

Radial insert ball bearings Housing units



Radial insert ball bearings

Housing units

Radial insert ball bearings 1158

INA radial insert ball bearings are ready-to-fit rolling bearings for the design of particularly economical bearing arrangements. These robust machine elements are available in numerous designs that differ essentially in the outside surface of the outer ring, the method of location on the shaft and the sealing arrangement.

Radial insert ball bearings with a spherical outer ring, fitted in housings with a concave bore, can compensate for static misalignment of the shaft. They can be relubricated if necessary and are particularly easy to fit due to the special location methods. Operation even under difficult operating conditions is ensured by seals of a three-piece design that are matched to the application.

The classic areas of application for these bearings include the agricultural, construction and mining sector, conveying equipment, textile, paper and woodworking machinery as well as machines for the filling, timber and packaging industries.

Housing units 1212

With cast iron housings
With sheet steel housings

Housing units comprise INA cast iron or sheet steel housings with a concave bore in which INA radial insert ball bearings are mounted. These units are matched to each other and are available as plummer block, flanged and take-up housing units. A wide range of housing designs offers the right solution for any specific application.

The areas of application of the units correspond to those of the insert bearings.

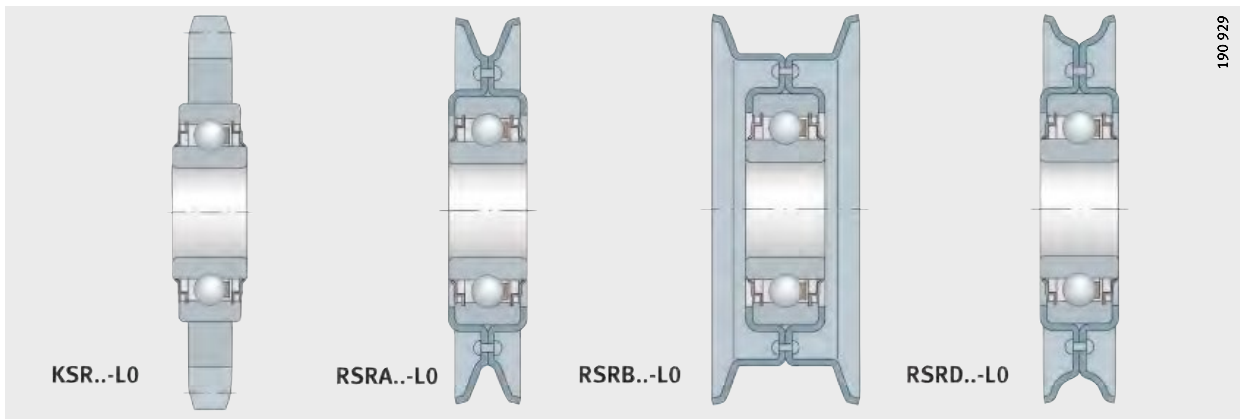
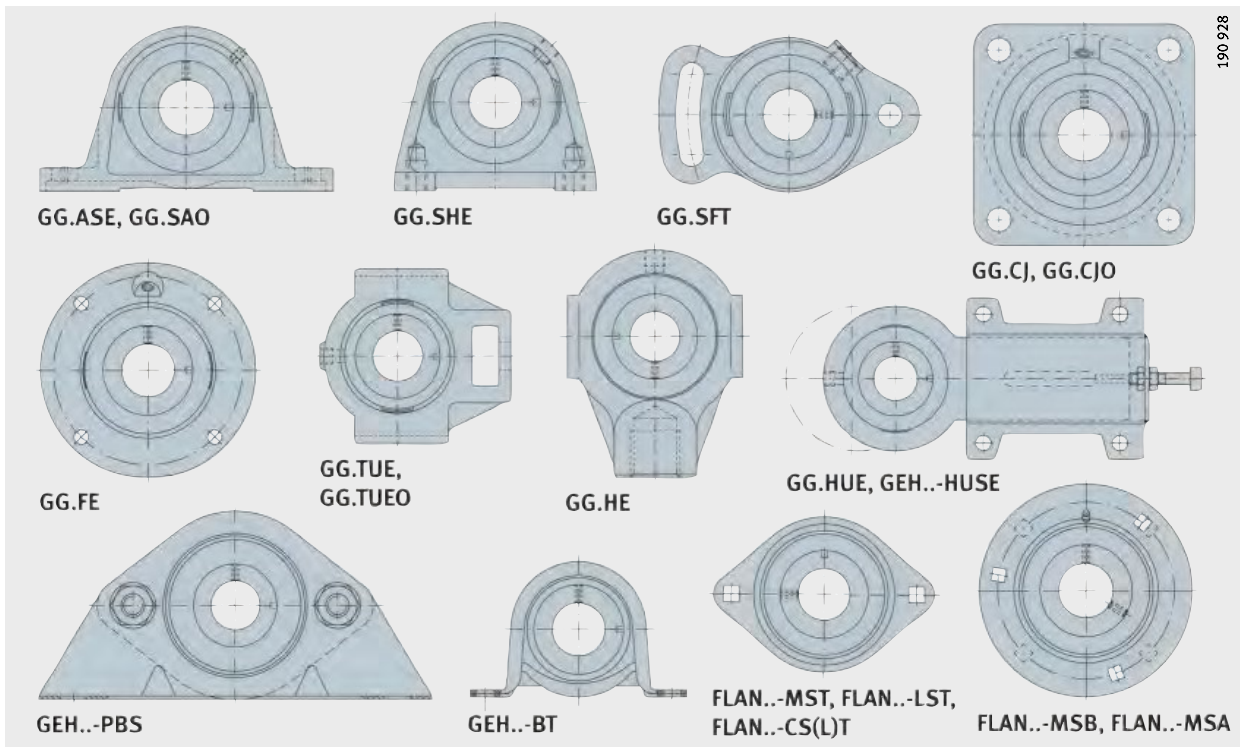
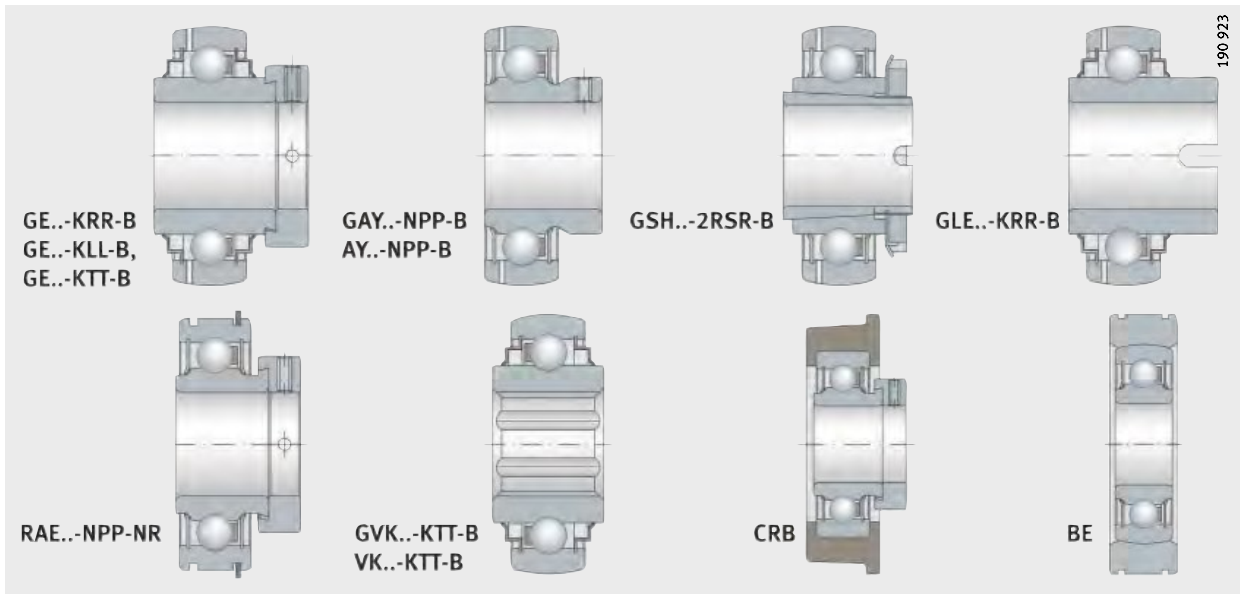
Cast iron housings are single-piece units that can support high loads. Sheet steel housings are two-piece units and are used where the priority is not the load carrying capacity of the housing but the low mass of the unit.

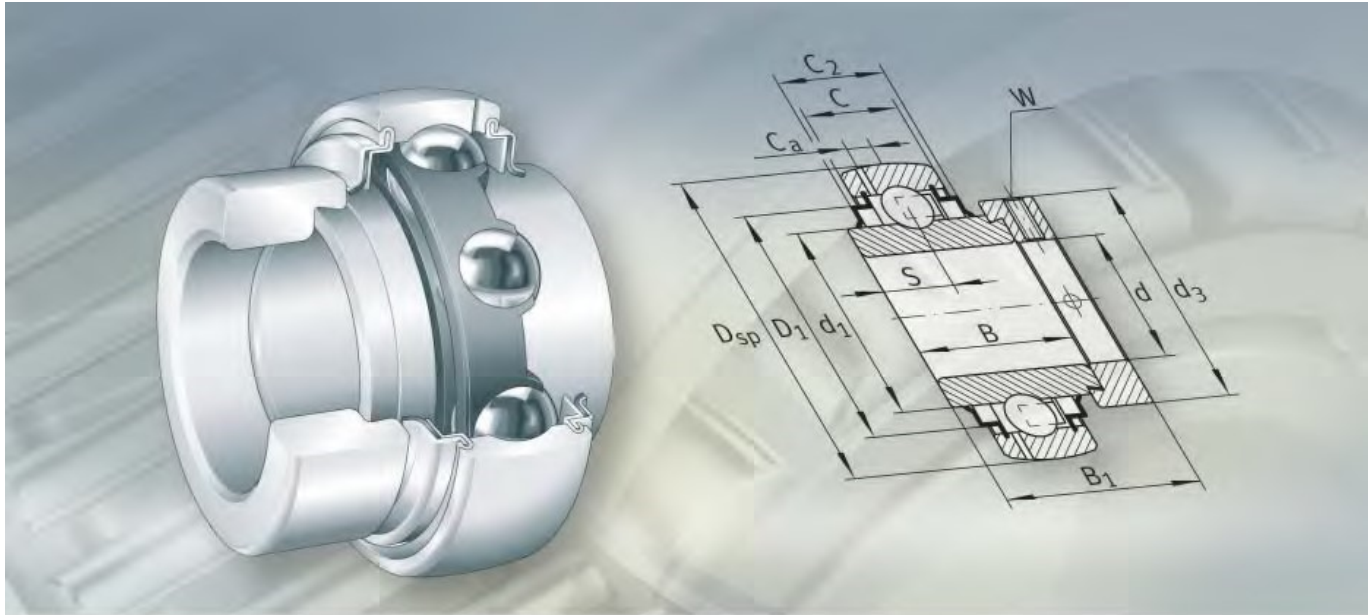
Depending on the series, INA take-up housing units have integral fixing eyes with holes, slots and guide surfaces. They can therefore be moved in an axial direction or swivelled in a radial direction.

Roller chain idler sprocket units Idler pulley units 1310

Roller chain idler sprocket units are guidance and return units for roller bush chains and roller chains. They can compensate for chain stretch resulting from operation and give smoother running under high loads and speeds.

Idler pulley units are tensioning systems for belt drives and idler pulleys. They are suitable for vee, flat or round belts as well as for steel and hemp cables. Idler pulley units increase the wrap angle, compensate for belt stretch resulting from operation, allow shorter centre distances and reduce belt wear.





Radial insert ball bearings

Radial insert ball bearings

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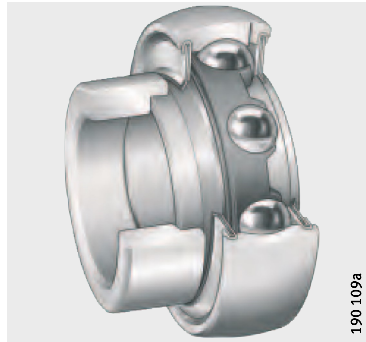


Product overview Radial insert ball bearings

With eccentric locking collar
With spherical outer ring

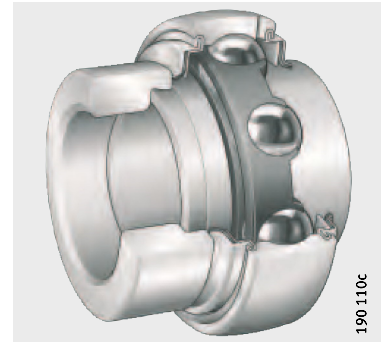
Features: see page 1167

GRAE..-NPP-B, RAE..-NPP-B,
RALE..-NPP-B



190 109a

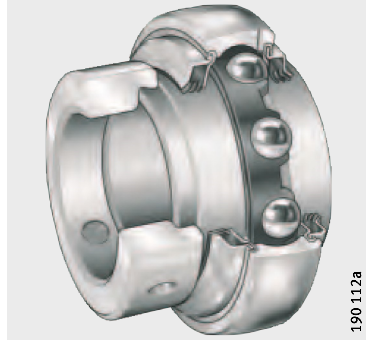
GE..-KRR-B, GNE..-KRR-B,
E..-KRR-B, NE..-KRR-B



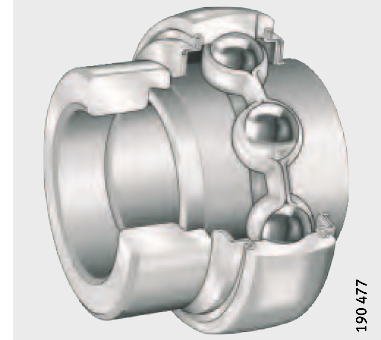
190 110c

GE..-KTT-B

GE..-KLL-B

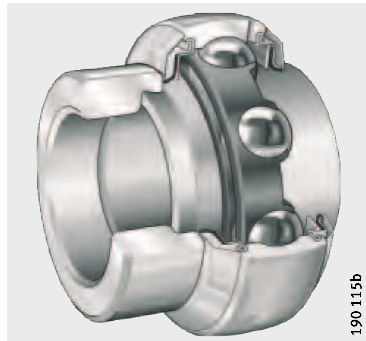


190 112a



190 477

GE..-KRR-B-2C

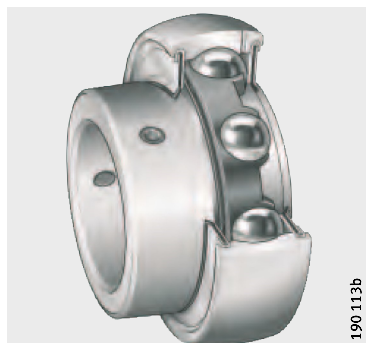


190 115b

**With grub screws
in inner ring**
With spherical outer ring

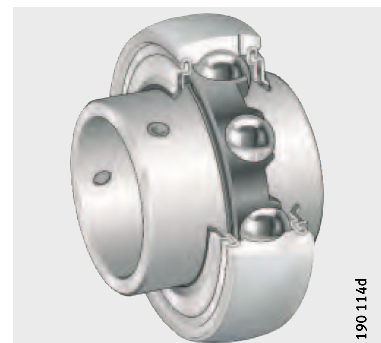
Features: see page 1168

GAY..-NPP-B, AY..-NPP-B



190 113b

GYE..-KRR-B



190 114d

With integral adapter sleeve

With spherical outer ring

Features: see page 1169

GSH..-2RSR-B



With drive slot

With spherical outer ring

Features: see page 1170

GLE..-KRR-B



Self-aligning radial ball bearings

With spherical outer ring
With fit

Features: see page 1171

2..-NPP-B



With spherical outer ring
With square or hexagonal bore

Features: see page 1171

GVK..-KTT-B-AS2/V,
VK..-KTT-B



SK..-KRR-B



Product overview Radial insert ball bearings

Deep groove ball bearings with extended inner ring

With cylindrical outer ring

Features: see page 1172

2..-KRR, 2..-KRR-AH

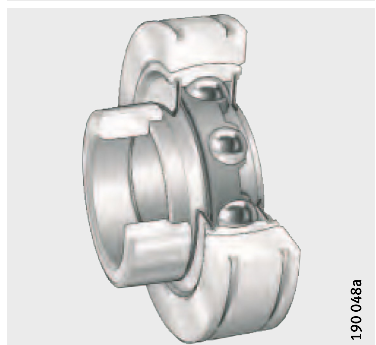


With steel aligning ring

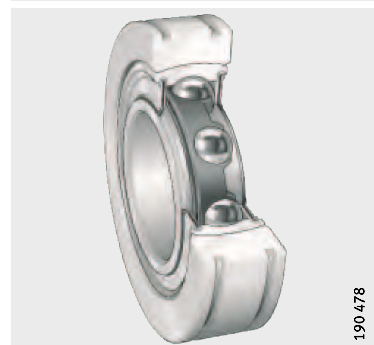
With cylindrical outer ring

Features: see page 1173

PE



BE

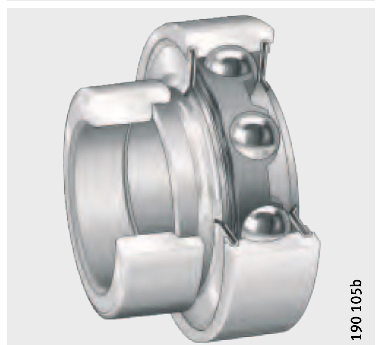


With eccentric locking collar

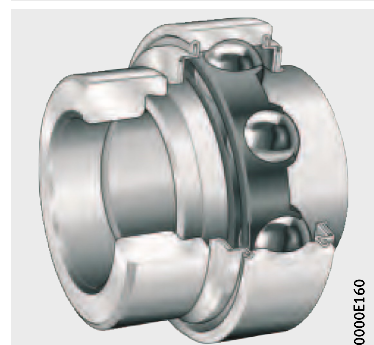
With cylindrical outer ring

Features: see page 1167

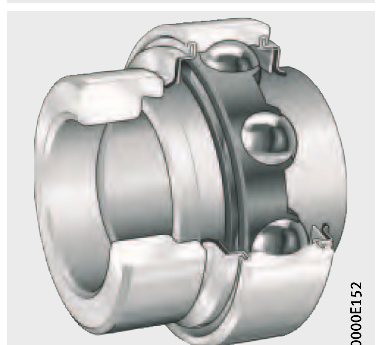
RAE..-NPP, RALE..-NPP



E..-KLL



E..-KRR

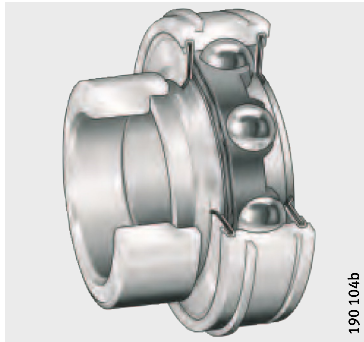


With eccentric locking collar

With cylindrical outer ring
One snap ring in outer ring

Features: see page 1174

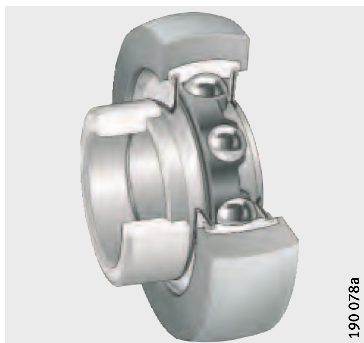
RAE..-NPP-NR



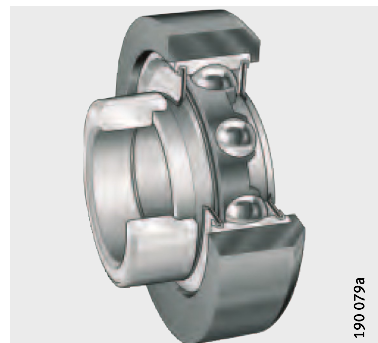
With rubber interliner

Features: see page 1175

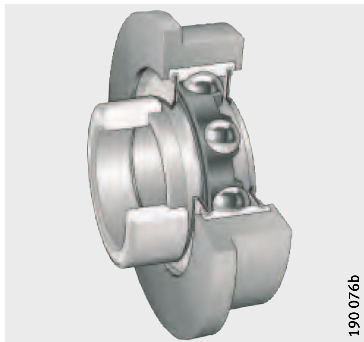
RABRA, RABRB



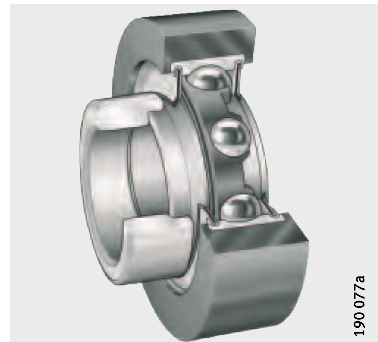
RCRA, RCRB



CRB



RCSMA, RCSMB



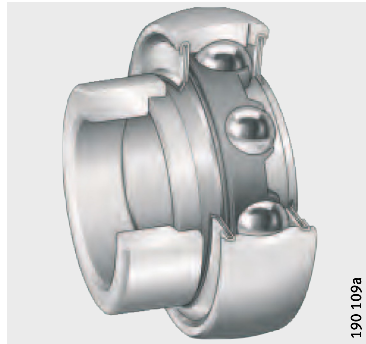
Product overview Radial insert ball bearings

Inch size radial insert ball bearings

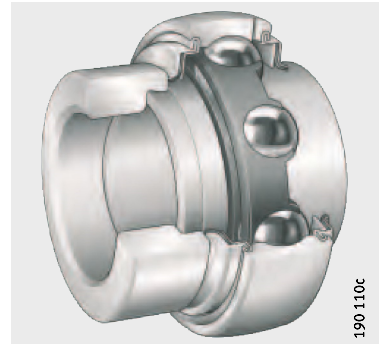
With spherical or cylindrical outer ring

Features:
see page 1167 and page 1168

GRA..-NPP-B-AS2/V,
RA..-NPP-B



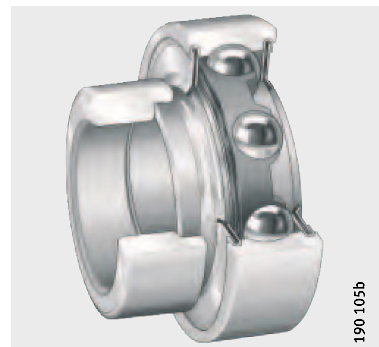
G..-KRR-B-AS2/V



GY..-KRR-B-AS2/V



RA..-NPP, RAL..-NPP



Radial insert ball bearings

Features

Radial insert ball bearings are single row, ready-to-fit units comprising a solid outer ring, an inner ring extended on one or both sides, cages made from plastic or sheet steel and seals of type P, R, L or T. Bearings with an inner ring extended on both sides undergo less tilting of the inner ring and therefore run more smoothly.

