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Официальный дистрибьютор PEER в Украине



## AGRICULTURAL BEARINGS



Utilizing  
**AGXTREME™**  
Technology

### BEARING SOLUTIONS FOR THE AGRICULTURAL INDUSTRY



*Trusted Difference at Every Turn™*

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### About PEER.

Since 1941, PEER Bearing has grown into an industry leader offering a wide range of highly engineered, precision bearing products. With a strong focus on the agriculture industry, PEER manufactures, develops, and engineers bearing solutions to global market leaders. The PEER product range includes the most comprehensive offering for all agricultural implements, combines, and tractors. Our bearings will meet mounting requirements on your equipment to provide an easy drop-in replacement.

From mild to harsh conditions, PEER manufactures high-performance bearings that maximize productivity, increase uptime and eliminate daily maintenance operating costs. Supplying award winning, precision tailored solutions for agricultural equipment starts with an in-depth knowledge and evaluation by industry-specific application engineers. Bearing requirements are translated into engineered solutions, manufactured at our ISO/TS 16949 certified facilities and validated through lab and field testing. With facilities in North America, Europe, Latin America and Asia, we provide solutions for farmers, grounds maintenance and landscapers globally that you can rely on at every turn.



### Development and demands of agricultural industry.

Agriculture is one of the oldest economic pillars existing. About one third of the earth's surface is presently dominated by agricultural use. Nearly 12000 years ago, the first agricultural activities started. Since then, technological development has consistently contributed to increase productivity and yield in order to feed an ever increasing population.

Achievements in mechanization provide continuous improvement of effective use of natural resources. Realization of highest possible yield while considering growing population, working personal and environmental constraints are today's challenges in agriculture. Agricultural megatrends show a demand of crop

expected to satisfy nine billion people in 2050, with about 70% of the population living in cities and based on a grain intensive diet. At the same time the production of biofuel increases steadily.

Large areas of arable land are a clear tendency to reduce production cost, optimize agricultural processes to minimize time and to reach the highest yield.

Highly reliable equipment, user friendly, offering low maintenance cost and total cost of ownership while at the same time providing increased farm productivity is needed.

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™ Trusted Difference at Every Turn is a trademark of the PEER Group of Companies.

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## PEER AGXTREME and agricultural bearing product range

### AGXTREME™

Today's agricultural industry demand is higher than ever for products that will keep the farmers equipment in the field, operating continuously. Farmers are operating equipment longer, faster and harder and will continue to push the boundaries to increase production. In order to support the top OEM manufacturers of farm equipment, PEER has developed the AGXTREME™ product portfolio.



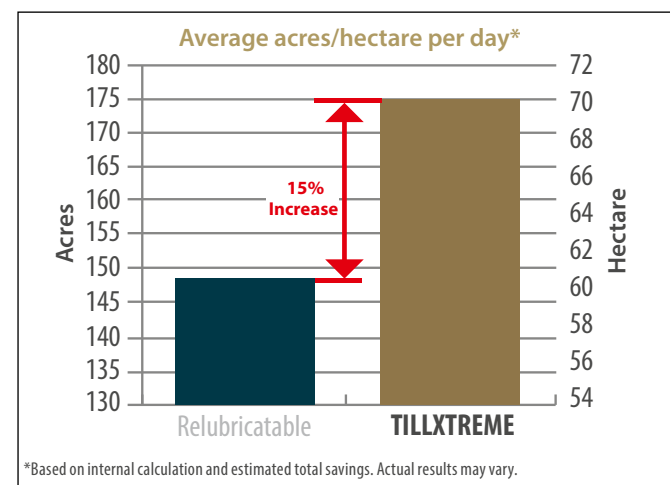
The AGXTREME™ portfolio consists of the TILLXTREME™, SEEDXTREME™, and TURFXTREME™ product offerings.

Proven through years of research, development and rigorous testing in both lab and field, the advanced sealing technology ensures optimal performance for the customer.

TILLXTREME™ offers a one of a kind, exclusive high-performance solution designed to eliminate the need for relubrication, saving precious hours needed for field work. PEER's patented seal design provides significantly improved contamination exclusion than the conventional triple lip seal design. Products include trunnion units for gang disc, HUB units for independent disc, and both stamped steel and ductile iron units for rolling basket applications.

PEER's TILLXTREME™ engineered assemblies are more reliable,

maintenance-free, and simplify installation. As an environmentally friendly solution, there is no grease purge to contaminate the soil.



More time in the field, more acres per day, less days to complete the tillage operation.

SEEDXTREME™ offers improved bearing solutions to support manufacturers of seeding equipment. Using our patented seal design and optimized internal bearing construction, PEER offers a range of bearings specifically designed for gauge wheels, disc openers and closing wheels, including integrated flange and shaft HUB design. Whether you have to produce equipment that runs faster or carries higher loads to cover the growing requirements for higher field productivity, PEER SEEDXTREME™ bearings have been designed to outperform the competition. These drop in replacements eliminate the need for redesign and increase your speed to market.

TURFXTREME™ offers the Lawn and Garden industries highest performance bearing seal to provide contamination exclusion and substantially increases the life of lawn and garden equipment, requiring less frequent customer maintenance and greatly reduced cost of machine ownership.



## PEER product validation and sealing solution

### Lab Testing / Mud Slurry Testing

PEER's Research and Development Center utilizes mud slurry testing to thoroughly study new seal concepts before extensive field tests are conducted to validate application performance. The test is performed to determine the effectiveness of the bearing sealing device to withstand contamination intrusion under aggressive environmental conditions. Seal designs are tested against competitive parts in side-by-side mud slurry testing.



The various seal designs show a different level of performance in the contaminated environment of application.

### PEER sealing performance overview

Seal performance is one of the most crucial factors influencing bearing life and field performance in agricultural applications. PEER offers solutions which fit environmental and machine requirements.

Mud slurry testing can show the contamination exclusion provided by a 6 lip TILLXTREME™ seal compared to a conventional 3 lip seal.

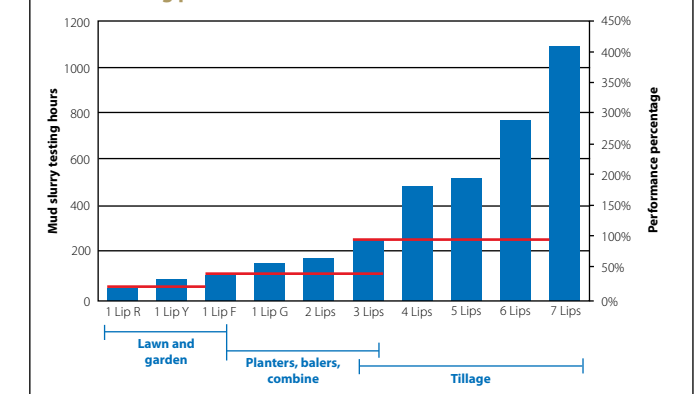
#### Contamination ingress with 3 lips seal design



#### Contamination ingress with 6 lips seal design, maintenance free



#### Sealing performance in contaminated environment







| Typical application   | Typical environment  | Seal Type | Seal Cross Section | Contamination Exclusion    | Speed limit |
|---|--|-----------|--------------------|----------------------------|-------------|
| Lawn and Garden Applications  | Less contaminative environment                                       | R, RST    |                    | mild                       | 3500 RPM    |
|   |  |           |                    | moderate                   |             |
|   |  |           |                    | high - relubricatable      |             |
|   |  |           |                    | severe - maintenance free  |             |
|   |  |           |                    | maximum - maintenance free |             |
| Combine power transmission (PT)   | Indirect contamination, airborne dust, light/moderate water exposure | F         |                    | mild                       | 3500 RPM    |
|   |  |           |                    | moderate                   |             |
|   |  |           |                    | high - relubricatable      |             |
|   |  |           |                    | severe - maintenance free  |             |
|   |  |           |                    | maximum - maintenance free |             |
| Idler sprockets, conveyor rollers, combine PT, baler drive rolls                                  | Indirect contamination, airborne dust, light/moderate water exposure | G         |                    | mild                       | 3000 RPM    |
|   |  |           |                    | moderate                   |             |
|   |  |           |                    | high - relubricatable      |             |
|   |  |           |                    | severe - maintenance free  |             |
|   |  |           |                    | maximum - maintenance free |             |
| Planters: press wheel, gauge wheel  | Light direct contamination, at one foot distance from ground         | Y, DBL    |                    | moderate                   | 2000 RPM    |
|   |  |           |                    | high - relubricatable      |             |
|   |  |           |                    | severe - maintenance free  |             |
|   |  |           |                    | maximum - maintenance free |             |
|   |  |           |                    | maximum - maintenance free |             |
| Disc harrow and rolling basket relubricatable, baler idler rolls, augers with direct crop contact | Direct ground and crop contact, moisture exposure                    | P, TRL    |                    | moderate                   | 800 RPM     |
|   |  |           |                    | high - relubricatable      |             |
|   |  |           |                    | severe - maintenance free  |             |
|   |  |           |                    | maximum - maintenance free |             |
|   |  |           |                    | maximum - maintenance free |             |
| Rolling basket maintenance free tillage FD units  | Tillage - direct ground contact, moisture exposure                   | 4 Lips    |                    | moderate                   | 400 RPM     |
|   |  |           |                    | high - relubricatable      |             |
|   |  |           |                    | severe - maintenance free  |             |
|   |  |           |                    | maximum - maintenance free |             |
|   |  |           |                    | maximum - maintenance free |             |
| Rolling basket maintenance free tillage FD units  | Tillage - direct ground contact, moisture exposure                   | 5 Lips    |                    | moderate                   | 400 RPM     |
|   |  |           |                    | high - relubricatable      |             |
|   |  |           |                    | severe - maintenance free  |             |
|   |  |           |                    | maximum - maintenance free |             |
|   |  |           |                    | maximum - maintenance free |             |
| Disc harrow maintenance free tillage trunnion units (TTU) and pillow block (TPU), HUB units       | Tillage - direct ground contact, moisture exposure                   | 6 Lips    |                    | moderate                   | 400 RPM     |
|   |  |           |                    | high - relubricatable      |             |
|   |  |           |                    | severe - maintenance free  |             |
|   |  |           |                    | maximum - maintenance free |             |
|   |  |           |                    | maximum - maintenance free |             |
| Disc harrow maintenance free tillage trunnion units (TTU), HUB units                              | Tillage - direct ground contact, moisture exposure                   | 7 Lips    |                    | moderate                   | 400 RPM     |
|   |  |           |                    | high - relubricatable      |             |
|   |  |           |                    | severe - maintenance free  |             |
|   |  |           |                    | maximum - maintenance free |             |
|   |  |           |                    | maximum - maintenance free |             |

According to application and typical environment, recommended seal design differs. Our application engineers can guide and develop new product and seal designs together with you before mud slurry testing and field tests can validate the product.

**Tillage Bearings**

Soil preparation aims to provide best possible growing conditions in preparing a seedbed for crops by mechanical agitation of soil while at the same time preventing soil erosion and damage.

Optimal soil conditions are defined by parameters such as soil density, size of soil particles and crop residue left on the field. Significant for all tillage procedures is to optimize the balance of moisture and air throughout the soil.

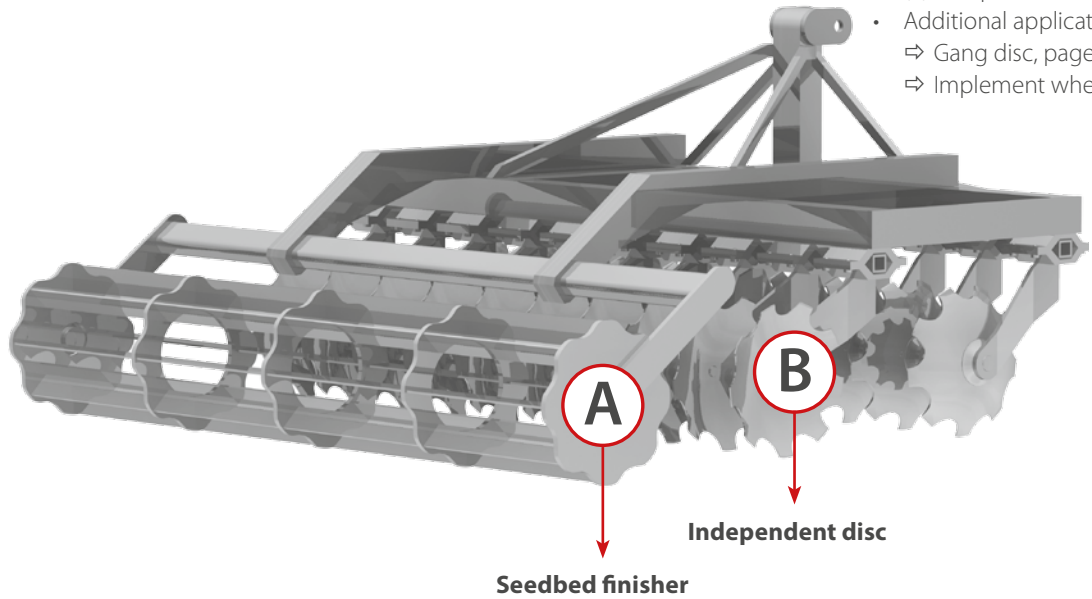
Primary tillage is the first operation after the last harvest, and is the most aggressive tillage operation intended to mix and reduce the size of residual crop decomposition over the winter.

Secondary tillage is typically performed in the following spring and is intended to reduce clod sizes, mix in crop residues and level the soil in preparation for seeding.

Different set designs of disc harrows and cultivators are used to achieve this optimal soil condition. Gangs of rotating discs or independent discs with varying diameter, concavity, and design break up the soil. Often this machinery is combined with a seed-bed finisher like a rolling basket to reduce clod size and improve the evenness of the seedbed.

**Bearing solutions for:**

- (A) Seedbed finisher, page 18
- (B) Independent disc, page 12
- Additional application
  - ⇒ Gang disc, page 13
  - ⇒ Implement wheel, page 49



### Application challenges

The typical bearing speed of disc harrow tillage application is between 100 and 150 rpm<sup>-1</sup>. The bearings supporting these tillage discs essentially operate at or even partially below ground level. Moist or dry, abrasive contamination forcefully pushes against bearing faces and seals during operation.

Bearings are exposed to shock and high moment loads due to angle of pull. They typically need to be replaced as a result of excessive internal wear due to contamination. High sealing technology is crucial.

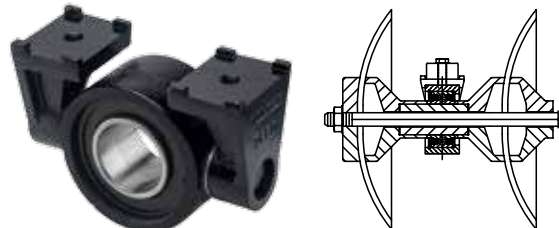
### Gang disc application conditions

- Utilizes two to three support bearings on a common shaft with several discs spaced with spools
- Constant and unpredictable movement of the gang shaft can generate severe stress on the internal components of the support bearings
- A great working depth places the bearings directly into the flow of soil and crop residue

### PEER proven engineered system solutions

*Tillage Trunnion Unit (TTU)*

One of the most commonly used gang disc bearing arrangements is the trunnion housing.



### Benefits and functional features

- Bolt-on performance:
  - ⇒ Directly interchangeable industry standard units
  - ⇒ Static misalignment capability accommodates imprecise mounting surfaces
- Increased productivity and bearing life in field:
  - ⇒ Dynamic misalignment capability eliminates internal bearing damage
  - ⇒ Shock load protection due to high grade ductile iron housing
  - ⇒ Exclusive patented sealing system eliminates the need for daily relubrication
- Increased speed to market:
  - ⇒ PEER offers the industry's largest range for common round and square bore sizes

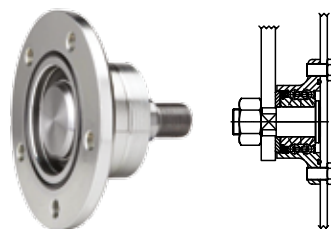
### Independent disc application conditions

- Utilizes one bearing assembly for each disc
- High loads and constant unpredictable movement of the disc can generate severe stress on the internal components
- A great working depth places the bearings directly into the flow of soil and crop residue

### PEER proven engineered system solutions

*Tillage HUB Units*

Another commonly used bearing arrangement is the HUB unit.



### Benefits and functional features

- Bolt-on performance:
  - ⇒ The integrated flange design replaces an external housing
  - ⇒ Reduces labor cost and eliminates damage due to incorrect assembly
- Increased productivity and operation life in field:
  - ⇒ Shock load protection from forged steel integrated flange
  - ⇒ Eliminate internal bearing damage
  - ⇒ Exclusive patented sealing system eliminates the need for daily relubrication
- Increased speed to the market
  - ⇒ PEER offers the industry's largest range of high performance tillage HUBs

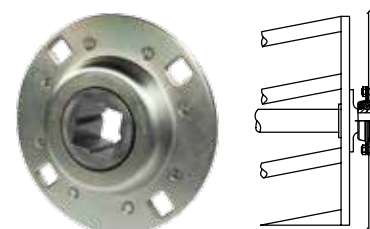
### Seedbed finisher application conditions

- Utilizes two bearing assemblies
- High misalignment from imprecise mounting and wide bearing spread attachments can generate severe stress on the internal components
- Exposed directly into the flow of soil and crop residue

### PEER proven engineered system solutions

*Tillage flanged disc units (FD and RFD), Mounted units (UCF and UCFT)*

The most commonly used attachment bearing arrangements on a seedbed finishing tool are the FD and RFD units (flanged disc units), UCF and UCFT (mounted units).



### FD and RFD units (flanged disc units)

#### Benefits and functional features

- Bolt-on performance:
  - ⇒ Directly interchangeable industry standard units
  - ⇒ Static misalignment capability accommodates imprecise mounting surfaces
- Increased productivity and bearing life in field:
  - ⇒ Dynamic misalignment capability eliminates internal bearing damage and housing wear
  - ⇒ Shock load protection due to thick riveted steel housings
  - ⇒ Exclusive patented sealing system eliminates the need for daily relubrication
- Increased speed to market:
  - ⇒ PEER offers the industry's largest range for common round and square bore sizes

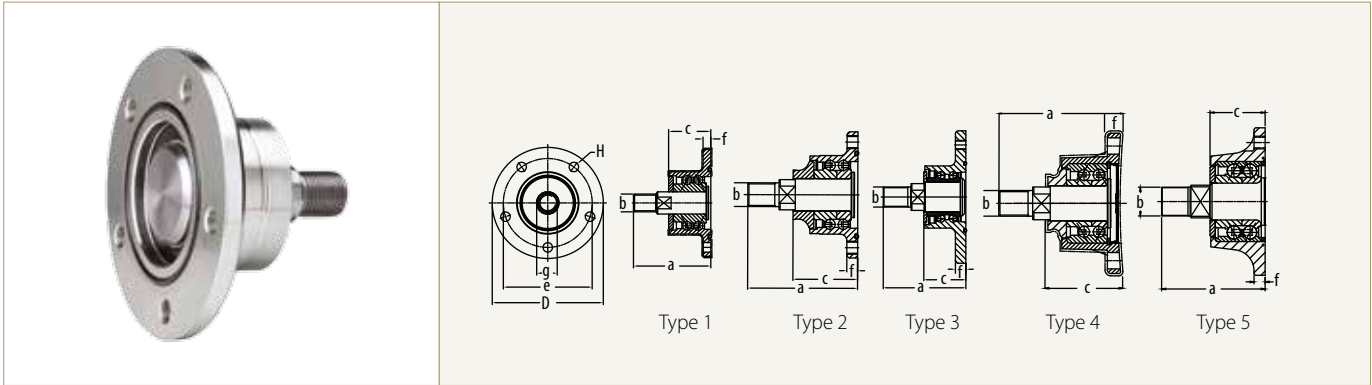
### Mounted units (UCF and UCFT)

#### Benefits and functional features

- Bolt-on performance:
  - ⇒ Directly interchangeable industry standard units
  - ⇒ Compensates misalignment from imprecise mounting or frame surfaces
- Increased productivity and bearing life in field due to:
  - ⇒ Shock load protection due to high grade ductile iron housing
  - ⇒ Exclusive sealing system eliminates the need for daily relubrication



Independent disc HUB bearings

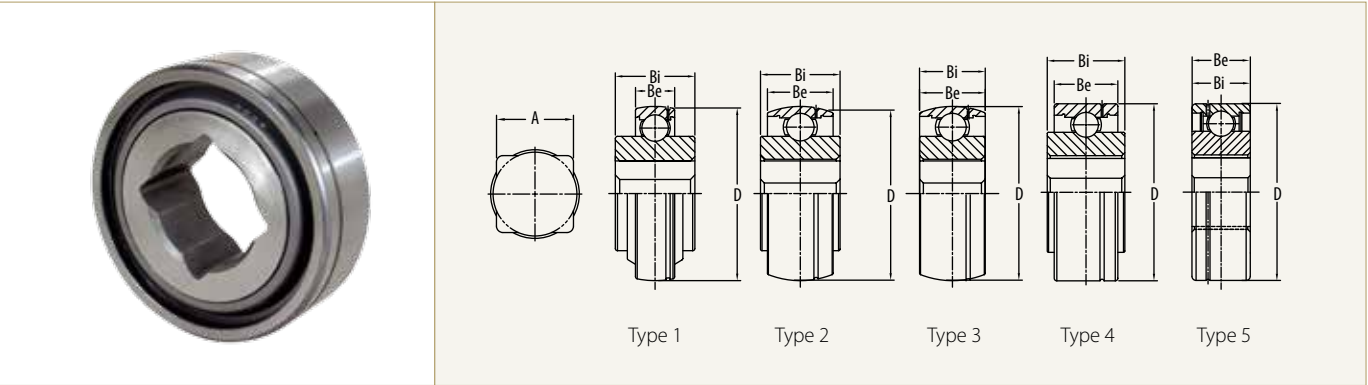


Detailed seal design description located on page 8

| PEER Part Number      | Type | b          | e      |      | c      |      | a      |      | D      |      | f      |      | g      |      | H Bolt            | Seal Type |
|-----------------------|------|------------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|-------------------|-----------|
|                       |      |            | [inch] | [mm] | [inch] | [mm] | [inch] | [mm] | [inch] | [mm] | [inch] | [mm] | [inch] | [mm] |                   |           |
| *HUB-20MM-X           | 1    | M16x2      | 3.1496 | 80   | 1.4961 | 38   | 2.8740 | 73   | 3.9370 | 100  | 0.2756 | 7    | 0.7283 | 18.5 | 5 x $\phi$ 8.5H12 | 6 Lips    |
| *HUB-20MM-X-ASSY-A605 | 1    | M16x2      | 2.9528 | 75   | 1.4961 | 38   | 2.6771 | 68   | 3.9370 | 100  | 0.2756 | 7    | 0.7283 | 18.5 | 6x M6 x 0.75      | 6 Lips    |
| *HUB-20MM-X-ASSY-A580 | 1    | M16x2      | 3.1496 | 80   | 1.4961 | 38   | 2.7953 | 71   | 3.9370 | 100  | 0.2756 | 7    | 0.7283 | 18.5 | 5 x $\phi$ 8.5H12 | 6 Lips    |
| *HUB-20MM-X-ASSY-A543 | 1    | M16x2      | 3.1496 | 80   | 1.6220 | 41.2 | 2.9600 | 75.2 | 3.9370 | 100  | 0.2756 | 7    | 0.7283 | 18.5 | 6x M8 x 1.25      | 6 Lips    |
| *HUB-30MM             | 3    | M22 x 1.50 | 3.8583 | 98   | 1.7717 | 45   | 3.4646 | 88   | 4.6063 | 117  | 0.3937 | 10   | 1.0039 | 25.5 | 4 x M12 x 1.25    | 6 Lips    |
| *HUB-30MM-X-ASSY-A221 | 2    | M22 x 1.5  | 3.8583 | 98   | 2.3622 | 60   | 4.0945 | 104  | 4.6063 | 117  | 0.3937 | 10   | 1.0039 | 25.5 | 4 x M12x 1.25     | 6 Lips    |
| *HUB-30MM-X-ASSY-A249 | 2    | M22 x 1.5  | 3.8583 | 98   | 2.3622 | 60   | 4.0158 | 102  | 4.6063 | 117  | 0.3937 | 10   | 1.0039 | 25.5 | 6x M12 x 1.25     | 7 Lips    |
| *HUB-35MM             | 3    | M24 x 2.00 | 4.4094 | 112  | 2.0669 | 52.5 | 3.8780 | 98.5 | 5.5118 | 140  | 0.4134 | 10.5 | 1.1024 | 28   | 5 x M12 x 1.50    | 6 Lips    |
| *HUB-35MM-X-ASSY-A243 | 3    | M24 x 2    | 5.9055 | 150  | 2.4016 | 61   | 4.5669 | 116  | 7.0079 | 178  | 0.4134 | 10.5 | 1.1024 | 28   | 6 x M12 x 1.25    | 7 Lips    |
| *HUB-35MM-ASSY-A519   | 5    | M24 x 2    | 4.4094 | 112  | 2.776  | 70.5 | 3.8780 | 98.5 | 5.5118 | 140  | 0.4134 | 10.5 | 1.1024 | 28   | 6 x M12 x 1.50    | 6 Lips    |
| *HUB-40MM-X-ASSY-A436 | 3    | M27 x 2.00 | 5.5118 | 140  | 2.1654 | 55   | 4.3701 | 111  | 7.0079 | 178  | 0.5512 | 14   | 1.3189 | 33.5 | 5 x M12 x 1.25    | 7 Lips    |
| *HUB-40MM-X-ASSY-A591 | 3    | M27 x 2.00 | 5.5118 | 140  | 2.1654 | 55   | 4.3701 | 111  | 7.0079 | 178  | 0.5512 | 14   | 1.3189 | 33.5 | 5 x $\phi$ 12.5   | 7 Lips    |
| *HUB-30MM-X-ASSY-A577 | 4    | M22 x 1.50 | 3.8583 | 98   | 2.441  | 62   | 4.0940 | 104  | 4.7240 | 120  | -      | -    | 1.1020 | 28   | 5 x $\phi$ 12.5   | 7 Lips    |

