



Linear ball bearings

Linear ball bearing and housing units

Light range

Contents

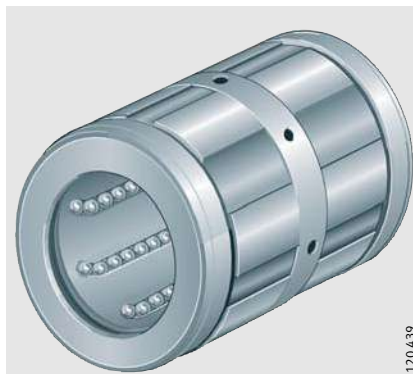
| | | Page |
|-------------------------|--|------|
| | Linear ball bearings | |
| Product overview | Linear ball bearings | 4 |
| Features | Open or closed design | 5 |
| | Compensation of misalignment | 5 |
| | Sealing/lubrication..... | 5 |
| | Operating temperature | 5 |
| | Linear ball bearing and housing units | 5 |
| | Complete linear solutions | 5 |
| Dimension tables | Linear ball bearings Series KN..-B-PP, KNO..-B-PP | 6 |
| | Linear ball bearing and housing units | |
| Product overview | Linear ball bearing and housing units | 8 |
| Features | Housing designs | 10 |
| | Linear ball bearings | 10 |
| | Sealing/lubrication..... | 10 |
| | Operating temperature | 10 |
| | Complete linear solutions | 10 |
| Dimension tables | Linear ball bearing and housing units Series KGN..-C-PP-AS, KGNS..-C-PP-AS, KTN..-C-PP-AS, KTNS..-C-PP-AS | 12 |
| | Linear ball bearing and housing units Series KGNO..-C-PP-AS, KGNOS..-C-PP-AS, KTNO..-C-PP-AS, KTNOS..-C-PP-AS | 14 |
| | Linear ball bearing and housing units Series KGNC..-C-PP-AS, KGNC..-C-PP-AS..... | 16 |
| | Linear ball bearing and housing units Series KTFN..-C-PP-AS | 18 |

Product overview – Linear ball bearings

Linear ball bearings

Closed design

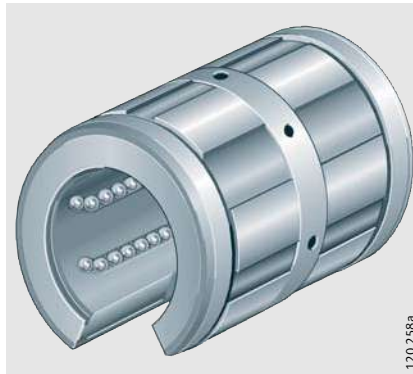
KN..-B-PP



120 439

Open design

KNO..-B-PP



120 258a

Linear ball bearings

Features

Linear ball bearings KN and KNO comprise a high strength plastic cage with steel load plates, balls, shields and seals. The cage guides the balls. An external steel retaining ring supports the load plates.

The bearings can support high loads while having a relatively low mass and allow the construction of linear guidance systems with unlimited travel.

Open or closed design

Linear ball bearings are available in open and closed variants, see page 4.

The open design KNO has a segment cut out and is intended for supported shafts.

Compensation of misalignment

Misalignment can be caused by tolerance defects, inaccuracies or mounting defects in the adjacent construction. INA linear ball bearings compensate static misalignments up to $\pm 30'$ without impairing the load carrying capacity and operating life of the bearings, Figure 1.

Due to the self-alignment function, the balls run without difficulty into the load zone. At the same time, the load distribution over the whole ball row is more uniform. This leads to smoother running, allows higher accelerations and prevents overloading of the individual balls.

Overall, this means that the bearings can achieve higher loads and a longer operating life; if necessary, the adjacent construction can be designed to be smaller and more economical.

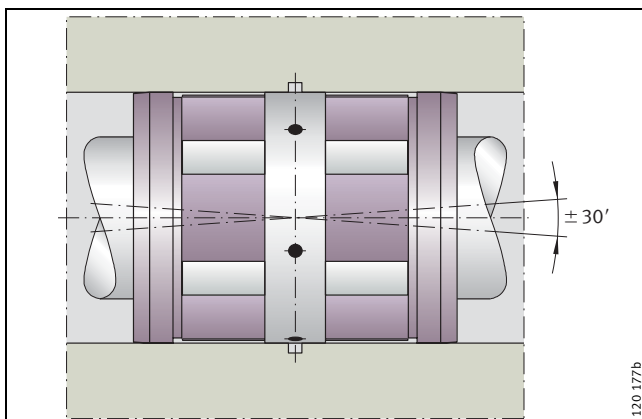


Figure 1 · Compensation of misalignment

Caution!

In order to fully utilise the basic load ratings given in the dimension table, the shaft raceway must be hardened (670 HV + 170 HV) and ground.

When designing the bearing arrangement, the data in INA Catalogue "801" must be taken into consideration.

Sealing/lubrication

Highly effective double lip polyester elastomer sealing rings on both sides prevent the ingress of contamination into the bearing and retain the grease in the ball bearing.

In order to achieve all-round sealing, the open bearings are available by agreement with additional sealing strips.

Due to the initial greasing with a high quality grease and the integral lubricant reservoir, the linear ball bearings are maintenance-free for many applications; if necessary, however, they can be relubricated.

Caution!

In order to distribute the grease uniformly, the bearing must be moved during relubrication.

Operating temperature

The bearings can be used at operating temperatures up to +80 °C.

Linear ball bearing and housing units

Linear ball bearings are also available in conjunction with INA housings as complete bearing units. Linear ball bearing and housing units: see page 10.

Complete linear solutions

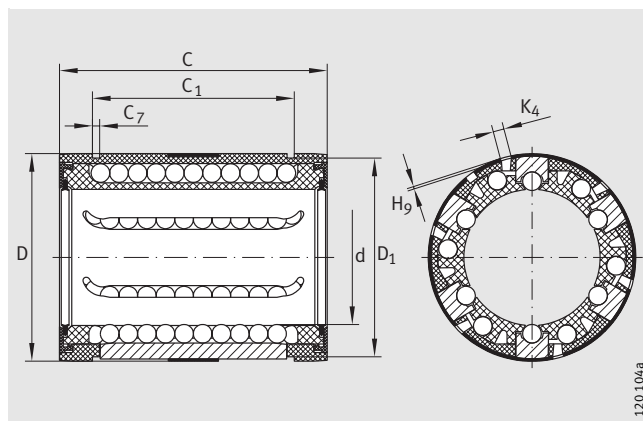
If linear ball bearings are combined not only with INA housings but also with INA shafts, this gives optimally matched, ready-to-fit, cost-effective complete solutions with a long operating life.

Linear ball bearings

Light range

Series KN..-B-PP
Closed design

Series KNO..-B-PP
Open design



KN..-B-PP

Dimension table · Dimensions in mm

| Shaft diameter d | Designation | | Mass ≈ kg | Dimensions | | | Mounting dimensions | | | |
|---------------------|---------------|-------------|--------------|------------|----|-----|------------------------------|----------------|----------------|----------------|
| | Closed design | Open design | | d | D | C | A ₆ ¹⁾ | C ₁ | C ₇ | D ₁ |
| 12 | KN12-B-PP | – | 0,02 | 12 | 22 | 32 | – | 22,6 | 1,3 | 21 |
| | – | KNO12-B-PP | 0,02 | 12 | 22 | 32 | 6,5 | – | – | – |
| 16 | KN16-B-PP | – | 0,03 | 16 | 26 | 36 | – | 24,6 | 1,3 | 25 |
| | – | KNO16-B-PP | 0,02 | 16 | 26 | 36 | 9 | – | – | – |
| 20 | KN20-B-PP | – | 0,06 | 20 | 32 | 45 | – | 31,2 | 1,6 | 30,7 |
| | – | KNO20-B-PP | 0,05 | 20 | 32 | 45 | 9 | – | – | – |
| 25 | KN25-B-PP | – | 0,13 | 25 | 40 | 58 | – | 43,7 | 1,85 | 38,5 |
| | – | KNO25-B-PP | 0,11 | 25 | 40 | 58 | 11,5 | – | – | – |
| 30 | KN30-B-PP | – | 0,19 | 30 | 47 | 68 | – | 51,7 | 1,85 | 44,7 |
| | – | KNO30-B-PP | 0,16 | 30 | 47 | 68 | 14 | – | – | – |
| 40 | KN40-B-PP | – | 0,35 | 40 | 62 | 80 | – | 60,3 | 2,15 | 59,4 |
| | – | KNO40-B-PP | 0,3 | 40 | 62 | 80 | 19 | – | – | – |
| 50 | KN50-B-PP | – | 0,67 | 50 | 75 | 100 | – | 77,3 | 2,65 | 71,4 |
| | – | KNO50-B-PP | 0,57 | 50 | 75 | 100 | 22,5 | – | – | – |

