

Spindle ball bearing S 6003 E TA P4+

16.07.2024



Components

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|------------------------------|----------------------------|
| Bearing designation: | S 6003 E TA |
| Bearing design: | S |
| Series / size: | 6003 |
| Ball material: | Steel 100Cr6 |
| Cage: | TA |
| Seal: | 2RZ optional (with grease) |
| Precision: | P4+ (UP+ Upon request) |
| Main dimensions [d x D x B]: | 17 x 35 x 10 mm |

Load data

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|-----------------------|----------------------------|
| Static load capacity | C_{0r} : 4000 N |
| Dynamic load capacity | C_r : 6650 N |
| Fatigue load limit | C_U : 208 N |
| Speed limit | n_{grease} : 42000 1/min |
| Speed limit | n_{oil} : 56000 1/min |
| Light preload | L: 60 N |
| Axial rigidity | C_{ax} : 61 N/ μ m |
| Medium preload | M: 170 N |
| Axial rigidity | C_{ax} : 91 N/ μ m |
| Heavy preload | S: 340 N |
| Axial rigidity | C_{ax} : 120 N/ μ m |
| Spring preload | Ff: 390 N (for n_{max}) |

Geometrical Data

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|--|------------------------|--|-------------------------|
| Bore diameter | d: 17 mm | Oiling nozzle position | d_f : 24.4 mm |
| Outer diameter | D: 35 mm | Pitch circle diameter | d_m : 26 mm |
| Width of single bearing | B: 10 mm | Inner diameter of outer ring | D_1 : 29.4 mm |
| Ball diameter | D_w : 4.762 mm | Undercut of associated component | $r_{a max}$: 0.3 mm |
| Number of balls | Z: 14 | 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 | $d_{a,b min}$: 19.6 mm |
| Chamfer (min), open side | $r_{3,4 min}$: 0.3 mm | Abutment diameter outer ring | $D_{a,b max}$: 33.2 mm |
| Outer diameter of inner ring | d_1 : 22.7 mm | Inner diameter of outer ring (open side) | D_2 : 30.9 mm |
| Outer diameter of inner ring (open side) | d_2 : - | Bearing weight | m: 0.038 kg |
| | | Contact angle | Alpha 0: 25° |



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