



**The Timken Company**

4500 Mt Pleasant St. NW

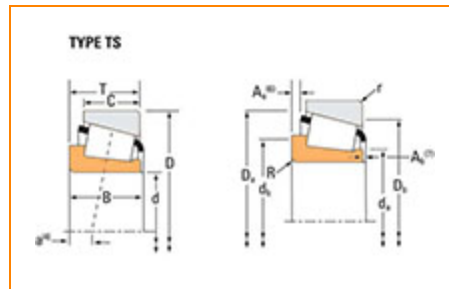
N. Canton, OH 44720

**Phone:** (234) 262-3000

**E-Mail:** [CustomerCAD@timken.com](mailto:CustomerCAD@timken.com) • **Web site:** [www.timken.com](http://www.timken.com)

## Part Number 99600, Tapered Roller Bearings - Single Cones - 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

|   |                         |
|---|-------------------------|
| <b>Series</b>   | 99000                   |
| <b>Cone Part Number</b>   | 99600                   |
| <b>Design Units</b>   | Imperial                |
| <b>Cage Type</b>  | Stamped Steel           |
| <b>C1 - Dynamic Radial Rating<br/>(Two-Row, 1 million<br/>revolutions)<sup>1</sup></b>      | 258000 lbf<br>1150000 N |
| <b>C90(2) - Dynamic Radial Rating<br/>(Two-Row, 90 million<br/>revolutions)<sup>2</sup></b> | 67000 lbf<br>298000 N   |

### Dimensions

|                       |                         |
|-----------------------|-------------------------|
| <b>d - Bore</b>       | 6.0000 in<br>152.400 mm |
| <b>B - Cone Width</b> | 2.6250 in<br>66.675 mm  |

## Abutment and Fillet Dimensions

|  |                      |
|--|----------------------|
| <b>R - Cone Backface "To Clear" Radius<sup>3</sup></b> | 0.280 in<br>7.100 mm |
| <b>da - Cone Frontface Backing Diameter</b>            | 6.68 in<br>169.7 mm  |
| <b>db - Cone Backface Backing Diameter</b>             | 7.13 in<br>181 mm    |
| <b>Ab - Cage-Cone Frontface Clearance</b>              | 0.19 in<br>4.8 mm    |
| <b>Aa - Cage-Cone Backface Clearance</b>               | 0.34 in<br>8.6 mm    |
| <b>a - Effective Center Location<sup>4</sup></b>       | -0.48 in<br>-12.2 mm |

## Basic Load Ratings

|   |                         |
|---|-------------------------|
| <b>C90 - Dynamic Radial Rating (90 million revolutions)<sup>5</sup></b>             | 38500 lbf<br>171000 N   |
| <b>C1 - Dynamic Radial Rating (1 million revolutions)<sup>6</sup></b>               | 148000 lbf<br>660000 N  |
| <b>C0 - Static Radial Rating</b>  | 231000 lbf<br>1030000 N |
| <b>C<sub>a90</sub> - Dynamic Thrust Rating (90 million revolutions)<sup>7</sup></b> | 26800 lbf<br>119000 N   |

## Factors

|   |       |
|---|-------|
| <b>K - Factor<sup>8</sup></b>                           | 1.43  |
| <b>G1 - Heat Generation Factor<br/>(Roller-Raceway)</b> | 555.5 |
| <b>G2 - Heat Generation Factor<br/>(Rib-Roller End)</b> | 73.5  |
| <b>Cg - Geometry Factor<sup>9</sup></b>                 | 0.146 |

<sup>1</sup> Based on  $1 \times 10^6$  revolutions  $L_{10}$  life, for the ISO life calculation method.

<sup>2</sup> Based on  $90 \times 10^6$  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.

<sup>3</sup> These maximum fillet radii will be cleared by the bearing corners.

<sup>4</sup> Negative value indicates effective center inside cone backface.

