


**The Timken Company**

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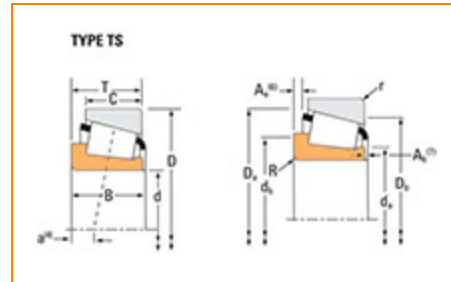
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## Part Number LL639249, Tapered Roller Bearings - Single Cones - Imperial

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.



[Specifications](#) | [Dimensions](#) | [Abutment and Fillet Dimensions](#) | [Basic Load Ratings](#) | [Factors](#)

### Specifications

|                                                                                             |                       |
|---------------------------------------------------------------------------------------------|-----------------------|
| <b>Cone Part Number</b>                                                                     | LL639249              |
| <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>      | 67500 lbf<br>300000 N |
| <b>C90(2) - Dynamic Radial Rating<br/>(Two-Row, 90 million<br/>revolutions)<sup>2</sup></b> | 17500 lbf<br>77800 N  |

### Dimensions



|                       |                         |
|-----------------------|-------------------------|
| <b>d - Cone Bore</b>  | 7.7500 in<br>196.850 mm |
| <b>B - Cone Width</b> | 0.9062 in<br>23.017 mm  |

## Abutment and Fillet Dimensions

|                                                        |                     |
|--------------------------------------------------------|---------------------|
| <b>R - Cone Backface "To Clear" Radius<sup>3</sup></b> | 0.06 in<br>1.520 mm |
| <b>da - Cone Frontface Backing Diameter</b>            | 7.99 in<br>203 mm   |
| <b>db - Cone Backface Backing Diameter</b>             | 8.07 in<br>205 mm   |
| <b>Ab - Cage-Cone Frontface Clearance</b>              | 0.14 in<br>3.6 mm   |
| <b>Aa - Cage-Cone Backface Clearance</b>               | 0.04 in<br>1 mm     |
| <b>a - Effective Center Location<sup>4</sup></b>       | 0.69 in<br>17.5 mm  |

## Basic Load Ratings

|                                                                                     |                       |
|-------------------------------------------------------------------------------------|-----------------------|
| <b>C90 - Dynamic Radial Rating (90 million revolutions)<sup>5</sup></b>             | 10100 lbf<br>44700 N  |
| <b>C1 - Dynamic Radial Rating (1 million revolutions)<sup>6</sup></b>               | 38800 lbf<br>172000 N |
| <b>C0 - Static Radial Rating</b>                                                    | 76300 lbf<br>340000 N |
| <b>C<sub>a90</sub> - Dynamic Thrust Rating (90 million revolutions)<sup>7</sup></b> | 7190 lbf<br>32000 N   |

## Factors

|                                                         |       |
|---------------------------------------------------------|-------|
| <b>K - Factor<sup>8</sup></b>                           | 1.4   |
| <b>G1 - Heat Generation Factor<br/>(Roller-Raceway)</b> | 443   |
| <b>G2 - Heat Generation Factor<br/>(Rib-Roller End)</b> | 230.2 |
| <b>Cg - Geometry Factor<sup>9</sup></b>                 | 0.133 |

<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.

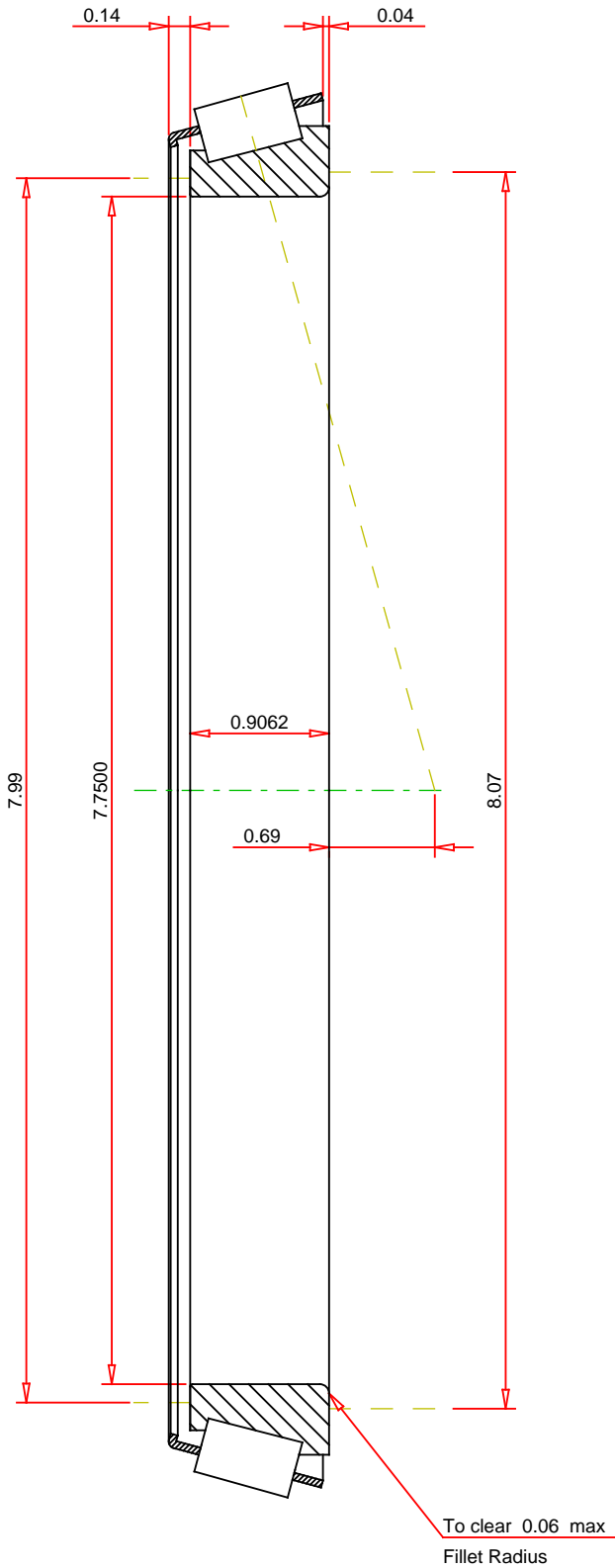
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<sup>7</sup> Based on  $90 \times 10^6$  revolutions  $L_{10}$  life, for The Timken Company life calculation method.  $C_{90}$  and  $C_{a90}$  are radial and thrust values for a single-row,  $C_{90(2)}$  is the two-row radial value.

<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 a3l.



**IMPERIAL UNITS**

Number of Rollers Per Row      50

**TIMKEN**®

**THE TIMKEN COMPANY**  
NORTH CANTON, OHIO USA

**LL639249**  
Tapered Roller Bearings - Single Cones - Imperial

|                              |            |
|------------------------------|------------|
| K Factor                     | 1.4        |
| Dynamic Radial Rating - C90  | 44700 lbf  |
| Dynamic Thrust Rating - Ca90 | 32000 lbf  |
| Dynamic Radial Rating - C1   | 172000 lbf |

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.

**FOR DISCUSSION ONLY**