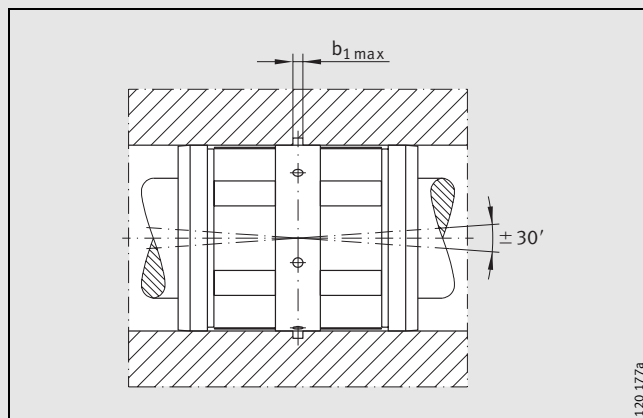
1) Dimension A₆ on diameter d.

2) Hole position symmetrical with bearing width C.

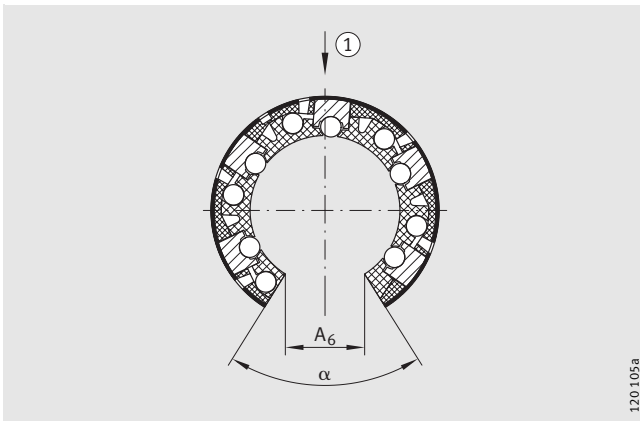
3) The basic load ratings are valid only for hardened (670 HV + 170 HV) and ground shaft raceways.

4) Basic load rating in main load direction.

5) Not included in the delivery. Supplied via trade distributors.



Compensation of misalignments ±30'

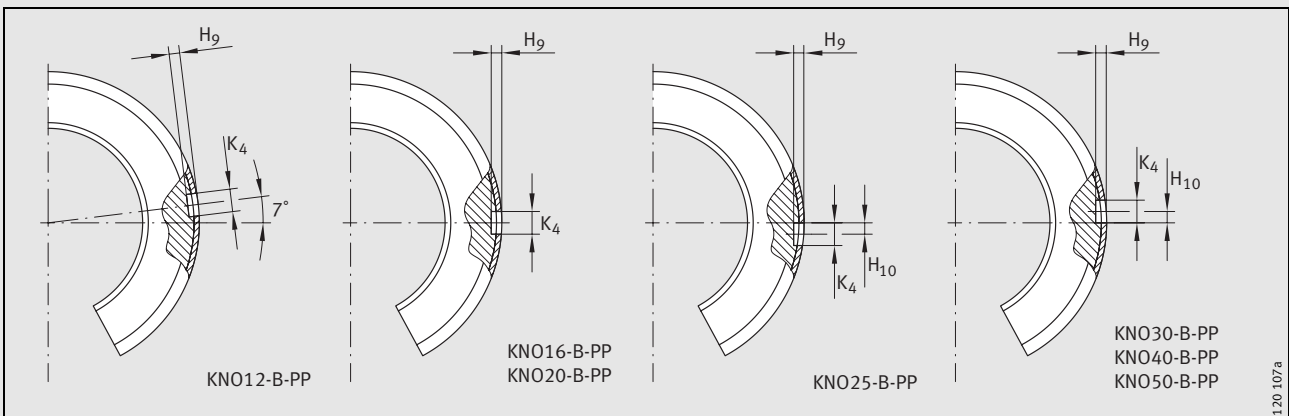


120 105a

KNO..-B-PP

① Main load direction

| H ₉ | H ₁₀ | K ₄ ²⁾ | α Degrees | b _{1 max} | Ball rows Number | Basic load ratings ³⁾ | | | | Suitable retaining ring to DIN 471 ⁵⁾ | Shaft diameter d |
|----------------|-----------------|------------------------------|--------------|--------------------|---------------------|----------------------------------|----------------------------------|-------------------------------|----------------------------------|--|---------------------|
| | | | | | | dyn. C _{min} N | stat. C _{0 min} N | dyn. C _{max} N | stat. C _{0 max} N | | |
| 0,7 | – | 3 | – | 1,5 | 5 | 730 | 510 | 870 | 740 | 22×1,2 | 12 |
| 0,7 | – | 3 | 66 | 1,5 | 4 | – | – | 840 ⁴⁾ | 640 ⁴⁾ | – | |
| 0,7 | – | 3 | – | 1,5 | 5 | 870 | 620 | 1 040 | 910 | 26×1,2 | 16 |
| 0,7 | – | 3 | 68 | 1,5 | 4 | – | – | 1 000 ⁴⁾ | 750 ⁴⁾ | – | |
| 0,9 | – | 3 | – | 2,5 | 6 | 1 730 | 1 230 | 1 830 | 1 570 | 32×1,5 | 20 |
| 0,9 | – | 3 | 55 | 2,5 | 5 | – | – | 1 740 ⁴⁾ | 1 240 ⁴⁾ | – | |
| 1,4 | – | 3 | – | 2,5 | 6 | 3 100 | 2 220 | 3 250 | 2 850 | 42×1,75 | 25 |
| 1,4 | 1,5 | 3 | 57 | 2,5 | 5 | – | – | 3 100 ⁴⁾ | 2 260 ⁴⁾ | – | |
| 2,2 | – | 3 | – | 2,5 | 6 | 3 750 | 2 850 | 3 950 | 3 650 | 48×1,75 | 30 |
| 2,2 | 2 | 3 | 57 | 2,5 | 5 | – | – | 3 750 ⁴⁾ | 2 850 ⁴⁾ | – | |
| 2,2 | – | 3 | – | 3 | 6 | 6 300 | 4 350 | 6 700 | 5 600 | 63×2 | 40 |
| 2,2 | 1,5 | 3 | 56 | 3 | 5 | – | – | 6 300 ⁴⁾ | 4 350 ⁴⁾ | – | |
| 2,3 | – | 5 | – | 3 | 6 | 9 300 | 6 500 | 9 800 | 8 300 | 75×2,5 | 50 |
| 2,3 | 2,5 | 5 | 54 | 3 | 5 | – | – | 9 300 ⁴⁾ | 6 500 ⁴⁾ | – | |



