

Spindle ball bearing HY S 6209 E TA P4+

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Components

Bearing designation:	HY S 6209 E TA
Bearing design:	S
Series / size:	6209
Ball material:	Ceramic
Cage:	TA
Seal:	2RZ upon request
Precision:	P4+ (UP+ Upon request)
Main dimensions [d x D x B]:	45 x 85 x 19 mm

Load data

Static load capacity	C_{0r} : 31000 N
Dynamic load capacity	C_r : 43500 N
Fatigue load limit	C_U : 1175 N
Speed limit	n_{grease} : 21000 1/min
Speed limit	n_{oil} : 28000 1/min
Light preload	L: 370 N
Axial rigidity	C_{ax} : 185 N/ μ m
Medium preload	M: 1100 N
Axial rigidity	C_{ax} : 282 N/ μ m
Heavy preload	S: 2200 N
Axial rigidity	C_{ax} : 375 N/ μ m
Spring preload	Ff: 2230 N (for n_{max})

Geometrical Data

Bore diameter	d: 45 mm	Oiling nozzle position	d_f : 61.7 mm
Outer diameter	D: 85 mm	Pitch circle diameter	d_m : 65 mm
Width of single bearing	B: 19 mm	Inner diameter of outer ring	D_1 : 72.5 mm
Ball diameter	D_w : 12.7 mm	Undercut of associated component	$r_{a \max}$: 1 mm
Number of balls	Z: 14	Undercut of associated component (open side)	$r_{b \max}$: 0.6 mm
Chamfer (min)	$r_{1,2 \min}$: 1.1 mm	Abutment diameter inner ring	$d_{a,b \min}$: 52.5 mm
Chamfer (min), open side	$r_{3,4 \min}$: 0.6 mm	Abutment diameter outer ring	$D_{a,b \max}$: 79.2 mm
Outer diameter of inner ring	d_1 : 57.4 mm	Inner diameter of outer ring (open side)	D_2 : 77.9 mm
Outer diameter of inner ring (open side)	d_2 : -	Bearing weight	m: 0.345 kg
		Contact angle	Alpha 0: 25°



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