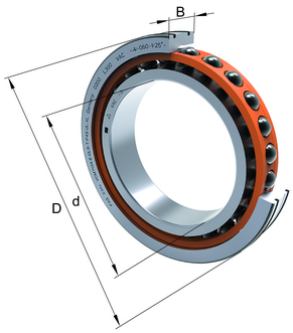


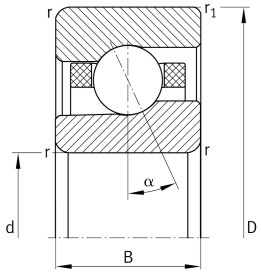

FAG

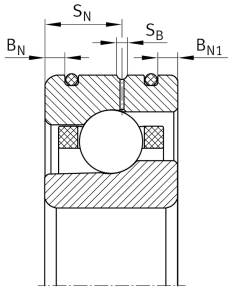
# VCM7014-CDLR-T-P4S-UL-XL

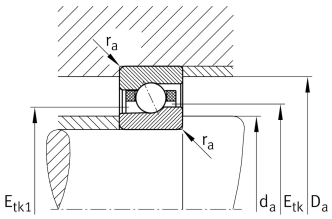
## High speed spindle bearing

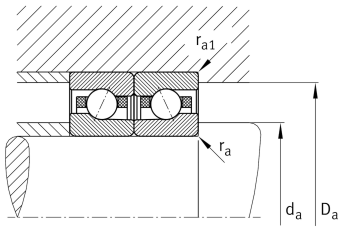
High speed spindle bearing VCM70..-CDLR, adjusted, in pairs or sets, contact angle α = 17°, with ceramic balls, rings made from Vacrodur, restricted tolerances, for direct oil feed via outer ring, with inserted O rings

## Technical information




### Your current product variant

| | | |
|---|---|---|
| Preload | L | Preload light |
| Contact angle | Contact angle 17° | Contact angle 17° |
| Sealing | Without | Not sealed |
| Outer shape | DLR | Direct lubrication, annular slots with O rings |
| 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 |

### Main Dimensions & Performance Data

| | | |
|---|---|---|
| d | 70 mm | Bore diameter |
| D | 110 mm | Outside diameter |
| B | 20 mm | Width |
| $C_r$ | 66.000 N | Basic dynamic load rating, radial |
| $C_{0r}$ | 22.100 N | Basic static load rating, radial |
| $C_{ur}$ | 1.130 N | Fatigue load limit, radial |
| $n_G$ Grease | 24.000 1/min | Limiting speed for grease lubrication |
| $n_G$ Oil | 36.000 1/min | Limiting speed for oil lubrication |
| ≈m | 0,567 kg | Weight |

## Mounting dimensions

| | | |
|---|---|---|
| $d_a$ | 77 mm | Diameter shaft shoulder |
| $d_a$ | h12 | Diameter shaft shoulder clearance |
| $D_a$ | 102 mm | Shoulder diameter outer ring |
| $D_a$ | H12 | Shoulder diameter outer ring clearance |
| $r_{a\ max}$ | 1 mm | Maximum recess radius |
| $r_{a1\ max}$ | 0,6 mm | Maximum recess radius |
| $B_N$ | 3 mm | Distance ring grooves |
| $B_{N1}$ | 3 mm | Distance ring grooves |
| $S_N$ | 11,6 mm | Distance to lubrication hole |
| $S_B$ | 1,4 mm | Width of lubricating groove |
| a | 23,8 mm | Distance between the apexes of the pressure cones |

## Dimensions

| | | |
|---|---|---|
| $r_{min}$ | 1,1 mm | Minimum chamfer dimension |
| $r_{1\ min}$ | 0,6 mm | Minimum chamfer dimension |
| α | 17 ° | Contact angle |

## Temperature range

| | | |
|---|---|---|
| $T_{min}$ | -30 °C | Operating temperature min. |
| $T_{max}$ | 100 °C | Operating temperature max. |

## Additional information

| | | |
|---|---|---|
| $F_{V\,L}$ | 110 N | Preload force light |
| $F_{V\,M}$ | 289 N | Preload force medium |
| $F_{V\,H}$ | 605 N | Preload force heavy |
| $K_{aE\,L}$ | 318 N | Lift-off force light |
| $K_{aE\,M}$ | 855 N | Lift-off force medium |
| $K_{aE\,H}$ | 1.839 N | Lift-off force heavy |
| $c_{a\,L}$ | 67 N/µm | Axial rigidity light |
| $c_{a\,M}$ | 96 N/µm | Axial rigidity medium |
| $c_{a\,H}$ | 129 N/µm | Axial rigidity heavy |

## Characteristics

Radial load

Axial load in one direction


Oil Lubrication


Not sealed