\* PEER TILLXTREME

Gang disc Standard relubricatable bearings, square bore

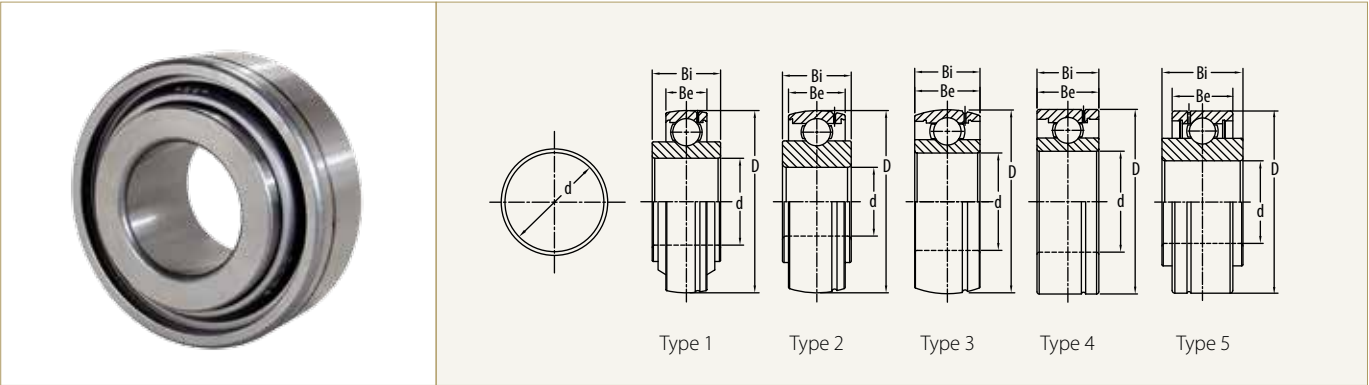


Detailed seal design description located on page 8

| PEER Part Number | Type | A      |        | D      |        | Bi     |        | Be     |        | Seal Type |
|------------------|------|--------|--------|--------|--------|--------|--------|--------|--------|-----------|
|                  |      | [inch] | [mm]   | [inch] | [mm]   | [inch] | [mm]   | [inch] | [mm]   |           |
| GW208PP17        | 4    | 1.1800 | 29.972 | 3.3755 | 85.738 | 1.4375 | 36.512 | 1.1875 | 30.162 | 3 Lips    |
| GW208PPB5        | 1    | 1.1800 | 29.972 | 3.1496 | 80     | 1.4375 | 36.512 | 0.8268 | 21     | 3 Lips    |
| GW208PPB8        | 1    | 1.1800 | 29.972 | 3.1496 | 80     | 1.4375 | 36.512 | 1.1875 | 30.162 | 3 Lips    |
| GW210PPB4        | 3    | 1.1580 | 29.413 | 3.5433 | 90     | 1.1875 | 30.162 | 1.1875 | 30.162 | 3 Lips    |
| GW211PP17        | 4    | 1.5310 | 38.887 | 3.9370 | 100    | 1.7500 | 44.45  | 1.3120 | 33.325 | 3 Lips    |
| GW211PP3-GX      | 5    | 1.5310 | 38.887 | 3.9370 | 100    | 1.3120 | 33.325 | 1.3120 | 33.325 | 3 Lips    |
| GW211PPB3        | 3    | 1.5310 | 38.887 | 3.9370 | 100    | 1.3125 | 33.338 | 1.3125 | 33.338 | 3 Lips    |
| GW212PP50-GX     | 4    | 1.7900 | 45.466 | 4.3307 | 110    | 2.0000 | 50.8   | 1.5060 | 38.252 | 3 Lips    |
| GW214PPB4-GX     | 3    | 2.0551 | 52.2   | 4.9213 | 125    | 1.5625 | 39.688 | 1.5625 | 39.688 | 3 Lips    |
| GW216PP2-GX      | 4    | 2.3125 | 58.738 | 5.5118 | 140    | 2.5000 | 63.5   | 1.1811 | 30     | 3 Lips    |



Gang disc Standard relubricatable bearings, round bore

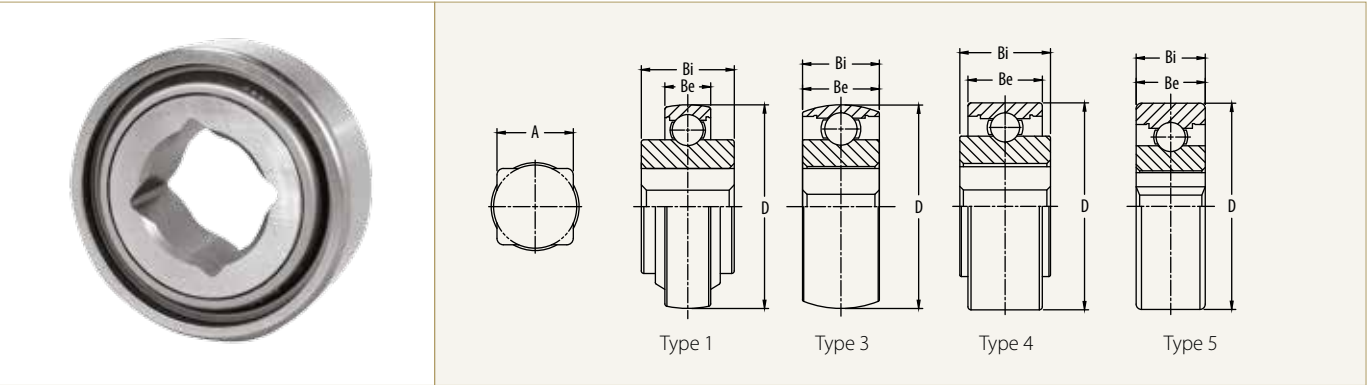


Detailed seal design description located on page 8

| PEER Part Number    | Type | d      |        | D      |         | Bi     |        | Be     |        | Seal Type |
|---------------------|------|--------|--------|--------|---------|--------|--------|--------|--------|-----------|
|                     |      | [inch] | [mm]   | [inch] | [mm]    | [inch] | [mm]   | [inch] | [mm]   |           |
| GW315PPB11-OX       | 3    | 2.7559 | 70     | 6.2992 | 160     | 2.6874 | 68.26  | 2.6874 | 68.26  | 3 Lips    |
| GW214PPB6-GX        | 1    | 2.6881 | 68.278 | 4.9213 | 125     | 2.6875 | 68.262 | 1.1024 | 28     | 3 Lips    |
| GW214PPB3-OX        | 3    | 2.6881 | 68.278 | 4.9213 | 125     | 2.6875 | 68.262 | 1.5625 | 39.688 | 3 Lips    |
| GW214PPB2-GX        | 3    | 2.7559 | 70     | 4.9213 | 125     | 1.5625 | 39.688 | 1.5625 | 39.688 | 3 Lips    |
| GW214PP2-GX         | 4    | 2.7559 | 70     | 4.9213 | 125     | 1.5625 | 39.688 | 1.5625 | 39.688 | 3 Lips    |
| GW211PPB9-GX        | 2    | 2.1950 | 55.753 | 3.9370 | 100     | 1.5625 | 39.688 | 0.9843 | 25     | 3 Lips    |
| GW211PPB2           | 3    | 2.1880 | 55.575 | 3.9370 | 100     | 1.3125 | 33.338 | 1.3125 | 33.338 | 3 Lips    |
| GW211PPB14          | 2    | 2.0150 | 51.181 | 3.9370 | 100     | 1.3125 | 33.338 | 0.9843 | 25     | 3 Lips    |
| GW211PPB13          | 2    | 1.7850 | 45.339 | 3.9370 | 100     | 1.3120 | 33.325 | 0.9843 | 25     | 3 Lips    |
| GW211PP53           | 5    | 1.9685 | 50     | 3.9370 | 100     | 1.7500 | 44.45  | 1.3120 | 33.325 | 3 Lips    |
| GW211PP25-GX        | 5    | 1.7850 | 45.339 | 3.9370 | 100     | 1.7500 | 44.45  | 1.3120 | 33.325 | 3 Lips    |
| GW209PPB4-GX        | 3    | 1.5350 | 38.989 | 3.3465 | 85      | 1.1875 | 30.162 | 1.1875 | 30.162 | 3 Lips    |
| GW209PPB22          | 2    | 1.7717 | 45     | 3.3465 | 85      | 1.1875 | 30.162 | 1.1875 | 30.162 | 3 Lips    |
| GW209PPB22-BR209RH* | 2    | 1.5350 | 38.989 | 3.4921 | 88.7    | 1.6875 | 42.862 | 1.2500 | 31.75  | 3 Lips    |
| GW211PPB21-BR211RH* | 2    | 1.7850 | 45.339 | 3.9800 | 101.092 | 2.1250 | 53.975 | 1.3350 | 33.909 | 3 Lips    |

\*rubber grommets over the OD

Gang disc Standard non-relubricatable bearings, square bore

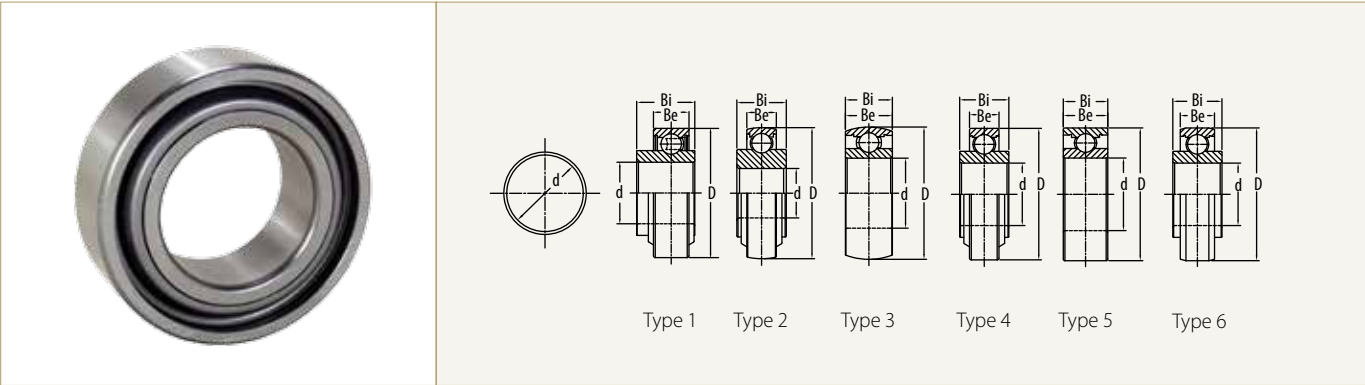


Detailed seal design description located on page 8

| PEER Part Number | Type | A      |        | D      |       | Bi     |        | Be     |        | Seal Type |
|------------------|------|--------|--------|--------|-------|--------|--------|--------|--------|-----------|
|                  |      | [inch] | [mm]   | [inch] | [mm]  | [inch] | [mm]   | [inch] | [mm]   |           |
| W208PP5          | 4    | 1.1800 | 29.972 | 3.1496 | 80    | 1.4375 | 36.512 | 0.7087 | 18     | 3 Lips    |
| W208PP6          | 4    | 1.0300 | 26.162 | 3.1496 | 80    | 1.4375 | 36.512 | 0.7087 | 18     | 3 Lips    |
| W208PP8          | 4    | 1.1800 | 29.972 | 3.1496 | 80    | 1.4375 | 36.512 | 1.1875 | 30.162 | 3 Lips    |
| W208PPB5         | 1    | 1.1800 | 29.972 | 3.1496 | 80    | 1.4375 | 36.512 | 0.7087 | 18     | 3 Lips    |
| W208PPB6         | 1    | 1.0300 | 26.162 | 3.1496 | 80    | 1.4375 | 36.512 | 0.7087 | 18     | 3 Lips    |
| W210PP4          | 5    | 1.1580 | 29.413 | 3.5433 | 90    | 1.1875 | 30.162 | 1.1875 | 30.162 | 3 Lips    |
| W211PP3          | 5    | 1.5310 | 38.887 | 3.9370 | 100   | 1.3125 | 33.338 | 1.3125 | 33.338 | 3 Lips    |
| W211PP5          | 4    | 1.5310 | 38.887 | 4.0000 | 101.6 | 1.7500 | 44.45  | 1.4380 | 36.525 | 3 Lips    |
| W211PPB3         | 3    | 1.5310 | 38.887 | 3.9370 | 100   | 1.3125 | 33.338 | 1.3125 | 33.338 | 3 Lips    |



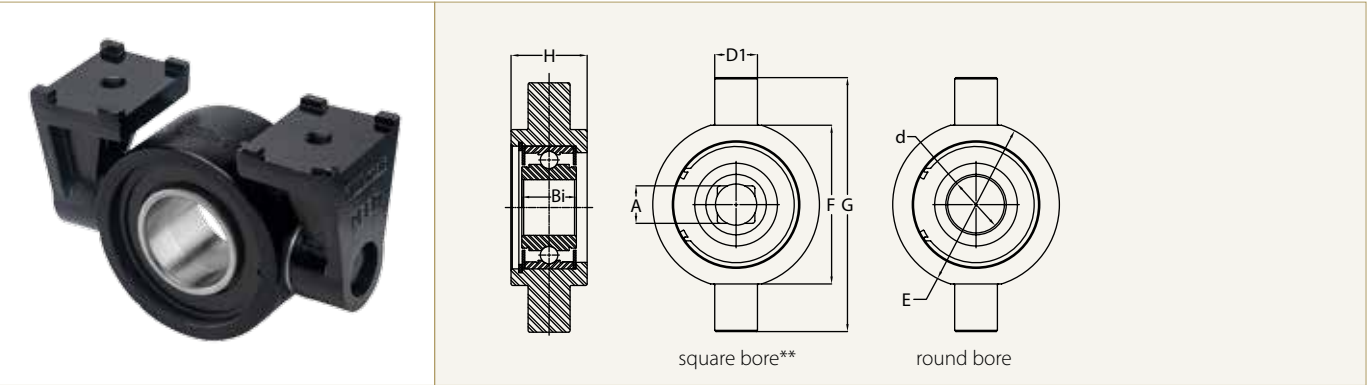
Gang disc Standard non-relubricatable bearings, round bore



Detailed seal design description located on page 8

| PEER Part Number | Type | d      |        | D      |      | Bi     |        | Be     |        | Seal Type |
|------------------|------|--------|--------|--------|------|--------|--------|--------|--------|-----------|
|                  |      | [inch] | [mm]   | [inch] | [mm] | [inch] | [mm]   | [inch] | [mm]   |           |
| W211PPB4         | 6    | 2.1880 | 55.575 | 3.9370 | 100  | 2.1875 | 55.562 | 1.3125 | 33.338 | 3 Lips    |
| W211PPB2         | 3    | 2.1880 | 55.575 | 3.9370 | 100  | 1.3125 | 33.338 | 1.3125 | 33.338 | 3 Lips    |
| W211PP54         | 4    | 2.0635 | 52.413 | 3.9370 | 100  | 2.1875 | 55.562 | 0.8268 | 21     | 3 Lips    |
| W211PP2          | 5    | 2.1880 | 55.575 | 3.9370 | 100  | 1.3125 | 33.338 | 1.3125 | 33.338 | 3 Lips    |
| W210PPB5         | 3    | 1.7850 | 45.339 | 3.5433 | 90   | 1.1875 | 30.162 | 1.1875 | 30.162 | 3 Lips    |
| W210PPB2         | 3    | 1.9380 | 49.225 | 3.5433 | 90   | 1.1875 | 30.162 | 1.1875 | 30.162 | 3 Lips    |
| W210PP2          | 5    | 1.9380 | 49.225 | 3.5433 | 90   | 1.1875 | 30.162 | 1.1875 | 30.162 | 3 Lips    |
| W209PPB2         | 3    | 1.7717 | 45     | 3.3465 | 85   | 1.1880 | 30.175 | 1.1880 | 30.175 | 3 Lips    |
| W209PPB4         | 3    | 1.5350 | 38.989 | 3.3465 | 85   | 1.1875 | 30.162 | 1.1875 | 30.162 | 3 Lips    |
| W208PPB7         | 2    | 1.1879 | 30.172 | 3.1496 | 80   | 1.1875 | 30.162 | 0.7087 | 18     | 3 Lips    |
| W208PPB23        | 2    | 1.5005 | 38.113 | 3.1496 | 80   | 1.6875 | 42.862 | 1.1875 | 30.162 | 3 Lips    |
| W208PP10         | 4    | 1.5005 | 38.113 | 3.1496 | 80   | 1.6875 | 42.862 | 0.8268 | 21     | 3 Lips    |
| W208KPP53        | 1    | 1.5000 | 38.1   | 3.1496 | 80   | 1.4173 | 36     | 0.8661 | 22     | 3 Lips    |

Gang disc Tillage Trunnion Units (TTU)

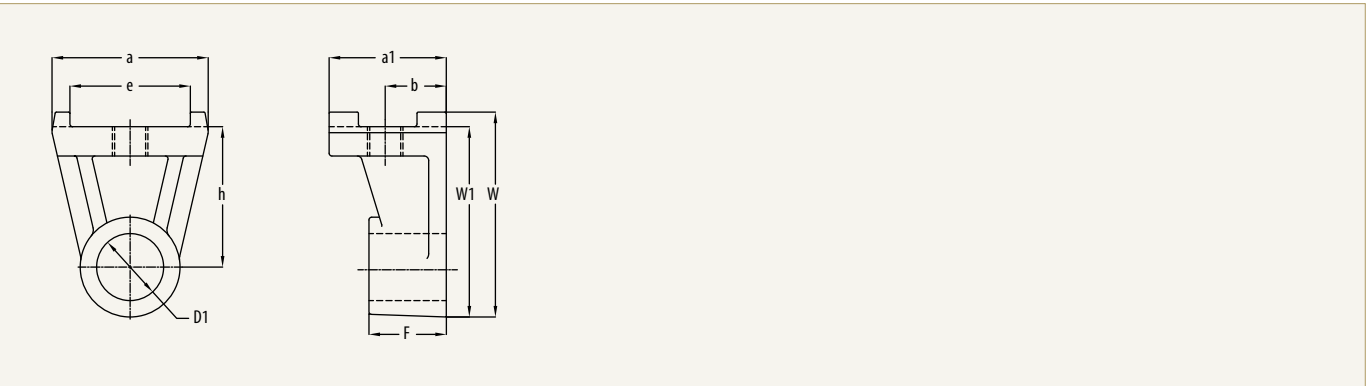


Detailed seal design description located on page 8

| PEER Part Number              | d      |        | A Square Shaft |       | Bi     |        | D1     |        | E      |        | F      |       | G      |       | H      |       | Seal Type |
|-------------------------------|--------|--------|----------------|-------|--------|--------|--------|--------|--------|--------|--------|-------|--------|-------|--------|-------|-----------|
|                               | [inch] | [mm]   | [inch]         | [mm]  | [inch] | [mm]   | [inch] | [mm]   | [inch] | [mm]   | [inch] | [mm]  | [inch] | [mm]  | [inch] | [mm]  |           |
| *W211K56-TTU                  | 1.785  | 45.339 | -              | -     | 1.75   | 44.45  | 1.375  | 34.925 | 5.25   | 133.35 | 5      | 127   | 8      | 203.2 | 2.441  | 62    | 6 Lips    |
| *W211K58-TTU                  | 1.9692 | 50.018 | -              | -     | 1.9685 | 50     | 1.375  | 34.925 | 5.25   | 133.35 | 5      | 127   | 8      | 203.2 | 2.441  | 62    | 6 Lips    |
| *W211K59-TTU**                | -      | -      | 1.5            | 38.1  | 1.75   | 44.45  | 1.375  | 34.925 | 5.25   | 133.35 | 5      | 127   | 8      | 203.2 | 2.323  | 59    | 6 Lips**  |
| *W212-K53-7L-R-DTTU-A62**     | 2.1874 | 55.56  | -              | -     | 2.1874 | 55.56  | 1.2303 | 31.25  | 5.669  | 144    | 5.236  | 133   | 8.268  | 210   | 2.5200 | 64    | 7 Lips    |
| *W212-K51-7L-R-DTTU-A62**     | 1.7700 | 44.958 | -              | -     | 1.687  | 42.85  | 1.2303 | 31.25  | 5.669  | 144    | 5.236  | 133   | 8.268  | 210   | 2.5200 | 64    | 7 Lips    |
| *W214K51-TTU                  | 2.6881 | 68.278 | -              | -     | 2.6875 | 68.262 | 1.5    | 38.1   | 6      | 152.4  | 6      | 152.4 | 9      | 228.6 | 2.992  | 76    | 6 Lips    |
| *W214K52-TTU                  | 2.28   | 57.912 | -              | -     | 2.6875 | 68.262 | 1.5    | 38.1   | 6      | 152.4  | 6      | 152.4 | 9      | 228.6 | 2.992  | 76    | 6 Lips    |
| *W214K53-7L-TTU               | 2.7559 | 70     | -              | -     | 2.6875 | 68.262 | 1.5    | 38.1   | 6      | 152.4  | 6      | 152.4 | 9      | 228.6 | 2.992  | 76    | 7 Lips    |
| *W214-K54-7L-DTTU-A62**       | -      | -      | 1.969          | 50    | 2.6875 | 68.262 | 1.5    | 38.1   | 6      | 152.4  | 6      | 152.4 | 9      | 228.6 | 2.992  | 76    | 7 Lips    |
| *W214-K60-7L-DTTU-HANGER-A515 | -      | -      | 1.628          | 41.35 | 2.6875 | 68.262 | 1.5    | 38.1   | 6      | 152.4  | 6      | 152.4 | 9      | 228.6 | 2.992  | 76    | 7 Lips    |
| GW211PP25-HDT                 | 1.785  | 45.339 | -              | -     | 1.75   | 44.45  | 1.375  | 34.925 | 5.25   | 133.35 | 5      | 127   | 8      | 203.2 | 2.188  | 55.56 | 3 Lips    |
| GW211PP2-HDT                  | 2.188  | 55.575 | -              | -     | 1.3125 | 33.338 | 1.375  | 34.925 | 5.25   | 133.35 | 5      | 127   | 8      | 203.2 | 2.187  | 55.56 | 3 Lips    |

\*PEER TILLXTREME, \*\*square shaft

Gang disc Hangers for Trunnion Units



Detailed seal design description located on page 8

| PEER Part Number | e      |        | a      |       | h      |      | D1     |        | a1     |      | b      |       | F      |       | W      |        | W1     |        |
|------------------|--------|--------|--------|-------|--------|------|--------|--------|--------|------|--------|-------|--------|-------|--------|--------|--------|--------|
|                  | [inch] | [mm]   | [inch] | [mm]  | [inch] | [mm] | [inch] | [mm]   | [inch] | [mm] | [inch] | [mm]  | [inch] | [mm]  | [inch] | [mm]   | [inch] | [mm]   |
| HANGER-211       | 2.5625 | 65.088 | 3.188  | 80.98 | 3      | 76.2 | 1.4375 | 36.512 | 2.5    | 63.5 | 1.375  | 34.93 | 1.625  | 41.28 | 4.403  | 111.84 | 4.0913 | 103.92 |
| HANGER-214       | 3      | 76.2   | 3.78   | 96    | 3.543  | 90   | 1.5312 | 38.892 | 2.835  | 72   | 1.457  | 37    | 1.654  | 42    | 5      | 127    | 4.724  | 120    |

