

FAG



Radial Insert Ball Bearings and Housing Units

Black Series

SCHAEFFLER GROUP
INDUSTRIAL

Foreword

FAG Black Series

The new radial insert ball bearing and housing units FAG Black Series from Schaeffler Group give easy mounting, smooth running and high reliability and thus allow particularly economical bearing arrangements.

The dimensions of the FAG housings, made from flake graphite cast iron and with a primer paint coating, conform to JIS B 1559. These single piece cast housings can support moderate to high radial and axial loads. The radial insert ball bearings have basic protection against corrosion due to the Durotect® coating.

The bearing units are particularly suitable for applications with moderate to high loads.

Typical areas of application are:

- agricultural, construction and mining machinery
- power transmission and conveying equipment
- pumps
- textile, paper and woodworking machinery
- bearings for the food container filling, wood and packaging industry
- steel industry.

Radial insert ball bearings

FAG radial insert ball bearings are based on deep groove ball bearings 62 and are designed in accordance with JIS B 1558. The outer and inner rings as well as the flinger shields of the radial insert ball bearings are provided with the Durotect® B coating in order to offer basic protection against corrosion. The Black Series radial insert ball bearings are available at present with one location method and one type of seal. They can be relubricated and are particularly easy to fit due to the special location method.

Housing units with flake graphite cast iron housings

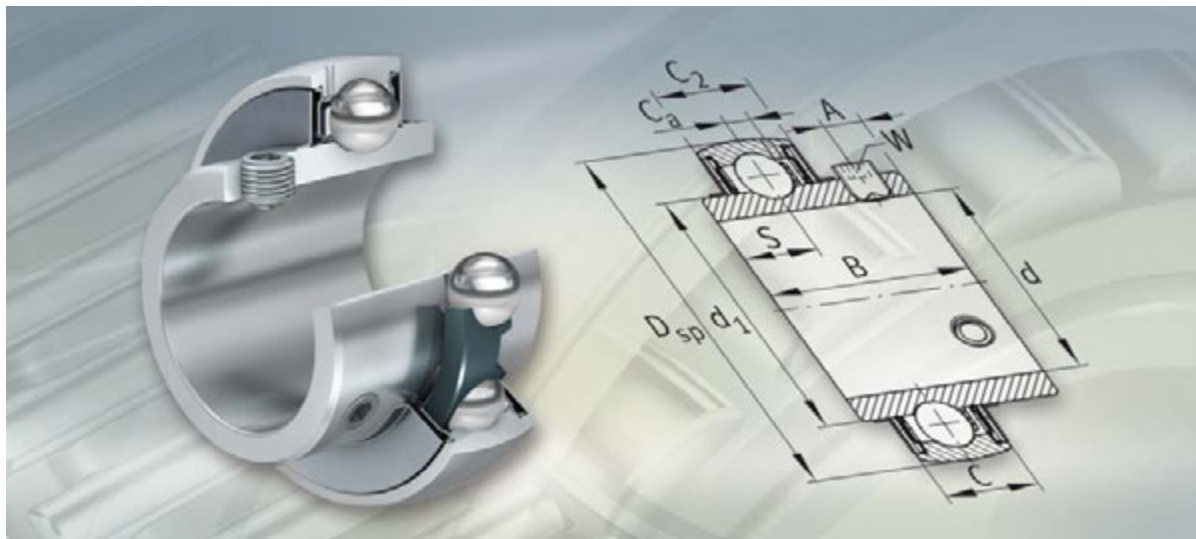
Housing units in accordance with JIS B 1557 comprise FAG flake graphite cast iron housings with a concave bore in which FAG radial insert ball bearings are fitted. These units are matched to each other and are available as plummer block and flanged housing units.

Radial insert ball bearings with a spherical outer ring, when fitted in housings with a concave bore, can compensate for static misalignment of the shaft.

Housing units are supplied with a loose packed lubrication nipple and matching end cap as well as an Allen key.

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Radial insert ball bearings

Radial insert ball bearings

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Product overview Radial insert ball bearings

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



Radial insert ball bearings

Features These radial insert ball bearings are based on single row deep groove ball bearings 62 and comprise a solid section outer ring and an inner ring extended on both sides.

The bearings have plastic cages and are sealed on both sides by single piece seals RSR with a vulcanised seal lip and an outer flinger shield.

The honed raceways of the bearings rings, in conjunction with the high ball grade, ensure quiet running and a reduced frictional torque.

The outer ring has a spherical outside surface. In combination with a housing matched to the design, bearings with a spherical outer ring can compensate static misalignments of the shaft, see page 9.

The radial insert ball bearings can be relubricated. For this purpose, they have one lubrication hole in the outer ring. In addition, a retainer offset by 90° is fitted that prevents undesirable rotation of the outer ring in the housing cavity if high circumferential forces are present.

Inch size designs The radial insert ball bearings are also available with inch size bore dimensions, see dimension table.

Anti-corrosion protection The inner and outer rings as well as the flinger shields of the radial insert ball bearings are provided with the Durotect®B coating in order to offer basic protection against corrosion.

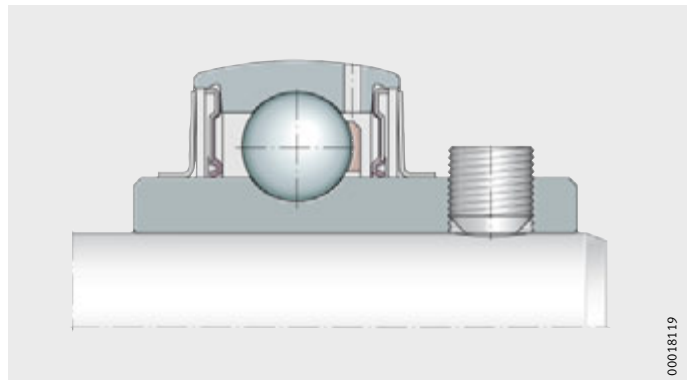
Radial insert ball bearings

Location on shaft

Radial insert ball bearings are particularly easy to fit and are suitable for drawn shafts with the tolerances h6 to h9.

In these radial insert ball bearings, the inner ring is located on the shaft by means of two grub screws offset by 120°, *Figure 1*. They are 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. In order to allow better differentiation, the metric grub screws have a black oxide coating while the inch size grub screws are zinc plated.



UC2

Figure 1
Location by grub screws
in the inner ring

Tightening torques

Tightening torques for metric and inch size grub screws, see table, page 24.

Sealing

FAG Black Series radial insert ball bearings are supplied with seals RSR, see table.

Seal types

| Seal RSR | |
|----------|--|
| 0001811A | Single piece, zinc-plated sheet steel washer with vulcanised and radially preloaded seal lip made from NBR |

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 2*:

- with relubrication, up to $\pm 2,5^\circ$
- without relubrication, up to $\pm 5^\circ$.



