

# Spindle ball bearing HY SM 61905 C TA P4+

16.07.2024



## Components

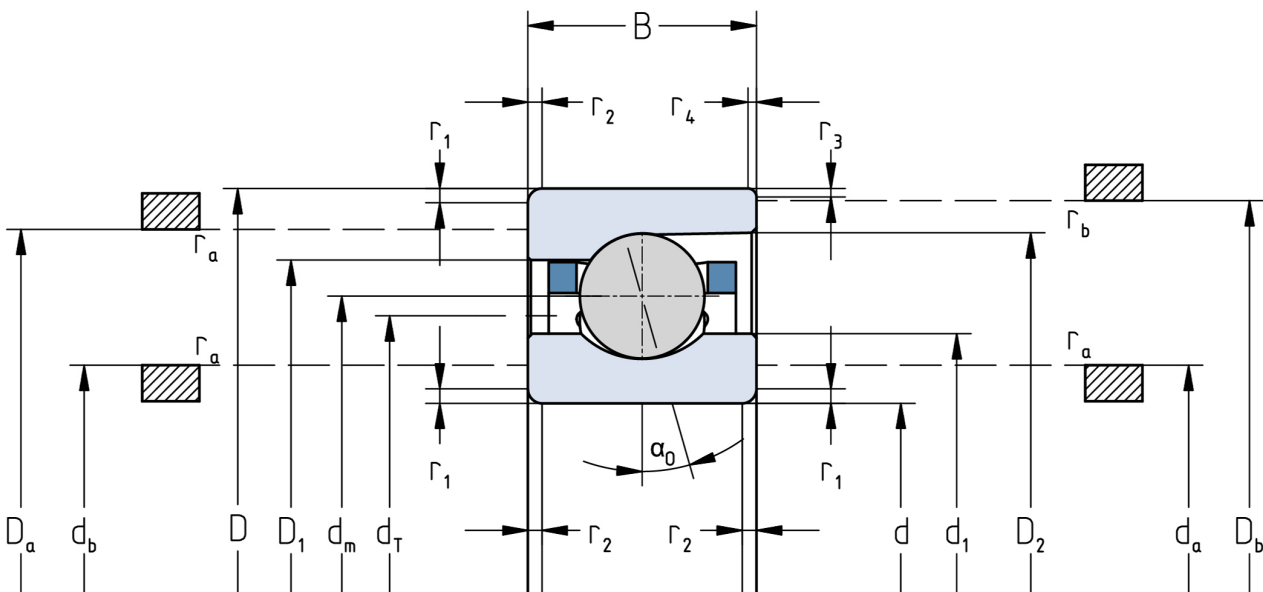
|                              |                  |
|------------------------------|------------------|
| Bearing designation:         | HY SM 61905 C TA |
| Bearing design:              | SM               |
| Series / size:               | 61905            |
| Ball material:               | Ceramic          |
| Cage:                        | TA               |
| Precision:                   | P4+              |
| Main dimensions [d x D x B]: | 25 x 42 x 9 mm   |

## Load data

|                       |                            |
|-----------------------|----------------------------|
| Static load capacity  | $C_{0r}$ : 3050 N          |
| Dynamic load capacity | $C_r$ : 5800 N             |
| Fatigue load limit    | $C_U$ : 114 N              |
| Speed limit           | $n_{grease}$ : 55500 1/min |
| Speed limit           | $n_{oil}$ : 74000 1/min    |
| Light preload         | L: 30 N                    |
| Axial rigidity        | $C_{ax}$ : 25 N/ $\mu$ m   |
| Medium preload        | M: 90 N                    |
| Axial rigidity        | $C_{ax}$ : 39 N/ $\mu$ m   |
| Heavy preload         | S: 180 N                   |
| Axial rigidity        | $C_{ax}$ : 53 N/ $\mu$ m   |
| Spring preload        | Ff: 120 N (for $n_{max}$ ) |

## Geometrical Data

|                                          |                        |                                              |                         |
|------------------------------------------|------------------------|----------------------------------------------|-------------------------|
| Bore diameter                            | d: 25 mm               | Oiling nozzle position                       | $d_T$ : 32.4 mm         |
| Outer diameter                           | D: 42 mm               | Pitch circle diameter                        | $d_m$ : 34 mm           |
| Width of single bearing                  | B: 9 mm                | Inner diameter of outer ring                 | $D_1$ : 37.4 mm         |
| Ball diameter                            | $D_w$ : 4.762 mm       | Undercut of associated component             | $r_{a max}$ : 0.3 mm    |
| Number of balls                          | Z: 17                  | Undercut of associated component (open side) | $r_{b max}$ : 0.3 mm    |
| Chamfer (min)                            | $r_{1,2 min}$ : 0.3 mm | Abutment diameter inner ring                 | $d_{a,b min}$ : 27.4 mm |
| Chamfer (min), open side                 | $r_{3,4 min}$ : 0.3 mm | Abutment diameter outer ring                 | $D_{a,b max}$ : 40.1 mm |
| Outer diameter of inner ring             | $d_1$ : 30.6 mm        | Inner diameter of outer ring (open side)     | $D_2$ : 38.8 mm         |
| Outer diameter of inner ring (open side) | $d_2$ : -              | Bearing weight                               | m: 0.035 kg             |
|                                          |                        | Contact angle                                | Alpha 0: 15°            |



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