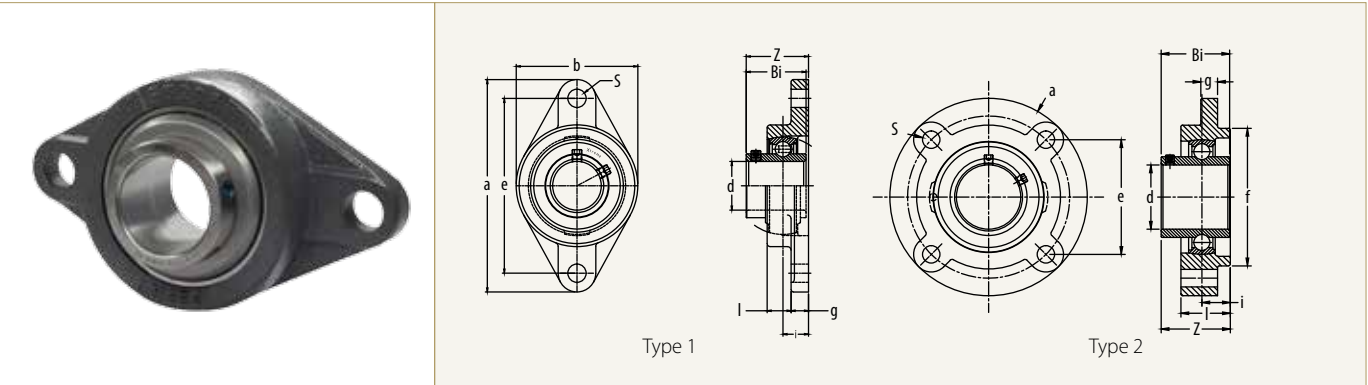
| PEER Part Number                | Type | d Round Shaft |        | a      |       | e      |       | i      |      | g      |      | l      |      | s      |      | Z      |      | Bi     |      | n      |      | m      |      | SEAL TYPE |
|---------------------------------|------|---------------|--------|--------|-------|--------|-------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|-----------|
|                                 |      | [inch]        | [mm]   | [inch] | [mm]  | [inch] | [mm]  | [inch] | [mm] | [inch] | [mm] | [inch] | [mm] | [inch] | [mm] | [inch] | [mm] | [inch] | [mm] | [inch] | [mm] | in     | [mm] |           |
| *UCF208-40MM-MFTRL              | 1    | 1.575         | 40     | 5.126  | 130.2 | 4      | 101.6 | 0.835  | 21.2 | 0.594  | 15.1 | 1.406  | 35.7 | 0.65   | 16.5 | 2.024  | 51.4 | 1.937  | 49.2 | 0.748  | 19   | 1.189  | 30.2 | 5 Lips    |
| *UCF308-40MM-AP-MF              | 1    | 1.575         | 40     | 5.906  | 150   | 4.409  | 112   | 0.906  | 23   | 0.669  | 17   | 1.575  | 40   | 0.748  | 19   | 2.205  | 56   | 2.047  | 43.7 | 0.748  | 19   | 1.299  | 33   | 6 Lips    |
| *XD-UCF208-40MM-XB-AP-TLSL-U435 | 1    | 1.575         | 40     | 5.126  | 130.2 | 4      | 101.6 | 1.043  | 26.5 | 0.594  | 15.1 | 1.516  | 38.5 | 0.512  | 13   | 2.232  | 56.7 | 1.72   | 43.7 | 0.531  | 13.5 | 1.189  | 30.2 | 6 Lips    |
| *XD-UCF208-40MM-XB-AP-TLSL-U31  | 1    | 1.575         | 40     | 5.126  | 130.2 | 4      | 101.6 | 1.043  | 26.5 | 0.594  | 15.1 | 1.516  | 38.5 | 0.512  | 13   | 2.232  | 56.7 | 1.72   | 52   | 0.531  | 13.5 | 1.189  | 30.2 | 5 Lips    |
| *XD-UCF209-45MM-AP-TLSL-U26     | 1    | 1.772         | 45     | 4.252  | 108   | 5.843  | 148.4 | 0.866  | 22   | 0.594  | 15.1 | 1.378  | 35   | 0.669  | 17   | 2.055  | 52.2 | 1.937  | 49.2 | 0.748  | 19   | 1.189  | 30.2 | 5 Lips    |
| *UCFS210-50MM-AP-BSLS-U265      | 1    | 1.969         | 50     | 5.626  | 142.9 | 4.374  | 111.1 | 1.142  | 29   | 0.626  | 15.9 | 1.811  | 46   | 0.669  | 17   | 2.425  | 61.6 | 2.0315 | 51.6 | 0.748  | 19   | 1.2835 | 32.6 | 6 Lips    |
| *XD-UCF210-50MM-XB-AP-TLSL-U409 | 1    | 1.969         | 50     | 5.626  | 142.9 | 4.374  | 111.1 | 1.079  | 27.4 | 0.626  | 15.9 | 1.768  | 44.9 | 0.512  | 13   | 0.039  | 60   | 2.0315 | 51.6 | 2.0315 | 51.6 | 1.2835 | 32.6 | 6 Lips    |
| *XD-UCF210-50MM-XB-AP-TLSL-U117 | 1    | 1.969         | 50     | 5.626  | 142.9 | 4.374  | 111.1 | 0.874  | 22.2 | 0.626  | 15.9 | 1.563  | 39.7 | 0.65   | 16.5 | 2.157  | 54.8 | 2.0315 | 51.6 | 0.748  | 19   | 1.2835 | 32.6 | 5 Lips    |
| *XD-UCFS210-50MM-AP-BSLS-U448   | 1    | 1.969         | 50     | 5.626  | 142.9 | 4.374  | 111.1 | 1.142  | 29   | 0.626  | 15.9 | 1.811  | 46   | 0.669  | 17   | 2.425  | 61.6 | 2.0315 | 51.6 | 0.748  | 19   | 1.2835 | 32.6 | 6 Lips    |
| UCXF11-32-0X-AP-U131            | 2    | 2             | 50.8   | 6.874  | 174.6 | 5.626  | 142.9 | 1.157  | 29.4 | 0.72   | 18.3 | 1.874  | 47.6 | 0.709  | 18   | 3.488  | 88.6 | 2.563  | 65.1 | 1      | 25.4 | 1.563  | 39.7 | G         |
| UCXF12-38-0X-AP-U132            | 2    | 2.375         | 60.325 | 7.374  | 187.3 | 5.8661 | 149   | 1.185  | 30.1 | 0.874  | 22.2 | 1.969  | 50   | 0.709  | 18   | 3.701  | 94   | 2.563  | 65.1 | 1      | 25.4 | 1.563  | 39.7 | G         |
| *XD-UCF212-60MM-XB-AP-TLSL-U26  | 1    | 2.362         | 60     | 6.874  | 174.6 | 5.626  | 142.9 | 1.158  | 29.4 | 0.72   | 18.3 | 1.874  | 47.6 | 0.709  | 18   | 2.72   | 69.1 | 1.937  | 49.2 | 0.748  | 19   | 1.189  | 30.2 | 5 Lips    |
| XD-UCXF213-65MM-OB-AP-TRL       | 1    | 2.56          | 65     | 7.5945 | 192.9 | 6      | 152.4 | 1.22   | 31   | 0.874  | 22.2 | 2.122  | 53.9 | 0.709  | 18   | 2.967  | 75.4 | 2.937  | 74.6 | 1.748  | 44.4 | 1.189  | 30.2 | 3 Lips    |

\* PEER TILLXTREME

| PEER Part Number        | Type | d Round Shaft |      | a      |       | e      |       | i      |       | g      |      | l      |      | s      |      | Z      |       | Bi     |      | SEAL TYPE |
|-------------------------|------|---------------|------|--------|-------|--------|-------|--------|-------|--------|------|--------|------|--------|------|--------|-------|--------|------|-----------|
|                         |      | [inch]        | [mm] | [inch] | [mm]  | [inch] | [mm]  | [inch] | [mm]  | [inch] | [mm] | [inch] | [mm] | [inch] | [mm] | [inch] | [mm]  | [inch] | [mm] |           |
| *W212-60MM-MF-DF-A112   | 1    | 2.362         | 60   | 6.874  | 174.6 | 5.626  | 142.9 | 1.158  | 29.4  | 0.72   | 18.3 | 1.874  | 47.6 | 0.709  | 18   | 2.1575 | 54.8  | 2      | 50.8 | 6 Lips    |
| *W210-50MM-MF-R-DF-A490 | 2    | 1.969         | 50   | 5.626  | 142.9 | 4.374  | 111.1 | 1.093  | 27.75 | 0.591  | 15   | 1.622  | 41.2 | 0.669  | 17   | 1.841  | 46.75 | 1.496  | 38   | 6 Lips    |

\* PEER TILLXTREME

Seedbed finisher Flanged unit assembly

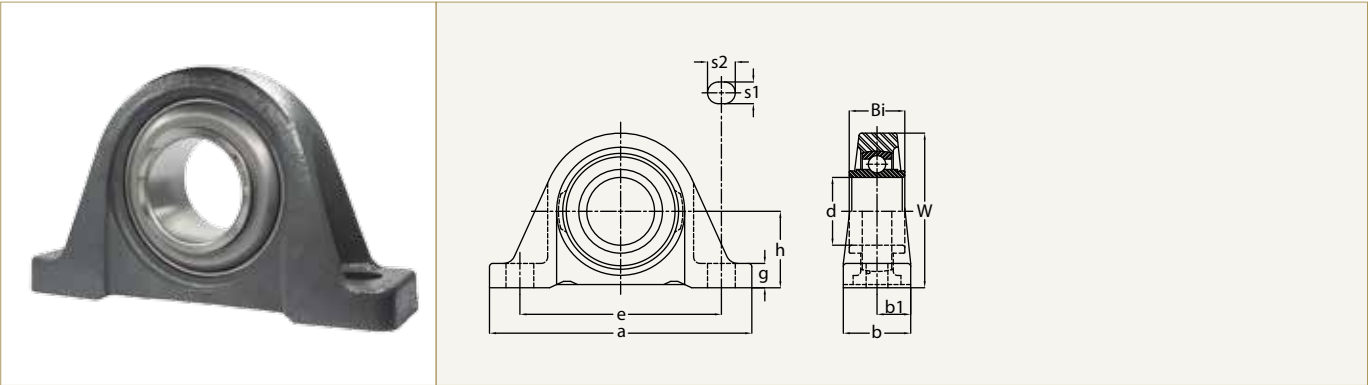


Detailed seal design description located on page 8

| PEER Part Number                     | Type | d      |      | a      |       | e      |       | i      |      | g      |      | l      |      | S           |      | Z      |      | Bi     |      | b      |      | SEAL TYPE |
|--------------------------------------|------|--------|------|--------|-------|--------|-------|--------|------|--------|------|--------|------|-------------|------|--------|------|--------|------|--------|------|-----------|
|                                      |      | [inch] | [mm] | [inch] | [mm]  | [inch] | [mm]  | [inch] | [mm] | [inch] | [mm] | [inch] | [mm] | [inch]      | [mm] | [inch] | [mm] | [inch] | [mm] | [inch] | [mm] |           |
| *XD-UCFT208-40MM-XB-AP-TLSL-U26      | 1    | 1.575  | 40   | 6.874  | 174.6 | 5.657  | 143.7 | 0.827  | 21   | 0.563  | 14.3 | 1.339  | 34   | 0.591       | 15   | 2.016  | 51.2 | 1.937  | 49.2 | 3.937  | 100  | 5 Lips    |
| *XD-UCFT208-40MM-XB-AP-TLSL-NSS-U239 | 1    | 1.575  | 40   | 6.874  | 174.6 | 5.657  | 143.7 | 0.827  | 21   | 0.563  | 14.3 | 1.339  | 34   | 0.591       | 15   | 2.016  | 51.2 | 1.937  | 49.2 | 3.937  | 100  | 5 Lips    |
| *XD-UCFT206-30MM-XB-AP-TLSL-U236     | 1    | 1.181  | 30   | 5.811  | 147.6 | 4.594  | 116.7 | 0.709  | 18   | 0.5    | 12.7 | 1.142  | 29   | 0.531       | 13.5 | 1.646  | 41.8 | 1.563  | 39.7 | 3.157  | 80.2 | 5 Lips    |
| *XD-UCFT206-30MM-XB-AP-TLSL-U469     | 1    | 1.181  | 30   | 5.811  | 147.6 | 4.594  | 116.7 | 0.7086 | 18   | 0.5    | 12.7 | 1.1417 | 29   | M 12 x 1.75 |      | 1.646  | 41.8 | 1.563  | 39.7 | 3.157  | 80.2 | 6 Lips    |
| *W208-40MM-MF-R-DFT-A374             | 1    | 1.575  | 40   | 6.874  | 174.6 | 5.657  | 143.7 | 1.22   | 31   | 0.563  | 14.3 | 1.772  | 45   | 0.65        | 16.5 | 2.008  | 51   | 1.575  | 40   | 3.937  | 100  | 6 Lips    |
| *W207-35MM-FTDT-MF-AP                | 1    | 1.378  | 35   | 6.343  | 161.1 | 5.126  | 130.2 | 0.748  | 19   | 0.563  | 14.3 | 1.181  | 30   | 0.65        | 16.5 | 1.437  | 36.5 | 1.378  | 35   | 3.531  | 89.7 | 6 Lips    |
| **KX-GRFT206-30MM-AP-TDSL-U429       | 1    | 1.181  | 30   | 5.811  | 147.6 | 4.594  | 116.7 | 0.7086 | 18   | 0.5    | 12.7 | 1.1417 | 29   | 0.531       | 13.5 | 1.7323 | 44   | 1.5    | 38.1 | 3.157  | 80.2 | 5 Lips    |
| *XD-UCFC214-70MM-XB-AP-TLSL          | 2    | 2.756  | 70   | 8.467  | 215.1 | 4.921  | 125   | 1.22   | 31   | 0.72   | 18.3 | 2.122  | 53.9 | 0.752       | 19.1 | 2.937  | 74.6 | 2.937  | 74.6 | /      | /    | 5 Lips    |

\* PEER TILLXTREME, \*\* PEER TILLXTREME with Grip it locking collar

Seedbed finisher Pillow block units

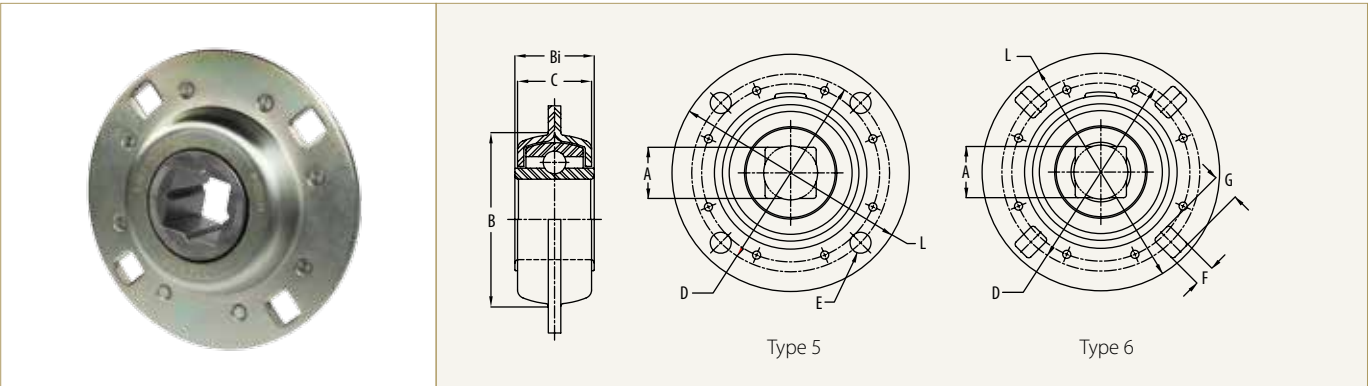


Detailed seal design description located on page 8

| PEER Part Number       | d      |      | h      |       | a      |        | e      |        | b      |      | s1     |       | s2     |      | g      |       | W      |        | Bi     |      | SEAL TYPE |
|------------------------|--------|------|--------|-------|--------|--------|--------|--------|--------|------|--------|-------|--------|------|--------|-------|--------|--------|--------|------|-----------|
|                        | [inch] | [mm] | [inch] | [mm]  | [inch] | [mm]   | [inch] | [mm]   | [inch] | [mm] | [inch] | [mm]  | [inch] | [mm] | [inch] | [mm]  | [inch] | [mm]   | [inch] | [mm] |           |
| *W212-60MM-MF-R-P-A290 | 2.3622 | 60   | 2.75   | 69.85 | 9.4374 | 239.71 | 7.25   | 184.15 | 2.4252 | 61.6 | 0.7811 | 19.84 | 1      | 25.4 | 0.8752 | 22.23 | 5.5626 | 141.29 | 2      | 50.8 | 6 Lips    |

\* PEER TILLXTREME

Seedbed finisher Flanged disc

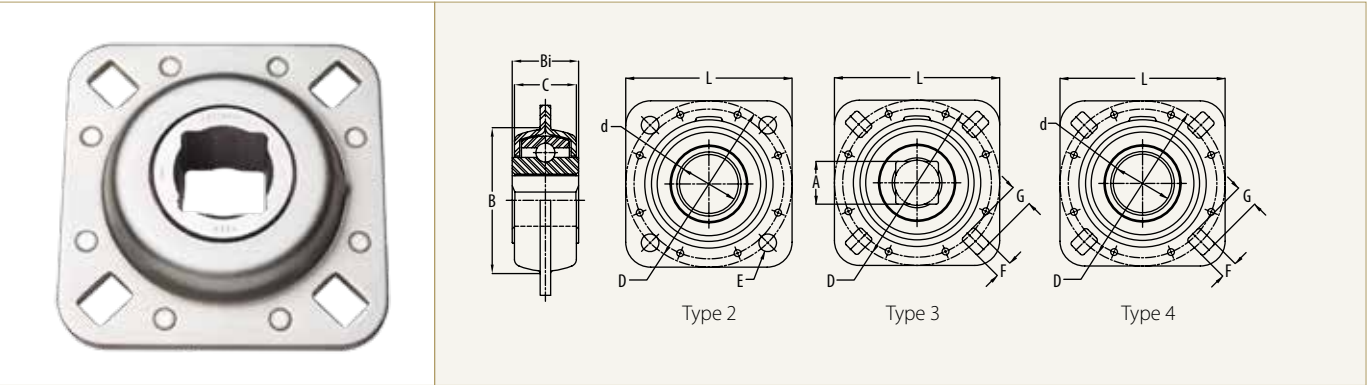


Detailed seal design description located on page 8

| PEER Part Number       | TYPE | A      |        | Bi     |       | L      |       | D BOLT CIRCLE |       | E      |      | F      |      | G      |      | B MIN. FRAME OPENING |        | C      |      | SEAL TYPE |
|------------------------|------|--------|--------|--------|-------|--------|-------|---------------|-------|--------|------|--------|------|--------|------|----------------------|--------|--------|------|-----------|
|                        |      | [inch] | [mm]   | [inch] | [mm]  | [inch] | [mm]  | [inch]        | [mm]  | [inch] | [mm] | [inch] | [mm] | [inch] | [mm] | [inch]               | [mm]   | [inch] | [mm] |           |
| *RFD209K50-1 1/8SQ     | 5    | 1.6845 | 42.786 | 6      | 152.4 | 5      | 127   | 5             | 127   | 0.531  | 13.5 | -      | -    | -      | -    | 3.865                | 98.17  | 1.63   | 41.4 | 5 Lips    |
| *RFD209K51-30MMSQ-SP2  | 6    | 1.6845 | 42.786 | 6      | 152.4 | 5      | 127   | 5             | 127   | -      | -    | 0.531  | 13.5 | 0.531  | 13.5 | 3.865                | 98.17  | 1.63   | 41.4 | 5 Lips    |
| *RFD211K51-40MMSQ-A371 | 6    | 2.0078 | 52     | 7.559  | 192   | 5.5    | 139.7 | 5.5           | 139.7 | -      | -    | 0.59   | 15   | 0.59   | 15   | 4.491                | 114.07 | 1.811  | 46   | 5 Lips    |

\* PEER TILLXTREME

Seedbed finisher Flanged disc



Detailed seal design description located on page 8

Round Bore Non Relubricatable

| PEER Part Number          | TYPE | A/d    |        | Bi     |        | L      |       | D BOLT CIRCLE |       | E      |        | F      |        | G      |       | B MIN. FRAME OPENING |        | C      |      | SEAL TYPE |
|---------------------------|------|--------|--------|--------|--------|--------|-------|---------------|-------|--------|--------|--------|--------|--------|-------|----------------------|--------|--------|------|-----------|
|                           |      | [inch] | [mm]   | [inch] | [mm]   | [inch] | [mm]  | [inch]        | [mm]  | [inch] | [mm]   | [inch] | [mm]   | [inch] | [mm]  | [inch]               | [mm]   | [inch] | [mm] |           |
| *FD209K58-1-3/4RD-A326    | 2    | 1.77   | 44.958 | 1.6845 | 42.786 | 5      | 127   | 5             | 127   | 0.531  | 13.487 | -      | -      | -      | -     | 3.865                | 98.17  | 1.63   | 41.4 | 5 Lips    |
| *FD209K50-1-3/4RD         | 2    | 1.77   | 49.958 | 1.747  | 44.374 | 5      | 127   | 5             | 127   | 0.531  | 13.487 | -      | -      | -      | -     | 3.865                | 98.17  | 1.63   | 41.4 | 5 Lips    |
| *FD209K52-1-1/2RD         | 4    | 1.535  | 38.989 | 1.6845 | 42.786 | 5      | 127   | 5             | 127   | -      | -      | 0.531  | 13.487 | 0.687  | 17.45 | 3.865                | 98.17  | 1.63   | 41.4 | 5 Lips    |
| *FD209K53-1-1/2RD         | 4    | 1.535  | 38.989 | 1.6845 | 42.786 | 5      | 127   | 5             | 127   | -      | -      | 0.531  | 13.487 | 0.687  | 17.45 | 3.865                | 98.17  | -      | -    | 6 Lips    |
| *FD209K54-1-1/4RD         | 2    | 1.27   | 32.258 | 1.6845 | 42.786 | 5      | 127   | 5             | 127   | 0.531  | 13.487 | -      | -      | -      | -     | 3.865                | 98.17  | 1.63   | 41.4 | 5 Lips    |
| *FD211K65-1-15/16RDC-A326 | 2    | 1.938  | 49.253 | 2.125  | 53.975 | 139.7  | 5.5   | 5.5           | 139.7 | 0.531  | 13.487 | -      | -      | -      | -     | 4.491                | 114.07 | 1.811  | 46   | 5 Lips    |
| *FD211K51-1-3/4RD-A366    | 3    | 1.78   | 45.212 | 2.1875 | 55.562 | 5.5    | 139.7 | 5.5           | 139.7 | -      | -      | 0.531  | 13.487 | 0.687  | 17.45 | 4.491                | 114.07 | 1.811  | 46   | 5 Lips    |
| *FD211K52-1-3/4RD-A365    | 2    | 1.78   | 45.212 | 2.1875 | 55.562 | 5.5    | 139.7 | 5.5           | 139.7 | 0.531  | 13.487 | -      | -      | -      | -     | 4.491                | 114.07 | 1.811  | 46   | 5 Lips    |
| *FD211K61-2-3/16RD        | 2    | 2.188  | 55.575 | 2.1845 | 55.486 | 5.5    | 139.7 | 5.5           | 139.7 | 0.531  | 13.487 | -      | -      | -      | -     | 4.491                | 114.07 | 1.811  | 46   | 5 Lips    |
| *FD212K51-60RD            | 2    | 2.4016 | 61     | 2.2047 | 56     | 6.811  | 173   | 5.63          | 143   | 6.4    | 16.25  | -      | -      | -      | -     | 5                    | 127    | 1.968  | 50   | 5 Lips    |

\* PEER TILLXTREME

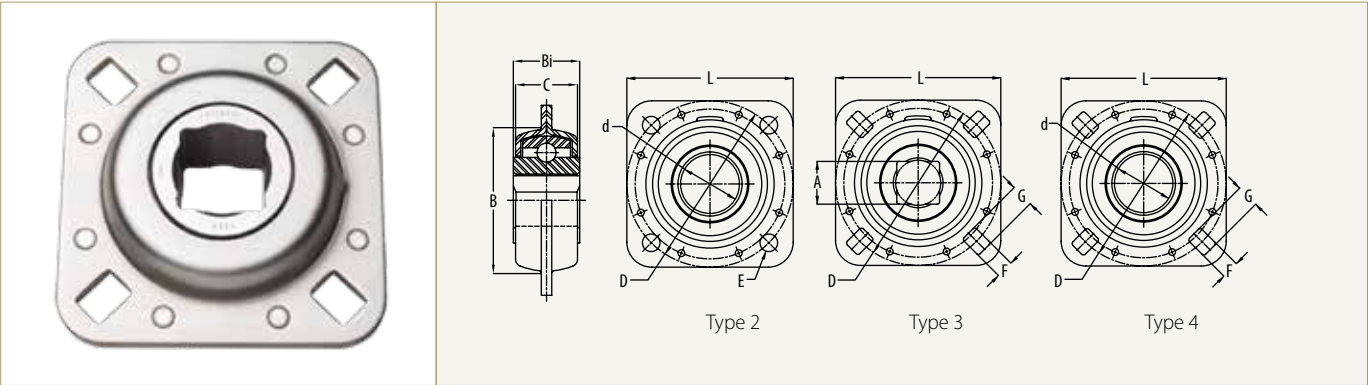
Square Bore Non-Relubricatable

| PEER Part Number        | TYPE | A/d    |        | Bi     |        | L      |       | D BOLT CIRCLE |       | F      |        | G      |       | B MIN. FRAME OPENING |        | C      |      | SEAL TYPE |
|-------------------------|------|--------|--------|--------|--------|--------|-------|---------------|-------|--------|--------|--------|-------|----------------------|--------|--------|------|-----------|
|                         |      | [inch] | [mm]   | [inch] | [mm]   | [inch] | [mm]  | [inch]        | [mm]  | [inch] | [mm]   | [inch] | [mm]  | [inch]               | [mm]   | [inch] | [mm] |           |
| *RFD209K51-1-1/4SQ      | 3    | 1.3    | 33.02  | 1.6845 | 42.786 | 5      | 127   | 5             | 127   | 0.531  | 13.487 | 0.687  | 17.45 | 3.865                | 98.17  | 1.63   | 41.4 | 5 Lips    |
| *RFD209K57-1-1/8SQ-A366 | 3    | 1.18   | 29.972 | 1.6845 | 42.786 | 5      | 127   | 5             | 127   | 0.531  | 13.487 | 0.687  | 17.45 | 3.865                | 98.17  | 1.63   | 41.4 | 5 Lips    |
| *FD211K53-1-1/2SQ       | 3    | 1.531  | 38.887 | 2      | 50.8   | 5.5    | 139.7 | 5.5           | 139.7 | 0.531  | 13.487 | 0.687  | 17.45 | 4.491                | 114.07 | 1.811  | 46   | 5 Lips    |

\* PEER TILLXTREME



Seedbed finisher Flanged disc



Detailed seal design description located on page 8

| Round Bore Relubricatable |      |        |        |        |        |        |       |               |       |        |        |        |        |        |       |                      |        |        |      |           |
|---------------------------|------|--------|--------|--------|--------|--------|-------|---------------|-------|--------|--------|--------|--------|--------|-------|----------------------|--------|--------|------|-----------|
| PEER Part Number          | TYPE | A/d    |        | Bi     |        | L      |       | D BOLT CIRCLE |       | E      |        | F      |        | G      |       | B MIN. FRAME OPENING |        | C      |      | SEAL TYPE |
|                           |      | [inch] | [mm]   | [inch] | [mm]   | [inch] | [mm]  | [inch]        | [mm]  | [inch] | [mm]   | [inch] | [mm]   | [inch] | [mm]  | [inch]               | [mm]   | [inch] | [mm] |           |
| FD211-1-3/4RD             | 2    | 1.78   | 45.212 | 2.1875 | 55.563 | 5.5    | 139.7 | 5.5           | 139.7 | 0.531  | 13.487 | -      | -      | -      | -     | 4.491                | 114.07 | 1.811  | 46   | 3 Lips    |
| FD211-2-3/16RD            | 2    | 2.188  | 55.575 | 2.1845 | 55.486 | 5.5    | 139.7 | 5.5           | 139.7 | 0.531  | 13.487 | -      | -      | -      | -     | 4.491                | 114.07 | 1.811  | 46   | 3 Lips    |
| FD211-1-15/16RDC          | 2    | 1.938  | 49.225 | 2.125  | 53.975 | 5.5    | 139.7 | 5.5           | 139.7 | 0.531  | 13.487 | -      | -      | -      | -     | 4.491                | 114.07 | 1.811  | 46   | 3 Lips    |
| ST491A                    | 2    | 1.77   | 44.958 | 1.6845 | 42.786 | 5      | 127   | 5             | 127   | 0.531  | 13.487 | -      | -      | -      | -     | 3.865                | 98.17  | -      | -    | 3 Lips    |
| ST491A-B                  | 2    | 1.77   | 44.958 | 1.747  | 44.374 | 5      | 127   | 5             | 127   | 0.531  | 13.487 | -      | -      | -      | -     | 3.865                | 98.17  | 1.63   | 41.4 | 3 Lips    |
| ST491B                    | 4    | 1.535  | 38.989 | 1.6845 | 42.786 | 5      | 127   | 5             | 127   | -      | -      | 0.531  | 13.487 | 0.687  | 17.45 | 3.865                | 98.17  | 1.63   | 41.4 | 3 Lips    |

| Square Bore Relubricatable |      |        |        |        |        |        |       |               |       |        |      |        |      |        |       |                      |        |        |      |           |
|----------------------------|------|--------|--------|--------|--------|--------|-------|---------------|-------|--------|------|--------|------|--------|-------|----------------------|--------|--------|------|-----------|
| PEER Part Number           | TYPE | A/d    |        | Bi     |        | L      |       | D BOLT CIRCLE |       | E      |      | F      |      | G      |       | B MIN. FRAME OPENING |        | C      |      | SEAL TYPE |
|                            |      | [inch] | [mm]   | [inch] | [mm]   | [inch] | [mm]  | [inch]        | [mm]  | [inch] | [mm] | [inch] | [mm] | [inch] | [mm]  | [inch]               | [mm]   | [inch] | [mm] |           |
| FD209-1-1/4SQ              | 3    | 1.3    | 33.02  | 1.6845 | 42.786 | 5      | 127   | 5             | 127   | -      | -    | 0.531  | 13.5 | 0.687  | 17.45 | 3.865                | 98.17  | 1.63   | 41.4 | 3 Lips    |
| FD209-1-1/8SQ              | 3    | 1.18   | 29.972 | 1.6845 | 42.786 | 5      | 127   | 5             | 127   | -      | -    | 0.531  | 13.5 | 0.687  | 17.45 | 3.865                | 98.17  | 1.63   | 41.4 | 3 Lips    |
| FD211-1-1/2SQ              | 3    | 1.531  | 38.887 | 2      | 50.8   | 5.5    | 139.7 | 5.5           | 139.7 | -      | -    | 0.531  | 13.5 | 0.687  | 17.45 | 4.491                | 114.07 | 1.811  | 46   | 3 Lips    |



Seeder Bearings

Best possible growing conditions are determined by an adequately prepared seedbed. Perfectly placed and distributed seeds in a consistent furrow at a determined depth are prerequisites for high yield. Different influencing parameters such as seed type, soil type, and environmental conditions demand different seeding procedures and machinery. The three basic categories include drills, planters and seeders, using mechanical metering system or air pressure differentials to convey or singulate the seeds.

