



**The Timken Company**

4500 Mt Pleasant St. NW

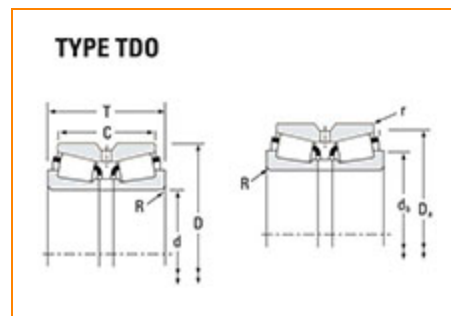
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## Part Number 938 - 932CD, Tapered Roller Bearings - TDO (Tapered Double Outer) Imperial

The configuration of the TDO provides a wide effective bearing spread, making it ideal for applications in which overturning moments are a significant load component. TDO bearings can be used in fixed positions or allowed to float in the housing bore.



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### Specifications

Series	935
Cone Part Number	938
Cup Part Number	932CD
Design Units	Imperial
Bearing Weight	44.34 lb 20.113 Kg
Cage Type	Stamped Steel
Ab - Cage-Cone Frontface Clearance	0.09 in 2.3 mm
Alternate Part Name	938-932CD

## Dimensions

<b>d - Bore</b>	4.5000 in 114.300 mm
<b>D - Cup Outer Diameter</b>	8.3750 in 212.725 mm
<b>B - Cone Width</b>	2.6250 in 66.675 mm
<b>C - Double Cup Width</b>	4.6250 in 117.475 mm
<b>T - Bearing Width across Cones</b>	5.6249 in 142.872 mm

## Abutment and Fillet Dimensions

<b>R - Cone Backface "To Clear" Radius<sup>1</sup></b>	0.280 in 7.100 mm
<b>r - Cup Frontface "To Clear" Radius<sup>2</sup></b>	0.06 in 1.5 mm
<b>db - Cone Backface Backing Diameter</b>	5.55 in 141 mm
<b>Da - Cup Frontface Backing Diameter</b>	7.61 in 193.04 mm
<b>Aa - Cage-Cone Backface Clearance</b>	0.23 in 5.8 mm

## Basic Load Ratings

<b>C90 - Dynamic Radial Rating (One-Row, 90 million revolutions)<sup>3</sup></b>	33300 lbf 148000 N
<b>C1 - Dynamic Radial Rating (Two-Row, 1 million revolutions)<sup>3</sup></b>	224000 lbf 996000 N

revolutions) <sup>4</sup>	770000 N
C <sub>90(2)</sub> - Dynamic Radial Rating (Two-Row, 90 million revolutions) <sup>5</sup>	58000 lbf 258000 N
C <sub>a90</sub> - Dynamic Thrust Rating (90 million revolutions) <sup>6</sup>	18600 lbf 82700 N

## Factors

K - Factor <sup>7</sup>	1.79
e - ISO Factor <sup>8</sup>	0.33
Y1 - ISO Factor <sup>9</sup>	2.07
Y2 - ISO Factor <sup>10</sup>	3.09
C <sub>g</sub> - Geometry Factor <sup>11</sup>	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> 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>4</sup> Based on  $1 \times 10^6$  revolutions  $L_{10}$  life, for the ISO life calculation method.

<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 for a single-row,  $C_{90(2)}$  is the two-row radial value.

<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.

