The Timken Company
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Timken Part Number LM451349 - LM451310CD, 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	LM451300
Cone Part Number	LM451349
Cup Part Number	LM451310CD
Design Units	Imperial
Bearing Weight	68.73 lb 31.175 Kg
Cage Type	Stamped Steel
Ab - Cage-Cone Frontface Clearance	0.18 in 4.6 mm

Dimensions

d - Bore	10.5 in 266.7 mm
D - Cup Outer Diameter	14 in 355.6 mm
B - Cone Width	2.2500 in 57.150 mm
C - Double Cup Width	4.0000 in 101.600 mm
T - Bearing Width across Cones	4.9999 in 126.997 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]	0.06 in 1.5 mm
db - Cone Backface Backing Diameter	11.22 in 285.00 mm
Da - Cup Frontface Backing Diameter	13.52 in 343.41 mm
Aa - Cage-Cone Backface Clearance	0.19 in 4.8 mm

Basic Load Ratings

C90 - Dynamic Radial Rating (One-Row, 90 million revolutions)[3]	51300 lbf 228000 N
C1 - Dynamic Radial Rating (Two-Row, 1 million revolutions)[4]	345000 lbf 1530000 N

C90(2) - Dynamic Radial Rating (Two-Row, 90 million revolutions)[5]	89300 lbf 397000 N
C_{a90} - Dynamic Thrust Rating (90 million revolutions)[6]	31600 lbf 141000 N

Factors

K - Factor[7]	1.62
e - ISO Factor[8]	0.76
Y1 - ISO Factor[9]	0.88 1.31
Y2 - ISO Factor[10]	1.31
Cg - Geometry Factor[11]	0.154

[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.

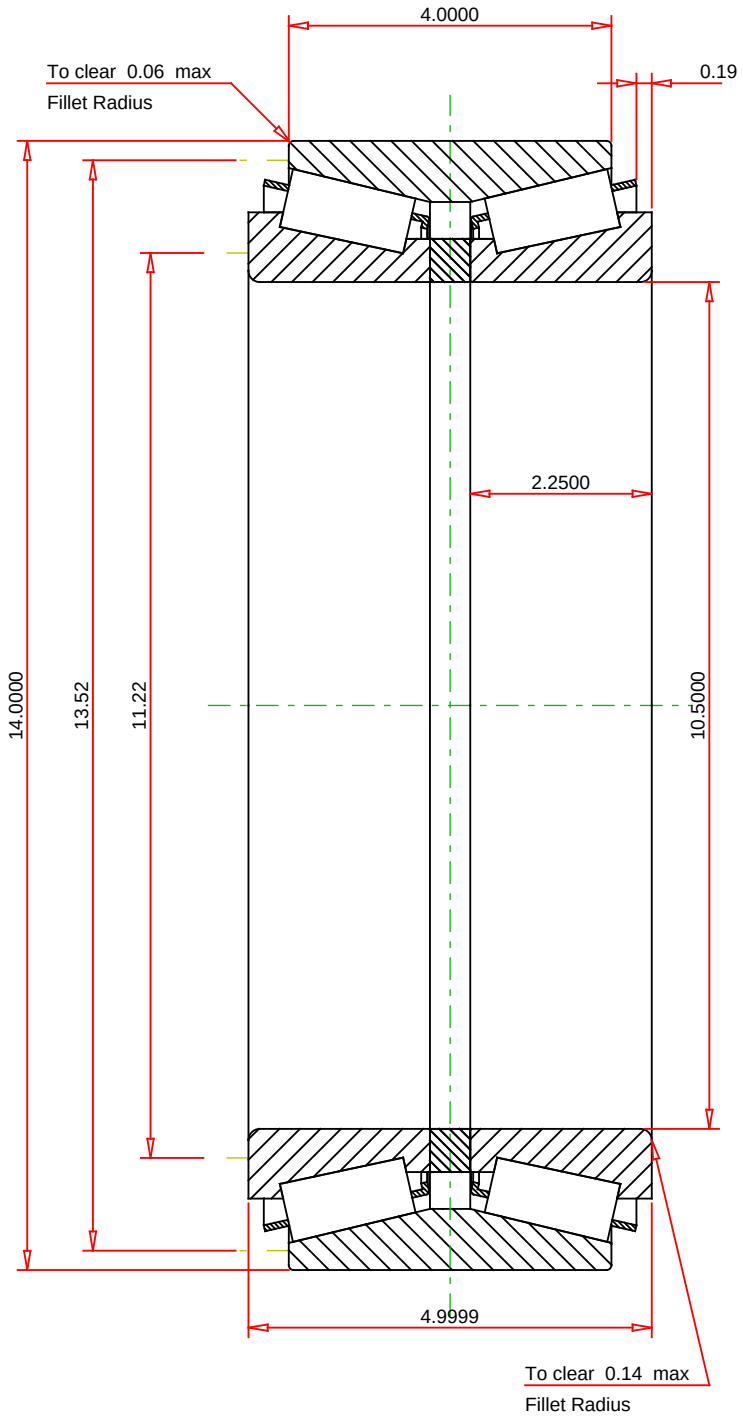
[7] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

[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	0.76	
ISO Factor - Y1	0.88	
ISO Factor - Y2	1.31	
Bearing Weight	68.73	lb
Number of Rollers Per Row	39	

TIMKEN®

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

LM451349 - LM451310CD
TDO BEARING ASSEMBLY

K Factor	1.62	
Dynamic Radial Rating - C90	51300	lbf
Dynamic Thrust Rating - Ca90	31600	lbf
Dynamic Radial Rating - C90(2)	89300	lbf
Radial Rating - C1	345000	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