



**The Timken Company**

4500 Mt Pleasant St. NW

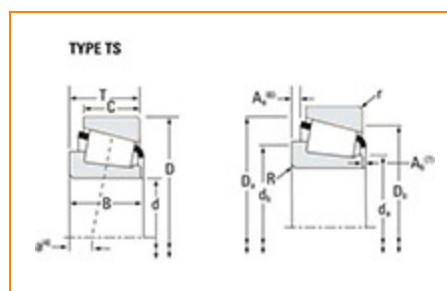
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## Timken Part Number 78250 - 78551, Tapered Roller Bearings - TS (Tapered Single) Imperial

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

Series	78000
Cone Part Number	78250
Cup Part Number	78551
Design Units	Imperial
Bearing Weight	2.4 Kg 5.3 lb
Cage Type	Stamped Steel

### Dimensions

d - Bore	63.500 mm 2.5000 in
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<b>D - Cup Outer Diameter</b>	140.030 mm 5.5130 in
<b>B - Cone Width</b>	33.236 mm 1.3085 in
<b>C - Cup Width</b>	23.520 mm 0.9260 in
<b>T - Bearing Width</b>	36.513 mm 1.4375 in

## Abutment and Fillet Dimensions

<b>R - Cone Backface "To Clear" Radius<sup>1</sup></b>	2.290 mm 0.09 in
<b>r - Cup Backface "To Clear" Radius<sup>2</sup></b>	2.29 mm 0.090 in
<b>da - Cone Frontface Backing Diameter</b>	78.74 mm 3.75 in
<b>db - Cone Backface Backing Diameter</b>	85.09 mm 3.35 in
<b>Da - Cup Frontface Backing Diameter</b>	132.59 mm 5.22 in
<b>Db - Cup Backface Backing Diameter</b>	117.09 mm 4.61 in
<b>Ab - Cage-Cone Frontface Clearance</b>	5.1 mm 0.2 in
<b>Aa - Cage-Cone Backface Clearance</b>	6.1 mm 0.24 in
<b>a - Effective Center Location<sup>3</sup></b>	7.9 mm 0.31 in

## Basic Load Ratings

<b>C90 - Dynamic Radial Rating (90 million revolutions)<sup>4</sup></b>	11800 lbf 52600 N
<b>C1 - Dynamic Radial Rating (1 million revolutions)<sup>5</sup></b>	45600 lbf 203000 N
<b>C0 - Static Radial Rating</b>	43400 lbf 193000 N
<b>C<sub>a90</sub> - Dynamic Thrust Rating (90 million revolutions)<sup>6</sup></b>	17500 lbf 77900 N

## Factors

<b>K - Factor<sup>7</sup></b>	0.67
<b>e - ISO Factor<sup>8</sup></b>	0.87
<b>Y - ISO Factor<sup>9</sup></b>	0.69
<b>G1 - Heat Generation Factor (Roller-Raceway)</b>	62.6
<b>G2 - Heat Generation Factor (Rib-Roller End)</b>	19.1
<b>Cg - Geometry Factor<sup>10</sup></b>	0.0884

<sup>1</sup> These maximum fillet radii will be cleared by the bearing corners.

<sup>2</sup> These maximum fillet radii will be cleared by the bearing corners.

<sup>3</sup> Negative value indicates effective center inside cone backface.

<sup>4</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>5</sup> Based on  $1 \times 10^6$  revolutions  $L_{10}$  life, for the ISO life calculation method.

