

# Spindle ball bearing S 61920 E TA P4+

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## Components

|                              |                   |
|------------------------------|-------------------|
| Bearing designation:         | S 61920 E TA      |
| Bearing design:              | S                 |
| Series / size:               | 61920             |
| Ball material:               | Steel 100Cr6      |
| Cage:                        | TA                |
| Seal:                        | 2RZ upon request  |
| Precision:                   | P4+               |
| Main dimensions [d x D x B]: | 100 x 140 x 20 mm |

## Load data

|                       |                             |
|-----------------------|-----------------------------|
| Static load capacity  | $C_{0r}$ : 54500 N          |
| Dynamic load capacity | $C_r$ : 48500 N             |
| Fatigue load limit    | $C_U$ : 2589 N              |
| Speed limit           | $n_{grease}$ : 9000 1/min   |
| Speed limit           | $n_{oil}$ : 12000 1/min     |
| Light preload         | L: 410 N                    |
| Axial rigidity        | $C_{ax}$ : 238 N/ $\mu$ m   |
| Medium preload        | M: 1230 N                   |
| Axial rigidity        | $C_{ax}$ : 360 N/ $\mu$ m   |
| Heavy preload         | S: 2470 N                   |
| Axial rigidity        | $C_{ax}$ : 476 N/ $\mu$ m   |
| Spring preload        | Ff: 4910 N (for $n_{max}$ ) |

## Geometrical Data

|                                          |                         |                                              |                           |
|------------------------------------------|-------------------------|----------------------------------------------|---------------------------|
| Bore diameter                            | d: 100 mm               | Oiling nozzle position                       | $d_T$ : 116.5 mm          |
| Outer diameter                           | D: 140 mm               | Pitch circle diameter                        | $d_m$ : 120 mm            |
| Width of single bearing                  | B: 20 mm                | Inner diameter of outer ring                 | $D_1$ : 127.2 mm          |
| Ball diameter                            | $D_w$ : 11.906 mm       | Undercut of associated component             | $r_{a \max}$ : 0.6 mm     |
| Number of balls                          | Z: 25                   | Undercut of associated component (open side) | $r_{b \max}$ : 0.6 mm     |
| Chamfer (min)                            | $r_{1,2 \min}$ : 0.6 mm | Abutment diameter inner ring                 | $d_{a,b \min}$ : 105.7 mm |
| Chamfer (min), open side                 | $r_{3,4 \min}$ : 0.6 mm | Abutment diameter outer ring                 | $D_{a,b \max}$ : 135.2 mm |
| Outer diameter of inner ring             | $d_1$ : 112.8 mm        | Inner diameter of outer ring (open side)     | $D_2$ : 132.1 mm          |
| Outer diameter of inner ring (open side) | $d_2$ : -               | Bearing weight                               | m: 0.79 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.