



SKF 7008 CE/P4A

Super-precision, high-speed E design, single row angular contact ball bearing

These super-precision, high-speed, E design, single row angular contact ball bearings, with 15° or 18° contact angle, accommodate radial and axial loads acting simultaneously, where the axial load acts in one direction only. They are designed to accommodate very high speeds. Compared to the equivalent SKF B design high-speed bearings, have a slightly higher speed capability and can accommodate heavier loads.

Technical specifications

| General | |
|---|---------------------|
| Universal matching bearing(s) | No |
| Dimensions | |
| Bore diameter | 40 mm |
| Outside diameter | 68 mm |
| Width | 15 mm |
| Shoulder diameter of inner ring (large side face) | 49.7 mm |
| Shoulder diameter of inner ring (small side face) | 47.6 mm |
| Shoulder diameter of outer ring (large side face) | 58.25 mm |
| Chamfer dimension | 1 mm |
| Chamfer dimension | 0.6 mm |
| Distance from side face to pressure point | 14.8 mm |
| Contact angle | 15 ° |
| Abutment dimensions | |
| Diameter of shaft abutment | 44.6 mm |
| Diameter of shaft abutment | 44.6 mm |
| Diameter of housing abutment | 63.4 mm |
| Diameter of housing abutment | 63.8 mm |
| Radius of fillet | 1 mm |
| Radius of fillet | 0.6 mm |
| Position of oil nozzle | 51.6 mm |
| Calculation data | |
| Basic dynamic load rating | 12.4 kN |
| Basic static load rating | 7.65 kN |
| Fatigue load limit | 0.32 kN |
| Attainable speed for grease lubrication | 30000 r/min |
| Attainable speed for oil-air lubrication | 45000 r/min |
| Contact angle | 15 ° |
| Ball diameter | 7.144 mm |
| Number of rows | 1 |
| Number of balls (per bearing) | 19 |
| Reference grease quantity (per bearing) | 2.8 cm ³ |
| Preload, class A | 65 N |
| Axial stiffness for preload A (sets of two brgs back to back or face to face) | 34 N/μm |
| Preload, class B | 200 N |
| Axial stiffness for preload B (sets of two brgs back-to-back or face-to-face) | 54 N/μm |
| Preload, class C | 390 N |
| Axial stiffness for preload C (sets of two brgs back-to-back or face-to-face) | 73 N/μm |
| Correction factor dependent on bearing series and size | 1.1 |
| Correction factor dependent on contact angle | 1 |
| Correction factor, preload class A | 1 |
| Correction factor, preload class B | 1 |

| | |
|---|------------------------------|
| Correction factor, preload class C | 1.1 |
| Correction factor for hybrid bearings | 1 |
| Calculation factor for equivalent loads | 8.1 |
| Additional factors for equivalent loads | Refer to Notes 1 and 2 below |

| Performance | |
|--|-------------|
| Basic dynamic load rating | 12.4 kN |
| Basic static load rating | 7.65 kN |
| Attainable speed for grease lubrication | 30000 r/min |
| Attainable speed for oil-air lubrication | 45000 r/min |

| Properties | |
|--|------------------------------------|
| Contact type | Normal contact (two-point contact) |
| Number of rows | 1 |
| Ring type | One-piece inner and outer rings |
| Design | High-speed E |
| Universal matching bearing | No |
| Matched arrangement | No |
| Matched condition (axial clearance/ preload) | Not applicable |
| Tolerance class | P4A |
| Material, bearing | Bearing steel |
| Coating | Without |
| Sealing | Without |
| Lubricant | None |
| Indicative carbon footprint for new product | 0.67 kg CO ₂ e |

| Logistics | |
|--------------------|-------------|
| Product net weight | 0.186 kg |
| eClass code | 23-05-08-04 |
| UNSPSC code | 31171531 |

SKF drawings