120 107a

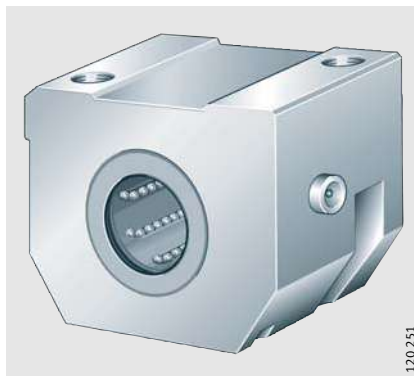
Fixing holes

Product overview – Linear ball bearing and housing units

Closed units

Housing with or without slot

KGN...-C-PP-AS



KGNS...-C-PP-AS



Bearings mounted in tandem arrangement

Housing with or without slot

KTN...-C-PP-AS



KTNS...-C-PP-AS



Open units

Housing with or without slot

KGNC...-C-PP-AS

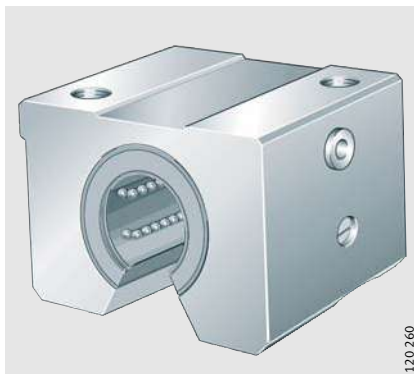


KGNC...-C-PP-AS

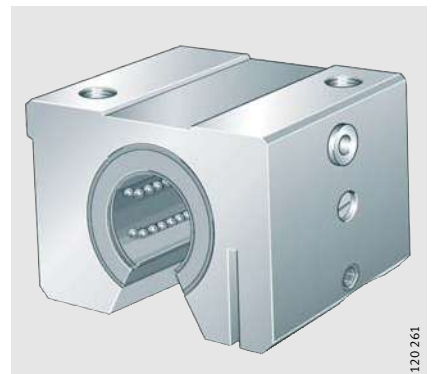


Housing with or without slot

KGNO..-C-PP-AS

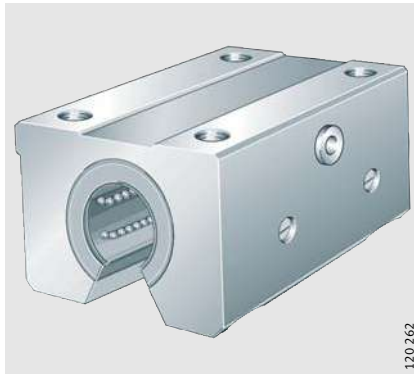


KGNOS..-C-PP-AS

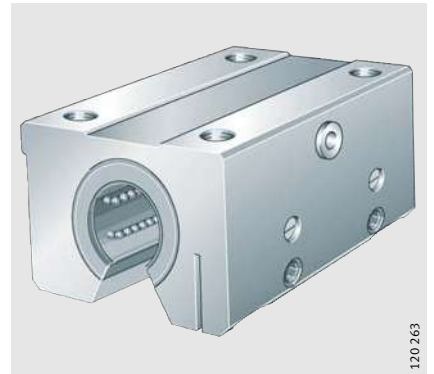


Bearings mounted in tandem
arrangement
Housing with or without slot

KTNO..-C-PP-AS

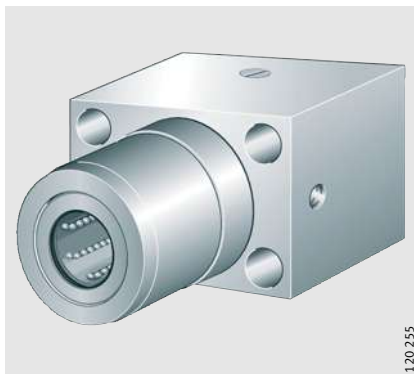


KTNOS..-C-PP-AS



Closed unit with centring collar

KTFN..-C-PP-AS



Linear ball bearing and housing units

Features

Linear ball bearings KN and KNO are also available in conjunction with INA housings as complete bearing units. The linear bearings are located in the housing by means of a radial fixing screw to prevent axial displacement.

The housings are made from a high rigidity, high strength aluminium alloy that allows the full load carrying capacity of the bearings fitted to be utilised. Due to the comparatively low total mass, the units are particularly suitable for reduced mass designs with high loads and where higher accelerations and travel speeds are required.

Threaded and counterbored holes in the housing allow straightforward screw mounting on the adjacent construction, if necessary from below. For rapid alignment, the housings have a locating edge. This also prevents distortion of the linear bearings when the housings are being mounted. Centring holes allow rapid additional location by dowels on the adjacent construction.

Housing designs

The housings are available as closed, open and slotted designs and as a tandem series fitted with two linear ball bearings, see page 8 and page 9.

Closed design

In this variant, the bearing and housing are closed. High precision standard guidance systems with a fixed enveloping circle can thus be easily achieved.

Open design

Open designs are used where, in the case of long guidance systems, the shaft must be supported and the bearing arrangement must be highly rigid.

Slotted design

Open and closed designs are also available with a slot. Slotted variants are suitable for clearance-free or preloaded guidance systems. The radial internal clearance is set by means of an adjusting screw.

Tandem design

Tandem ball bearing and housing units are available in open and closed designs. Both variants are also available in the named design with a slot.

For special applications, there is also a tandem version with a centring collar for locating bores to H7.

Linear ball bearings

The linear ball bearings KN and KNO fitted can support high loads and compensate static misalignments of the bearing centre axis up to $\pm 30'$ without impairing the load carrying capacity and operating life of the bearings. Comprehensive description of the linear ball bearings: see page 5.

Caution!

In order to fully utilise the basic load ratings of the bearings given in the dimension tables, the shaft raceway must be hardened (670 HV + 170 HV) and ground.

When designing the bearing arrangement, the data in INA Catalogue "801" must be taken into consideration.

Sealing/lubrication

Double lip polyester elastomer sealing rings on both sides prevent the ingress of contamination into the bearing and retain the grease in the ball bearing.

Due to the initial greasing, the units are maintenance-free for many applications; if necessary, however, they can be relubricated.

Lubrication is carried out via a separate lubrication nipple in the housing; location of the bearing in the housing and the relubrication devices are separate from each other.

Caution!

In order to distribute the grease uniformly, the bearing must be moved during relubrication.

Operating temperature

The units can be used at operating temperatures up to +80 °C.

Complete linear solutions

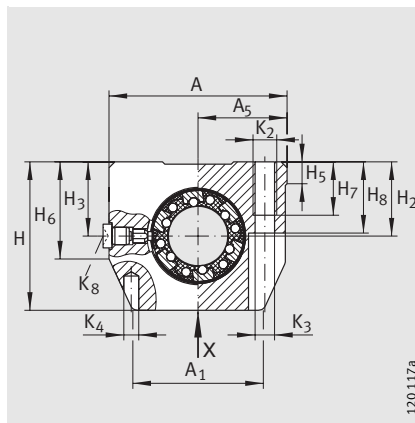
If linear ball bearings are combined with INA housings and INA shafts, this gives optimally matched, ready-to-fit, cost-effective complete solutions with a long operating life.