The outer ring has a spherical or cylindrical outside surface. In combination with an INA housing matched to the design, bearings with a spherical outer ring can compensate for misalignment of the shaft, see Compensation of static misalignments, page 1180.

With only a few exceptions, radial insert ball bearings can be relubricated. For this purpose, they have two lubrication holes in one plane of the outer ring offset by 180°.

Radial insert ball bearings are particularly easy to fit and are suitable for drawn shafts of grade h6 up to h9. They are located on the shaft by means of eccentric locking collars, grub screws in the inner ring, adapter sleeves, drive slots or fit.



The table, page 1178, presents the features of the series in detail. Please take these into consideration.

Inch size designs

Some series with eccentric locking collar or grub screws in the inner ring are also available with inch size bore dimensions, see dimension tables, page 1200 to page 1202.

For further inch size bearings and bearing units, see TPI 127, Radial insert ball bearings/housing units in inch sizes.

Corrosion-resistant radial insert ball bearings

For corrosion-resistant bearing arrangements and for applications in the food and drinks industry, there are Corrotect®-coated bearings with the suffix FA125 and bearings of a corrosion-resistant design. Corrosion-resistant radial insert ball bearings are suitable where moisture, contaminated water, salt spray mist or weakly alkaline and weakly acidic cleaning agents are present, see also TPI 64, Corrosion-resistant products.



Radial insert ball bearings

Corrotect® coating

The special INA coating Corrotect® is an economical alternative to conventional corrosion-resistant radial insert ball bearings. The coating thickness is between 2 µm and 5 µm.

Advantages of the Corrotect® coating

- Anti-rust protection on all sides, including the machined surfaces of chamfers and radii
- Long term prevention of rust penetration beneath seals
- Small bright spots are protected against corrosion by the cathodic protection mechanism
- Anti-corrosion protection allows a significantly longer operating life compared to uncoated parts
- Uncoated bearings and housings are fully interchangeable with the coated versions of the same design
- Bearings and housings made from corrosion-resistant rolling bearing steel are often no longer required.

For further information on Corrotect® see also section Corrotect® coating, page 119.

Radial insert ball bearings for high and low temperatures

At high temperatures, rolling bearings expand in volume due to a change in the material microstructure. Depending on the location of the heat source, there may also be a significant temperature difference between the inner and outer ring.

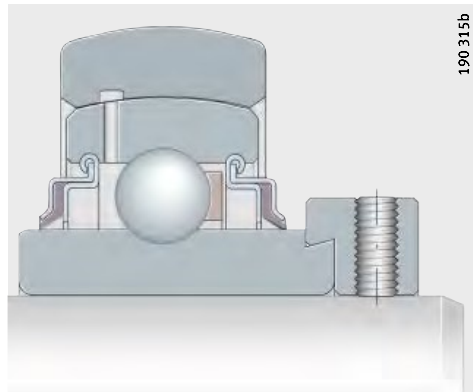
The radial insert ball bearings have cages made from metal or a high temperature plastic, increased radial internal clearance, lubricants with improved thermal resistance and special seals.

These bearings have the suffix FA164 or FA101, see table, page 1176 and table, page 1179. An extended temperature range can be covered by using the series GLE..-KRR-B and GE..-KLL-B, see table, page 1179.

Radial insert ball bearings with eccentric locking collar

These “classic” INA radial insert ball bearings are located on the shaft by means of a locking collar, *Figure 1*. They are particularly suitable for bearing arrangements with a constant direction of rotation or, under low speed and load, for an alternating direction of rotation.

The locking collar is preferably tightened in the direction of rotation and secured by means of a grub screw. This location method prevents damage to the shaft and can be easily loosened again.



GE..-KRR-B

Figure 1
Location using eccentric locking collar

Sealing

The radial insert ball bearings are fitted with P, R, L or T type seals. In series GE..-KRR-B-2C, the R seals are fitted with Corrotect®-coated flinger shields to protect against mechanical damage.

Lubrication

With the exception of a few series, sealed bearings can be relubricated.

Anti-corrosion protection

Several series are also available in a corrosion-resistant design. These bearings have the suffix FA125.

The inner rings up to $d = 60$ mm, as well as locking collars in general, have a Corrotect® coating and are thus protected against fretting corrosion; the exception is the series RALE..-NPP(-B).



Radial insert ball bearings for high and low temperatures

The series for high or expanded temperature ranges have the suffix FA164 or FA101, see table, page 1179.

Cylindrical outer ring

In addition to the bearings with a spherical outer ring, there are also the following series with a cylindrical outer ring: RAE..-NPP, RALE..-NPP, E..-KRR and E..-KLL.

Inch size designs

The series GRA..-NPP-B-AS2/V, RA..-NPP-B, G..-KRR-B-AS2/V, RA..-NPP, RAL..-NPP have an inch size bore diameter, see dimension table, page 1200.

Tightening torques

Tightening torques for metric and inch size grub screws, see table, page 1234.

Radial insert ball bearings

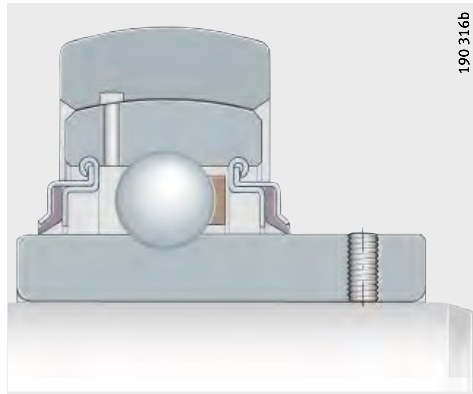
Radial insert ball bearings with grub screws in inner ring

In these radial insert ball bearings, the inner ring is located on the shaft by means of two grub screws offset by 120°, *Figure 2*. This location method is suitable for bearing arrangements with a constant direction of rotation or, under low speed and load, for an alternating direction of rotation.

The grub screws are self-retaining and have a fine pitch thread with cup point for secure location of the bearings.

GYE..-KRR-B

Figure 2
Location using grub screws in the inner ring



Sealing

The radial insert ball bearings are fitted on both sides with P or R type seals.

Lubrication

With the exception of series AY..-NPP-B, the bearings can be relubricated.

Anti-corrosion protection

These bearings have the suffix VA. In this design, the bearing rings and rolling elements are made from high alloy, corrosion-resistant rolling bearing steel with an increased chromium molybdenum content and the steel cages are made from corrosion-resistant steel. The bearings are sealed on both sides with RSR seals and have additional flinger shields made from corrosion-resistant steel, see also TPI 64, Corrosion-resistant products.

Radial insert ball bearings for high temperatures

The radial insert ball bearings for high temperatures have the suffix FA164, see table, page 1179.

Inch size designs

In the case of series GY..-KRR-B-AS2/V, the bore is an inch size bore, see dimension table.

Tightening torques

Tightening torques for metric and imperial grub screws, see table, page 1234.

Radial insert ball bearings with integral adapter sleeve

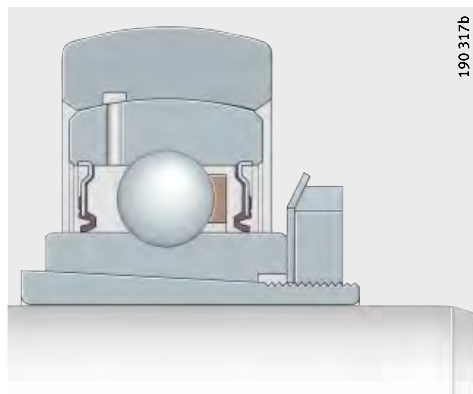
In this series, the inner ring is located on the shaft by an adapter sleeve with a locknut and a tab washer, *Figure 3*.

The adapter sleeve and locknut give concentric, force locking location of the bearing inner ring on the shaft. As a result, the speeds that can be achieved are the same as with deep groove ball bearings. These bearings also give quieter running than normal radial insert ball bearings. The adapter sleeve, locknut and tab washer are all zinc-coated.

Due to the integral adapter sleeve, the bearings have the same radial dimensions and basic load ratings as radial insert ball bearings with an eccentric locking collar or with grub screws in the inner ring and are interchangeable with these bearings.

GSH..-2RSR-B

Figure 3
Location using
adapter sleeve and locknut



Sealing

Radial insert ball bearings with integral adapter sleeve are sealed by means of RSR seals.

Lubrication

The bearings can be relubricated.

Hook wrenches and tightening torques

See table, page 1236.

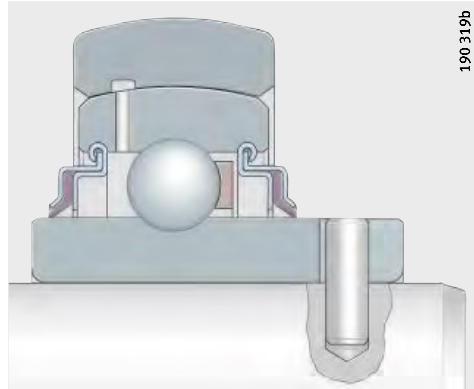


Radial insert ball bearings

Radial insert ball bearings with drive slot

Radial insert ball bearings with a drive slot in the inner ring are non-locating bearings with good high temperature characteristics, *Figure 4*. Non-locating bearings are used at low speeds and loads to compensate for thermal elongation of the shaft.

Due to the slot, they are easy to locate in a radial direction. Rotation is prevented by a drive pin on the shaft or a set collar with a pin. The non-locating bearings are suitable for drawn shafts up to grade h7.



GLE..-KRR-B

Figure 4
Location using drive slot

Anti-corrosion protection

Inner rings up to a bore diameter 60 mm have a Corrotect® coating and are thus protected against fretting corrosion.

Sealing

Radial insert ball bearings with a drive slot have R type seals with PTFE seal lips.

Lubrication

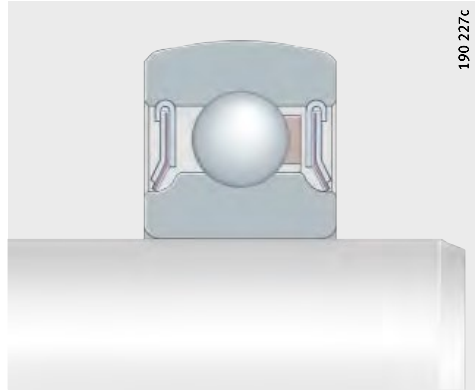
The bearings can be relubricated.

Self-aligning deep groove ball bearings

Self-aligning deep groove ball bearings are available with a cylindrical bore for a fit seat, *Figure 5* or with a reamed square or hexagonal bore, *Figure 6*.

With fit

Bearings with a fit on the shaft allow speeds equivalent to those of standard ball bearings, are suitable for bearing arrangements with an alternating direction of rotation and offer smooth running.



2..-NPP-B

Figure 5
Self-aligning deep groove ball bearings

Sealing

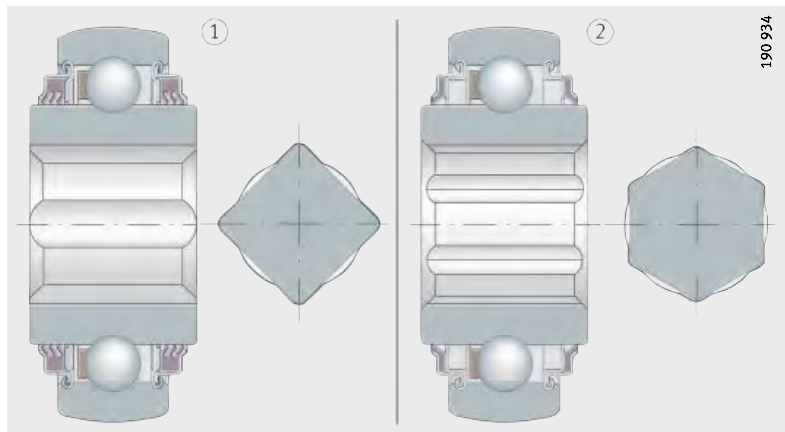
The bearings are sealed on both sides using P type seals with a vulcanised seal lip or three-piece designs.



For self-aligning deep groove ball bearings with a fit seat, the fit data for ball bearings apply.

With square or hexagonal bore

Bearings with a profiled bore are used where shafts must transmit very high torques and this is only possible using square or hexagonal shafts, *Figure 6*. Rotation is prevented by the geometrical locking effect.



VK..-KTT-B
SK..-KRR-B

Figure 6
① Square bore
② Hexagonal bore

Anti-corrosion protection

The bearings have a Corrotect® coating.

Sealing

Self-aligning deep groove ball bearings are sealed using R or T type seals.

Lubrication

The bearings are greased to their maximum, some designs can be relubricated.



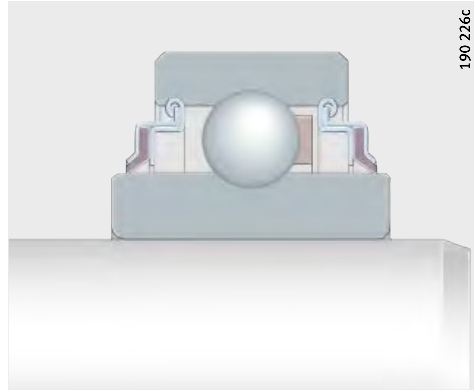
Radial insert ball bearings

Deep groove ball bearings with extended inner ring

These bearings have a cylindrical outer ring and are fitted in cylindrical bores, *Figure 7*. The inner ring is extended on both sides and is located on the shaft using a location fit. Due to the extended inner ring, additional axial spacer rings are not required.

The concentric seat allows speeds equivalent to those of standard ball bearings, while the load can be either constant or alternating. Smooth running is also achieved.

The tolerance of the inner ring bore corresponds to tolerance class PN in accordance with DIN 620.



2..-KRR
2..-KRR-AH

Figure 7
Deep groove ball bearings with extended inner ring

Sealing

The bearings are sealed on both sides using R type seals.

Lubrication

The sheet steel washers extended outwards and angled downwards form a large grease reservoir.

Radial insert ball bearings with steel aligning ring

These bearings are based on radial insert ball bearings with an eccentric locking collar or on self-aligning deep groove ball bearings, but additionally have an axially split outer ring as an aligning ring, *Figure 8*. They are mounted in cylindrical bores and can compensate for static misalignment of the shaft up to $\pm 5^\circ$.

Due to the annular slots in the outer ring to DIN 616, they are highly suitable for sheet metal constructions. In this case, they are axially located using snap rings to DIN 5 417.

In series PE, the inner ring is located on the shaft using a locking collar, in series BE by a location fit.

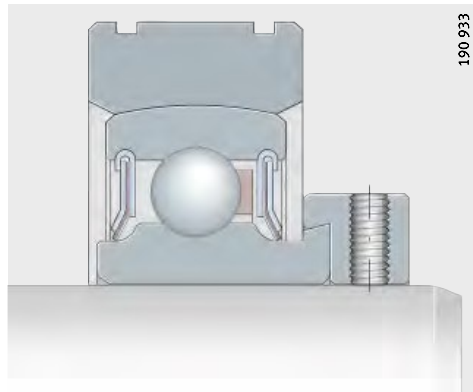


Figure 8
Radial insert ball bearings
with steel aligning ring

Anti-corrosion protection

The aligning ring has a Corrotect® coating and is thus protected against fretting corrosion. In series PE, the inner ring and locking collar are also coated.

Sealing

The bearings are sealed on both sides using P type seals.

Lubrication

Radial insert ball bearings with an aligning ring cannot be relubricated.



The fit tolerances of the aligning rings are those of the deep groove ball bearings. Select the fit for the shaft and housing such that the outer ring of the insert bearing can undergo self-alignment.



Radial insert ball bearings

Radial insert ball bearings with eccentric locking collar, cylindrical outer ring and slots in outer ring

The basic design of series RAE..-NPP-NR is a radial insert ball bearing with an eccentric locking collar and an inner ring extended on one side, *Figure 9*. The outer ring has a cylindrical outside surface and two slots to DIN 616. The bearings are fitted in cylindrical bores and axially located by easy-to-fit snap rings. The bearing is supplied with one snap ring to DIN 5 417 already fitted.

RAE..-NPP-NR

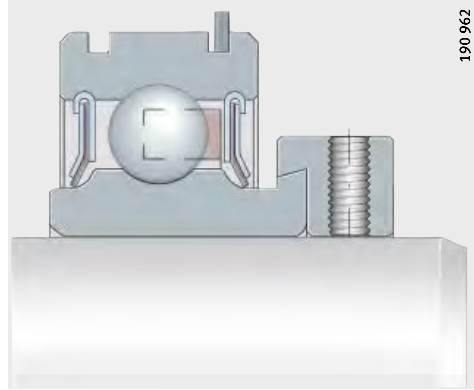


Figure 9

Radial insert ball bearings with cylindrical outer ring and two slots in outer ring

Sealing

The bearings are sealed on both sides using P type seals.

Lubrication

The radial insert ball bearings are greased and cannot be relubricated.

Radial insert ball bearings with rubber interliner

These radial insert ball bearings are located on the shaft using an eccentric locking collar. The outer ring is encased in a thick-walled NBR interliner, *Figure 10*.

The interliner absorbs vibrations and shocks and thus gives damping of running noises.

The interliners have a spherical or cylindrical outside surface.

For roll bearing arrangements, one series has a locating shoulder on the rubber ring.

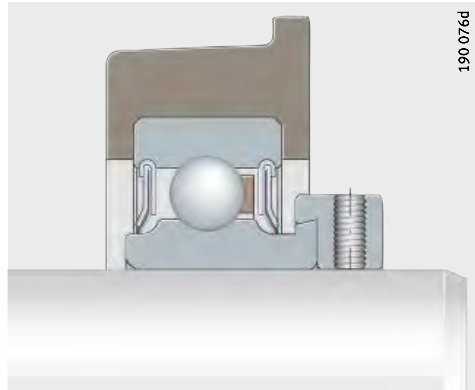


Figure 10
Radial insert ball bearings with rubber interliner

Anti-corrosion protection

The inner ring and locking collar have a Corrotect® coating and are thus protected against fretting corrosion; the exception is the series with radial insert ball bearings RALE..-NPP(-B).

Sealing

The radial insert ball bearings are sealed on both sides using P type seals.

Lubrication

Bearings with rubber interliners cannot be lubricated.



Note the tube and housing diameters for radial insert ball bearings with rubber interliner:

- CRB, tube inside diameter D –0,6 to 1,6
- RABR, RCR, RCSM, housing diameter D –0,25 to –0,35.



Radial insert ball bearings

Suffixes Suffixes for available designs: see table.

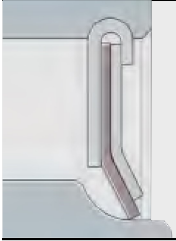

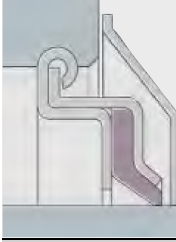
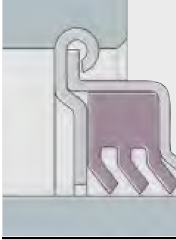


Available designs

| Suffix | Description | Design |
|---------|--|----------|
| AS2/V | Bearing outer ring with 2 lubrication holes in offset planes | Standard |
| B | Bearing with spherical outer ring | |
| 2C | Flinger shields on both sides | |
| FA101 | High and low temperature design –40 °C to +180 °C | |
| FA106 | Bearing subjected to special noise testing | |
| FA107 | Bearing with lubrication holes on the locating side | |
| FA125.5 | With Corrotect [®] coating, protected against corrosion | |
| FA164 | High temperature design up to +250 °C | |
| KRR | Lip seals on both sides (R type seal) | |
| KLL | Labyrinth seals on both sides (L type seal) | |
| KTT | Triple lip seals on both sides (T type seal) | |
| NR | Slot and snap ring for radial insert ball bearings with cylindrical outer ring | |
| NPP | Lip seals on both sides (P type seal) | |
| OSE | Bearing without locking element (eccentric locking collar) | |
| 2RSR | Lip seals on both sides (vulcanised) | |
| VA | Corrosion-resistant design made from high alloy rolling bearing steel | |

Sealing

Seals for radial insert ball bearings are of a three-piece design. This concept offers, due to the rigidly rolled-in sheet steel washer, optimum seating in the bearing as well as concentric alignment of the seal lip to the inner ring.

