



**The Timken Company**

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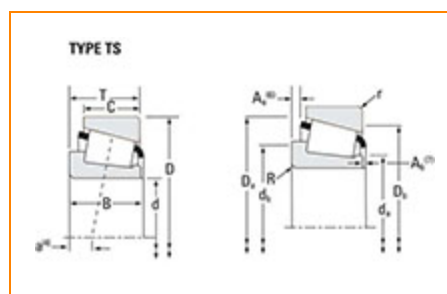
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## Timken Part Number 15123 - 15250X, Tapered Roller Bearings - TS (Tapered Single)

### 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	15000
Cone Part Number	15123
Cup Part Number	15250X
Design Units	Imperial
Bearing Weight	0.30 Kg 0.600 lb
Cage Type	Stamped Steel

#### Dimensions

<b>d - Bore</b>	31.750 mm 1.2500 in
<b>D - Cup Outer Diameter</b>	63.500 mm 2.5000 in
<b>B - Cone Width</b>	19.050 mm 0.7500 in
<b>C - Cup Width</b>	15.875 mm 0.6250 in
<b>T - Bearing Width</b>	19.749 mm 0.7775 in

## Abutment and Fillet Dimensions

<b>R - Cone Backface "To Clear" Radius<sup>1</sup></b>	3.560 mm 0.14 in
<b>r - Cup Backface "To Clear" Radius<sup>2</sup></b>	1.52 mm 0.06 in
<b>da - Cone Frontface Backing Diameter</b>	38.10 mm 1.5 in
<b>db - Cone Backface Backing Diameter</b>	43.94 mm 1.73 in
<b>Da - Cup Frontface Backing Diameter</b>	59.44 mm 2.34 in
<b>Db - Cup Backface Backing Diameter</b>	55.12 mm 2.17 in
<b>Ab - Cage-Cone Frontface Clearance</b>	2.5 mm 0.1 in
<b>Aa - Cage-Cone Backface Clearance</b>	-0.3 mm -0.01 in
<b>a - Effective Center Location<sup>3</sup></b>	-4.8 mm -0.19 in

## Basic Load Ratings

<b>C90 - Dynamic Radial Rating (90 million revolutions)<sup>4</sup></b>	3490 lbf 15500 N
<b>C1 - Dynamic Radial Rating (1 million revolutions)<sup>5</sup></b>	13500 lbf 59900 N
<b>C0 - Static Radial Rating</b>	12100 lbf 53900 N
<b>C<sub>a90</sub> - Dynamic Thrust Rating (90 million revolutions)<sup>6</sup></b>	2090 lbf 9310 N

## Factors

<b>K - Factor<sup>7</sup></b>	1.67
<b>e - ISO Factor<sup>8</sup></b>	0.35
<b>Y - ISO Factor<sup>9</sup></b>	1.71
<b>G1 - Heat Generation Factor (Roller-Raceway)</b>	14.6
<b>G2 - Heat Generation Factor (Rib-Roller End)</b>	10
<b>C<sub>g</sub> - Geometry Factor<sup>10</sup></b>	0.0606

<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.

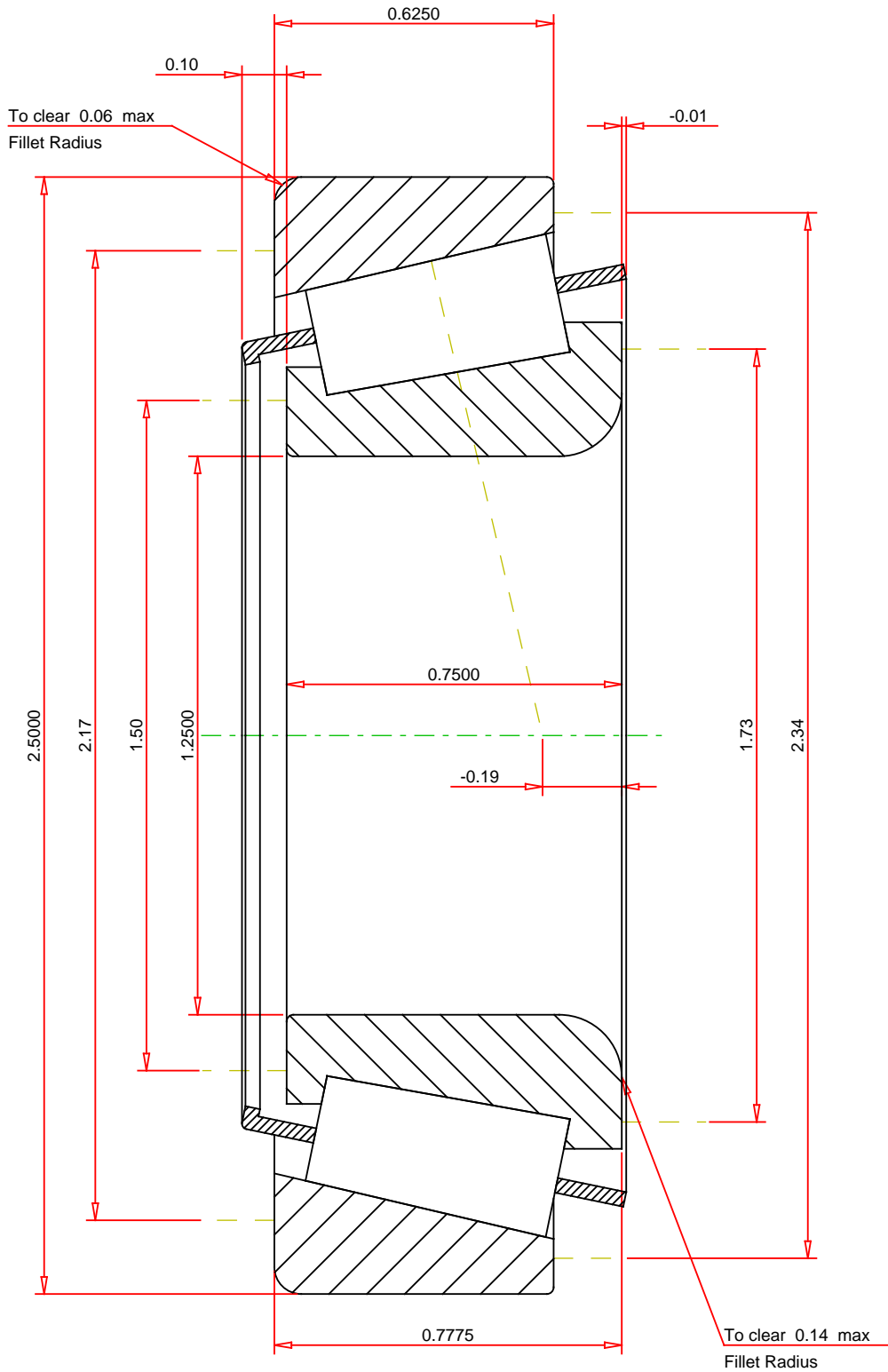
<sup>7</sup> These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

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

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<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

ISO Factor - e 0.35  
 ISO Factor - Y 1.71  
 Bearing Weight 0.6 lb  
 Number of Rollers Per Row 15  
 Effective Center Location -0.19 inch

**TIMKEN®**

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

**15123 - 15250X**  
**TS BEARING ASSEMBLY**

K Factor 1.67  
 Dynamic Radial Rating - C90 3490 lbf  
 Dynamic Thrust Rating - Ca90 2090 lbf  
 Static Radial Rating - C0 12100 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**