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

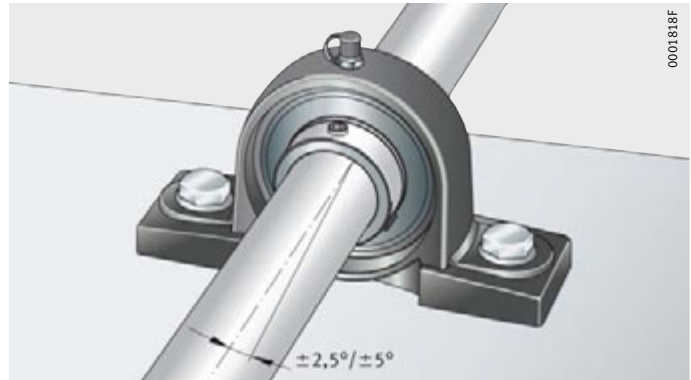


Figure 2
 Compensation of static shaft misalignment

Axial load carrying capacity of location method

The axial load carrying capacity of the location method of the radial insert ball bearing on the shaft can be derived from the diagram, *Figure 3*.

The preconditions are as follows:

- The shaft must be designed in accordance with the data in the diagram, *Figure 3*.
- The bearings must be located using the specified tightening torque M_A , table, page 24.

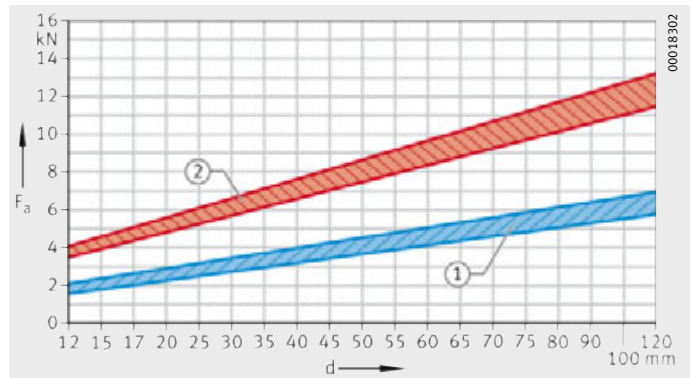


If very high axial loads are present, the forces should be directed through a shoulder on the shaft. If the bearing is subjected to its maximum permissible axial load, please contact us.

F_a = axial load carrying capacity of location method
 d = bearing bore diameter

- ① Hard, ground shaft
- ② Soft shaft

Figure 3
 Axial load carrying capacity of location method



Radial insert ball bearings

Speed limits for radial insert ball bearings

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

Guide values for the permissible speeds can be derived from the diagram, *Figure 4*.

In the case of load ratios $C_r/P > 13$, the speeds can be increased. At $C_r/P < 5$, location by means of a fit is recommended, see section Conditions of rotation, chapter Technical principles, Catalogue HR 1, Rolling Bearings. For both types of applications, please contact us.

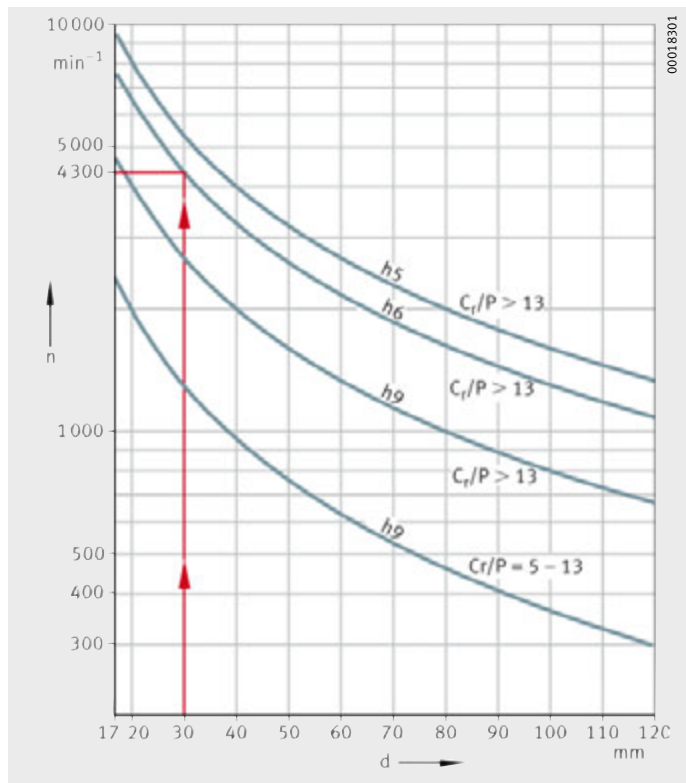
Example of permissible speed calculation

Given:

- Shaft tolerance h6
- Radial insert ball bearing UC206
- Basic dynamic load rating C_r 19 500 N
- Load P 1 300 N
- Sealing Seals RSR.

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 4*.



n = permissible speed
 d = bearing bore diameter

Figure 4
 Permissible speed for radial insert ball bearings with seals RSR

Shaft tolerances for radial insert ball bearings

The permissible shaft tolerance is dependent on the speed and load. Tolerances h6 to h9 are recommended.

Conventional drawn shafts will suffice for most applications.

Accuracy Standard tolerances of radial insert ball bearings

The outside diameter tolerances of the bearings conform to the tolerances in accordance with JIS B 1558. The inner ring bore has a plus tolerance to allow easier mounting of the bearing, see tables.

Inner ring tolerances

| Nominal bearing bore diameter d mm | | Variation ¹⁾ Δ_{dmp} μm | | Width deviation Δ_{Bs} μm | |
|--|--------|--|------|---|------|
| over | incl. | min. | max. | min. | max. |
| 10 | 18 | 0 | +15 | -120 | 0 |
| 18 | 31,75 | 0 | +18 | -120 | 0 |
| 31,75 | 50,8 | 0 | +21 | -120 | 0 |
| 50,8 | 80,962 | 0 | +24 | -150 | 0 |
| 80,962 | 120 | 0 | +28 | -200 | 0 |

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

Outer ring tolerances

| Nominal outside diameter D_{sp} mm | | Variation ¹⁾ Δ_{Dm} μm | |
|--|-------|---|------|
| over | incl. | min. | max. |
| 30 | 50 | -11 | 0 |
| 50 | 80 | -13 | 0 |
| 80 | 120 | -15 | 0 |
| 120 | 150 | -18 | 0 |
| 150 | 180 | -25 | 0 |
| 180 | 250 | -30 | 0 |

¹⁾ In the case of sealed bearings, the largest and smallest values of the outside diameter can deviate from the mean value by approx. 0,03 mm.

Radial insert ball bearings

Radial internal clearance of radial insert ball bearings

The radial internal clearance corresponds to GN in accordance with JIS B 1558 and is thus larger than in normal deep groove ball bearings, see table.

