

# Spindle ball bearing SM 61909 C TXM P4+

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## Components

Bearing designation:	SM 61909 C TXM
Bearing design:	SM
Series / size:	61909
Ball material:	Steel 100Cr6
Cage:	TXM
Precision:	P4+
Main dimensions [d x D x B]:	45 x 68 x 12 mm

## Load data

Static load capacity	$C_{0r}$ : 6850 N
Dynamic load capacity	$C_r$ : 10600 N
Fatigue load limit	$C_U$ : 357 N
Speed limit	$n_{grease}$ : 26250 1/min
Speed limit	$n_{oil}$ : 35000 1/min
Light preload	L: 55 N
Axial rigidity	$C_{ax}$ : 42 N/ $\mu$ m
Medium preload	M: 160 N
Axial rigidity	$C_{ax}$ : 63 N/ $\mu$ m
Heavy preload	S: 320 N
Axial rigidity	$C_{ax}$ : 84 N/ $\mu$ m
Spring preload	Ff: 440 N (for $n_{max}$ )

## Geometrical Data

Bore diameter	d: 45 mm	Oiling nozzle position	$d_T$ : 54.5 mm
Outer diameter	D: 68 mm	Pitch circle diameter	$d_m$ : 56.5 mm
Width of single bearing	B: 12 mm	Inner diameter of outer ring	$D_1$ : 60.7 mm
Ball diameter	$D_w$ : 6.35 mm	Undercut of associated component	$r_{a max}$ : 0.6 mm
Number of balls	Z: 20	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	$d_{a,b min}$ : 48.8 mm
Chamfer (min), open side	$r_{3,4 min}$ : 0.3 mm	Abutment diameter outer ring	$D_{a,b max}$ : 64.7 mm
Outer diameter of inner ring	$d_1$ : 52.3 mm	Inner diameter of outer ring (open side)	$D_2$ : 62.9 mm
Outer diameter of inner ring (open side)	$d_2$ : -	Bearing weight	m: 0.125 kg
		Contact angle	Alpha 0: 17°



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