

# Spindle ball bearing KH 6011 C TA P4+

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## Components

|                              |                            |
|------------------------------|----------------------------|
| Bearing designation:         | KH 6011 C TA               |
| Bearing design:              | KH                         |
| Series / size:               | 6011                       |
| Ball material:               | Steel 100Cr6               |
| Cage:                        | TA                         |
| Seal:                        | 2RZ optional (with grease) |
| Precision:                   | P4+                        |
| Main dimensions [d x D x B]: | 55 x 90 x 18 mm            |

## Load data

|                       |                            |
|-----------------------|----------------------------|
| Static load capacity  | $C_{0r}$ : 11500 N         |
| Dynamic load capacity | $C_r$ : 16700 N            |
| Fatigue load limit    | $C_U$ : 595 N              |
| Speed limit           | $n_{grease}$ : 22125 1/min |
| Speed limit           | $n_{oil}$ : 29500 1/min    |
| Light preload         | L: 80 N                    |
| Axial rigidity        | $C_{ax}$ : 54 N/ $\mu$ m   |
| Medium preload        | M: 250 N                   |
| Axial rigidity        | $C_{ax}$ : 84 N/ $\mu$ m   |
| Heavy preload         | S: 500 N                   |
| Axial rigidity        | $C_{ax}$ : 111 N/ $\mu$ m  |
| Spring preload        | Ff: 740 N (for $n_{max}$ ) |

## Geometrical Data

|  |                         |  |                          |
|--|-------------------------|--|--------------------------|
| Bore diameter                            | d: 55 mm                | Oiling nozzle position                       | $d_7$ : 69.3 mm          |
| Outer diameter                           | D: 90 mm                | Pitch circle diameter                        | $d_m$ : 71.5 mm          |
| Width of single bearing                  | B: 18 mm                | Inner diameter of outer ring                 | $D_1$ : 76.5 mm          |
| Ball diameter                            | $D_w$ : 7.938 mm        | Undercut of associated component             | $r_{a \max}$ : 1 mm      |
| Number of balls                          | Z: 23                   | Undercut of associated component (open side) | $r_{b \max}$ : 1 mm      |
| Chamfer (min)                            | $r_{1,2 \min}$ : 1.1 mm | Abutment diameter inner ring                 | $d_{a,b \min}$ : 60.8 mm |
| Chamfer (min), open side                 | $r_{3,4 \min}$ : 1 mm   | Abutment diameter outer ring                 | $D_{a,b \max}$ : 85 mm   |
| Outer diameter of inner ring             | $d_1$ : 66.8 mm         | Inner diameter of outer ring (open side)     | $D_2$ : 79.6 mm          |
| Outer diameter of inner ring (open side) | $d_2$ : 65.6 mm         | Bearing weight                               | m: 0.4 kg                |
|  |                         | Contact angle                                | Alpha 0: 17°             |



The given speed limits apply to individual bearings with spring preload. Correction factors must be considered for all properties which deviate from this.