

# Spindle ball bearing HY SM 6009 C TXM P4+

16.07.2024



## Components

Bearing designation:	HY SM 6009 C TXM
Bearing design:	SM
Series / size:	6009
Ball material:	Ceramic
Cage:	TXM
Precision:	P4+ (UP+ Upon request)
Main dimensions [d x D x B]:	45 x 75 x 16 mm

## Load data

Static load capacity	$C_{0r}$ : 11000 N
Dynamic load capacity	$C_r$ : 18500 N
Fatigue load limit	$C_U$ : 415 N
Speed limit	$n_{grease}$ : 31500 1/min
Speed limit	$n_{oil}$ : 42000 1/min
Light preload	L: 90 N
Axial rigidity	$C_{ax}$ : 48 N/ $\mu$ m
Medium preload	M: 275 N
Axial rigidity	$C_{ax}$ : 75 N/ $\mu$ m
Heavy preload	S: 550 N
Axial rigidity	$C_{ax}$ : 101 N/ $\mu$ m
Spring preload	Ff: 450 N (for $n_{max}$ )

## Geometrical Data

Bore diameter	d: 45 mm	Oiling nozzle position	$d_f$ : 57.6 mm
Outer diameter	D: 75 mm	Pitch circle diameter	$d_m$ : 60 mm
Width of single bearing	B: 16 mm	Inner diameter of outer ring	$D_1$ : 65 mm
Ball diameter	$D_w$ : 8.731 mm	Undercut of associated component	$r_{a \max}$ : 1 mm
Number of balls	Z: 18	Undercut of associated component (open side)	$r_{b \max}$ : 0.6 mm
Chamfer (min)	$r_{1,2 \min}$ : 1 mm	Abutment diameter inner ring	$d_{a,b \min}$ : 50.4 mm
Chamfer (min), open side	$r_{3,4 \min}$ : 0.6 mm	Abutment diameter outer ring	$D_{a,b \max}$ : 70.5 mm
Outer diameter of inner ring	$d_1$ : 54.7 mm	Inner diameter of outer ring (open side)	$D_2$ : 68.9 mm
Outer diameter of inner ring (open side)	$d_2$ : -	Bearing weight	m: 0.21 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.