


**The Timken Company**

4500 Mt Pleasant St. NW

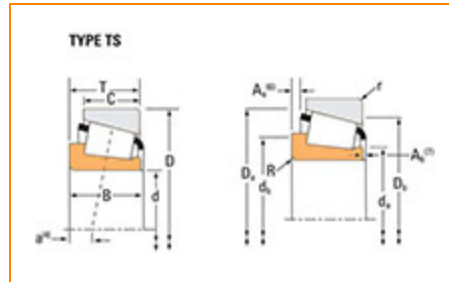
N. Canton, OH 44720

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

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

## Part Number 29590, 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>	29500
<b>Cone Part Number</b>	29590
<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>	51100 lbf 227000 N
<b>C90(2) - Dynamic Radial Rating (Two-Row, 90 million revolutions)<sup>2</sup></b>	13200 lbf 58900 N



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<b>d - Cone Bore</b>	2 5/8 in 66.675 mm
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<b>B - Cone Width</b>	1.0000 in 25.400 mm
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## Abutment and Fillet Dimensions

<b>R - Cone Backface "To Clear" Radius<sup>3</sup></b>	0.14 in 3.6 mm
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<b>da - Cone Frontface Backing Diameter</b>	2.87 in 73 mm
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<b>db - Cone Backface Backing Diameter</b>	3.15 in 80 mm
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<b>Ab - Cage-Cone Frontface Clearance</b>	0.08 in 2 mm
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<b>Aa - Cage-Cone Backface Clearance</b>	0.07 in 1.8 mm
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<b>a - Effective Center Location<sup>4</sup></b>	-0.03 in -0.8 mm
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## Basic Load Ratings

<b>C90 - Dynamic Radial Rating (90 million revolutions)<sup>5</sup></b>	7610 lbf 33800 N
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<b>C1 - Dynamic Radial Rating (1 million revolutions)<sup>6</sup></b>	29400 lbf 131000 N
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<b>C0 - Static Radial Rating</b>	36300 lbf 161000 N
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<b>C<sub>a90</sub> - Dynamic Thrust Rating (90 million revolutions)<sup>7</sup></b>	5970 lbf 26600 N
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## Factors

<b>K - Factor<sup>8</sup></b>	1.27
<b>G1 - Heat Generation Factor (Roller-Raceway)</b>	70.3
<b>G2 - Heat Generation Factor (Rib-Roller End)</b>	25.8
<b>Cg - Geometry Factor<sup>9</sup></b>	0.111

<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.

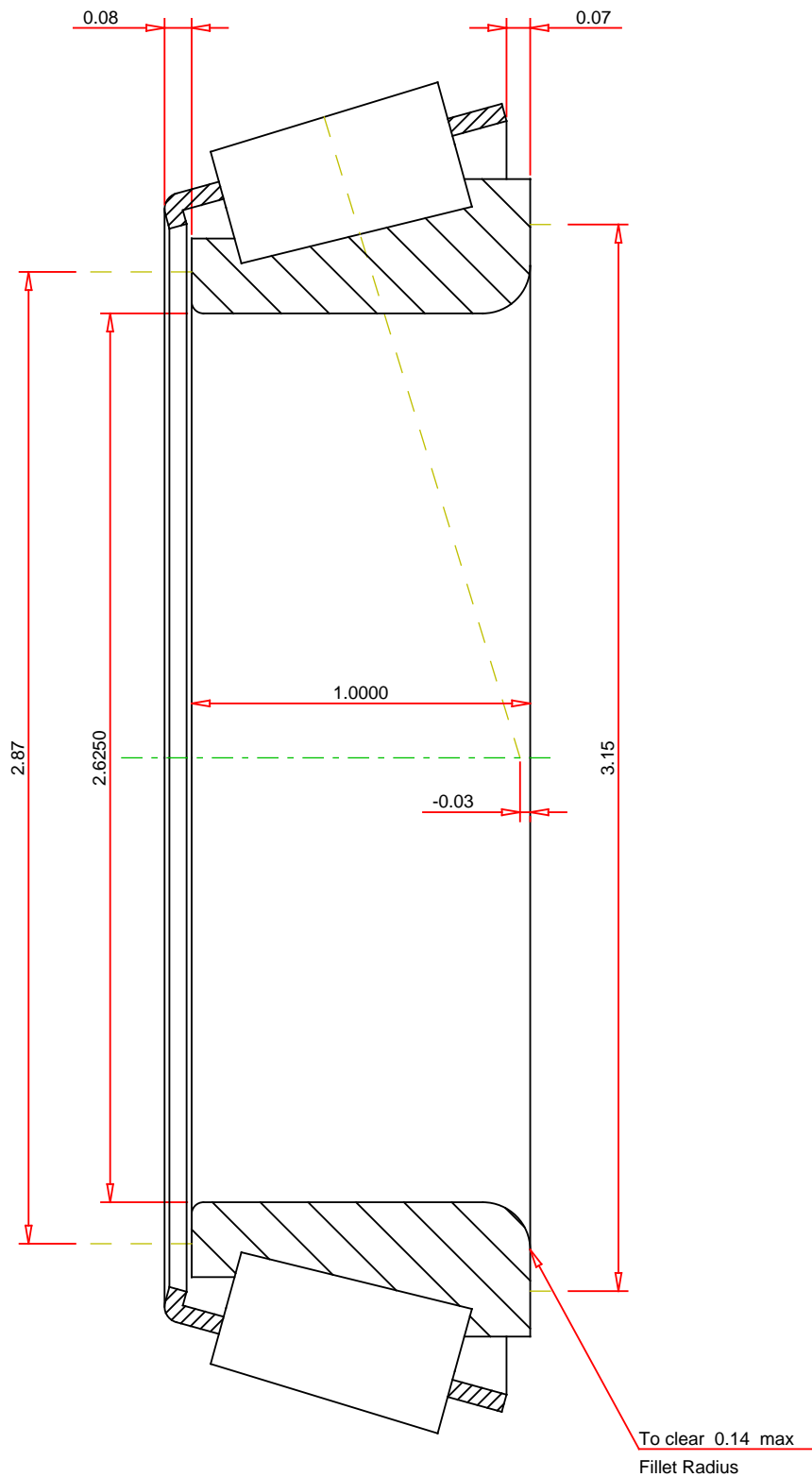
<sup>5</sup> Based on  $90 \times 10^6$  revolutions  $L_{10}$  life, for The Timken Company life calculation method.  $C_{90}$  and  $C_{a90}$  are radial and thrust values.

<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

26

**TIMKEN®**

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

**29590**

Tapered Roller Bearings - Single Cones - Imperial

K Factor	1.27	
Dynamic Radial Rating - C90	7610	lbf
Dynamic Thrust Rating - Ca90	5970	lbf
Dynamic Radial Rating - C1	29400	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**