The larger internal clearance allows better support of misalignments and shaft deflection.

Radial internal clearance

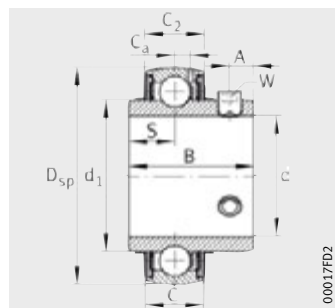
| Bore d | | Outside diameter D mm | Radial internal clearance | | | |
|-----------|---------|-----------------------------|---------------------------|------|----------|------|
| mm | inch | | GN μm | | C4 μm | |
| | | | min. | max. | min. | max. |
| 12 | – | 40 | 10 | 25 | 18 | 33 |
| 12,7 | 1/2 | | | | | |
| 14,288 | 9/16 | | | | | |
| 15 | – | | | | | |
| 15,875 | 5/8 | | | | | |
| 17 | – | | | | | |
| 17,462 | 11/16 | | | | | |
| 19,05 | 3/4 | 47 | 12 | 28 | 20 | 36 |
| 20 | – | 52 | 12 | 28 | 23 | 41 |
| 20,638 | 13/16 | | | | | |
| 22,225 | 7/8 | | | | | |
| 23,812 | 15/16 | | | | | |
| 25 | – | | | | | |
| 25,4 | 1 | | | | | |
| 26,988 | 1 1/16 | | | | | |
| 28,575 | 1 1/8 | 62 | 13 | 33 | 28 | 46 |
| 30 | – | | | | | |
| 30,162 | 1 3/16 | | | | | |
| 31,75 | 1 1/4 | | | | | |
| 31,75 | 1 1/4 | | | | | |
| 33,338 | 1 5/16 | | | | | |
| 34,925 | 1 3/8 | | | | | |
| 35 | – | 80 | 14 | 36 | 30 | 51 |
| 36,512 | 1 7/16 | | | | | |
| 38,1 | 1 1/2 | | | | | |
| 39,688 | 1 9/16 | | | | | |
| 40 | – | | | | | |
| 41,275 | 1 5/8 | | | | | |
| 42,862 | 1 11/16 | | | | | |
| 44,45 | 1 3/4 | 90 | 14 | 36 | 30 | 51 |
| 45 | – | | | | | |
| 46,038 | 1 13/16 | | | | | |
| 47,625 | 1 7/8 | | | | | |
| 49,212 | 1 15/16 | | | | | |
| 50 | – | | | | | |
| 50,8 | 2 | | | | | |

Radial internal clearance
continued

| Bore d | | Outside diameter D mm | Radial internal clearance | | | |
|-----------|---------------------------------|-----------------------------|---------------------------|------|----------|------|
| mm | inch | | GN μm | | C4 μm | |
| | | | min. | max. | min. | max. |
| 50,8 | 2 | 100 | 18 | 43 | 38 | 61 |
| 52,388 | 2 ¹ / ₁₆ | | | | | |
| 53,975 | 2 ¹ / ₈ | | | | | |
| 55 | – | | | | | |
| 55,562 | 2 ³ / ₁₆ | | | | | |
| 57,15 | 2 ¹ / ₄ | 110 | 18 | 43 | 38 | 61 |
| 58,738 | 2 ⁵ / ₁₆ | | | | | |
| 60 | – | | | | | |
| 60,325 | 2 ³ / ₈ | | | | | |
| 61,912 | 2 ⁷ / ₁₆ | | | | | |
| 63,5 | 2 ¹ / ₂ | 120 | 18 | 43 | 38 | 61 |
| 65 | – | | | | | |
| 66,675 | 2 ⁵ / ₈ | | | | | |
| 68,262 | 2 ¹¹ / ₁₆ | 125 | 18 | 43 | 38 | 61 |
| 69,85 | 2 ³ / ₄ | | | | | |
| 70 | – | | | | | |
| 71,438 | 2 ¹³ / ₁₆ | 130 | 20 | 51 | 46 | 71 |
| 73,025 | 2 ⁷ / ₈ | | | | | |
| 74,612 | 2 ¹⁸ / ₁₆ | | | | | |
| 75 | – | | | | | |
| 76,2 | 3 | | | | | |
| 79,375 | 3 ¹ / ₈ | 140 | 20 | 51 | 46 | 71 |
| 80 | – | | | | | |
| 80,962 | 3 ³ / ₁₆ | | | | | |
| 82,55 | 3 ¹ / ₄ | 150 | 20 | 51 | 46 | 71 |
| 85 | – | | | | | |
| 85,725 | 3 ³ / ₈ | | | | | |
| 87,312 | 3 ⁷ / ₁₆ | | | | | |
| 88,9 | 3 ¹ / ₂ | | | | | |
| 88,9 | 3 ¹ / ₂ | 160 | 24 | 58 | 53 | 84 |
| 90 | – | | | | | |
| 93,662 | 3 ¹¹ / ₁₆ | | | | | |
| 95 | – | 170 | 24 | 58 | 53 | 84 |
| 100 | – | | | | | |
| 100,012 | 3 ¹⁵ / ₁₆ | | | | | |
| 101,6 | 4 | 180 | 24 | 58 | 53 | 84 |

Radial insert ball bearings with grub screws in the inner ring

Spherical outer ring

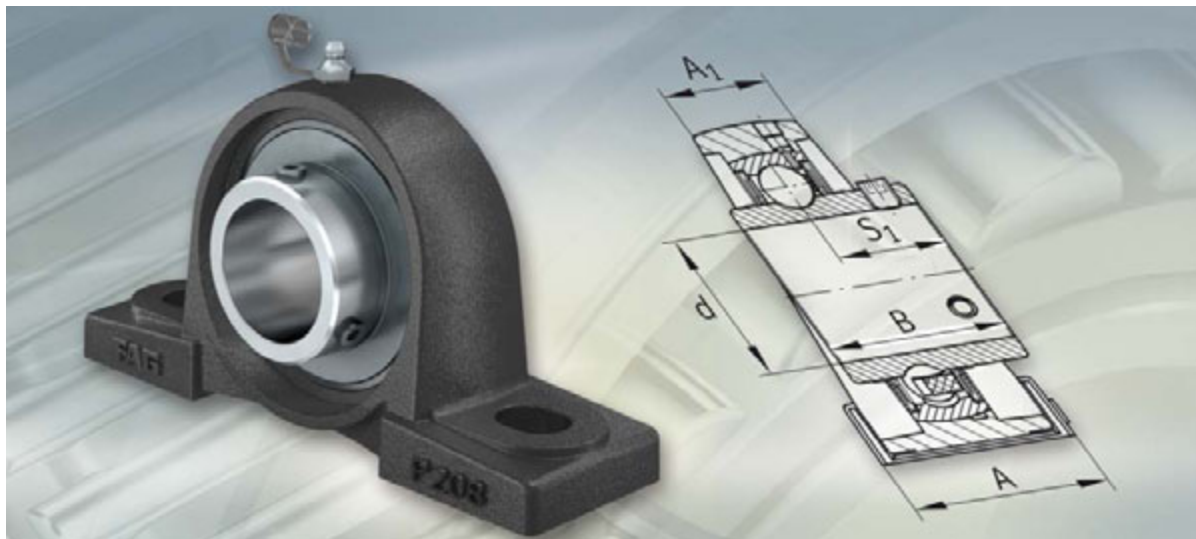


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Dimension table · Dimensions in mm

