



**The Timken Company**

4500 Mt Pleasant St. NW

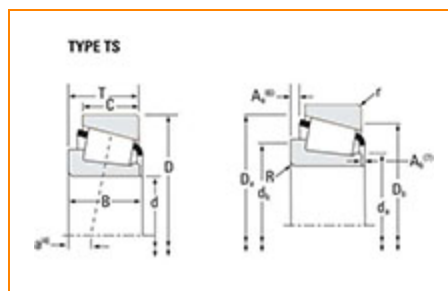
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## Part Number M236849 - M236810, Tapered Roller Bearings - TS (Tapered Single) Imperial

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           | M236800           |
| Cone Part Number | M236849           |
| Cup Part Number  | M236810           |
| Design Units     | Imperial          |
| Bearing Weight   | 9.1 Kg<br>20.1 lb |
| Cage Type        | Stamped Steel     |

### Dimensions

|          |                         |
|----------|-------------------------|
| d - Bore | 177.800 mm<br>7.0000 in |
|----------|-------------------------|

|                               |                          |
|-------------------------------|--------------------------|
| <b>D - Cup Outer Diameter</b> | 260.350 mm<br>10.2500 in |
| <b>B - Cone Width</b>         | 53.975 mm<br>2.125 in    |
| <b>C - Cup Width</b>          | 41.275 mm<br>1.6250 in   |
| <b>T - Bearing Width</b>      | 53.975 mm<br>2.1250 in   |

## Abutment and Fillet Dimensions

|  |                      |
|--|----------------------|
| <b>R - Cone Backface "To Clear" Radius<sup>1</sup></b> | 3.560 mm<br>0.14 in  |
| <b>r - Cup Backface "To Clear" Radius<sup>2</sup></b>  | 3.3 mm<br>0.130 in   |
| <b>da - Cone Frontface Backing Diameter</b>            | 191.01 mm<br>8.58 in |
| <b>db - Cone Backface Backing Diameter</b>             | 195.07 mm<br>7.68 in |
| <b>Da - Cup Frontface Backing Diameter</b>             | 249.40 mm<br>9.82 in |
| <b>Db - Cup Backface Backing Diameter</b>              | 241.05 mm<br>9.49 in |
| <b>Ab - Cage-Cone Frontface Clearance</b>              | 4.3 mm<br>0.17 in    |
| <b>Aa - Cage-Cone Backface Clearance</b>               | 3.8 mm<br>0.15 in    |
| <b>a - Effective Center Location<sup>3</sup></b>       | -6.6 mm<br>-0.26 in  |

## Basic Load Ratings

|   |                        |
|---|------------------------|
| <b>C90 - Dynamic Radial Rating (90 million revolutions)<sup>4</sup></b>             | 31300 lbf<br>139000 N  |
| <b>C1 - Dynamic Radial Rating (1 million revolutions)<sup>5</sup></b>               | 121000 lbf<br>537000 N |
| <b>C0 - Static Radial Rating</b>  | 210000 lbf<br>933000 N |
| <b>C<sub>a90</sub> - Dynamic Thrust Rating (90 million revolutions)<sup>6</sup></b> | 17800 lbf<br>79200 N   |

## Factors

|   |       |
|---|-------|
| <b>K - Factor<sup>7</sup></b>                       | 1.76  |
| <b>e - ISO Factor<sup>8</sup></b>                   | 0.33  |
| <b>Y - ISO Factor<sup>9</sup></b>                   | 1.8   |
| <b>G1 - Heat Generation Factor (Roller-Raceway)</b> | 691   |
| <b>G2 - Heat Generation Factor (Rib-Roller End)</b> | 100   |
| <b>Cg - Geometry Factor<sup>10</sup></b>            | 0.115 |

<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.

