | 30.17 | 1.188 | 1 3/16 | 1.0 | 0.039 | 20° | 0.699 | 1.54 | 39000 | 8800 | 57000 | 12900 |
| 5209W | 45 | 1.7717 | 0.012 | 0.00047 | 85 | 3.3456 | 0.015 | 0.0006 | 30.17 | 1.188 | 1 3/16 | 1.0 | 0.039 | 30° | 0.699 | 1.54 | 51500 | 11600 | 64800 | 14600 |
| 5210K | 50 | 1.9685 | 0.012 | 0.00047 | 90 | 3.5433 | 0.015 | 0.0006 | 30.17 | 1.188 | 1 3/16 | 1.0 | 0.039 | 20° | 0.753 | 1.66 | 44400 | 10000 | 62000 | 14000 |
| 5210W | 50 | 1.9685 | 0.012 | 0.00047 | 90 | 3.5433 | 0.015 | 0.0006 | 30.17 | 1.188 | 1 3/16 | 1.0 | 0.039 | 30° | 0.753 | 1.66 | 56000 | 12700 | 66600 | 15000 |
| 5211K | 55 | 2.1654 | 0.015 | 0.0006 | 100 | 3.9370 | 0.015 | 0.0006 | 33.32 | 1.312[4] | 1 5/16 | 1.5 | 0.059 | 20° | 1.039 | 2.29 | 71000 | 12700 | 76000 | 17300 |
| 5211W | 55 | 2.1654 | 0.015 | 0.0006 | 100 | 3.9370 | 0.015 | 0.0006 | 33.32 | 1.312[4] | 1 5/16 | 1.5 | 0.059 | 30° | 1.039 | 2.29 | 62000 | 16000 | 84000 | 19000 |
| 5212K | 60 | 2.3622 | 0.015 | 0.0006 | 110 | 4.3307 | 0.015 | 0.0006 | 36.53 | 1.438[4] | 1 7/16 | 1.5 | 0.059 | 20° | 1.388 | 3.06 | 88800 | 14000 | 85000 | 19300 |
| 5212W | 60 | 2.3622 | 0.015 | 0.0006 | 110 | 4.3307 | 0.015 | 0.0006 | 36.53 | 1.438[4] | 1 7/16 | 1.5 | 0.059 | 30° | 1.388 | 3.06 | 72000 | 20000 | 103000 | 23800 |
| 5213K | 65 | 2.5591 | 0.015 | 0.0006 | 120 | 4.7244 | 0.015 | 0.0006 | 38.10 | 1.500[4] | 1 1/2 | 1.5 | 0.059 | 20° | 1.923 | 4.24 | 76800 | 17300 | 101000 | 22800 |
| 5213[3] | 65 | 2.5591 | 0.015 | 0.0006 | 120 | 4.7244 | 0.015 | 0.0006 | 38.10 | 1.500[4] | 1 1/2 | 1.5 | 0.059 | 30° | 1.923 | 4.24 | 92000 | 20800 | 99500 | 22400 |
| 5214K | 70 | 2.7559 | 0.015 | 0.0006 | 125 | 4.9213 | 0.018 | 0.0007 | 39.67 | 1.562[4] | 1 9/16 | 1.5 | 0.059 | 20° | 2.096 | 4.62 | 84000 | 19000 | 108000 | 24500 |