| Designation | | Mass m ≈kg | Dimensions | | | | | | | | | | Basic load ratings | |
|-------------|----------|------------------|------------|-----------------|----|----------------|------|------|----------------|----------------|----|------|-----------------------------|-------------------------------|
| | | | d | D _{sp} | C | C ₂ | B | S | d ₁ | C _a | A | W | dyn. C _r N | stat. C _{0r} N |
| mm | inch | | | | | | | | | | | | | |
| UC204 | – | 0,15 | 20 | 47 | 17 | 17,2 | 31 | 12,7 | 27,56 | 4,2 | 5 | 3 | 12 800 | 6 600 |
| – | UC204-12 | 0,16 | 19,05 | 47 | 17 | 17,2 | 31 | 12,7 | 27,56 | 4,2 | 5 | 1/8 | 12 800 | 6 600 |
| UC205 | – | 0,2 | 25 | 52 | 17 | 17,6 | 34,1 | 14,3 | 33,83 | 4,2 | 5 | 3 | 14 000 | 7 800 |
| – | UC205-16 | 0,19 | 25,4 | 52 | 17 | 17,6 | 34,1 | 14,3 | 33,83 | 4,2 | 5 | 1/8 | 14 000 | 7 800 |
| UC206 | – | 0,31 | 30 | 62 | 19 | 19,6 | 38,1 | 15,9 | 40,2 | 5 | 5 | 3 | 19 500 | 11 300 |
| – | UC206-18 | 0,33 | 28,575 | 62 | 19 | 19,6 | 38,1 | 15,9 | 40,2 | 5 | 5 | 1/8 | 19 500 | 11 300 |
| UC207 | – | 0,47 | 35 | 72 | 20 | 20,6 | 42,9 | 17,5 | 46,84 | 5,7 | 7 | 4 | 25 500 | 15 300 |
| – | UC207-20 | 0,52 | 31,75 | 72 | 20 | 20,6 | 42,9 | 17,5 | 46,84 | 5,7 | 7 | 5/32 | 25 500 | 15 300 |
| UC208 | – | 0,62 | 40 | 80 | 21 | 21,6 | 49,2 | 19 | 52,27 | 6,2 | 8 | 4 | 32 500 | 19 800 |
| – | UC208-24 | 0,66 | 38,1 | 80 | 21 | 21,6 | 49,2 | 19 | 52,27 | 6,2 | 8 | 5/32 | 32 500 | 19 800 |
| UC209 | – | 0,69 | 45 | 85 | 22 | 22,6 | 49,2 | 19 | 57,91 | 6,3 | 8 | 4 | 32 500 | 20 400 |
| – | UC209-28 | 0,71 | 44,45 | 85 | 22 | 22,6 | 49,2 | 19 | 57,91 | 6,3 | 8 | 5/32 | 32 500 | 20 400 |
| UC210 | – | 0,8 | 50 | 90 | 24 | 24,6 | 51,6 | 19 | 62,84 | 6,5 | 10 | 5 | 35 000 | 23 200 |
| – | UC210-30 | 0,87 | 47,625 | 90 | 24 | 24,6 | 51,6 | 19 | 62,84 | 6,5 | 10 | 3/16 | 35 000 | 23 200 |
| UC211 | – | 1,07 | 55 | 100 | 25 | 25,6 | 55,6 | 22,2 | 69,77 | 7 | 10 | 5 | 43 500 | 29 000 |
| – | UC211-32 | 1,22 | 50,8 | 100 | 25 | 25,6 | 55,6 | 22,2 | 69,77 | 7 | 10 | 3/16 | 43 500 | 29 000 |
| UC212 | – | 1,49 | 60 | 110 | 27 | 27,6 | 65,1 | 25,4 | 76,48 | 7,4 | 10 | 5 | 52 000 | 36 000 |
| – | UC212-36 | 1,62 | 57,15 | 110 | 27 | 27,6 | 65,1 | 25,4 | 76,48 | 7,4 | 10 | 3/16 | 52 000 | 36 000 |

FAG



Housing units

Housing units

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Product overview Housing units

Plummer block housing units

Flake graphite cast iron housings with long base



Two-bolt flanged housing units

Flake graphite cast iron housings



Four-bolt flanged housing units

Flake graphite cast iron housings



Housing units

Features

These housing units are available as plummer block and flanged housing units. The units are ready-to-fit and comprise FAG flake graphite cast iron housings in which FAG radial insert ball bearings are fitted. In order to ensure function and reliability under all operating conditions, the bearings and housings are matched to each other.

Due to the spherical outer ring of the bearing and the concave housing bore, housing units can compensate for static misalignments of the shaft, see page 21.

The housings are screw mounted on the adjacent construction. Less stringent tolerances are sufficient for the screw mounting surfaces, see page 21.

Housing units with flake graphite cast iron housing

The flake graphite cast iron housings are single piece components in accordance with JIS B 1559 and have high radial and axial load carrying capacity, see page 21.

The housing has a lubrication groove for relubrication of the radial insert ball bearing. The housing is supplied with a lubrication nipple M6 with a protective cover. Cast iron units are available as plummer block and flanged housing units.

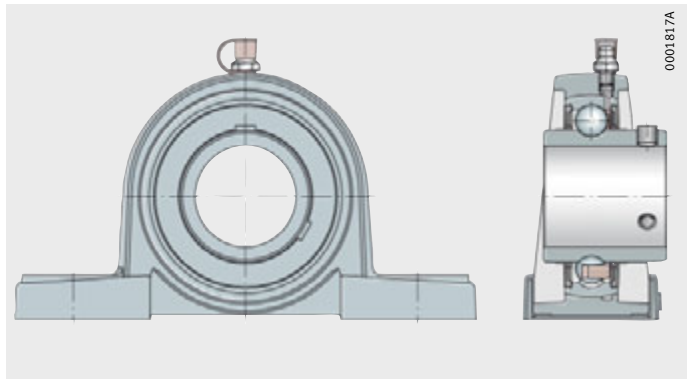
The housings have a primer paint coating as anti-corrosion protection of colour RAL9005 (black).