Seal types

| | | |
|---|----------|---|
| P seal | | |
|  | 190 308a | Two zinc-coated sheet steel washers with intermediate NBR part, seal lip axially preloaded. In order to protect the seal lip from mechanical damage, the outer sheet steel washer extends a considerable distance down towards the bearing inner ring. Used in narrow radial insert ball bearings with inner ring extended on one side. |
| R seal | | |
|  | 190 309b | Two zinc-coated sheet steel washers extended outwards and angled downwards with intermediate NBR part and radially preloaded seal lip. Better protection against mechanical damage. Substantial grease reservoir due to the space between the extended and angled sheet steel washers. Used in radial insert ball bearings with inner ring extended on both sides. |
| R seal with flinger shield | | |
|  | 190 318a | As R seal, but with outer flinger shield with anti-corrosion protection. Additional sealing action without restriction on speed and with additional protection against mechanical damage. |
| T seal | | |
|  | 190 310c | Two zinc-coated sheet steel washers with intermediate NBR part and three radially preloaded seal lips for heavily contaminated conditions. For better protection of the seal lip against mechanical damage, the outer sheet steel washer is angled outwards. Lower speeds due to higher friction. |
| L seal (labyrinth seal) | | |
|  | 190 311b | Two zinc-coated sheet steel washers extended outwards in the outer ring with a zinc-coated intermediate sheet steel L-section ring pressed onto the inner ring. Substantial grease reservoir due to the space between the extended and angled sheet steel washers. Used in radial insert ball bearings with inner ring extended on both sides. For increased temperatures and lower friction. |
| RSR seal | | |
|  | 190 314d | Single-piece, zinc-coated sheet steel washer with moulded, radially preloaded NBR seal lip. Used in radial insert ball bearings with integral adapter sleeve. |



Radial insert ball bearings

Features of radial insert ball bearings, comparison of series

| Series | For shaft diameters from ... to ... | Compensation of misalignment | Internal clearance | | |
|-----------------------------|--|------------------------------|--------------------|-----|----|
| GRAE..-NPP-B | 12 mm – 60 mm | yes | C3 | | |
| GRAE..-NPP-B-FA125.5 | 20 mm – 60 mm | | | | |
| GRA..-NPP-B-AS2/V | 5/8 inch – 1 ³ / ₄ inch | | | | |
| RAE..-NPP-B | 12 mm – 50 mm | | | | |
| RA..-NPP-B | 3/4 inch – 1 ¹ / ₂ inch | | | | |
| RALE..-NPP-B | 20 mm – 30 mm | | | | |
| GE..-KRR-B | 17 mm – 120 mm | | | | |
| GE..-KRR-B-FA125.5 | 20 mm – 50 mm | | | | |
| GE..-KRR-B-FA164 | 20 mm – 70 mm, 80 mm – 90 mm | | | C5 | |
| GE..-KRR-B-FA101 | 20 mm – 75 mm | | | C4 | |
| G..-KRR-B-AS2/V | 1 ⁵ / ₁₆ inch – 2 ¹⁵ / ₁₆ inch | | | C3 | |
| GE..-KRR-B-2C | 25 mm – 40 mm | | | yes | C3 |
| E..-KRR-B | 25 mm – 40 mm | | | | |
| GNE..-KRR-B | 30 mm – 100 mm | | | | |
| GE..-KTT-B | 20 mm – 80 mm | | | | |
| GE..-KLL-B | 20 mm – 50 mm | C5 | | | |
| GYE..-KRR-B | 12 mm – 90 mm | | | | |
| GY..-KRR-B-AS2/V | 3/4 inch – 2 inch | | | | |
| GYE..-KRR-B-VA | 12 mm – 50 mm | yes | C3 | | |
| GAY..-NPP-B | 12 mm – 60 mm | | | | |
| GAY..-NPP-B-FA164 | 12 mm, 15 mm | | | C5 | |
| AY..-NPP-B | 12 mm – 30 mm | C3 | | | |
| GSH..-2RSR-B | 20 mm – 50 mm | yes | C4 | | |
| GLE..-KRR-B | 20 mm – 70 mm | yes | C4 | | |
| 2..-NPP-B | 12 mm – 50 mm | yes | CN | | |
| GVK..-KTT-B-AS2/V | 25,4 mm – 39,6875 mm | yes | C3 | | |
| VK..-KTT-B | 25,4 mm | | | | |
| SK..-KRR-B | 17 mm – 31,8 mm | yes | C3 | | |
| RABRA | 30 mm | yes | C3 | | |
| RABRB | 12 mm – 50 mm | | | | |
| PE | 20 mm – 40 mm | | | | |
| BE | 20 mm – 40 mm | yes | CN | | |
| RAE..-NPP | 12 mm – 60 mm | no | C3 | | |
| RA..-NPP | 5/8 inch – 1 ¹ / ₂ inch | | | | |
| RALE..-NPP | 20 mm – 30 mm | | | | |
| RAL..-NPP | 3/4 inch | | | | |
| RAE..-NPP-NR | 20 mm – 40 mm | | | | |
| E..-KRR | 20 mm – 70 mm | | | | |
| E..-KLL | 20 mm – 50 mm | | | | |
| RCRA | 20 mm | | | | |
| RCRB | 25 mm | | | | |
| CRB | 20 mm – 35 mm | | | | |
| RCSMA | 30 mm | | | | |
| RCSMB | 15 mm – 25 mm | | | | |
| 2..-KRR(-AH) | 13 mm – 60 mm | | | no | CN |

| Location | Sealing | Cage material | Greasing ¹⁾ | Relubrication facility | Temperature ²⁾ °C | Comments | Dimension table | |
|--------------------------|---------|---------------------------|------------------------|------------------------|------------------------------|---|---------------------------|--------------------------------|
| Eccentric locking collar | P | PA66 | GA13 | yes | -20 to +120 | | 1184 | |
| | | | GA47 | | | | Anti-corrosion protection | 1184 |
| | | | GA13 | | | | | 1200 |
| | | | | no | | | | 1184 |
| | | | | | | | | 1200 |
| | | | | | | Light series | 1184 | |
| | R | Steel | GA11 | yes | +150 to +250 | PTFE seal lip | 1184 | |
| | | | | | | PAES | L069 | -40 to +180 |
| | | PA66 | GA13 | no | -20 to +120 | | 1200 | |
| | | | | | | | Flinger shields | 1184 |
| | | | | yes | | Heavy series | 1186 | |
| | | T | | | | | | 1184 |
| L | Steel | L069 | | | -40 to +180 | | 1184 | |
| Grub screws | R | PA66 | GA13 | yes | -20 to +120 | | 1192 | |
| | | | | | | | | 1200 |
| | RSR | Corrosion-resistant steel | FM222 | | -35 to +100 | Anti-corrosion protection, flinger shields | 1192 | |
| | P | Steel | GA11 | no | +150 to +250 | | 1192 | |
| | | | | | | PA66 | GA13 | -20 to +120 |
| Adapter sleeve | RSR | PA66 | GA13 | yes | -20 to +120 | | 1196 | |
| Drive slot | R | PAES | L069 | yes | -40 to +180 | PTFE seal lip | 1197 | |
| Fit | P | PA66 | GA13 | no | -20 to +120 | | 1210 | |
| Square bore | T | PA66 | GA13 | yes | -20 to +120 | Anti-corrosion protection, maximum grease filling | 1208 | |
| | | | | no | | | 1208 | |
| Hexagonal bore | R | PA66 | GA13 | no | -20 to +120 | Anti-corrosion protection, maximum grease filling | 1208 | |
| Eccentric locking collar | P | PA66 | GA13 | no | -20 to +85 | Light series | 1204 | |
| | | | | | | | | 1204 |
| | | | | | | | -20 to +120 | Annular slots in aligning ring |
| Fit | P | PA66 | GA13 | no | -20 to +120 | Annular slots in aligning ring | 1206 | |
| Eccentric locking collar | P | PA66 | GA13 | no | -20 to +120 | | 1198 | |
| | | | | | | | | 1200 |
| | | | | | | | | 1198 |
| | | | | | | | | 1200 |
| | | | | | | | Two slots, one snap ring | 1198 |
| | | | | | | | | 1198 |
| | R | L | P | no | -20 to +85 | Light series, lead chamfer | 1204 | |
| | | | | | | Lead chamfer | 1204 | |
| | | | | | | Abutment shoulder | 1204 | |
| | | | | | | Light series | 1204 | |
| | | | | | | 1204 | | |
| Fit | R | PA66 | GA13 | no | -20 to +120 | | 1207 | |



1) Precise information on greasing is given in the section Lubrication from page 76.

2) Attention! Recommended operating temperature. If temperatures exceed +100 °C, relubrication must be carried out regularly.

Radial insert ball bearings

Design and safety guidelines Compensation of static misalignments

Bearings with a spherical outer ring, fitted in housings with a concave bore, can compensate for static misalignment of the shaft, *Figure 11*:

- if relubrication is carried out, up to $\pm 2,5^\circ$
- if relubrication is not carried out, up to $\pm 5^\circ$.



The units must not be used to support swivelling or tumbling motion.

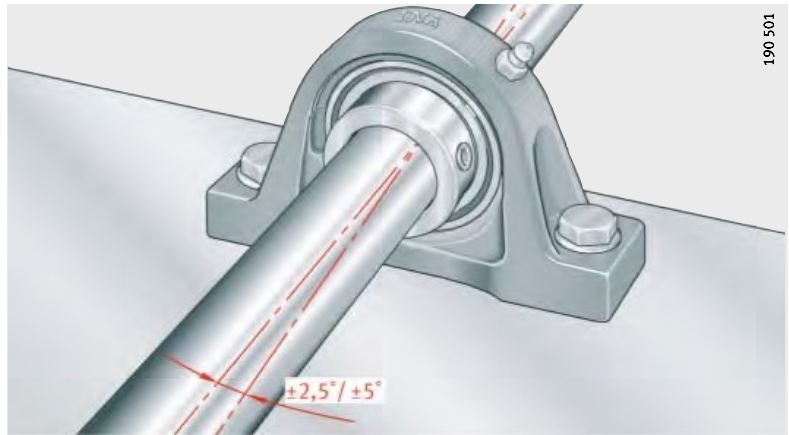


Figure 11
Compensation of static shaft misalignment

Axial load carrying capacity of radial insert ball bearings

The axial load carrying capacity F_a of radial insert ball bearings depends essentially on how they are located on the shaft. The load carrying capacity of the location method is shown in *Figure 12*.

The precondition for this is that:

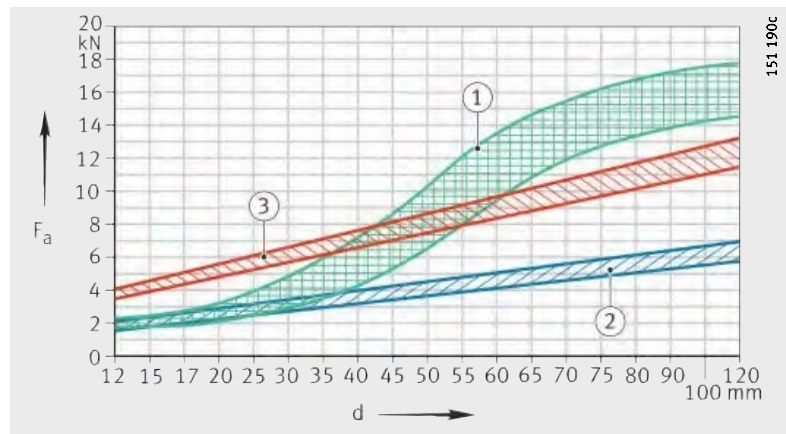
- the shaft design complies with the data in *Figure 12*
- the bearings are located using the specified tightening torque M_A .



For very high axial loads, the forces should be directed through a shoulder on the shaft. If the bearing is subjected to its maximum permissible axial load, please contact us.

- ① Locking collar and adapter sleeve
 - ② Grub screw and hard, ground shafts
 - ③ Grub screw and soft shaft
- d = bearing bore diameter
 F_a = axial load carrying capacity of location method

Figure 12
 Axial load carrying capacity of location method



Radial insert ball bearings

Speed limits for radial insert ball bearings, guide values

The speed limits are dependent on the load, the clearance between the bearing bore and shaft and the friction of the seals in bearings with contact seals.

Figure 13 gives guide values for the permissible speeds. For load ratios $C_r/P > 13$, the speeds can be increased. For $C_r/P < 5$, location by means of a fit is recommended, see section Conditions of rotation, page 148. For both types of applications, please contact us.

Example of permissible speed calculation

Given:

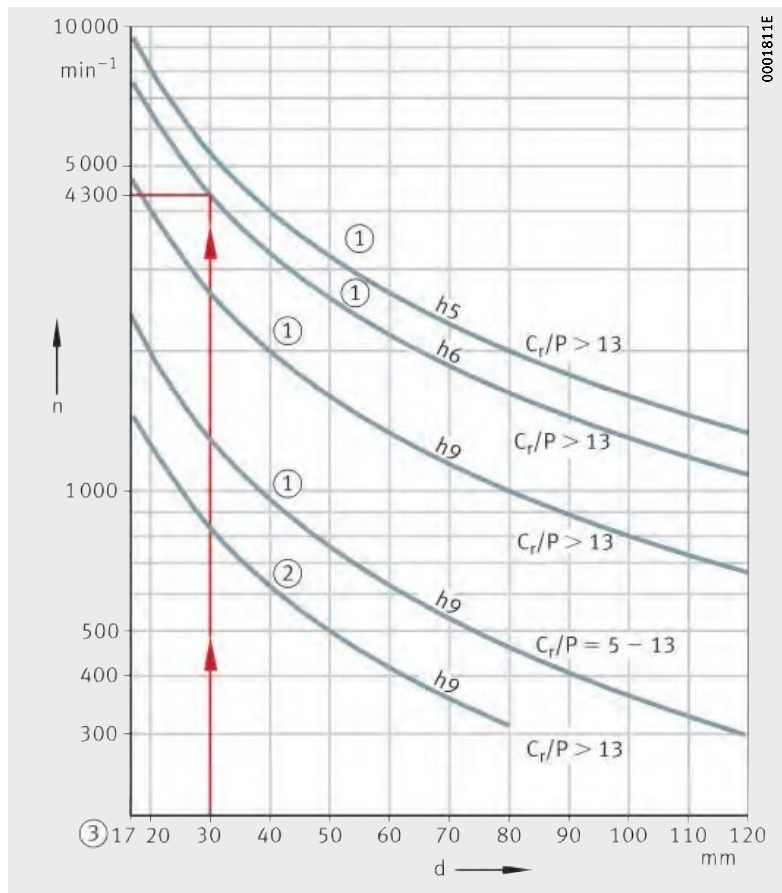
- Shaft tolerance h6
- Radial insert ball bearing GRAE30-NPP-B
- Basic dynamic load rating C_r 19 500 N
- Load P 1 300 N
- Sealing P seals.

Required:

- Load ratio $C_r/P = 19\,500\text{ N}/1\,300\text{ N}$ $C_r/P > 13$
- Permissible speed $n \approx 4\,300\text{ min}^{-1}$, Figure 13.

- ① For radial insert ball bearings with L, P, R seals
- ② For radial insert ball bearings with T seals
- ③ Ball set identical for $d = 12\text{ mm}$, 15 mm and 17 mm
 d = bearing bore diameter
 n = permissible speed

Figure 13 Permissible speeds for radial insert ball bearings



Shaft tolerances for radial insert ball bearings, recommendations

The permissible shaft tolerance is dependent on the speed and load. Tolerances up to h9 are possible. Conventional drawn shafts will suffice for most applications.

Accuracy Standard tolerances of radial insert ball bearings

The outside diameter of the bearings corresponds to tolerance class PN to DIN 620-2. The inner ring bore has a plus tolerance to facilitate mounting of the bearing.

Normal tolerances of bearings, see table.

Tolerances of radial insert ball bearings

| Inner ring | | | | Outer ring | | | |
|------------------------|-------|-----------------------|------|------------------------|-------|-----------------------------------|------|
| Nominal dimension d mm | | Bore ¹⁾ μm | | Nominal dimension D mm | | Outside diameter ²⁾ μm | |
| over | incl. | min. | max. | over | incl. | max. | min. |
| 12 | 18 | 0 | +18 | 30 | 50 | 0 | -11 |
| 18 | 24 | 0 | +18 | 50 | 80 | 0 | -13 |
| 24 | 30 | 0 | +18 | 80 | 120 | 0 | -15 |
| 30 | 40 | 0 | +18 | 120 | 150 | 0 | -18 |
| 40 | 50 | 0 | +18 | 150 | 180 | 0 | -25 |
| 50 | 60 | 0 | +18 | 180 | 250 | 0 | -30 |
| 60 | 90 | 0 | +25 | - | - | - | - |
| 90 | 120 | 0 | +30 | - | - | - | - |

¹⁾ This corresponds to the arithmetic mean value derived from the largest and smallest diameters (measured using a two-point measuring device).

²⁾ In the case of sealed bearings, the largest and smallest values of the outside diameter can deviate from the mean value by approximately 0,03 mm.

Radial internal clearance of radial insert ball bearings

The radial internal clearance is given in the table.

For most series, the radial clearance is C3 and is thus larger than for normal deep groove ball bearings.

The larger internal clearance allows better support of angular misalignment and shaft deflection. Overview of all series and the corresponding internal clearance: see page 1178.

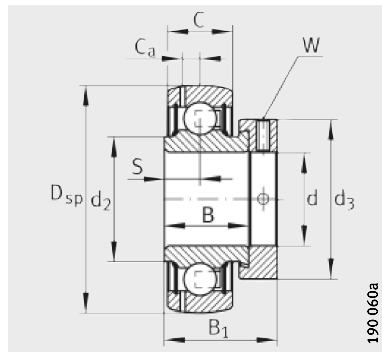


Radial internal clearance

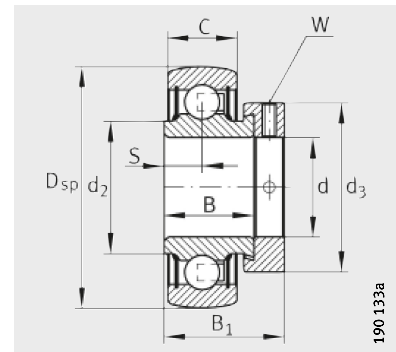
| Bore | | Radial internal clearance | | | | | | | |
|------|-------|---------------------------|------|-------|------|-------|------|-------|------|
| d mm | | CN μm | | C3 μm | | C4 μm | | C5 μm | |
| over | incl. | min. | max. | min. | max. | min. | max. | min. | max. |
| 2,5 | 10 | 2 | 13 | 8 | 23 | 14 | 29 | 20 | 37 |
| 10 | 18 | 3 | 18 | 11 | 25 | 18 | 33 | 25 | 45 |
| 18 | 24 | 5 | 20 | 13 | 28 | 20 | 36 | 28 | 48 |
| 24 | 30 | 5 | 20 | 13 | 28 | 23 | 41 | 30 | 53 |
| 30 | 40 | 6 | 20 | 15 | 33 | 28 | 46 | 40 | 64 |
| 40 | 50 | 6 | 23 | 18 | 36 | 30 | 51 | 45 | 73 |
| 50 | 65 | 8 | 28 | 23 | 43 | 38 | 61 | 55 | 90 |
| 65 | 80 | 10 | 30 | 25 | 51 | 46 | 71 | 65 | 105 |
| 80 | 100 | 12 | 36 | 30 | 58 | 53 | 84 | 75 | 120 |
| 100 | 120 | 15 | 41 | 36 | 66 | 61 | 97 | 90 | 140 |
| 120 | 140 | 18 | 48 | 41 | 81 | 71 | 114 | 105 | 160 |
| 140 | 160 | 18 | 53 | 46 | 91 | 81 | 130 | 120 | 180 |

Radial insert ball bearings with eccentric locking collar

Spherical outer ring



GRAE..-NPP-B



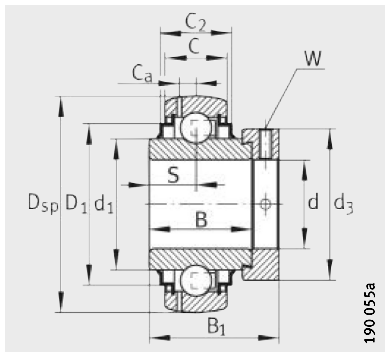
RAE..-NPP-B, RALE..-NPP-B

Dimension table · Dimensions in mm

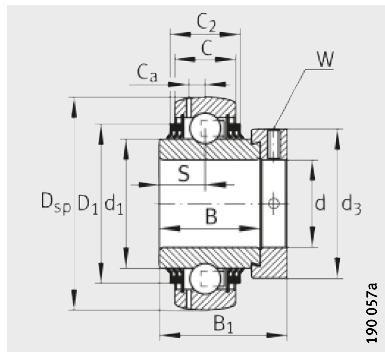
| Designation ¹⁾ | Mass m ≈kg | Dimensions | | | | | |
|---------------------------|------------------|------------|-----------------|----|----------------|------|------|
| | | d | D _{sp} | C | C ₂ | B | S |
| GRAE12-NPP-B | 0,13 | 12 | 40 | 12 | – | 19 | 6,5 |
| RAE12-NPP-B | 0,13 | 12 | 40 | 12 | – | 19 | 6,5 |
| GRAE15-NPP-B | 0,11 | 15 | 40 | 12 | – | 19 | 6,5 |
| RAE15-NPP-B | 0,12 | 15 | 40 | 12 | – | 19 | 6,5 |
| GRAE17-NPP-B | 0,1 | 17 | 40 | 12 | – | 19 | 6,5 |
| RAE17-NPP-B | 0,1 | 17 | 40 | 12 | – | 19 | 6,5 |
| GE17-KRR-B | 0,2 | 17 | 40 | 12 | 16,6 | 27,8 | 13,9 |
| GRAE20-NPP-B | 0,16 | 20 | 47 | 14 | – | 21,4 | 7,5 |
| GRAE20-NPP-B-FA125.5 | 0,16 | 20 | 47 | 14 | – | 21,4 | 7,5 |
| RAE20-NPP-B | 0,16 | 20 | 47 | 14 | – | 21,4 | 7,5 |
| RALE20-NPP-B | 0,1 | 20 | 42 | 12 | – | 16,7 | 6 |
| GE20-KRR-B | 0,19 | 20 | 47 | 14 | 16,6 | 34,1 | 17,1 |
| GE20-KRR-B-FA125.5 | 0,2 | 20 | 47 | 14 | 16,6 | 34,1 | 17,1 |
| GE20-KRR-B-FA164 | 0,2 | 20 | 47 | 14 | 16,6 | 34,1 | 17,1 |
| GE20-KTT-B | 0,19 | 20 | 47 | 14 | 16,6 | 34,1 | 17,1 |
| GE20-KLL-B | 0,2 | 20 | 47 | 14 | 16,6 | 34,1 | 17,1 |
| GRAE25-NPP-B | 0,19 | 25 | 52 | 15 | – | 21,4 | 7,5 |
| GRAE25-NPP-B-FA125.5 | 0,19 | 25 | 52 | 15 | – | 21,4 | 7,5 |
| RAE25-NPP-B | 0,19 | 25 | 52 | 15 | – | 21,4 | 7,5 |
| RALE25-NPP-B | 0,12 | 25 | 47 | 12 | – | 17,5 | 6 |
| E25-KRR-B | 0,24 | 25 | 52 | 15 | 16,7 | 34,9 | 17,5 |
| GE25-KRR-B | 0,25 | 25 | 52 | 15 | 16,7 | 34,9 | 17,5 |
| GE25-KRR-B-FA125.5 | 0,25 | 25 | 52 | 15 | 16,7 | 34,9 | 17,5 |
| GE25-KRR-B-FA164 | 0,25 | 25 | 52 | 15 | 16,7 | 34,9 | 17,5 |
| GE25-KRR-B-FA101 | 0,24 | 25 | 52 | 15 | 16,7 | 34,9 | 17,5 |
| GE25-KTT-B | 0,24 | 25 | 52 | 15 | 20,2 | 34,9 | 17,5 |
| GE25-KRR-B-2C | 0,26 | 25 | 52 | 15 | 24,6 | 34,9 | 17,5 |
| GE25-KLL-B | 0,25 | 25 | 52 | 15 | 20,2 | 34,9 | 17,5 |

¹⁾ Permissible speeds of radial insert ball bearings: see page 1182.

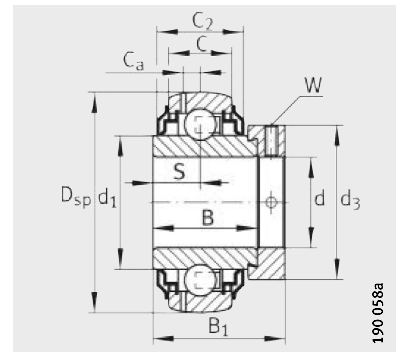
²⁾ Reference bearings for determining the equivalent bearing load: see page 204.