Linear ball bearing and housing units

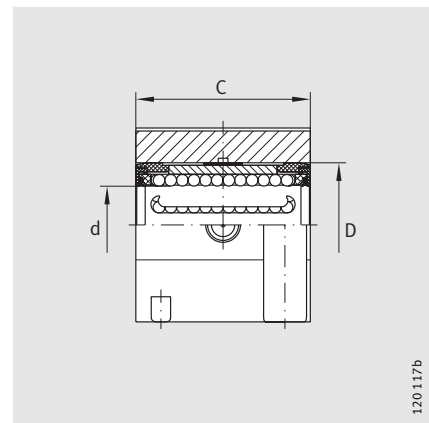
Closed design
With or without slot

Series KGN...-C-PP-AS
KGNS...-C-PP-AS

Series KTN...-C-PP-AS
KTNS...-C-PP-AS
Tandem arrangement



KGN(S)...-C-PP-AS
KTN(S)...-C-PP-AS



KGN...-C-PP-AS

Dimension table · Dimensions in mm

| Shaft diameter d | Designation | | Mass ≈kg | Dimensions | | | | Mounting dimensions | | | | |
|---------------------|--------------------|--------------------|-------------|------------|-----|-----|-----|---------------------|----------------|------------------------------|------------------------------|----|
| | Single arrangement | Tandem arrangement | | d | A | C | H | A ₁ | A ₅ | C ₂ ¹⁾ | C ₃ ¹⁾ | D |
| 12 | KGN12-C-PP-AS | – | 0,1 | 12 | 43 | 32 | 35 | 32±0,15 | 21,5 | 23±0,15 | – | 22 |
| | KGNS12-C-PP-AS | – | 0,1 | 12 | 43 | 32 | 35 | 32±0,15 | 21,5 | 23±0,15 | – | 22 |
| | – | KTN12-C-PP-AS | 0,21 | 12 | 43 | 70 | 35 | 32±0,15 | 21,5 | 56±0,15 | 24 | 22 |
| | – | KTNS12-C-PP-AS | 0,21 | 12 | 43 | 70 | 35 | 32±0,15 | 21,5 | 56±0,15 | 24 | 22 |
| 16 | KGN16-C-PP-AS | – | 0,17 | 16 | 53 | 37 | 42 | 40±0,15 | 26,5 | 26±0,15 | – | 26 |
| | KGNS16-C-PP-AS | – | 0,17 | 16 | 53 | 37 | 42 | 40±0,15 | 26,5 | 26±0,15 | – | 26 |
| | – | KTN16-C-PP-AS | 0,35 | 16 | 53 | 78 | 42 | 40±0,15 | 26,5 | 64±0,15 | 26 | 26 |
| | – | KTNS16-C-PP-AS | 0,35 | 16 | 53 | 78 | 42 | 40±0,15 | 26,5 | 64±0,15 | 26 | 26 |
| 20 | KGN20-C-PP-AS | – | 0,27 | 20 | 60 | 45 | 50 | 45±0,15 | 30 | 32±0,15 | – | 32 |
| | KGNS20-C-PP-AS | – | 0,27 | 20 | 60 | 45 | 50 | 45±0,15 | 30 | 32±0,15 | – | 32 |
| | – | KTN20-C-PP-AS | 0,56 | 20 | 60 | 96 | 50 | 45±0,15 | 30 | 76±0,15 | 33 | 32 |
| | – | KTNS20-C-PP-AS | 0,56 | 20 | 60 | 96 | 50 | 45±0,15 | 30 | 76±0,15 | 33 | 32 |
| 25 | KGN25-C-PP-AS | – | 0,56 | 25 | 78 | 58 | 60 | 60±0,15 | 39 | 40±0,15 | – | 40 |
| | KGNS25-C-PP-AS | – | 0,56 | 25 | 78 | 58 | 60 | 60±0,15 | 39 | 40±0,15 | – | 40 |
| | – | KTN25-C-PP-AS | 1,15 | 25 | 78 | 122 | 60 | 60±0,15 | 39 | 94±0,2 | 44 | 40 |
| | – | KTNS25-C-PP-AS | 1,15 | 25 | 78 | 122 | 60 | 60±0,15 | 39 | 94±0,2 | 44 | 40 |
| 30 | KGN30-C-PP-AS | – | 0,83 | 30 | 87 | 68 | 70 | 68±0,15 | 43,5 | 45±0,15 | – | 47 |
| | KGNS30-C-PP-AS | – | 0,83 | 30 | 87 | 68 | 70 | 68±0,15 | 43,5 | 45±0,15 | – | 47 |
| | – | KTN30-C-PP-AS | 1,7 | 30 | 87 | 142 | 70 | 68±0,15 | 43,5 | 106±0,2 | 54 | 47 |
| | – | KTNS30-C-PP-AS | 1,7 | 30 | 87 | 142 | 70 | 68±0,15 | 43,5 | 106±0,2 | 54 | 47 |
| 40 | KGN40-C-PP-AS | – | 1,55 | 40 | 108 | 80 | 90 | 86±0,15 | 54 | 58±0,15 | – | 62 |
| | KGNS40-C-PP-AS | – | 1,55 | 40 | 108 | 80 | 90 | 86±0,15 | 54 | 58±0,15 | – | 62 |
| 50 | KGN50-C-PP-AS | – | 2,7 | 50 | 132 | 100 | 105 | 108±0,2 | 66 | 50±0,2 | – | 75 |
| | KGNS50-C-PP-AS | – | 2,7 | 50 | 132 | 100 | 105 | 108±0,2 | 66 | 50±0,2 | – | 75 |

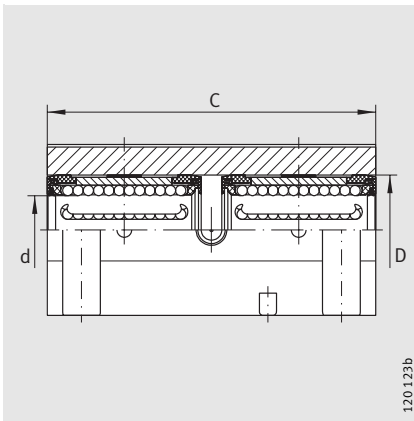
1) Dimensions C₂, C₃ and lubrication hole symmetrical to bearing width C.

2) For fixing screws to EN ISO 4 762-8.8.
Screws should be secured, especially if a loss of preload may occur.

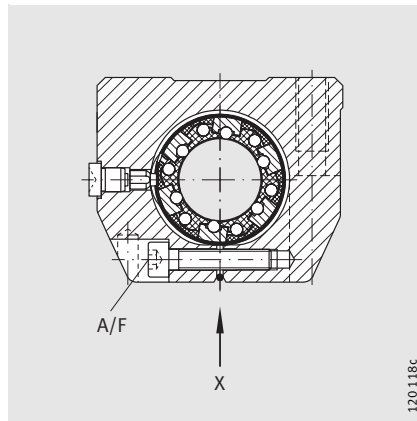
3) Centring for dowel hole.

4) Lubrication nipple.

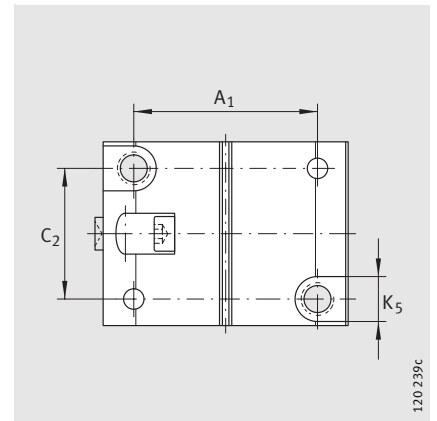
5) The basic load ratings are valid only for hardened (670 HV + 170 HV) and ground shaft raceways.



