

# Spindle ball bearing S 6013 E TXM P4+

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## Components

|                              |                        |
|------------------------------|------------------------|
| Bearing designation:         | S 6013 E TXM           |
| Bearing design:              | S                      |
| Series / size:               | 6013                   |
| Ball material:               | Steel 100Cr6           |
| Cage:                        | TXM                    |
| Precision:                   | P4+ (UP+ Upon request) |
| Main dimensions [d x D x B]: | 65 x 100 x 18 mm       |

## Load data

|                       |                             |
|-----------------------|-----------------------------|
| Static load capacity  | $C_{0r}$ : 33000 N          |
| Dynamic load capacity | $C_r$ : 32500 N             |
| Fatigue load limit    | $C_U$ : 1708 N              |
| Speed limit           | $n_{grease}$ : 13125 1/min  |
| Speed limit           | $n_{oil}$ : 17500 1/min     |
| Light preload         | L: 275 N                    |
| Axial rigidity        | $C_{ax}$ : 187 N/ $\mu$ m   |
| Medium preload        | M: 825 N                    |
| Axial rigidity        | $C_{ax}$ : 283 N/ $\mu$ m   |
| Heavy preload         | S: 1650 N                   |
| Axial rigidity        | $C_{ax}$ : 376 N/ $\mu$ m   |
| Spring preload        | Ff: 3240 N (for $n_{max}$ ) |

## Geometrical Data

|                                          |                         |                                              |                          |
|------------------------------------------|-------------------------|----------------------------------------------|--------------------------|
| Bore diameter                            | d: 65 mm                | Oiling nozzle position                       | $d_T$ : 79.9 mm          |
| Outer diameter                           | D: 100 mm               | Pitch circle diameter                        | $d_m$ : 82.5 mm          |
| Width of single bearing                  | B: 18 mm                | Inner diameter of outer ring                 | $D_1$ : 88.2 mm          |
| Ball diameter                            | $D_w$ : 9.525 mm        | Undercut of associated component             | $r_{a \max}$ : 1 mm      |
| Number of balls                          | Z: 23                   | Undercut of associated component (open side) | $r_{b \max}$ : 1 mm      |
| Chamfer (min)                            | $r_{1,2 \min}$ : 1.1 mm | Abutment diameter inner ring                 | $d_{a,b \min}$ : 71.3 mm |
| Chamfer (min), open side                 | $r_{3,4 \min}$ : 1 mm   | Abutment diameter outer ring                 | $D_{a,b \max}$ : 94.5 mm |
| Outer diameter of inner ring             | $d_1$ : 76.9 mm         | Inner diameter of outer ring (open side)     | $D_2$ : 92.1 mm          |
| Outer diameter of inner ring (open side) | $d_2$ : -               | Bearing weight                               | m: 0.445 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.