| 5214[3] | 70 | 2.7559 | 0.015 | 0.0006 | 125 | 4.9213 | 0.018 | 0.0007 | 39.67 | 1.562[4] | 1 9/16 | 1.5 | 0.059 | 30° | 2.096 | 4.62 | 126000 | 28500 | 139000 | 31500 |
| 5215K | 75 | 2.9528 | 0.015 | 0.0006 | 130 | 5.1181 | 0.018 | 0.0007 | 41.28 | 1.625[4] | 1 5/8 | 1.5 | 0.059 | 20° | 2.336 | 5.15 | 85700 | 19300 | 108000 | 24500 |
| 5215[3] | 75 | 2.9528 | 0.015 | 0.0006 | 130 | 5.1181 | 0.018 | 0.0007 | 41.28 | 1.625[4] | 1 5/8 | 1.5 | 0.059 | 30° | 2.336 | 5.15 | 137000 | 31000 | 144000 | 32500 |
| 5216[3] | 80 | 3.1496 | 0.015 | 0.0006 | 140 | 5.5118 | 0.018 | 0.0007 | 44.45 | 1.750[4] | 1 3/4 | 2.0 | 0.079 | 30° | 2.867 | 6.32 | 162000 | 36500 | 168000 | 38000 |
| 5217[3] | 85 | 3.3465 | 0.020 | 0.0008 | 150 | 5.9055 | 0.018 | 0.0007 | 49.23 | 1.938[5] | 1 15/16 | 2.0 | 0.079 | 30° | 3.629 | 8.00 | 177000 | 40000 | 188000 | 42500 |
| 5218W | 90 | 3.5433 | 0.020 | 0.0008 | 160 | 6.2992 | 0.025 | 0.0010 | 52.37 | 2.062[5] | 2 1/16 | 2.0 | 0.079 | 20° | 4.518 | 9.96 | 191000 | 43000 | 202000 | 45500 |
| 5219[3] | 95 | 3.7402 | 0.020 | 0.0008 | 170 | 6.6929 | 0.025 | 0.0010 | 55.58 | 2.188[5] | 2 3/16 | 2.0 | 0.079 | 30° | 5.411 | 11.93 | 235000 | 53000 | 244000 | 55000 |
| 5220W | 100 | 3.9370 | 0.020 | 0.0008 | 180 | 7.0866 | 0.025 | 0.0010 | 60.32 | 2.375[5] | 2 3/8 | 2.0 | 0.079 | 20° | 6.541 | 14.42 | 253000 | 57000 | 259000 | 58500 |
| 5221W | 105 | 4.1339 | 0.020 | 0.0008 | 190 | 7.4803 | 0.030 | 0.0012 | 65.10 | 2.563[5] | 2 9/16 | 2.0 | 0.079 | 20° | 7.537 | 16.60 | 301000 | 67600 | 300000 | 67500 |
| 5222[3] | 110 | 4.3307 | 0.020 | 0.0008 | 200 | 7.8740 | 0.030 | 0.0012 | 69.85 | 2.750[5] | 2 3/4 | 2.0 | 0.079 | 30° | 9.503 | 20.95 | 339000 | 76500 | 326000 | 73500 |

