The Timken Company
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Timken Part Number M270749 - M270710CD, 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	M270700
Cone Part Number	M270749
Cup Part Number	M270710CD
Design Units	Imperial
Bearing Weight	543.68 lb 246.608 Kg
Cage Type	Pin-Type
Ab - Cage-Cone Frontface Clearance	0.34 in 8.6 mm

Dimensions

d - Bore	17.6250 in 447.675 mm
D - Cup Outer Diameter	25.0000 in 635.000 mm
B - Cone Width	4.7500 in 120.650 mm
C - Double Cup Width	8.1250 in 206.375 mm
T - Bearing Width across Cones	10.1250 in 257.175 mm

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius[1]	0.25 in 6.400 mm
r - Cup Frontface "To Clear" Radius[2]	0.06 in 1.5 mm
db - Cone Backface Backing Diameter	19.06 in 484.10 mm
Da - Cup Frontface Backing Diameter	23.98 in 605.03 mm
Aa - Cage-Cone Backface Clearance	0.31 in 7.9 mm

Basic Load Ratings

C90 - Dynamic Radial Rating (One-Row, 90 million revolutions)[3]	191000 lbf 849000 N
C1 - Dynamic Radial Rating (Two-Row, 1 million revolutions)[4]	1280000 lbf 5700000 N

C90(2) - Dynamic Radial Rating (Two-Row, 90 million revolutions)[5]	332000 lbf 1480000 N
C_{a90} - Dynamic Thrust Rating (90 million revolutions)[6]	109000 lbf 484000 N

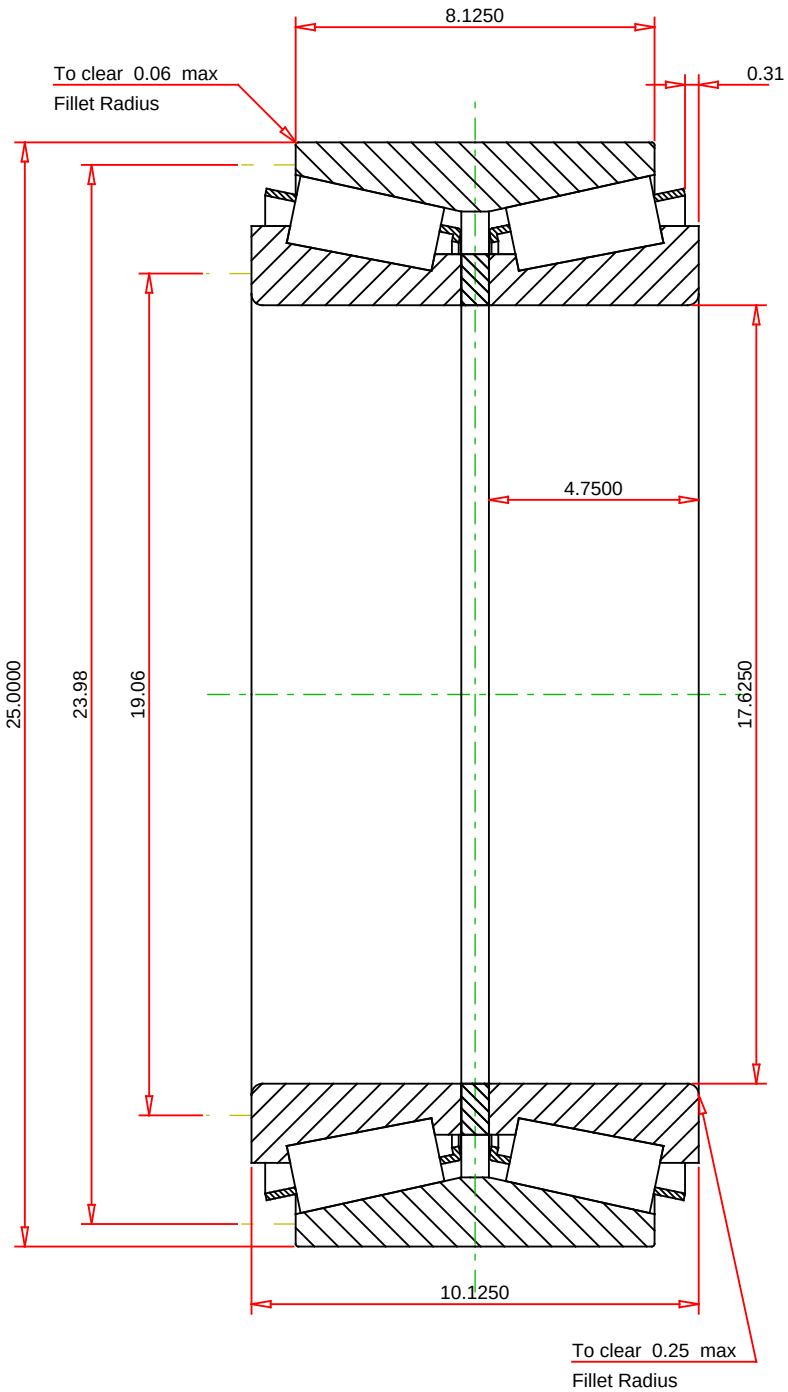
Factors

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
G1 - Heat Generation Factor (Roller-Raceway)[11]	6870
Cg - Geometry Factor[12]	0.246

[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	0.7	
ISO Factor - Y1	0.97	
ISO Factor - Y2	1.44	
Bearing Weight	543.68	lb
Number of Rollers Per Row	36	

TIMKEN®

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

M270749 - M270710CD
TDO BEARING ASSEMBLY

K Factor	1.76	
Dynamic Radial Rating - C90	191000	lbf
Dynamic Thrust Rating - Ca90	109000	lbf
Dynamic Radial Rating - C90(2)	332000	lbf
Radial Rating - C1	1280000	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