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Timken Part Number 357 - 353D, 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	355
Cone Part Number	357
Cup Part Number	353D
Design Units	Imperial
Bearing Weight	3.24 lb 1.469 Kg
Cage Type	Stamped Steel
Ab - Cage-Cone Frontface Clearance	0.09 in 2.3 mm

Dimensions

d - Bore	1.5748 in 40 mm
D - Cup Outer Diameter	3.5480 in 90.119 mm
B - Cone Width	0.8540 in 21.692 mm
C - Double Cup Width	1.7500 in 44.450 mm
T - Bearing Width across Cones	1.9998 in 50.795 mm

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius[1]	0.090 in 2.300 mm
r - Cup Frontface "To Clear" Radius[2]	0.03 in 0.8 mm
db - Cone Backface Backing Diameter	2.01 in 51.10 mm
Da - Cup Frontface Backing Diameter	3.27 in 82.04 mm
Aa - Cage-Cone Backface Clearance	0 in 0 mm

Basic Load Ratings

C90 - Dynamic Radial Rating (One-Row, 90 million revolutions)[3]	5650 lbf 25100 N
C1 - Dynamic Radial Rating (Two-Row, 1 million revolutions)[4]	38000 lbf 169000 N

C90(2) - Dynamic Radial Rating (Two-Row, 90 million revolutions)[5]	9840 lbf 43800 N
C_{a90} - Dynamic Thrust Rating (90 million revolutions)[6]	2960 lbf 13200 N

Factors

K - Factor[7]	1.91
e - ISO Factor[8]	0.64
Y1 - ISO Factor[9]	1.06 1.57
Y2 - ISO Factor[10]	1.57
G1 - Heat Generation Factor (Roller-Raceway)[11]	30
G2 - Heat Generation Factor (Rib-Roller End)	12.2
Cg - Geometry Factor[12]	0.0732

[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

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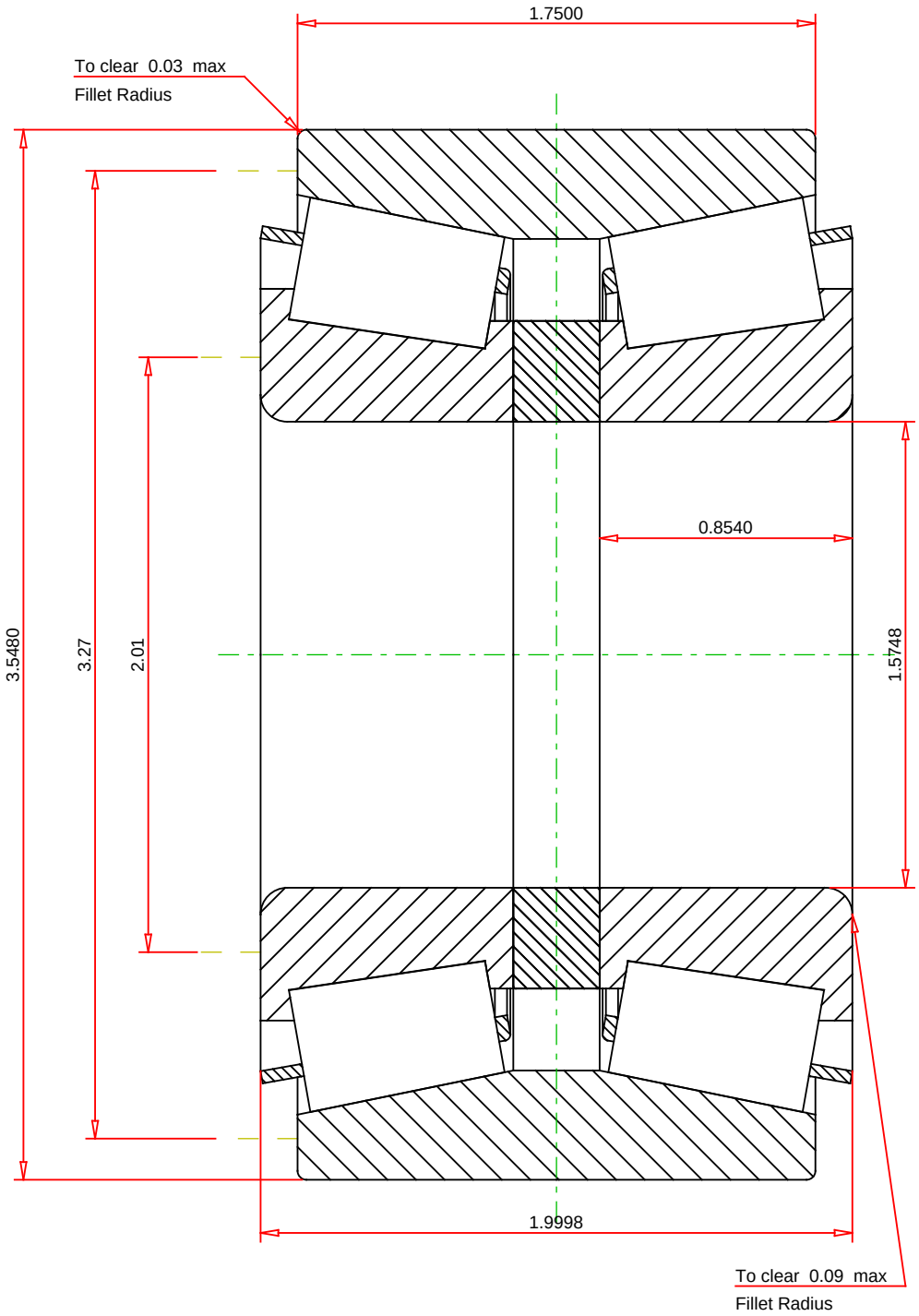
[10] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

[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	0.64	
ISO Factor - Y1	1.06	
ISO Factor - Y2	1.57	
Bearing Weight	3.24	lb
Number of Rollers Per Row	16	

TIMKEN®

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

357 - 353D
TDO BEARING ASSEMBLY

K Factor	1.91	
Dynamic Radial Rating - C90	5650	lbf
Dynamic Thrust Rating - Ca90	2960	lbf
Dynamic Radial Rating - C90(2)	9840	lbf
Radial Rating - C1	38000	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