



**The Timken Company**

4500 Mt Pleasant St. NW

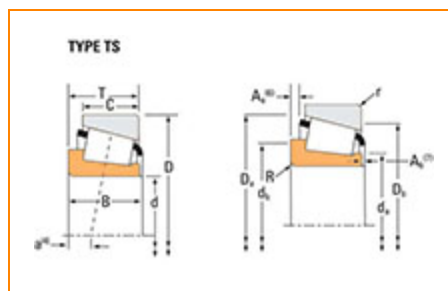
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## Part Number 42687, Tapered Roller Bearings - Single Cones - Imperial

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>	42600
<b>Cone Part Number</b>	42687
<b>Design Units</b>	Imperial
<b>Cage Type</b>	Stamped Steel
<b>C1 - Dynamic Radial Rating (Two-Row, 1 million revolutions)<sup>1</sup></b>	63100 lbf 280000 N
<b>C90(2) - Dynamic Radial Rating (Two-Row, 90 million revolutions)<sup>2</sup></b>	16300 lbf 72700 N

### Dimensions

<b>d - Bore</b>	3 in 76.2 mm
<b>B - Cone Width</b>	1.2205 in 31.001 mm

## Abutment and Fillet Dimensions

<b>R - Cone Backface "To Clear" Radius<sup>3</sup></b>	0.14 in 3.600 mm
<b>da - Cone Frontface Backing Diameter</b>	3.31 in 84 mm
<b>db - Cone Backface Backing Diameter</b>	3.54 in 90 mm
<b>Ab - Cage-Cone Frontface Clearance</b>	0.06 in 1.5 mm
<b>Aa - Cage-Cone Backface Clearance</b>	0.12 in 3 mm
<b>a - Effective Center Location<sup>4</sup></b>	-0.11 in -2.8 mm

## Basic Load Ratings

<b>C90 - Dynamic Radial Rating (90 million revolutions)<sup>5</sup></b>	9390 lbf 41800 N
<b>C1 - Dynamic Radial Rating (1 million revolutions)<sup>6</sup></b>	36200 lbf 161000 N
<b>C0 - Static Radial Rating</b>	49800 lbf 222000 N
<b>C<sub>a90</sub> - Dynamic Thrust Rating (90 million revolutions)<sup>7</sup></b>	6730 lbf 29900 N

## Factors

<b>K - Factor<sup>8</sup></b>	1.39
<b>G1 - Heat Generation Factor (Roller-Raceway)</b>	96.2
<b>G2 - Heat Generation Factor (Rib-Roller End)</b>	28.6
<b>Cg - Geometry Factor<sup>9</sup></b>	0.120

<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.

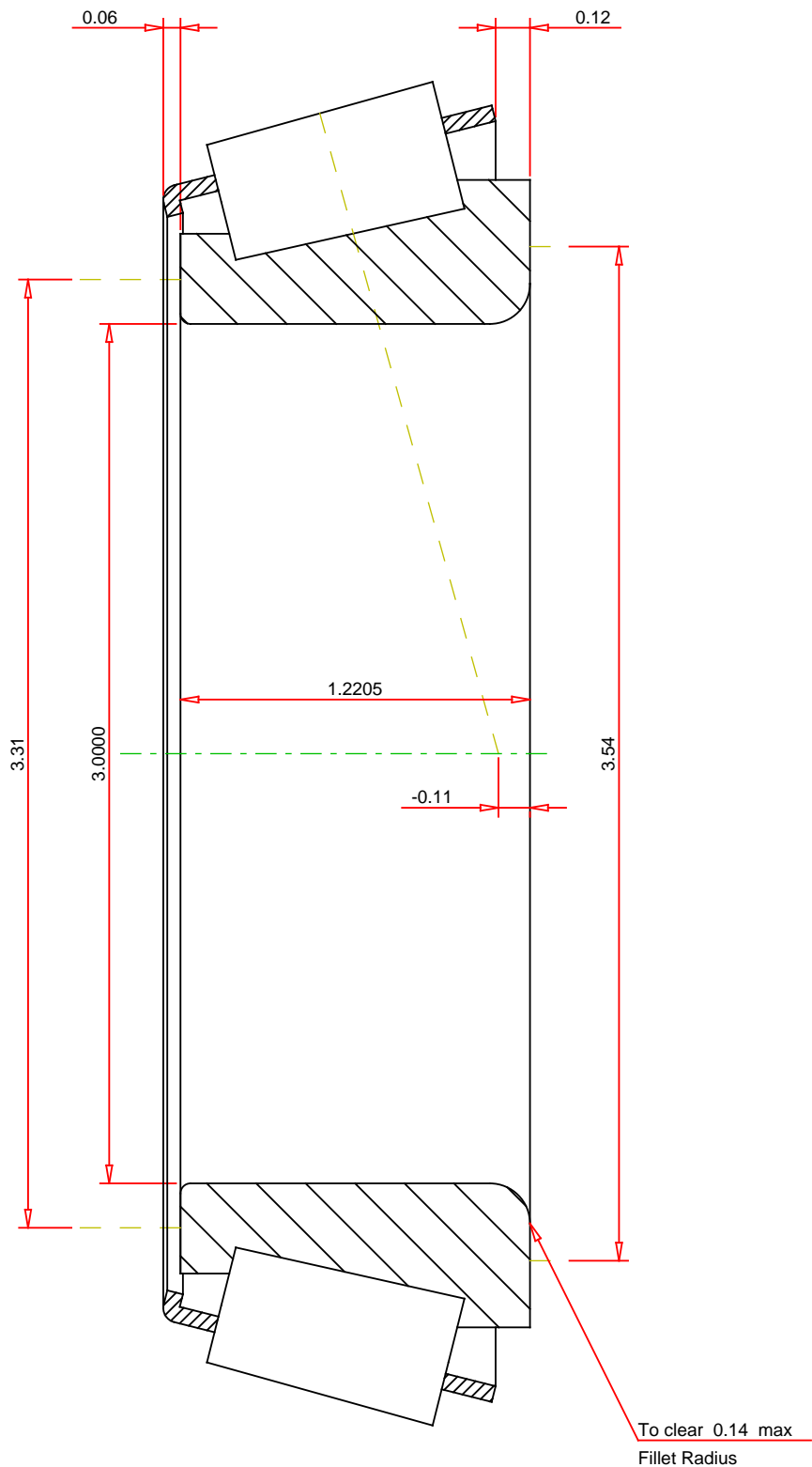
<sup>5</sup> Based on  $90 \times 10^6$  revolutions  $L_{10}$  life, for The Timken Company life calculation method.  $C_{90}$  and  $C_{a90}$  are radial and thrust values.

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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  $a_3$ .



IMPERIAL UNITS

Number of Rollers Per Row 23

TIMKEN®

THE TIMKEN COMPANY  
NORTH CANTON, OHIO USA

42687  
SINGLE TAPERED CONE

K Factor	1.39	
Dynamic Radial Rating - C90	9390	lbf
Dynamic Thrust Rating - Ca90	6730	lbf
Dynamic Radial Rating - C1	36200	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