The Timken Company
4500 Mt Pleasant St. NW
N. Canton, OH 44720
Phone: (234) 262-3000
E-Mail: CustomerCAD@timken.com • **Web site:** www.timken.com

Timken Part Number HM259049 - HM259010CD, 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	HM259000
Cone Part Number	HM259049
Cup Part Number	HM259010CD
Design Units	Imperial
Bearing Weight	187.44 lb 85.020 Kg
Cage Type	Pin-Type
Ab - Cage-Cone Frontface Clearance	0.21 in 5.3 mm

Dimensions

d - Bore	12.5000 in 317.500 mm
D - Cup Outer Diameter	17.6250 in 447.675 mm
B - Cone Width	3.3750 in 85.725 mm
C - Double Cup Width	5.7500 in 146.050 mm
T - Bearing Width across Cones	7.1249 in 180.972 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	13.43 in 341.10 mm
Da - Cup Frontface Backing Diameter	16.87 in 428.50 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]	97800 lbf 435000 N
C1 - Dynamic Radial Rating (Two-Row, 1 million revolutions)[4]	656000 lbf 2920000 N

C90(2) - Dynamic Radial Rating (Two-Row, 90 million revolutions)[5]	170000 lbf 757000 N
C_{a90} - Dynamic Thrust Rating (90 million revolutions)[6]	56000 lbf 249000 N

Factors

K - Factor[7]	1.74
e - ISO Factor[8]	0.7
Y1 - ISO Factor[9]	0.96 1.43
Y2 - ISO Factor[10]	1.43
Cg - Geometry Factor[11]	0.186

[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.

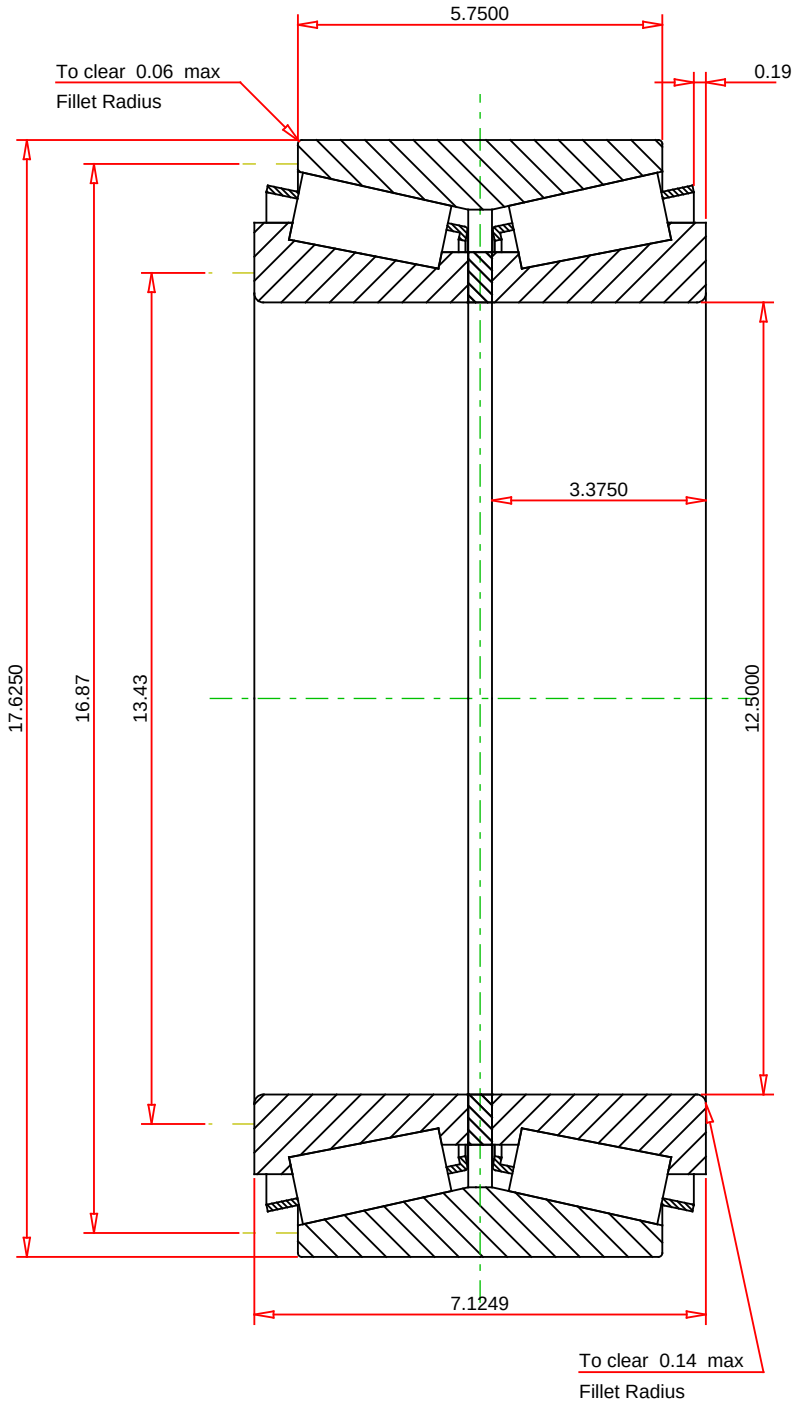
[7] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

[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	0.7	
ISO Factor - Y1	0.96	
ISO Factor - Y2	1.43	
Bearing Weight	187.44	lb
Number of Rollers Per Row	36	

TIMKEN

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

HM259049 - HM259010CD
TDO BEARING ASSEMBLY

K Factor	1.74	
Dynamic Radial Rating - C90	97800	lbf
Dynamic Thrust Rating - Ca90	56000	lbf
Dynamic Radial Rating - C90(2)	170000	lbf
Radial Rating - C1	656000	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