



**The Timken Company**

4500 Mt Pleasant St. NW

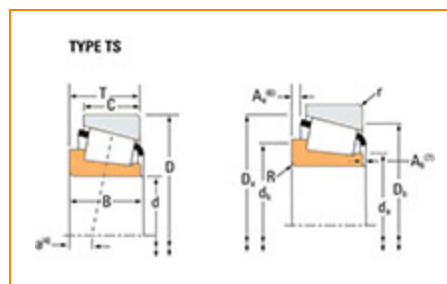
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## Part Number 28980, Tapered Roller Bearings - Single Cones - Imperial

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>	28900
<b>Cone Part Number</b>	28980
<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>	41500 lbf 185000 N
<b>C90(2) - Dynamic Radial Rating (Two-Row, 90 million revolutions)<sup>2</sup></b>	10800 lbf 47900 N



Dimensions

<b>d - Cone Bore</b>	2.3613 in 59.977 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>	0.140 in 3.6 mm
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<b>da - Cone Frontface Backing Diameter</b>	2.64 in 67 mm
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<b>db - Cone Backface Backing Diameter</b>	2.87 in 73 mm
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<b>Ab - Cage-Cone Frontface Clearance</b>	0.09 in 2.3 mm
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<b>Aa - Cage-Cone Backface Clearance</b>	0.05 in 1.3 mm
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<b>a - Effective Center Location<sup>4</sup></b>	-0.1 in -2.5 mm
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## Basic Load Ratings

<b>C90 - Dynamic Radial Rating (90 million revolutions)<sup>5</sup></b>	6180 lbf 27500 N
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<b>C1 - Dynamic Radial Rating (1 million revolutions)<sup>6</sup></b>	23800 lbf 106000 N
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<b>C0 - Static Radial Rating</b>	33500 lbf 149000 N
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<b>C<sub>a90</sub> - Dynamic Thrust Rating (90 million revolutions)<sup>7</sup></b>	4500 lbf 20000 N
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## Factors

<b>K - Factor<sup>8</sup></b>	1.37
<b>G1 - Heat Generation Factor (Roller-Raceway)</b>	60.1
<b>G2 - Heat Generation Factor (Rib-Roller End)</b>	24.5
<b>Cg - Geometry Factor<sup>9</sup></b>	0.103

<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.

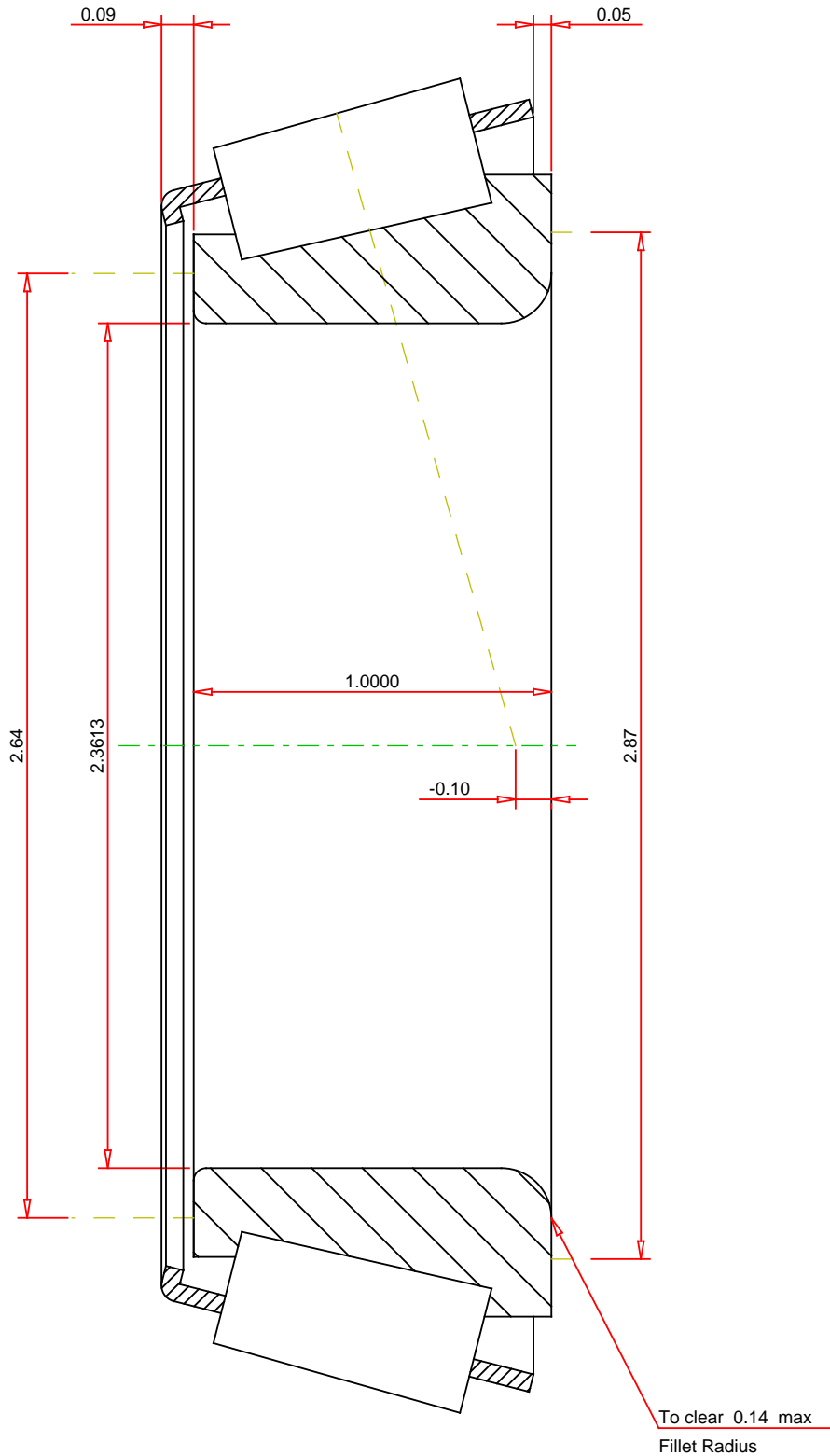
<sup>5</sup> Based on  $90 \times 10^6$  revolutions  $L_{10}$  life, for The Timken Company life calculation method.  $C_{90}$  and  $C_{a90}$  are radial and thrust values.

<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 Row24	<div>TIMKEN®</div>	28980 Tapered Roller Bearings - Single Cones - Imperial
	<div>THE TIMKEN COMPANY</div> <div>NORTH CANTON, OHIO USA</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>1.37</div><div>6180</div><div>4500</div><div>23800</div></div> <div><div>lbf</div><div>lbf</div><div>lbf</div></div>
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