

TIMKEN

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 535 - 532A, Tapered Roller Bearings - TS (Tapered Single) Imperial

This is the most basic and most widely used type of tapered roller bearing. It consists of two main separable parts: the cone (inner ring) assembly and the cup (outer ring). It is typically mounted in opposing pairs on a shaft.



[Specifications](#) | [Dimensions](#) | [Abutment and Fillet Dimensions](#) | [Basic Load Ratings](#) | [Factors](#)

Specifications

Series	535
Cone Part Number	535
Cup Part Number	532A
Design Units	Imperial
Bearing Weight	1.800 Kg 4.00 lb
Cage Type	Stamped Steel

Dimensions

d - Bore	44.450 mm 1.7500 in
D - Cup Outer Diameter	111.125 mm 4.3750 in

B - Cone Width	36.957 mm 1.4550 in
C - Cup Width	30.163 mm 1.1875 in
T - Bearing Width	38.100 mm 1.5000 in

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius¹	3.560 mm 0.14 in
r - Cup Backface "To Clear" Radius²	3.30 mm 0.130 in
da - Cone Frontface Backing Diameter	54.10 mm 2.13 in
db - Cone Backface Backing Diameter	59.94 mm 2.36 in
Da - Cup Frontface Backing Diameter	100.10 mm 3.96 in
Db - Cup Backface Backing Diameter	95.00 mm 3.74 in
Ab - Cage-Cone Frontface Clearance	1.8 mm 0.07 in
Aa - Cage-Cone Backface Clearance	2 mm 0.08 in
a - Effective Center Location³	-12.20 mm -0.48 in

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)⁴	44600 N 10000 lbf
C1 - Dynamic Radial Rating (1 million revolutions)⁵	172000 N 38700 lbf
C0 - Static Radial Rating	206000 N 46200 lbf
C_{a90} - Dynamic Thrust Rating (90 million revolutions)⁶	22700 N 5090 lbf

Factors

K - Factor⁷	1.97
e - ISO Factor⁸	0.3
Y - ISO Factor⁹	2.02
G1 - Heat Generation Factor (Roller-Raceway)	64.3
G2 - Heat Generation Factor (Rib-Roller End)	16.1
Cg - Geometry Factor	0.0938

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 Negative value indicates effective center inside cone backface.

⁴ Based on 90×10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.

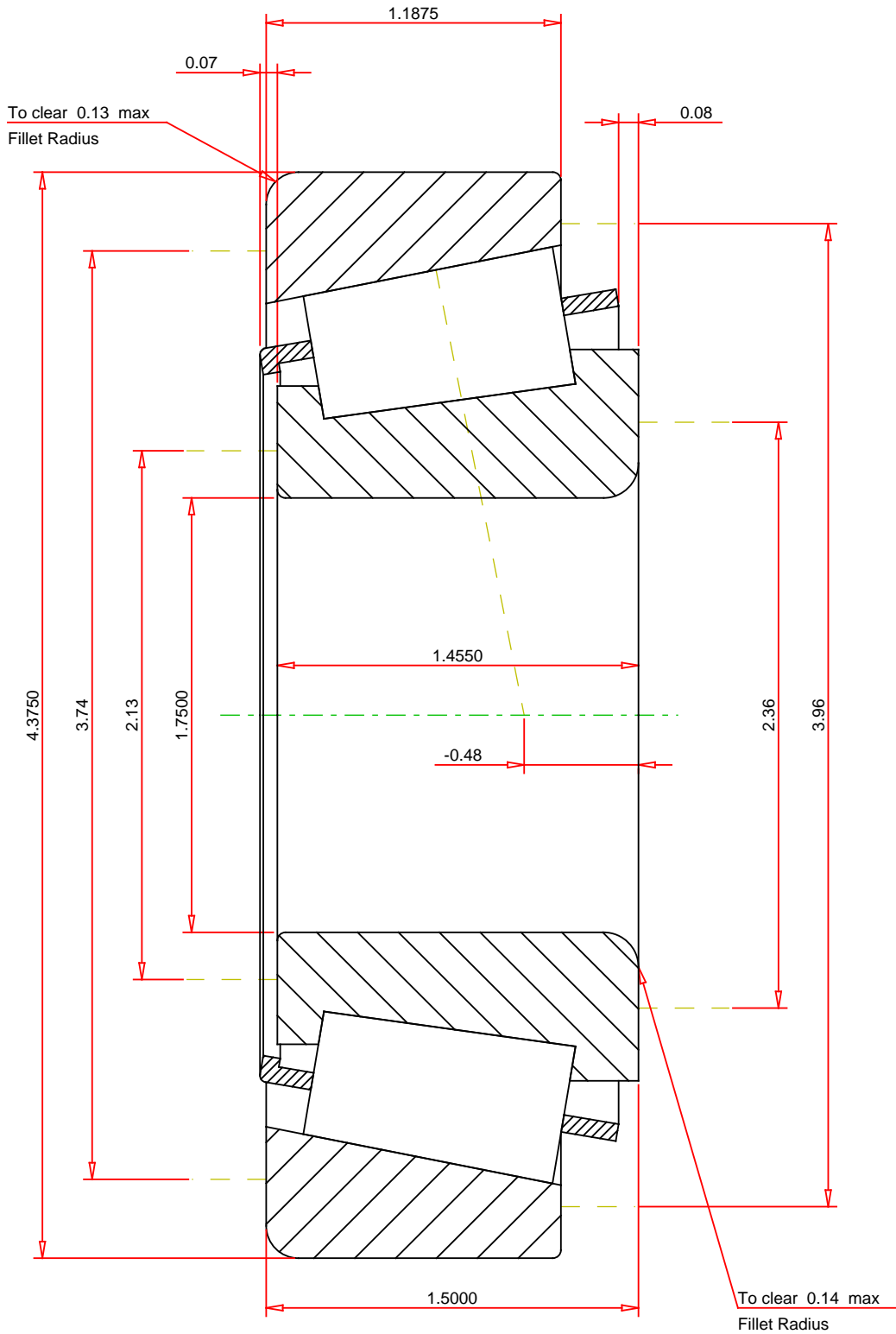
⁵ Based on 1×10^6 revolutions L_{10} life, for the ISO life calculation method.

⁶ Based on 90×10^6 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.



IMPERIAL UNITS

ISO Factor - e	0.3
ISO Factor - Y	2.02
Bearing Weight	4 lb
Number of Rollers Per Row	16
Effective Center Location	-0.48 inch

TIMKEN®

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

535 - 532A
TS BEARING ASSEMBLY

K Factor	1.97
Dynamic Radial Rating - C90	44600 lbf
Dynamic Thrust Rating - Ca90	22700 lbf
Static Radial Rating - C0	206000 lbf
Dynamic Radial Rating - C1	172000 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