GE..-KRR-B, E..-KRR-B, GE..-KLL-B



GE..-KTT-B



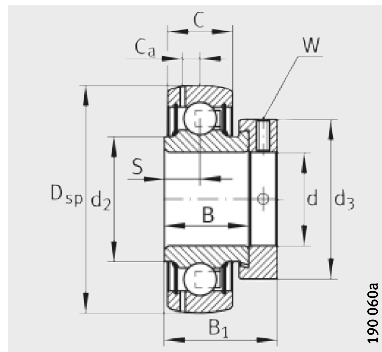
GE..-KRR-B-2C

| d ₁ | d ₂ | D ₁ | C _a | B ₁ | d ₃ max. | W | Basic load ratings | | Reference bearing ²⁾ |
|----------------|----------------|----------------|----------------|----------------|------------------------|-----|-----------------------------|-------------------------------|---------------------------------|
| | | | | | | | dyn. C _r N | stat. C _{0r} N | |
| - | 23 | - | 3,4 | 28,6 | 28 | 3 | 9 800 | 4 750 | 6203 |
| - | 23 | - | - | 28,6 | 28 | 3 | 9 800 | 4 750 | 6203 |
| - | 23 | - | 3,4 | 28,6 | 28 | 3 | 9 800 | 4 750 | 6203 |
| - | 23 | - | - | 28,6 | 28 | 3 | 9 800 | 4 750 | 6203 |
| - | 23 | - | 3,4 | 28,6 | 28 | 3 | 9 800 | 4 750 | 6203 |
| - | 23 | - | - | 28,6 | 28 | 3 | 9 800 | 4 750 | 6203 |
| 23,9 | - | 31,6 | 3,4 | 37,4 | 28 | 3 | 9 800 | 4 750 | 6203 |
| - | 26,9 | - | 4 | 31 | 33 | 3 | 12 800 | 6 600 | 6204 |
| - | 26,9 | - | 4 | 31 | 33 | 3 | 12 800 | 6 600 | 6204 |
| - | 26,9 | - | - | 31 | 33 | 3 | 12 800 | 6 600 | 6204 |
| - | 25,4 | - | - | 24,5 | 30 | 2,5 | 9 400 | 5 000 | 6004 |
| 27,6 | - | 37,4 | 4 | 43,7 | 33 | 3 | 12 800 | 6 600 | 6204 |
| 27,6 | - | 37,4 | 4 | 43,7 | 33 | 3 | 12 800 | 6 600 | 6204 |
| 27,6 | - | 37,4 | 4 | 43,7 | 33 | 3 | 12 800 | 6 600 | 6204 |
| 27,6 | - | 37,4 | 4 | 43,7 | 33 | 3 | 12 800 | 6 600 | 6204 |
| 27,6 | - | 37,4 | 4 | 43,7 | 33 | 3 | 12 800 | 6 600 | 6204 |
| - | 30,5 | - | 3,9 | 31 | 37,5 | 3 | 14 000 | 7 800 | 6205 |
| - | 30,5 | - | 3,9 | 31 | 37,5 | 3 | 14 000 | 7 800 | 6205 |
| - | 30,5 | - | - | 31 | 37,5 | 3 | 14 000 | 7 800 | 6205 |
| - | 30 | - | - | 25,5 | 36 | 2,5 | 10 100 | 5 900 | 6005 |
| 33,8 | - | 42,5 | - | 44,5 | 37,5 | 3 | 14 000 | 7 800 | 6205 |
| 33,8 | - | 42,5 | 3,9 | 44,5 | 37,5 | 3 | 14 000 | 7 800 | 6205 |
| 33,8 | - | 42,5 | 3,9 | 44,5 | 37,5 | 3 | 14 000 | 7 800 | 6205 |
| 33,8 | - | 42,5 | 3,9 | 44,5 | 37,5 | 3 | 14 000 | 7 800 | 6205 |
| 33,8 | - | 42,5 | 3,9 | 44,5 | 37,5 | 3 | 14 000 | 7 800 | 6205 |
| 33,8 | - | 42,5 | 3,9 | 44,5 | 37,5 | 3 | 14 000 | 7 800 | 6205 |
| 33,8 | - | 42,5 | 3,9 | 44,5 | 37,5 | 3 | 14 000 | 7 800 | 6205 |
| 33,8 | - | 42,5 | 3,9 | 44,5 | 37,5 | 3 | 14 000 | 7 800 | 6205 |
| 33,8 | - | 42,5 | 3,9 | 44,5 | 37,5 | 3 | 14 000 | 7 800 | 6205 |

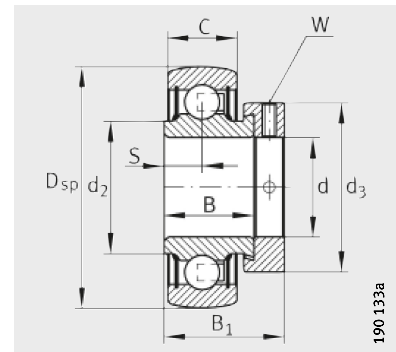


Radial insert ball bearings with eccentric locking collar

Spherical outer ring



GRAE..-NPP-B



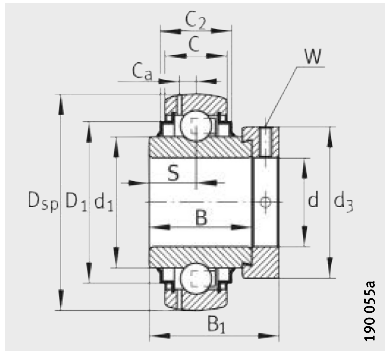
RAE..-NPP-B, RALE..-NPP-B

Dimension table (continued) · Dimensions in mm

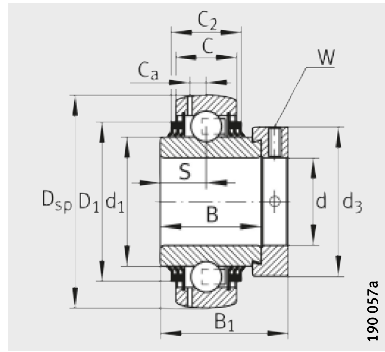
| Designation ¹⁾ | Mass m ≈kg | Dimensions | | | | | |
|---------------------------|------------------|------------|-----------------|----|----------------|------|------|
| | | d | D _{sp} | C | C ₂ | B | S |
| GRAE30-NPP-B | 0,32 | 30 | 62 | 18 | – | 23,8 | 9 |
| GRAE30-NPP-B-FA125.5 | 0,32 | 30 | 62 | 18 | – | 23,8 | 9 |
| RAE30-NPP-B | 0,32 | 30 | 62 | 18 | – | 23,8 | 9 |
| RALE30-NPP-B | 0,18 | 30 | 55 | 13 | – | 18,5 | 6,5 |
| E30-KRR-B | 0,39 | 30 | 62 | 18 | 20,7 | 36,5 | 18,3 |
| GE30-KRR-B | 0,39 | 30 | 62 | 18 | 20,7 | 36,5 | 18,3 |
| GE30-KRR-B-FA125.5 | 0,38 | 30 | 62 | 18 | 20,7 | 36,5 | 18,3 |
| GE30-KRR-B-FA164 | 0,39 | 30 | 62 | 18 | 20,7 | 36,5 | 18,3 |
| GE30-KRR-B-FA101 | 0,38 | 30 | 62 | 18 | 20,7 | 36,5 | 18,3 |
| GNE30-KRR-B | 0,63 | 30 | 72 | 20 | 24 | 36,6 | 17,5 |
| GE30-KTT-B | 0,38 | 30 | 62 | 18 | 20,7 | 36,5 | 18,3 |
| GE30-KRR-B-2C | 0,41 | 30 | 62 | 18 | 27,2 | 36,5 | 18,3 |
| GE30-KLL-B | 0,39 | 30 | 62 | 18 | 20,6 | 36,5 | 18,3 |
| GRAE35-NPP-B | 0,47 | 35 | 72 | 19 | – | 25,4 | 9,5 |
| GRAE35-NPP-B-FA125.5 | 0,48 | 35 | 72 | 19 | – | 25,4 | 9,5 |
| RAE35-NPP-B | 0,47 | 35 | 72 | 19 | – | 25,4 | 9,5 |
| E35-KRR-B | 0,55 | 35 | 72 | 19 | 22,5 | 37,7 | 18,8 |
| GE35-KRR-B | 0,55 | 35 | 72 | 19 | 22,5 | 37,7 | 18,8 |
| GE35-KRR-B-FA125.5 | 0,55 | 35 | 72 | 19 | 22,5 | 37,7 | 18,8 |
| GE35-KRR-B-FA164 | 0,55 | 35 | 72 | 19 | 22,5 | 37,7 | 18,8 |
| GNE35-KRR-B | 0,74 | 35 | 80 | 22 | 25 | 38,1 | 18,3 |
| GE35-KTT-B | 0,56 | 35 | 72 | 19 | 22,5 | 37,7 | 18,8 |
| GE35-KRR-B-2C | 0,58 | 35 | 72 | 19 | 29,2 | 37,7 | 18,8 |
| GE35-KLL-B | 0,56 | 35 | 72 | 19 | 25,4 | 37,7 | 18,8 |

¹⁾ Permissible speeds of radial insert ball bearings: see page 1182.

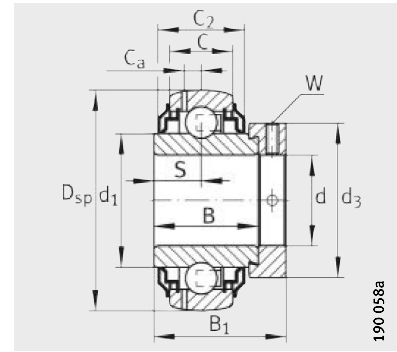
²⁾ Reference bearings for determining the equivalent bearing load: see page 204.



GE..-KRR-B, GNE..-KRR-B,
E..-KRR-B, GE..-KLL-B



GE..-KTT-B



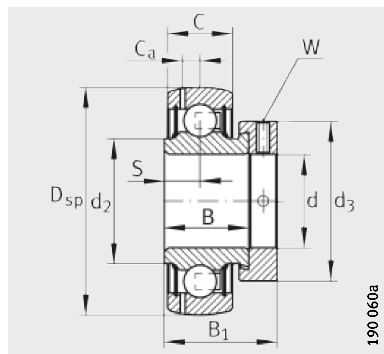
GE..-KRR-B-2C

| d ₁ | d ₂ | D ₁ | C _a | B ₁ | d ₃ max. | W | Basic load ratings | | Reference bearing ²⁾ |
|----------------|----------------|----------------|----------------|----------------|------------------------|-----|-----------------------------|-------------------------------|---------------------------------|
| | | | | | | | dyn. C _r N | stat. C _{0r} N | |
| - | 37,4 | - | 4,7 | 35,8 | 44 | 4 | 19 500 | 11 300 | 6206 |
| - | 37,4 | - | 4,7 | 35,8 | 44 | 4 | 19 500 | 11 300 | 6206 |
| - | 37,4 | - | - | 35,8 | 44 | 4 | 19 500 | 11 300 | 6206 |
| - | 35,7 | - | - | 26,5 | 42,5 | 2,5 | 13 200 | 8 300 | 6206 |
| 40,2 | - | 52 | - | 48,5 | 44 | 4 | 19 500 | 11 300 | 6206 |
| 40,2 | - | 52 | 4,7 | 48,5 | 44 | 4 | 19 500 | 11 300 | 6206 |
| 40,2 | - | 52 | 4,7 | 48,5 | 44 | 4 | 19 500 | 11 300 | 6206 |
| 40,2 | - | 52 | 4,7 | 48,5 | 44 | 4 | 19 500 | 11 300 | 6206 |
| 40,2 | - | 52 | 4,7 | 48,5 | 44 | 4 | 19 500 | 11 300 | 6206 |
| 44 | - | 60,2 | 6,2 | 50,2 | 51 | 5 | 29 500 | 16 700 | 6306 |
| 40,2 | - | 52 | 4,7 | 48,5 | 44 | 4 | 19 500 | 11 300 | 6206 |
| 40,2 | - | - | 4,7 | 48,5 | 44 | 4 | 19 500 | 11 300 | 6206 |
| 40,2 | - | 52 | 4,7 | 48,5 | 44 | 4 | 19 500 | 11 300 | 6206 |
| - | 44,6 | - | 5,6 | 39 | 51 | 5 | 25 500 | 15 300 | 6207 |
| - | 44,6 | - | 5,6 | 39 | 51 | 5 | 25 500 | 15 300 | 6207 |
| - | 44,6 | - | - | 39 | 51 | 5 | 25 500 | 15 300 | 6207 |
| 46,8 | - | 60,3 | - | 51,3 | 51 | 5 | 25 500 | 15 300 | 6207 |
| 46,8 | - | 60,3 | 5,6 | 51,3 | 51 | 5 | 25 500 | 15 300 | 6207 |
| 46,8 | - | 60,3 | 5,6 | 51,3 | 51 | 5 | 25 500 | 15 300 | 6207 |
| 46,8 | - | 60,3 | 5,6 | 51,3 | 51 | 5 | 25 500 | 15 300 | 6207 |
| 48 | - | 66,6 | 6,9 | 51,6 | 55 | 5 | 36 500 | 20 900 | 6307 |
| 46,8 | - | 60,3 | 5,6 | 51,3 | 51 | 5 | 25 500 | 15 300 | 6207 |
| 46,8 | - | - | 5,6 | 51,3 | 51 | 5 | 25 500 | 15 300 | 6207 |
| 46,8 | - | 60,3 | 5,6 | 51,3 | 51 | 5 | 25 500 | 15 300 | 6207 |

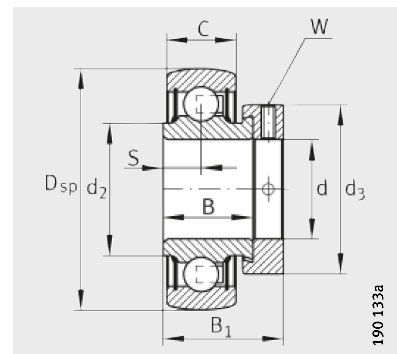


Radial insert ball bearings with eccentric locking collar

Spherical outer ring



GRAE..-NPP-B



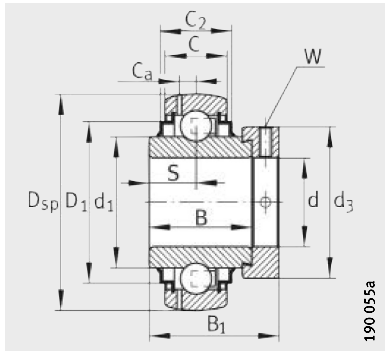
RAE..-NPP-B

Dimension table (continued) · Dimensions in mm

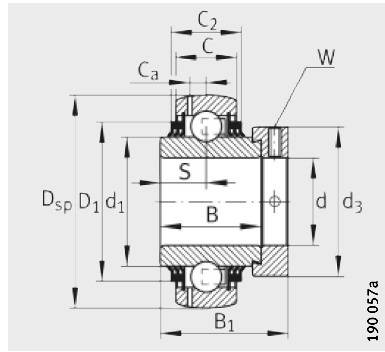
| Designation ¹⁾ | Mass m ≈kg | Dimensions | | | | | |
|---------------------------|------------------|------------|-----------------|----|----------------|------|------|
| | | d | D _{sp} | C | C ₂ | B | S |
| GRAE40-NPP-B | 0,62 | 40 | 80 | 21 | – | 30,2 | 11 |
| GRAE40-NPP-B-FA125.5 | 0,62 | 40 | 80 | 21 | – | 30,2 | 11 |
| RAE40-NPP-B | 0,63 | 40 | 80 | 21 | – | 30,2 | 11 |
| E40-KRR-B | 0,73 | 40 | 80 | 21 | 23,5 | 42,9 | 21,4 |
| GE40-KRR-B | 0,73 | 40 | 80 | 21 | 23,5 | 42,9 | 21,4 |
| GE40-KRR-B-FA125.5 | 0,74 | 40 | 80 | 21 | 23,5 | 42,9 | 21,4 |
| GE40-KRR-B-FA164 | 0,75 | 40 | 80 | 21 | 23,5 | 42,9 | 21,4 |
| GE40-KRR-B-FA101 | 0,74 | 40 | 80 | 21 | 23,5 | 42,9 | 21,4 |
| GNE40-KRR-B | 1,02 | 40 | 90 | 23 | 26 | 41 | 18 |
| GE40-KTT-B | 0,75 | 40 | 80 | 21 | 28,1 | 42,9 | 21,4 |
| GE40-KRR-B-2C | 0,78 | 40 | 80 | 21 | 31,9 | 42,9 | 21,4 |
| GE40-KLL-B | 0,75 | 40 | 80 | 21 | 28,1 | 42,9 | 21,4 |
| GRAE45-NPP-B | 0,7 | 45 | 85 | 22 | – | 30,2 | 11 |
| GRAE45-NPP-B-FA125.5 | 0,69 | 45 | 85 | 22 | – | 30,2 | 11 |
| GE45-KRR-B | 0,83 | 45 | 85 | 22 | 26,4 | 42,9 | 21,4 |
| GE45-KRR-B-FA125.5 | 0,83 | 45 | 85 | 22 | 26,4 | 42,9 | 21,4 |
| GE45-KTT-B | 0,83 | 45 | 85 | 22 | 26,4 | 42,9 | 21,4 |
| GE45-KLL-B | 0,84 | 45 | 85 | 22 | 26,4 | 42,9 | 21,4 |
| GRAE50-NPP-B | 0,77 | 50 | 90 | 22 | – | 30,2 | 11 |
| GRAE50-NPP-B-FA125.5 | 0,77 | 50 | 90 | 22 | – | 30,2 | 11 |
| RAE50-NPP-B | 0,77 | 50 | 90 | 22 | – | 30,2 | 11 |
| GE50-KRR-B | 0,99 | 50 | 90 | 22 | 26,4 | 49,2 | 24,6 |
| GE50-KRR-B-FA125.5 | 0,99 | 50 | 90 | 22 | 26,4 | 49,2 | 24,6 |
| GE50-KRR-B-FA164 | 0,99 | 50 | 90 | 22 | 26,4 | 49,2 | 24,6 |
| GE50-KRR-B-FA101 | 0,99 | 50 | 90 | 22 | 26,4 | 49,2 | 24,6 |
| GNE50-KRR-B | 1,82 | 50 | 110 | 29 | 31 | 49,2 | 24,6 |
| GE50-KTT-B | 0,98 | 50 | 90 | 22 | 26,4 | 49,2 | 24,6 |
| GE50-KLL-B | 1 | 50 | 90 | 22 | 26,4 | 49,2 | 24,6 |
| GRAE55-NPP-B | 1,06 | 55 | 100 | 25 | – | 32,5 | 12 |
| GE55-KRR-B | 1,37 | 55 | 100 | 25 | 29 | 55,5 | 27,8 |
| GE55-KTT-B | 1,37 | 55 | 100 | 25 | 29 | 55,5 | 27,8 |

¹⁾ Permissible speeds of radial insert ball bearings: see page 1182.

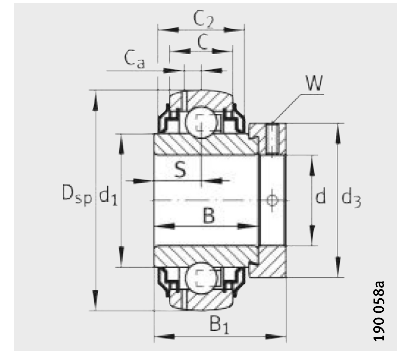
²⁾ Reference bearings for determining the equivalent bearing load: see page 204.



