The Timken Company
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Timken Part Number HM231149 - HM231111CD, 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	HM231100
Cone Part Number	HM231149
Cup Part Number	HM231111CD
Design Units	Imperial
Bearing Weight	41.99 lb 19.047 Kg
Cage Type	Stamped Steel
Ab - Cage-Cone Frontface Clearance	0.19 in 4.8 mm

Dimensions

d - Bore	5.8750 in 149.225 mm
D - Cup Outer Diameter	9.3125 in 236.538 mm
B - Cone Width	2.2300 in 56.642 mm
C - Double Cup Width	4.1875 in 106.363 mm
T - Bearing Width across Cones	5.1874 in 131.760 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	6.57 in 166.90 mm
Da - Cup Frontface Backing Diameter	8.84 in 224.03 mm
Aa - Cage-Cone Backface Clearance	0.14 in 3.6 mm

Basic Load Ratings

C90 - Dynamic Radial Rating (One-Row, 90 million revolutions)[3]	34800 lbf 155000 N
C1 - Dynamic Radial Rating (Two-Row, 1 million revolutions)[4]	234000 lbf 1040000 N

C90(2) - Dynamic Radial Rating (Two-Row, 90 million revolutions)[5]	60600 lbf 269000 N
C_{a90} - Dynamic Thrust Rating (90 million revolutions)[6]	19000 lbf 84500 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
G1 - Heat Generation Factor (Roller-Raceway)[11]	533
G2 - Heat Generation Factor (Rib-Roller End)	85.9
Cg - Geometry Factor[12]	0.133

[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.

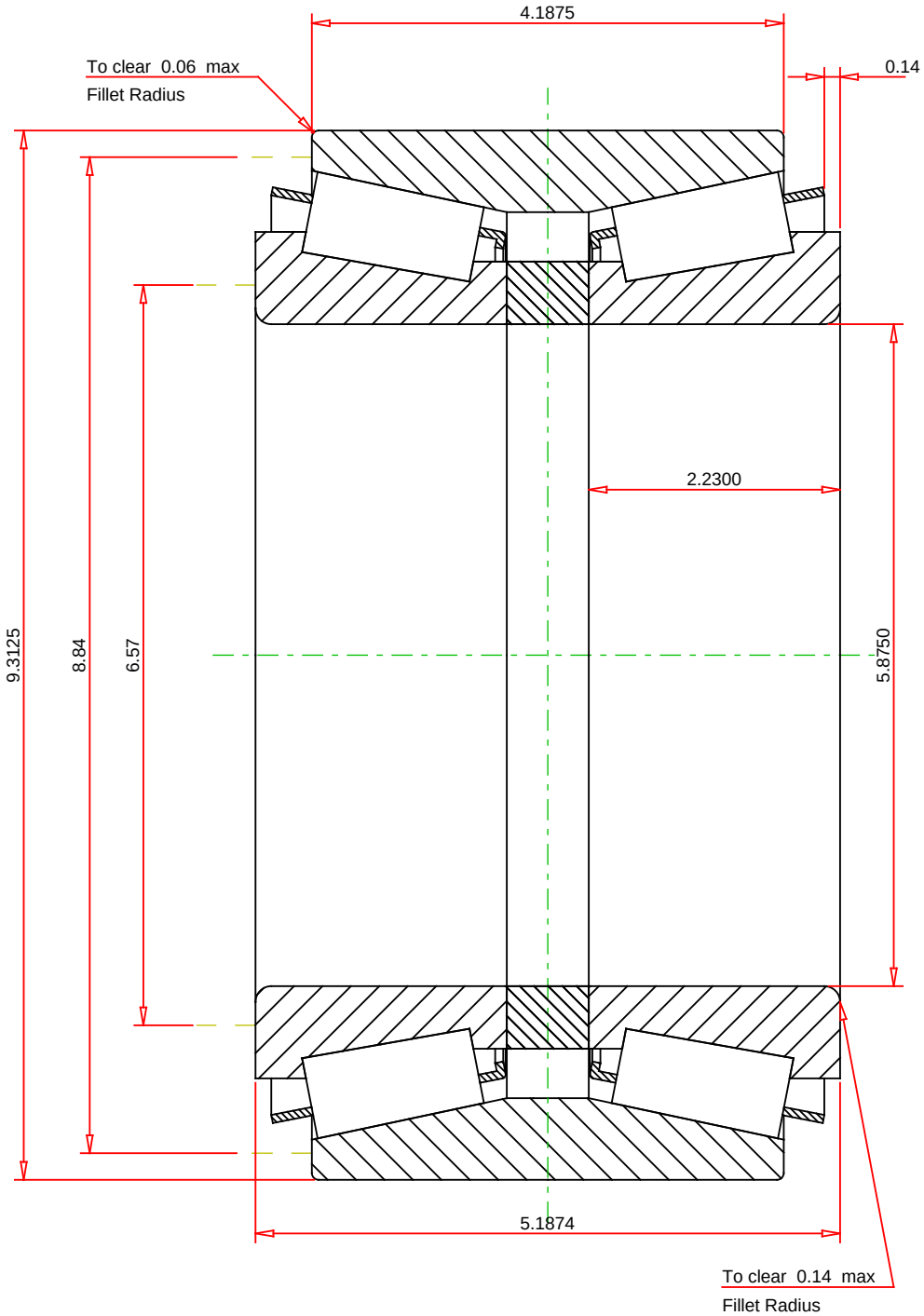
[9] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction

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	0.67	
ISO Factor - Y1	1.01	
ISO Factor - Y2	1.5	
Bearing Weight	41.99	lb
Number of Rollers Per Row	24	

TIMKEN®

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

HM231149 - HM231111CD
TDO BEARING ASSEMBLY

K Factor	1.83	
Dynamic Radial Rating - C90	34800	lbf
Dynamic Thrust Rating - Ca90	19000	lbf
Dynamic Radial Rating - C90(2)	60600	lbf
Radial Rating - C1	234000	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