

**FAG****HSS7004-E-T-P4S-UL**

## High speed spindle bearing

High speed spindle bearing HSS70...-E, adjusted, in pairs or sets, contact angle  $\alpha = 25^\circ$ , lip seals on both sides, non-contact, restricted tolerances

## Technical information



## Your current product variant

|                         |      |  |
|-------------------------|------|--|
| Contact angle           | E    | Contact angle 25°  |
| Sealing                 | 2RSD | Non-contact sealed on both sides and greased "for life"          |
| Cage                    | T    | Laminated fabric cage  |
| Tolerance class         | P4S  | Tolerance class P4S, FAG standard better than P4 to ISO 492:2023 |
| Arrangement bearing set | U    | Single bearing   |
| Preload                 | L    | Preload light  |
| Lubricant               | GA21 | Grease for super precision bearings, standard                    |

## Main Dimensions &amp; Performance Data

|                          |              |                                       |
|--------------------------|--------------|---------------------------------------|
| d                        | 20 mm        | Bore diameter                         |
| D                        | 42 mm        | Outside diameter                      |
| B                        | 12 mm        | Width                                 |
| C <sub>r</sub>           | 5.400 N      | Basic dynamic load rating, radial     |
| C <sub>0r</sub>          | 2.600 N      | Basic static load rating, radial      |
| C <sub>ur</sub>          | 275 N        | Fatigue load limit, radial            |
| n <sub>G</sub><br>Grease | 48.000 1/min | Limiting speed for grease lubrication |
| n <sub>G</sub>           | 75.000 1/min | Limiting speed                        |
| ≈m                       | 85 g         | Weight                                |



### Mounting dimensions

|               |         |   |
|---------------|---------|---|
| $d_a$         | 25 mm   | Diameter shaft shoulder                           |
| $d_a$         | h12     | Diameter shaft shoulder clearance                 |
| $D_a$         | 37 mm   | Shoulder diameter outer ring                      |
| $D_a$         | H12     | Shoulder diameter outer ring clearance            |
| $r_{a \max}$  | 0,6 mm  | Maximum recess radius                             |
| $r_{a1 \max}$ | 0,3 mm  | Maximum recess radius                             |
| $a$           | 13,2 mm | Distance between the apexes of the pressure cones |

### Dimensions

|              |        |                           |
|--------------|--------|---------------------------|
| $r_{\min}$   | 0,6 mm | Minimum chamfer dimension |
| $r_{1 \min}$ | 0,6 mm | Minimum chamfer dimension |
| $\alpha$     | 25 °   | Contact angle             |

### Temperature range

|            |        |                            |
|------------|--------|----------------------------|
| $T_{\min}$ | -30 °C | Operating temperature min. |
| $T_{\max}$ | 80 °C  | Operating temperature max. |

### Additional information

|           |         |                       |
|-----------|---------|-----------------------|
| $F_{VL}$  | 34 N    | Preload force light   |
| $F_{VM}$  | 101 N   | Preload force medium  |
| $F_{VH}$  | 202 N   | Preload force heavy   |
| $K_{aEL}$ | 97 N    | Lift-off force light  |
| $K_{aEM}$ | 299 N   | Lift-off force medium |
| $K_{aEH}$ | 611 N   | Lift-off force heavy  |
| $c_{aL}$  | 49 N/μm | Axial rigidity light  |
| $c_{aM}$  | 74 N/μm | Axial rigidity medium |
| $c_{aH}$  | 96 N/μm | Axial rigidity heavy  |



### Characteristics

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Radial load



Axial load in one direction



Lifetime lubrication, freedom from maintenance



Grease Lubrication



Sealed on both sides