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 462 - 452D, 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	455
Cone Part Number	462
Cup Part Number	452D
Design Units	Imperial
Bearing Weight	5.39 lb 2.443 Kg
Cage Type	Stamped Steel
Ab - Cage-Cone Frontface Clearance	0.08 in 2 mm

Dimensions

d - Bore	2.2500 in 57.150 mm
D - Cup Outer Diameter	4.25 in 107.95 mm
B - Cone Width	1.1542 in 29.317 mm
C - Double Cup Width	2.125 in 53.975 mm
T - Bearing Width across Cones	2.5625 in 65.088 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	2.64 in 67.10 mm
Da - Cup Frontface Backing Diameter	3.96 in 100.58 mm
Aa - Cage-Cone Backface Clearance	0.07 in 1.8 mm

Basic Load Ratings

C90 - Dynamic Radial Rating (One-Row, 90 million revolutions)[3]	9370 lbf 41700 N
C1 - Dynamic Radial Rating (Two-Row, 1 million revolutions)[4]	62900 lbf 280000 N

C90(2) - Dynamic Radial Rating (Two-Row, 90 million revolutions)[5]	16300 lbf 72600 N
C_{a90} - Dynamic Thrust Rating (90 million revolutions)[6]	5380 lbf 23900 N

Factors

K - Factor[7]	1.74
e - ISO Factor[8]	0.71
Y1 - ISO Factor[9]	0.96 1.42
Y2 - ISO Factor[10]	1.42
G1 - Heat Generation Factor (Roller-Raceway)[11]	58.6
G2 - Heat Generation Factor (Rib-Roller End)	17.1
Cg - Geometry Factor[12]	0.0946

[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.

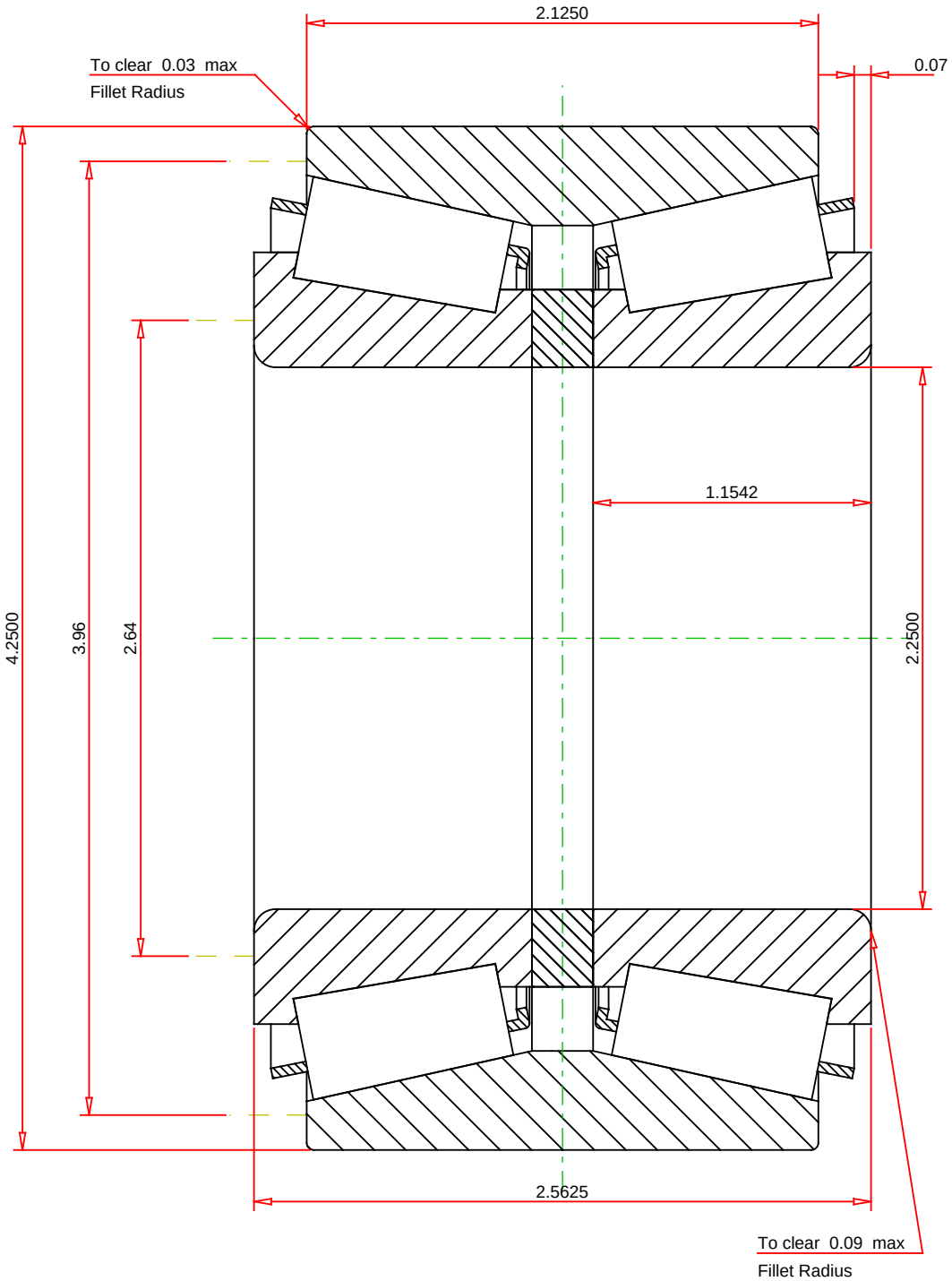
[9] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction

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	0.71	
ISO Factor - Y1	0.96	
ISO Factor - Y2	1.42	
Bearing Weight	5.39	lb
Number of Rollers Per Row	18	

TIMKEN®

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

462 - 452D
TDO BEARING ASSEMBLY

K Factor	1.74	
Dynamic Radial Rating - C90	9370	lbf
Dynamic Thrust Rating - Ca90	5380	lbf
Dynamic Radial Rating - C90(2)	16300	lbf
Radial Rating - C1	62900	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