KTN...-C-PP-AS

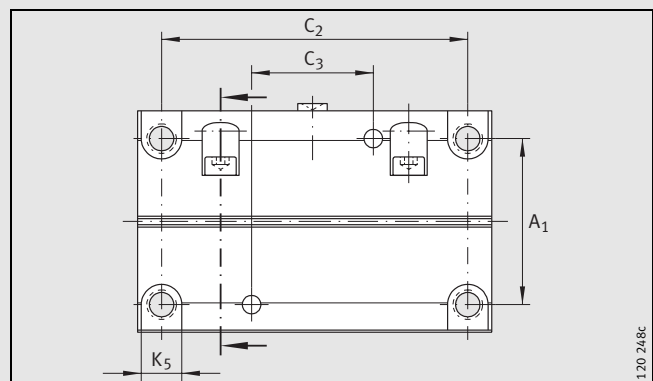


KGN(S)...-C-PP-AS
KTN(S)...-C-PP-AS



KGNS...-C-PP-AS
View X (rotated 90°)

| H ₂ +0,008 -0,016 | H ₃ | H ₅ | H ₆ | H ₇ | H ₈ | K ₂ | K ₃ ²⁾ | K ₄ ³⁾ | K ₅ ²⁾ | K ₈ ^{1) 4)} | A/F | Ball rows Number | Basic load ratings ⁵⁾ | | Shaft diameter d |
|------------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|------------------------------|------------------------------|------------------------------|---------------------------------|-----|---------------------|----------------------------------|------------------------------|---------------------|
| | | | | | | | | | | | | | dyn. C N | stat. C ₀ N | |
| 18 | 18 | 6 | 25,5 | 11 | 16,5 | M5 | 4,3 | 4 | 8 | NIP A1 | – | 5 | 780 | 560 | 12 |
| 18 | 18 | 6 | 25,5 | 11 | 16,5 | M5 | 4,3 | 4 | 8 | NIP A1 | 2,5 | 5 | 780 | 560 | |
| 18 | 18 | 6 | 25,5 | 11 | 16,5 | M5 | 4,3 | 4 | 8 | NIP A1 | – | 5 | 1 270 | 1 110 | |
| 18 | 18 | 6 | 25,5 | 11 | 16,5 | M5 | 4,3 | 4 | 8 | NIP A1 | 2,5 | 5 | 1 270 | 1 110 | |
| 22 | 22 | 7 | 28 | 13 | 21 | M6 | 5,3 | 4 | 10 | NIP A1 | – | 5 | 1 000 | 750 | 16 |
| 22 | 22 | 7 | 28 | 13 | 21 | M6 | 5,3 | 4 | 10 | NIP A1 | 3 | 5 | 1 000 | 750 | |
| 22 | 22 | 7 | 28 | 13 | 21 | M6 | 5,3 | 4 | 10 | NIP A1 | – | 5 | 1 620 | 1 500 | |
| 22 | 22 | 7 | 28 | 13 | 21 | M6 | 5,3 | 4 | 10 | NIP A1 | 3 | 5 | 1 620 | 1 500 | |
| 25 | 25 | 7,5 | 33 | 18 | 24 | M8 | 6,6 | 5 | 11 | NIP A1 | – | 6 | 1 740 | 1 240 | 20 |
| 25 | 25 | 7,5 | 33 | 18 | 24 | M8 | 6,6 | 5 | 11 | NIP A1 | 4 | 6 | 1 740 | 1 240 | |
| 25 | 25 | 7,5 | 33 | 18 | 24 | M8 | 6,6 | 5 | 11 | NIP A1 | – | 6 | 2 850 | 2 480 | |
| 25 | 25 | 7,5 | 33 | 18 | 24 | M8 | 6,6 | 5 | 11 | NIP A1 | 4 | 6 | 2 850 | 2 480 | |
| 30 | 30 | 8,5 | 40 | 22 | 29 | M10 | 8,4 | 6 | 15 | NIP A2 | – | 6 | 3 100 | 2 230 | 25 |
| 30 | 30 | 8,5 | 40 | 22 | 29 | M10 | 8,4 | 6 | 15 | NIP A2 | 5 | 6 | 3 100 | 2 230 | |
| 30 | 30 | 8,5 | 40 | 22 | 29 | M10 | 8,4 | 6 | 15 | NIP A2 | – | 6 | 5 000 | 4 450 | |
| 30 | 30 | 8,5 | 40 | 22 | 29 | M10 | 8,4 | 6 | 15 | NIP A2 | 5 | 6 | 5 000 | 4 450 | |
| 35 | 35 | 9,5 | 44,5 | 22 | 34 | M10 | 8,4 | 6 | 15 | NIP A2 | – | 6 | 3 800 | 2 900 | 30 |
| 35 | 35 | 9,5 | 44,5 | 22 | 34 | M10 | 8,4 | 6 | 15 | NIP A2 | 5 | 6 | 3 800 | 2 900 | |
| 35 | 35 | 9,5 | 44,5 | 22 | 34 | M10 | 8,4 | 6 | 15 | NIP A2 | – | 6 | 6 100 | 5 800 | |
| 35 | 35 | 9,5 | 44,5 | 22 | 34 | M10 | 8,4 | 6 | 15 | NIP A2 | 5 | 6 | 6 100 | 5 800 | |
| 45 | 45 | 11 | 56 | 26 | 44 | M12 | 10,5 | 8 | 18 | NIP A2 | – | 6 | 6 300 | 4 350 | 40 |
| 45 | 45 | 11 | 56 | 26 | 44 | M12 | 10,5 | 8 | 18 | NIP A2 | 6 | 6 | 6 300 | 4 350 | |
| 50 | 50 | 11 | 60 | 35 | 49 | M16 | 13,5 | 10 | 20 | NIP A2 | – | 6 | 9 300 | 6 500 | 50 |
| 50 | 50 | 11 | 60 | 35 | 49 | M16 | 13,5 | 10 | 20 | NIP A2 | 8 | 6 | 9 300 | 6 500 | |



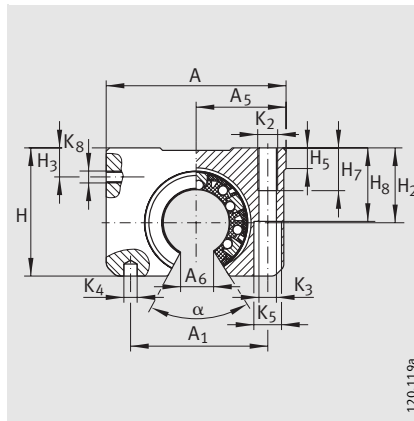
KTNS...-C-PP-AS – view X (rotated 90°)