GE..-KRR-B, GNE..-KRR-B,
E..-KRR-B, GE..-KLL-B



GE..-KTT-B



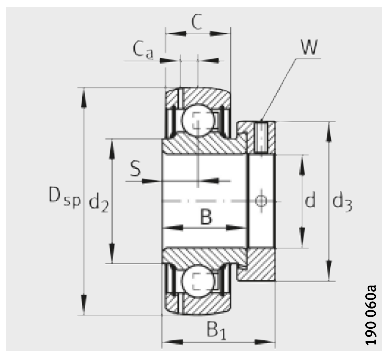
GE..-KRR-B-2C

| d ₁ | d ₂ | D ₁ | C _a | B ₁ | d ₃ max. | W | Basic load ratings | | Reference bearing ²⁾ |
|----------------|----------------|----------------|----------------|----------------|------------------------|---|-----------------------------|-------------------------------|---------------------------------|
| | | | | | | | dyn. C _r N | stat. C _{0r} N | |
| - | 49,4 | - | 6,4 | 43,8 | 58 | 5 | 32 500 | 19 800 | 6208 |
| - | 49,4 | - | 6,4 | 43,8 | 58 | 5 | 32 500 | 19 800 | 6208 |
| - | 49,4 | - | - | 43,8 | 58 | 5 | 32 500 | 19 800 | 6208 |
| 52,3 | - | 68,3 | - | 56,5 | 58 | 5 | 32 500 | 19 800 | 6208 |
| 52,3 | - | 68,3 | 6,4 | 56,5 | 58 | 5 | 32 500 | 19 800 | 6208 |
| 52,3 | - | 68,3 | 6,4 | 56,5 | 58 | 5 | 32 500 | 19 800 | 6208 |
| 52,3 | - | 68,3 | 6,4 | 56,5 | 58 | 5 | 32 500 | 19 800 | 6208 |
| 52,3 | - | 68,3 | 6,4 | 56,5 | 58 | 5 | 32 500 | 19 800 | 6208 |
| 52,3 | - | 68,3 | 6,4 | 56,5 | 58 | 5 | 32 500 | 19 800 | 6208 |
| 53,8 | - | 74,5 | 7,5 | 54,6 | 63 | 5 | 44 500 | 26 000 | 6308 |
| 52,3 | - | 68,3 | 6,4 | 56,5 | 58 | 5 | 32 500 | 19 800 | 6208 |
| 52,3 | - | - | 6,4 | 56,5 | 58 | 5 | 32 500 | 19 800 | 6208 |
| 52,3 | - | 68,3 | 6,4 | 56,5 | 58 | 5 | 32 500 | 19 800 | 6208 |
| - | 54,3 | - | 6,4 | 43,8 | 63 | 5 | 32 500 | 20 400 | 6209 |
| - | 54,3 | - | 6,4 | 43,8 | 63 | 5 | 32 500 | 20 400 | 6209 |
| 57,9 | - | 72,3 | 6,4 | 56,5 | 63 | 5 | 32 500 | 20 400 | 6209 |
| 57,9 | - | 72,3 | 6,4 | 56,5 | 63 | 5 | 32 500 | 20 400 | 6209 |
| 57,9 | - | 72,3 | 6,4 | 56,5 | 63 | 5 | 32 500 | 20 400 | 6209 |
| 57,9 | - | 72,3 | 6,4 | 56,5 | 63 | 5 | 32 500 | 20 400 | 6209 |
| - | 59,4 | - | 6,9 | 43,8 | 69 | 5 | 35 000 | 23 200 | 6210 |
| - | 59,4 | - | 6,9 | 43,8 | 69 | 5 | 35 000 | 23 200 | 6210 |
| - | 59,4 | - | - | 43,8 | 69 | 5 | 35 000 | 23 200 | 6210 |
| 62,8 | - | 77,3 | 6,9 | 62,8 | 69 | 5 | 35 000 | 23 200 | 6210 |
| 62,8 | - | 77,3 | 6,9 | 62,8 | 69 | 5 | 35 000 | 23 200 | 6210 |
| 62,8 | - | 77,3 | 6,9 | 62,8 | 69 | 5 | 35 000 | 23 200 | 6210 |
| 62,8 | - | 77,3 | 6,9 | 62,8 | 69 | 5 | 35 000 | 23 200 | 6210 |
| 68,8 | - | 92,7 | 8,7 | 66,75 | 75,8 | 5 | 62 000 | 38 000 | 6310 |
| 62,8 | - | 77,3 | 6,9 | 62,8 | 69 | 5 | 35 000 | 23 200 | 6210 |
| 62,8 | - | 77,3 | 6,9 | 62,8 | 69 | 5 | 35 000 | 23 200 | 6210 |
| - | 66 | - | 7 | 48,4 | 76 | 5 | 43 500 | 29 000 | 6211 |
| 69,8 | - | 85,9 | 7 | 71,4 | 76 | 5 | 43 500 | 29 000 | 6211 |
| 69,8 | - | 85,9 | 7 | 71,4 | 76 | 5 | 43 500 | 29 000 | 6211 |

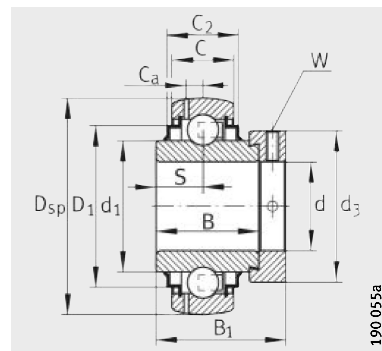


Radial insert ball bearings with eccentric locking collar

Spherical outer ring



GRAE...NPP-B



GE...KRR-B, GNE...KRR-B

Dimension table (continued) · Dimensions in mm

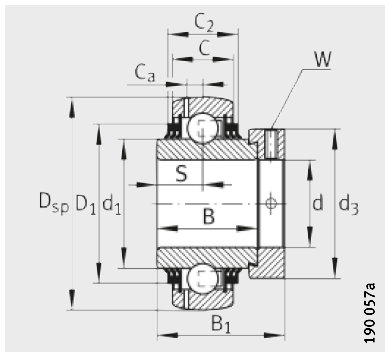
| Designation ¹⁾ | Mass m ≈kg | Dimensions | | | | | |
|------------------------------------|------------------|------------|-----------------|----|----------------|------|------|
| | | d | D _{sp} | C | C ₂ | B | S |
| GRAE60-NPP-B | 1,4 | 60 | 110 | 24 | – | 37,1 | 13,5 |
| GRAE60-NPP-B-FA125.5 | 1,4 | 60 | 110 | 24 | – | 37,1 | 13,5 |
| GE60-KRR-B | 1,8 | 60 | 110 | 24 | 29 | 61,9 | 31 |
| GE60-KRR-B-FA164 | 1,8 | 60 | 110 | 24 | 29 | 61,9 | 31 |
| GE60-KRR-B-FA101 | 1,8 | 60 | 110 | 24 | 29 | 61,9 | 31 |
| GNE60-KRR-B | 2,97 | 60 | 130 | 33 | 37,2 | 52 | 23 |
| GE60-KTT-B | 1,8 | 60 | 110 | 24 | 29 | 61,9 | 31 |
| GE65-214-KRR-B ³⁾ | 2,71 | 65 | 125 | 28 | 32 | 48,5 | 21,5 |
| GE65-214-KRR-B-FA164 ³⁾ | 2,71 | 65 | 125 | 28 | 32 | 48,5 | 21,5 |
| GE65-214-KTT-B ³⁾ | 2,71 | 65 | 125 | 28 | 32 | 48,5 | 21,5 |
| GE70-KRR-B | 2,15 | 70 | 125 | 28 | 32 | 48,5 | 21,5 |
| GE70-KRR-B-FA164 | 2,15 | 70 | 125 | 28 | 32 | 48,5 | 21,5 |
| GE70-KRR-B-FA101 | 2,15 | 70 | 125 | 28 | 32 | 48,5 | 21,5 |
| GNE70-KRR-B | 3,81 | 70 | 150 | 37 | 41 | 58 | 26 |
| GE70-KTT-B | 2,15 | 70 | 125 | 28 | 32 | 48,5 | 21,5 |
| GE75-KRR-B | 2,14 | 75 | 130 | 28 | 30,5 | 49,5 | 21,5 |
| GE75-KRR-B-FA101 | 2,14 | 75 | 130 | 28 | 30,5 | 49,5 | 21,5 |
| GE75-KTT-B | 2,14 | 75 | 130 | 28 | 30,5 | 49,5 | 21,5 |
| GE80-KRR-B | 2,79 | 80 | 140 | 30 | 38 | 53,2 | 23,4 |
| GE80-KRR-B-AH01-FA164 | 2,95 | 80 | 140 | 30 | 38 | 53,2 | 23,4 |
| GNE80-KRR-B ⁴⁾ | 7,1 | 80 | 170 | 41 | 51 | 73 | 34 |
| GE80-KTT-B | 2,79 | 80 | 140 | 30 | 38 | 53,2 | 23,4 |
| GE90-KRR-B ⁴⁾ | 3,56 | 90 | 160 | 32 | 35 | 52 | 23 |
| GE90-KRR-B-FA164 ⁴⁾ | 3,68 | 90 | 160 | 32 | 35 | 52 | 23 |
| GNE90-KRR-B ⁴⁾ | 8,07 | 90 | 190 | 45 | 52,6 | 77,5 | 35,5 |
| GE100-KRR-B ⁴⁾ | 5 | 100 | 180 | 36 | 39 | 57,5 | 25,5 |
| GNE100-KRR-B ⁴⁾ | 11,41 | 100 | 215 | 49 | 59,4 | 86 | 39,5 |
| GE120-KRR-B ⁴⁾ | 7,49 | 120 | 215 | 40 | 45 | 63,5 | 28,5 |

¹⁾ Permissible speeds of radial insert ball bearings: see page 1182.

²⁾ Reference bearings for determining the equivalent bearing load: see page 204.

³⁾ Different ball set 6214.

⁴⁾ Lubrication groove in outer ring.



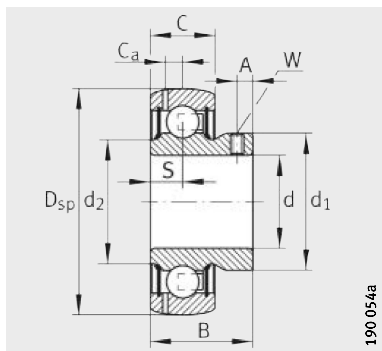
GE..-KTT-B

| | | | | | | | Basic load ratings | | Reference bearing ²⁾ |
|----------------|----------------|----------------|----------------|----------------|------------------------|---|-----------------------------|-------------------------------|---------------------------------|
| d ₁ | d ₂ | D ₁ | C _a | B ₁ | d ₃ max. | W | dyn. C _r N | stat. C _{0r} N | |
| - | 72 | - | 7,2 | 53,1 | 84 | 5 | 52 000 | 36 000 | 6212 |
| - | 72 | - | 7,2 | 53,1 | 84 | 5 | 52 000 | 36 000 | 6212 |
| 76,5 | - | 94,5 | 7,2 | 77,9 | 84 | 5 | 52 000 | 36 000 | 6212 |
| 76,5 | - | 94,5 | 7,2 | 77,9 | 84 | 5 | 52 000 | 36 000 | 6212 |
| 76,5 | - | 94,5 | 7,2 | 77,9 | 84 | 5 | 52 000 | 36 000 | 6212 |
| 79,4 | - | 109 | 11,2 | 68 | 89 | 5 | 82 000 | 52 000 | 6312 |
| 76,5 | - | 94,5 | 7,2 | 77,9 | 84 | 5 | 52 000 | 36 000 | 6212 |
| 85,2 | - | 109 | 8,9 | 66 | 96 | 6 | 62 000 | 44 000 | 6214 |
| 85,2 | - | 109 | 8,9 | 66 | 96 | 6 | 62 000 | 44 000 | 6214 |
| 85,2 | - | 109 | 8,9 | 66 | 96 | 6 | 62 000 | 44 000 | 6214 |
| 85,2 | - | 109 | 8,9 | 66 | 96 | 6 | 62 000 | 44 000 | 6214 |
| 85,2 | - | 109 | 8,9 | 66 | 96 | 6 | 62 000 | 44 000 | 6214 |
| 85,2 | - | 109 | 8,9 | 66 | 96 | 6 | 62 000 | 44 000 | 6214 |
| 92,2 | - | 127 | 12 | 75,5 | 102 | 6 | 104 000 | 68 000 | 6314 |
| 85,2 | - | 109 | 8,9 | 66 | 96 | 6 | 62 000 | 44 000 | 6214 |
| 90 | - | 113 | 8,5 | 67 | 100 | 6 | 62 000 | 44 500 | 6214 |
| 90 | - | 113 | 8,5 | 67 | 100 | 6 | 62 000 | 44 500 | 6214 |
| 90 | - | 113 | 8,5 | 67 | 100 | 6 | 62 000 | 44 500 | 6214 |
| 97 | - | 120 | 8,8 | 70,7 | 108 | 6 | 72 000 | 54 000 | 6216 |
| 97 | - | 120 | 8,8 | 70,7 | 108 | 6 | 72 000 | 54 000 | 6216 |
| 109 | - | 142,8 | 13,2 | 93,6 | 108 | 6 | 123 000 | 87 000 | 6316 |
| 97 | - | 120 | 8,8 | 70,7 | 108 | 6 | 72 000 | 54 000 | 6216 |
| 109,4 | - | 138 | 10 | 69,5 | 118 | 6 | 96 000 | 72 000 | 6218 |
| 109,4 | - | 138 | 10 | 69,5 | 118 | 6 | 96 000 | 72 000 | 6218 |
| 122,2 | - | 161,3 | 14,3 | 101 | 132 | 6 | 143 000 | 107 000 | 6318 |
| 122,2 | - | 155,5 | 11,2 | 75 | 132 | 6 | 122 000 | 93 000 | 6220 |
| 137,1 | - | 182,8 | 16,7 | 109,4 | 145 | 6 | 174 000 | 140 000 | 6320 |
| 146,4 | - | 186,5 | 12,8 | 81 | 152 | 6 | 155 000 | 131 000 | 6224 |

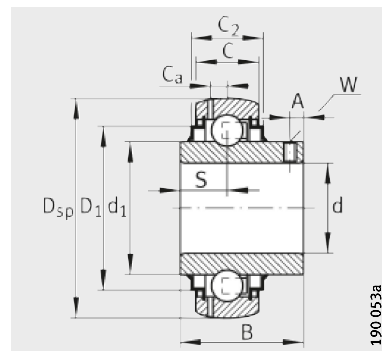


Radial insert ball bearings with grub screws in inner ring

Spherical outer ring



GAY..-NPP-B, AY..-NPP-B



GYE..-KRR-B

Dimension table · Dimensions in mm

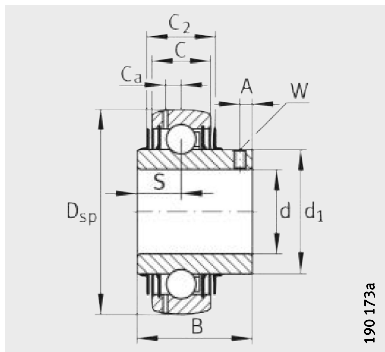
| Designation ¹⁾ | Mass m ≈kg | Dimensions | | | | | |
|--------------------------------|------------------|------------|-----------------|----|----------------|------|------|
| | | d | D _{sp} | C | C ₂ | B | S |
| GAY12-NPP-B | 0,1 | 12 | 40 | 12 | – | 22 | 6 |
| GAY12-NPP-B-FA164 | 0,1 | 12 | 40 | 12 | – | 22 | 6 |
| AY12-NPP-B | 0,1 | 12 | 40 | 12 | – | 22 | 6 |
| GYE12-KRR-B | 0,11 | 12 | 40 | 12 | 16,6 | 27,4 | 11,5 |
| GYE12-KRR-B-VA | 0,11 | 12 | 40 | 12 | 12,6 | 25 | 9,6 |
| GAY15-NPP-B | 0,09 | 15 | 40 | 12 | – | 22 | 6 |
| GAY15-NPP-B-FA164 | 0,09 | 15 | 40 | 12 | – | 22 | 6 |
| AY15-NPP-B | 0,09 | 15 | 40 | 12 | – | 22 | 6 |
| GYE15-KRR-B | 0,1 | 15 | 40 | 12 | 16,6 | 27,4 | 11,5 |
| GYE15-KRR-B-VA | 0,1 | 15 | 40 | 12 | 12,6 | 25 | 9,6 |
| GYE16-KRR-B | 0,09 | 16 | 40 | 12 | 16,6 | 27,4 | 11,5 |
| GAY17-NPP-B | 0,08 | 17 | 40 | 12 | – | 22 | 6 |
| AY17-NPP-B | 0,08 | 17 | 40 | 12 | – | 22 | 6 |
| GYE17-KRR-B | 0,09 | 17 | 40 | 12 | 16,6 | 27,4 | 11,5 |
| GYE17-KRR-B-VA | 0,08 | 17 | 40 | 12 | 12,6 | 25 | 9,6 |
| GAY20-NPP-B | 0,13 | 20 | 47 | 14 | – | 25 | 7 |
| AY20-NPP-B | 0,13 | 20 | 47 | 14 | – | 25 | 7 |
| GYE20-KRR-B | 0,14 | 20 | 47 | 14 | 16,6 | 31 | 12,7 |
| GYE20-KRR-B-VA ³⁾⁴⁾ | 0,15 | 20 | 47 | 16 | 16,6 | 31 | 12,7 |
| GAY25-NPP-B | 0,16 | 25 | 52 | 15 | – | 27 | 7,5 |
| AY25-NPP-B | 0,16 | 25 | 52 | 15 | – | 27 | 7,5 |
| GYE25-KRR-B | 0,19 | 25 | 52 | 15 | 16,7 | 34,1 | 14,3 |
| GYE25-KRR-B-VA ³⁾⁴⁾ | 0,21 | 25 | 52 | 17 | 17,6 | 34,1 | 14,3 |
| GAY30-NPP-B | 0,26 | 30 | 62 | 18 | – | 30 | 9 |
| AY30-NPP-B | 0,25 | 30 | 62 | 18 | – | 30 | 9 |
| GYE30-KRR-B | 0,31 | 30 | 62 | 18 | 20,7 | 38,1 | 15,9 |
| GYE30-KRR-B-VA ³⁾⁴⁾ | 0,3 | 30 | 62 | 19 | 19,6 | 38,1 | 15,9 |
| GAY35-NPP-B | 0,41 | 35 | 72 | 19 | – | 35 | 9,5 |
| GYE35-KRR-B | 0,46 | 35 | 72 | 19 | 22,5 | 42,9 | 17,5 |
| GYE35-KRR-B-VA ³⁾⁴⁾ | 0,5 | 35 | 72 | 20 | 20,6 | 42,9 | 17,5 |

1) Permissible speeds of radial insert ball bearings: see page 1182.

2) Reference bearings for determining the equivalent bearing load: see page 204.

3) Lubrication groove in outer ring.

4) Optionally available in FA107.



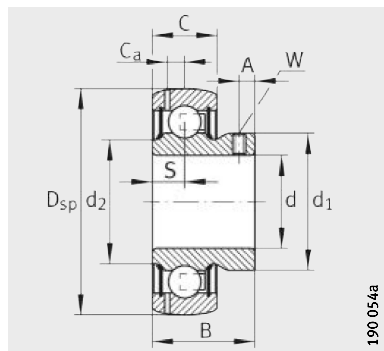
GYE..-KRR-B-VA

| d ₁ | d ₂ | D ₁ | C _a | A | W | Basic load ratings | | Reference bearing ²⁾ |
|----------------|----------------|----------------|----------------|-----|-----|-----------------------------|-------------------------------|---------------------------------|
| | | | | | | dyn. C _r N | stat. C _{0r} N | |
| 23,9 | 22,9 | – | 3,4 | 4 | 2,5 | 9 800 | 4 750 | 6203 |
| 23,9 | 22,9 | – | 3,4 | 4 | 2,5 | 9 800 | 4 750 | 6203 |
| 23,9 | 22,9 | – | – | 4 | 2,5 | 9 800 | 4 750 | 6203 |
| 23,9 | – | 31,6 | 3,4 | 4 | 2,5 | 9 800 | 4 750 | 6203 |
| 23,9 | – | – | 3,4 | 4 | 2,5 | 9 800 | 4 750 | 6203 |
| 23,9 | 22,9 | – | 3,4 | 4 | 2,5 | 9 800 | 4 750 | 6203 |
| 23,9 | 22,9 | – | 3,4 | 4 | 2,5 | 9 800 | 4 750 | 6203 |
| 23,9 | 22,9 | – | – | 4 | 2,5 | 9 800 | 4 750 | 6203 |
| 23,9 | – | 31,6 | 3,4 | 4 | 2,5 | 9 800 | 4 750 | 6203 |
| 23,9 | – | – | 3,4 | 4 | 2,5 | 9 800 | 4 750 | 6203 |
| 23,9 | – | 31,6 | 3,4 | 4 | 2,5 | 9 800 | 4 750 | 6203 |
| 23,9 | 22,9 | – | 3,4 | 4 | 2,5 | 9 800 | 4 750 | 6203 |
| 23,9 | 22,9 | – | – | 4 | 2,5 | 9 800 | 4 750 | 6203 |
| 23,9 | – | 31,6 | 3,4 | 4 | 2,5 | 9 800 | 4 750 | 6203 |
| 23,9 | – | – | 3,4 | 4 | 2,5 | 9 800 | 4 750 | 6203 |
| 28,3 | 26,7 | – | 4 | 4,5 | 2,5 | 12 800 | 6 600 | 6204 |
| 28,3 | 26,7 | – | – | 4,5 | 2,5 | 12 800 | 6 600 | 6204 |
| 27,6 | – | 37,4 | 4 | 4,5 | 2,5 | 12 800 | 6 600 | 6204 |
| 29,05 | – | – | 4 | 5 | 2,5 | 12 800 | 6 600 | 6204 |
| 33,5 | 30,4 | – | 3,9 | 5 | 2,5 | 14 000 | 7 800 | 6205 |
| 33,5 | 30,4 | – | – | 5 | 2,5 | 14 000 | 7 800 | 6205 |
| 33,8 | – | 42,5 | 3,9 | 5 | 2,5 | 14 000 | 7 800 | 6205 |
| 34,03 | – | – | 4,15 | 5 | 2,5 | 14 000 | 7 800 | 6205 |
| 39,4 | 37,3 | – | 4,7 | 5,8 | 3 | 19 500 | 11 300 | 6206 |
| 39,4 | 37,3 | – | – | 5,8 | 3 | 19 500 | 11 300 | 6206 |
| 40,2 | – | 52 | 4,7 | 5,8 | 3 | 19 500 | 11 300 | 6206 |
| 40,31 | – | – | 5 | 6 | 3 | 19 500 | 11 300 | 6206 |
| 46,9 | 44,5 | – | 5,6 | 6 | 3 | 25 500 | 15 300 | 6207 |
| 46,8 | – | 60,3 | 5,6 | 6 | 3 | 25 500 | 15 300 | 6207 |
| 47,4 | – | – | 5,7 | 6,5 | 3 | 25 500 | 15 300 | 6207 |

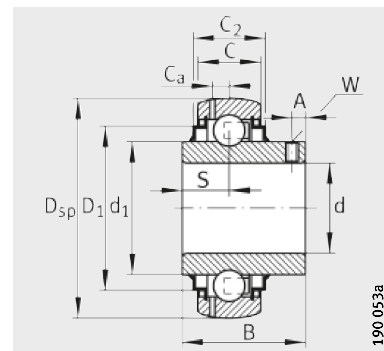


Radial insert ball bearings with grub screws in inner ring

Spherical outer ring



GAY..-NPP-B



GYE..-KRR-B

Dimension table (continued) · Dimensions in mm

| Designation ¹⁾ | Mass m ≈kg | Dimensions | | | | | |
|--------------------------------------|------------------|------------|-----------------|----|----------------|------|------|
| | | d | D _{sp} | C | C ₂ | B | S |
| GAY40-NPP-B | 0,53 | 40 | 80 | 21 | – | 39,5 | 10,5 |
| GYE40-KRR-B | 0,62 | 40 | 80 | 21 | 23,5 | 49,2 | 19 |
| GYE40-KRR-B-VA⁵⁾⁶⁾ | 0,6 | 40 | 80 | 21 | 21,6 | 49,2 | 19 |
| GAY45-NPP-B | 0,6 | 45 | 85 | 22 | – | 41,5 | 11 |
| GYE45-KRR-B | 0,71 | 45 | 85 | 22 | 26,4 | 49,2 | 19 |
| GYE45-210-KRR-B³⁾ | 0,8 | 45 | 90 | 22 | 26,4 | 51,6 | 19 |
| GYE45-KRR-B-VA⁵⁾⁶⁾ | 0,66 | 45 | 85 | 22 | 22,6 | 49,2 | 19 |
| GAY50-NPP-B | 0,67 | 50 | 90 | 22 | – | 43 | 11 |
| GYE50-KRR-B | 0,79 | 50 | 90 | 22 | 26,4 | 51,6 | 19 |
| GYE50-KRR-B-VA⁵⁾⁶⁾ | 0,78 | 50 | 90 | 23 | 23,6 | 51,6 | 19 |
| GYE55-KRR-B | 1,08 | 55 | 100 | 25 | 29 | 55,6 | 22,2 |
| GAY60-NPP-B | 1,17 | 60 | 110 | 24 | – | 47 | 13 |
| GYE60-KRR-B | 1,46 | 60 | 110 | 24 | 29 | 65,1 | 25,4 |
| GYE65-214-KRR-B⁴⁾ | 2,25 | 65 | 125 | 28 | 32 | 74,6 | 30,2 |
| GYE70-KRR-B | 1,95 | 70 | 125 | 28 | 32 | 74,6 | 30,2 |
| GYE75-KRR-B | 2,07 | 75 | 130 | 28 | 30,5 | 77,8 | 33,3 |
| GYE80-KRR-B | 2,7 | 80 | 140 | 30 | 38 | 82,6 | 33,3 |
| GYE90-KRR-B⁵⁾ | 3,93 | 90 | 160 | 32 | 35 | 96 | 39,7 |

1) Permissible speeds of radial insert ball bearings: see page 1182.