The furrow opening, seed depth control and seed covering is accomplished by disc openers, gauge wheel, press wheel and closing wheel.

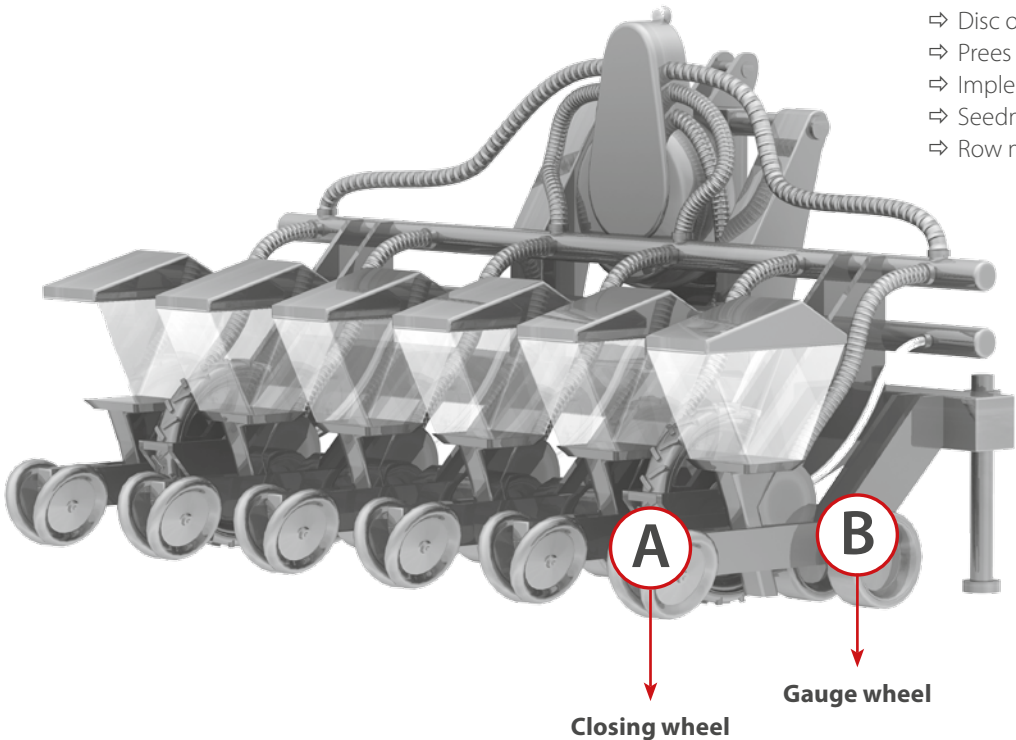
**Disk opener:** opens a narrow furrow in the ground where the seed is planted

**Gauge wheel:** determines the depth at which the seed is planted by controlling the depth at which the disc opener operates

**Press wheel:** presses the seed into contact with the soil in the furrow

**Closing wheel:** drags soil over the seed and fills in the furrow

- Bearing solutions for:**
- (A) Closing wheel, page 29
  - (B) Gauge wheel, page 28
  - Additional application
    - ⇒ Disc opener, page 26
    - ⇒ Prees wheel, page 29
    - ⇒ Implement wheel, page 49
    - ⇒ Seedmeter drive shaft, page 30
    - ⇒ Row marker, page 29



### Drills

Seeding of multiple rows by row placement of seeds with a common seeder hopper and a volumetric displacement seeding meter for all the seeding rows. The seeding units are each mounted on a main frame and seed delivery is accomplished pneumatically or by free seed fall through individual delivery tubes.

### Planters

Seeding of multiple rows by multiple row seeding units, each typically containing a ground engaging tool, depth control components and a singulating meter device for each row. Seeding units are individually mounted on the main frame. The singulating and conveying of seeds from the seed hopper takes place pneumatically or by air pressure differential.

### Seeders

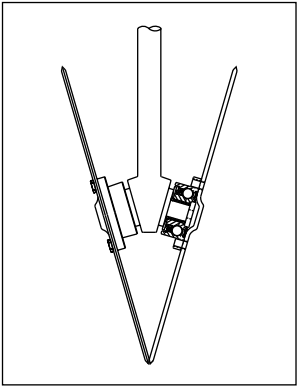
Seeding by spreading or dropping the seed on the soil surface without the use of furrow openers or seed covering devices under the use of volumetric seed metering devices. Also a pneumatically conveying of seeds to the ground openers of the seeding tool or to spreaders at the front of the tillage tool might be used.

\*Content derived from the American Society of Agricultural and Biological Engineers (ASABE)

### Application challenges

#### Disk opener application condition

- Single disc or double disc arrangements are used to open the furrow
- Bearings are pressed into the housing which is riveted or screwed to the disc. The disc assembly is bolted to the machine frame
- High loads are encountered in no-till farming and due to angle of pull
- Rigid assembly is required for a precise disc mounting which creates a consistent furrow
- Dusty and sometimes moist environment

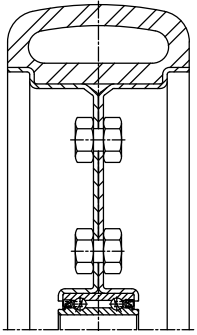


#### Benefits and functional features:

- Bolt-on performance:
  - ⇒ HUB assembly is available for ease of mounting
  - ⇒ Reduced labor cost and eliminate damage due to incorrect assembly
- Increased productivity and operation life in field due to:
  - ⇒ Optimized internal geometry
  - ⇒ High load capacity
  - ⇒ High contamination feature package with exclusive sealing system
- Precise furrow opening:
  - ⇒ Rigid disc
  - ⇒ Minimized operating internal clearance
  - ⇒ Optimized internal geometry

#### Gauge wheel application condition

- Bearing is assembled in gauge wheel and bolted on machine
- Dusty and sometimes moist environment



#### Benefits and functional features:

- Increased productivity and operation life in field due to:
  - ⇒ Optimized internal geometry
  - ⇒ High load capacity
  - ⇒ High contamination feature package with exclusive sealing system
- Increased speed to the market
  - ⇒ PEER bearing solutions are interchangeable with standard gauge wheel bearings

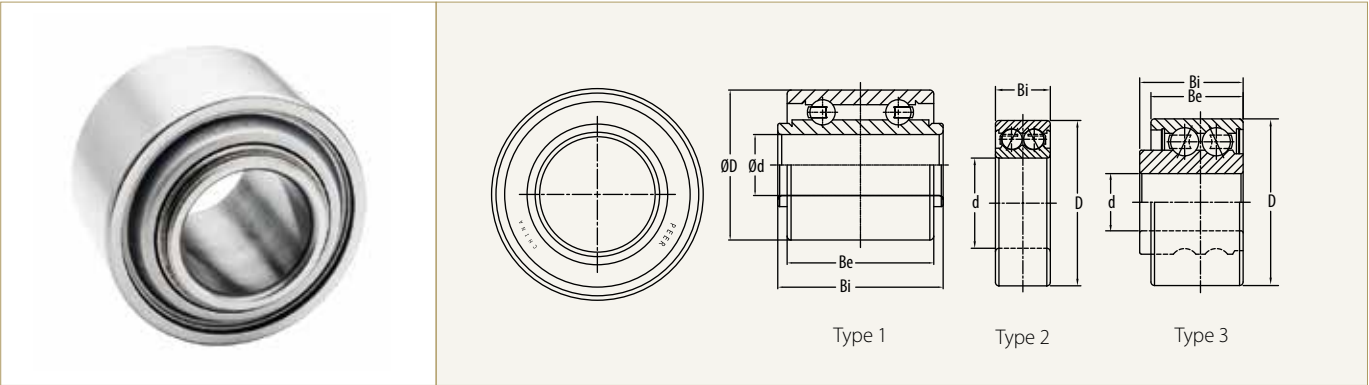
#### Press wheel and closing wheel application conditions

- Press and closing wheel perform different functions in the machine but are exposed to similar application conditions; similar bearing solutions are used
- Dusty and sometimes moist environment

#### Benefits and functional features:

- Increased productivity and operating life in field due to:
  - ⇒ Optimized internal geometry
  - ⇒ High load capacity
  - ⇒ High contamination feature package with exclusive sealing system
- Increased speed to the market
  - ⇒ PEER offers the industry's largest range of high performance seeding bearings

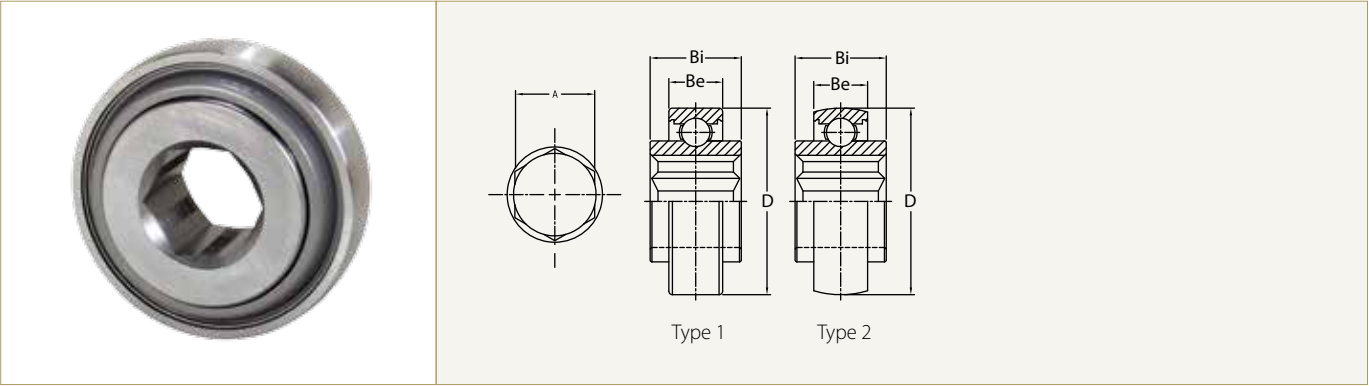
Disc opener



Detailed seal design description located on page 8

| PEER Part Number   | Type | d      |        | D      |      | Bi     |        | Be     |       | Seal Type |
|--------------------|------|--------|--------|--------|------|--------|--------|--------|-------|-----------|
|                    |      | [inch] | [mm]   | [inch] | [mm] | [inch] | [mm]   | [inch] | [mm]  |           |
| 5203-KPP2-R-A574   | 1    | 0.64   | 16.256 | 1.5748 | 40   | 1.737  | 44.12  | 1.5402 | 39.12 | 3 Lips    |
| 5204-2RS           | 2    | 0.7874 | 20     | 1.8504 | 47   | 0.813  | 20.638 | -      | -     | RS        |
| 5204-KP52-R-A116   | 3    | 0.7874 | 20     | 1.8504 | 47   | 0.992  | 25.2   | 0.8622 | 21.9  | 3 Lips    |
| 5204KP52-SP6       | 3    | 0.7874 | 20     | 1.8504 | 47   | 0.992  | 25.2   | 0.8622 | 21.9  | 3 Lips    |
| 5204-KPP55-R-A248  | 1    | 0.6398 | 16.25  | 1.8504 | 47   | 1.737  | 44.12  | 1.5402 | 39.12 | 3 Lips    |
| 5204KRP50          | 2    | 0.6350 | 16.129 | 1.8504 | 47   | 1.102  | 28     | -      | -     | 3 Lips    |
| 5204KRP51          | 3    | 0.6350 | 16.129 | 1.8504 | 47   | 1.149  | 29.175 | 1.0236 | 26    | 3 Lips    |
| 5206KPP3           | 1    | 1.1870 | 30.15  | 2.4409 | 62   | 1.969  | 50     | 1.4567 | 37    | 3 Lips    |
| 5204-KRMF-R-A517   | 2    | 0.6339 | 16.1   | 1.8504 | 47   | 0.969  | 24.6   | -      | -     | 4 Lips    |
| WS204-2RSTFP-C3-TN | 2    | 0.7874 | 20     | 1.8504 | 47   | 0.938  | 23.812 | -      | -     | F         |

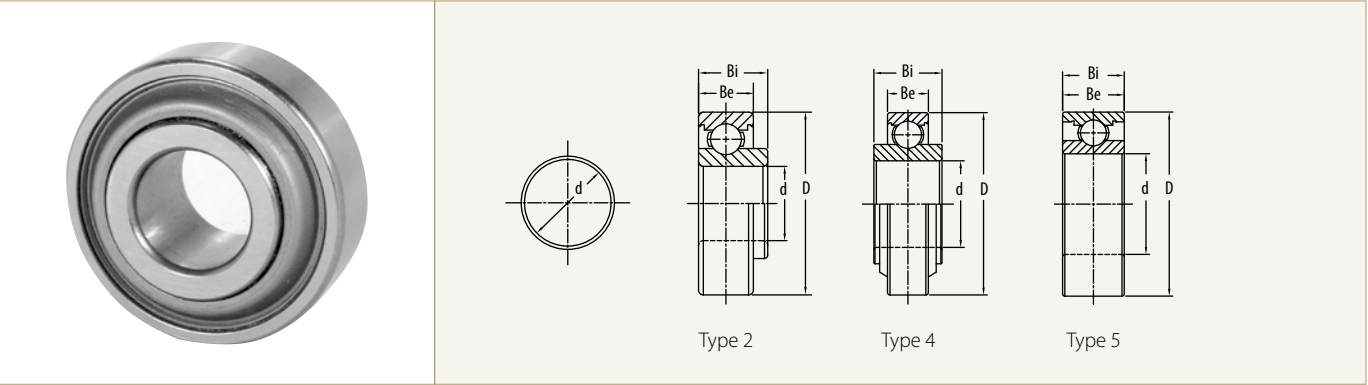
Disc opener



Detailed seal design description located on page 8

| PEER Part Number | Type | A      |       | D      |      | Bi     |      | Be     |      | Seal Type |
|------------------|------|--------|-------|--------|------|--------|------|--------|------|-----------|
|                  |      | [inch] | [mm]  | [inch] | [mm] | [inch] | [mm] | [inch] | [mm] |           |
| 205KPP2          | 1    | 0.876  | 22.25 | 2.0472 | 52   | 1.000  | 25.4 | 0.5906 | 15   | 3 Lips    |
| 205KRRB2         | 2    | 0.876  | 22.25 | 2.0472 | 52   | 1.000  | 25.4 | 0.5906 | 15   | G         |

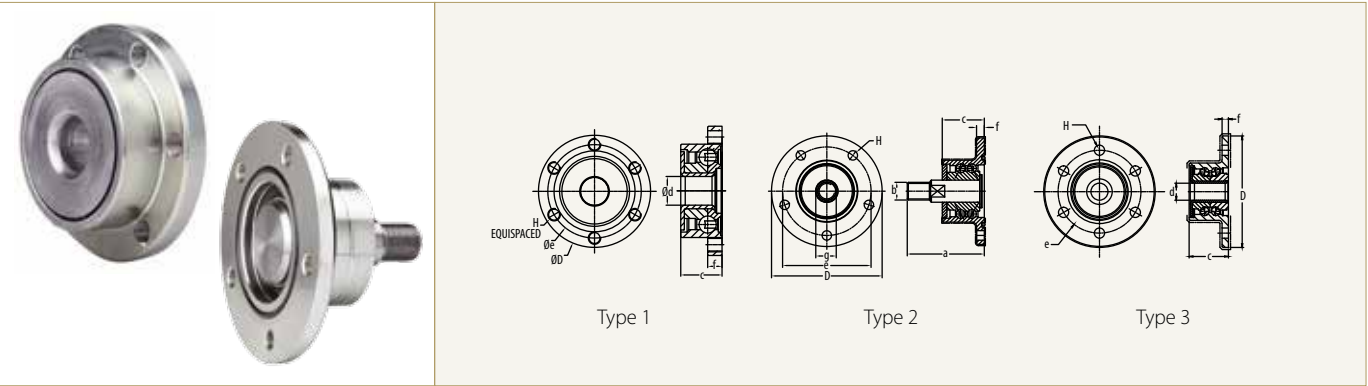
Disc opener



Detailed seal design description located on page 8

| PEER Part Number | Type | d      |        | D      |        | Bi     |        | Be     |        | Seal Type |
|------------------|------|--------|--------|--------|--------|--------|--------|--------|--------|-----------|
|                  |      | [inch] | [mm]   | [inch] | [mm]   | [inch] | [mm]   | [inch] | [mm]   |           |
| 204PY3           | 2    | 0.6320 | 16.053 | 1.7805 | 45.225 | 0.735  | 18.669 | 0.6100 | 15.494 | 2 Lips    |
| 205KRP2          | 2    | 0.7560 | 19.202 | 2.0472 | 52     | 0.831  | 21.107 | 0.5906 | 15     | 3 Lips    |
| 205-KRP5-R-A17   | 2    | 0.7874 | 20     | 2.0472 | 52     | 0.831  | 21.107 | 0.5906 | 15     | 3 Lips    |
| 206KRP4          | 2    | 0.9900 | 25.146 | 2.4409 | 62     | 0.875  | 22.225 | 0.7087 | 18     | 3 Lips    |
| 206-KRP50-R-A422 | 2    | 1.1810 | 30     | 2.4409 | 62     | 0.875  | 22.225 | 0.7087 | 18     | 3 Lips    |
| BB204-PF3-R-A453 | 2    | 0.6320 | 16.053 | 1.7805 | 45.225 | 0.735  | 18.669 | 0.6100 | 15.494 | 3 Lips    |
| BB204-PY3-R-A513 | 2    | 0.6320 | 16.053 | 2.1350 | 54.225 | 0.735  | 18.669 | 0.6100 | 15.494 | 2 Lips    |
| BB205KRP2        | 2    | 0.7560 | 19.202 | 2.0472 | 52     | 0.831  | 21.107 | 0.5906 | 15     | 3 Lips    |
| 203KRR2FD        | 4    | 0.6400 | 16.256 | 1.5748 | 40     | 0.720  | 18.288 | 0.4724 | 12     | 2 Lips    |
| 203NPP9          | 5    | 0.6260 | 15.9   | 1.5748 | 40     | 0.510  | 12.954 | 0.5100 | 12.954 | R         |
| BB304PP50        | 4    | 0.6350 | 16.129 | 2.0900 | 53.086 | 0.969  | 24.608 | 0.7189 | 18.26  | 3 Lips    |

Disc opener HUB bearings



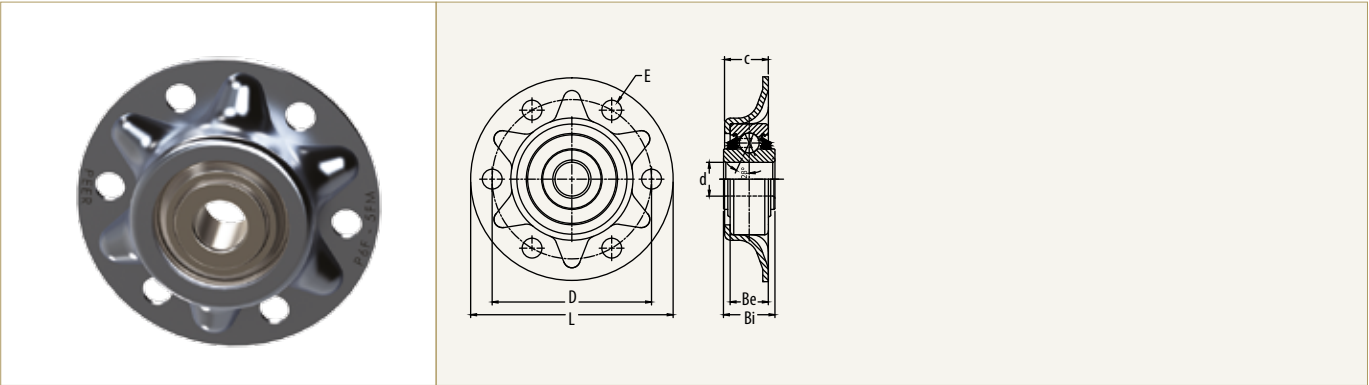
Detailed seal design description located on page 8

| PEER Part Number       | Type | b     | e      |      | c      |      | a      |      | D      |      | f      |      | g      |      | ø d    |        | H Bolt       | Seal Type |
|------------------------|------|-------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|--------|--------------|-----------|
|                        |      |       | [inch] | [mm] | [inch] | [mm] | [inch] | [mm] | [inch] | [mm] | [inch] | [mm] | [inch] | [mm] | [inch] | [mm]   |              |           |
| * HUB-16MM-X           | 1    | -     | 2.3622 | 60   | 0.9055 | 23   | -      | -    | 2.8346 | 72   | 0.3150 | 8    | -      | -    | 0.6299 | 16     | M8 x 1.0. 6x | 6 Lips    |
| *HUB-16MM-X-R-A391     | 3    | -     | 3.0700 | 78   | 1.4570 | 37   | -      | -    | 4.1340 | 105  | 0.2360 | 6    | -      | -    | 0.6320 | 16.065 | ø 9.6        | 6 Lips    |
| * HUB-20MM-X           | 2    | M16x2 | 3.1496 | 80   | 1.4961 | 38   | 2.8740 | 73   | 3.9370 | 100  | 0.2756 | 7    | 0.7283 | 18.5 | -      | -      | 5 x ø8.5H12  | 6 Lips    |
| *HUB-20MM-X-ASSY-A605  | 2    | M16x2 | 2.9528 | 75   | 1.4961 | 38   | 2.6771 | 68   | 3.9370 | 100  | 0.2756 | 7    | 0.7283 | 18.5 | -      | -      | 6x M6 x 0.75 | 6 Lips    |
| **HUB-20MM-X-ASSY-A543 | 2    | M16x2 | 3.1496 | 80   | 1.6220 | 41.2 | 2.9600 | 75.2 | 3.9370 | 100  | 0.2756 | 7    | 0.7283 | 18.5 | -      | -      | 6x M8 x 1.25 | 6 Lips    |

\* PEER SEEDXTREME, \*\* PEER SEEDXTREME modular HUB



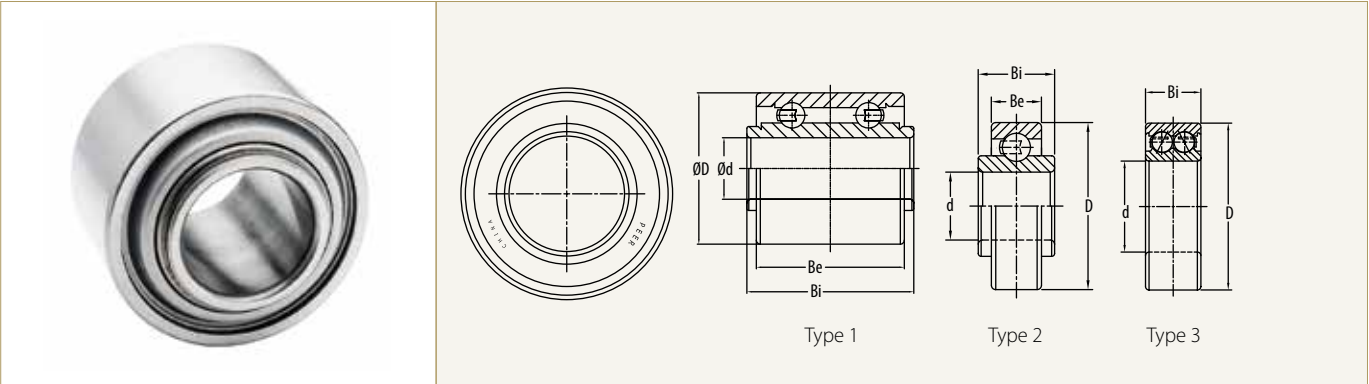
Disc opener Flanged disc bearings



Detailed seal design description located on page 8

| PEER Part Number      | C      |      | E            |            | d      |        | D      |      | L      |       | Bi     |      | Be     |      | Seal Type |
|-----------------------|--------|------|--------------|------------|--------|--------|--------|------|--------|-------|--------|------|--------|------|-----------|
|                       | [inch] | [mm] | [inch]       | [mm]       | [inch] | [mm]   | [inch] | [mm] | [inch] | [mm]  | [inch] | [mm] | [inch] | [mm] |           |
| BB304-KPP50-R-P6F-A48 | 0.8268 | 21   | 6 x Ø 0.3748 | 6 x Ø 9.52 | 0.6350 | 16.129 | 3.0000 | 76.2 | 3.8123 | 96.84 | 0.9688 | 24.6 | 0.7205 | 18.3 | 3 Lips    |