Plummer block housing units

Plummer block housing units have a housing with a long base and are screw mounted to the adjacent construction through slot holes, *Figure 1*.

UCP

Figure 1
Plummer block housing unit, flake graphite cast iron housing, with long base



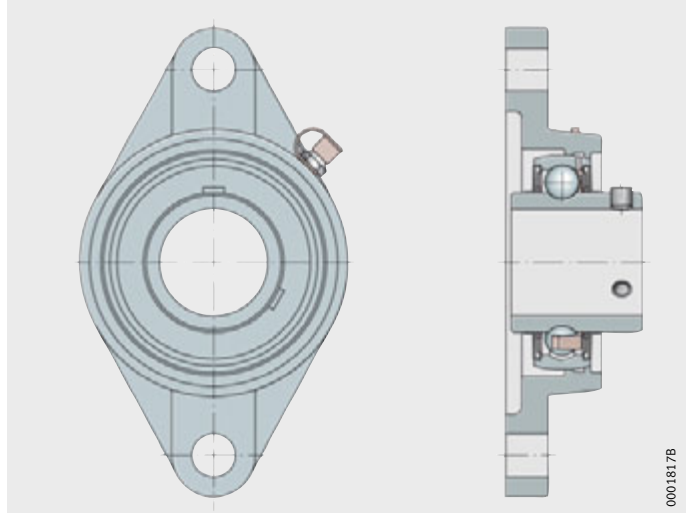
Housing units

Flanged housing units

Flanged housing units are available as two-bolt and four-bolt units, *Figure 2* and *Figure 3*. The housing is of an oval or square shape. The housings have through holes for location purposes.

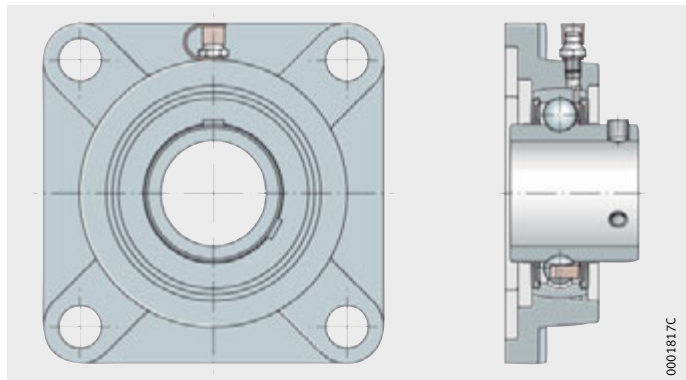
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Figure 2
Two-bolt flanged housing unit,
flake graphite cast iron housing



UCF

Figure 3
Four-bolt flanged housing unit,
flake graphite cast iron housing



Housing material

The material used for the flake graphite cast iron housings is cast iron in accordance with JIS G 5501.

Design and safety guidelines

Compensation of static misalignments

Units with a spherical outer ring and concave housing bore can compensate static misalignments of the shaft, see page 9.

Load carrying capacity of housings

Due to their versatile characteristics, FAG housing units can be easily used in almost all industrial sectors.

Radial load carrying capacity

Flake graphite cast iron housings can support the same radial loads as the insert bearings fitted. The static load carrying capacity C_{Or} of the radial insert ball bearings is stated in the dimension tables.



Where shock loads are present, appropriate safety factors must be applied. In this case, please contact us.

Axial load carrying capacity

The axial load carrying capacity of flake graphite cast iron housings is restricted to $0,5 \times C_{Or}$.

Load carrying capacity and speed limits of radial insert ball bearings



In the design of housing units, attention must be paid to the load carrying capacity and speed limits of the radial insert ball bearings fitted:

- axial load carrying capacity, see page 9
- speed limits, see page 10
- dimension table, see page 14.

Design of adjacent construction

The permissible shaft tolerance is dependent on the speed and load. Shafts in the tolerance zone h6 to h9 can be used.

Screw mounting surfaces

Recommendations for the screw mounting surfaces are as follows:

- roughness of the screw mounting surface max. Ra12,5 (Rz63)
- geometrical tolerance 0,04/100 concave, spherical not permissible
- In addition, it is recommended that the housings should be secured by dowels to the locating surface if higher loads acting parallel to the locating surface occur.

Fixing screws

The screw connection should be designed in accordance with the state of the art. Screws of grade 8.8 can be used. The maximum tightening torques applicable to this screw grade must not be exceeded even if screws of a higher grade are used.

In principle, we recommend that the screw connection should only be tightened to 70% of the values stated in the standard.

Screws and accessories for location are not included in the delivery.

Housing units

| | |
|--------------------------------|--|
| Fitting and dismantling | Radial insert ball bearings must be handled with care before and during mounting. Their trouble-free operation is also dependent on the care taken during fitting. |
| Delivered condition | The housings have a coating of black primer paint (RAL 9005). The radial insert ball bearings are greased using a grease in grease group GA13, see Catalogue HR 1, Rolling Bearings. The housing units are supplied with a loose packed lubrication nipple and matching end cap as well as an Allen key. |
| Storage and shelf life | The units should be stored in dry, clean rooms with a temperature as constant as possible and at a relative humidity of max. 65%. The storage life of radial insert ball bearings is limited by the shelf life of the grease, see chapter Technical principles in Catalogue HR 1, Rolling Bearings. |
| Removal from packaging | Perspiration causes corrosion. Hands must therefore be kept clean and dry. Bearings should not be removed from their original packaging until immediately before fitting. |
| Preparation for fitting | The following preparatory measures for fitting should be taken: <ul style="list-style-type: none">■ Ensure that the fitting tools and fixing screws are present.■ Clean the shaft and remove any burrs.■ Inspect the bearing seating surfaces on the shaft.■ Keep bearing seating surfaces clean, dry and free of grease. |

Fitting of plummer block and flanged housing units



The assembly area should be as dry and clean as possible:

- The specified shaft tolerances must be observed, see page 21.
- Fitting forces must never be directed through the rolling elements.
- Blows should never be applied directly to the bearing rings and seals.
- Observe the tightening torques M_A for grub screws, see table, page 24.

If the following sequence is observed, the bearing will align itself on the shaft in such a way that no stresses occur:

- Slide the housing unit onto the shaft and align it with the fixing holes in the adjacent construction, *Figure 4*.
- Tighten the fixing screws for all housings finger tight in the adjacent construction and align the shaft, *Figure 5*.
- Fully tighten both grub screws in the inner ring using a torque wrench, *Figure 6*, page 24.
- Locate the housings on the adjacent construction using the recommended tightening torque, see page 21.

