



# 7319 BEGAF

## Single row angular contact ball bearing

These single row angular contact ball bearings can accommodate radial and axial loads acting simultaneously, where the axial load acts in one direction only. They can operate at high speeds and, depending on the variant, even very high speeds. They are more suitable than deep groove ball bearings for supporting large axial forces acting in one direction.

- High-speed capability
- Accommodate relatively high radial loads and large unilateral axial loads

## Overview

### Dimensions

|                  |          |
|------------------|----------|
| Bore diameter    | 3.74 in  |
| Outside diameter | 7.874 in |
| Width            | 1.772 in |

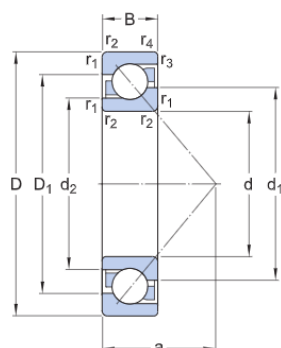
### Performance

|                           |             |
|---------------------------|-------------|
| Basic dynamic load rating | 37 768 lbf  |
| Basic static load rating  | 33 721 lbf  |
| Limiting speed            | 3 800 r/min |
| Reference speed           | 4 000 r/min |

### Properties

|                                      |                                    |
|--------------------------------------|------------------------------------|
| Axial internal clearance             | Not applicable                     |
| Coating                              | Without                            |
| Contact type                         | Normal contact (two-point contact) |
| Locating feature, bearing outer ring | None                               |
| Lubricant                            | None                               |
| Matched arrangement                  | No                                 |
| Material, bearing                    | Bearing steel                      |
| Number of rows                       | 1                                  |
| Relubrication feature                | Without                            |
| Ring type                            | One-piece inner and outer rings    |
| Sealing                              | Without                            |
| Universal matching bearing           | Yes                                |

# Technical Specification

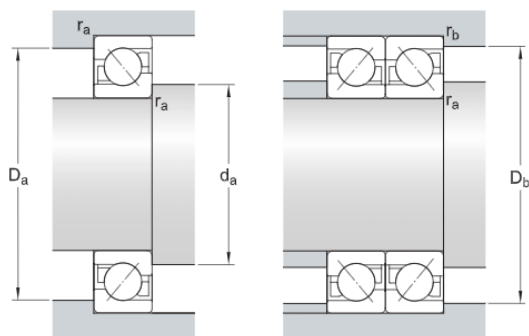


## Dimensions

|                  |               |   |
|------------------|---------------|---|
| d                | 3.74 in       | Bore diameter                                     |
| D                | 7.874 in      | Outside diameter                                  |
| B                | 1.772 in      | Width   |
| d <sub>1</sub>   | ≈ 5.362 in    | Shoulder diameter of inner ring (large side face) |
| d <sub>2</sub>   | ≈ 4.524 in    | Shoulder diameter of inner ring (small side face) |
| D <sub>1</sub>   | ≈ 6.348 in    | Shoulder diameter of outer ring (large side face) |
| a                | 3.307 in      | Distance side face to pressure point              |
| r <sub>1,2</sub> | min. 0.118 in | Chamfer dimension                                 |
| r <sub>3,4</sub> | min. 0.043 in | Chamfer dimension                                 |

## Abutment dimensions

|                |               |                              |
|----------------|---------------|------------------------------|
| d <sub>a</sub> | min. 4.291 in | Diameter of shaft abutment   |
| D <sub>a</sub> | max. 7.323 in | Abutment diameter housing    |
| D <sub>b</sub> | max. 7.598 in | Diameter of housing abutment |
| r <sub>a</sub> | max. 0.098 in | Radius of fillet             |
| r <sub>b</sub> | max. 0.039 in | Radius of fillet             |



## Calculation data

|                           |                |             |
|---------------------------|----------------|-------------|
| Basic dynamic load rating | C              | 37 768 lbf  |
| Basic static load rating  | C <sub>0</sub> | 33 721 lbf  |
| Fatigue load limit        | P <sub>u</sub> | 1 169 lbf   |
| Reference speed           |                | 4 000 r/min |

|                            |       |             |
|----------------------------|-------|-------------|
| Limiting speed             |       | 3 800 r/min |
| Minimum axial load factor  | A     | 0.406       |
| Minimum radial load factor | $k_r$ | 0.1         |
| Limiting value             | e     | 1.14        |

#### Single bearing or bearing pair arranged in tandem

|                                     |       |      |
|-------------------------------------|-------|------|
| Calculation factor (single, tandem) | X     | 0.35 |
| Calculation factor (single, tandem) | $Y_0$ | 0.26 |
| Calculation factor (single, tandem) | $Y_2$ | 0.57 |

#### Bearing pair arranged back-to-back or face-to-face

|   |       |      |
|---|-------|------|
| Calculation factor (back-to-back, face-to-face) | X     | 0.57 |
| Calculation factor (back-to-back, face-to-face) | $Y_0$ | 0.52 |
| Calculation factor (back-to-back, face-to-face) | $Y_1$ | 0.55 |
| Calculation factor (back-to-back, face-to-face) | $Y_2$ | 0.93 |

#### Mass

|      |           |
|------|-----------|
| Mass | 13.338 lb |
|------|-----------|

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