

# Spindle ball bearing HY SM 605 C TA P4+

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## Components

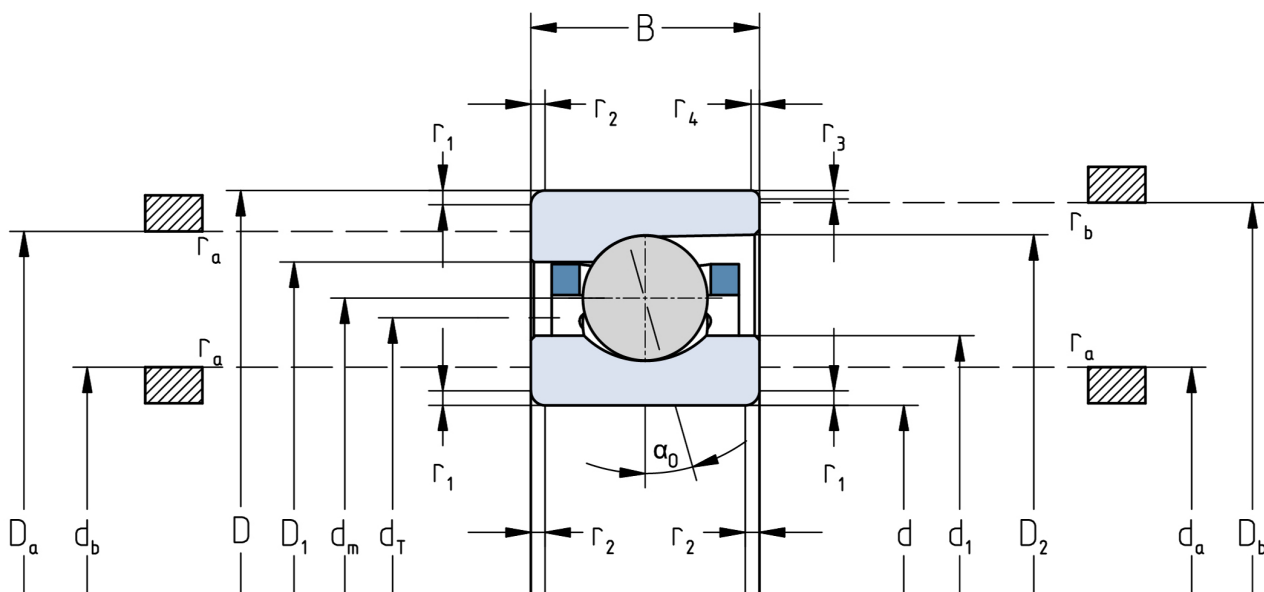
|                              |                        |
|------------------------------|------------------------|
| Bearing designation:         | HY SM 605 C TA         |
| Bearing design:              | SM                     |
| Series / size:               | 605                    |
| Ball material:               | Ceramic                |
| Cage:                        | TA                     |
| Precision:                   | P4+ (UP+ Upon request) |
| Main dimensions [d x D x B]: | 5 x 14 x 5 mm          |

## Load data

|                       |                             |
|-----------------------|-----------------------------|
| Static load capacity  | $C_{0r}$ : 300 N            |
| Dynamic load capacity | $C_r$ : 990 N               |
| Fatigue load limit    | $C_U$ : 11 N                |
| Speed limit           | $n_{grease}$ : 217500 1/min |
| Speed limit           | $n_{oil}$ : 290000 1/min    |
| Light preload         | L: 5 N                      |
| Axial rigidity        | $C_{ax}$ : 7 N/ $\mu$ m     |
| Medium preload        | M: 14 N                     |
| Axial rigidity        | $C_{ax}$ : 10 N/ $\mu$ m    |
| Heavy preload         | S: 28 N                     |
| Axial rigidity        | $C_{ax}$ : 14 N/ $\mu$ m    |
| Spring preload        | Ff: 10 N (for $n_{max}$ )   |

## Geometrical Data

|                                          |                         |                                              |                         |
|------------------------------------------|-------------------------|----------------------------------------------|-------------------------|
| Bore diameter                            | d: 5 mm                 | Oiling nozzle position                       | $d_T$ : 7.8 mm          |
| Outer diameter                           | D: 14 mm                | Pitch circle diameter                        | $d_m$ : 8.6 mm          |
| Width of single bearing                  | B: 5 mm                 | Inner diameter of outer ring                 | $D_1$ : 10.3 mm         |
| Ball diameter                            | $D_w$ : 2.381 mm        | Undercut of associated component             | $r_{a \max}$ : 0.2 mm   |
| Number of balls                          | Z: 8                    | Undercut of associated component (open side) | $r_{b \max}$ : 0.2 mm   |
| Chamfer (min)                            | $r_{1,2 \min}$ : 0.2 mm | Abutment diameter inner ring                 | $d_{a,b \min}$ : 6.3 mm |
| Chamfer (min), open side                 | $r_{3,4 \min}$ : 0.2 mm | Abutment diameter outer ring                 | $D_{a,b \max}$ : 13 mm  |
| Outer diameter of inner ring             | $d_1$ : 6.9 mm          | Inner diameter of outer ring (open side)     | $D_2$ : 11 mm           |
| Outer diameter of inner ring (open side) | $d_2$ : -               | Bearing weight                               | m: 0.003 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.