Linear ball bearing and housing units

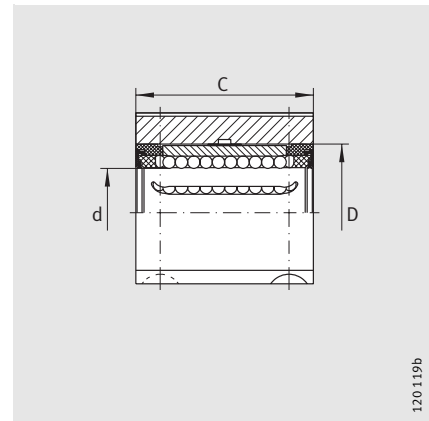
Open design
With or without slot

Series KGNO...-C-PP-AS
KGNOS...-C-PP-AS

Series KTNO...-C-PP-AS
KTNOS...-C-PP-AS
Tandem arrangement



KGNO(S)...-C-PP-AS
KTNO(S)...-C-PP-AS



KGNO...-C-PP-AS

Dimension table · Dimensions in mm

| Shaft diameter d | Designation | | Mass ≈kg | Dimensions | | | | Mounting dimensions | | | | | |
|---------------------|--------------------|--------------------|-------------|------------|-----|-----|----|---------------------|-------------------------|------------------------------|------------------------------|------------------------------|----|
| | Single arrangement | Tandem arrangement | | d | A | C | H | A ₁ | A ₅ ±0,01 | A ₆ ¹⁾ | C ₂ ²⁾ | C ₃ ²⁾ | D |
| 12 | KGNO12-C-PP-AS | – | 0,09 | 12 | 43 | 32 | 28 | 32±0,15 | 21,5 | 6,5 | 23±0,15 | – | 22 |
| | KGNOS12-C-PP-AS | – | 0,09 | 12 | 43 | 32 | 28 | 32±0,15 | 21,5 | 6,5 | 23±0,15 | – | 22 |
| | – | KTNO12-C-PP-AS | 0,19 | 12 | 43 | 70 | 28 | 32±0,15 | 21,5 | 6,5 | 56±0,15 | 24 | 22 |
| | – | KTNOS12-C-PP-AS | 0,19 | 12 | 43 | 70 | 28 | 32±0,15 | 21,5 | 6,5 | 56±0,15 | 24 | 22 |
| 16 | KGNO16-C-PP-AS | – | 0,15 | 16 | 53 | 37 | 35 | 40±0,15 | 26,5 | 9 | 26±0,15 | – | 26 |
| | KGNOS16-C-PP-AS | – | 0,15 | 16 | 53 | 37 | 35 | 40±0,15 | 26,5 | 9 | 26±0,15 | – | 26 |
| | – | KTNO16-C-PP-AS | 0,31 | 16 | 53 | 78 | 35 | 40±0,15 | 26,5 | 9 | 64±0,15 | 26 | 26 |
| | – | KTNOS16-C-PP-AS | 0,31 | 16 | 53 | 78 | 35 | 40±0,15 | 26,5 | 9 | 64±0,15 | 26 | 26 |
| 20 | KGNO20-C-PP-AS | – | 0,25 | 20 | 60 | 45 | 42 | 45±0,15 | 30 | 9 | 32±0,15 | – | 32 |
| | KGNOS20-C-PP-AS | – | 0,25 | 20 | 60 | 45 | 42 | 45±0,15 | 30 | 9 | 32±0,15 | – | 32 |
| | – | KTNO20-C-PP-AS | 0,52 | 20 | 60 | 96 | 42 | 45±0,15 | 30 | 9 | 76±0,15 | 33 | 32 |
| | – | KTNOS20-C-PP-AS | 0,52 | 20 | 60 | 96 | 42 | 45±0,15 | 30 | 9 | 76±0,15 | 33 | 32 |
| 25 | KGNO25-C-PP-AS | – | 0,52 | 25 | 78 | 58 | 51 | 60±0,15 | 39 | 11,5 | 40±0,15 | – | 40 |
| | KGNOS25-C-PP-AS | – | 0,52 | 25 | 78 | 58 | 51 | 60±0,15 | 39 | 11,5 | 40±0,15 | – | 40 |
| | – | KTNO25-C-PP-AS | 1,06 | 25 | 78 | 122 | 51 | 60±0,15 | 39 | 11,5 | 94±0,2 | 44 | 40 |
| | – | KTNOS25-C-PP-AS | 1,06 | 25 | 78 | 122 | 51 | 60±0,15 | 39 | 11,5 | 94±0,2 | 44 | 40 |
| 30 | KGNO30-C-PP-AS | – | 0,76 | 30 | 87 | 68 | 60 | 68±0,15 | 43,5 | 14 | 45±0,15 | – | 47 |
| | KGNOS30-C-PP-AS | – | 0,76 | 30 | 87 | 68 | 60 | 68±0,15 | 43,5 | 14 | 45±0,15 | – | 47 |
| | – | KTNO30-C-PP-AS | 1,23 | 30 | 87 | 142 | 60 | 68±0,15 | 43,5 | 14 | 106±0,2 | 54 | 47 |
| | – | KTNOS30-C-PP-AS | 1,23 | 30 | 87 | 142 | 60 | 68±0,15 | 43,5 | 14 | 106±0,2 | 54 | 47 |
| 40 | KGNO40-C-PP-AS | – | 1,4 | 40 | 108 | 80 | 77 | 86±0,15 | 54 | 19 | 58±0,15 | – | 62 |
| | KGNOS40-C-PP-AS | – | 1,4 | 40 | 108 | 80 | 77 | 86±0,15 | 54 | 19 | 58±0,15 | – | 62 |
| 50 | KGNO50-C-PP-AS | – | 2,4 | 50 | 132 | 100 | 88 | 108±0,2 | 66 | 22,5 | 50±0,2 | – | 75 |
| | KGNOS50-C-PP-AS | – | 2,4 | 50 | 132 | 100 | 88 | 108±0,2 | 66 | 22,5 | 50±0,2 | – | 75 |

1) Dimension A₆ on diameter d.

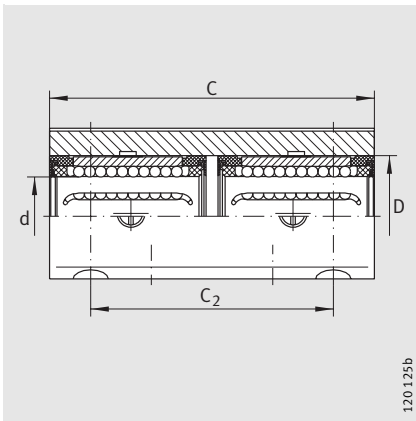
2) Dimensions C₂, C₃ and lubrication hole symmetrical to bearing width C.

3) For fixing screws to EN ISO 4 762-8.8.

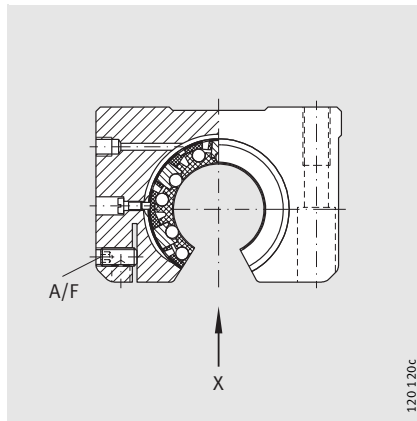
Screws should be secured, especially if a loss of preload may occur.

4) Centring for dowel hole.

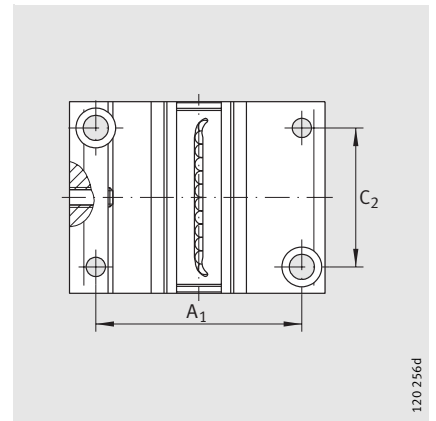
5) The basic load ratings are valid only for hardened (670 HV + 170 HV) and ground shaft raceways.



KTNO...-C-PP-AS

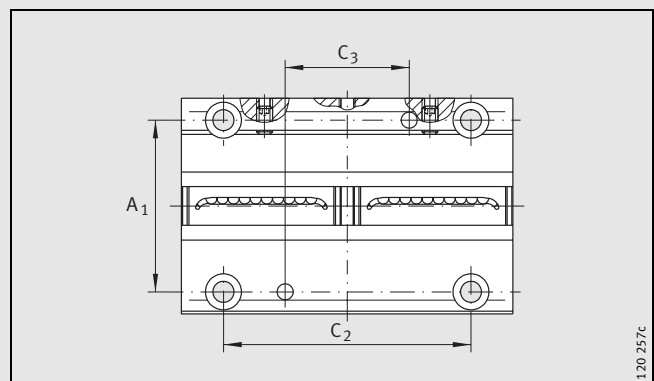


KGNO(S)...-C-PP-AS
KTNO(S)...-C-PP-AS



KGNOS...-C-PP-AS
View X (rotated 90°)