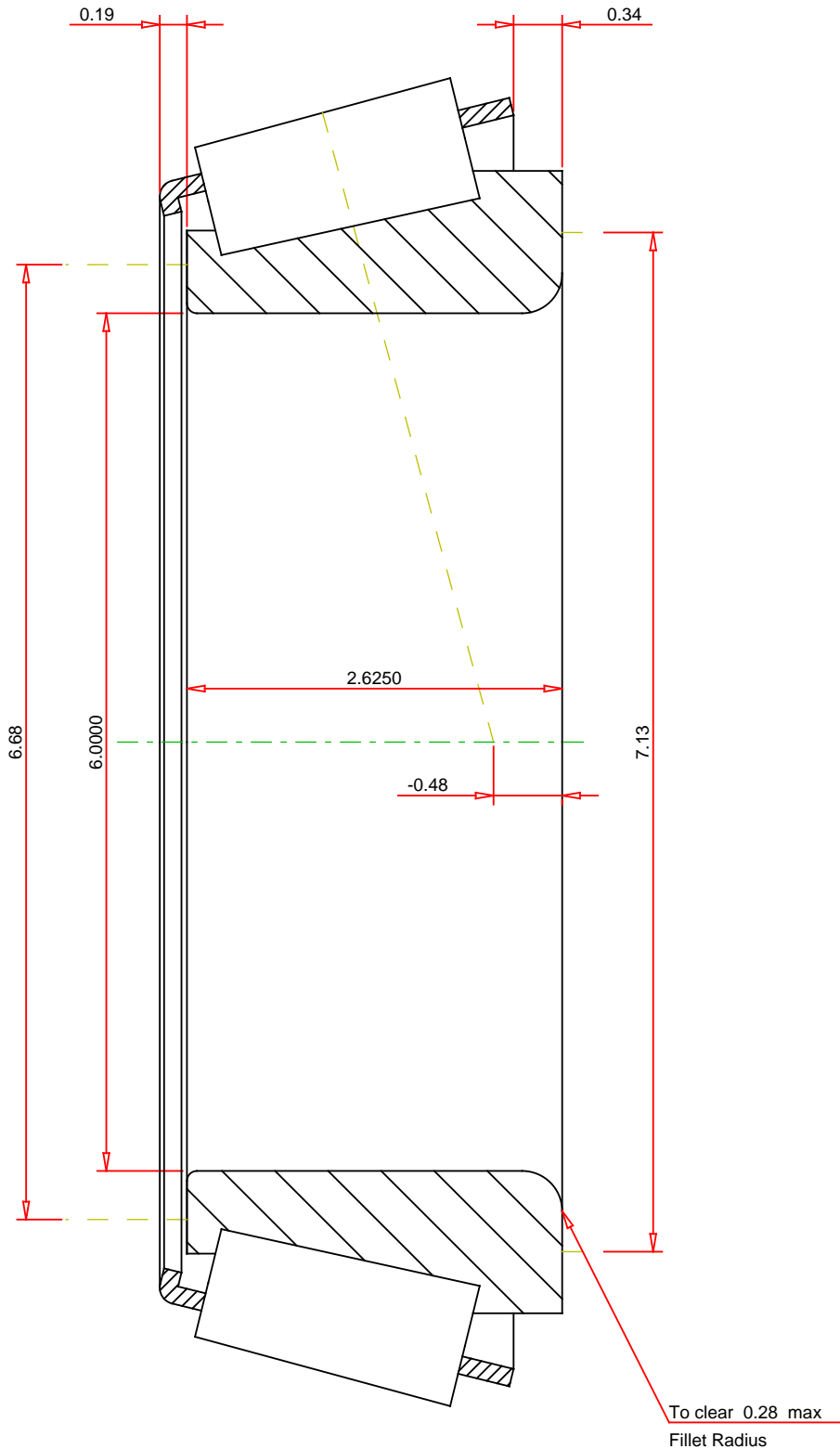
<sup>5</sup> Based on  $90 \times 10^6$  revolutions  $L_{10}$  life, for The Timken Company life calculation method.  $C_{90}$  and  $C_{a90}$  are radial and thrust values.

<sup>6</sup> Based on  $1 \times 10^6$  revolutions  $L_{10}$  life, for the ISO life calculation method.

<sup>7</sup> Based on  $90 \times 10^6$  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.

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

<sup>9</sup> Geometry constant for Lubrication Life Adjustment Factor  $a_3$ .



IMPERIAL UNITS

|   |   |   |
|---|---|---|
| <div>Number of Rollers Per Row23</div>  | <div>TIMKEN®</div> <div>THE TIMKEN COMPANY<br/>NORTH CANTON, OHIO USA</div> | <div>99600<br/>SINGLE TAPERED CONE</div> <div><div>K Factor1.43</div><div>Dynamic Radial Rating - C9038500 lbf</div><div>Dynamic Thrust Rating - Ca9026800 lbf</div><div>Dynamic Radial Rating - C1148000 lbf</div></div> |
| <div>Every reasonable effort has been made to ensure the accuracy of the information contained in this writing, but no liability is accepted for errors, omissions or for any other reason.</div> |   | <div>FOR DISCUSSION ONLY</div>  |