


**The Timken Company**

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## Timken Part Number 33275 - 33462D, 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

<b>Series</b>	33000
<b>Cone Part Number</b>	33275
<b>Cup Part Number</b>	33462D
<b>Design Units</b>	Imperial
<b>Bearing Weight</b>	6.100 lb 2.766 Kg
<b>Cage Type</b>	Stamped Steel
<b>Ab - Cage-Cone Frontface Clearance</b>	0.07 in 1.8 mm

### Dimensions

<b>d - Bore</b>	2.7500 in 69.850 mm
<b>D - Cup Outer Diameter</b>	4.6250 in 117.475 mm
<b>B - Cone Width</b>	1.1875 in 30.163 mm
<b>C - Double Cup Width</b>	2.125 in 53.975 mm
<b>T - Bearing Width across Cones</b>	2.6249 in 66.672 mm

### Abutment and Fillet Dimensions

<b>R - Cone Backface "To Clear" Radius<sup>1</sup></b>	0.14 in 3.600 mm
<b>r - Cup Frontface "To Clear" Radius<sup>2</sup></b>	0.03 in 0.8 mm
<b>db - Cone Backface Backing Diameter</b>	3.35 in 85.10 mm
<b>Da - Cup Frontface Backing Diameter</b>	4.45 in 112.01 mm
<b>Aa - Cage-Cone Backface Clearance</b>	0.07 in 1.8 mm

### Basic Load Ratings

<b>C90 - Dynamic Radial Rating (One-Row, 90 million revolutions)<sup>3</sup></b>	8060 lbf 35900 N
<b>C1 - Dynamic Radial Rating (Two-Row, 1 million revolutions)<sup>4</sup></b>	54200 lbf 241000 N

<b>C<sub>90(2)</sub> - Dynamic Radial Rating (Two-Row, 90 million revolutions)<sup>5</sup></b>	14000 lbf 62400 N
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<b>C<sub>a90</sub> - Dynamic Thrust Rating (90 million revolutions)<sup>6</sup></b>	6020 lbf 26800 N
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## Factors

<b>K - Factor<sup>7</sup></b>	1.34
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<b>e - ISO Factor<sup>8</sup></b>	0.95
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<b>Y1 - ISO Factor<sup>9</sup></b>	0.71 1.06
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<b>Y2 - ISO Factor<sup>10</sup></b>	1.06
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<b>G1 - Heat Generation Factor (Roller-Raceway)<sup>11</sup></b>	84.2
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<b>G2 - Heat Generation Factor (Rib-Roller End)</b>	25.9
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<b>Cg - Geometry Factor<sup>12</sup></b>	0.116
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<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.

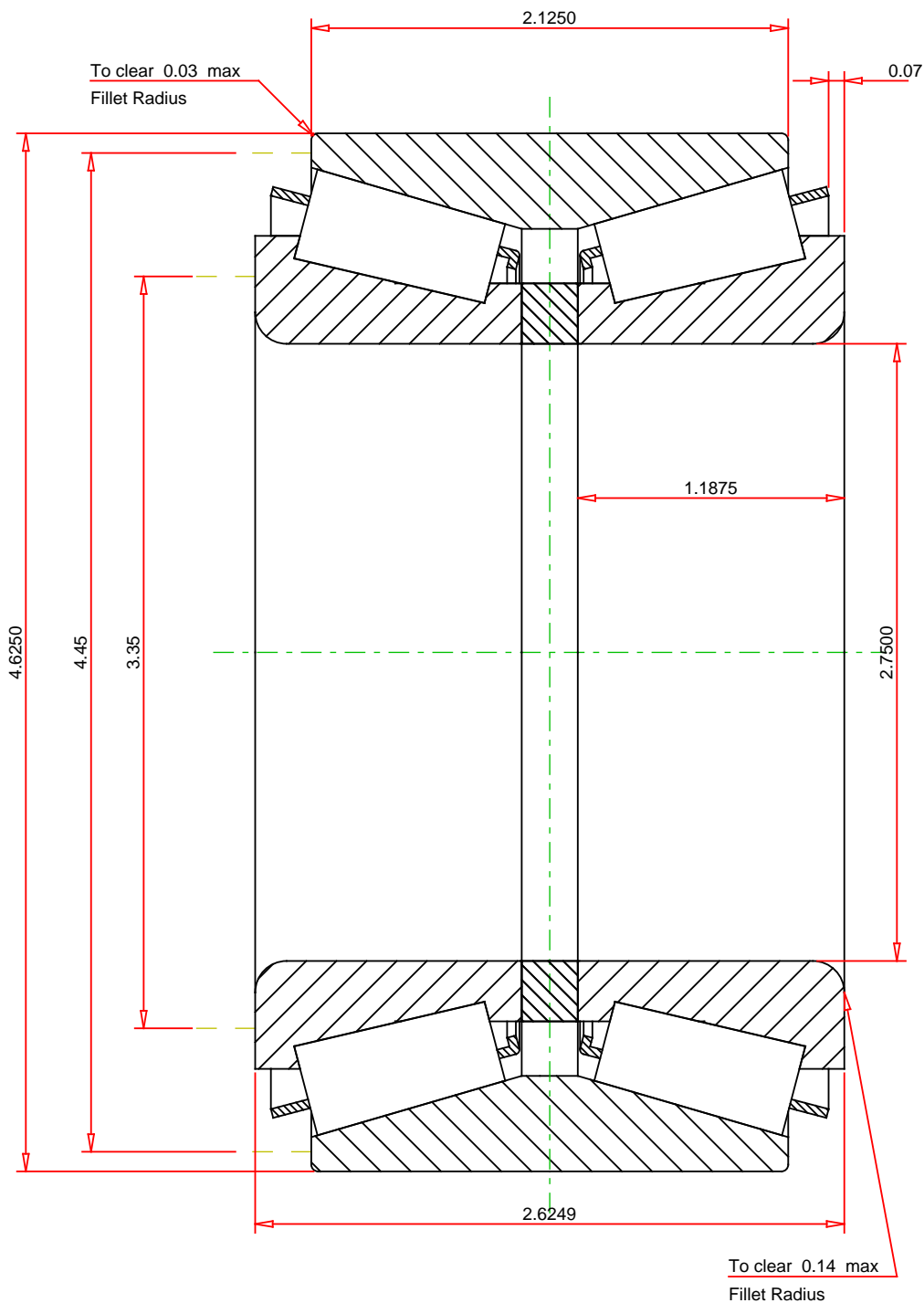
<sup>9</sup> These factors apply for both inch and metric calculations. Consult your Timken representative for instruction

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<sup>10</sup> These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

<sup>11</sup> These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

<sup>12</sup> Geometry constant for Lubrication Life Adjustment Factor  $a_3$ .



## IMPERIAL UNITS

ISO Factor - e  
ISO Factor - Y1  
ISO Factor - Y2  
Bearing Weight  
Number of Rollers Per Row

0.95  
0.71  
1.06  
6.1  
23

lb

**TIMKEN®**

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

**33275 - 33462D**  
TDO BEARING ASSEMBLY

K Factor	1.34	
Dynamic Radial Rating - C90	8060	lbf
Dynamic Thrust Rating - Ca90	6020	lbf
Dynamic Radial Rating - C90(2)	14000	lbf
Radial Rating - C1	54200	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**