The Timken Company
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Timken Part Number HM237542 - HM237510CD, 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	HM237500
Cone Part Number	HM237542
Cup Part Number	HM237510CD
Design Units	Imperial
Bearing Weight	71.78 lb 32.558 Kg
Cage Type	Stamped Steel
Ab - Cage-Cone Frontface Clearance	0.2 in 5.1 mm

Dimensions

d - Bore	6.8750 in 174.625 mm
D - Cup Outer Diameter	11.3750 in 288.925 mm
B - Cone Width	2.5 in 63.5 mm
C - Double Cup Width	4.375 in 111.125 mm
T - Bearing Width across Cones	5.6250 in 142.875 mm

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius[1]	0.280 in 7.100 mm
r - Cup Frontface "To Clear" Radius[2]	0.06 in 1.5 mm
db - Cone Backface Backing Diameter	7.95 in 201.90 mm
Da - Cup Frontface Backing Diameter	10.69 in 271.50 mm
Aa - Cage-Cone Backface Clearance	0.2 in 5.1 mm

Basic Load Ratings

C90 - Dynamic Radial Rating (One-Row, 90 million revolutions)[3]	56900 lbf 253000 N
C1 - Dynamic Radial Rating (Two-Row, 1 million revolutions)[4]	382000 lbf 1700000 N

C90(2) - Dynamic Radial Rating (Two-Row, 90 million revolutions)[5]	99100 lbf 441000 N
C_{a90} - Dynamic Thrust Rating (90 million revolutions)[6]	31100 lbf 138000 N

Factors

K - Factor[7]	1.83
e - ISO Factor[8]	0.67
Y1 - ISO Factor[9]	1.01 1.50
Y2 - ISO Factor[10]	1.5
Cg - Geometry Factor[11]	0.117

[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.

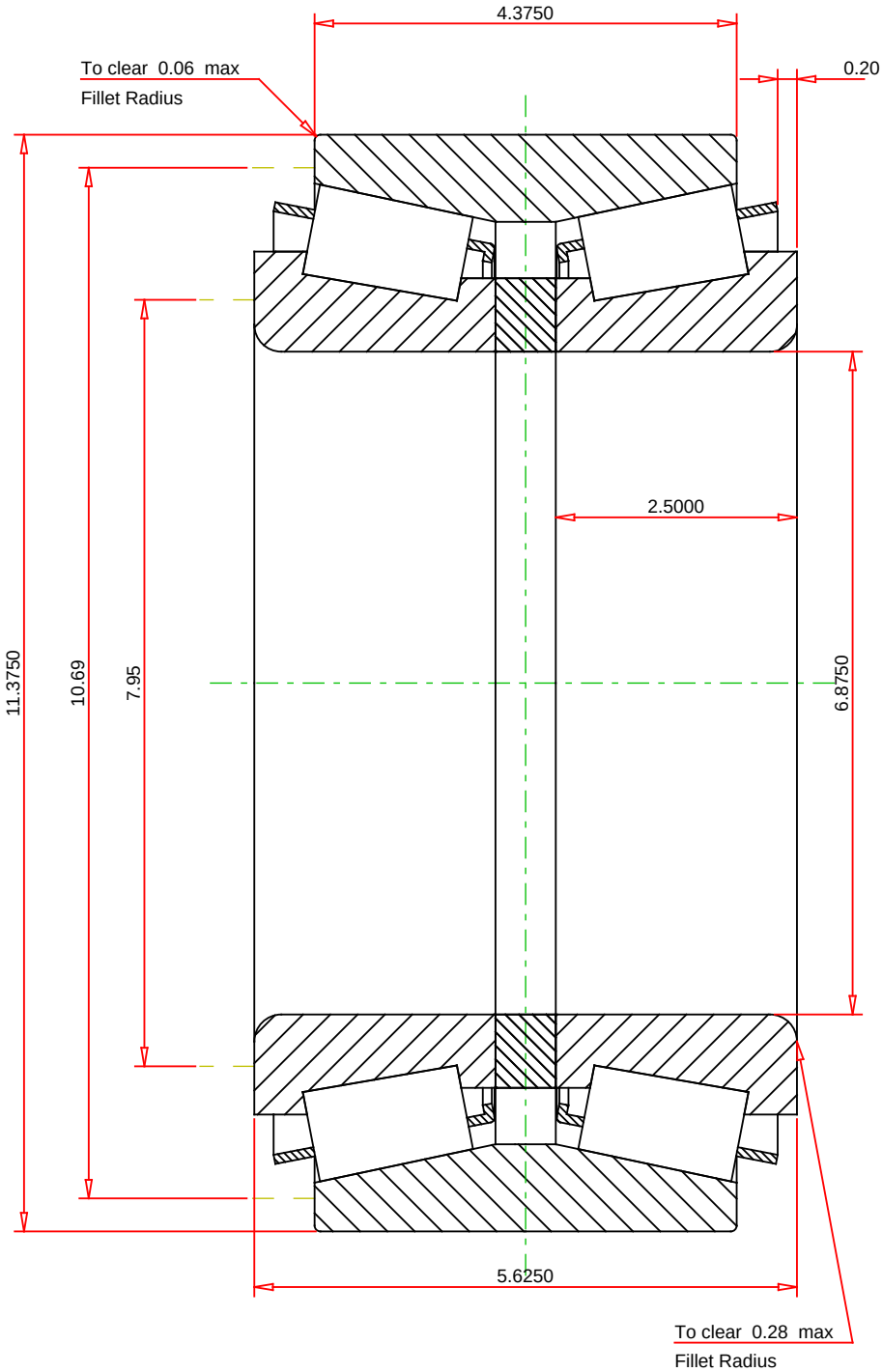
[7] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

[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	0.67	
ISO Factor - Y1	1.01	
ISO Factor - Y2	1.5	
Bearing Weight	71.78	lb
Number of Rollers Per Row	23	

TIMKEN

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

HM237542 - HM237510CD
TDO BEARING ASSEMBLY

K Factor	1.83	
Dynamic Radial Rating - C90	56900	lbf
Dynamic Thrust Rating - Ca90	31100	lbf
Dynamic Radial Rating - C90(2)	99100	lbf
Radial Rating - C1	382000	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