The Timken Company
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Timken Part Number M231649 - M231610CD, 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.



Specifications | Dimensions | Abutment and Fillet Dimensions | Basic Load Ratings | Factors

Specifications

Series	M231600
Cone Part Number	M231649
Cup Part Number	M231610CD
Design Units	Imperial
Bearing Weight	25.63 lb 11.628 Kg
Cage Type	Stamped Steel
Ab - Cage-Cone Frontface Clearance	0.09 in 2.3 mm

Dimensions

d - Bore	6.0000 in 152.400 mm
D - Cup Outer Diameter	8.7500 in 222.250 mm
B - Cone Width	1.8437 in 46.83 mm
C - Double Cup Width	3.0000 in 76.200 mm
T - Bearing Width across Cones	3.9373 in 100.007 mm

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius[1]	0.14 in 3.600 mm
r - Cup Frontface "To Clear" Radius[2]	0.03 in 0.8 mm
db - Cone Backface Backing Diameter	6.65 in 168.90 mm
Da - Cup Frontface Backing Diameter	8.43 in 213.11 mm
Aa - Cage-Cone Backface Clearance	0.21 in 5.3 mm

Basic Load Ratings

C90 - Dynamic Radial Rating (One-Row, 90 million revolutions)[3]	20300 lbf 90400 N
C1 - Dynamic Radial Rating (Two-Row, 1 million revolutions)[4]	136000 lbf 607000 N

C90(2) - Dynamic Radial Rating (Two-Row, 90 million revolutions)[5]	35400 lbf 157000 N
C_{a90} - Dynamic Thrust Rating (90 million revolutions)[6]	11600 lbf 51500 N

Factors

K - Factor[7]	1.76
e - ISO Factor[8]	0.7
Y1 - ISO Factor[9]	0.97 1.44
Y2 - ISO Factor[10]	1.44
Cg - Geometry Factor[11]	0.13

[1] These maximum fillet radii will be cleared by the bearing corners.

[2] These maximum fillet radii will be cleared by the bearing corners.

[3] Based on 90 x 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.

[4] Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.

[5] Based on 90 x 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.

[6] Based on 90 x 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.

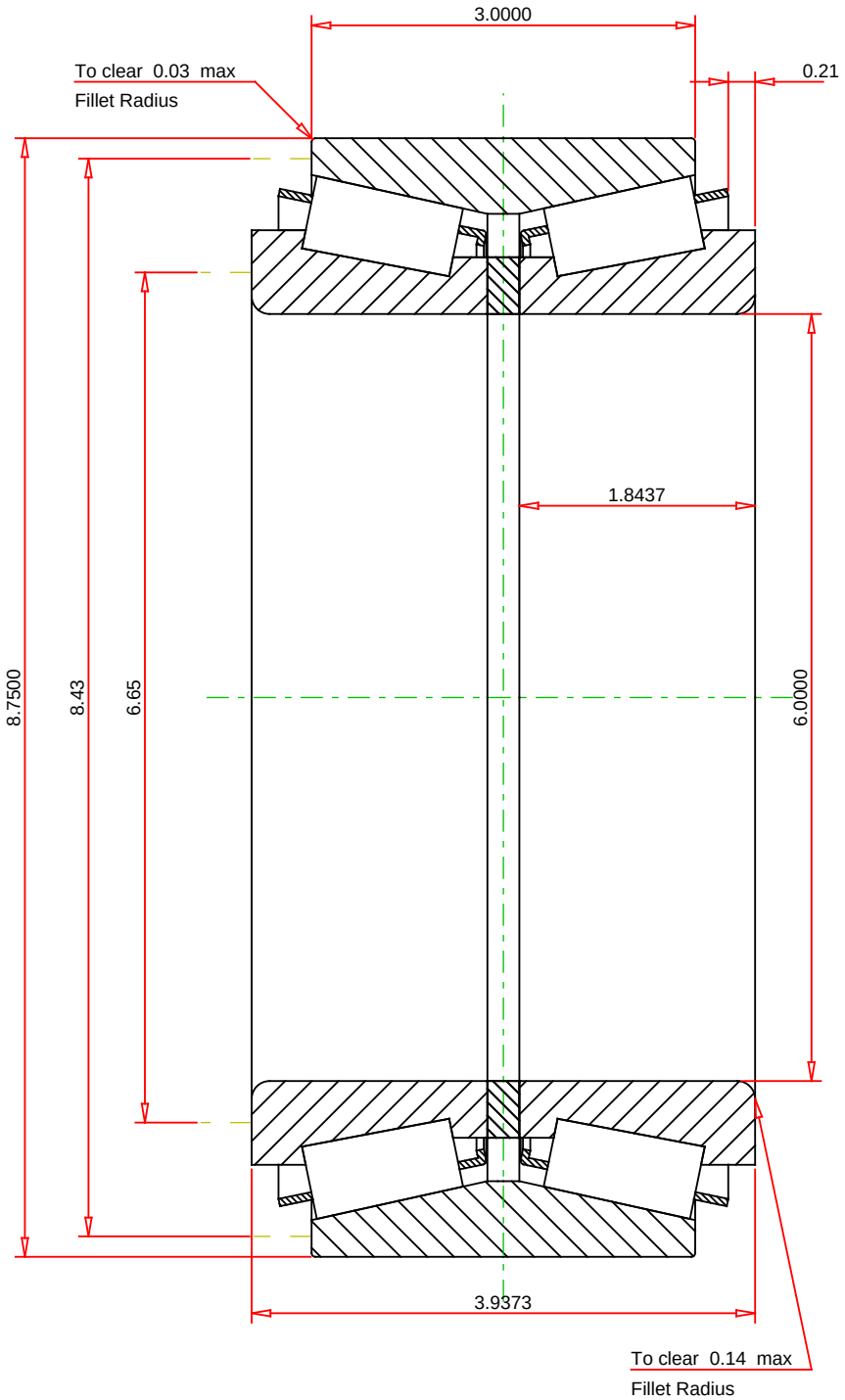
[7] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

[8] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

[9] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

[10] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

[11] Geometry constant for Lubrication Life Adjustment Factor a3l.



IMPERIAL UNITS

ISO Factor - e	0.7	
ISO Factor - Y1	0.97	
ISO Factor - Y2	1.44	
Bearing Weight	25.63	lb
Number of Rollers Per Row	32	

TIMKEN®

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

M231649 - M231610CD
TDO BEARING ASSEMBLY

K Factor	1.76	
Dynamic Radial Rating - C90	20300	lbf
Dynamic Thrust Rating - Ca90	11600	lbf
Dynamic Radial Rating - C90(2)	35400	lbf
Radial Rating - C1	136000	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