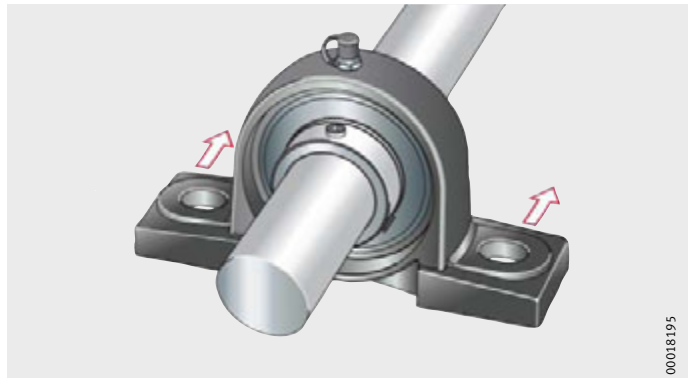


Figure 4
Sliding the unit onto the shaft

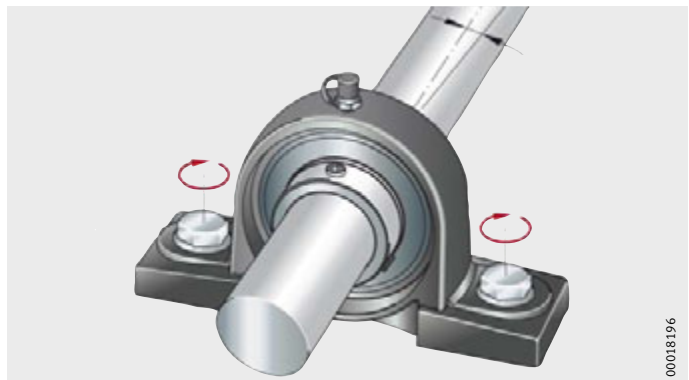


Figure 5
Screw mounting
the housing finger tight

Housing units

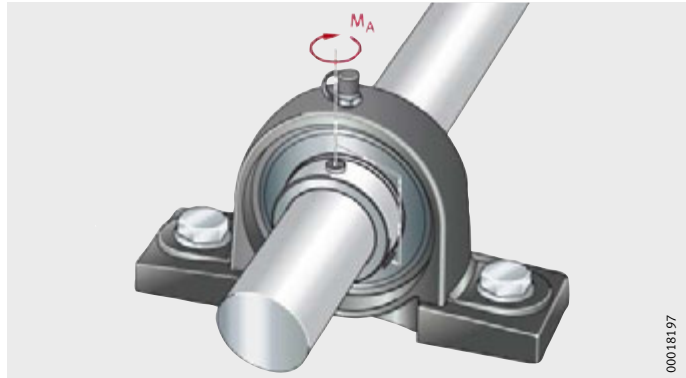


Figure 6
Fully tightening the grub screws
in the inner ring

Tightening torques for grub screws

| Width across flats A/F | | Thread | | Tightening torques ¹⁾ M _A |
|---------------------------|------------------------------|----------|----------|--|
| mm | inch | ISO | UNF | Nm |
| 2,5 | ³ / ₃₂ | M5 | N10-32 | 3,6 |
| 3 | ¹ / ₈ | M6×0,75 | 1/4"-28 | 6 |
| 4 | ⁵ / ₃₂ | M8×1 | 5/16"-24 | 14 |
| 5 | ³ / ₁₆ | M10×1,25 | 3/8"-24 | 26 |
| 6 | ¹ / ₄ | M12 | 1/2"-20 | 42 |

¹⁾ The tightening torques are valid for original FAG grub screws only.

Dismantling

- The units are dismantled in the reverse sequence.
- Loosen the grub screws in the inner ring.
 - Unscrew the housing.

Accuracy The flake graphite cast iron housings conform in the majority of respects to JIS B 1559.

Accuracy of fitted radial insert ball bearings: see page 11.

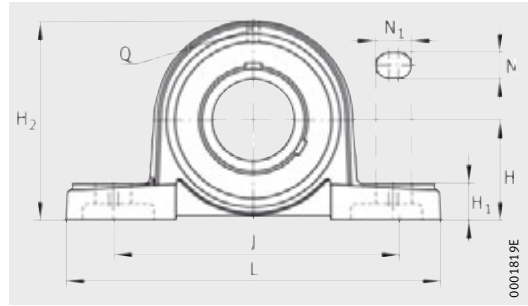
Dimensional tolerances The dimensional tolerances for the machined surfaces of the flake graphite cast iron housings are $\pm 0,25$ mm.

Dimensions without tolerance conform to JIS B 0403:

- unfinished dimensions to Table 1, class CT 10
- finished dimensions to Table 5.

Plummer block housing units

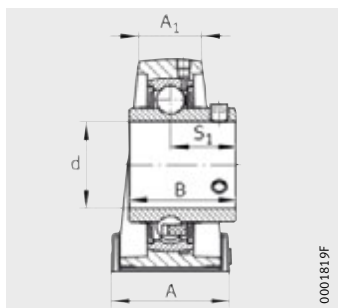
Flake graphite cast iron housings
with long base



UCP

Dimension table · Dimensions in mm

| Designation | | Housing | Bearing | Mass m ≈kg | Dimensions | | | |
|---------------|------------------|---------|----------|------------------|------------|------|-----|-----|
| Unit | | | | | d | H | J | L |
| mm | inch | | | | | | | |
| UCP204 | – | GG.P204 | UC204 | 0,65 | 20 | 33,3 | 95 | 127 |
| – | UCP204-12 | GG.P204 | UC204-12 | 0,66 | 19,05 | 33,3 | 95 | 127 |
| UCP205 | – | GG.P205 | UC205 | 0,79 | 25 | 36,5 | 105 | 140 |
| – | UCP205-16 | GG.P205 | UC205-16 | 0,79 | 25,4 | 36,5 | 105 | 140 |
| UCP206 | – | GG.P206 | UC206 | 1,29 | 30 | 42,9 | 121 | 165 |
| – | UCP206-18 | GG.P206 | UC206-18 | 1,31 | 28,575 | 42,9 | 121 | 165 |
| UCP207 | – | GG.P207 | UC207 | 1,55 | 35 | 47,6 | 127 | 167 |
| – | UCP207-20 | GG.P207 | UC207-20 | 1,6 | 31,75 | 47,6 | 127 | 167 |
| UCP208 | – | GG.P208 | UC208 | 1,84 | 40 | 49,2 | 137 | 184 |
| – | UCP208-24 | GG.P208 | UC208-24 | 1,89 | 38,1 | 49,2 | 137 | 184 |
| UCP209 | – | GG.P209 | UC209 | 2,2 | 45 | 54 | 146 | 190 |
| – | UCP209-28 | GG.P209 | UC209-28 | 2,21 | 44,45 | 54 | 146 | 190 |
| UCP210 | – | GG.P210 | UC210 | 2,77 | 50 | 57,2 | 159 | 206 |
| – | UCP210-30 | GG.P210 | UC210-30 | 2,85 | 47,625 | 57,2 | 159 | 206 |
| UCP211 | – | GG.P211 | UC211 | 3,41 | 55 | 63,5 | 171 | 219 |
| – | UCP211-32 | GG.P211 | UC211-32 | 3,56 | 50,8 | 63,5 | 171 | 219 |
| UCP212 | – | GG.P212 | UC212 | 4,62 | 60 | 69,8 | 184 | 241 |
| – | UCP212-36 | GG.P212 | UC212-36 | 4,75 | 57,15 | 69,8 | 184 | 241 |