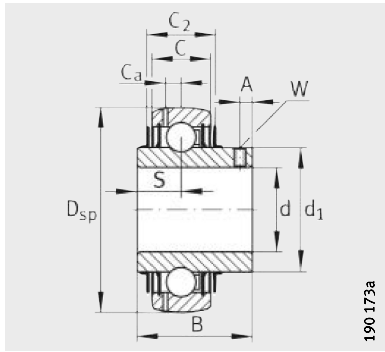
2) Reference bearings for determining the equivalent bearing load: see page 204.

3) Different ball set 6210.

4) Different ball set 6214.

5) Lubrication groove in outer ring.

6) Optionally available in FA107.



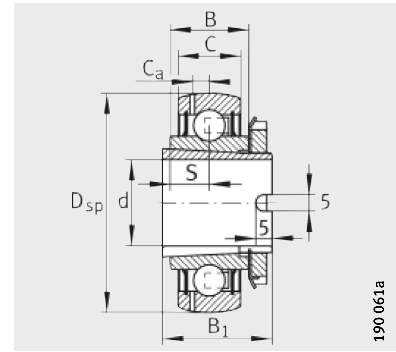
GYE..-KRR-B-VA

| d ₁ | d ₂ | D ₁ | C _a | A | W | Basic load ratings | | Reference bearing ²⁾ |
|----------------|----------------|----------------|----------------|------|---|-----------------------------|-------------------------------|---------------------------------|
| | | | | | | dyn. C _r N | stat. C _{0r} N | |
| 52,4 | 49,3 | – | 6,4 | 8 | 4 | 32 500 | 19 800 | 6208 |
| 52,3 | – | 68,3 | 6,4 | 8 | 4 | 32 500 | 19 800 | 6208 |
| 52,83 | – | – | 5,9 | 8 | 4 | 32 500 | 19 800 | 6208 |
| 57 | 54,3 | – | 6,4 | 8 | 4 | 32 500 | 20 400 | 6209 |
| 57 | – | 72,3 | 6,4 | 8 | 4 | 32 500 | 20 400 | 6209 |
| 62,9 | – | 77,3 | 6,9 | 8,5 | 4 | 35 000 | 23 200 | 6210 |
| 57,3 | – | – | 6,5 | 8 | 4 | 32 500 | 20 400 | 6209 |
| 62 | 59,3 | – | 6,9 | 9 | 4 | 35 000 | 23 200 | 6210 |
| 62,8 | – | 77,3 | 6,9 | 8,5 | 4 | 35 000 | 23 200 | 6210 |
| 62,92 | – | – | 6,5 | 9 | 5 | 35 000 | 23 200 | 6210 |
| 69,8 | – | 85,9 | 7 | 9 | 4 | 43 500 | 29 000 | 6211 |
| 76 | 73,6 | – | 7,2 | 10 | 5 | 52 000 | 36 000 | 6212 |
| 76,5 | – | 94,5 | 7,2 | 10,1 | 5 | 52 000 | 36 000 | 6212 |
| 85,2 | – | 109 | 8,9 | 12,1 | 5 | 62 000 | 44 000 | 6214 |
| 85,2 | – | 109 | 8,9 | 12 | 5 | 62 000 | 44 000 | 6214 |
| 90 | – | 113 | 8,5 | 12,7 | 5 | 62 000 | 44 500 | 6215 |
| 97 | – | 120 | 8,8 | 12 | 5 | 72 000 | 54 000 | 6216 |
| 109,4 | – | 138 | 10 | 12 | 6 | 96 000 | 72 000 | 6216 |



Radial insert ball bearings with integral adapter sleeve

Spherical outer ring



GSH..-2RSR-B

Dimension table · Dimensions in mm

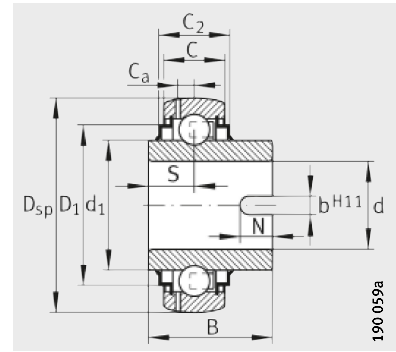
| Designation | Mass m ≈kg | Dimensions | | | | | | | Limiting speed ¹⁾ n _G grease min ⁻¹ | Basic load ratings | | Reference bearing ²⁾ |
|---------------------|------------------|------------|-----------------|----|----|-----|----------------|----------------|---|-----------------------------|-------------------------------|------------------------------------|
| | | d | D _{sp} | C | B | S | C _a | B ₁ | | dyn. C _r N | stat. C _{0r} N | |
| GSH20-2RSR-B | 0,14 | 20 | 47 | 14 | 15 | 7,5 | 4 | 28 | 10 000 | 12 700 | 6 600 | 6204 |
| GSH25-2RSR-B | 0,17 | 25 | 52 | 15 | 15 | 7,5 | 3,9 | 28 | 8 000 | 13 600 | 7 800 | 6205 |
| GSH30-2RSR-B | 0,27 | 30 | 62 | 18 | 18 | 9 | 4,7 | 32 | 6 600 | 18 900 | 11 300 | 6206 |
| GSH35-2RSR-B | 0,43 | 35 | 72 | 19 | 19 | 9,5 | 5,8 | 34 | 5 700 | 24 900 | 15 300 | 6207 |
| GSH40-2RSR-B | 0,54 | 40 | 80 | 21 | 22 | 11 | 6,4 | 38 | 5 000 | 29 500 | 19 800 | 6208 |
| GSH50-2RSR-B | 0,64 | 50 | 90 | 22 | 22 | 11 | 6,5 | 40 | 4 000 | 33 000 | 19 900 | 6210 |

¹⁾ Mainly for shaft fits h6 to h9.

²⁾ Reference bearings for determining the equivalent bearing load: see page 204.

Radial insert ball bearings with drive slot

Non-locating bearings
Spherical outer ring



GLE...KRR-B

| Dimension table · Dimensions in mm | | | | | | | | | | | | | | | |
|------------------------------------|------------------|------------|-----------------|----|----------------|------|------|----------------|----------------|----------------|----|---|-----------------------------|-------------------------------|---------------------------------|
| Designation ¹⁾ | Mass m ≈kg | Dimensions | | | | | | | | | | | Basic load ratings | | Reference bearing ²⁾ |
| | | d | D _{sp} | C | C ₂ | B | S | d ₁ | D ₁ | C _a | N | b | dyn. C _r N | stat. C _{0r} N | |
| GLE20-KRR-B | 0,15 | 20 | 47 | 14 | 16,6 | 34,1 | 15,6 | 27,6 | 37,4 | 4 | 7 | 7 | 12 800 | 6 600 | 6204 |
| GLE25-KRR-B | 0,19 | 25 | 52 | 15 | 16,7 | 34,9 | 14,7 | 33,8 | 42,5 | 3,9 | 8 | 7 | 14 000 | 7 800 | 6205 |
| GLE30-KRR-B | 0,3 | 30 | 62 | 18 | 20,7 | 36,5 | 14,5 | 40,2 | 52 | 4,7 | 8 | 7 | 19 500 | 11 300 | 6206 |
| GLE35-KRR-B | 0,43 | 35 | 72 | 19 | 22,5 | 37,7 | 15,7 | 46,8 | 60,3 | 5,6 | 8 | 7 | 25 500 | 15 300 | 6207 |
| GLE40-KRR-B | 0,57 | 40 | 80 | 21 | 23,5 | 42,9 | 15,9 | 52,3 | 68,3 | 6,4 | 9 | 7 | 32 500 | 19 800 | 6208 |
| GLE45-KRR-B | 0,66 | 45 | 85 | 22 | 26,4 | 42,9 | 17,4 | 57,9 | 72,3 | 6,4 | 9 | 7 | 32 500 | 20 400 | 6209 |
| GLE50-KRR-B | 0,76 | 50 | 90 | 22 | 26,4 | 49,2 | 19 | 62,8 | 77,3 | 6,9 | 10 | 7 | 35 000 | 23 200 | 6210 |
| GLE60-KRR-B | 1,46 | 60 | 110 | 24 | 29 | 61,9 | 24,6 | 76,5 | 95,9 | 7,2 | 12 | 9 | 52 000 | 36 000 | 6212 |
| GLE70-KRR-B | 1,9 | 70 | 125 | 28 | 32 | 68,2 | 27 | 85,2 | 109 | 8,9 | 12 | 9 | 62 000 | 44 000 | 6214 |

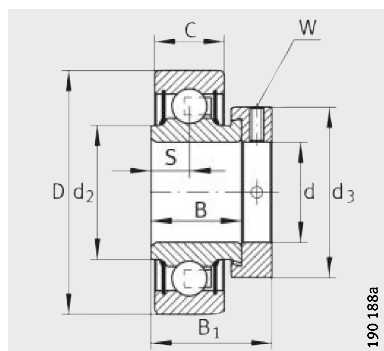
1) Permissible speeds of radial insert ball bearings: see page 1182.

2) Reference bearings for determining the equivalent bearing load: see page 204.

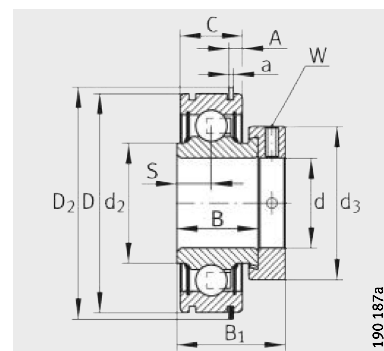


Radial insert ball bearings with eccentric locking collar

Cylindrical outer ring



RAE...-NPP, RALE...-NPP



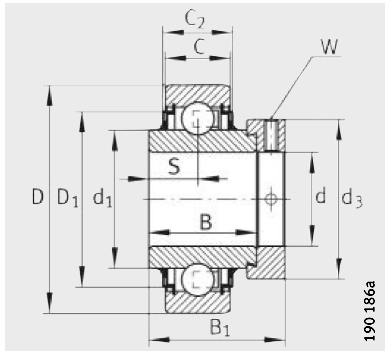
RAE...-NPP-NR

Dimension table · Dimensions in mm

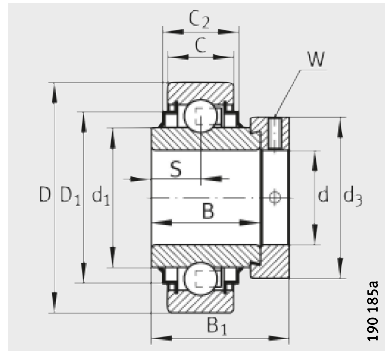
| Designation ¹⁾ | Mass m ≈kg | Dimensions | | | | | | |
|---------------------------|------------------|------------|-----|----------------|----|----------------|-----------------------|------|
| | | d | D | D ₂ | C | C ₂ | A | a |
| RAE12-NPP-FA106 | 0,13 | 12 | 40 | – | 12 | – | – | – |
| RAE15-NPP-FA106 | 0,12 | 15 | 40 | – | 12 | – | – | – |
| RAE17-NPP-FA106 | 0,11 | 17 | 40 | – | 12 | – | – | – |
| RAE20-NPP-FA106 | 0,17 | 20 | 47 | – | 14 | – | – | – |
| RAE20-NPP-NR | 0,17 | 20 | 47 | 52,7 | 14 | – | 3,58 _{-0,25} | 1,12 |
| RALE20-NPP-FA106 | 0,1 | 20 | 42 | – | 12 | – | – | – |
| E20-KLL | 0,2 | 20 | 47 | – | 14 | 16,6 | – | – |
| E20-KRR | 0,2 | 20 | 47 | – | 14 | 16,6 | – | – |
| RAE25-NPP-FA106 | 0,2 | 25 | 52 | – | 15 | – | – | – |
| RAE25-NPP-NR | 0,2 | 25 | 52 | 57,9 | 15 | – | 3,58 _{-0,25} | 1,12 |
| RALE25-NPP | 0,13 | 25 | 47 | – | 12 | – | – | – |
| E25-KLL | 0,25 | 25 | 52 | – | 15 | 20,2 | – | – |
| E25-KRR | 0,25 | 25 | 52 | – | 15 | 16,7 | – | – |
| RAE30-NPP-FA106 | 0,33 | 30 | 62 | – | 18 | – | – | – |
| RAE30-NPP-NR | 0,33 | 30 | 62 | 67,7 | 18 | – | 4,98 _{-0,3} | 1,7 |
| RALE30-NPP-FA106 | 0,18 | 30 | 55 | – | 13 | – | – | – |
| E30-KLL | 0,39 | 30 | 62 | – | 18 | 20,6 | – | – |
| E30-KRR | 0,4 | 30 | 62 | – | 18 | 20,7 | – | – |
| RAE35-NPP-FA106 | 0,49 | 35 | 72 | – | 19 | – | – | – |
| RAE35-NPP-NR | 0,48 | 35 | 72 | 78,6 | 19 | – | 4,98 _{-0,3} | 1,7 |
| E35-KLL | 0,56 | 35 | 72 | – | 19 | 25,4 | – | – |
| E35-KRR | 0,57 | 35 | 72 | – | 19 | 21,7 | – | – |
| RAE40-NPP-FA106 | 0,64 | 40 | 80 | – | 21 | – | – | – |
| RAE40-NPP-NR | 0,64 | 40 | 80 | 86,6 | 21 | – | 4,98 _{-0,3} | 1,7 |
| E40-KLL | 0,76 | 40 | 80 | – | 21 | 28,1 | – | – |
| E40-KRR | 0,75 | 40 | 80 | – | 21 | 23,5 | – | – |
| RAE45-NPP-FA106 | 0,72 | 45 | 85 | – | 22 | – | – | – |
| E45-KLL | 0,85 | 45 | 85 | – | 22 | 26,4 | – | – |
| E45-KRR | 0,85 | 45 | 85 | – | 22 | 26,4 | – | – |
| RAE50-NPP-FA106 | 0,79 | 50 | 90 | – | 22 | – | – | – |
| E50-KLL | 1 | 50 | 90 | – | 22 | 26,4 | – | – |
| E50-KRR | 1 | 50 | 90 | – | 22 | 26,4 | – | – |
| RAE60-NPP | 1,43 | 60 | 110 | – | 24 | – | – | – |
| E60-KRR | 1,82 | 60 | 110 | – | 24 | 29 | – | – |
| E70-KRR | 2,45 | 70 | 125 | – | 28 | 32 | – | – |

¹⁾ Permissible speeds of radial insert ball bearings: see page 1182.

²⁾ Reference bearings for determining the equivalent bearing load: see page 204.



E..-KLL



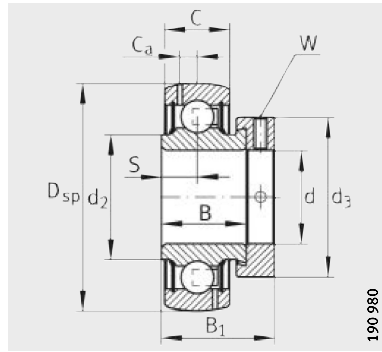
E..-KRR

| | | | | | | | | Basic load ratings | | Reference bearing ²⁾ |
|------|------|----------------|----------------|----------------|----------------|------------------------|-----|-----------------------------|-------------------------------|---------------------------------|
| B | S | d ₁ | d ₂ | D ₁ | B ₁ | d ₃ max. | W | dyn. C _r N | stat. C _{0r} N | |
| 19 | 6,5 | - | 23 | - | 28,6 | 28 | 3 | 9 800 | 4 750 | 6203 |
| 19 | 6,5 | - | 23 | - | 28,6 | 28 | 3 | 9 800 | 4 750 | 6203 |
| 19 | 6,5 | - | 23 | - | 28,6 | 28 | 3 | 9 800 | 4 750 | 6203 |
| 21,4 | 7,5 | - | 26,9 | - | 31 | 33 | 3 | 12 800 | 6 600 | 6204 |
| 21,4 | 7,5 | - | 26,9 | - | 31 | 33 | 3 | 12 800 | 6 600 | 6204 |
| 16,7 | 6 | - | 25,4 | - | 24,5 | 30 | 2,5 | 9 400 | 5 000 | 6004 |
| 34,1 | 17,1 | 27,6 | - | 37,4 | 43,7 | 33 | 3 | 12 800 | 6 600 | 6204 |
| 34,1 | 17,1 | 27,6 | - | 37,4 | 43,7 | 33 | 3 | 12 800 | 6 600 | 6204 |
| 21,4 | 7,5 | - | 30,5 | - | 31 | 37,5 | 3 | 14 000 | 7 800 | 6205 |
| 21,4 | 7,5 | - | 30,5 | - | 31 | 37,5 | 3 | 14 000 | 7 800 | 6205 |
| 17,5 | 6 | - | 30 | - | 25,5 | 36 | 2,5 | 10 100 | 5 900 | 6005 |
| 34,9 | 17,5 | 33,8 | - | 42,5 | 44,5 | 37,5 | 3 | 14 000 | 7 800 | 6205 |
| 34,9 | 17,5 | 33,8 | - | 42,5 | 44,5 | 37,5 | 3 | 14 000 | 7 800 | 6205 |
| 23,8 | 9 | - | 37,4 | - | 35,8 | 44 | 4 | 19 500 | 11 300 | 6206 |
| 23,8 | 9 | - | 37,4 | - | 35,8 | 44 | 4 | 19 500 | 11 300 | 6206 |
| 18,5 | 6,5 | - | 35,7 | - | 26,5 | 42,5 | 2,5 | 13 200 | 8 300 | 6006 |
| 36,5 | 18,3 | 40,2 | - | 52 | 48,5 | 44 | 4 | 19 500 | 11 300 | 6206 |
| 36,5 | 18,3 | 40,2 | - | 52 | 48,5 | 44 | 4 | 19 500 | 11 300 | 6206 |
| 25,4 | 9,5 | - | 44,6 | - | 39 | 51 | 5 | 25 500 | 15 300 | 6207 |
| 25,4 | 9,5 | - | 44,6 | - | 39 | 51 | 5 | 25 500 | 15 300 | 6207 |
| 37,7 | 18,8 | 46,8 | - | 60,3 | 51,3 | 51 | 5 | 25 500 | 15 300 | 6207 |
| 37,7 | 18,8 | 46,8 | - | 60,3 | 51,3 | 51 | 5 | 25 500 | 15 300 | 6207 |
| 30,2 | 11 | - | 49,4 | - | 43,8 | 58 | 5 | 32 500 | 19 800 | 6208 |
| 30,2 | 11 | - | 49,4 | - | 43,8 | 58 | 5 | 32 500 | 19 800 | 6208 |
| 42,9 | 21,4 | 52,3 | - | 68,3 | 56,5 | 58 | 5 | 32 500 | 19 800 | 6208 |
| 42,9 | 21,4 | 52,3 | - | 68,3 | 56,5 | 58 | 5 | 32 500 | 19 800 | 6208 |
| 30,2 | 11 | - | 54,5 | - | 43,8 | 63 | 5 | 32 500 | 20 400 | 6209 |
| 42,9 | 21,4 | 57,9 | - | 72,3 | 56,5 | 63 | 5 | 32 500 | 20 400 | 6209 |
| 42,9 | 21,4 | 57,9 | - | 72,3 | 56,5 | 63 | 5 | 32 500 | 20 400 | 6209 |
| 30,2 | 11 | - | 59,4 | - | 43,8 | 69 | 5 | 35 000 | 23 200 | 6210 |
| 49,2 | 24,6 | 62,8 | - | 77,3 | 62,8 | 69 | 5 | 35 000 | 23 200 | 6210 |
| 49,2 | 24,6 | 62,8 | - | 77,3 | 62,8 | 69 | 5 | 35 000 | 23 200 | 6210 |
| 37,1 | 13,5 | - | 72 | - | 53,1 | 84 | 5 | 52 000 | 36 000 | 6212 |
| 61,9 | 31 | 76,5 | - | 94,5 | 77,9 | 84 | 5 | 52 000 | 36 000 | 6212 |
| 48,5 | 21,5 | 85,2 | - | 109 | 66 | 96 | 6 | 62 000 | 44 000 | 6214 |

