

Spindle ball bearing SM 61909 C TA P4+

16.07.2024



Components

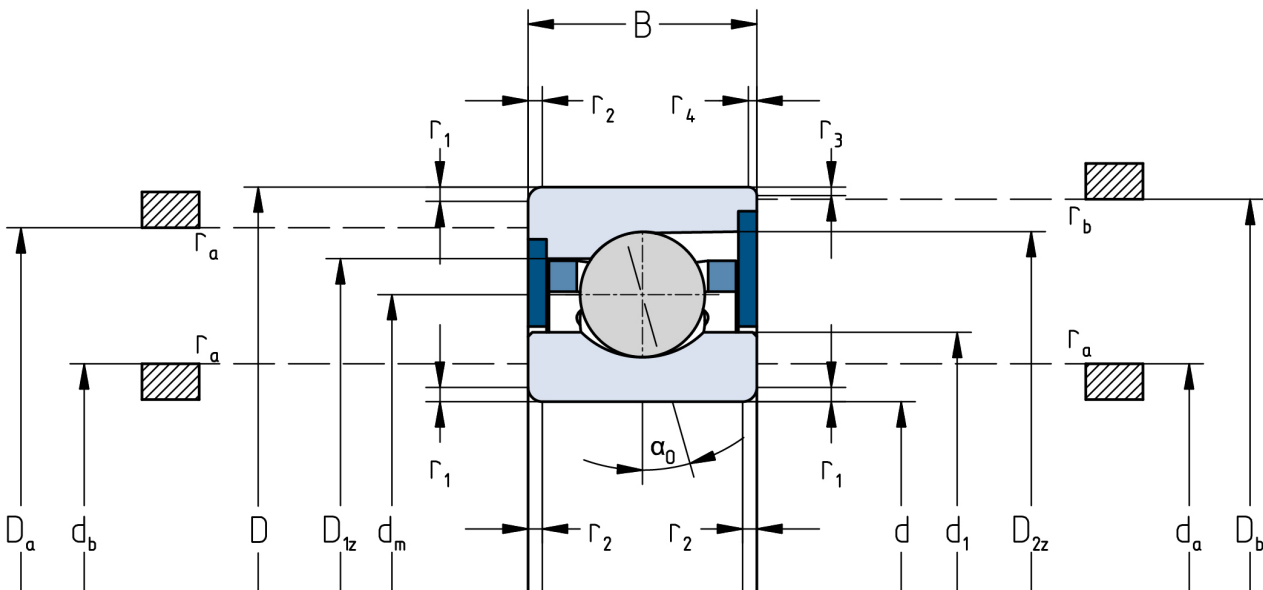
Bearing designation:	SM 61909 C TA
Bearing design:	SM
Series / size:	61909
Ball material:	Steel 100Cr6
Cage:	TA
Seal:	2RZ optional (with grease)
Precision:	P4+
Main dimensions [d x D x B]:	45 x 68 x 12 mm

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/μm
Medium preload	M: 160 N
Axial rigidity	C_{ax} : 63 N/μm
Heavy preload	S: 320 N
Axial rigidity	C_{ax} : 84 N/μm
Spring preload	Ff: 440 N (for n_{max})

Geometrical Data

Bore diameter	d: 45 mm	Oiling nozzle position	d_f : 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.