[1] Maximum shaft or housing fillet radius that bearing corners will clear.
[2] Sizes have PRB molded nylon retainers.
[3] These sizes have contact angle converging inside the bearing.
[4] Width tolerance is +.00 mm to -.15 mm (+.000 to -.006").
[5] Width tolerance is +.00 mm to -.20 mm (+.000 to -.008").
[6] Based on $10^6$ revolutions of calculated fatigue life.

**Note:** See page D45 for Shield and Snap Ring Combinations.

## MEDIUM 5300 SERIES

- Features the same bores and outside diameters as corresponding bearings in the 300 Series single-row radial type.
- Double-row angular contact ball bearings meet the demand for increased axial and radial rigidity in applications where design limits space.
- Available in Conrad and maximum capacity types.
- Suffix “K” denotes Conrad type (example: 5303K).
- Suffix “W” or no suffix denotes maximum capacity type (examples: 5312W, 5319).
- Please note that these double-row series bearings are not prelubricated.



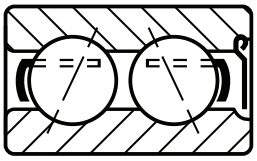

### DIMENSIONS – TOLERANCES

| Bearing Number | Bore d tolerance +0.000 mm +0.0000" to minus | | | | Outside Diameter D tolerance +0.000 mm +0.0000" to minus | | | | Width C +0.00 mm, -0.12 mm +0.000", -0.005" | | | Fillet Radius(1) | | Contact Angle | Wt. | | Static Load Rating $C_0$ | | Extended Dynamic Load Rating $C_E$(6) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | in. | mm | in. | | kg | lbs. | N | lbs. | N | lbs. |
| 5302 | 15 | 0.5906 | 0.008 | 0.0003 | 42 | 1.6535 | 0.012 | 0.00045 | 19.05 | 0.75 | 3/4 | 1.0 | 0.039 | 20° | 0.141 | 0.31 | 9200 | 2080 | 16800 | 3800 |
| 5303K | 17 | 0.6693 | 0.008 | 0.0003 | 47 | 1.8504 | 0.012 | 0.00045 | 22.22 | 0.875 | 7/8 | 1.0 | 0.039 | 20° | 0.191 | 0.42 | 12600 | 2850 | 22600 | 5100 |
| 5304K(2) | 20 | 0.7874 | 0.010 | 0.0004 | 52 | 2.0472 | 0.013 | 0.0005 | 22.22 | 0.875 | 7/8 | 1.0 | 0.039 | 20° | 0.222 | 0.49 | 15300 | 3450 | 28400 | 6400 |
| 5305K(2) | 25 | 0.9843 | 0.010 | 0.0004 | 62 | 2.4409 | 0.013 | 0.0005 | 25.4 | 1.000 | 1 | 1.0 | 0.039 | 20° | 0.367 | 0.81 | 21100 | 4750 | 37700 | 8500 |
| 5306K | 30 | 1.1811 | 0.010 | 0.0004 | 72 | 2.8346 | 0.013 | 0.0005 | 30.17 | 1.188 | 1 3/16 | 1.0 | 0.039 | 20° | 0.612 | 1.35 | 29000 | 6550 | 47000 | 10600 |
| 5306W | 30 | 1.1811 | 0.010 | 0.0004 | 72 | 2.8346 | 0.013 | 0.0005 | 30.17 | 1.188 | 1 3/16 | 1.0 | 0.039 | 30° | 0.612 | 1.35 | 41000 | 9300 | 62000 | 14000 |
| 5307K | 35 | 1.3780 | 0.012 | 0.00047 | 80 | 3.1496 | 0.013 | 0.0005 | 34.93 | 1.375 | 1 3/8 | 1.5 | 0.059 | 20° | 0.871 | 1.92 | 36000 | 8300 | 59500 | 13400 |
| 5307W | 35 | 1.3780 | 0.012 | 0.00047 | 80 | 3.1496 | 0.013 | 0.0005 | 34.93 | 1.375 | 1 3/8 | 1.5 | 0.059 | 30° | 0.871 | 1.92 | 47900 | 10800 | 69200 | 15600 |
| 5308K | 40 | 1.5748 | 0.012 | 0.00047 | 90 | 3.5433 | 0.015 | 0.0006 | 36.53 | 1.438 | 1 7/16 | 1.5 | 0.059 | 20° | 1.139 | 2.51 | 46000 | 10400 | 72400 | 16300 |
| 5308W | 40 | 1.5748 | 0.012 | 0.00047 | 90 | 3.5433 | 0.015 | 0.0006 | 36.53 | 1.438 | 1 7/16 | 1.5 | 0.059 | 30° | 1.139 | 2.51 | 66600 | 15000 | 90600 | 20400 |
