

Spindle ball bearing SM 6010 C TXM P4+

16.07.2024



Components

Bearing designation:	SM 6010 C TXM
Bearing design:	SM
Series / size:	6010
Ball material:	Steel 100Cr6
Cage:	TXM
Precision:	P4+ (UP+ Upon request)
Main dimensions [d x D x B]:	50 x 80 x 16 mm

Load data

Static load capacity	C_{0r} : 12400 N
Dynamic load capacity	C_r : 19000 N
Fatigue load limit	C_U : 644 N
Speed limit	n_{grease} : 23250 1/min
Speed limit	n_{oil} : 31000 1/min
Light preload	L: 100 N
Axial rigidity	C_{ax} : 47 N/ μ m
Medium preload	M: 290 N
Axial rigidity	C_{ax} : 72 N/ μ m
Heavy preload	S: 580 N
Axial rigidity	C_{ax} : 98 N/ μ m
Spring preload	Ff: 700 N (for n_{max})

Geometrical Data

Bore diameter	d: 50 mm	Oiling nozzle position	d_f : 62.5 mm
Outer diameter	D: 80 mm	Pitch circle diameter	d_m : 65 mm
Width of single bearing	B: 16 mm	Inner diameter of outer ring	D_1 : 70 mm
Ball diameter	D_w : 8.731 mm	Undercut of associated component	$r_{a \max}$: 1 mm
Number of balls	Z: 19	Undercut of associated component (open side)	$r_{b \max}$: 0.6 mm
Chamfer (min)	$r_{1,2 \min}$: 1 mm	Abutment diameter inner ring	$d_{a,b \min}$: 55.4 mm
Chamfer (min), open side	$r_{3,4 \min}$: 0.6 mm	Abutment diameter outer ring	$D_{a,b \max}$: 75.5 mm
Outer diameter of inner ring	d_1 : 59.7 mm	Inner diameter of outer ring (open side)	D_2 : 73.9 mm
Outer diameter of inner ring (open side)	d_2 : -	Bearing weight	m: 0.255 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.