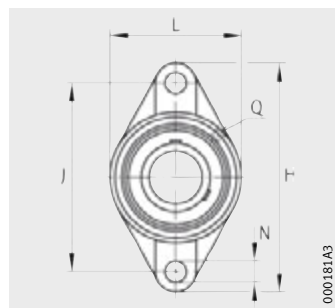
UCP

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| | | | | | | | | | Basic load ratings | |
|----|----------------|----------------|----------------|----|----------------|------|----------------|----|-----------------------------|------------------------------|
| A | A ₁ | H ₁ | H ₂ | N | N ₁ | B | S ₁ | Q | dyn. C _r N | stat. C _r N |
| 38 | 23 | 14 | 65 | 13 | 19 | 31 | 18,3 | M6 | 12 800 | 6 600 |
| 38 | 23 | 14 | 65 | 13 | 19 | 31 | 18,3 | M6 | 12 800 | 6 600 |
| 38 | 23 | 15 | 71 | 13 | 19 | 34,1 | 19,8 | M6 | 14 000 | 7 800 |
| 38 | 23 | 15 | 71 | 13 | 19 | 34,1 | 19,8 | M6 | 14 000 | 7 800 |
| 48 | 25 | 17 | 83 | 17 | 21 | 38,1 | 22,2 | M6 | 19 500 | 11 300 |
| 48 | 25 | 17 | 83 | 17 | 21 | 38,1 | 22,2 | M6 | 19 500 | 11 300 |
| 48 | 26 | 18 | 93 | 17 | 21 | 42,9 | 25,4 | M6 | 25 500 | 15 300 |
| 48 | 26 | 18 | 93 | 17 | 21 | 42,9 | 25,4 | M6 | 25 500 | 15 300 |
| 54 | 29 | 18 | 98 | 17 | 21 | 49,2 | 30,2 | M6 | 32 500 | 19 800 |
| 54 | 29 | 18 | 98 | 17 | 21 | 49,2 | 30,2 | M6 | 32 500 | 19 800 |
| 54 | 30 | 20 | 106 | 17 | 21 | 49,2 | 30,2 | M6 | 32 500 | 20 400 |
| 54 | 30 | 20 | 106 | 17 | 21 | 49,2 | 30,2 | M6 | 32 500 | 20 400 |
| 60 | 31 | 21 | 114 | 20 | 25 | 51,6 | 32,6 | M6 | 35 000 | 23 200 |
| 60 | 31 | 21 | 114 | 20 | 25 | 51,6 | 32,6 | M6 | 35 000 | 23 200 |
| 60 | 32 | 23 | 126 | 20 | 25 | 55,6 | 33,4 | M6 | 43 500 | 29 000 |
| 60 | 32 | 23 | 126 | 20 | 25 | 55,6 | 33,4 | M6 | 43 500 | 29 000 |
| 70 | 34 | 25 | 138 | 20 | 25 | 65,1 | 39,7 | M6 | 52 000 | 36 000 |
| 70 | 34 | 25 | 138 | 20 | 25 | 65,1 | 39,7 | M6 | 52 000 | 36 000 |

Two-bolt flanged housing units

Flake graphite cast iron housings

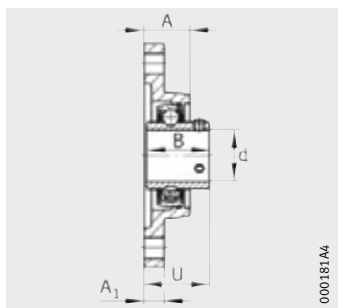


UCFL

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Dimension table · Dimensions in mm

| Designation | | Housing | Bearing | Mass m ≈kg | Dimensions | | | |
|----------------|-------------------|----------|----------|------------------|------------|-----|-----|-----|
| Unit | | | | | d | H | J | L |
| mm | inch | | | | | | | |
| UCFL204 | – | GG.FL204 | UC204 | 0,42 | 20 | 113 | 90 | 60 |
| – | UCFL204-12 | GG.FL204 | UC204-12 | 0,43 | 19,05 | 113 | 90 | 60 |
| UCFL205 | – | GG.FL205 | UC205 | 0,64 | 25 | 130 | 99 | 68 |
| – | UCFL205-16 | GG.FL205 | UC205-16 | 0,64 | 25,4 | 130 | 99 | 68 |
| UCFL206 | – | GG.FL206 | UC206 | 0,88 | 30 | 148 | 117 | 80 |
| – | UCFL206-18 | GG.FL206 | UC206-18 | 0,9 | 28,575 | 148 | 117 | 80 |
| UCFL207 | – | GG.FL207 | UC207 | 1,21 | 35 | 161 | 130 | 90 |
| – | UCFL207-20 | GG.FL207 | UC207-20 | 1,27 | 31,75 | 161 | 130 | 90 |
| UCFL208 | – | GG.FL208 | UC208 | 1,48 | 40 | 175 | 144 | 100 |
| – | UCFL208-24 | GG.FL208 | UC208-24 | 1,53 | 38,1 | 175 | 144 | 100 |
| UCFL209 | – | GG.FL209 | UC209 | 1,95 | 45 | 188 | 148 | 108 |
| – | UCFL209-28 | GG.FL209 | UC209-28 | 1,97 | 44,45 | 188 | 148 | 108 |
| UCFL210 | – | GG.FL210 | UC210 | 2,23 | 50 | 197 | 157 | 115 |
| – | UCFL210-30 | GG.FL210 | UC210-30 | 2,3 | 47,625 | 197 | 157 | 115 |
| UCFL211 | – | GG.FL211 | UC211 | 2,87 | 55 | 224 | 184 | 130 |
| – | UCFL211-32 | GG.FL211 | UC211-32 | 3,02 | 50,8 | 224 | 184 | 130 |
| UCFL212 | – | GG.FL212 | UC212 | 3,96 | 60 | 250 | 202 | 140 |
| – | UCFL212-36 | GG.FL212 | UC212-36 | 4,1 | 57,15 | 250 | 202 | 140 |



