The Timken Company
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Timken Part Number HM120848 - HM120817XD, 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	HM120800
Cone Part Number	HM120848
Cup Part Number	HM120817XD
Design Units	Imperial
Bearing Weight	19.32 lb 8.763 Kg
Cage Type	Stamped Steel
Ab - Cage-Cone Frontface Clearance	0 in 0 mm

Dimensions

d - Bore	4.0000 in 101.600 mm
D - Cup Outer Diameter	6.5 in 165.1 mm
B - Cone Width	1.9375 in 49.213 mm
C - Double Cup Width	4.5000 in 114.300 mm
T - Bearing Width across Cones	4.1961 in 106.581 mm

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius[1]	0.06 in 1.5 mm
r - Cup Frontface "To Clear" Radius[2]	0.04 in 1.0 mm
db - Cone Backface Backing Diameter	4.41 in 112 mm
Da - Cup Frontface Backing Diameter	6.10 in 154.90 mm
Aa - Cage-Cone Backface Clearance	0.06 in 1.5 mm

Basic Load Ratings

C90 - Dynamic Radial Rating (One-Row, 90 million revolutions)[3]	15700 lbf 70000 N
C1 - Dynamic Radial Rating (Two-Row, 1 million revolutions)[4]	106000 lbf 470000 N

C90(2) - Dynamic Radial Rating (Two-Row, 90 million revolutions)[5]	27400 lbf 122000 N
C_{a90} - Dynamic Thrust Rating (90 million revolutions)[6]	7130 lbf 31700 N

Factors

K - Factor[7]	2.21
e - ISO Factor[8]	0.55
Y1 - ISO Factor[9]	1.24 1.84
Y2 - ISO Factor[10]	1.84
Cg - Geometry Factor[11]	0.0941

[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.

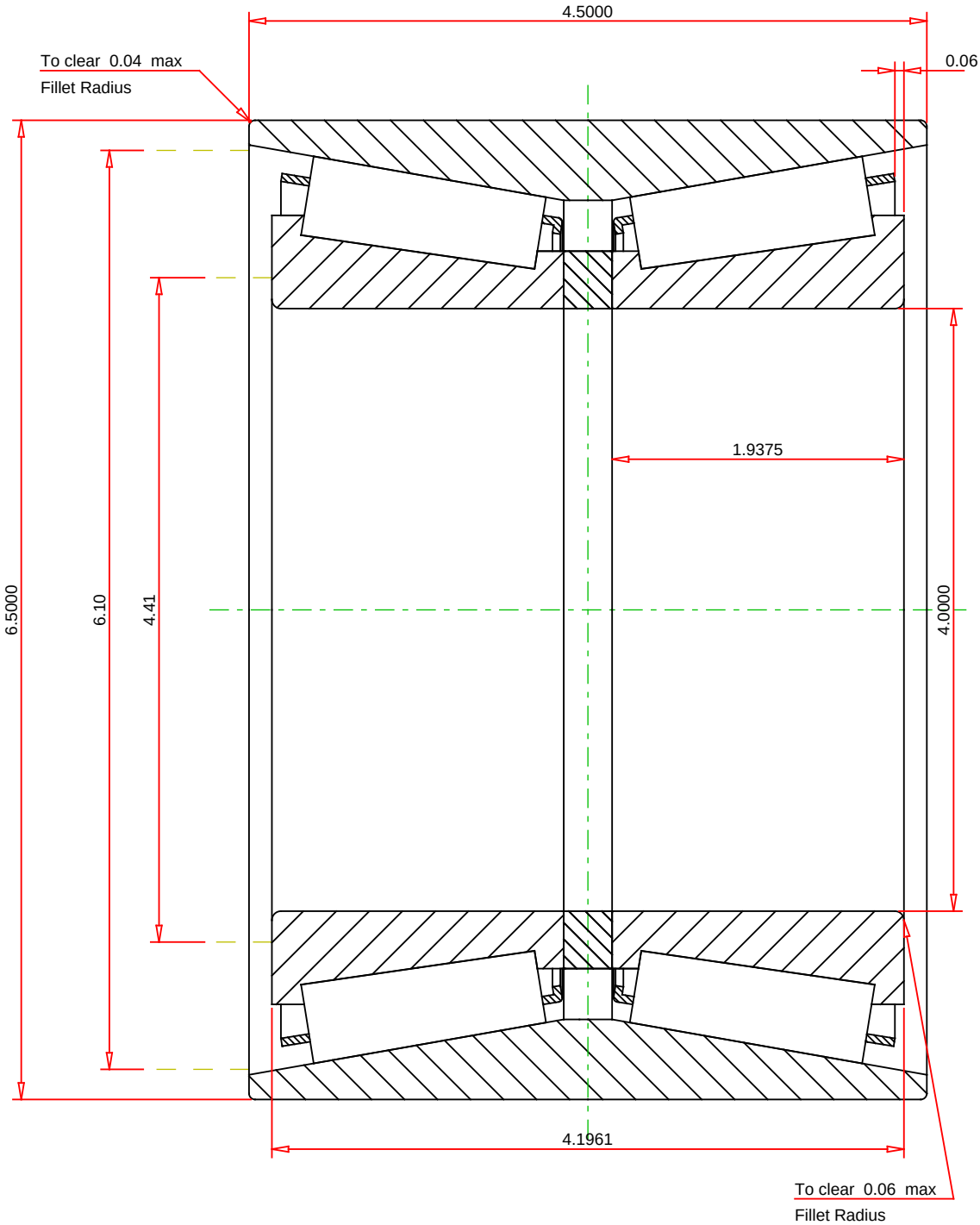
[7] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

[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	0.55	
ISO Factor - Y1	1.24	
ISO Factor - Y2	1.84	
Bearing Weight	19.32	lb
Number of Rollers Per Row	22	

TIMKEN

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

HM120848 - HM120817XD
TDO BEARING ASSEMBLY

K Factor	2.21	
Dynamic Radial Rating - C90	15700	lbf
Dynamic Thrust Rating - Ca90	7130	lbf
Dynamic Radial Rating - C90(2)	27400	lbf
Radial Rating - C1	106000	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