| 5309K | 45 | 1.7717 | 0.012 | 0.00047 | 100 | 3.9370 | 0.015 | 0.0006 | 39.67 | 1.562 | 1 9/16 | 1.5 | 0.059 | 20° | 1.433 | 3.16 | 56400 | 12700 | 87000 | 19600 |
| 5309W | 45 | 1.7717 | 0.012 | 0.00047 | 100 | 3.9370 | 0.015 | 0.0006 | 39.67 | 1.562 | 1 9/16 | 1.5 | 0.059 | 30° | 1.433 | 3.16 | 81000 | 18300 | 106000 | 24000 |
| 5310K | 50 | 1.9685 | 0.012 | 0.00047 | 110 | 4.3307 | 0.015 | 0.0006 | 44.45 | 1.750 | 1 3/4 | 2.0 | 0.079 | 20° | 2.091 | 4.61 | 73000 | 16600 | 111000 | 25000 |
| 5310W | 50 | 1.9685 | 0.012 | 0.00047 | 110 | 4.3307 | 0.015 | 0.0006 | 44.45 | 1.750 | 1 3/4 | 2.0 | 0.079 | 30° | 2.091 | 4.61 | 97000 | 22000 | 126000 | 28500 |
| 5311K | 55 | 2.1654 | 0.015 | 0.0006 | 120 | 4.7244 | 0.015 | 0.0006 | 49.22 | 1.938(3) | 1 15/16 | 2.0 | 0.079 | 20° | 2.722 | 6.00 | 86700 | 19500 | 124400 | 28000 |
| 5311W | 55 | 2.1654 | 0.015 | 0.0006 | 120 | 4.7244 | 0.015 | 0.0006 | 49.22 | 1.938(3) | 1 15/16 | 2.0 | 0.079 | 20° | 2.722 | 6.00 | 113000 | 25500 | 144000 | 32500 |
| 5312W | 60 | 2.3622 | 0.015 | 0.0006 | 130 | 5.1181 | 0.018 | 0.0007 | 53.98 | 2.125(3) | 2 1/8 | 2.0 | 0.079 | 20° | 3.423 | 7.54 | 151000 | 34000 | 191000 | 43000 |
| 5313W | 65 | 2.5591 | 0.015 | 0.0006 | 140 | 5.5118 | 0.018 | 0.0007 | 58.72 | 2.312(3) | 2 5/16 | 2.0 | 0.079 | 20° | 4.163 | 9.17 | 173000 | 39000 | 213000 | 48000 |
| 5314W | 70 | 2.7559 | 0.015 | 0.0006 | 150 | 5.9055 | 0.018 | 0.0007 | 63.50 | 2.500(3) | 2 1/2 | 2.0 | 0.079 | 20° | 5.362 | 11.82 | 195000 | 44000 | 239000 | 54000 |
| 5315W | 75 | 2.9528 | 0.015 | 0.0006 | 160 | 6.2992 | 0.025 | 0.0010 | 68.30 | 2.689(3) | 2 11/16 | 2.0 | 0.079 | 20° | 6.428 | 14.17 | 222000 | 50000 | 266000 | 60000 |
| 5316W | 80 | 3.1496 | 0.015 | 0.0006 | 170 | 6.6929 | 0.025 | 0.0010 | 68.28 | 2.688(3) | 2 11/16 | 2.0 | 0.079 | 20° | 7.366 | 16.24 | 248000 | 56000 | 284000 | 64000 |
| 5317W | 85 | 3.3465 | 0.020 | 0.0008 | 180 | 7.0866 | 0.025 | 0.0010 | 73.02 | 2.875(4) | 2 7/8 | 2.5 | 0.098 | 20° | 8.827 | 19.46 | 279000 | 63000 | 308000 | 69500 |
| 5318W | 90 | 3.5433 | 0.020 | 0.0008 | 190 | 7.4803 | 0.030 | 0.0012 | 73.02 | 2.875(4) | 2 7/8 | 2.5 | 0.098 | 20° | 9.616 | 21.20 | 308000 | 69500 | 333000 | 75000 |
| 5319W | 95 | 3.7402 | 0.020 | 0.0008 | 200 | 7.8740 | 0.030 | 0.0012 | 77.77 | 3.062(4) | 3 1/16 | 2.5 | 0.098 | 30° | 11.562 | 25.49 | 319000 | 72000 | 333000 | 75000 |
| 5320W | 100 | 3.9370 | 0.020 | 0.0008 | 215 | 8.4646 | 0.030 | 0.0012 | 82.55 | 3.250(4) | 3 1/4 | 2.5 | 0.098 | 20° | 14.333 | 31.57 | 377000 | 85000 | 377000 | 85000 |
| 5322W | 110 | 4.3307 | 0.020 | 0.0008 | 240 | 9.4488 | 0.030 | 0.0012 | 92.08 | 3.625(4) | 3 5/8 | 2.5 | 0.098 | 20° | 20.153 | 44.43 | 479000 | 108000 | 453000 | 102000 |
| 5324W | 120 | 4.7244 | 0.020 | 0.0008 | 260 | 10.2362 | 0.035 | 0.0014 | 104.78 | 4.125(4) | 4 1/8 | 2.5 | 0.098 | 20° | 28.291 | 62.37 | 555000 | 125000 | 497000 | 112000 |
| 5328W | 140 | 5.5118 | 0.025 | 0.0010 | 300 | 11.8110 | 0.035 | 0.0014 | 114.30 | 4.500(5) | 4 1/2 | 3.0 | 0.118 | 20° | 38.102 | 84.00 | 630000 | 140000 | 570000 | 129000 |