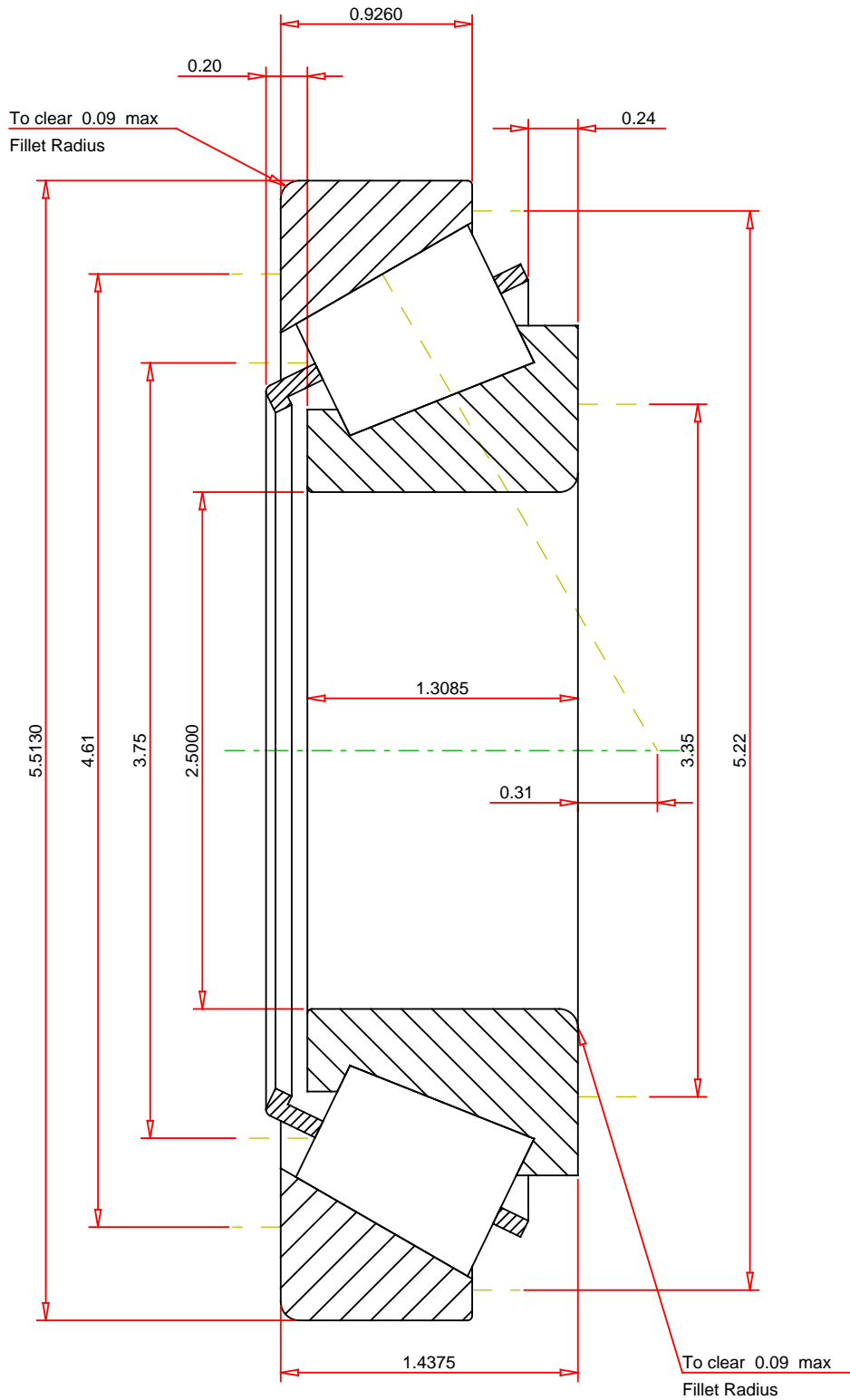
<sup>6</sup> Based on  $90 \times 10^6$  revolutions  $L_{10}$  life, for The Timken Company life calculation method.  $C_{90}$  and  $C_{a90}$  are radial and thrust values for a single-row,  $C_{90(2)}$  is the two-row radial value.

<sup>7</sup> These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

<sup>8</sup> These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

<sup>9</sup> These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

<sup>10</sup> Geometry constant for Lubrication Life Adjustment Factor  $a_3$ .



IMPERIAL UNITS

<div>ISO Factor - e0.87</div> <div>ISO Factor - Y0.69</div> <div>Bearing Weight5.3 lb</div> <div>Number of Rollers Per Row16</div> <div>Effective Center Location0.31 inch</div>		<div>TIMIKEN®</div> <div>THE TIMKEN COMPANY</div> <div>NORTH CANTON, OHIO USA</div>		<div>78250 - 78551</div> <div>TS BEARING ASSEMBLY</div>	
				<div>K Factor0.67</div> <div>Dynamic Radial Rating - C9011800 lbf</div> <div>Dynamic Thrust Rating - Ca9017500 lbf</div> <div>Static Radial Rating - C043400 lbf</div> <div>Dynamic Radial Rating - C145600 lbf</div>	