

# Spindle ball bearing S 6204 E TA P4+

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## Components

|                              |                        |
|------------------------------|------------------------|
| Bearing designation:         | S 6204 E TA            |
| Bearing design:              | S                      |
| Series / size:               | 6204                   |
| Ball material:               | Steel 100Cr6           |
| Cage:                        | TA                     |
| Seal:                        | 2RZ upon request       |
| Precision:                   | P4+ (UP+ Upon request) |
| Main dimensions [d x D x B]: | 20 x 47 x 14 mm        |

## Load data

|                       |                            |
|-----------------------|----------------------------|
| Static load capacity  | $C_{0r}$ : 9800 N          |
| Dynamic load capacity | $C_r$ : 16200 N            |
| Fatigue load limit    | $C_U$ : 511 N              |
| Speed limit           | $n_{grease}$ : 32250 1/min |
| Speed limit           | $n_{oil}$ : 43000 1/min    |
| Light preload         | L: 140 N                   |
| Axial rigidity        | $C_{ax}$ : 91 N/ $\mu$ m   |
| Medium preload        | M: 410 N                   |
| Axial rigidity        | $C_{ax}$ : 139 N/ $\mu$ m  |
| Heavy preload         | S: 820 N                   |
| Axial rigidity        | $C_{ax}$ : 187 N/ $\mu$ m  |
| Spring preload        | Ff: 970 N (for $n_{max}$ ) |

## Geometrical Data

|                                          |                         |                                              |                          |
|------------------------------------------|-------------------------|----------------------------------------------|--------------------------|
| Bore diameter                            | d: 20 mm                | Oiling nozzle position                       | $d_T$ : 31.4 mm          |
| Outer diameter                           | D: 47 mm                | Pitch circle diameter                        | $d_m$ : 33.5 mm          |
| Width of single bearing                  | B: 14 mm                | Inner diameter of outer ring                 | $D_1$ : 38.6 mm          |
| Ball diameter                            | $D_w$ : 7.938 mm        | Undercut of associated component             | $r_{a \max}$ : 1 mm      |
| Number of balls                          | Z: 11                   | Undercut of associated component (open side) | $r_{b \max}$ : 0.6 mm    |
| Chamfer (min)                            | $r_{1,2 \min}$ : 1 mm   | Abutment diameter inner ring                 | $d_{a,b \min}$ : 25.1 mm |
| Chamfer (min), open side                 | $r_{3,4 \min}$ : 0.6 mm | Abutment diameter outer ring                 | $D_{a,b \max}$ : 43.1 mm |
| Outer diameter of inner ring             | $d_1$ : 28.5 mm         | Inner diameter of outer ring (open side)     | $D_2$ : 41.6 mm          |
| Outer diameter of inner ring (open side) | $d_2$ : -               | Bearing weight                               | m: 0.105 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.