



**The Timken Company**

4500 Mt Pleasant St. NW

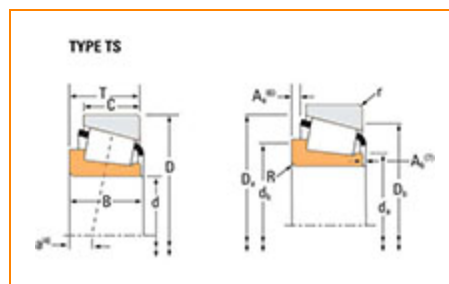
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## Part Number 15100, Tapered Roller Bearings - Single Cones - Imperial

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>	15000
<b>Cone Part Number</b>	15100
<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>	23400 lbf 104000 N
<b>C90(2) - Dynamic Radial Rating (Two-Row, 90 million revolutions)<sup>2</sup></b>	6080 lbf 27000 N



Dimensions

<b>d - Cone Bore</b>	1 in 25.400 mm
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<b>B - Cone Width</b>	0.8125 in 20.638 mm
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## Abutment and Fillet Dimensions

<b>R - Cone Backface "To Clear" Radius<sup>3</sup></b>	0.140 in 3.6 mm
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<b>da - Cone Frontface Backing Diameter</b>	1.24 in 31.5 mm
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<b>db - Cone Backface Backing Diameter</b>	1.5 in 38 mm
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<b>Ab - Cage-Cone Frontface Clearance</b>	0.07 in 1.8 mm
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<b>Aa - Cage-Cone Backface Clearance</b>	0.03 in 0.8 mm
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<b>a - Effective Center Location<sup>4</sup></b>	-0.23 in -5.8 mm
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## Basic Load Ratings

<b>C90 - Dynamic Radial Rating (90 million revolutions)<sup>5</sup></b>	3490 lbf 15500 N
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<b>C1 - Dynamic Radial Rating (1 million revolutions)<sup>6</sup></b>	13500 lbf 59900 N
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<b>C0 - Static Radial Rating</b>	12100 lbf 53900 N
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<b>C<sub>a90</sub> - Dynamic Thrust Rating (90 million revolutions)<sup>7</sup></b>	2090 lbf 9310 N
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## Factors

<b>K - Factor<sup>8</sup></b>	1.67
<b>G1 - Heat Generation Factor (Roller-Raceway)</b>	14.6
<b>G2 - Heat Generation Factor (Rib-Roller End)</b>	10
<b>Cg - Geometry Factor<sup>9</sup></b>	0.0606

<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.

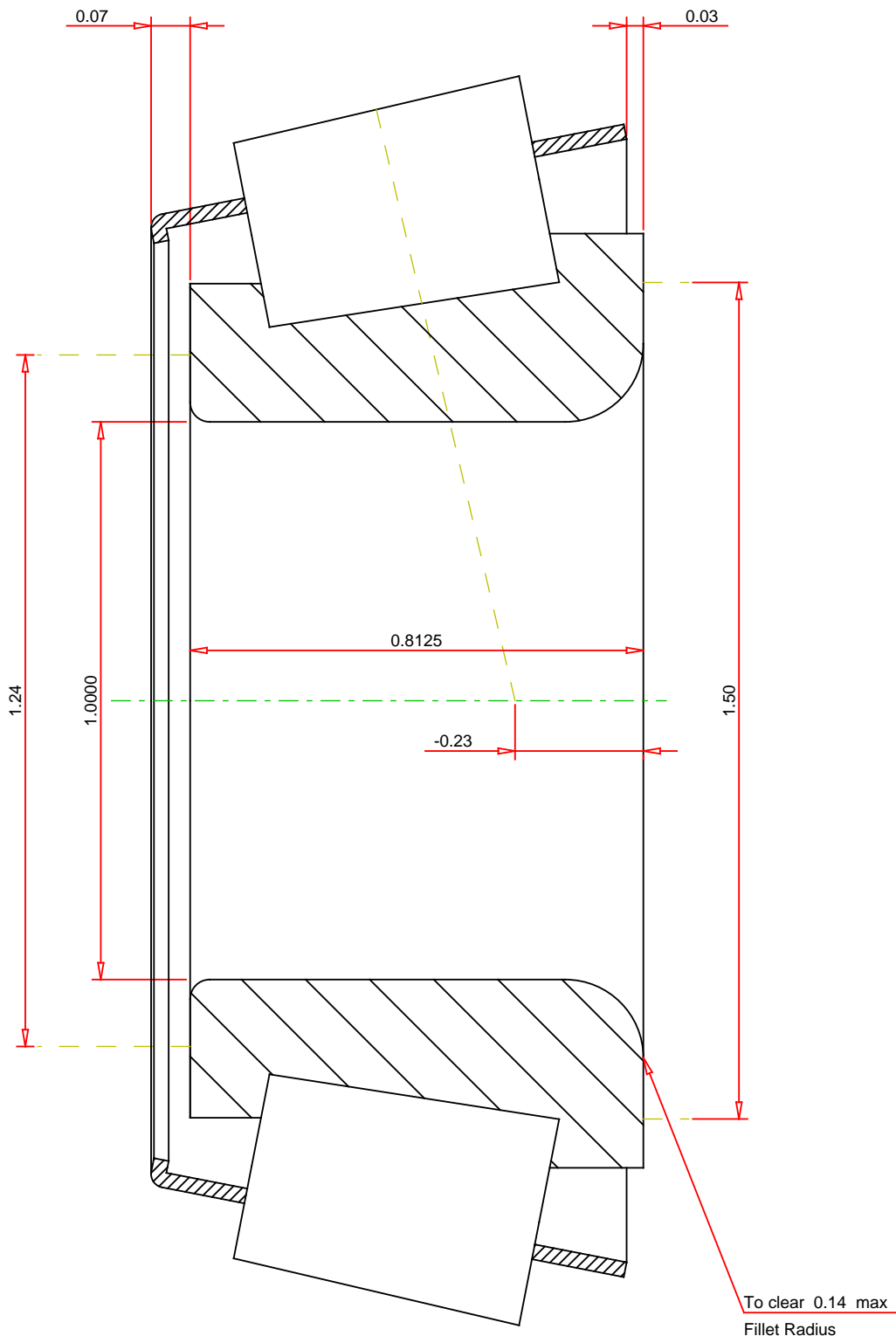
<sup>5</sup> Based on  $90 \times 10^6$  revolutions  $L_{10}$  life, for The Timken Company life calculation method.  $C_{90}$  and  $C_{a90}$  are radial and thrust values.

<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

Number of Rollers Per Row

15

# TIMKEN®

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

**15100**

Tapered Roller Bearings - Single Cones - Imperial

K Factor	1.67	
Dynamic Radial Rating - C90	3490	lbf
Dynamic Thrust Rating - Ca90	2090	lbf
Dynamic Radial Rating - C1	13500	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**