

Spindle ball bearing S 6003 C TA P4+

09.05.2024



Components

Bearing designation:	S 6003 C 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

Static load capacity	C_{0r} : 4200 N
Dynamic load capacity	C_r : 6950 N
Fatigue load limit	C_U : 218 N
Speed limit	n_{grease} : 48750 1/min
Speed limit	n_{oil} : 65000 1/min
Light preload	L: 35 N
Axial rigidity	C_{ax} : 25 N/ μ m
Medium preload	M: 105 N
Axial rigidity	C_{ax} : 40 N/ μ m
Heavy preload	S: 210 N
Axial rigidity	C_{ax} : 57 N/ μ m
Spring preload	Ff: 240 N (for n_{max})

Geometrical Data

Bore diameter	d: 17 mm	Oiling nozzle position	d_T : 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: 15°



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