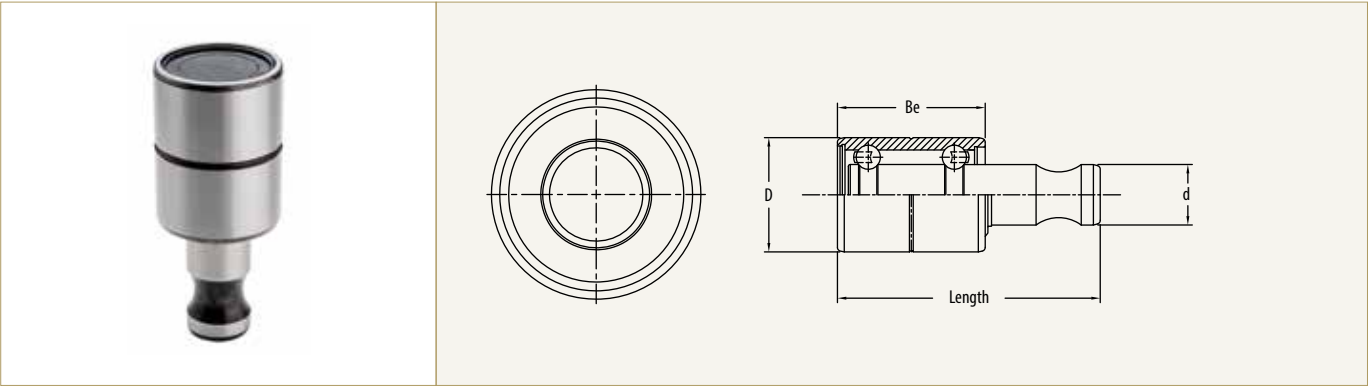
Gauge wheel



Detailed seal design description located on page 8

| PEER Part Number  | Type | d      |        | D      |      | Bi     |        | Be     |       | Seal Type |
|-------------------|------|--------|--------|--------|------|--------|--------|--------|-------|-----------|
|                   |      | [inch] | [mm]   | [inch] | [mm] | [inch] | [mm]   | [inch] | [mm]  |           |
| 5203KPP2          | 1    | 0.64   | 16.256 | 1.5748 | 40   | 1.7370 | 44.12  | 1.5402 | 39.12 | 3 Lips    |
| 5203KYY2          | 1    | 0.64   | 16.256 | 1.5748 | 40   | 1.7370 | 44.12  | 1.5402 | 39.12 | 2 Lips    |
| 5203-KRR2-R-A230  | 1    | 0.64   | 16.256 | 1.5748 | 40   | 1.7370 | 44.12  | 1.5402 | 39.12 | G         |
| 5203KYY50         | 1    | 0.624  | 15.85  | 1.5748 | 40   | 1.1969 | 30.4   | 1      | 25.4  | 2 Lips    |
| 5203-ZZ           | 3    | 0.6693 | 17     | 1.5748 | 40   | 0.6875 | 17.463 | -      | -     | Z         |
| 203KRR2           | 2    | 0.6400 | 16.256 | 1.5748 | 40   | 0.7200 | 18.288 | 0.4724 | 12    | R         |
| *5203-KMF-R-A120  | 1    | 0.6400 | 16.256 | 1.5748 | 40   | 1.737  | 44.12  | 1.5402 | 39.12 | 6 Lips    |
| * PEER SEEDXTREME |      |        |        |        |      |        |        |        |       |           |

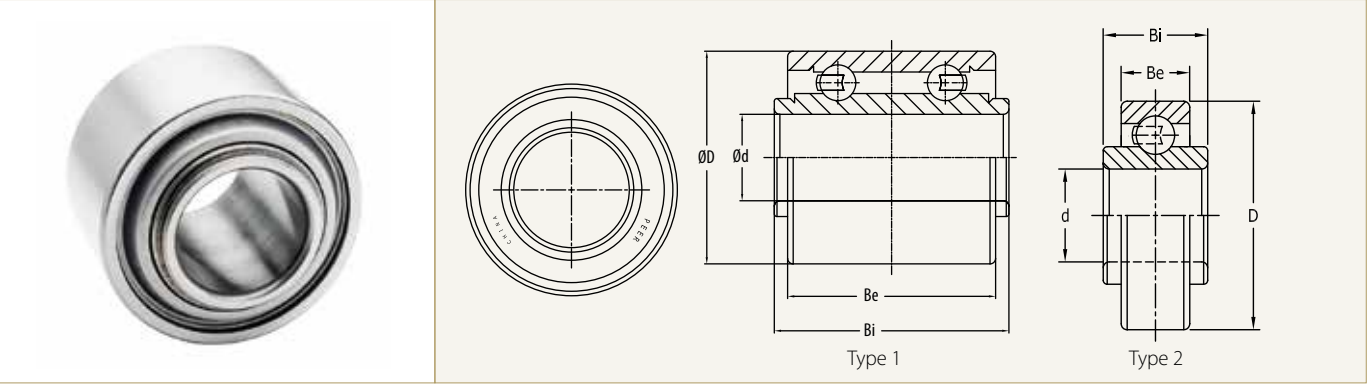
Gauge wheel



Detailed seal design description located on page 8

| PEER Part Number   | d      |       | D      |      | Be     |      | Length |      | Seal Type |
|--------------------|--------|-------|--------|------|--------|------|--------|------|-----------|
|                    | [inch] | [mm]  | [inch] | [mm] | [inch] | [mm] | [inch] | [mm] |           |
| WP5203-KRP2-N-A217 | 0.6252 | 15.88 | 1.1811 | 30   | 1.5275 | 38.8 | 2.716  | 69   | 3 Lips    |

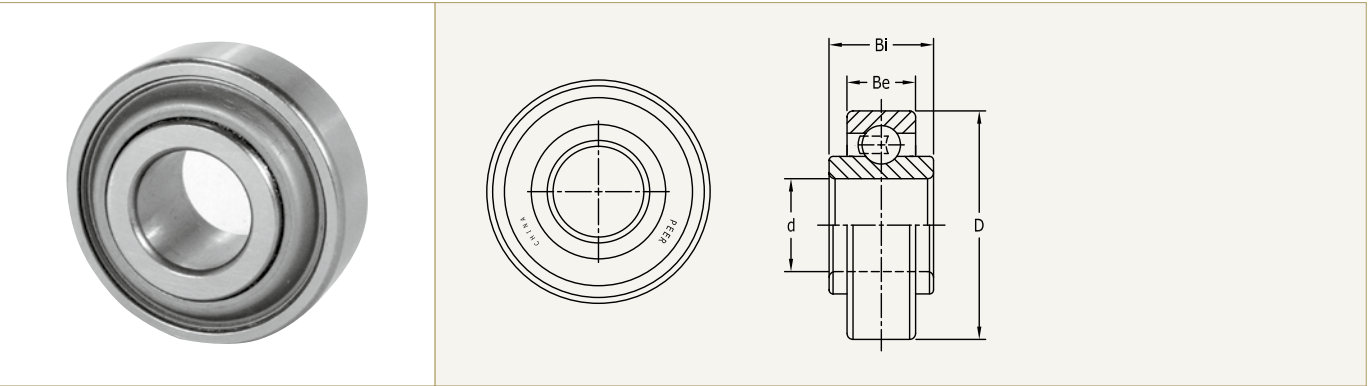
Closing wheel



Detailed seal design description located on page 8

| PEER Part Number | Type | d      |        | D      |      | Bi     |        | Be     |       | Seal Type |
|------------------|------|--------|--------|--------|------|--------|--------|--------|-------|-----------|
|                  |      | [inch] | [mm]   | [inch] | [mm] | [inch] | [mm]   | [inch] | [mm]  |           |
| 5203KPP2         | 1    | 0.6400 | 16.256 | 1.5748 | 40   | 1.7370 | 44.12  | 1.5402 | 39.12 | 3 Lips    |
| 5203KYY2         | 1    | 0.6400 | 16.256 | 1.5748 | 40   | 1.7370 | 44.12  | 1.5402 | 39.12 | 2 Lips    |
| BB203KRR2FD      | 2    | 0.6400 | 16.256 | 1.5748 | 40   | 0.7200 | 18.288 | 0.4724 | 12    | 2 Lips    |

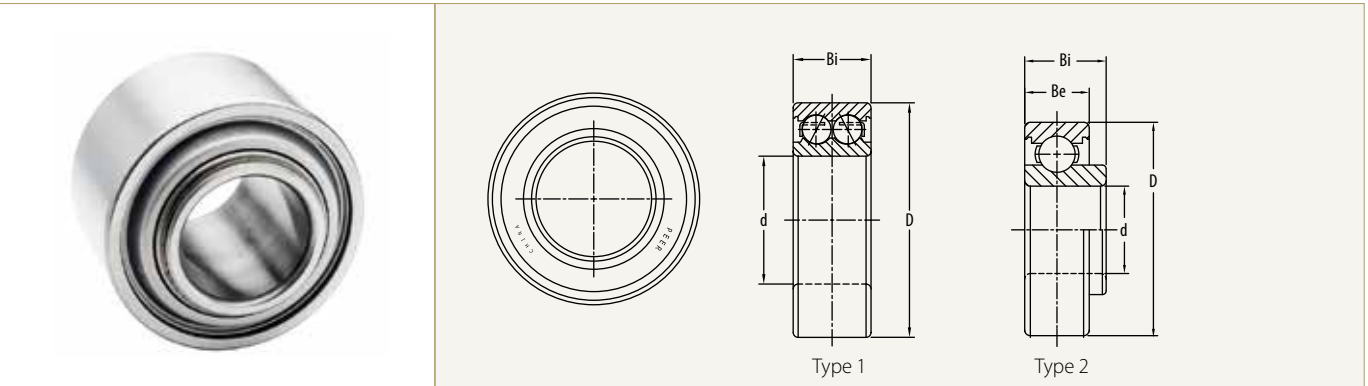
Press wheel



Detailed seal design description located on page 8

| PEER Part Number | d      |        | D      |      | Bi     |        | Be     |      | Seal Type |
|------------------|--------|--------|--------|------|--------|--------|--------|------|-----------|
|                  | [inch] | [mm]   | [inch] | [mm] | [inch] | [mm]   | [inch] | [mm] |           |
| BB203KRR2FD      | 0.6400 | 16.256 | 1.5748 | 40   | 0.7200 | 18.288 | 0.4724 | 12   | 2 Lips    |
| BB203KYY2        | 0.6400 | 16.256 | 1.5748 | 40   | 0.7200 | 18.288 | 0.4724 | 12   | 2 Lips    |
| BB203KRR5        | 0.5150 | 13.081 | 1.5748 | 40   | 0.7200 | 18.288 | 0.4724 | 12   | R         |

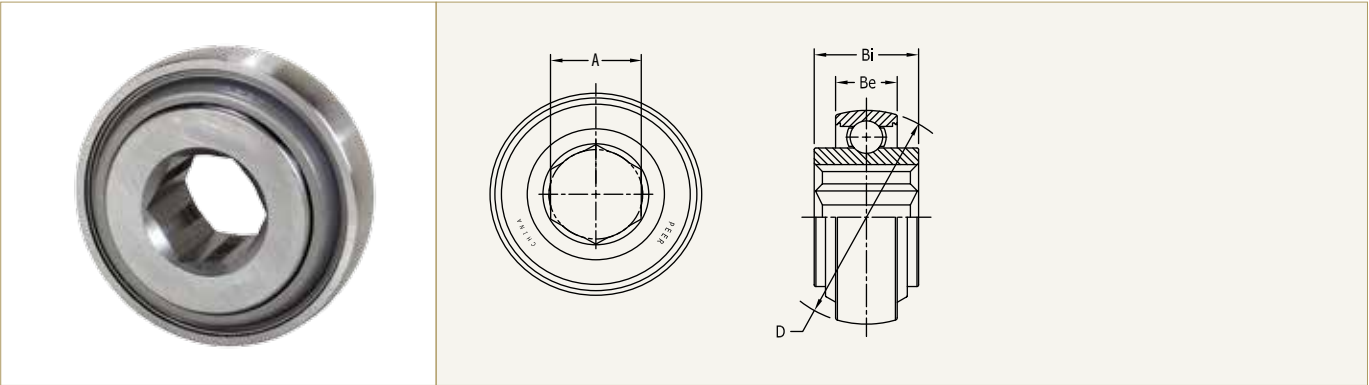
Row marker



Detailed seal design description located on page 8

| PEER Part Number | Type | d      |        | D      |      | Bi     |       | Be     |      | Seal Type |
|------------------|------|--------|--------|--------|------|--------|-------|--------|------|-----------|
|                  |      | [inch] | [mm]   | [inch] | [mm] | [inch] | [mm]  | [inch] | [mm] |           |
| 206KRP4          | 2    | 0.9900 | 25.146 | 2.4409 | 62   | 0.8750 | 22.23 | 0.7087 | 18   | 3 Lips    |
| 5204KRP50        | 1    | 0.6350 | 16.129 | 1.8504 | 47   | 1.1024 | 28.00 | /      | /    | 3 Lips    |

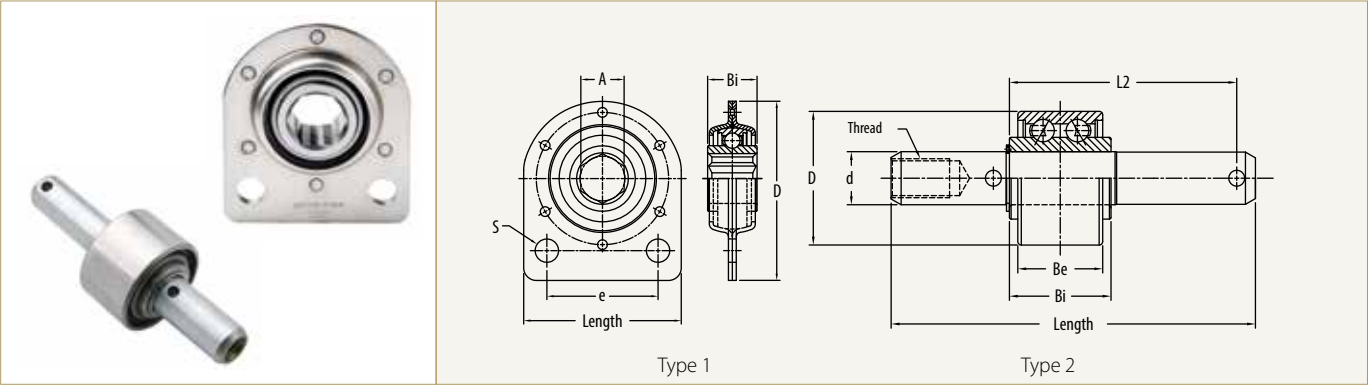
Seedmeter drive shaft



Detailed seal design description located on page 8

| PEER Part Number  | A      |       | D      |      | Bi     |        | Be     |      | Seal Type |
|-------------------|--------|-------|--------|------|--------|--------|--------|------|-----------|
|                   | [inch] | [mm]  | [inch] | [mm] | [inch] | [mm]   | [inch] | [mm] |           |
| 205KPPB54         | 0.8760 | 22.25 | 2.0472 | 52   | 0.903  | 22.936 | 0.5906 | 15   | 3 Lips    |
| Z206-KRR52-H-A415 | 0.8940 | 22.7  | 2.441  | 62   | 0.866  | 22     | 0.63   | 16   | G         |

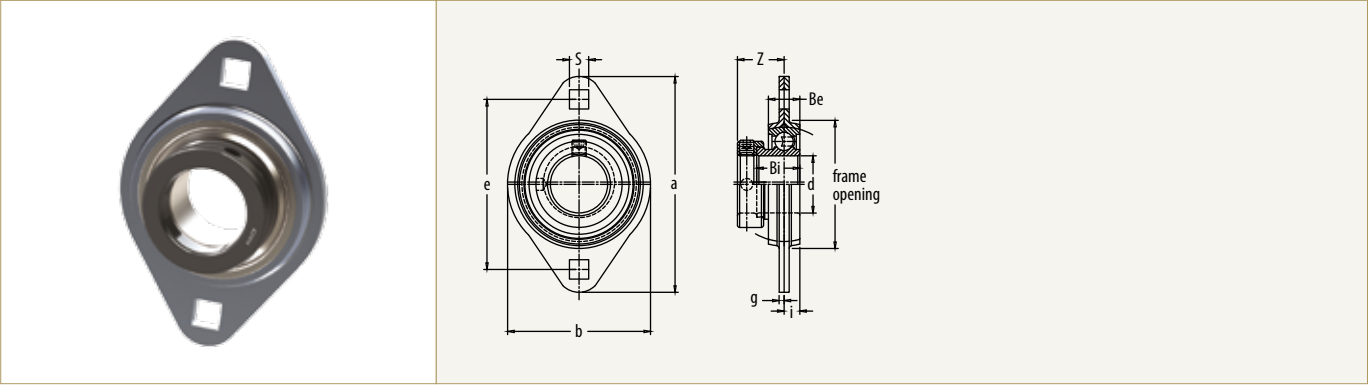
Seedmeter drive shaft



Detailed seal design description located on page 8

| PEER Part Number | Type | A      |       | d      |       | D      |       | Bi     |      | Be     |      | e      |       | s      |      | Length |       | L2     |      | Thread     | Seal Type |
|------------------|------|--------|-------|--------|-------|--------|-------|--------|------|--------|------|--------|-------|--------|------|--------|-------|--------|------|------------|-----------|
|                  |      | [inch] | [mm]  | [inch] | [mm]  | [inch] | [mm]  | [inch] | [mm] | [inch] | [mm] | [inch] | [mm]  | [inch] | [mm] | [inch] | [mm]  | [inch] | [mm] |            |           |
| 2BF205-7/8HX     | 1    | 0.876  | 22.25 | /      | /     | 3.625  | 92.08 | 1      | 25.4 | /      | /    | 2.25   | 57.15 | 0.4724 | 12   | 3.188  | 80.98 | /      | /    | /          | 3 Lips    |
| 5203KYY50-ASSY   | 2    | /      | /     | 0.6240 | 15.85 | 1.5748 | 40    | 1.1969 | 30.4 | 1      | 25.4 | /      | /     | /      | /    | 4.291  | 109   | 2.677  | 68   | M10X1.5-6H | 2 Lips    |

Seedmeter drive shaft



Detailed seal design description located on page 8

| PEER Part Number | d      |      | a      |      | e      |      | i      |      | g      |      | frame opening |      | s      |             | z      |      | Bi     |      | Be     |      | b      |      | Seal Type |
|------------------|--------|------|--------|------|--------|------|--------|------|--------|------|---------------|------|--------|-------------|--------|------|--------|------|--------|------|--------|------|-----------|
|                  | [inch] | [mm] | [inch] | [mm] | [inch] | [mm] | [inch] | [mm] | [inch] | [mm] | [inch]        | [mm] | [inch] | [mm]        | [inch] | [mm] | [inch] | [mm] | [inch] | [mm] | [inch] | [mm] |           |
| FHPFL208-40MM-AP | 1.575  | 40   | 5.945  | 151  | 4.69   | 119  | 0.433  | 11   | 0.12   | 3    | 3.543         | 90   | 0.531  | 13.5 square | 0.04   | 32.7 | 1.189  | 30.2 | 0.866  | 22   | 3.937  | 100  | F         |



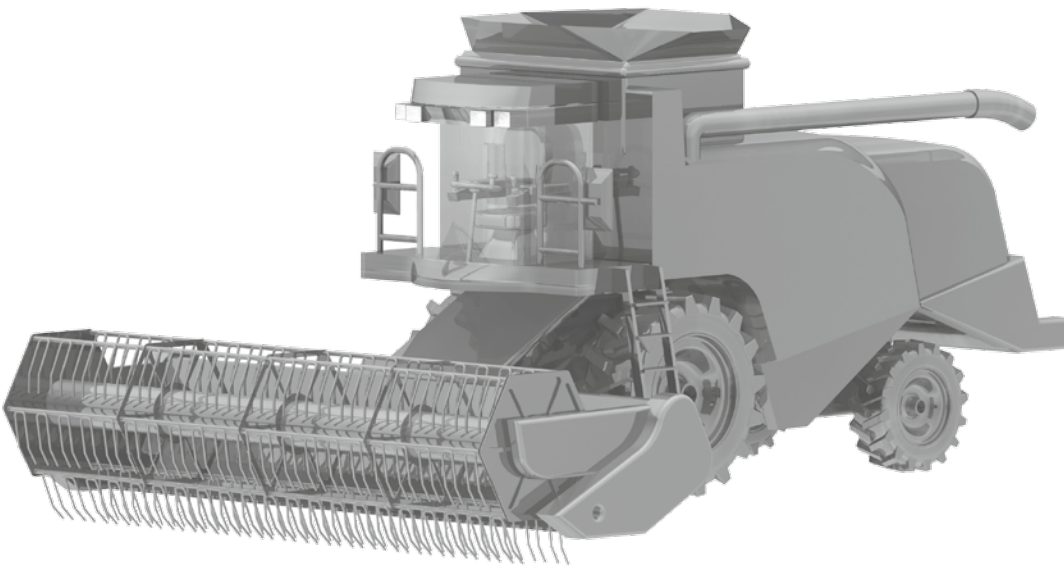
Combine Bearings

A combine harvester has the following main functional units:

- Header and feeder house: cutting of crops and transportation into the threshing unit
- Threshing unit: threshing of crop in order to loosen the grain from chaff and dust
- Shaker: separation of dust, straw, chaff and grain as well as movement of straw towards the straw chopper or spreader
- Cleaning unit: cleaning of grain using air ventilation to achieve clean grain

- Grain tank, auger: storage, transportation and unloading of grain
- Straw chopper and straw spreader: chopping and spreading of straw residue

After cutting and threshing, the desired crop is separated from dust, chaff and straw. Optionally the straw is chopped and the residue is left on field.