| H ₂ +0,008 -0,016 | H ₃ | H ₅ | H ₇ | H ₈ | K ₂ | K ₃ ³⁾ | K ₄ ⁴⁾ | K ₅ ²⁾ | K ₈ ²⁾ | A/F | α Degrees | Ball rows Number | Basic load ratings ⁵⁾ | | Shaft diameter d |
|------------------------------------|----------------|----------------|----------------|----------------|----------------|------------------------------|------------------------------|------------------------------|------------------------------|-----|--------------|---------------------|----------------------------------|------------------------------|---------------------|
| | | | | | | | | | | | | | dyn. C N | stat. C ₀ N | |
| 18 | 8 | 6 | 11 | 16,5 | M5 | 4,3 | 4 | 8 | M6 | – | 66 | 4 | 840 | 640 | 12 |
| 18 | 8 | 6 | 11 | 16,5 | M5 | 4,3 | 4 | 8 | M6 | 2,5 | 66 | 4 | 840 | 640 | |
| 18 | 8 | 6 | 11 | 16,5 | M5 | 4,3 | 4 | 8 | M6 | | 66 | 4 | 1370 | 1270 | |
| 18 | 8 | 6 | 11 | 16,5 | M5 | 4,3 | 4 | 8 | M6 | 2,5 | 66 | 4 | 1370 | 1270 | |
| 22 | 10 | 7,5 | 13 | 21 | M6 | 5,3 | 4 | 10 | M6 | – | 68 | 4 | 1000 | 750 | 16 |
| 22 | 10 | 7,5 | 13 | 21 | M6 | 5,3 | 4 | 10 | M6 | 2,5 | 68 | 4 | 1000 | 750 | |
| 22 | 10 | 7,5 | 13 | 21 | M6 | 5,3 | 4 | 10 | M6 | | 68 | 4 | 1620 | 1500 | |
| 22 | 10 | 7,5 | 13 | 21 | M6 | 5,3 | 4 | 10 | M6 | 2,5 | 68 | 4 | 1620 | 1500 | |
| 25 | 11 | 8 | 18 | 24 | M8 | 6,6 | 5 | 11 | M6 | – | 55 | 5 | 1740 | 1240 | 20 |
| 25 | 11 | 8 | 18 | 24 | M8 | 6,6 | 5 | 11 | M6 | 2,5 | 55 | 5 | 1740 | 1240 | |
| 25 | 11 | 8 | 18 | 24 | M8 | 6,6 | 5 | 11 | M6 | | 55 | 5 | 2850 | 2480 | |
| 25 | 11 | 8 | 18 | 24 | M8 | 6,6 | 5 | 11 | M6 | 2,5 | 55 | 5 | 2850 | 2480 | |
| 30 | 12,5 | 9 | 22 | 29 | M10 | 8,4 | 6 | 15 | M8×1 | – | 57 | 5 | 3100 | 2260 | 25 |
| 30 | 12,5 | 9 | 22 | 29 | M10 | 8,4 | 6 | 15 | M8×1 | 3 | 57 | 5 | 3100 | 2260 | |
| 30 | 12,5 | 9 | 22 | 29 | M10 | 8,4 | 6 | 15 | M8×1 | | 57 | 5 | 5100 | 4560 | |
| 30 | 12,5 | 9 | 22 | 29 | M10 | 8,4 | 6 | 15 | M8×1 | 3 | 57 | 5 | 5100 | 4560 | |
| 35 | 14 | 9,5 | 22 | 34 | M10 | 8,4 | 6 | 15 | M8×1 | – | 57 | 5 | 3750 | 2850 | 30 |
| 35 | 14 | 9,5 | 22 | 34 | M10 | 8,4 | 6 | 15 | M8×1 | 3 | 57 | 5 | 3750 | 2850 | |
| 35 | 14 | 9,5 | 22 | 34 | M10 | 8,4 | 6 | 15 | M8×1 | | 57 | 5 | 6100 | 5700 | |
| 35 | 14 | 9,5 | 22 | 34 | M10 | 8,4 | 6 | 15 | M8×1 | 3 | 57 | 5 | 6100 | 5700 | |
| 45 | 17,5 | 12 | 26 | 44 | M12 | 10,5 | 8 | 18 | M8×1 | – | 56 | 5 | 6300 | 4350 | 40 |
| 45 | 17,5 | 12 | 26 | 44 | M12 | 10,5 | 8 | 18 | M8×1 | 4 | 56 | 5 | 6300 | 4350 | |
| 50 | 17,5 | 12 | 35 | 49 | M16 | 13,5 | 10 | 20 | M8×1 | – | 54 | 5 | 9300 | 6500 | 50 |
| 50 | 17,5 | 12 | 35 | 49 | M16 | 13,5 | 10 | 20 | M8×1 | 5 | 54 | 5 | 9300 | 6500 | |

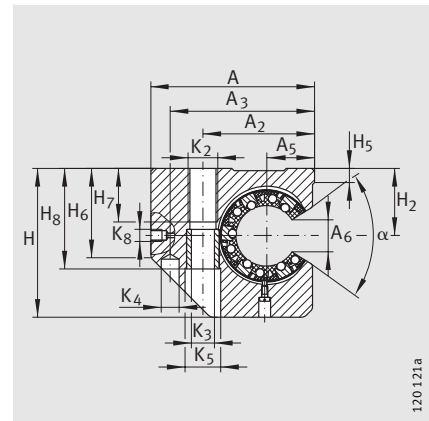


KTNOS...-C-PP-AS – view X (rotated 90°)

Linear ball bearing and housing units

Open design
With or without slot

Series KGNC..-C-PP-AS
KGNCs..-C-PP-AS



KGNC..-C-PP-AS

Dimension table · Dimensions in mm

| Shaft diameter d | Designation | Mass ≈kg | Dimensions | | | | Mounting dimensions | | | | | | | |
|-------------------------|-----------------|-----------------|------------|-----|-----|-----|---------------------|----------------|----------------|------------------------------|------------------------------|------------------------------|----|----------------|
| | | | d | A | C | H | A ₂ | A ₃ | A ₅ | A ₆ ¹⁾ | C ₂ ²⁾ | C ₃ ²⁾ | D | H ₂ |
| 20 | KGNC20-C-PP-AS | 0,35 | 20 | 60 | 47 | 60 | 39 | 51 | 17 | 9 | 30 | 36 | 32 | 30 |
| | KGNCs20-C-PP-AS | 0,35 | 20 | 60 | 47 | 60 | 39 | 51 | 17 | 9 | 30 | 36 | 32 | 30 |
| 25 | KGNC25-C-PP-AS | 0,68 | 25 | 75 | 58 | 72 | 49 | 64 | 21 | 11,5 | 36 | 45 | 40 | 35 |
| | KGNCs25-C-PP-AS | 0,68 | 25 | 75 | 58 | 72 | 49 | 64 | 21 | 11,5 | 36 | 45 | 40 | 35 |
| 30 | KGNC30-C-PP-AS | 1 | 30 | 86 | 68 | 82 | 59 | 76 | 25 | 14 | 42 | 52 | 47 | 40 |
| | KGNCs30-C-PP-AS | 1 | 30 | 86 | 68 | 82 | 59 | 76 | 25 | 14 | 42 | 52 | 47 | 40 |
| 40 | KGNC40-C-PP-AS | 1,8 | 40 | 110 | 80 | 100 | 75 | 97 | 32 | 19 | 48 | 60 | 62 | 45 |
| | KGNCs40-C-PP-AS | 1,8 | 40 | 110 | 80 | 100 | 75 | 97 | 32 | 19 | 48 | 60 | 62 | 45 |
| 50 | KGNC50-C-PP-AS | 2,9 | 50 | 127 | 100 | 115 | 88 | 109 | 38 | 22,5 | 62 | 80 | 75 | 50 |
| | KGNCs50-C-PP-AS | 2,9 | 50 | 127 | 100 | 115 | 88 | 109 | 38 | 22,5 | 62 | 80 | 75 | 50 |

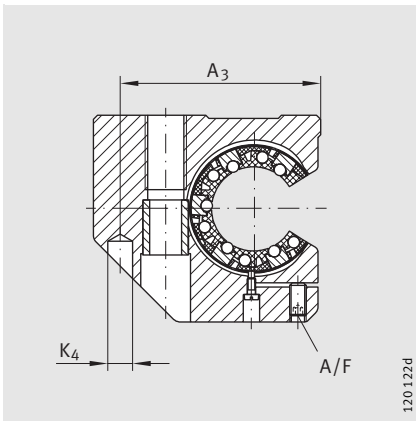
1) Dimension A₆ on diameter d.

2) Dimensions C₂, C₃ and lubrication hole symmetrical to bearing width C.

