


The Timken Company

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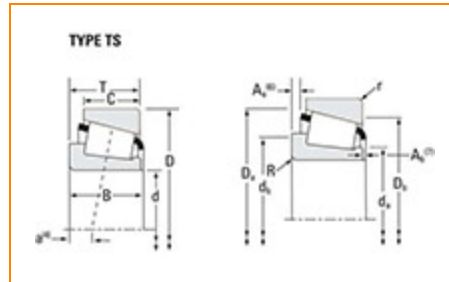
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Part Number 07100 - 07196, Tapered Roller Bearings - TS (Tapered Single) Imperial

This is the most basic and most widely used type of tapered roller bearing. It consists of two main separable parts: the cone (inner ring) assembly and the cup (outer ring). It is typically mounted in opposing pairs on a shaft.



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Specifications

| | |
|-------------------------|------------------|
| Series | 07000 |
| Cone Part Number | 07100 |
| Cup Part Number | 07196 |
| Design Unit | Inch |
| Bearing Weight | 0.3 lb 0.1 Kg |
| Cage Material | Stamped Steel |

Dimensions


- Bore

 1 in
25.400 mm

| | |
|-------------------------------|------------------------|
| D - Cup Outer Diameter | 1.9687 in 50.005 mm |
| B - Cone Width | 0.5614 in 14.260 mm |
| C - Cup Width | 0.3750 in 9.525 mm |
| T - Bearing Width | 0.5313 in 13.495 mm |

Abutment and Fillet Dimensions

| | |
|--|---------------------|
| R - Cone Backface "To Clear" Radius¹ | 0.04 in 1 mm |
| r - Cup Backface "To Clear" Radius² | 0.04 in 1.02 mm |
| da - Cone Frontface Backing Diameter | 1.16 in 29.5 mm |
| db - Cone Backface Backing Diameter | 1.2 in 30.5 mm |
| Da - Cup Frontface Backing Diameter | 1.87 in 47.50 mm |
| Db - Cup Backface Backing Diameter | 1.75 in 44.45 mm |
| Ab - Cage-Cone Frontface Clearance | 0.08 in 2 mm |
| Aa - Cage-Cone Backface Clearance | 0 in 0 mm |
| a - Effective Center Location³ | -0.11 in -2.8 mm |

Basic Load Ratings

| | |
|---|---------------------|
| C90 - Dynamic Radial Rating (90 million revolutions)⁴ | 1700 lbf 7550 N |
| C1 - Dynamic Radial Rating (1 million revolutions)⁵ | 6540 lbf 29100 N |
| C0 - Static Radial Rating | 6650 lbf 29600 N |
| C_{a90} - Dynamic Thrust Rating (90 million revolutions)⁶ | 1170 lbf 5190 N |

Factors

| | |
|---|--------|
| K - Factor⁷ | 1.45 |
| e - ISO Factor⁸ | 0.4 |
| Y - ISO Factor⁹ | 1.49 |
| G1 - Heat Generation Factor (Roller-Raceway) | 7.6 |
| G2 - Heat Generation Factor (Rib-Roller End) | 7.1 |
| Cg - Geometry Factor¹⁰ | 0.0509 |

¹ These maximum fillet radii will be cleared by the bearing corners.

² These maximum fillet radii will be cleared by the bearing corners.

³ Negative value indicates effective center inside cone backface.

⁴ Based on 90×10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.

⁵ Based on 1×10^6 revolutions L_{10} life, for the ISO life calculation method.

⁶ Based on 90×10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

⁷ These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

⁸ These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

⁹ These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

¹⁰ Geometry constant for Lubrication Life Adjustment Factor a_3 .