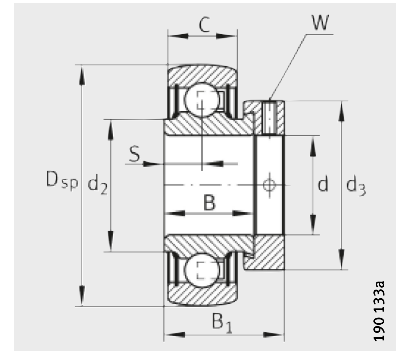


Inch size radial insert ball bearings

Spherical or cylindrical outer ring



GRA..-NPP-B-AS2/V



RA...-NPP-B

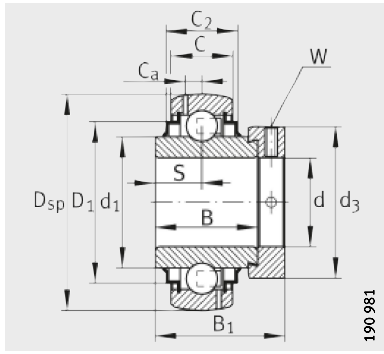
Dimension table · Dimensions in mm

| Shaft diameter d | | Designation ¹⁾ | Mass m ≈kg | Dimensions | | | | | | |
|---------------------|---------|---------------------------|------------------|-----------------|------|------|----------------|----|----------------|----------------|
| | | | | D _{sp} | D | B | B ₁ | C | C _a | C ₂ |
| inch | mm | | | | | | | | | |
| 5/8 | 15,8750 | GRA010-NPP-B-AS2/V | 0,12 | 40 | – | 19 | 28,6 | 12 | 3,4 | – |
| | | RA010-NPP | 0,12 | – | 40 | 19 | 28,6 | 12 | – | – |
| 3/4 | 19,0500 | GRA012-NPP-B-AS2/V | 0,16 | 47 | – | 21,4 | 31 | 14 | 3,4 | – |
| | | GY1012-KRR-B-AS2/V | 0,17 | 47 | – | 31 | – | 14 | 3,4 | 16,6 |
| | | RAL012-NPP | 0,09 | – | 42 | 16,7 | 24,6 | 12 | – | – |
| | | RA012-NPP | 0,16 | – | 47 | 21,4 | 31 | 14 | – | – |
| 7/8 | 22,2250 | GRA014-NPP-B-AS2/V | 0,19 | 52 | – | 21,4 | 31 | 15 | 3,9 | – |
| | | RA014-NPP | 0,19 | – | 52 | 21,4 | 31 | 15 | – | – |
| 15/16 | 23,8125 | G1015-KRR-B-AS2/V | 0,25 | 52 | – | 34,9 | 44,5 | 15 | 3,9 | 16,7 |
| 1 | 25,4000 | GRA100-NPP-B-AS2/V | 0,19 | 52 | – | 21,4 | 31 | 15 | 3,9 | – |
| | | G1100-KRR-B-AS2/V | 0,25 | 52 | – | 34,9 | 44,5 | 15 | 3,9 | 16,7 |
| | | GY1100-KRR-B-AS2/V | 0,2 | 52 | – | 34,1 | – | 15 | 3,9 | 16,7 |
| | | RA100-NPP | 0,19 | – | 52 | 21,4 | 31 | 15 | – | – |
| | | RA100-NPP-B | 0,19 | 52 | – | 21,4 | 31 | 15 | – | – |
| 1 1/16 | 26,9875 | RA101-NPP | 0,31 | – | 62 | 23,8 | 35,8 | 18 | – | – |
| 1 1/8 | 28,5750 | GRA102-NPP-B-AS2/V | 0,31 | 62 | – | 23,8 | 35,8 | 18 | 4,7 | – |
| | | G1102-KRR-B-AS2/V | 0,38 | 62 | – | 36,5 | 48,5 | 18 | 4,7 | 20,7 |
| | | RA102-NPP | 0,31 | – | 62 | 23,8 | 35,8 | 18 | – | – |
| 1 3/16 | 30,1625 | GRA103-NPP-B-AS2/V | 0,31 | 62 | – | 23,8 | 35,8 | 18 | 4,7 | – |
| | | G1103-KRR-B-AS2/V | 0,38 | 62 | – | 36,5 | 48,5 | 18 | 4,7 | 20,7 |
| | | RA103-NPP | 0,31 | – | 62 | 23,8 | 35,8 | 18 | – | – |
| 1 1/4 | 31,7500 | GRA104-206-NPP-B-AS2/V | 0,31 | 62 | – | 23,8 | 35,8 | 18 | 4,7 | – |
| | | G1104-206-KRR-B-AS2/V | 0,38 | 62 | – | 36,5 | 48,5 | 18 | 4,7 | 20,7 |
| | | GY1104-206-KRR-B-AS2/V | 0,33 | 62 | – | 38,1 | – | 18 | 4,7 | 20,7 |
| | | GRA104-NPP-B-AS2/V | 0,48 | 72 | – | 25,4 | 39 | 19 | 5,6 | – |
| | | G1104-KRR-B-AS2/V | 0,55 | 72 | – | 37,7 | 51,3 | 19 | 5,6 | 22,5 |
| | | GY1104-KRR-B-AS2/V | 0,49 | 72 | – | 42,9 | – | 19 | 5,6 | 22,5 |
| | | RA104-NPP-B | 0,48 | 72 | – | 25,4 | 39 | 19 | – | – |
| | | RA104-NPP | 0,48 | – | 72 | 25,4 | 39 | 19 | – | – |
| | | RA104-206-NPP-B | 0,31 | 62 | – | 23,8 | 35,8 | 18 | – | – |
| RA104-206-NPP | 0,31 | – | 62 | 23,8 | 35,8 | 18 | – | 9 | | |

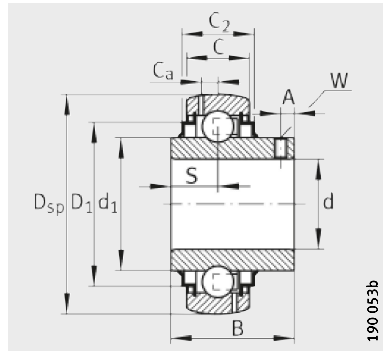
For further inch size bearings, see TPI 127, Radial insert ball bearings/housing units in inch sizes.

1) Permissible speeds of radial insert ball bearings: see page 1182.

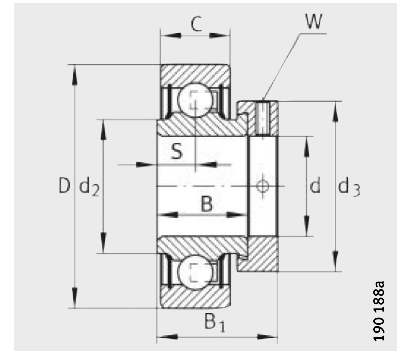
2) Reference bearings for determining the equivalent bearing load: see page 204.



G..-KRR-B-AS2/V



GY..-KRR-B-AS2/V



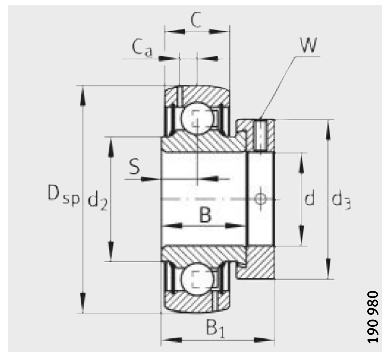
RA..-NPP, RAL..-NPP

| | | | | | | | Basic load ratings | | Reference bearing ²⁾ | Shaft diameter | | |
|------|----------------|----------------|----------------|------------------------|-----|--------|-----------------------------|-------------------------------|---------------------------------|--------------------------------|----------------|----|
| S | d ₁ | d ₂ | D ₁ | d ₃ max. | A | W " | dyn. C _r N | stat. C _{0r} N | | | inch | mm |
| | | | | | | | | | | | | |
| 6,5 | - | 23 | - | 28 | - | 1/8 | 9 800 | 4 750 | 6203 | 5/8 | 15,8750 | |
| 6,5 | - | 23 | - | 28 | - | 1/8 | 9 800 | 4 750 | 6203 | | | |
| 7,5 | - | 26,9 | - | 33 | - | 1/8 | 12 800 | 6 600 | 6204 | 3/4 | 19,0500 | |
| 12,7 | 27,6 | - | 37,4 | - | 4,5 | 3/32 | 12 800 | 6 600 | 6204 | | | |
| 6 | - | 25,4 | - | 30 | - | 1/8 | 9 400 | 5 000 | 6004 | | | |
| 7,5 | - | 26,9 | - | 33 | - | 1/8 | 12 800 | 6 600 | 6204 | | | |
| 7,5 | - | 30,5 | - | 37,5 | - | 1/8 | 14 000 | 7 800 | 6205 | 7/8 | 22,2250 | |
| 7,5 | - | 30,5 | - | 37,5 | - | 1/8 | 14 000 | 7 800 | 6205 | | | |
| 17,5 | 33,8 | - | 42,5 | 37,5 | - | 1/8 | 14 000 | 7 800 | 6205 | 15/16 | 23,8125 | |
| 7,5 | - | 30,5 | - | 37,5 | - | 1/8 | 14 000 | 7 800 | 6205 | 1 | 25,4000 | |
| 17,5 | 33,8 | - | 42,5 | 37,5 | - | 1/8 | 14 000 | 7 800 | 6205 | | | |
| 14,3 | 33,8 | - | 42,5 | - | 5 | 3/32 | 14 000 | 7 800 | 6205 | | | |
| 7,5 | - | 30,5 | - | 37,5 | - | 1/8 | 14 000 | 7 800 | 6205 | | | |
| 7,5 | - | 30,5 | - | 37,5 | - | 1/8 | 14 000 | 7 800 | 6205 | | | |
| 9 | - | 37,4 | - | 44 | - | 5/32 | 19 500 | 11 300 | 6206 | 1 ¹ / ₁₆ | 26,9875 | |
| 9 | - | 37,4 | - | 44 | - | 5/32 | 19 500 | 11 300 | 6206 | 1 ¹ / ₈ | 28,5750 | |
| 18,3 | 40,2 | - | 52 | 44 | - | 5/32 | 19 500 | 11 300 | 6206 | | | |
| 9 | - | 37,4 | - | 44 | - | 5/32 | 19 500 | 11 300 | 6206 | | | |
| 9 | - | 37,4 | - | 44 | - | 5/32 | 19 500 | 11 300 | 6206 | 1 ³ / ₁₆ | 30,1625 | |
| 18,3 | 40,2 | - | 52 | 44 | - | 5/32 | 19 500 | 11 300 | 6206 | | | |
| 9 | - | 37,4 | - | 44 | - | 5/32 | 19 500 | 11 300 | 6206 | | | |
| 9 | - | 37,4 | - | 44 | - | 5/32 | 19 500 | 11 300 | 6206 | 1 ¹ / ₄ | 31,7500 | |
| 18,3 | 40,2 | - | 52 | 44 | - | 5/32 | 19 500 | 11 300 | 6206 | | | |
| 15,9 | 40,2 | - | 52 | - | 5 | 1/8 | 19 500 | 11 300 | 6206 | | | |
| 9,5 | - | 44,6 | - | 51 | - | 3/16 | 25 500 | 15 300 | 6207 | | | |
| 18,8 | 46,8 | - | 60,3 | 51 | - | 3/16 | 25 500 | 15 300 | 6207 | | | |
| 17,5 | 46,8 | - | 60,3 | - | 6 | 1/8 | 25 500 | 15 300 | 6207 | | | |
| 9,5 | - | 44,6 | - | 51 | - | 3/16 | 25 500 | 15 300 | 6207 | | | |
| 9,5 | - | 44,6 | - | 51 | - | 3/16 | 25 500 | 15 300 | 6207 | | | |
| 9 | - | 37,4 | - | 44 | - | 5/32 | 19 500 | 11 300 | 6206 | | | |
| 9 | - | 37,4 | - | 44 | - | 5/32 | 19 500 | 11 300 | 6206 | | | |

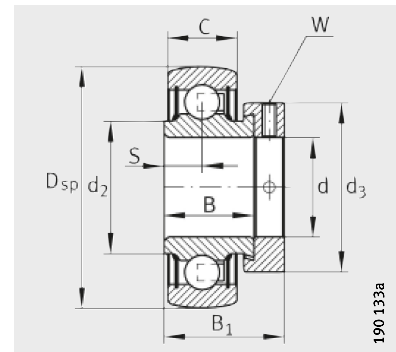


Inch size radial insert ball bearings

Spherical or cylindrical outer ring



GRA..-NPP-B-AS2/V



RA...-NPP-B

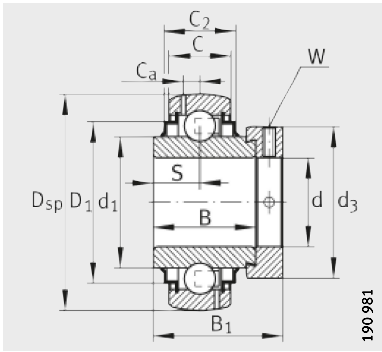
Dimension table (continued) · Dimensions in mm

| Shaft diameter d | | Designation ¹⁾ | Mass m ≈kg | Dimensions | | | | | | |
|---------------------|---------|---------------------------|------------------|-----------------|----|------|----------------|----|----------------|----------------|
| | | | | D _{sp} | D | B | B ₁ | C | C _a | C ₂ |
| inch | mm | | | | | | | | | |
| 13/8 | 34,9250 | GRA106-NPP-B-AS2/V | 0,48 | 72 | – | 25,4 | 39 | 19 | 5,6 | – |
| | | G1106-KRR-B-AS2/V | 0,55 | 72 | – | 37,7 | 51,3 | 19 | 5,6 | 22,5 |
| 17/16 | 36,5125 | GRA107-NPP-B-AS2/V | 0,48 | 72 | – | 25,4 | 39 | 19 | 5,6 | – |
| | | G1107-KRR-B-AS2/V | 0,55 | 72 | – | 37,7 | 51,3 | 19 | 5,6 | 22,5 |
| | | RA107-NPP | 0,48 | – | 72 | 25,4 | 39 | 19 | – | – |
| 1 1/2 | 38,1000 | GRA108-NPP-B-AS2/V | 0,62 | 80 | – | 30,2 | 43,8 | 21 | 6,4 | – |
| | | G1108-KRR-B-AS2/V | 0,74 | 80 | – | 42,9 | 56,5 | 21 | 6,4 | 23,5 |
| | | GY1108-KRR-B-AS2/V | 0,65 | 80 | – | 49,2 | – | 21 | 6,4 | 23,5 |
| | | RA108-NPP-B | 0,62 | 80 | – | 30,2 | 43,8 | 21 | – | – |
| | | RA108-NPP | 0,62 | – | 80 | 30,2 | 43,8 | 21 | – | – |
| 15/8 | 41,2750 | G1110-KRR-B-AS2/V | 0,81 | 85 | – | 42,9 | 56,5 | 22 | 6,4 | 26,4 |
| 1 11/16 | 42,8625 | G1111-KRR-B-AS2/V | 0,81 | 85 | – | 42,9 | 56,5 | 22 | 6,4 | 26,4 |
| 13/4 | 44,4500 | GRA112-NPP-B-AS2/V | 0,69 | 85 | – | 30,2 | 43,8 | 22 | 6,4 | – |
| | | G1112-KRR-B-AS2/V | 0,81 | 85 | – | 42,9 | 56,5 | 22 | 6,4 | 26,4 |
| | | GY1112-KRR-B-AS2/V | 0,7 | 85 | – | 49,2 | – | 22 | 6,4 | 26,4 |
| 1 15/16 | 49,2125 | G1115-KRR-B-AS2/V | 1 | 90 | – | 49,2 | 62,8 | 22 | 6,9 | 26,4 |
| 2 | 50,8000 | G1200-KRR-B-AS2/V | 1,42 | 100 | – | 55,5 | 71,4 | 25 | 7 | 29 |
| | | GY1200-KRR-B-AS2/V | 1,1 | 100 | – | 55,6 | – | 25 | 7 | 29 |
| 23/16 | 55,5625 | G1203-KRR-B-AS2/V | 1,42 | 100 | – | 55,5 | 71,4 | 25 | 7 | 29 |
| 27/16 | 61,9125 | G1207-KRR-B-AS2/V | 1,84 | 110 | – | 61,9 | 77,9 | 24 | 7,2 | 29 |
| 2 15/16 | 74,6125 | G1215-KRR-B-AS2/V | 2,65 | 130 | – | 49,5 | 67 | 28 | 8,5 | 30,5 |
| | | GY1215-KRR-B-AS2/V | 1,97 | 130 | – | 77,8 | – | 28 | 8,5 | 31,5 |

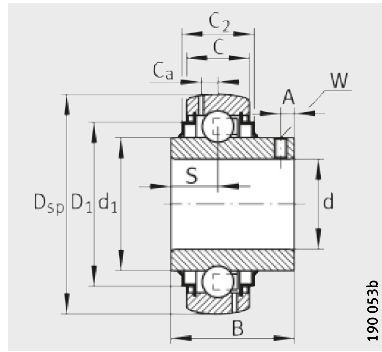
For further inch size bearings and bearing units, see TPI 127, Radial insert ball bearings/housing units in inch sizes.

1) Permissible speeds of radial insert ball bearings: see page 1182.

2) Reference bearings for determining the equivalent bearing load: see page 204.



G..-KRR-B-AS2/V



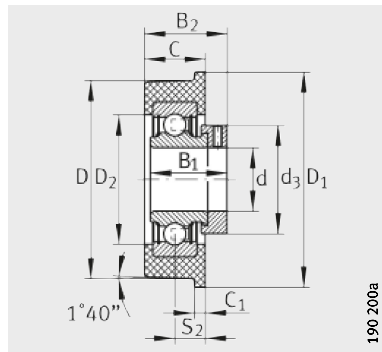
GY..-KRR-B-AS2/V

| | | | | | | | Basic load ratings | | Reference bearing ²⁾ | Shaft diameter | |
|------|----------------|----------------|----------------|----------------|------|------|-----------------------------|-------------------------------|---------------------------------|---------------------------------|---------|
| S | d ₁ | d ₂ | D ₁ | d ₃ | A | W | dyn. C _r N | stat. C _{0r} N | | inch | mm |
| | | | | max. | | " | | | | | |
| 9,5 | - | 44,6 | - | 51 | - | 3/8 | 25 500 | 15 300 | 6207 | 1 ³ / ₈ | 34,9250 |
| 18,8 | 46,8 | - | 60,3 | 51 | - | 3/16 | 25 500 | 15 300 | 6207 | | |
| 9,5 | - | 44,6 | - | 51 | - | 3/16 | 25 500 | 15 300 | 6207 | 1 ⁷ / ₁₆ | 36,5125 |
| 18,8 | 46,8 | - | 60,3 | 51 | - | 3/16 | 25 500 | 15 300 | 6207 | | |
| 9,5 | - | 44,6 | - | 51 | - | 3/16 | 25 500 | 15 300 | 6207 | | |
| 11 | - | 49,4 | - | 58 | - | 3/16 | 32 500 | 19 800 | 6208 | 1 ¹ / ₂ | 38,1000 |
| 21,4 | 52,3 | - | 68,3 | 58 | - | 3/16 | 32 500 | 19 800 | 6208 | | |
| 19 | 52,3 | - | 68,3 | - | 8 | 5/32 | 32 500 | 19 800 | 6208 | | |
| 11 | - | 49,4 | - | 58 | - | 3/16 | 32 500 | 19 800 | 6208 | | |
| 11 | - | 49,4 | - | 58 | - | 3/16 | 32 500 | 19 800 | 6208 | | |
| 21,4 | 57,9 | - | 72,3 | 63 | - | 3/16 | 32 500 | 20 400 | 6209 | 1 ⁵ / ₈ | 41,2750 |
| 21,4 | 57,9 | - | 72,3 | 63 | - | 3/16 | 32 500 | 20 400 | 6209 | 1 ¹¹ / ₁₆ | 42,8625 |
| 11 | - | 54,5 | - | 63 | - | 3/16 | 32 500 | 20 400 | 6209 | 1 ³ / ₄ | 44,4500 |
| 21,4 | 57,9 | - | 72,3 | 63 | - | 3/16 | 32 500 | 20 400 | 6209 | | |
| 19 | 57,9 | - | 72,3 | - | 8 | 5/32 | 32 500 | 20 400 | 6209 | | |
| 24,6 | 62,8 | - | 77,3 | 69 | - | 3/16 | 35 000 | 23 200 | 6210 | 1 ¹⁵ / ₁₆ | 49,2125 |
| 27,8 | 69,8 | - | 85,9 | 76 | - | 3/16 | 43 500 | 29 000 | 6211 | 2 | 50,8000 |
| 22,2 | 69,8 | - | 85,9 | - | 9 | 5/32 | 43 500 | 29 000 | 6211 | | |
| 27,8 | 69,8 | - | 85,9 | 76 | - | 3/16 | 43 500 | 29 000 | 6211 | 2 ³ / ₁₆ | 55,5625 |
| 31 | 76,5 | - | 94,5 | 84 | - | 3/16 | 52 000 | 36 000 | 6212 | 2 ⁷ / ₁₆ | 61,9125 |
| 21,5 | 90 | - | 113 | 100 | - | 1/4 | 62 000 | 44 500 | 6215 | 2 ¹⁵ / ₁₆ | 74,6125 |
| 33,4 | 90 | - | 113 | - | 12,7 | 3/16 | 62 000 | 44 500 | 6215 | | |

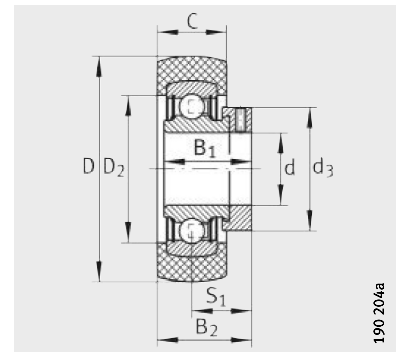


Radial insert ball bearings with rubber interliner

Spherical or cylindrical outside surface of rubber interliner



CRB



RABRA, RABRB

Dimension table · Dimensions in mm

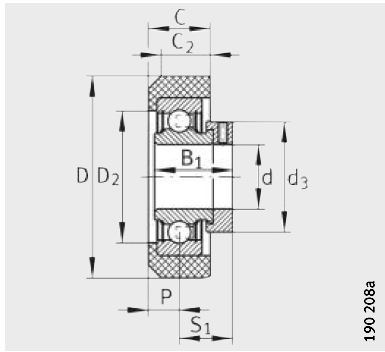
| Designation | | Mass m ≈ kg | Dimensions | | | | | |
|--------------------------|--|-------------------|------------|-------|----------------|------|----------------|----------------|
| Unit ¹⁾ | Radial insert ball bearing ²⁾ | | d | D | D ₁ | C | C ₂ | C ₁ |
| RABRB12/47-FA106 | RAE12-NPP-B-FA106 | 0,15 | 12 | 47,3 | – | 17,6 | – | – |
| RCSMB15/65-FA106 | RAE15-NPP-FA106 | 0,18 | 15 | 65,1 | – | 25,4 | – | – |
| RABRB15/47-FA106 | RAE15-NPP-B-FA106 | 0,15 | 15 | 47,3 | – | 18 | – | – |
| RCSMB17/65-FA106 | RAE17-NPP-FA106 | 0,18 | 17 | 65,1 | – | 25,4 | – | – |
| CRB20/83 | RAE20-NPP | 0,3 | 20 | 83,6 | 87,4 | 25,4 | – | 4,8 |
| CRB20/76 | RAE20-NPP | 0,3 | 20 | 77,5 | 80 | 25,4 | – | 5 |
| RCSMB20/65-FA106 | RAE20-NPP-FA106 | 0,22 | 20 | 65,1 | – | 25,4 | – | – |
| RCRA20/46-FA106 | RAE20-NPP-FA106 | 0,14 | 20 | 46 | – | 18,3 | 16 | – |
| RABRB20/52-FA106 | RAE20-NPP-B-FA106 | 0,2 | 20 | 52,3 | – | 17,6 | – | – |
| CRB25/83 | RAE25-NPP | 0,32 | 25 | 83,6 | 87,4 | 25,4 | – | 4,8 |
| CRB25/70 | RAE25-NPP | 0,32 | 25 | 71,5 | 76 | 25 | – | 5 |
| CRB25/72 | RAE25-NPP | 0,32 | 25 | 73 | 80 | 25 | – | 5 |
| RCSMB25/65-FA106 | RAE25-NPP-FA106 | 0,24 | 25 | 65,1 | – | 25,4 | – | – |
| RCRB25/57-FA106 | RAE25-NPP-FA106 | 0,21 | 25 | 57,3 | – | 19,8 | 17,5 | – |
| RABRB25/62-FA106 | RAE25-NPP-B-FA106 | 0,24 | 25 | 62,2 | – | 20,8 | – | – |
| CRB30/83 | RAE30-NPP | 0,41 | 30 | 83,6 | 87,4 | 28 | – | 4,8 |
| CRB30/92 | RAE30-NPP | 0,41 | 30 | 93 | 98 | 28 | – | 5 |
| RCSMA30/65-FA106 | RAE30-NPP-FA106 | 0,32 | 30 | 65,1 | – | 25,4 | – | – |
| RABRA30/62-FA106 | RAE30-NPP-B-FA106 | 0,3 | 30 | 62,2 | – | 20,8 | – | – |
| RABRB30/72-FA106 | RAE30-NPP-B-FA106 | 0,38 | 30 | 72,2 | – | 23 | – | – |
| CRB35/110 | RAE35-NPP | 0,56 | 35 | 112,3 | 120 | 30 | – | 5 |
| RABRB35/80-FA106 | RAE35-NPP-B-FA106 | 0,57 | 35 | 80,2 | – | 24 | – | – |
| RABRB40/85-FA106 | RAE40-NPP-B-FA106 | 0,73 | 40 | 85 | – | 27 | – | – |
| RABRB50/100-FA106 | RAE50-NPP-B-FA106 | 0,92 | 50 | 100,2 | – | 30 | – | – |

1) Operating temperature from –20 °C to +85 °C.