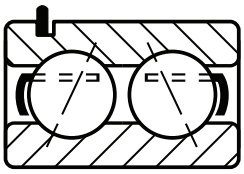
(1) Maximum shaft or housing fillet radius that bearing corners will clear.
(2) Sizes have PRB molded nylon retainers.
(3) Width tolerance is +.00 mm to -.15 mm (+.000 to -.006").
(4) Width tolerance is +.00 mm to -.20 mm (+.000 to -.008").
(5) Width tolerance is +.00 mm to -.25 mm (+.000 to -.010").
(6) Based on $10^6$ revolutions of calculated fatigue life.

**Note:** See opposite page for shield and snap ring combinations.

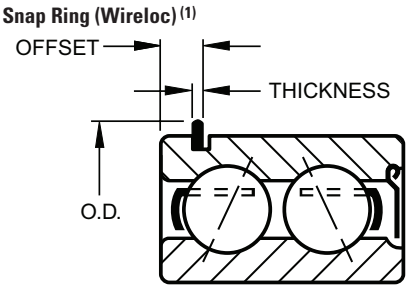
# SHIELD AND SNAP RING COMBINATIONS



One Shield D



Open Type G




One Shield DG

## 5200 SERIES

| Bearing Number | Width +0.00 mm, -.12 mm +0.000", -.005" | | Wt. | | Bearing Number | Snap Ring(1) O.D. | | Thickness | | Offset | | Wt. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | mm | in. | in. | kg | lbs. | | mm | in. | mm | in. | mm | in. | kg | lbs. |
| 5200KDD2 | 15.88 | 0.625(3) | 5/8 | 0.054 | 0.12 | — | 34.5 | 1 23/64 | 1.07 | 0.042 | 3.05 | 0.120 | — | — |
| 5201KD(DD) | 15.88 | 0.625 | 5/8 | 0.064 | 0.14 | — | 36.5 | 1 7/16 | 1.07 | 0.042 | 3.05 | 0.120 | — | — |
| — | — | — | — | — | — | — | 39.3 | 1 35/64 | 1.07 | 0.042 | 3.05 | 0.120 | — | — |
| 5203KD(KDD3) | 17.48 | 0.688 | 11/16 | 0.159 | 0.35 | 5203KDG | 44.4 | 1 3/4 | 1.07 | 0.042 | 3.05 | 0.120 | 0.127 | 0.28 |
| 5204KD | 20.62 | 0.812 | 13/16 | 0.118 | 0.26 | 5204KG | 52.4 | 2 1/16 | 1.07 | 0.042 | 3.45 | 0.136 | 0.150 | 0.33 |
| 5205KD | 22.22 | 0.875 | 7/8 | 0.204 | 0.45 | 5205KG | 57.5 | 2 17/64 | 1.07 | 0.042 | 3.45 | 0.136 | 0.200 | 0.44 |
| 5206WD | 26.97 | 1.062 | 1 1/16 | 0.336 | 0.74 | 5206WG(KG) | 67.5 | 2 21/32 | 1.65 | 0.065 | 4.83 | 0.190 | 0.331 | 0.73 |
| 5207WD | 30.17 | 1.188 | 1 3/16 | 0.546 | 1.21 | 5207KG | 78.2 | 3 5/64 | 1.65 | 0.065 | 4.83 | 0.190 | — | — |
| 5208WD | 30.17 | 1.188 | 1 3/16 | 0.662 | 1.46 | — | 86.5 | 3 13/32 | 1.65 | 0.065 | 4.83 | 0.190 | — | — |
| 5209WD | 30.17 | 1.188 | 1 3/16 | 0.712 | 1.57 | 5209WG(KG) | 91.3 | 3 19/32 | 1.65 | 0.065 | 4.83 | 0.190 | 0.721 | 1.59 |
| 5210WD | 33.32 | 1.312 | 1 5/16 | 0.816 | 1.80 | 5210WG(KG) | 96.4 | 3 51/64 | 2.41 | 0.095 | 5.59 | 0.220 | 0.771 | 1.70 |
| 5211WD | 33.32 | 1.312 | 1 5/16 | 1.043 | 2.30 | 5211WG(KG) | 106.4 | 4 3/16 | 2.41 | 0.095 | 5.59 | 0.220 | 1.066 | 2.35 |
| 5212WD | 39.67 | 1.562 | 1 9/16 | 1.497 | 3.30 | 5212WG(KG) | 116.3 | 4 37/64 | 2.41 | 0.095 | 5.59 | 0.220 | 1.424 | 3.14 |
| 5213WD | — | — | — | — | — | — | 129.4 | 5 3/32 | 2.77 | 0.109 | 6.73 | 0.265 | — | — |
| 5214WD(2) | 39.67 | 1.562 | 1 9/16 | 2.137 | 4.71 | — | 134.5 | 5 19/64 | 2.77 | 0.109 | 6.73 | 0.265 | — | — |
| — | — | — | — | — | — | 5215G(2) | 139.7 | 5 1/2 | 2.77 | 0.109 | 6.73 | 0.265 | 2.327 | 5.13 |
| 5216DD(2) | 47.62 | 1.875 | 1 7/8 | 3.062 | 6.75 | 5216G(2) | 149.6 | 5 57/64 | 2.77 | 0.109 | 7.54 | 0.297 | 2.962 | 6.53 |
| — | — | — | — | — | — | 5217G(2) | 159.5 | 6 9/32 | 2.77 | 0.109 | 7.54 | 0.297 | 3.724 | 8.21 |
| 5218WD | 52.37 | 2.062 | 2 1/16 | 4.504 | 9.93 | — | 169.5 | 6 43/64 | 2.77 | 0.109 | 7.54 | 0.297 | — | — |
| — | — | — | — | — | — | 5219G(2) | 182.6 | 7 3/16 | 3.05 | 0.120 | 8.61 | 0.339 | 5.498 | 12.12 |