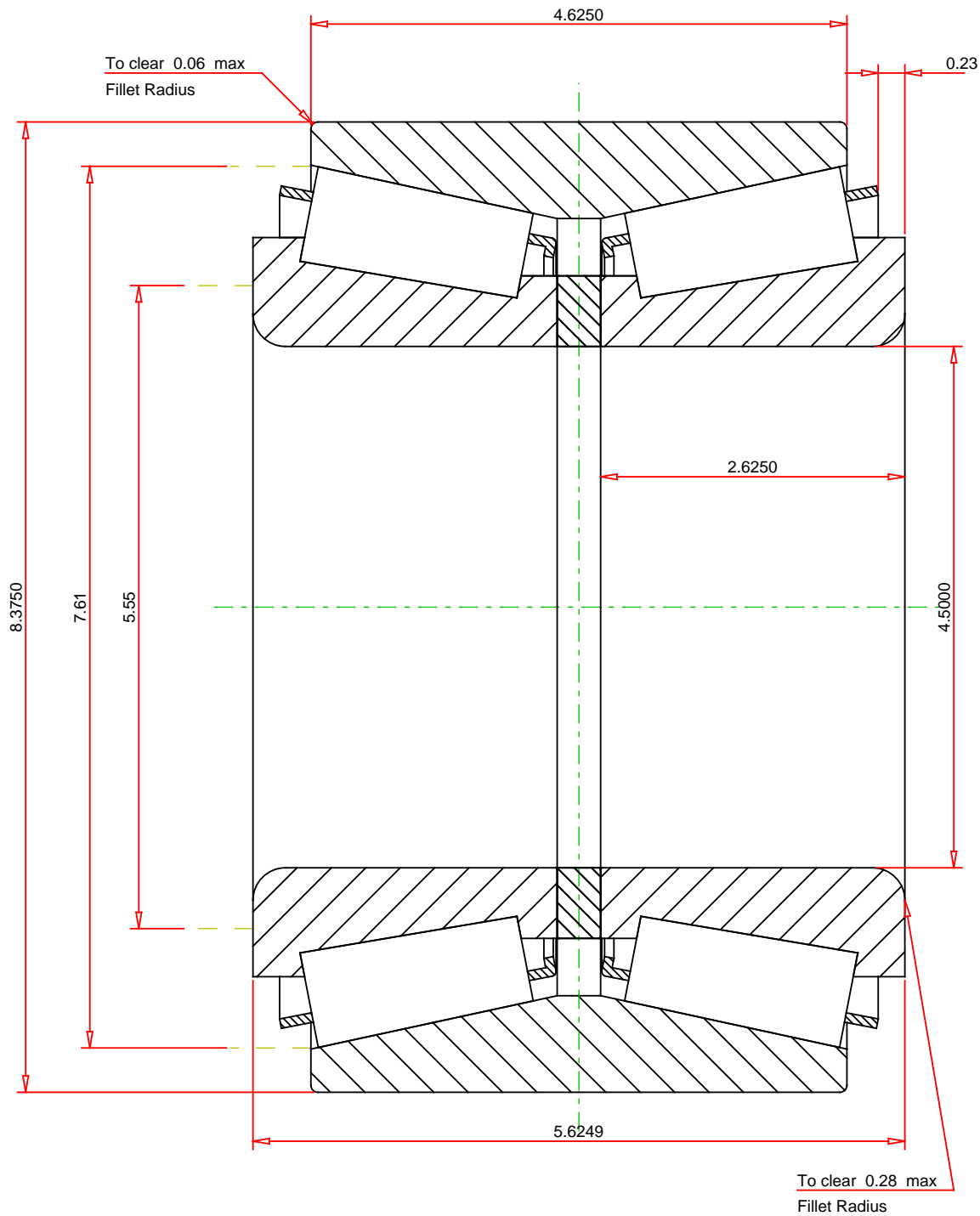
<sup>7</sup> These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

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

<sup>11</sup> Geometry constant for Lubrication Life Adjustment Factor  $a_3$ .



## IMPERIAL UNITS

ISO Factor - e 0.33  
ISO Factor - Y1 2.07  
ISO Factor - Y2 3.09  
Bearing Weight 44.34 lb  
Number of Rollers Per Row 18

**TIMKEN®**

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

**938 - 932CD**  
TDO BEARING ASSEMBLY

K Factor 1.79  
Dynamic Radial Rating - C90 33300 lbf  
Dynamic Thrust Rating - Ca90 18600 lbf  
Dynamic Radial Rating - C90(2) 58000 lbf  
Radial Rating - C1 224000 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**