The Timken Company
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Timken Part Number LM654649 - LM654610CD, 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	LM654600
Cone Part Number	LM654649
Cup Part Number	LM654610CD
Design Units	Imperial
Bearing Weight	88.58 lb 40.180 Kg
Cage Type	Stamped Steel
Ab - Cage-Cone Frontface Clearance	0.08 in 2 mm

Dimensions

d - Bore	11.2500 in 285.750 mm
D - Cup Outer Diameter	14.9960 in 380.898 mm
B - Cone Width	2.5625 in 65.088 mm
C - Double Cup Width	4.2500 in 107.950 mm
T - Bearing Width across Cones	5.4999 in 139.697 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	12.05 in 306.10 mm
Da - Cup Frontface Backing Diameter	14.53 in 368.05 mm
Aa - Cage-Cone Backface Clearance	0.27 in 6.9 mm

Basic Load Ratings

C90 - Dynamic Radial Rating (One-Row, 90 million revolutions)[3]	42100 lbf 187000 N
C1 - Dynamic Radial Rating (Two-Row, 1 million revolutions)[4]	283000 lbf 1260000 N

C90(2) - Dynamic Radial Rating (Two-Row, 90 million revolutions)[5]	73300 lbf 326000 N
C_{a90} - Dynamic Thrust Rating (90 million revolutions)[6]	31100 lbf 138000 N

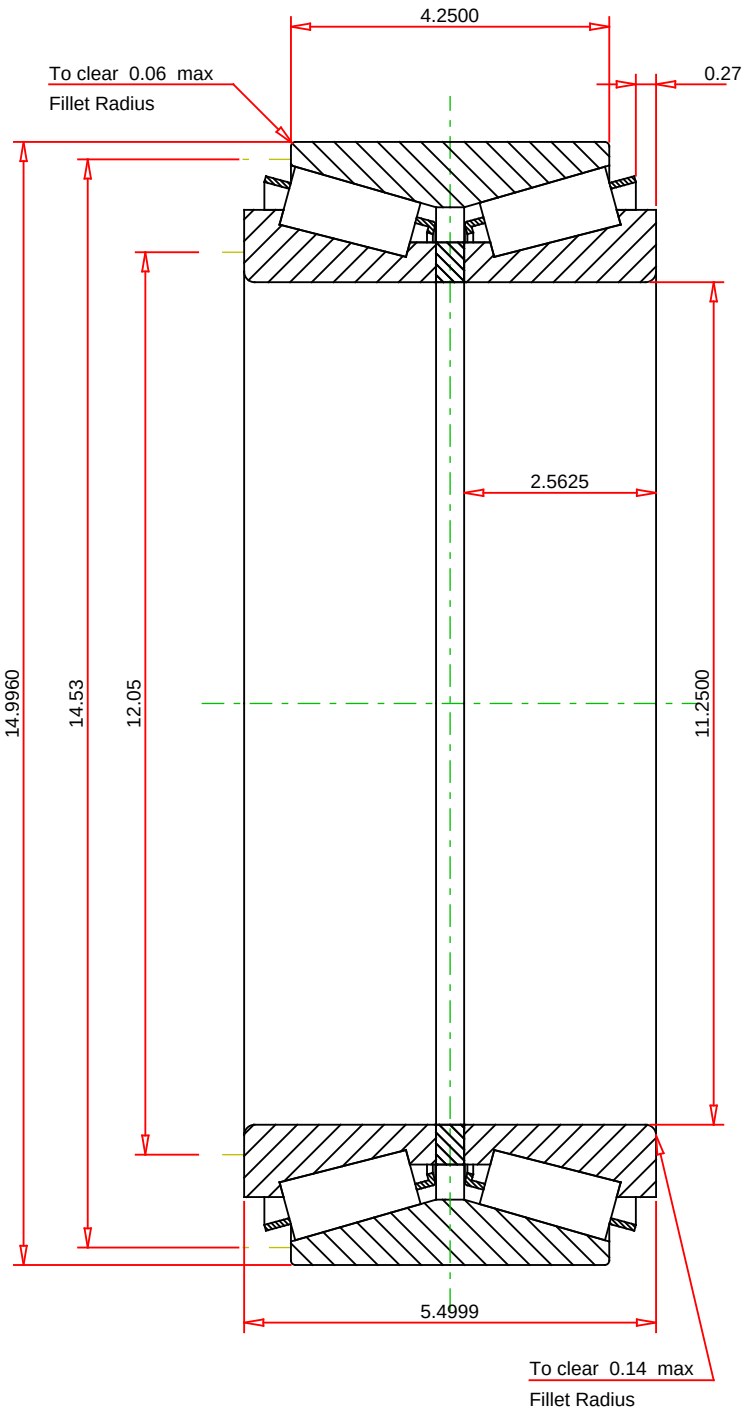
Factors

K - Factor[7]	1.35
e - ISO Factor[8]	0.94
Y1 - ISO Factor[9]	0.72 1.07
Y2 - ISO Factor[10]	1.07
G1 - Heat Generation Factor (Roller-Raceway)[11]	1920
Cg - Geometry Factor[12]	0.174

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

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



IMPERIAL UNITS

ISO Factor - e	0.94	
ISO Factor - Y1	0.72	
ISO Factor - Y2	1.07	
Bearing Weight	88.58	lb
Number of Rollers Per Row	45	

TIMKEN®

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

LM654649 - LM654610CD
TDO BEARING ASSEMBLY

K Factor	1.35	
Dynamic Radial Rating - C90	42100	lbf
Dynamic Thrust Rating - Ca90	31100	lbf
Dynamic Radial Rating - C90(2)	73300	lbf
Radial Rating - C1	283000	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