


**The Timken Company**

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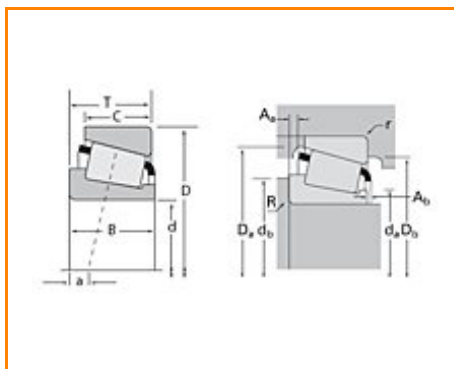
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## Timken Part Number HM88649 - HM88611, Tapered Roller Bearings - TS (Tapered Single) Imperial

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

<b>Series</b>	HM88600
<b>Cone Part Number</b>	HM88649
<b>Cup Part Number</b>	HM88611
<b>Design Units</b>	Imperial
<b>Bearing Weight</b>	0.500 Kg 1.10 lb
<b>Cage Type</b>	Stamped Steel

### Dimensions

<b>d - Bore</b>	34.925 mm 1.3750 in
<b>D - Cup Outer Diameter</b>	71.973 mm 2.8336 in
<b>B - Cone Width</b>	25.400 mm 1.0000 in
<b>C - Cup Width</b>	21.443 mm 0.8442 in
<b>T - Bearing Width</b>	27.000 mm 1.0630 in

## Abutment and Fillet Dimensions

<b>R - Cone Backface "To Clear" Radius<sup>1</sup></b>	2.290 mm 0.090 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>	42.67 mm 1.68 in
<b>db - Cone Backface Backing Diameter</b>	48.51 mm 1.91 in
<b>Da - Cup Frontface Backing Diameter</b>	68.10 mm 2.72 in
<b>Db - Cup Backface Backing Diameter</b>	60.96 mm 2.40 in
<b>Ab - Cage-Cone Frontface Clearance</b>	2.5 mm 0.1 in
<b>Aa - Cage-Cone Backface Clearance</b>	1 mm 0.04 in
<b>a - Effective Center Location<sup>3</sup></b>	-4.6 mm -0.18 in

## Basic Load Ratings

<b>C90 - Dynamic Radial Rating (90 million revolutions)<sup>4</sup></b>	19900 N 4480 lbf
<b>C1 - Dynamic Radial Rating (1 million revolutions)<sup>5</sup></b>	76800 N 17300 lbf
<b>C0 - Static Radial Rating</b>	94200 N 21200 lbf
<b>C<sub>a90</sub> - Dynamic Thrust Rating (90 million revolutions)<sup>6</sup></b>	18600 N 4180 lbf

## Factors

<b>K - Factor<sup>7</sup></b>	1.07
<b>e - ISO Factor<sup>8</sup></b>	0.55
<b>Y - ISO Factor<sup>9</sup></b>	1.1
<b>G1 - Heat Generation Factor (Roller-Raceway)</b>	23.4
<b>G2 - Heat Generation Factor (Rib-Roller End)</b>	10.9
<b>Cg - Geometry Factor</b>	0.0822

<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.