Bearing solutions for:

- Auger bearings, page 33
- Feederhouse bearings, page 34
- Draper head bearings, page 34
- Corn head bearings, page 35
- Conveyor roller bearings, page 35
- Cleaning system shaker drive shaft bearings, page 36
- Clean grain elevator bearings, page 36

Application challenges

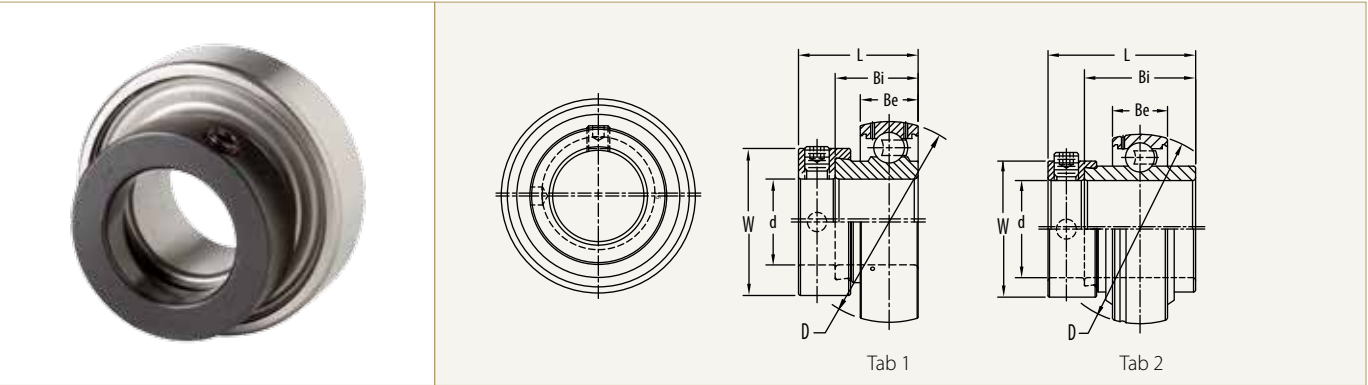
Common application conditions and environment

- A combine has several different bearing positions, each with similar conditions but having unique challenges:
- Dry, dust-filled environment; several positions have direct crop contact
  - Medium to high speed (500 - 2000 min<sup>-1</sup>)
  - Crop wrap and abrasive wear of bearing components
  - Shock loads can be common

PEER proven engineering solutions

- Bolt-on performance
  - ⇒ Full range of stamped steel and cast iron housings
  - ⇒ Common use of set screws, eccentric lock collars or hex bore bearings
- Increased productivity and bearing life in field due to:
  - ⇒ High contamination feature package with seals matched to the application
- Increased speed to the market
  - ⇒ PEER bearing solutions are interchangeable with industry standard designs
  - ⇒ PEER offers one of the industry's largest range of high performance combine bearings

Auger



Detailed seal design description located on page 8

Table 1

| PEER Part Number | d      |        | D      |      | Bi     |      | Be     |      | L      |       | W      |      | Seal Type |
|------------------|--------|--------|--------|------|--------|------|--------|------|--------|-------|--------|------|-----------|
|                  | [inch] | [mm]   | [inch] | [mm] | [inch] | [mm] | [inch] | [mm] | [inch] | [mm]  | [inch] | [mm] |           |
| FH205-14-AP      | 0.8750 | 22.225 | 2.0472 | 52   | 0.8465 | 21.5 | 0.5906 | 15   | 1.22   | 31    | 1.5    | 38.1 | F         |
| FH205-16-AP      | 1.0000 | 25.4   | 2.0472 | 52   | 0.8465 | 21.5 | 0.5906 | 15   | 1.22   | 31    | 1.5    | 38.1 | F         |
| FH205-25MM-AP    | 0.9843 | 25     | 2.0472 | 52   | 0.8465 | 21.5 | 0.5906 | 15   | 1.22   | 31    | 1.5    | 38.1 | F         |
| FH206-18-AP      | 1.1250 | 28.575 | 2.4409 | 62   | 0.9370 | 23.8 | 0.7087 | 18   | 1.4055 | 35.7  | 1.7520 | 44.5 | F         |
| FH206-19-AP      | 1.1875 | 30.162 | 2.4409 | 62   | 0.9370 | 23.8 | 0.7087 | 18   | 1.4055 | 35.7  | 1.7520 | 44.5 | F         |
| FH206-20-AP      | 1.2500 | 31.75  | 2.4409 | 62   | 0.9370 | 23.8 | 0.7087 | 18   | 1.4055 | 35.7  | 1.7520 | 44.5 | F         |
| FH206-30MM-AP    | 1.1811 | 30     | 2.4409 | 62   | 0.9370 | 23.8 | 0.7087 | 18   | 1.4063 | 35.72 | 1.7520 | 44.5 | F         |
| FH207-20-AP      | 1.2500 | 31.75  | 2.8346 | 72   | 1.0000 | 25.4 | 0.7480 | 19   | 1.5315 | 38.9  | 2.1890 | 55.6 | F         |
| FH207-22-AP      | 1.3750 | 34.925 | 2.8346 | 72   | 1.0000 | 25.4 | 0.7480 | 19   | 1.5315 | 38.9  | 2.1890 | 55.6 | F         |
| FH207-23         | 1.4375 | 36.512 | 2.8346 | 72   | 1.0000 | 25.4 | 0.7480 | 19   | 1.5315 | 38.9  | 2.1890 | 55.6 | F         |
| FH207-35MM-AP    | 1.3780 | 35     | 2.8346 | 72   | 1.0000 | 25.4 | 0.7480 | 19   | 1.5315 | 38.9  | 2.1890 | 55.6 | F         |
| FH208-24-AP      | 1.5000 | 38.1   | 3.1496 | 80   | 1.1890 | 30.2 | 0.8661 | 22   | 1.7205 | 43.7  | 2.3740 | 60.3 | F         |
| FH208-40MM-AP    | 1.5748 | 40     | 3.1496 | 80   | 1.1890 | 30.2 | 0.8661 | 22   | 1.7205 | 43.7  | 2.3740 | 60.3 | F         |
| FH209-28-AP      | 1.7500 | 44.45  | 3.3465 | 85   | 1.1890 | 30.2 | 0.8661 | 22   | 1.7205 | 43.7  | 2.5000 | 63.5 | F         |
| FH209-45MM-AP    | 1.7717 | 45     | 3.3465 | 85   | 1.1890 | 30.2 | 0.8661 | 22   | 1.7205 | 43.7  | 2.5000 | 63.5 | F         |

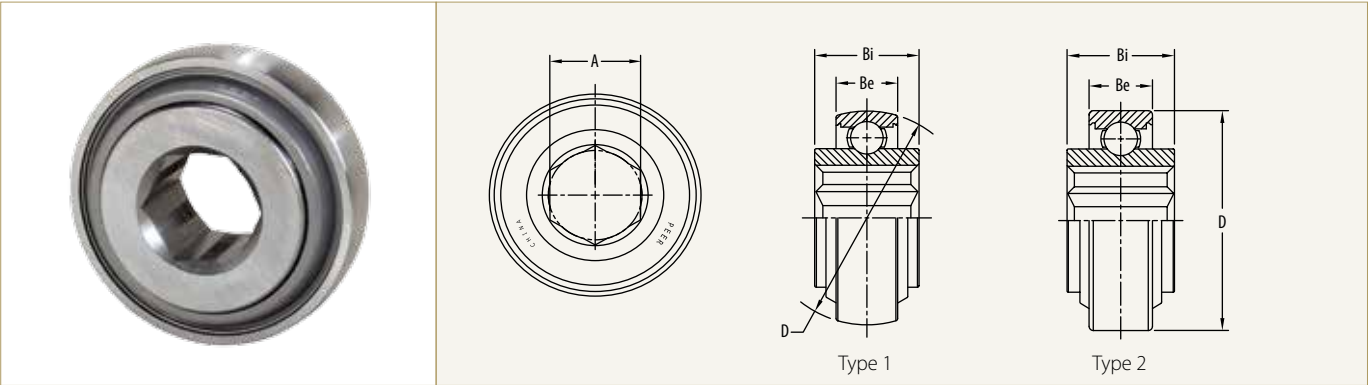
Table 2

| PEER Part Number     | d      |        | D      |      | Bi     |      | Be     |      | L                 |       | W                 |       | Seal Type |
|----------------------|--------|--------|--------|------|--------|------|--------|------|-------------------|-------|-------------------|-------|-----------|
|                      | [inch] | [mm]   | [inch] | [mm] | [inch] | [mm] | [inch] | [mm] | [inch]            | [mm]  | [inch]            | [mm]  |           |
| HC205-16-AP          | 1.0000 | 25.4   | 2.0472 | 52   | 1.3701 | 34.8 | 0.5906 | 15   | 1.7441            | 44.30 | 1.7520            | 44.50 | *         |
| HC206-19-GO-AP       | 1.1875 | 30.162 | 2.4409 | 62   | 1.4331 | 36.4 | 0.7087 | 18   | 1.9016            | 48.30 | 1.7520            | 44.50 | *         |
| HC206-20-AP          | 1.2500 | 31.75  | 2.4409 | 62   | 1.4331 | 36.4 | 0.7087 | 18   | 1.9016            | 48.30 | 1.7520            | 44.50 | *         |
| HC206-30MM-GO-AP     | 1.1811 | 30     | 2.4409 | 62   | 1.4331 | 36.4 | 0.7087 | 18   | 1.9016            | 48.30 | 1.7520            | 44.50 | *         |
| HC207-20-AP          | 1.2500 | 31.75  | 2.8346 | 72   | 1.4803 | 37.6 | 0.7480 | 19   | 2.0118            | 51.10 | 2.1890            | 55.60 | *         |
| HC207-22-AP          | 1.3750 | 34.925 | 2.8346 | 72   | 1.4803 | 37.6 | 0.7480 | 19   | 2.0118            | 51.10 | 2.1890            | 55.60 | *         |
| HC207-23             | 1.4375 | 36.513 | 2.8346 | 72   | 1.4803 | 37.6 | 0.7480 | 19   | 2.0118            | 51.10 | 2.1890            | 55.60 | *         |
| HC207-35MM-AP        | 1.3780 | 35     | 2.8346 | 72   | 1.4803 | 37.6 | 0.7480 | 19   | 2.0118            | 51.10 | 2.1890            | 55.60 | *         |
| HC208-24-AP          | 1.5000 | 38.1   | 3.1496 | 80   | 1.6850 | 42.8 | 0.8661 | 22   | 2.2200            | 56.30 | 2.3740            | 60.30 | *         |
| HC209-26-GO-AP       | 1.6250 | 41.275 | 3.3465 | 85   | 1.6850 | 42.8 | 0.8661 | 22   | 2.2165            | 56.30 | 2.5000            | 63.50 | *         |
| HC209-28-AP          | 1.7500 | 44.45  | 3.3465 | 85   | 1.6850 | 42.8 | 0.8661 | 22   | 2.2165            | 56.30 | 2.5000            | 63.50 | *         |
| HC207-22-XO-AP-NLC** | 1.3750 | 34.925 | 2.8346 | 72   | 1.4803 | 37.6 | 0.7480 | 19   | no locking collar |       | no locking collar |       | *         |

\*single lip or triple lips can be used, \*\*without locking collar



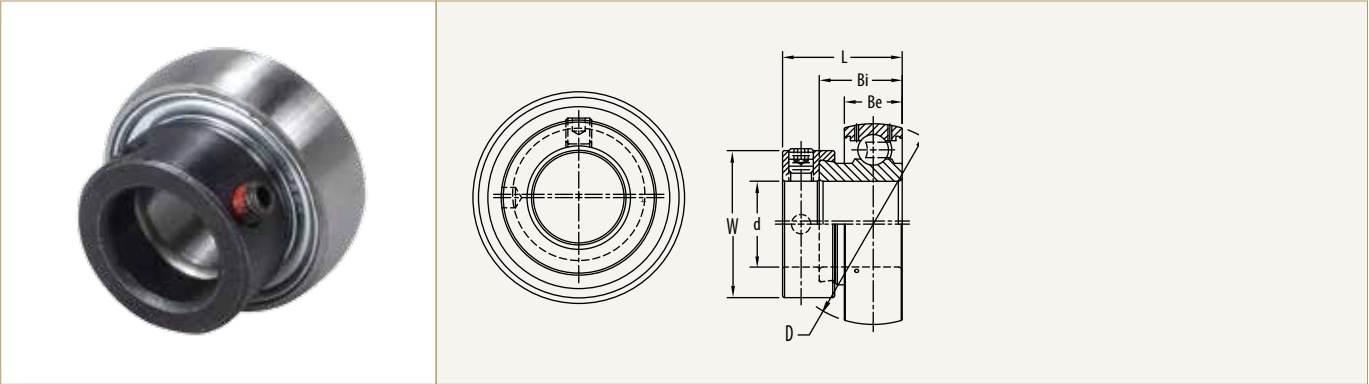
Feederhouse/Draper head



Detailed seal design description located on page 8

| PEER Part Number | Type | A      |        | D      |      | Bi     |        | Be     |      | Seal Type |
|------------------|------|--------|--------|--------|------|--------|--------|--------|------|-----------|
|                  |      | [inch] | [mm]   | [inch] | [mm] | [inch] | [mm]   | [inch] | [mm] |           |
| 209KRRB2         | 1    | 1.5000 | 38.1   | 3.3465 | 85   | 1.1811 | 30     | 0.7480 | 19   | G         |
| W208PPB16        | 1    | 1.2512 | 31.78  | 3.1496 | 80   | 1.4374 | 36.51  | 0.7087 | 18   | 3 Lips    |
| W211KRRB50       | 1    | 1.7510 | 44.475 | 3.9370 | 100  | 1.6875 | 42.862 | 0.9843 | 25   | G         |
| Draper head      |      |        |        |        |      |        |        |        |      |           |
| 204KRR2          | 2    | 0.6950 | 17.653 | 1.8504 | 47   | 0.8250 | 20.955 | 0.5512 | 14   | G         |
| 207KRRB9         | 1    | 1.1260 | 28.6   | 2.8346 | 72   | 1.4844 | 37.704 | 0.6693 | 17   | G         |

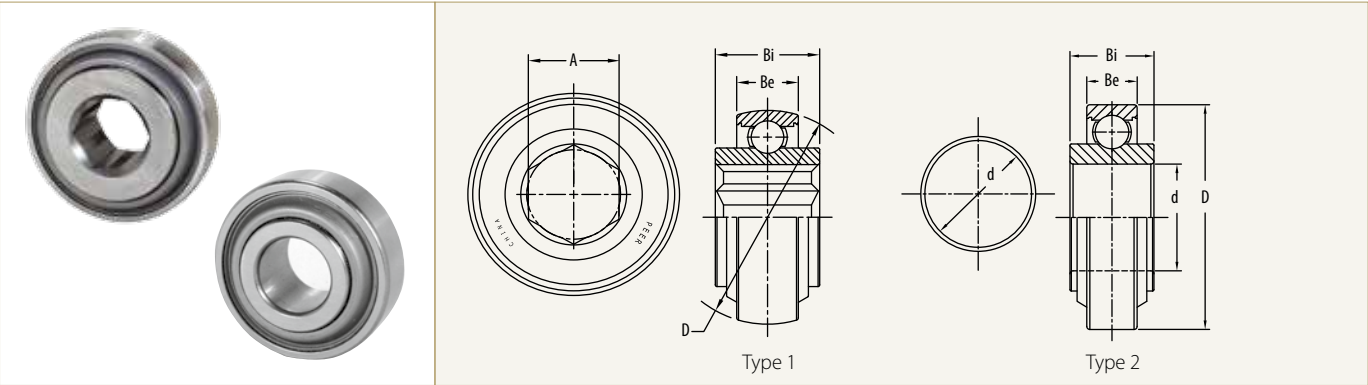
Draper head



Detailed seal design description located on page 8

| PEER Part Number | d      |        | D      |      | Bi     |      | Be     |      | L      |      | W      | Seal Type |
|------------------|--------|--------|--------|------|--------|------|--------|------|--------|------|--------|-----------|
|                  | [inch] | [mm]   | [inch] | [mm] | [inch] | [mm] | [inch] | [mm] | [inch] | [mm] | [inch] |           |
| FH206-18-AP      | 1.1250 | 28.575 | 2.4409 | 62   | 0.9370 | 23.8 | 0.7087 | 18   | 1.4055 | 35.7 | 1.7520 | F         |

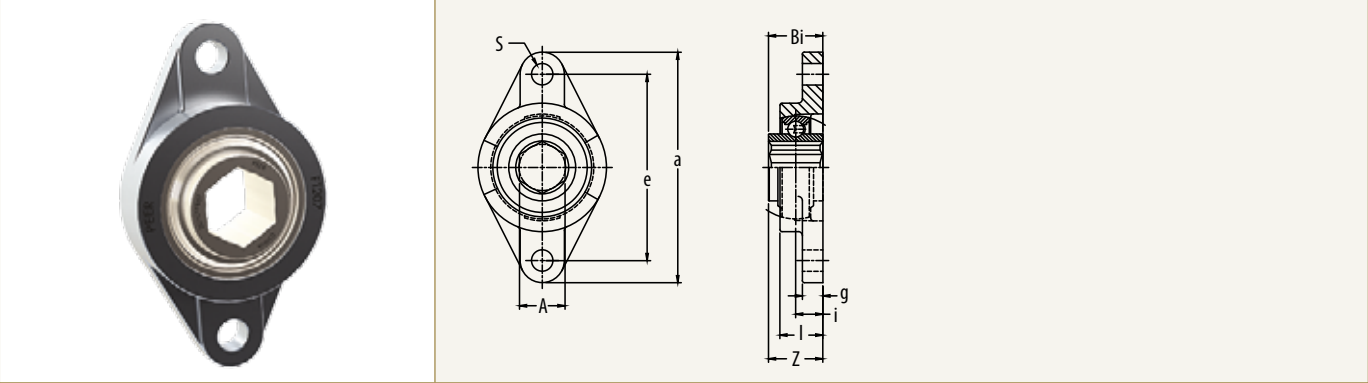
Corn head



Detailed seal design description located on page 8

| PEER Part Number | Type | A/d    |        | D      |      | Bi     |        | Be     |      | Seal Type |
|------------------|------|--------|--------|--------|------|--------|--------|--------|------|-----------|
|                  |      | [inch] | [mm]   | [inch] | [mm] | [inch] | [mm]   | [inch] | [mm] |           |
| 207KPPB57        | 1    | 1.2510 | 31.775 | 2.8346 | 72   | 1.4941 | 37.95  | 0.7480 | 19   | 3 Lips    |
| 203KPP50         | 2    | 0.6400 | 16.256 | 1.5748 | 40   | 0.7200 | 18.288 | 0.4724 | 12   | 3 Lips    |

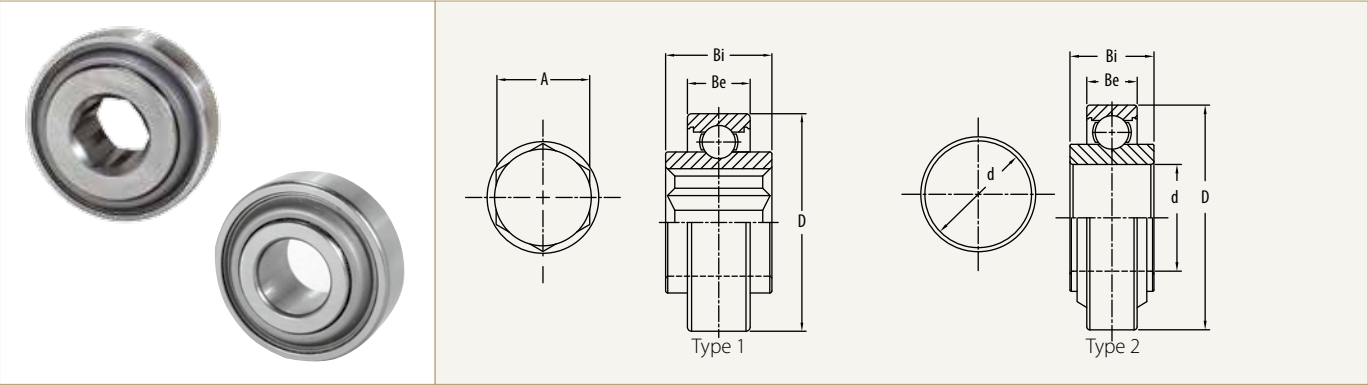
Corn head



Detailed seal design description located on page 8

| PEER Part Number    | Type | A      |        | a      |       | e      |       | i      |      | g      |      | l      |      | S      |      | Z      |       | Bi     |       | b      |      | Seal Type |
|---------------------|------|--------|--------|--------|-------|--------|-------|--------|------|--------|------|--------|------|--------|------|--------|-------|--------|-------|--------|------|-----------|
|                     |      | [inch] | [mm]   | [inch] | [mm]  | [inch] | [mm]  | [inch] | [mm] | [inch] | [mm] | [inch] | [mm] | [inch] | [mm] | [inch] | [mm]  | [inch] | [mm]  | [inch] | [mm] |           |
| 207-KPPB57-H-FT-A17 | 1    | 1.2510 | 31.775 | 6.3430 | 161.1 | 5.1260 | 130.2 | 0.7480 | 19   | 0.5630 | 14.3 | 1.1811 | 30   | 0.5906 | 15   | 1.4953 | 37.98 | 1.4941 | 37.95 | 3.5315 | 89.7 | 3 Lips    |

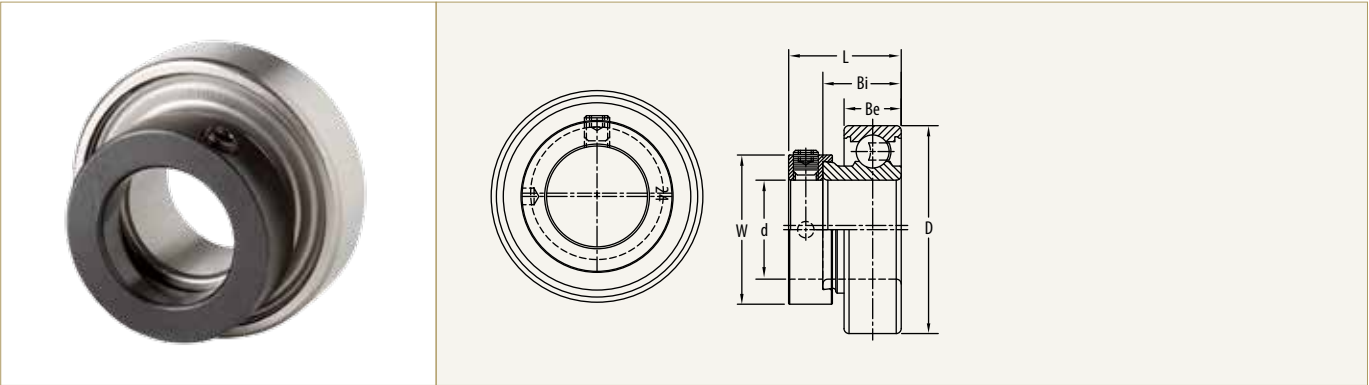
Conveyor rollers



Detailed seal design description located on page 8

| PEER Part Number | Type | A/d    |        | D      |      | Bi     |        | Be     |      | Seal Type |
|------------------|------|--------|--------|--------|------|--------|--------|--------|------|-----------|
|                  |      | [inch] | [mm]   | [inch] | [mm] | [inch] | [mm]   | [inch] | [mm] |           |
| 206KRR6          | 1    | 1.0010 | 25.425 | 2.4409 | 62   | 0.9449 | 24     | 0.6299 | 16   | R         |
| 204KRR2          | 1    | 0.6950 | 17.653 | 1.8504 | 47   | 0.8250 | 20.955 | 0.5512 | 14   | R         |
| 207KRR3          | 2    | 1.3780 | 35     | 2.8346 | 72   | 0.9843 | 25     | 0.6693 | 17   | G         |

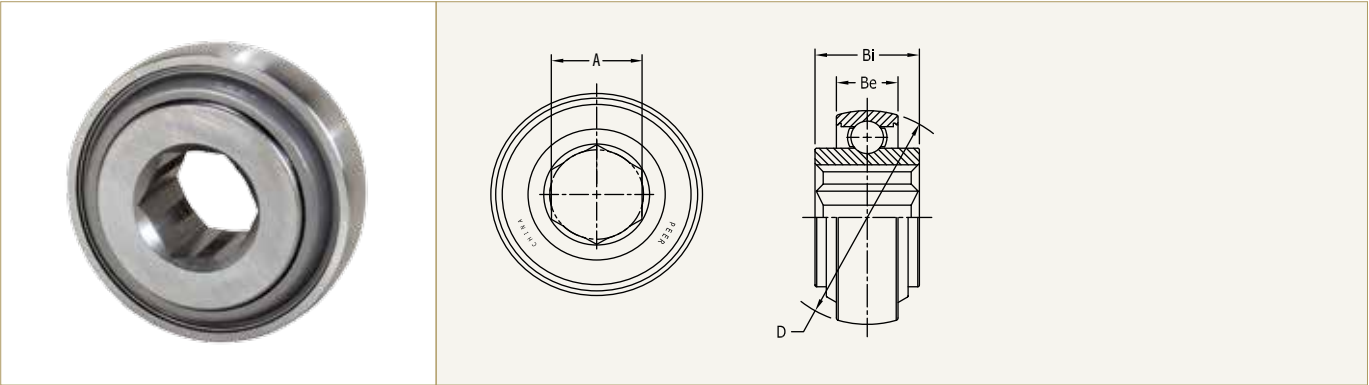
Conveyor rollers



Detailed seal design description located on page 8

| PEER Part Number | d      |        | D      |      | Bi     |      | Be     |      | L      |      | W      |      | Seal Type |
|------------------|--------|--------|--------|------|--------|------|--------|------|--------|------|--------|------|-----------|
|                  | [inch] | [mm]   | [inch] | [mm] | [inch] | [mm] | [inch] | [mm] | [inch] | [mm] | [inch] | [mm] |           |
| FHR207-22-AP-SP2 | 1.3750 | 34.925 | 2.8346 | 72   | 1.0000 | 25.4 | 0.7480 | 19   | 1.5315 | 38.9 | 2.1890 | 55.6 | F         |

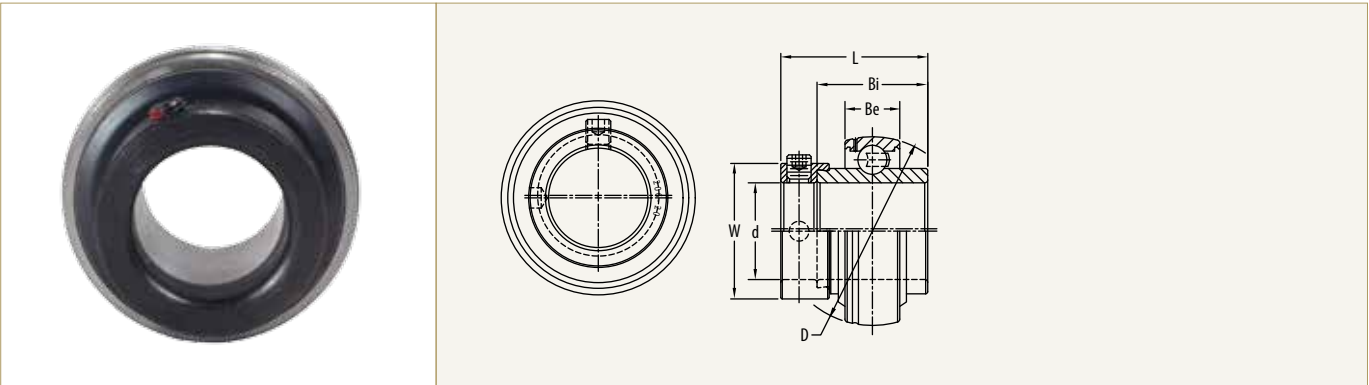
Cleaning system shaker drive shaft



Detailed seal design description located on page 8

| PEER Part Number | A      |       | D      |      | Bi     |      | Be     |      | Seal Type |
|------------------|--------|-------|--------|------|--------|------|--------|------|-----------|
|                  | [inch] | [mm]  | [inch] | [mm] | [inch] | [mm] | [inch] | [mm] |           |
| 205KPPB2         | 0.8760 | 22.25 | 2.0472 | 52   | 1.0000 | 25.4 | 0.5906 | 15   | 3 Lips    |
| 208KPPB52        | 1.1260 | 28.6  | 3.1496 | 80   | 1.1024 | 28   | 0.7087 | 18   | 3 Lips    |

Clean Grain Elevator



Detailed seal design description located on page 8

| PEER Part Number | d      |      | D      |      | Bi     |      | Be     |      | L      |         | W      |         | Seal Type |
|------------------|--------|------|--------|------|--------|------|--------|------|--------|---------|--------|---------|-----------|
|                  | [inch] | [mm] | [inch] | [mm] | [inch] | [mm] | [inch] | [mm] | [inch] | [mm]    | [inch] | [mm]    |           |
| HC207-35MM-AP    | 1.3780 | 35   | 2.8346 | 72   | 1.4803 | 37.6 | 0.7480 | 19   | 2.0118 | 51.1000 | 2.1890 | 55.6000 | *         |
| HC208-40MM-AP    | 1.5748 | 40   | 3.1496 | 80   | 1.6850 | 42.8 | 0.8661 | 22   | 2.2165 | 56.3000 | 2.3740 | 60.3000 | *         |

\*single lip or triple lips can be used



Baler Bearings

To harvest fodder, (such as tall grasses and legumes) or plant residue (such as corn stalks, wheat straw or peanut vines) crops are first cut, dried to specific moisture content, and formed into a windrow. Then balers pick up and compact the crop to form round or square bales for ease of transport and storage.

The more recent practice of baling corn stalks and peanut vines creates extra stress on the internal components of balers and special, heavy duty bearing designs have been created to provide the expected reliability to accommodate this practice.

