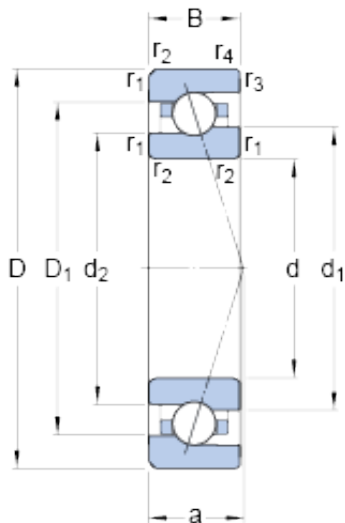




# Timken BEARING MFG.CORP



7005 ACE/HCP4A Bearing 2D drawings and 3D CAD models

## 25 mm x 47 mm x 12 mm SKF 7005 ACE/HCP4A angular contact ball bearings

Bearing No. 7005 ACE/HCP4A

|   |             |
|---|-------------|
| Size                                      | 25x47x12 mm |
| Bore Diameter                             | 25 mm       |
| Outer Diameter                            | 47 mm       |
| Width                                     | 12 mm       |
| d   | 25 mm       |
| D   | 47 mm       |
| B   | 12 mm       |
| d <sub>1</sub>                            | 31.6 mm     |
| d <sub>2</sub>                            | 29.8 mm     |
| D <sub>1</sub>                            | 39.21 mm    |
| r <sub>1,2</sub> - min.                   | 0.6 mm      |
| r <sub>3,4</sub> - min.                   | 0.3 mm      |
| a   | 14.4 mm     |
| d <sub>a</sub> - min.                     | 28.2 mm     |
| d <sub>b</sub> - min.                     | 28.2 mm     |
| D <sub>a</sub> - max.                     | 43.8 mm     |
| D <sub>b</sub> - max.                     | 44.6 mm     |
| r <sub>a</sub> - max.                     | 0.6 mm      |
| r <sub>b</sub> - max.                     | 0.3 mm      |
| d <sub>n</sub>                            | 33.1 mm     |
| Basic dynamic load rating - C             | 7.9 kN      |
| Basic static load rating - C <sub>0</sub> | 3.9 kN      |
| Fatigue load limit - P <sub>u</sub>       | 0.166 kN    |
| Limiting speed for grease                 | 50000 r/min |



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|                                    |                     |
|------------------------------------|---------------------|
| Lubrication                        |                     |
| Limiting speed for oil lubrication | 75000 mm/min        |
| Ball - $D_w$                       | 6.35 mm             |
| Ball - $z$                         | 14                  |
| $G_{ref}$                          | 1.3 cm <sup>3</sup> |
| Calculation factor - $e$           | 0.68                |
| Calculation factor - $Y_2$         | 0.87                |
| Calculation factor - $Y_0$         | 0.38                |
| Calculation factor - $X_2$         | 0.41                |
| Calculation factor - $Y_1$         | 0.92                |
| Calculation factor - $Y_2$         | 1.41                |
| Calculation factor - $Y_0$         | 0.76                |
| Calculation factor - $X_2$         | 0.67                |
| Preload class A - $G_A$            | 70 N                |
| Preload class B - $G_B$            | 210 N               |
| Preload class C - $G_C$            | 430 N               |
| Calculation factor - $f$           | 1.05                |
| Calculation factor - $f_1$         | 0.99                |
| Calculation factor - $f_{2A}$      | 1                   |
| Calculation factor - $f_{2B}$      | 1.03                |
| Calculation factor - $f_{2C}$      | 1.06                |
| Calculation factor - $f_{HC}$      | 1.01                |
| Preload class A                    | 66 N/micron         |
| Preload class B                    | 98 N/micron         |
| Preload class C                    | 130 N/micron        |
| $d_1$                              | 31.6 mm             |
| $d_2$                              | 29.8 mm             |
| $D_1$                              | 39.21 mm            |
| $r_{1,2}$ min.                     | 0.6 mm              |



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|  |                     |
|--|---------------------|
| $r_{3,4}$ min.                           | 0.3 mm              |
| $d_a$ min.                               | 28.2 mm             |
| $d_b$ min.                               | 28.2 mm             |
| $D_a$ max.                               | 43.8 mm             |
| $D_b$ max.                               | 44.6 mm             |
| $r_a$ max.                               | 0.6 mm              |
| $r_b$ max.                               | 0.3 mm              |
| $d_n$                                    | 33.1 mm             |
| Basic dynamic load rating C              | 7.93 kN             |
| Basic static load rating $C_0$           | 3.9 kN              |
| Fatigue load limit $P_u$                 | 0.166 kN            |
| Attainable speed for grease lubrication  | 50000 r/min         |
| Attainable speed for oil-air lubrication | 75000 r/min         |
| Ball diameter $D_w$                      | 6.35 mm             |
| Number of balls z                        | 14                  |
| Reference grease quantity $G_{ref}$      | 1.3 cm <sup>3</sup> |
| Preload class A $G_A$                    | 70 N                |
| Static axial stiffness, preload class A  | 66 N/ $\mu$ m       |
| Preload class B $G_B$                    | 210 N               |
| Static axial stiffness, preload class B  | 98 N/ $\mu$ m       |
| Preload class C $G_C$                    | 430 N               |
| Static axial stiffness, preload class C  | 130 N/ $\mu$ m      |
| Calculation factor f                     | 1.05                |
| Calculation factor $f_1$                 | 0.99                |
| Calculation factor $f_{2A}$              | 1                   |
| Calculation factor $f_{2B}$              | 1.03                |
| Calculation factor $f_{2C}$              | 1.06                |
| Calculation factor $f_{HC}$              | 1.01                |



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|   |          |
|---|----------|
| Calculation factor e                                  | 0.68     |
| Calculation factor (single, tandem) $Y_2$             | 0.87     |
| Calculation factor (single, tandem) $Y_0$             | 0.38     |
| Calculation factor (single, tandem) $X_2$             | 0.41     |
| Calculation factor (back-to-back, face-to-face) $Y_1$ | 0.92     |
| Calculation factor (back-to-back, face-to-face) $Y_2$ | 1.41     |
| Calculation factor (back-to-back, face-to-face) $Y_0$ | 0.76     |
| Calculation factor (back-to-back, face-to-face) $X_2$ | 0.67     |
| Mass bearing  | 0.065 kg |