## 5300 SERIES

| Bearing Number | Width +0.00 mm, -.12 mm +0.000", -.005" | | Wt. | | Bearing(4) Number | Snap Ring(1) O.D. | | Thickness | | Offset | | Wt. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | mm | in. | in. | kg | lbs. | | mm | in. | mm | in. | mm | in. | kg | lbs. |
| 5303KDD | 22.25 | 0.875 | 7/8 | — | — | 5303KG | 52.4 | 2 1/16 | 1.07 | 0.042 | 3.45 | 0.136 | 0.227 | 0.50 |
| 5304KDD | 22.25 | 0.875 | 7/8 | — | — | 5304KG | 57.6 | 2 17/64 | 1.07 | 0.042 | 3.45 | 0.136 | 0.231 | 0.51 |
| 5305KDD2 | 25.4 | 1.000 | 1 | — | — | 5305KG | 67.5 | 2 21/32 | 1.65 | 0.065 | 4.83 | 0.190 | 0.376 | 0.83 |
| 5306WD | 33.32 | 1.312 | 1 5/16 | 0.640 | 1.41 | 5306WG(KG) | 78.2 | 3 5/64 | 1.65 | 0.065 | 4.83 | 0.190 | 0.608 | 1.34 |
| 5307WD | 38.10 | 1.500 | 1 1/2 | 0.857 | 1.89 | 5307WG(KG) | 86.5 | 3 13/32 | 1.65 | 0.065 | 4.83 | 0.190 | 0.807 | 1.78 |
| 5308WD | 39.67 | 1.562 | 1 9/16 | 1.143 | 2.52 | 5308WG(KG) | 96.4 | 3 51/64 | 2.41 | 0.095 | 5.59 | 0.220 | 1.102 | 2.43 |
| 5309WD | 42.88 | 1.688 | 1 11/16 | 1.665 | 3.67 | 5309WG(KG) | 106.4 | 4 3/16 | 2.41 | 0.095 | 5.59 | 0.220 | 1.461 | 3.22 |
| 5310WD | 47.62 | 1.875 | 1 7/8 | 2.019 | 4.45 | 5310WG(KG) | 116.3 | 4 37/64 | 2.41 | 0.095 | 5.59 | 0.220 | 1.932 | 4.26 |
| 5311D(4) | 52.37 | 2.062 | 2 1/16 | 2.826 | 6.23 | 5311WG(KG) | 129.4 | 5 3/32 | 2.77 | 0.109 | 6.73 | 0.265 | 2.789 | 6.15 |
| 5312D(4) | 57.15 | 2.250 | 2 1/4 | 3.423 | 7.54 | 5312WG(KG) | 139.7 | 5 1/2 | 2.77 | 0.109 | 6.73 | 0.265 | 3.493 | 7.70 |
| 5313D(4) | 61.72 | 2.438 | 2 7/16 | 4.663 | 10.28 | 5313WG(KG) | 149.6 | 5 57/64 | 2.77 | 0.109 | 7.54 | 0.297 | 4.291 | 9.46 |
| — | — | — | — | — | — | 5314WG(KG) | 159.5 | 6 9/32 | 2.77 | 0.109 | 7.54 | 0.297 | 5.466 | 12.05 |
| | | | | | | 5315KG | 169.6 | 6 43/64 | 2.77 | 0.109 | 7.54 | 0.297 | — | — |

(1) The snap ring is normally packaged separately in the box with the bearing.
(2) These sizes have contact angle converging inside bearing (30°).
(3) Inner ring width is 19.05 mm (.7500").
(4) Ring widths are different for these parts. Contact a Timken sales engineer to validate size.