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# Part Number LM720648, 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

|  |                       |
|--|-----------------------|
| Cone Part Number   | LM720648              |
| Design Units   | Imperial              |
| Cage Type  | Stamped Steel         |
| C1 - Dynamic Radial Rating<br>(Two-Row, 1 million revolutions) <sup>1</sup>      | 51500 lbf<br>229000 N |
| C90(2) - Dynamic Radial Rating<br>(Two-Row, 90 million revolutions) <sup>2</sup> | 13400 lbf<br>59400 N  |

## Dimensions

|           |
|-----------|
| 4.0000 in |
|-----------|

|                       |                         |
|-----------------------|-------------------------|
| <b>d - Bore</b>       | 4.0000 in<br>101.600 mm |
| <b>B - Cone Width</b> | 1.0000 in<br>25.400 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>            | 4.29 in<br>109 mm   |
| <b>db - Cone Backface Backing Diameter</b>             | 4.33 in<br>110 mm   |
| <b>Ab - Cage-Cone Frontface Clearance</b>              | 0.08 in<br>2 mm     |
| <b>Aa - Cage-Cone Backface Clearance</b>               | 0.07 in<br>1.8 mm   |
| <b>a - Effective Center Location<sup>4</sup></b>       | 0.19 in<br>4.8 mm   |

## Basic Load Ratings

|   |                       |
|---|-----------------------|
| <b>C90 - Dynamic Radial Rating (90 million revolutions)<sup>5</sup></b>             | 7670 lbf<br>34100 N   |
| <b>C1 - Dynamic Radial Rating (1 million revolutions)<sup>6</sup></b>               | 29600 lbf<br>132000 N |
| <b>C0 - Static Radial Rating</b>  | 45400 lbf<br>202000 N |
| <b>C<sub>a90</sub> - Dynamic Thrust Rating (90 million revolutions)<sup>7</sup></b> | 6020 lbf<br>26800 N   |

## Factors

|   |       |
|---|-------|
| <b>K - Factor<sup>8</sup></b>                           | 1.27  |
| <b>G1 - Heat Generation Factor<br/>(Roller-Raceway)</b> | 127.6 |
| <b>G2 - Heat Generation Factor<br/>(Rib-Roller End)</b> | 62.7  |
| <b>Cg - Geometry Factor<sup>9</sup></b>                 | 0.134 |

<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.

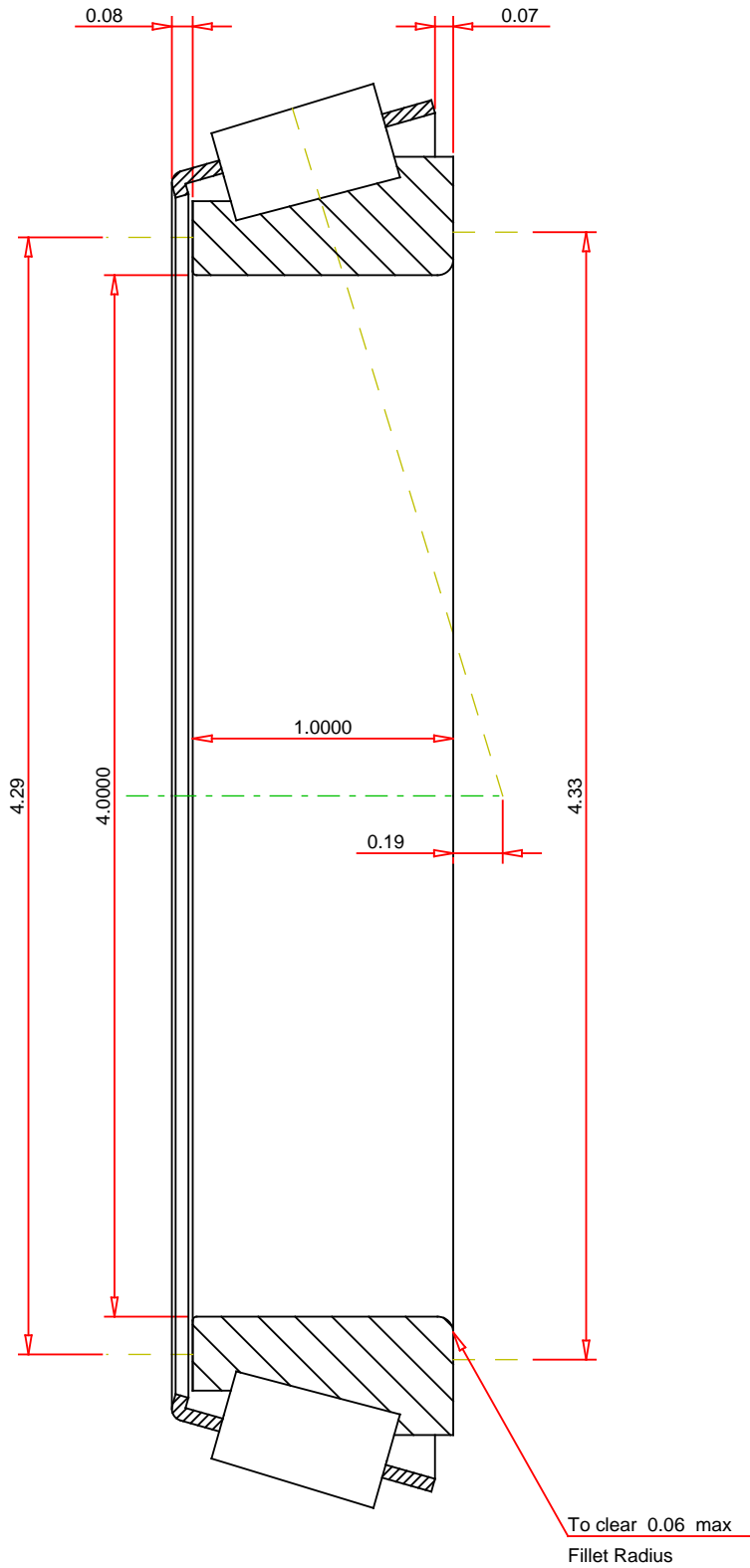
<sup>5</sup> Based on  $90 \times 10^6$  revolutions  $L_{10}$  life, for The Timken Company life calculation method.  $C_{90}$  and  $C_{a90}$  are radial and thrust values.

<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 Row30</div> | <div><div>TIMIKEN®</div><div>THE TIMKEN COMPANY</div><div>NORTH CANTON, OHIO USA</div></div> | <div><div>LM720648</div><div>SINGLE TAPERED CONE</div></div> <div><div><div>K Factor</div><div>Dynamic Radial Rating - C90</div><div>Dynamic Thrust Rating - Ca90</div><div>Dynamic Radial Rating - C1</div></div><div><div>1.27</div><div>7670</div><div>6020</div><div>29600</div></div><div><div>lbf</div><div>lbf</div><div>lbf</div><div></div></div></div> |
|--|--|--|