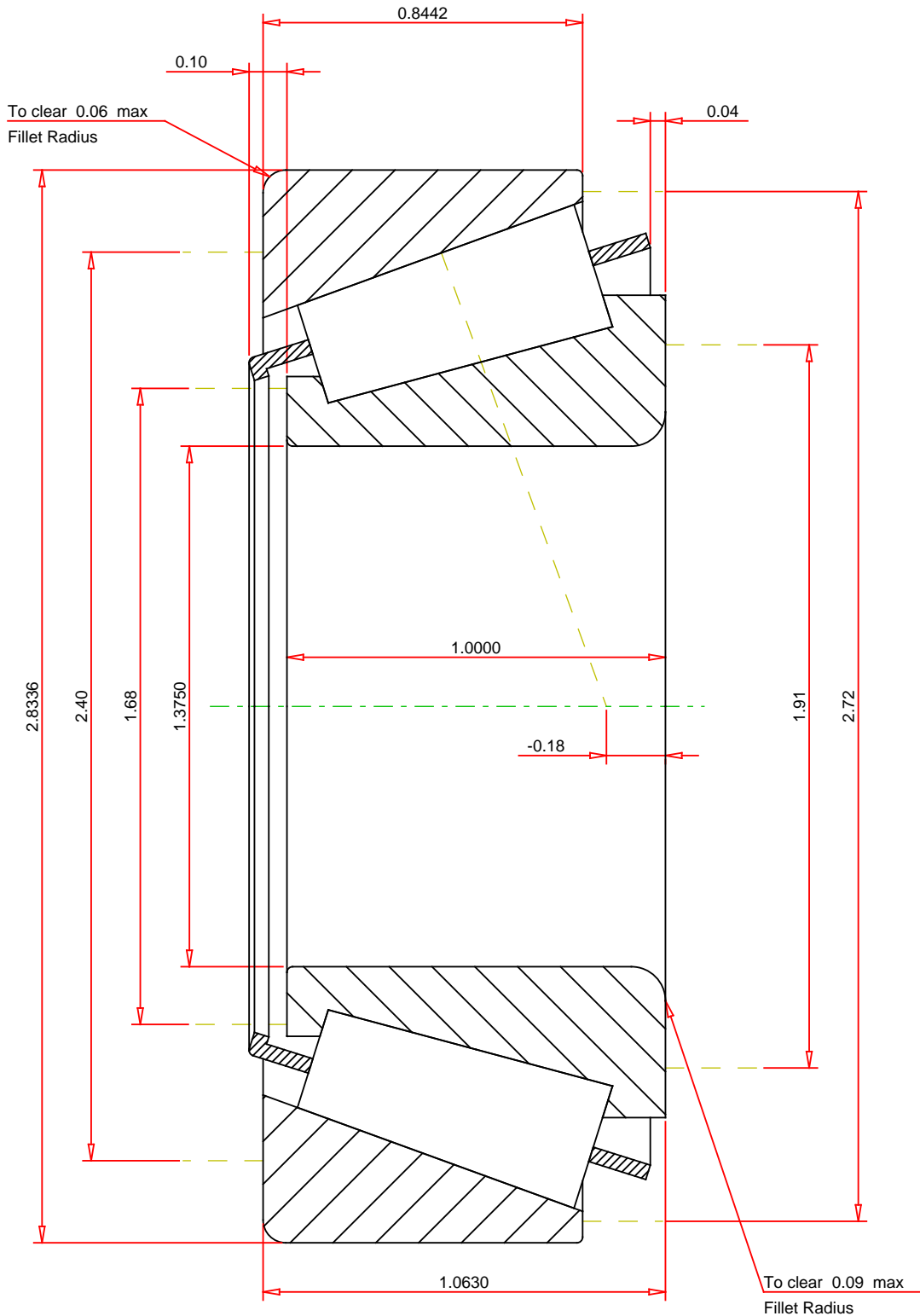
<sup>6</sup> Based on  $90 \times 10^6$  revolutions  $L_{10}$  life, for The Timken Company life calculation method.  $C_{90}$  and  $C_{a90}$  are radial and thrust values for a single-row,  $C_{90(2)}$  is the two-row radial value.

<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.



## IMPERIAL UNITS

ISO Factor - e 0.55  
ISO Factor - Y 1.1  
Bearing Weight 1.1 lb  
Number of Rollers Per Row 17  
Effective Center Location -0.18 inch

**TIMKEN®**

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

**HM88649 - HM88611**  
**TS BEARING ASSEMBLY**

K Factor	1.07
Dynamic Radial Rating - C90	19900 lbf
Dynamic Thrust Rating - Ca90	18600 lbf
Static Radial Rating - C0	94200 lbf
Dynamic Radial Rating - C1	76800 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**