



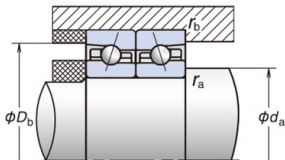
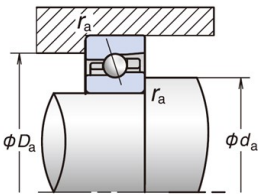
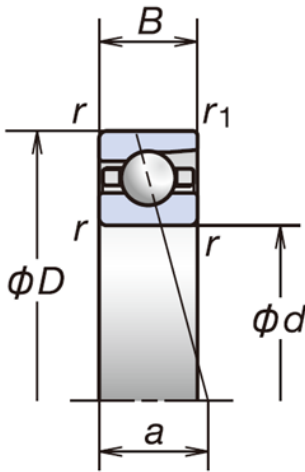
# PRODUCT DATASHEET

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## 70BER10H

ROBUST Series Ultra High-Speed Angular Contact Ball Bearings



### Parts Number

|                 |
|-----------------|
| 70BER10HTSUELP3 |
|-----------------|

### Boundary Dimensions

|          | BER: 25° |    | Bearing Type      |
|----------|----------|----|-------------------|
| d        | 70       | mm | Bore diameter     |
| D        | 110      | mm | Outside diameter  |
| B        | 20       | mm | Width             |
| BN       | 4.0      | mm |                   |
| SN       | 12       | mm |                   |
| SB       | 1.4      | mm |                   |
| r(min.)  | 1.1      | mm | Chamfer Dimension |
| r1(min.) | 0.6      | mm | Chamfer Dimension |

### Basic Load Ratings

|     |      |    |                           |
|-----|------|----|---------------------------|
| Cr  | 26.9 | kN | Basic Dynamic Load Rating |
| C0r | 18.1 | kN | Basic Static Load Rating  |

### Speeds

|               |       |       |                |
|---------------|-------|-------|----------------|
| Grease        | 17800 | min-1 | Limiting Speed |
| Oil (Oil-air) | 27800 | min-1 | Limiting Speed |

### Dimensions

|   | 25°  |    | Contact Angle         |
|---|------|----|-----------------------|
| a | 30.8 | mm | Effective Load Center |

### Abutment and Fillet Dimensions

|          |     |    |                                   |
|----------|-----|----|-----------------------------------|
| da(min.) | 77  | mm | Diameter of Shaft Abutment        |
| Da(max.) | 103 | mm | Diameter of Housing Abutment      |
| Db(max.) | 105 | mm | Diameter of Housing Abutment      |
| ra(max.) | 1   | mm | Radius of Shaft or Housing Fillet |
| rb(max.) | 0.6 | mm | Radius of Shaft or Housing Fillet |

### Performance

|    |      |    |                        |
|----|------|----|------------------------|
| Pa | 22.6 | kN | Permissible Axial Load |
|----|------|----|------------------------|



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| Table A |     | EL  | L   | M   | H   |
|---------|-----|-----|-----|-----|-----|
|         | 15° | 6.5 | 6.0 | 5.0 | 4.5 |
|         | 25° | 2   |     |     |     |
|         | 30° | 1.4 |     |     |     |

| Table B         | DBD  | DBB |
|-----------------|------|-----|
| Preload factor  | 1.36 | 2   |
| Axial rigidity  | 1.48 | 2   |
| Radial rigidity | 1.54 | 2   |

**Calculation of radial rigidity**  
Multiply axial rigidity by the appropriate factor in Table A.

**Calculation of preload and axial rigidity for combined bearings**  
Multiply by the appropriate factor in Table B. For radial rigidity, multiply the value from Table A with the appropriate factor in Table B.

## Preload,Rigidity(DB and DF arrangement)

|    | Preload | Axial Rigidity | Measured axial clearance |
|----|---------|----------------|--------------------------|
| EL | 49N     | 100N/μm        | 0μm                      |
| L  | 451N    | 212N/μm        | -10μm                    |
| M  | 942N    | 278N/μm        | -18μm                    |

## Additional information

|     |       |                               |
|-----|-------|-------------------------------|
| 2.6 | g/brg | Recommended Grease Quantities |
|-----|-------|-------------------------------|

## Mass

|       |    |               |
|-------|----|---------------|
| 0.605 | kg | Mass(approx.) |
|-------|----|---------------|