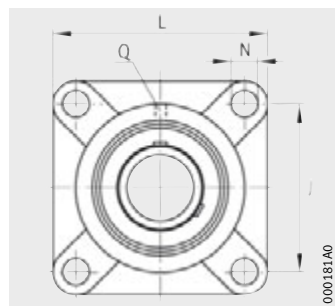
UCFL

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| | | | | | | Basic load ratings | |
|------|----------------|----|------|------|----|-----------------------------|------------------------------|
| A | A ₁ | N | B | U | Q | dyn. C _r N | stat. C _r N |
| 25,5 | 12 | 12 | 31 | 33,3 | M6 | 12 800 | 6 600 |
| 25,5 | 12 | 12 | 31 | 33,3 | M6 | 12 800 | 6 600 |
| 27 | 15 | 16 | 34,1 | 35,8 | M6 | 14 000 | 7 800 |
| 27 | 15 | 16 | 34,1 | 35,8 | M6 | 14 000 | 7 800 |
| 31 | 14 | 16 | 38,1 | 40,2 | M6 | 19 500 | 11 300 |
| 31 | 14 | 16 | 38,1 | 40,2 | M6 | 19 500 | 11 300 |
| 34 | 16 | 16 | 42,9 | 44,4 | M6 | 25 500 | 15 300 |
| 34 | 16 | 16 | 42,9 | 44,4 | M6 | 25 500 | 15 300 |
| 36 | 16 | 16 | 49,2 | 51,2 | M6 | 32 500 | 19 800 |
| 36 | 16 | 16 | 49,2 | 51,2 | M6 | 32 500 | 19 800 |
| 38 | 18 | 19 | 49,2 | 52,2 | M6 | 32 500 | 20 400 |
| 38 | 18 | 19 | 49,2 | 52,2 | M6 | 32 500 | 20 400 |
| 40 | 18 | 19 | 51,6 | 54,6 | M6 | 35 000 | 23 200 |
| 40 | 18 | 19 | 51,6 | 54,6 | M6 | 35 000 | 23 200 |
| 43 | 20 | 19 | 55,6 | 58,4 | M6 | 43 500 | 29 000 |
| 43 | 20 | 19 | 55,6 | 58,4 | M6 | 43 500 | 29 000 |
| 48 | 20 | 23 | 65,1 | 68,7 | M6 | 52 000 | 36 000 |
| 48 | 20 | 23 | 65,1 | 68,7 | M6 | 52 000 | 36 000 |

Four-bolt flanged housing units

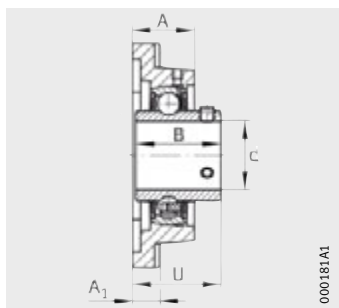
Flake graphite cast iron housings



UCF

Dimension table - Dimensions in mm

| Designation | | Housing | Bearing | Mass m ≈kg | Dimensions | | |
|---------------|------------------|---------|----------|------------------|------------|-----|-----|
| Unit | | | | | d | J | L |
| mm | <i>inch</i> | | | | | | |
| UCF204 | – | GG.F204 | UC204 | 0,57 | 20 | 64 | 86 |
| – | UCF204-12 | GG.F204 | UC204-12 | 0,58 | 19,05 | 64 | 86 |
| UCF205 | – | GG.F205 | UC205 | 0,85 | 25 | 70 | 95 |
| – | UCF205-16 | GG.F205 | UC205-16 | 0,84 | 25,4 | 70 | 95 |
| UCF206 | – | GG.F206 | UC206 | 1,11 | 30 | 83 | 108 |
| – | UCF206-18 | GG.F206 | UC206-18 | 1,13 | 28,575 | 83 | 108 |
| UCF207 | – | GG.F207 | UC207 | 1,5 | 35 | 92 | 117 |
| – | UCF207-20 | GG.F207 | UC207-20 | 1,55 | 31,75 | 92 | 117 |
| UCF208 | – | GG.F208 | UC208 | 1,91 | 40 | 102 | 130 |
| – | UCF208-24 | GG.F208 | UC208-24 | 1,95 | 38,1 | 102 | 130 |
| UCF209 | – | GG.F209 | UC209 | 2,3 | 45 | 105 | 137 |
| – | UCF209-28 | GG.F209 | UC209-28 | 2,32 | 44,45 | 105 | 137 |
| UCF210 | – | GG.F210 | UC210 | 2,56 | 50 | 111 | 143 |
| – | UCF210-30 | GG.F210 | UC210-30 | 2,63 | 47,625 | 111 | 143 |
| UCF211 | – | GG.F211 | UC211 | 3,31 | 55 | 130 | 163 |
| – | UCF211-32 | GG.F211 | UC211-32 | 3,46 | 50,8 | 130 | 163 |
| UCF212 | – | GG.F212 | UC212 | 4,25 | 60 | 141 | 175 |
| – | UCF212-36 | GG.F212 | UC212-36 | 4,1 | 57,15 | 141 | 175 |



UCF

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| | | | | | | Basic load ratings | |
|------|----------------|----|------|------|----|-----------------------------|------------------------------|
| A | A ₁ | N | B | U | Q | dyn. C _r N | stat. C _r N |
| 25,5 | 12 | 12 | 31 | 33,3 | M6 | 12 800 | 6 600 |
| 25,5 | 12 | 12 | 31 | 33,3 | M6 | 12 800 | 6 600 |
| 27 | 14 | 12 | 34,1 | 35,8 | M6 | 14 000 | 7 800 |
| 27 | 14 | 12 | 34,1 | 35,8 | M6 | 14 000 | 7 800 |
| 31 | 14 | 12 | 38,1 | 40,2 | M6 | 19 500 | 11 300 |
| 31 | 14 | 12 | 38,1 | 40,2 | M6 | 19 500 | 11 300 |
| 34 | 16 | 14 | 42,9 | 44,4 | M6 | 25 500 | 15 300 |
| 34 | 16 | 14 | 42,9 | 44,4 | M6 | 25 500 | 15 300 |
| 36 | 16 | 16 | 49,2 | 51,2 | M6 | 32 500 | 19 800 |
| 36 | 16 | 16 | 49,2 | 51,2 | M6 | 32 500 | 19 800 |
| 38 | 18 | 16 | 49,2 | 52,2 | M6 | 32 500 | 20 400 |
| 38 | 18 | 16 | 49,2 | 52,2 | M6 | 32 500 | 20 400 |
| 40 | 18 | 16 | 51,6 | 54,6 | M6 | 35 000 | 23 200 |
| 40 | 18 | 16 | 51,6 | 54,6 | M6 | 35 000 | 23 200 |
| 43 | 20 | 19 | 55,6 | 58,4 | M6 | 43 500 | 29 000 |
| 43 | 20 | 19 | 55,6 | 58,4 | M6 | 43 500 | 29 000 |
| 48 | 20 | 19 | 65,1 | 68,7 | M6 | 52 000 | 36 000 |
| 48 | 20 | 19 | 65,1 | 68,7 | M6 | 52 000 | 36 000 |

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