Round balers use belts or chains to roll crop into round bales and can have either variable or fixed chambers. Inside the baling chamber it is formed and compressed and discharged on the field afterwards to be collected and stored.

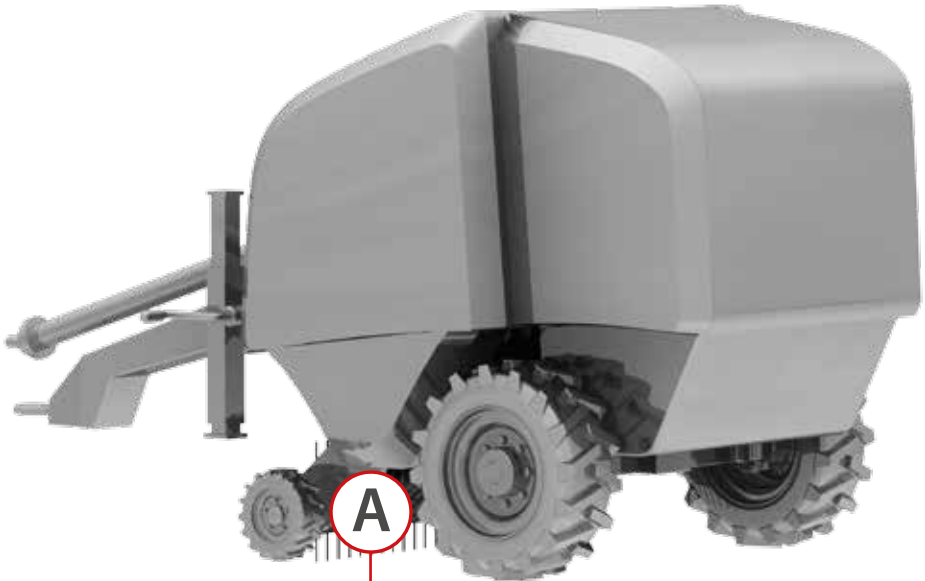
Square balers form the crop residue in square bales: augers feed the straw into the baling chamber for compression. Plungers give the bale the density and shape - when the appropriate length and shape of the bale is reached, the bale is tied and exits the chamber.

Typical weight of bale:

- 635 Kg / 1400 lbs large (square bale)
- 20 - 40 Kg / 50 – 100 lbs small (square bale)

Additional applications:

- Roller bearings
  - ⇒ Drive roll, page 42
  - ⇒ Idler roll, page 40
- Implement wheel, page 49



Bearing solutions for:

- Pickup tine bar, page 45
- Pickup cam follower, page 44

### Application challenges

The baler has several different bearing positions, each with similar conditions but having unique challenges. In a high level, it can be broken up into the following sections:

- Pickup
- Bale chamber

Load and contamination typically contribute to bearing damage.

### Pickup assembly application condition

The pickup assembly rakes the hay from the windrow into the baling chamber. Tine bar, pickup drum and cam follower are all part of the pickup subassembly.

- The tine bar is a bar of tine that rakes the hay off the field and into the baling chamber
- The cam follower creates a flipping action to the tine bar to deposit the hay into the baling chamber

### Tine bar application condition

- Four to six tine bars on a reel with two bearings supporting each tine bar
- Exposed to oscillating motion from the pickup cam follower
- Medium to high contamination due to dry and wrapping hay and contact with soil

### Proven engineered solutions:

#### Tine bar bearings

#### Benefits and functional features:

- Increased productivity and operating life in field due to:
  - ⇒ High contamination feature package with exclusive sealing system
- Bolt-on performance:
  - ⇒ For ease of mounting an extended inner ring with through hole for roll-pin

### Cam follower application condition

- Each tine bar is connected to two cam followers which ride on a cam track
- Medium to high contamination due to dry and wrapping hay and contact with soil
- High load impacts
- Wear of the OD occurs from contact with cam track

### Proven engineered solutions:

#### Cam follower bearings

#### Benefits and functional features:

- Bolt-on performance:
  - ⇒ Optional stud for ease of mounting
- Increased bearing life in field:
  - ⇒ Double row bearing design offers high load capacity in compact space
  - ⇒ Thick crowned outer ring resists wear and impact
  - ⇒ High contamination feature package

### Bale chamber application condition

Idler roll bearings support and establish the belt tension.

Drive rolls rotate belts at appropriate speed. Both rollers are mostly exposed to the following application conditions:

### Idler and driver roller application conditions

- Two bearings support the roll which spans the width of the bale chamber
- Rolls can either be chain-driven or non-chain-driven with driven rolls typically using larger bearings
- Support bearings placed outside the chamber are exposed to medium contamination
- Support bearings placed inside the chamber are exposed to high contamination
- Loading at the end of a baling cycle combined with shaft deflection can generate severe stress on the internal components of the support bearings

### Proven engineered solutions:

#### Idler, drive roll bearings

#### Benefits and functional features:

- Bolt on performance
  - ⇒ Several mounting and housing options available
- Increased bearing life in field:
  - ⇒ Application specific internal construction accommodates shaft deflection
  - ⇒ High contamination feature package with exclusive sealing system

### Plunger application condition

- Four bearings support the plunger
- Medium to high contamination due to dry and wrapping hay
- High load impacts
- Wear of the outer diameter occurs from rolling contact on the bale chamber

### Proven engineered solutions:

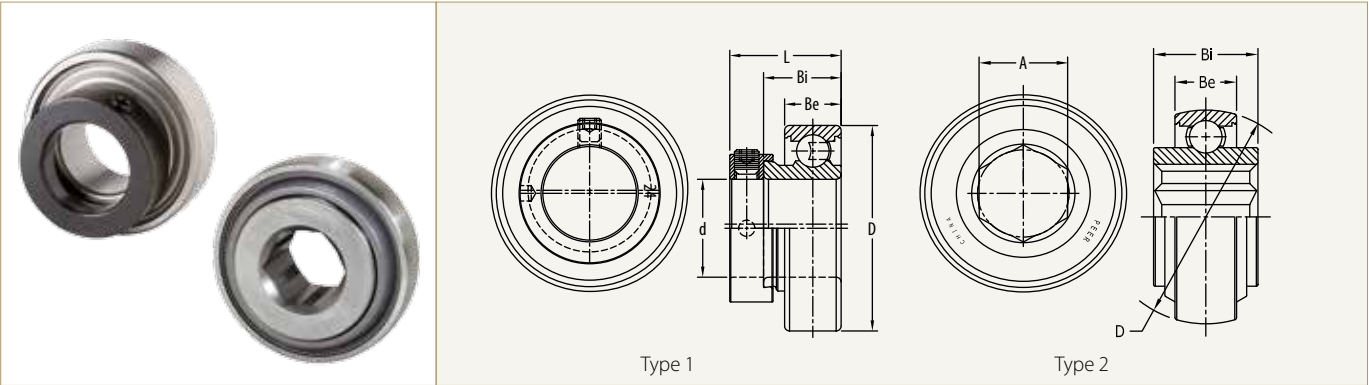
#### Plunger bearings

#### Benefits and functional features:

- Increased bearing life in field:
  - ⇒ Thick crowned outer ring resists wear and impact
  - ⇒ High contamination feature package



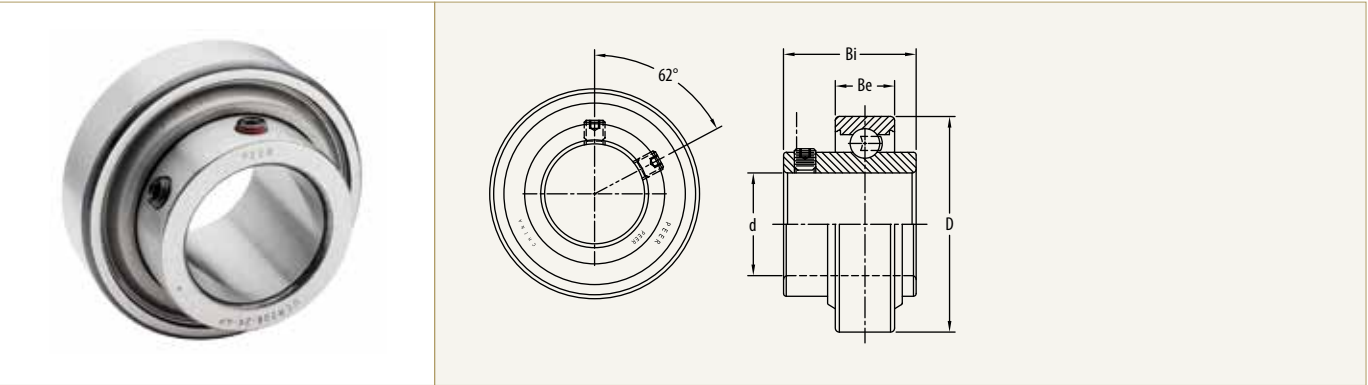
Roller bearings Idler roll



Detailed seal design description located on page 8

| PEER Part Number      | Type | A/d    |        | D      |      | Bi     |        | Be     |      | L      |      | Seal Type |
|-----------------------|------|--------|--------|--------|------|--------|--------|--------|------|--------|------|-----------|
|                       |      | [inch] | [mm]   | [inch] | [mm] | [inch] | [mm]   | [inch] | [mm] | [inch] | [mm] |           |
| FHR208-24-AP          | 1    | 1.5000 | 38.1   | 3.1496 | 80   | 1.1890 | 30.2   | 0.8661 | 22   | 0.1850 | 4.7  | F         |
| GW208-KPPB50-H-OX-A17 | 2    | 1.2510 | 31.775 | 3.1496 | 80   | 1.4375 | 36.512 | 0.8661 | 22   | /      | /    | 3 Lips    |

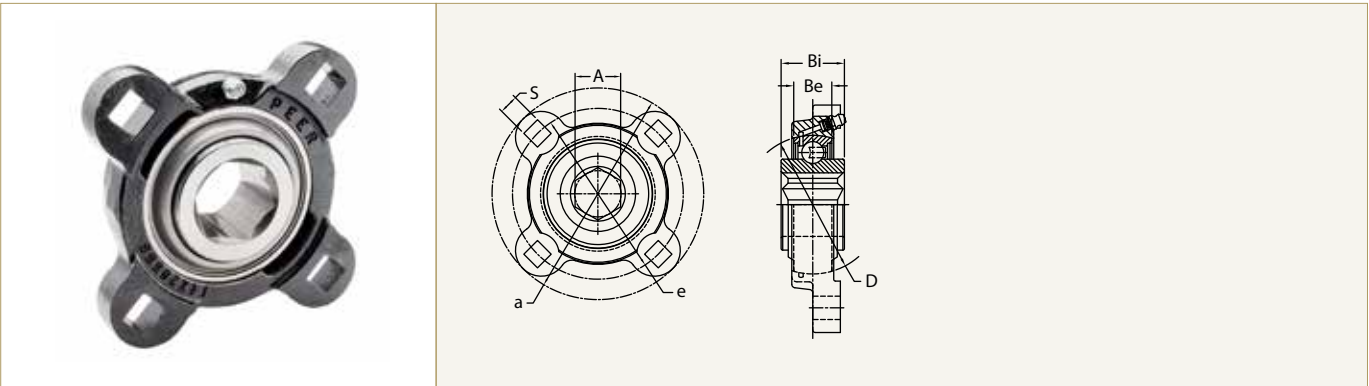
Roller bearings Idler roll



Detailed seal design description located on page 8

| PEER Part Number      | d      |        | D      |      | Bi     |      | Be     |      | Seal Type |
|-----------------------|--------|--------|--------|------|--------|------|--------|------|-----------|
|                       | [inch] | [mm]   | [inch] | [mm] | [inch] | [mm] | [inch] | [mm] |           |
| UCR208-24-AP-TRL-M164 | 1.5000 | 38.1   | 3.1496 | 80   | 1.9370 | 49.2 | 0.8661 | 22   | 3 Lips    |
| UCR212-39-TRL-AP      | 2.4375 | 61.912 | 4.3307 | 110  | 2.5630 | 65.1 | 1.0630 | 27   | 3 Lips    |
| UCR212-39-AP-TRL-M170 | 2.4375 | 61.912 | 4.3307 | 110  | 2.5039 | 63.6 | 0.8661 | 22   | 3 Lips    |

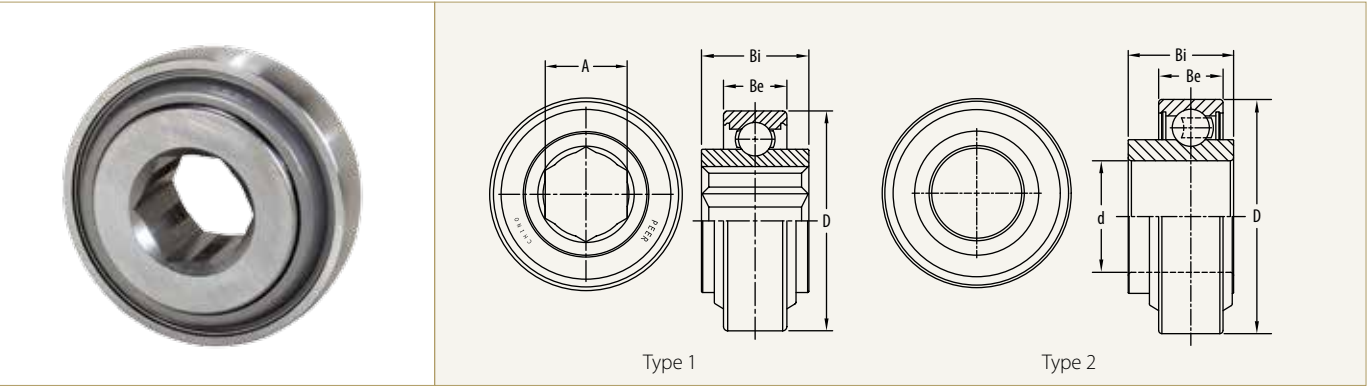
Roller bearings Idler roll



Detailed seal design description located on page 8

| PEER Part Number            | A      |        | D      |      | Bi     |        | Be     |      | e      |         | S               |               | a      |        | Seal Type |
|-----------------------------|--------|--------|--------|------|--------|--------|--------|------|--------|---------|-----------------|---------------|--------|--------|-----------|
|                             | [inch] | [mm]   | [inch] | [mm] | [inch] | [mm]   | [inch] | [mm] | [inch] | [mm]    | [inch]          | [mm]          | [inch] | [mm]   |           |
| GW208-KPPB50-H-OX-DF4X-A226 | 1.2510 | 31.775 | 3.1496 | 80   | 1.4375 | 36.512 | 0.8661 | 22   | 4.6890 | 119.110 | 0.5315 (square) | 13.5 (square) | 5.811  | 147.60 | 3 Lips    |

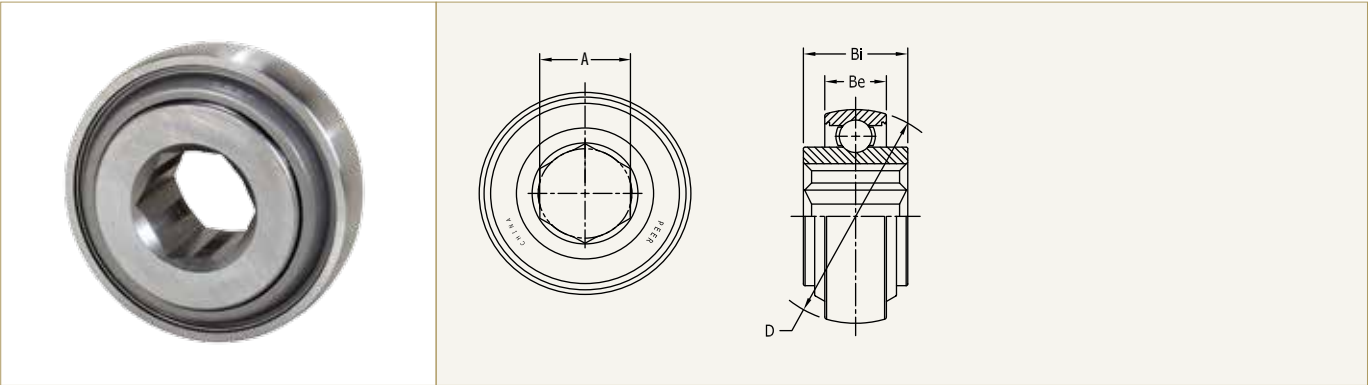
Roller bearings Idler roll



Detailed seal design description located on page 8

| PEER Part Number | Type | A      |        | D      |      | Bi     |      | Be     |      | Seal Type |
|------------------|------|--------|--------|--------|------|--------|------|--------|------|-----------|
|                  |      | [inch] | [mm]   | [inch] | [mm] | [inch] | [mm] | [inch] | [mm] |           |
| W208KPP53        | 2    | 1.5000 | 38.1   | 3.1496 | 80   | 1.4173 | 36   | 0.8661 | 22   | 3 Lips    |
| W215KPP52        | 1    | 1.5059 | 38.25  | 5.1181 | 130  | 1.6929 | 43   | 1.1024 | 28   | 3 Lips    |
| W312KPP51        | 1    | 1.7560 | 44.602 | 5.1181 | 130  | 1.8898 | 48   | 1.2992 | 33   | 3 Lips    |

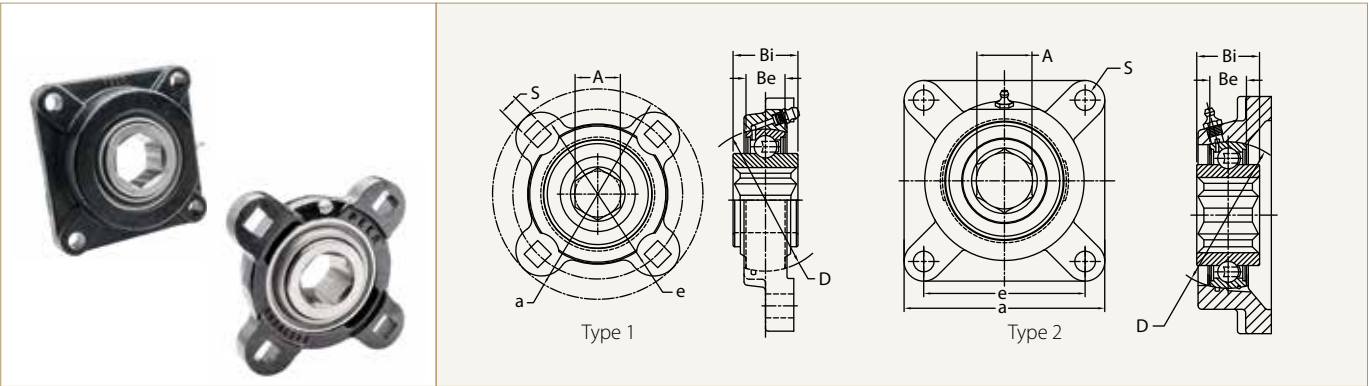
Roller bearings Drive roll



Detailed seal design description located on page 8

| PEER Part Number      | A      |       | D      |      | Bi     |      | Be     |      | Seal Type |
|-----------------------|--------|-------|--------|------|--------|------|--------|------|-----------|
|                       | [inch] | [mm]  | [inch] | [mm] | [inch] | [mm] | [inch] | [mm] |           |
| BB210-KPPB2-H-GX-A126 | 1.4980 | 38.05 | 3.5433 | 90   | 1.2598 | 32   | 0.8661 | 22   | 3 Lips    |

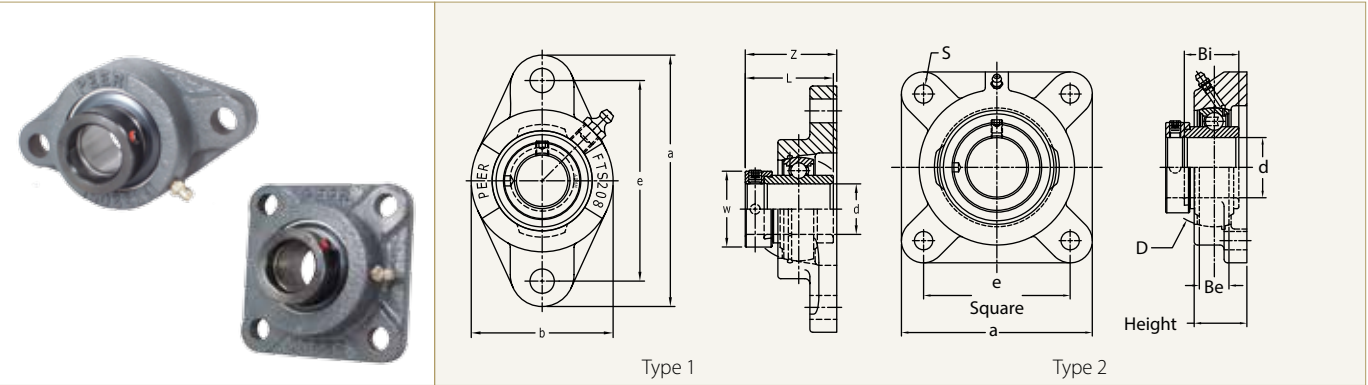
Roller bearings Drive roll



Detailed seal design description located on page 8

| PEER Part Number            | Type | A      |        | D      |      | Bi     |        | Be     |      | e      |         | S                |                 | a      |        | Seal Type |
|-----------------------------|------|--------|--------|--------|------|--------|--------|--------|------|--------|---------|------------------|-----------------|--------|--------|-----------|
|                             |      | [inch] | [mm]   | [inch] | [mm] | [inch] | [mm]   | [inch] | [mm] | [inch] | [mm]    | [inch]           | [mm]            | [inch] | [mm]   |           |
| GW210KPPB50-F4X             | 1    | 1.7510 | 44.475 | 3.5433 | 90   | 1.6875 | 42.863 | 0.8661 | 22   | 5.0000 | 127.000 | 0.5720           | 14.530          | 6.126  | 155.60 | 3 Lips    |
| GW210-KPPB50-H-OX-DF4X-A237 | 1    | 1.7510 | 44.475 | 3.5433 | 90   | 1.6875 | 42.863 | 0.8661 | 22   | 5.0000 | 127.000 | 0.5720           | 14.530          | 6.126  | 155.60 | 3 Lips    |
| GW211KPPB51-FS              | 2    | 1.7510 | 44.475 | 3.9370 | 100  | 1.6875 | 42.863 | 0.9843 | 25   | 5.126  | 130.2   | 0.656            | 16.66           | 6.374  | 161.9  | 3 Lips    |
| GW211-KPPB51-H-OB-FS-A222   | 2    | 1.7510 | 44.475 | 3.9370 | 100  | 1.6875 | 42.863 | 0.9843 | 25   | 5.126  | 130.2   | 0.656            | 16.66           | 6.374  | 161.9  | 3 Lips    |
| GW309-KPPB2-H-GX-DF4X-A525  | 2    | 1.4980 | 38.05  | 3.9370 | 100  | 1.4960 | 38     | 1.0630 | 27   | 3.8976 | 99      | 4 x 0.559 square | 4 x 14.2 square | 5.0787 | 129    | 3 Lips    |
| BB210-KPPB2-H-GX-DF4X-A525  | 2    | 1.4980 | 38.05  | 3.5433 | 90   | 1.2598 | 32     | 0.8661 | 22   | 3.5078 | 89.1    | 4 x 0.559 square | 4 x 14.2 square | 4.7244 | 120    | 3 Lips    |

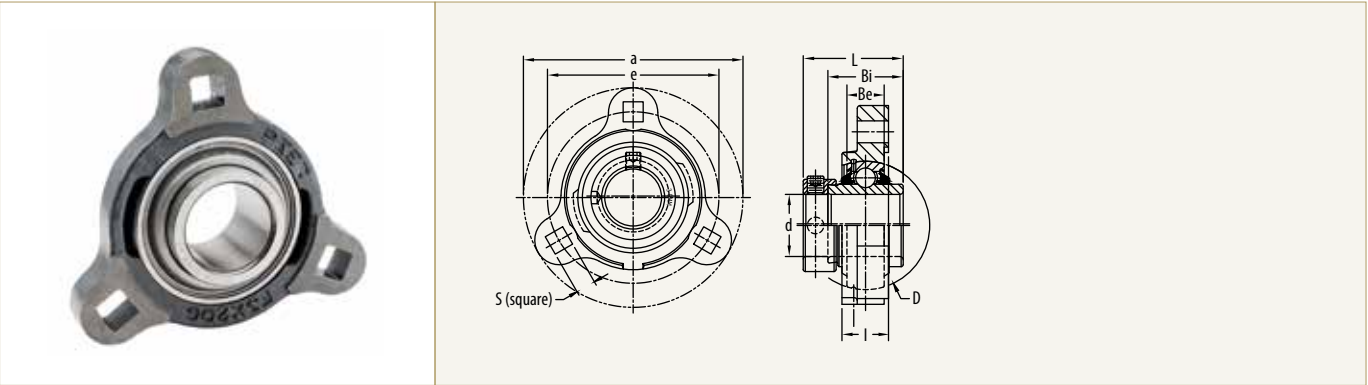
Roller bearings Drive roll



Detailed seal design description located on page 8

| PEER Part Number | Type | d      |      | D      |      | Bi     |      | Be     |      | e      |        | S      |      | a      |       | Height |      | Seal Type |
|------------------|------|--------|------|--------|------|--------|------|--------|------|--------|--------|--------|------|--------|-------|--------|------|-----------|
|                  |      | [inch] | [mm] | [inch] | [mm] | [inch] | [mm] | [inch] | [mm] | [inch] | [mm]   | [inch] | [mm] | [inch] | [mm]  | [inch] | [mm] |           |
| HCFTS208-40MM    | 1    | 1.5748 | 40   | 3.1496 | 80   | 1.6850 | 42.8 | 0.8661 | 22   | 5.6535 | 143.6  | 0.5157 | 13.1 | 6.75   | 171.5 | /      | /    | 2 Lips    |
| HCFS209-45MM     | 2    | 1.7717 | 45   | 3.3465 | 85   | 1.6850 | 42.8 | 0.8661 | 22   | 4.128  | 104.85 | 0.63   | 16   | 5.374  | 136.5 | 1.484  | 37.7 | 3 Lips    |
| HCFS310-50MM-AP  | 2    | 1.9685 | 50   | 4.3307 | 110  | 1.9370 | 49.2 | 1.2598 | 32   | 5.1252 | 130.18 | 0.689  | 17.5 | 6.5    | 165.1 | 2.094  | 53.2 | G         |

