

Spindle ball bearing SM 6004 C TA P4+

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Components

Bearing designation:	SM 6004 C TA
Bearing design:	SM
Series / size:	6004
Ball material:	Steel 100Cr6
Cage:	TA
Seal:	2RZ optional (with grease)
Precision:	P4+ (UP+ Upon request)
Main dimensions [d x D x B]:	20 x 42 x 12 mm

Load data

Static load capacity	C_{0r} : 3850 N
Dynamic load capacity	C_r : 8300 N
Fatigue load limit	C_U : 200 N
Speed limit	n_{grease} : 48750 1/min
Speed limit	n_{oil} : 65000 1/min
Light preload	L: 40 N
Axial rigidity	C_{ax} : 23 N/ μ m
Medium preload	M: 120 N
Axial rigidity	C_{ax} : 37 N/ μ m
Heavy preload	S: 240 N
Axial rigidity	C_{ax} : 50 N/ μ m
Spring preload	Ff: 220 N (for n_{max})

Geometrical Data

Bore diameter	d: 20 mm	Oiling nozzle position	d_T : 29 mm
Outer diameter	D: 42 mm	Pitch circle diameter	d_m : 31 mm
Width of single bearing	B: 12 mm	Inner diameter of outer ring	D_1 : 35.5 mm
Ball diameter	D_w : 6.35 mm	Undercut of associated component	$r_{a \max}$: 0.6 mm
Number of balls	Z: 13	Undercut of associated component (open side)	$r_{b \max}$: 0.3 mm
Chamfer (min)	$r_{1,2 \min}$: 0.6 mm	Abutment diameter inner ring	$d_{a,b \min}$: 23.8 mm
Chamfer (min), open side	$r_{3,4 \min}$: 0.3 mm	Abutment diameter outer ring	$D_{a,b \max}$: 39.1 mm
Outer diameter of inner ring	d_1 : 26.6 mm	Inner diameter of outer ring (open side)	D_2 : 37.5 mm
Outer diameter of inner ring (open side)	d_2 : -	Bearing weight	m: 0.065 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.