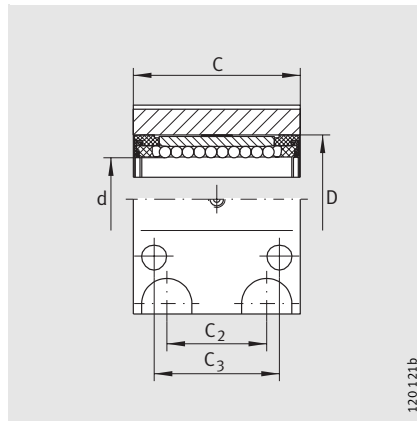
3) Centring for dowel hole.

4) For fixing screws to EN ISO 4 762-8.8.
Screws should be secured, especially if a loss of preload may occur.

5) The basic load ratings are valid only for hardened (670 HV + 170 HV) and ground shaft raceways.



KGNC...-C-PP-AS



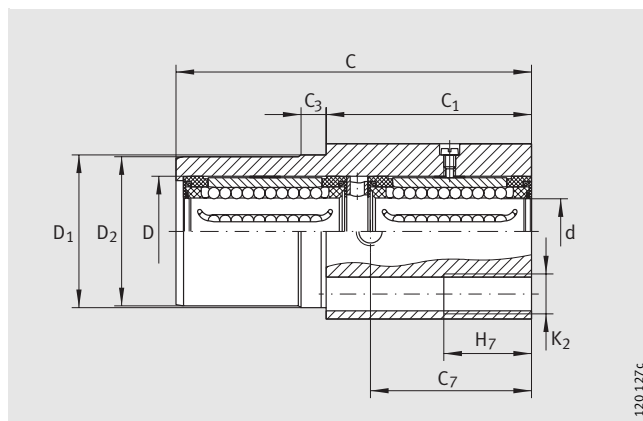
KGNC...-C-PP-AS
KGNC...-C-PP-AS

| H ₅ | H ₆ | H ₇ | H ₈ | K ₂ | K ₃ ³⁾ | K ₄ ⁴⁾ | K ₅ ³⁾ | K ₈ ²⁾ | A/F | α Degrees | Ball rows Number | Basic load ratings ⁵⁾ | | Shaft diameter d |
|----------------|----------------|----------------|----------------|----------------|------------------------------|------------------------------|------------------------------|------------------------------|-----|--------------|---------------------|----------------------------------|------------------------------|---------------------|
| | | | | | | | | | | | | dyn. C N | stat. C ₀ N | |
| 8 | 37,5 | 18 | 42 | M10 | 8,4 | 6 | 15 | M6 | – | 55 | 5 | 1 740 | 1 240 | 20 |
| 8 | 37,5 | 18 | 42 | M10 | 8,4 | 6 | 15 | M6 | 2,5 | 55 | 5 | 1 740 | 1 240 | |
| 8 | 45 | 22 | 50 | M12 | 10,5 | 8 | 18 | M8×1 | – | 57 | 5 | 3 100 | 2 260 | 25 |
| 8 | 45 | 22 | 50 | M12 | 10,5 | 8 | 18 | M8×1 | 3 | 57 | 5 | 3 100 | 2 260 | |
| 9 | 52 | 29 | 55 | M16 | 13,5 | 10 | 20 | M8×1 | – | 57 | 5 | 3 750 | 2 850 | 30 |
| 9 | 52 | 29 | 55 | M16 | 13,5 | 10 | 20 | M8×1 | 3 | 57 | 5 | 3 750 | 2 850 | |
| 9 | 60 | 36 | 67 | M20 | 15,5 | 12 | 24 | M8×1 | – | 56 | 5 | 6 300 | 4 350 | 40 |
| 9 | 60 | 36 | 67 | M20 | 15,5 | 12 | 24 | M8×1 | 4 | 56 | 5 | 6 300 | 4 350 | |
| 9 | 70 | 36 | 78 | M20 | 17,5 | 12 | 26 | M8×1 | – | 54 | 5 | 9 300 | 6 500 | 50 |
| 9 | 70 | 36 | 78 | M20 | 17,5 | 12 | 26 | M8×1 | 5 | 54 | 5 | 9 300 | 6 500 | |

Linear ball bearing and housing units

Closed design with centring collar

Series KTFN...-C-PP-AS



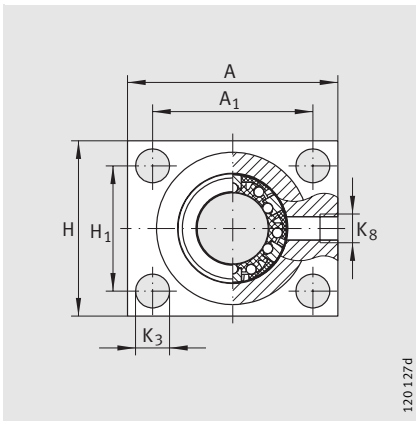
KTFN...-C-PP-AS

Dimension table · Dimensions in mm

| Shaft diameter | Designation | Mass ≈kg | Dimensions | | | | Mounting dimensions | | | |
|----------------|----------------|-------------|------------|----|-----|----|-------------------------|----------------|----------------|----------------|
| | | | d | A | C | H | A ₁ ±0,15 | C ₁ | C ₃ | C ₇ |
| 12 | KTFN12-C-PP-AS | 0,2 | 12 | 42 | 70 | 34 | 32 | 46 | 10 | 35 |
| 16 | KTFN16-C-PP-AS | 0,3 | 16 | 50 | 78 | 40 | 38 | 50 | 10 | 39 |
| 20 | KTFN20-C-PP-AS | 0,5 | 20 | 60 | 96 | 50 | 45 | 60 | 10 | 48 |
| 25 | KTFN25-C-PP-AS | 1 | 25 | 74 | 122 | 60 | 56 | 73 | 10 | 61 |
| 30 | KTFN30-C-PP-AS | 1,4 | 30 | 84 | 142 | 70 | 64 | 82 | 10 | 71 |

1) Recommended locating bore D₁ H7.

2) The basic load ratings are valid only for hardened (670 HV + 170 HV) and ground shaft raceways.



KTFN..-C-PP-AS

| D | D ₁ ¹⁾ g7 | D ₂ -0,1 -0,3 | H ₁ ±0,15 | H ₇ | K ₂ | K ₃ | K ₈ | Ball rows Number | Basic load ratings ²⁾ | | Shaft diameter d |
|----|------------------------------------|--------------------------------|-------------------------|----------------|----------------|----------------|----------------|---------------------|----------------------------------|------------------------------|------------------------|
| | | | | | | | | | dyn. C N | stat. C ₀ N | |
| 22 | 30 | 29,8 | 24 | 13 | M6 | 5,3 | M8×1 | 5 | 1 270 | 1 110 | 12 |
| 26 | 35 | 34,8 | 28 | 18 | M8 | 6,6 | M8×1 | 5 | 1 620 | 1 500 | 16 |
| 32 | 42 | 41,8 | 35 | 22 | M10 | 8,4 | M8×1 | 6 | 2 850 | 2 480 | 20 |
| 40 | 52 | 51,8 | 42 | 26 | M12 | 10,5 | M8×1 | 6 | 5 000 | 4 450 | 25 |
| 47 | 61 | 60,8 | 50 | 35 | M16 | 13,5 | M8×1 | 6 | 6 100 | 5 800 | 30 |

Schaeffler KG

Linear Technology Division
66424 Homburg/Saar (Germany)
Internet www.ina.com
E-Mail info.linear@de.ina.com

In Germany:

Phone 0180 5003872
Fax 0180 5003873

From Other Countries:

Phone +49 6841 701-0
Fax +49 6841 701-625

Every care has been taken to ensure the correctness of the information contained in this publication but no liability can be accepted for any errors or omissions.

We reserve the right to make changes in the interest of technical progress.

© Schaeffler KG · 2006, January

This publication or parts thereof may not be reproduced without our permission.

TPI 122