

Spindle ball bearing S 6209 C TXM P4+

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Components

Bearing designation:	S 6209 C TXM
Bearing design:	S
Series / size:	6209
Ball material:	Steel 100Cr6
Cage:	TXM
Precision:	P4+ (UP+ Upon request)
Main dimensions [d x D x B]:	45 x 85 x 19 mm

Load data

Static load capacity	C_{0r} : 34000 N
Dynamic load capacity	C_r : 45500 N
Fatigue load limit	C_U : 1759 N
Speed limit	n_{grease} : 19500 1/min
Speed limit	n_{oil} : 26000 1/min
Light preload	L: 230 N
Axial rigidity	C_{ax} : 71 N/ μ m
Medium preload	M: 700 N
Axial rigidity	C_{ax} : 119 N/ μ m
Heavy preload	S: 1400 N
Axial rigidity	C_{ax} : 170 N/ μ m
Spring preload	Ff: 1920 N (for n_{max})

Geometrical Data

Bore diameter	d: 45 mm	Oiling nozzle position	d_T : 61.7 mm
Outer diameter	D: 85 mm	Pitch circle diameter	d_m : 65 mm
Width of single bearing	B: 19 mm	Inner diameter of outer ring	D_1 : 72.5 mm
Ball diameter	D_w : 12.7 mm	Undercut of associated component	$r_{a \max}$: 1 mm
Number of balls	Z: 14	Undercut of associated component (open side)	$r_{b \max}$: 0.6 mm
Chamfer (min)	$r_{1,2 \min}$: 1.1 mm	Abutment diameter inner ring	$d_{a,b \min}$: 52.5 mm
Chamfer (min), open side	$r_{3,4 \min}$: 0.6 mm	Abutment diameter outer ring	$D_{a,b \max}$: 79.2 mm
Outer diameter of inner ring	d_1 : 57.4 mm	Inner diameter of outer ring (open side)	D_2 : 77.9 mm
Outer diameter of inner ring (open side)	d_2 : -	Bearing weight	m: 0.415 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.