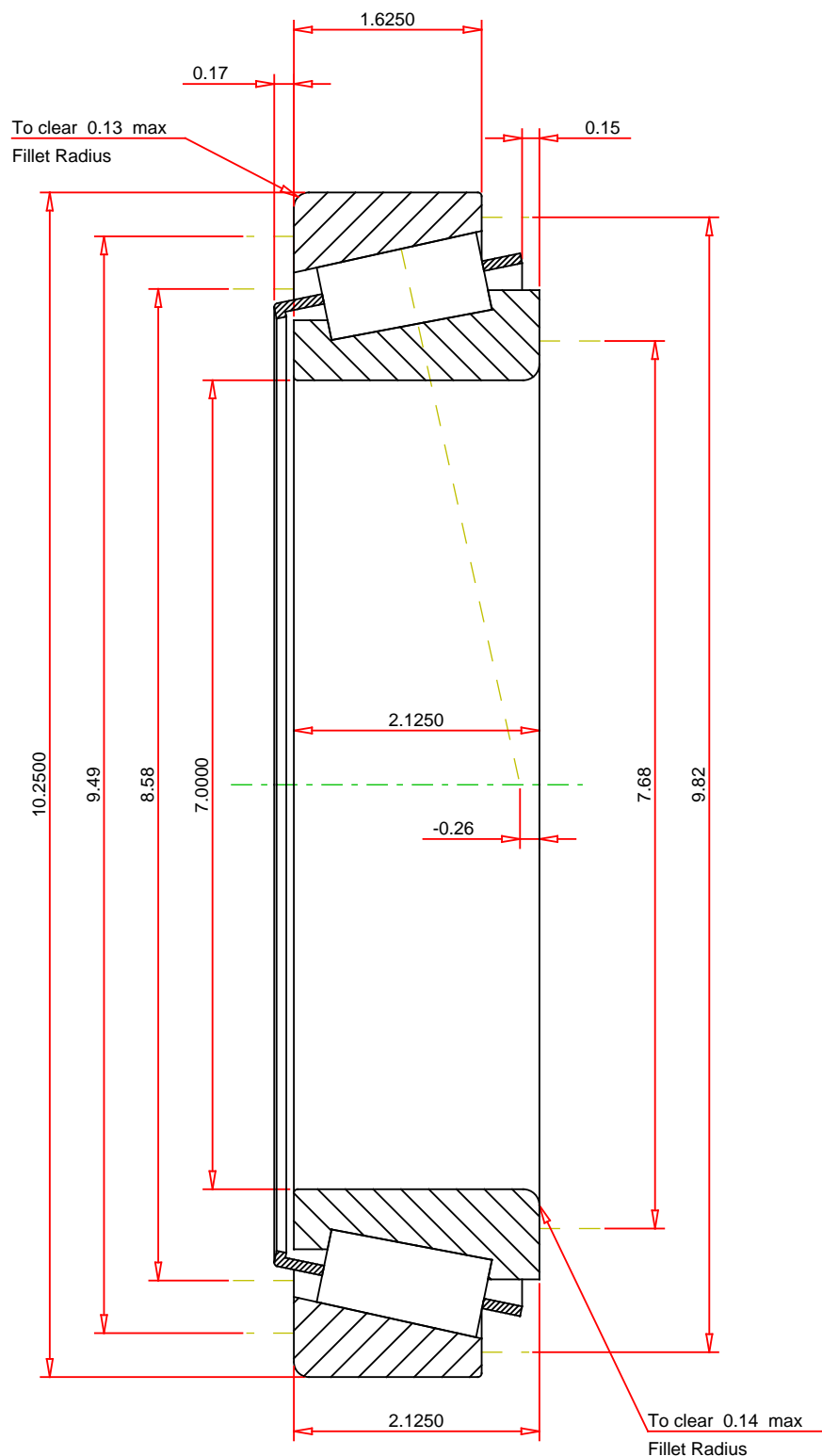
<sup>6</sup> Based on  $90 \times 10^6$  revolutions  $L_{10}$  life, for The Timken Company life calculation method.  $C_{90}$  and  $C_{a90}$  are radial and thrust values for a single-row,  $C_{90(2)}$  is the two-row radial value.

<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

ISO Factor - e 0.33  
ISO Factor - Y 1.8  
Bearing Weight 20.1 lb  
Number of Rollers Per Row 29  
Effective Center Location -0.26 inch



THE TIMKEN COMPANY  
NORTH CANTON, OHIO USA

M236849 - M236810  
TS BEARING ASSEMBLY

K Factor 1.76  
Dynamic Radial Rating - C90 31300 lbf  
Dynamic Thrust Rating - Ca90 17800 lbf  
Static Radial Rating - C0 210000 lbf  
Dynamic Radial Rating - C1 121000 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.

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