

# Spindle ball bearing HY SM 6005 C TXM P4+

16.07.2024



## Components

Bearing designation:	HY SM 6005 C TXM
Bearing design:	SM
Series / size:	6005
Ball material:	Ceramic
Cage:	TXM
Precision:	P4+ (UP+ Upon request)
Main dimensions [d x D x B]:	25 x 47 x 12 mm

## Load data

Static load capacity	$C_{0r}$ : 4500 N
Dynamic load capacity	$C_r$ : 9200 N
Fatigue load limit	$C_U$ : 171 N
Speed limit	$n_{grease}$ : 51750 1/min
Speed limit	$n_{oil}$ : 69000 1/min
Light preload	L: 50 N
Axial rigidity	$C_{ax}$ : 31 N/ $\mu$ m
Medium preload	M: 140 N
Axial rigidity	$C_{ax}$ : 47 N/ $\mu$ m
Heavy preload	S: 280 N
Axial rigidity	$C_{ax}$ : 64 N/ $\mu$ m
Spring preload	Ff: 190 N (for $n_{max}$ )

## Geometrical Data

Bore diameter	d: 25 mm	Oiling nozzle position	$d_T$ : 34.3 mm
Outer diameter	D: 47 mm	Pitch circle diameter	$d_m$ : 36 mm
Width of single bearing	B: 12 mm	Inner diameter of outer ring	$D_1$ : 40.1 mm
Ball diameter	$D_w$ : 6.35 mm	Undercut of associated component	$r_{a max}$ : 0.6 mm
Number of balls	Z: 15	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	$d_{a,b min}$ : 28.8 mm
Chamfer (min), open side	$r_{3,4 min}$ : 0.3 mm	Abutment diameter outer ring	$D_{a,b max}$ : 44.1 mm
Outer diameter of inner ring	$d_1$ : 32.2 mm	Inner diameter of outer ring (open side)	$D_2$ : 42.5 mm
Outer diameter of inner ring (open side)	$d_2$ : -	Bearing weight	m: 0.068 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.