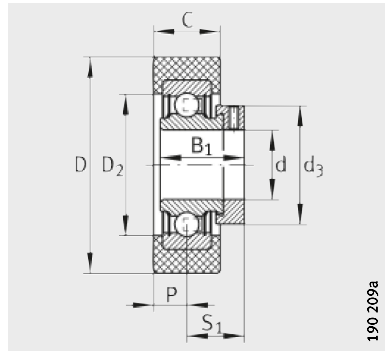
2) Permissible speeds of radial insert ball bearings: see page 1182.

3) Reference bearings for determining the equivalent bearing load: see page 204.

4) Also available by agreement in NBR80.



RCRA, RCRB

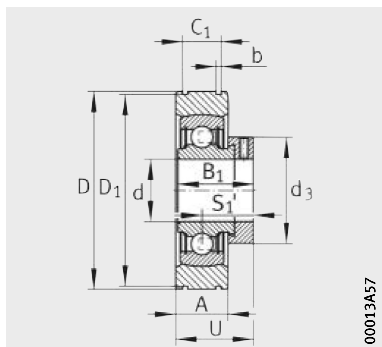


RCSMA, RCSMB

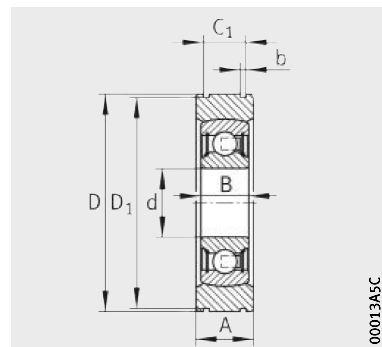
| | | | | | | | Rubber ring | | Basic load ratings | | Reference bearing ³⁾ |
|----------------|----------------|----------------|------|----------------|----------------|----------------|------------------|---------------------------------------|---------------------|-----------------------|---------------------------------|
| S ₁ | D ₂ | B ₁ | P | d ₃ | S ₂ | B ₂ | Hardness Shore A | Load carrying capacity C _G | dyn. C _r | stat. C _{0r} | |
| | | | | max. | | | ° | N | N | N | |
| 22,1 | 33,5 | 28,6 | – | 28 | – | 30,9 | 70 | 840 | 9 800 | 4 750 | 6203 |
| 22,1 | 35 | 28,6 | 12,7 | 28 | – | – | 70 | 900 | 9 800 | 4 750 | 6203 |
| 22,1 | 33,5 | 28,6 | – | 28 | – | 31,1 | 70 | 840 | 9 800 | 4 750 | 6203 |
| 22,1 | 35 | 28,6 | 12,7 | 28 | – | – | 70 | 900 | 9 800 | 4 750 | 6203 |
| – | 40 | 31 | – | 33 | 12,7 | 36,2 | 80 | 750 | 12 800 | 6 600 | 6204 |
| – | 40 | 31 | – | 33 | 12,5 | 36 | 80 | 750 | 12 800 | 6 600 | 6204 |
| 23,5 | 40 | 31 | 12,7 | 33 | – | – | 70 | 1 200 | 12 800 | 6 600 | 6204 |
| 18,6 | 35 | 24,5 | 10 | 30 | – | – | 70 | 900 | 9 400 | 5 000 | 6004 |
| 23,5 | 39 | 31 | – | 33 | – | 32,3 | 70 | 1 160 | 12 800 | 6 600 | 6204 |
| – | 46 | 31 | – | 37,5 | 12,7 | 36,2 | 80 | 1 000 | 14 000 | 7 800 | 6205 |
| – | 46 | 31 | – | 37,5 | 12,5 | 36 | 80 | 1 000 | 14 000 | 7 800 | 6205 |
| – | 46 | 31 | – | 37,5 | 12,5 | 36 | 80 | 1 000 | 14 000 | 7 800 | 6205 |
| 23,5 | 46 | 31 | 12,7 | 37,5 | – | – | 70 | 1 400 | 14 000 | 7 800 | 6205 |
| 23,5 | 44,5 | 31 | 9,8 | 37,5 | – | – | 70 | 1 400 | 14 000 | 7 800 | 6205 |
| 23,5 | 44,5 | 31 | – | 37,5 | – | 33,9 | 70 ⁴⁾ | 1 390 | 14 000 | 7 800 | 6205 |
| – | 56 | 35,8 | – | 44 | 14 | 40,7 | 80 | 1 400 | 19 500 | 11 300 | 6206 |
| – | 56 | 35,8 | – | 44 | 14 | 40,7 | 80 | 1 400 | 19 500 | 11 300 | 6206 |
| 20 | 47,6 | 26,5 | 15 | 42,5 | – | – | 70 | 1 400 | 13 200 | 8 300 | 6006 |
| 20 | 47 | 26,5 | – | 42,5 | – | 30,4 | 70 | 1 390 | 13 200 | 8 300 | 6006 |
| 26,7 | 54 | 35,8 | – | 44 | – | 38,2 | 70 ⁴⁾ | 1 980 | 19 500 | 11 300 | 6206 |
| – | 64 | 39 | – | 51 | 15 | 44,4 | 80 | 1 500 | 25 500 | 15 300 | 6207 |
| 29,4 | 62 | 39 | – | 51 | – | 41,4 | 70 | 2 700 | 25 500 | 15 300 | 6207 |
| 32,7 | 70 | 43,8 | – | 58 | – | 46,3 | 70 ⁴⁾ | 3 500 | 32 500 | 19 800 | 6208 |
| 32,7 | 80 | 43,8 | – | 69 | – | 47,7 | 70 ⁴⁾ | 4 100 | 35 000 | 23 200 | 6210 |



Radial insert ball bearings with steel aligning ring



PE



BE

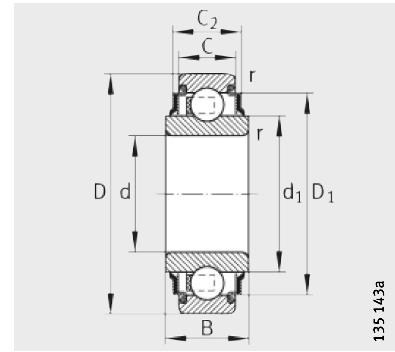
Dimension table · Dimensions in mm

| Designation Unit | Mass m ≈ kg | Dimensions | | | | | | | | | | | Basic load ratings | | Reference bearing ⁵⁾ |
|---------------------|-------------------|------------|-----------------|----|--------------------------------------|-------------------------|--------------------------------------|----|----------------|----------------|------------------------|------|-----------------------------|-------------------------------|---------------------------------|
| | | d | D ³⁾ | A | C ₁ ⁴⁾ +0,2 | b ⁴⁾ +0,3 | D ₁ ⁴⁾ -0,5 | B | B ₁ | S ₁ | d ₃ max. | U | dyn. C _r N | stat. C _{0r} N | |
| PE20 ¹⁾ | 0,24 | 20 | 55 | 16 | 11,2 | 1,35 | 52,6 | – | 31 | 23,5 | 33 | 31,5 | 12 800 | 6 600 | 6204 |
| BE20 ²⁾ | 0,19 | 20 | 55 | 16 | 11,2 | 1,35 | 52,6 | 14 | – | – | – | – | 12 800 | 6 600 | 6204 |
| PE25 ¹⁾ | 0,31 | 25 | 62 | 17 | 11,2 | 1,9 | 59,6 | – | 31 | 23,5 | 37,5 | 32 | 14 000 | 7 800 | 6205 |
| BE25 ²⁾ | 0,25 | 25 | 62 | 17 | 11,2 | 1,9 | 59,6 | 15 | – | – | – | – | 14 000 | 7 800 | 6205 |
| PE30 ¹⁾ | 0,48 | 30 | 72 | 21 | 14,4 | 1,9 | 68,8 | – | 35,8 | 26,7 | 44 | 37,2 | 19 500 | 11 300 | 6206 |
| BE30 ²⁾ | 0,37 | 30 | 72 | 21 | 14,4 | 1,9 | 68,8 | 16 | – | – | – | – | 19 500 | 11 300 | 6206 |
| PE35 ¹⁾ | 0,64 | 35 | 80 | 21 | 14,4 | 1,9 | 76,8 | – | 39 | 29,4 | 51 | 40 | 25 500 | 15 300 | 6207 |
| BE35 ²⁾ | 0,45 | 35 | 80 | 21 | 14,4 | 1,9 | 76,8 | 17 | – | – | – | – | 25 500 | 15 300 | 6207 |
| PE40 ¹⁾ | 0,88 | 40 | 90 | 25 | 15,4 | 2,7 | 86,8 | – | 43,8 | 32,7 | 58 | 45,2 | 32 500 | 19 800 | 6208 |
| BE40 ²⁾ | 0,63 | 40 | 90 | 25 | 15,4 | 2,7 | 86,8 | 18 | – | – | – | – | 32 500 | 19 800 | 6208 |

- 1) Permissible speeds of radial insert ball bearings RAE..NPP-B: see page 1182.
- 2) Permissible speeds of self-aligning deep groove ball bearings 2..NPP-B: see page 1210.
- 3) Before splitting, dimension D corresponds to tolerance class PN according to DIN 620-2.
- 4) Annular slot tolerances to DIN 616 (for snap rings to DIN 5 417).
- 5) Reference bearings for determining the equivalent bearing load: see page 204.

Deep groove ball bearings with extended inner ring

Cylindrical outer ring



2..-KRR, 2..-KRR(-AH)

| Dimension table · Dimensions in mm | | | | | | | | | | | | | |
|------------------------------------|------------------|---------------------------|-----|----|----------------|----------------|----------------|------|------------------|---|-----------------------------|-------------------------------|---------------------------------|
| Designation | Mass m ≈kg | Dimensions | | | | | | | | Limiting speed n _G grease min ⁻¹ | Basic load ratings | | Reference bearing ⁵⁾ |
| | | d | D | C | C ₂ | d ₁ | D ₁ | B | r _{min} | | dyn. C _r N | stat. C _{0r} N | |
| 203-KRR-AH05 ⁴⁾ | 0,09 | 13 ²⁾ | 40 | 12 | 12 | 24,2 | 30,6 | 18,3 | 0,6 | 13 000 | 9 800 | 4 750 | 6203 |
| 202-KRR | 0,05 | 15 | 35 | 11 | 11 | 21,5 | 28,8 | 14,4 | 0,6 | 14 600 | 7 600 | 3 700 | 6202 |
| 203-KRR-AH02 | 0,07 | 16,2 ³⁾ | 40 | 12 | 12 | 24,2 | 32,6 | 18,3 | 0,6 | 13 000 | 9 800 | 4 750 | 6203 |
| 203-KRR | 0,07 | 17 | 40 | 12 | 12 | 24,2 | 32,9 | 18,3 | 0,6 | 13 000 | 9 800 | 4 750 | 6203 |
| 204-KRR | 0,12 | 20 | 47 | 14 | 14 | 28,7 | 38,7 | 17,7 | 1 | 11 000 | 12 800 | 6 600 | 6204 |
| 205-KRR | 0,16 | 25 | 52 | 15 | 16,7 | 33,8 | 42,6 | 21 | 1 | 8 800 | 14 000 | 7 800 | 6205 |
| 206-KRR | 0,24 | 30 | 62 | 16 | 19,6 | 40,2 | 52 | 24 | 1 | 7 300 | 19 500 | 11 300 | 6206 |
| 207-KRR-AH03 ¹⁾ | 0,35 | 35 | 72 | 17 | 19,7 | 46,8 | 60,3 | 25 | 2 | 6 300 | 25 500 | 15 300 | 6207 |
| 208-KRR-AH04 ¹⁾ | 0,48 | 38,892 | 80 | 21 | 21,2 | 52,3 | 68,2 | 27,5 | 1 | 5 500 | 32 500 | 19 800 | 6208 |
| 208-KRR | 0,44 | 40 | 80 | 18 | 20,5 | 52,3 | 68,2 | 27 | 1,1 | 5 500 | 32 500 | 19 800 | 6208 |
| 209-KRR | 0,53 | 45 | 85 | 19 | 26,4 | 57,9 | 72,3 | 30 | 1,1 | 4 900 | 32 500 | 20 400 | 6209 |
| 210-KRR | 0,58 | 50 | 90 | 20 | 24 | 62,8 | 77,6 | 30 | 1,1 | 4 400 | 35 000 | 23 200 | 6210 |
| 211-KRR | 0,85 | 55 | 100 | 21 | 27,5 | 69,8 | 85,9 | 36 | 1,5 | 4 000 | 43 500 | 29 000 | 6211 |
| 212-KRR | 1,1 | 60 | 110 | 22 | 30 | 76,5 | 94,7 | 36 | 1,5 | 3 700 | 52 000 | 36 000 | 6212 |

1) With steel cage.

2) $d^{+0,08}_{-0,05}$.

3) $d^{+0,1}$. Bore diameter is designed for M16 screws.

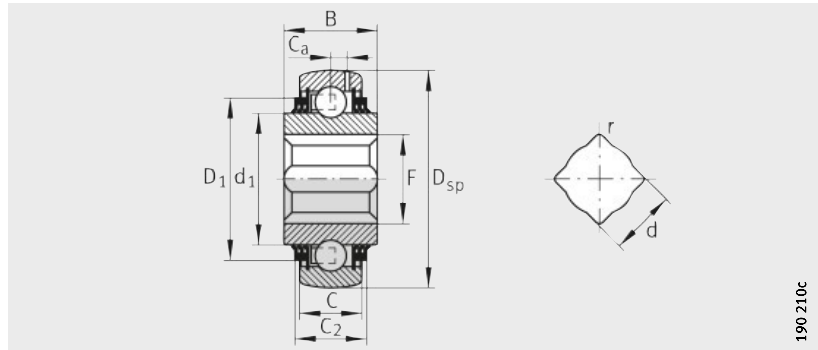
4) Greased with L114 (GA47).

5) Reference bearings for determining the equivalent bearing load: see page 204.



Self-aligning deep groove ball bearings

Spherical outer ring
Square or hexagonal bore



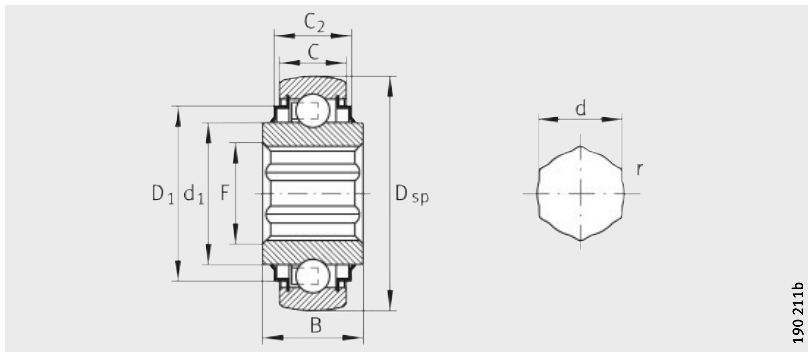
GVK...KTT-B(-AH.)-AS2/V, VK...KTT-B(-AH)

190 210c

Dimension table · Dimensions in mm

| Width across flats of shaft d | | Designation | Mass m ≈kg | Dimensions | | | | | |
|------------------------------------|----------------|------------------------------------|------------------|------------|-----------------|-----------------|----|----------------|----------------|
| | | | | d | d Deviation | D _{sp} | C | C ₂ | d ₁ |
| inch | mm | | | | | | | | |
| – | 17,0000 | SKE17-204-KRR-B | 0,12 | 17,0000 | +0,15 +0,05 | 47 | 14 | – | 28,7 |
| 7/8 | 22,2250 | SK014-205-KRR-B | 0,2 | 22,2250 | +0,15 +0,05 | 52 | 15 | 16,7 | 33,8 |
| 1 | 25,4000 | GVK100-208-KTT-B-AS2/V | 0,74 | 25,4000 | +0,9 +0,6 | 80 | 21 | 28,1 | 52,3 |
| | | VK100-208-KTT-B-AH10 | 0,72 | 25,4000 | +0,9 +0,6 | 80 | 18 | 25,3 | 52,3 |
| | | SK100-206-KRR-B-AH11 | 0,32 | 25,4000 | +0,15 +0,03 | 62 | 16 | 18,7 | 40,2 |
| 1¹/₈ | 28,5750 | GVK102-208-KTT-B-AH10-AS2/V | 0,68 | 28,5750 | +0,9 +0,6 | 80 | 18 | 25,3 | 52,3 |
| | | SK102-207-KRR-B-AH10 | 0,45 | 28,5750 | +0,175 +0,03 | 72 | 17 | 20,5 | 46,8 |
| 1¹/₄ | 31,7500 | GVK104-209-KTT-B-AS2/V | 0,71 | 31,7500 | +0,9 +0,6 | 85 | 22 | 27,4 | 57,9 |
| | | SK104-207-KRR-B-AH12 | 0,45 | 31,7500 | +0,2 +0,1 | 72 | 17 | 20,5 | 46,8 |
| 1⁹/₁₆ | 39,6875 | GVK109-211-KTT-B-AS2/V | 1,25 | 39,6875 | +1,1 +0,8 | 100 | 25 | 29 | 69,8 |

¹⁾ Reference bearings for determining the equivalent bearing load: see page 204.



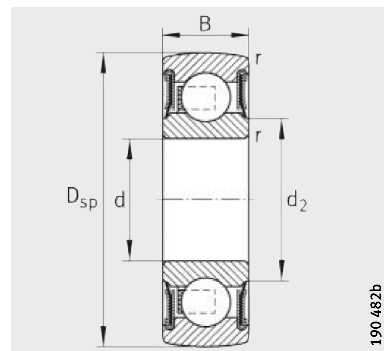
SK..-KRR-B(-AH)

| F | D ₁ | C _a | B | r | Limiting speed n _{G grease} min ⁻¹ | Basic load ratings | | Reference bearing ¹⁾ | Width across flats of shaft | |
|------|----------------|----------------|------|------|--|-----------------------------|-------------------------------|---------------------------------|-----------------------------|----------------|
| | | | | | | dyn. C _r N | stat. C _{0r} N | | d | |
| | | | | | | | | | inch | mm |
| 20,2 | – | – | 17,7 | 0,13 | 900 | 12 800 | 6 600 | 6204 | – | 17,0000 |
| 26,2 | 42,6 | – | 25,4 | 0,13 | 900 | 14 000 | 7 800 | 6205 | 7/8 | 22,2250 |
| 35,4 | 68,3 | 6,4 | 36,5 | 2,5 | 500 | 32 500 | 19 800 | 6208 | 1 | 25,4000 |
| 35,4 | 68,3 | – | 36,5 | 2,5 | 500 | 32 500 | 19 800 | 6208 | | |
| 30,5 | 52 | – | 24 | 0,13 | 800 | 19 500 | 11 300 | 6206 | | |
| 41,3 | 68,3 | 5,8 | 36,5 | 2,5 | 500 | 32 500 | 19 800 | 6208 | 1^{1/8} | 28,5750 |
| 38 | 60,3 | – | 37,7 | 0,25 | 800 | 25 500 | 15 300 | 6207 | | |
| 44,3 | 72,3 | 6,4 | 36,5 | 2,5 | 500 | 32 500 | 20 400 | 6209 | 1^{1/4} | 31,7500 |
| 38 | 60,3 | – | 25 | 0,12 | 800 | 25 500 | 15 300 | 6207 | | |
| 55,2 | 85,9 | 7,1 | 36 | 2,5 | 450 | 43 500 | 29 000 | 6214 | 1^{9/16} | 39,6875 |



Self-aligning deep groove ball bearings

Spherical outer ring
Bore for fit



2...-NPP-B

Dimension table · Dimensions in mm

| Designation | Mass m ≈kg | Dimensions | | | | | Limiting speed n _G grease min ⁻¹ | Basic load ratings | | Reference bearing ³⁾ |
|-------------------------------|------------------|------------|-----------------|----|----------------|------------------|--|-----------------------------|-------------------------------|---------------------------------|
| | | d | D _{sp} | B | d ₂ | r _{min} | | dyn. C _r N | stat. C _{0r} N | |
| 201-NPP-B¹⁾ | 0,04 | 12 | 32 | 10 | 17,1 | 0,6 | 18 300 | 6 800 | 3 050 | 6201 |
| 203-NPP-B²⁾ | 0,06 | 17 | 40 | 12 | 22,5 | 0,6 | 13 000 | 9 800 | 4 750 | 6203 |
| 204-NPP-B²⁾ | 0,11 | 20 | 47 | 14 | 26,5 | 1 | 11 000 | 12 800 | 6 600 | 6204 |
| 205-NPP-B²⁾ | 0,13 | 25 | 52 | 15 | 30,3 | 1 | 8 800 | 14 000 | 7 800 | 6205 |
| 206-NPP-B¹⁾ | 0,2 | 30 | 62 | 16 | 37,4 | 1 | 7 300 | 19 500 | 11 300 | 6206 |
| 207-NPP-B¹⁾ | 0,29 | 35 | 72 | 17 | 42,4 | 1 | 6 300 | 25 500 | 15 300 | 6207 |
| 208-NPP-B¹⁾ | 0,37 | 40 | 80 | 18 | 48,4 | 1,1 | 5 500 | 32 500 | 19 800 | 6208 |
| 209-NPP-B¹⁾ | 0,41 | 45 | 85 | 19 | 53,2 | 1,1 | 4 900 | 32 500 | 20 400 | 6209 |
| 210-NPP-B²⁾ | 0,46 | 50 | 90 | 20 | 58,2 | 1,1 | 4 400 | 35 000 | 23 200 | 6210 |

¹⁾ One-piece seal with vulcanised seal lip.

²⁾ Three-piece P seal.

³⁾ Reference bearings for determining the equivalent bearing load: see page 204.