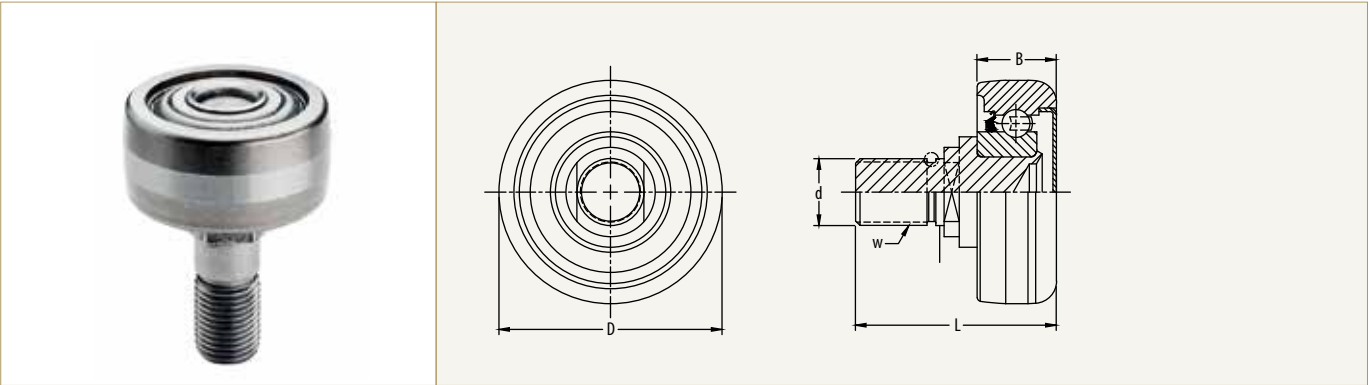
Roller bearings Drive roll



Detailed seal design description located on page 8

| PEER Part Number     | d      |      | D      |      | Bi     |      | Be     |      | e      |      | S      |       | a      |       | Height |      | Seal Type |
|----------------------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|-------|--------|-------|--------|------|-----------|
|                      | [inch] | [mm] | [inch] | [mm] | [inch] | [mm] | [inch] | [mm] | [inch] | [mm] | [inch] | [mm]  | [inch] | [mm]  | [inch] | [mm] |           |
| HCF3X206-30MM-TRL-AP | 1.1811 | 30   | 2.4409 | 62   | 1.4331 | 36.4 | 0.8858 | 22.5 | 3.563  | 90.5 | 0.416  | 10.57 | 4.563  | 115.9 | /      | /    | 3 Lips    |

Pick up bearings Cam follower

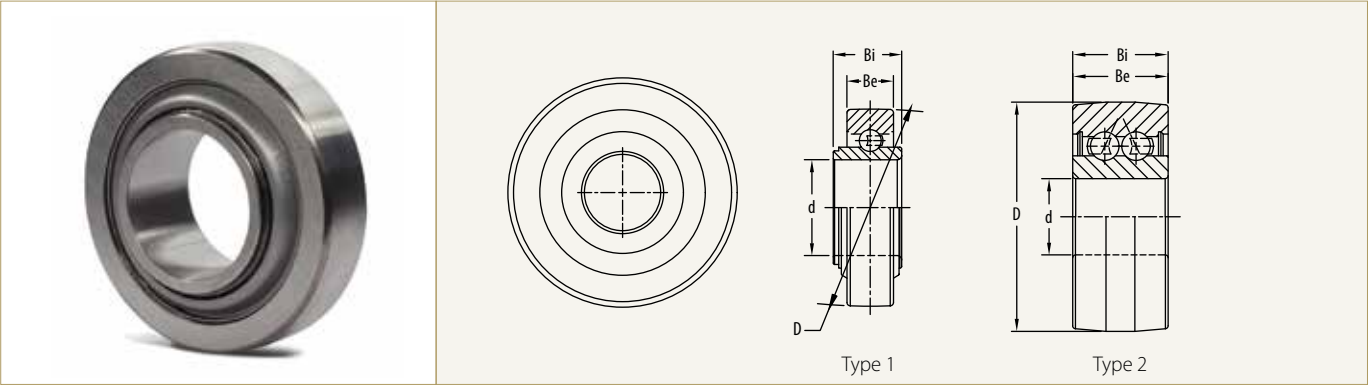


Detailed seal design description located on page 8

| PEER Part Number  | d      |       | D      |      | B      |       | Assembly Length |       | Thread          | Seal Type |
|-------------------|--------|-------|--------|------|--------|-------|-----------------|-------|-----------------|-----------|
|                   | [inch] | [mm]  | [inch] | [mm] | [inch] | [mm]  | [inch]          | [mm]  |                 |           |
| 6901PJ-ASSY-A557  | 0.7480 | 19    | 2.5000 | 63.5 | 0.8882 | 22.56 | 2.25            | 57.15 | 3/4-16 UNF - 2A | 2 Lips    |
| 6901PK-ASSY-A557* | 0.7490 | 19.02 | 2.5000 | 63.5 | 0.8882 | 22.56 | 2.25            | 57.15 | 3/4-16 UNF - 2A | 2 Lips    |
| 6901PK-ASSY-A539* | 0.7490 | 19.02 | 2.5000 | 63.5 | 0.8882 | 22.56 | 2.50            | 63.50 | 3/4-16 UNF - 2A | 2 Lips    |

\* with Nylon slinger

Pick up bearings Cam follower

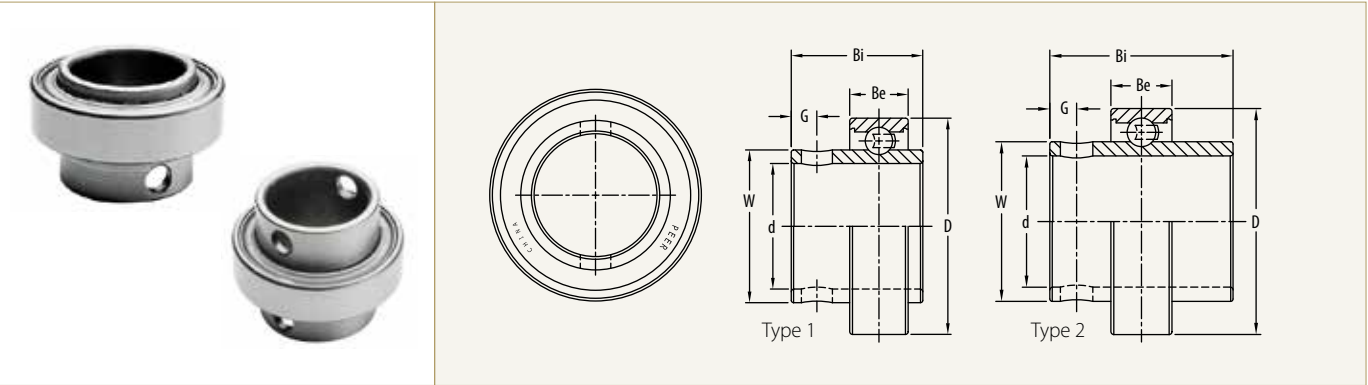


Detailed seal design description located on page 8

| PEER Part Number    | Type | d      |      | D      |      | Bi     |      | Be     |      | Seal Type |
|---------------------|------|--------|------|--------|------|--------|------|--------|------|-----------|
|                     |      | [inch] | [mm] | [inch] | [mm] | [inch] | [mm] | [inch] | [mm] |           |
| CF6007PP51-SP1      | 1    | 1.3780 | 35   | 2.8346 | 72   | 0.9843 | 25   | 0.6693 | 17   | 3 Lips    |
| CF5202-2RST-8-SP2   | 2    | 0.5000 | 12.7 | 1.5000 | 38.1 | 0.6260 | 15.9 | 0.6260 | 15.9 | 2 Lips    |
| CF5202-2RST-R-A492* | 2    | 0.5906 | 15   | 1.5750 | 40   | 0.6260 | 15.9 | 0.6260 | 15.9 | F         |
| CF5202-2RST-R-A482  | 2    | 0.5906 | 15   | 1.5750 | 40   | 0.6260 | 15.9 | 0.6260 | 15.9 | F         |

\*spherical outer ring

Pick up bearings Tine bar

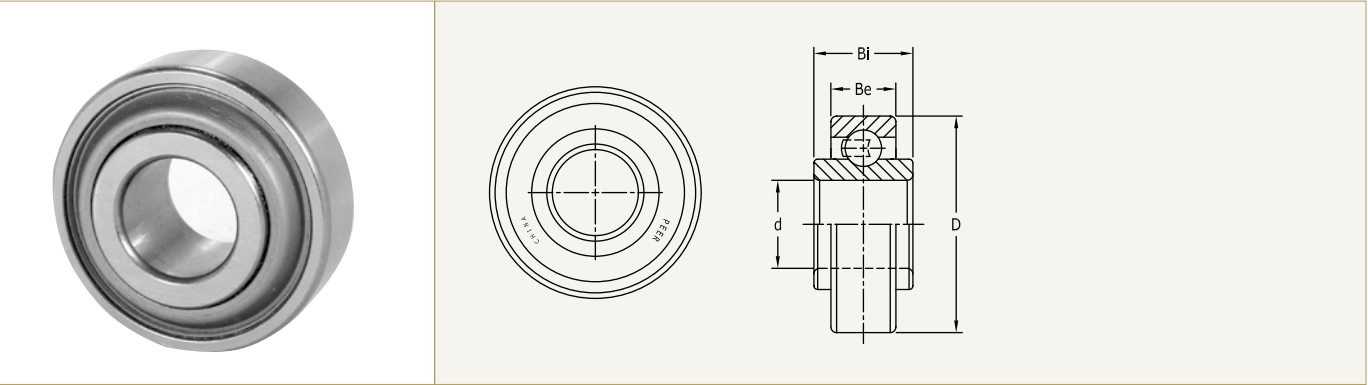


Detailed seal design description located on page 8

| PEER Part Number        | Type | d      |       | D      |      | Bi     |        | Be     |      | G      |       | W      |      | Seal Type |
|-------------------------|------|--------|-------|--------|------|--------|--------|--------|------|--------|-------|--------|------|-----------|
|                         |      | [inch] | [mm]  | [inch] | [mm] | [inch] | [mm]   | [inch] | [mm] | [inch] | [mm]  | [inch] | [mm] |           |
| FHRL6005-BB9105-EE-SP1* | 2    | 1.0740 | 27.28 | 1.8504 | 47   | 1.5000 | 38.1   | 0.5000 | 12.7 | 0.2190 | 5.563 | 1.3071 | 33.2 | 2 Lips    |
| FHRL6005-BB9105         | 1    | 1.0740 | 27.28 | 1.8504 | 47   | 1.1250 | 28.575 | 0.5000 | 12.7 | 0.2190 | 5.563 | 1.3071 | 33.2 | 2 Lips    |
| FHRL6005-BB9105-EE      | 2    | 1.0740 | 27.28 | 1.8504 | 47   | 1.5000 | 38.1   | 0.5000 | 12.7 | 0.2190 | 5.563 | 1.3071 | 33.2 | 2 Lips    |

\*with through-hole on both sides

Idler gear support

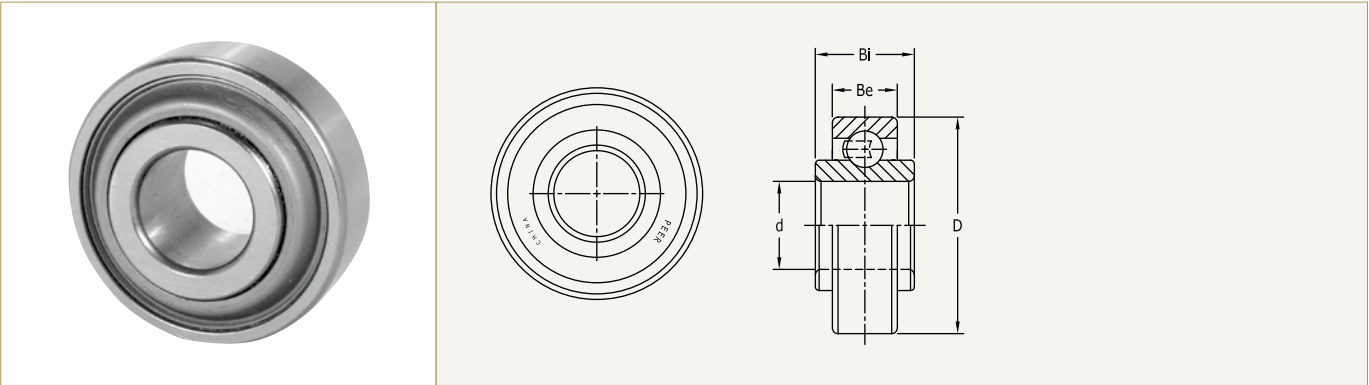


Detailed seal design description located on page 8

| PEER Part Number | d      |        | D      |      | Bi     |        | Be     |        | Seal Type |
|------------------|--------|--------|--------|------|--------|--------|--------|--------|-----------|
|                  | [inch] | [mm]   | [inch] | [mm] | [inch] | [mm]   | [inch] | [mm]   |           |
| 208KRR4          | 1.5312 | 38.892 | 3.1496 | 80   | 1.083  | 27.508 | 1.083  | 27.508 | R         |



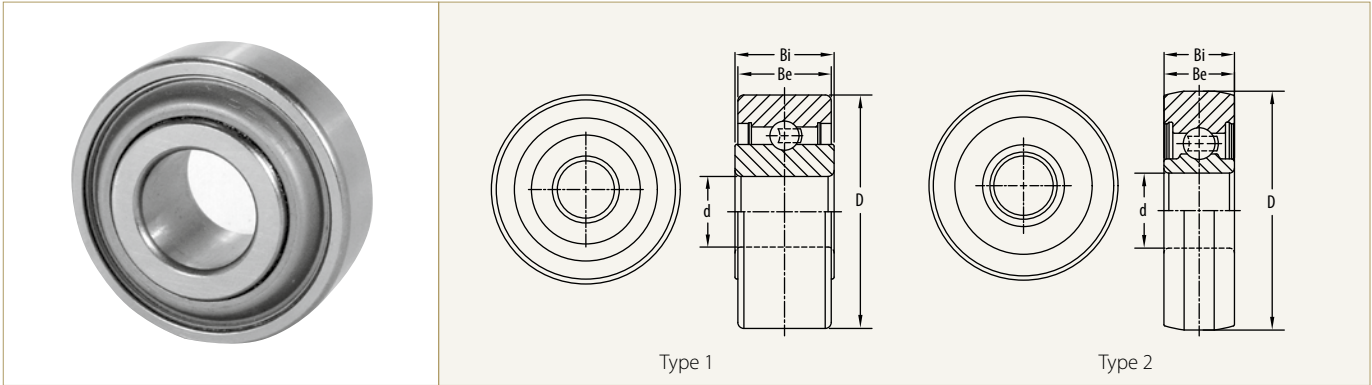
Idler pulley sprocket



Detailed seal design description located on page 8

| PEER Part Number | d      |        | D      |      | Bi     |         | Be     |      | Seal Type |
|------------------|--------|--------|--------|------|--------|---------|--------|------|-----------|
|                  | [inch] | [mm]   | [inch] | [mm] | [inch] | [mm]    | [inch] | [mm] |           |
| 203KRR50         | 0.6400 | 16.256 | 1.5748 | 40   | 0.7200 | 18.2880 | 0.4724 | 12   | G         |
| 203KRR2          | 0.6400 | 16.256 | 1.5748 | 40   | 0.7200 | 18.2880 | 0.4724 | 12   | R         |

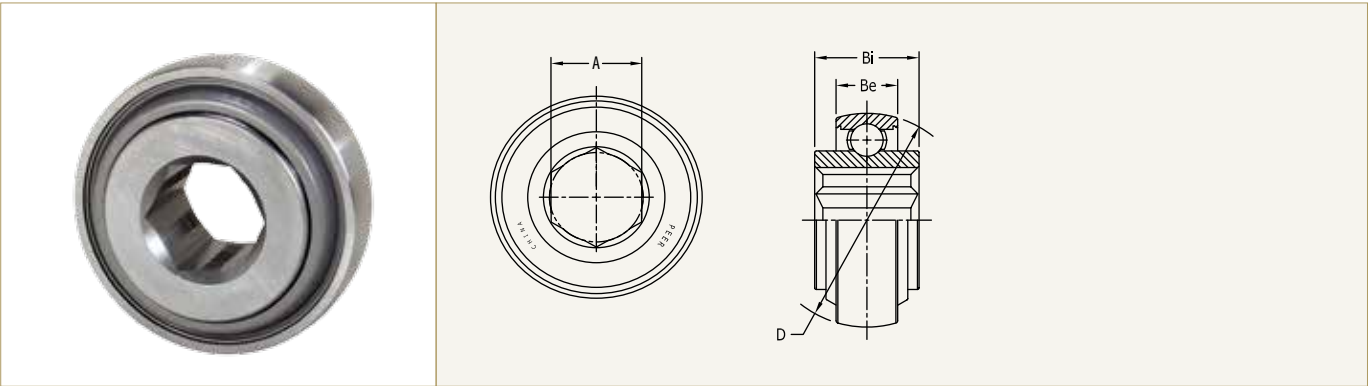
Plunger



Detailed seal design description located on page 8

| PEER Part Number | Type | d      |        | D      |      | Bi     |        | Be     |      | Seal Type |
|------------------|------|--------|--------|--------|------|--------|--------|--------|------|-----------|
|                  |      | [inch] | [mm]   | [inch] | [mm] | [inch] | [mm]   | [inch] | [mm] |           |
| 205KYY3          | 1    | 0.7560 | 19.202 | 2.500  | 63.5 | 1.0620 | 26.975 | 1.0000 | 25.4 | 2 Lips    |
| 203KRR3          | 2    | 0.6280 | 15.951 | 2.000  | 50.8 | 0.5906 | 15     | 0.5906 | 15   | F         |

Pick up drive



Detailed seal design description located on page 8

| PEER Part Number | A      |        | D      |      | Bi     |      | Be     |      | Seal Type |
|------------------|--------|--------|--------|------|--------|------|--------|------|-----------|
|                  | [inch] | [mm]   | [inch] | [mm] | [inch] | [mm] | [inch] | [mm] |           |
| 207KRRB17        | 1.2510 | 31.775 | 2.8346 | 72   | 0.9843 | 25   | 0.6693 | 17   | G         |

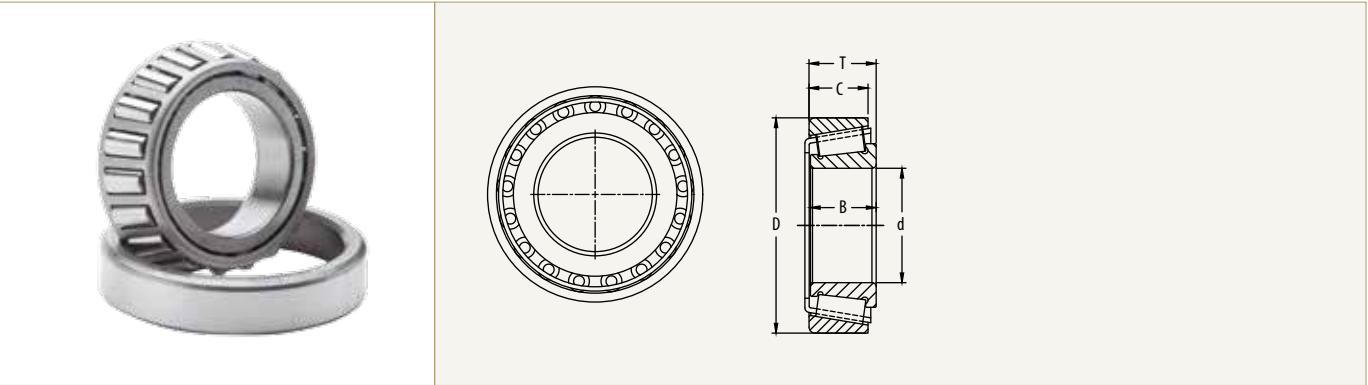
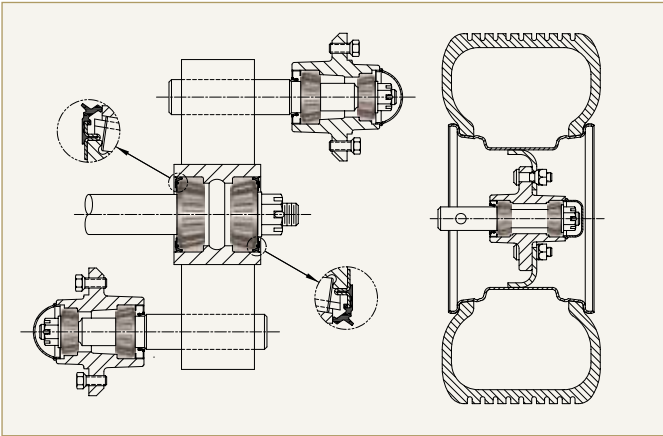


**Implement Wheel and Walking Beam**

PEER solutions for agricultural implement wheel and walking beam include Tapered Roller Bearings and Sealed Tapered Roller Bearings.

Tapered Roller Bearings (TRB) offer increased axial and radial load capacity relative to other bearing types. The inherent design allows for clearance adjustment during mounting to achieve the correct bearing setting for optimized performance.

Sealed Tapered Roller Bearings (Sealed TRB) offer an integrated solution for grease lubricated applications as an economical replacement to a traditional shaft seal and bearing as individual components.



| PEER Part Number      | CONE   |        | CUP     |        | T (mm) |
|-----------------------|--------|--------|---------|--------|--------|
|                       | d (mm) | B (mm) | D (mm)  | C (mm) |        |
| 460 / 453A            | 44.45  | 29.317 | 107.95  | 22.225 | 27.783 |
| 2790 / 2720           | 33.338 | 25.654 | 76.2    | 19.05  | 23.774 |
| 3780 / 3720           | 50.8   | 30.302 | 93.264  | 23.812 | 30.162 |
| 15123 / 15250         | 31.75  | 19.05  | 63.5    | 15.875 | 19.478 |
| 15126 / 15250         | 31.75  | 20.638 | 63.5    | 15.875 | 20.638 |
| 25580 / 25520         | 44.45  | 25.4   | 82.931  | 19.05  | 23.812 |
| 25590 / 25520         | 45.618 | 25.4   | 82.931  | 19.05  | 23.812 |
| 25877 / 25821         | 34.925 | 24.608 | 73.025  | 19.05  | 23.812 |
| 30207                 | 35     | 17     | 72      | 15     | 18.25  |
| 33109                 | 45     | 26     | 80      | 20.5   | 26     |
| 33889 / 33821         | 50.8   | 28.575 | 95.25   | 22.225 | 27.783 |
| 39585 / 39520         | 63.500 | 30.162 | 112.712 | 23.812 | 30.162 |
| 45289 / 45220         | 57.15  | 30.958 | 104.775 | 23.812 | 30.162 |
| 342A-d2 / 332         | 41.275 | 29.977 | 80      | 17.826 | 28.575 |
| 387AS / 382A          | 57.15  | 21.946 | 96.838  | 15.875 | 21     |
| HM212049 / HM212011   | 66.675 | 38.354 | 122.238 | 29.718 | 38.1   |
| HM218248 / HM218210   | 89.974 | 40     | 146.975 | 32.5   | 40     |
| HM803149 / HM803110   | 44.45  | 29.37  | 88.9    | 23.02  | 30.162 |
| JL69349 / JL69310     | 38     | 17     | 62      | 13.5   | 17     |
| JLM506849 / JLM506810 | 55     | 23     | 90      | 18.5   | 23     |
| L44643 / L44610       | 25.4   | 14.732 | 50.292  | 10.668 | 14.224 |
| L44649 / L44610       | 26.988 | 14.732 | 50.292  | 10.668 | 14.224 |
| L68149 / L68111       | 34.988 | 16.764 | 59.975  | 11.938 | 15.875 |
| LM104949 / LM104911   | 50.8   | 22.225 | 82.55   | 16.51  | 21.59  |
| LM29749 / LM29710     | 38.1   | 18.288 | 65.088  | 13.97  | 18.034 |
| LM48548 / LM48510     | 34.925 | 18.288 | 65.088  | 13.97  | 18.034 |
| LM501349 / LM501310   | 41.275 | 19.812 | 73.431  | 14.732 | 19.558 |
| LM603049 / LM603011   | 45.242 | 19.842 | 77.788  | 15.08  | 19.842 |
| LM67048 / LM67010     | 31.75  | 16.764 | 59.131  | 11.811 | 15.875 |

## Year After Year, PEER Bearing Offers Award-Winning Manufacturing, Quality and Delivery



Case Supplier Quality  
Assurance Award



Dana Partners  
in Excellence Award



John Deere Crop Award



John Deere 10 Year  
Hall of Fame Award



John Deere North American  
Supplier of the Year Award



Kinze Supplier  
Performance Award

**Here is what our customers are saying about their experience with PEER AGXTREME Bearings:**

*"After one season in Russia, the TILLXTREME™ in the tillage discs performs MORE THAN TWO TIMES better than the previous GREASE relube solution."*

**Luca Rigon, Engineering Manager**  
Tillage Equipment, Maschio Gaspardo

*"The TILLXTREME™ passed 2011 and 2012 tillage seasons in the rolling basket application without any failure and perform way better than the previous solution."*

**Cyril Thirouin, Engineering Director**  
Grégoire-Besson, Rabe Agri

*"The maintenance-free bearings offered by PEER Bearing offer significantly improved bearing life over the traditional bearings being used."*

**Ben Covell, Product Development Manager**  
Great Plains







*Trusted Difference at Every Turn™*

### *PEER® Bearing offers*

- *A wide range of agricultural, radial, mounted unit ball bearings, and tapered roller bearings*
- *Valued bearing solutions for agricultural, electrical, fluid, HVAC, industrial transmission, material handling and off-highway applications*
- *ISO/TS 16949 certified production facilities*
- *Dedicated Research and Development center*
- *Global application and customer support*

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