


The Timken Company

4500 Mt Pleasant St. NW

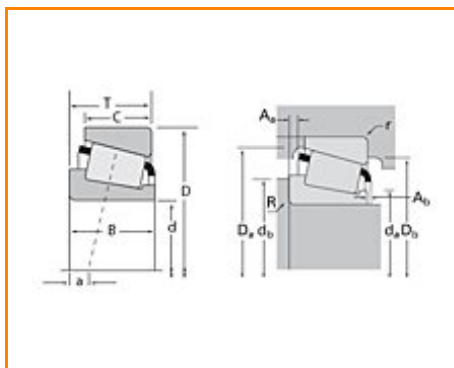
N. Canton, OH 44720

Phone: (234) 262-3000

E-Mail: CustomerCAD@timken.com • **Web site:** www.timken.com

Timken Part Number 49580 - 49520, 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	49500
Cone Part Number	49580
Cup Part Number	49520
Design Units	Imperial
Bearing Weight	1.200 Kg 2.60 lb
Cage Type	Stamped Steel

Dimensions

d - Bore	47.625 mm 1.8750 in
-----------------	------------------------

D - Cup Outer Diameter	101.600 mm 4.0000 in
B - Cone Width	31.750 mm 1.2500 in
C - Cup Width	25.400 mm 1.0000 in
T - Bearing Width	31.750 mm 1.2500 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	55.88 mm 2.20 in
db - Cone Backface Backing Diameter	62.99 mm 2.48 in
Da - Cup Frontface Backing Diameter	97.00 mm 3.82 in
Db - Cup Backface Backing Diameter	87.88 mm 3.46 in
Ab - Cage-Cone Frontface Clearance	2.3 mm 0.09 in
Aa - Cage-Cone Backface Clearance	1.8 mm 0.07 in
a - Effective Center Location³	-7.10 mm -0.28 in

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)⁴	34400 N 7740 lbf
---	---------------------

C1 - Dynamic Radial Rating (1 million revolutions)⁵	133000 N 29800 lbf
---	-----------------------

C0 - Static Radial Rating	155000 N 35000 lbf
----------------------------------	-----------------------

C_{a90} - Dynamic Thrust Rating (90 million revolutions)⁶	23600 N 5310 lbf
---	---------------------

Factors

K - Factor⁷	1.46
-------------------------------	------

e - ISO Factor⁸	0.40
-----------------------------------	------

Y - ISO Factor⁹	1.5
-----------------------------------	-----

G1 - Heat Generation Factor (Roller-Raceway)	49.1
---	------

G2 - Heat Generation Factor (Rib-Roller End)	16.8
---	------

Cg - Geometry Factor	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 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.

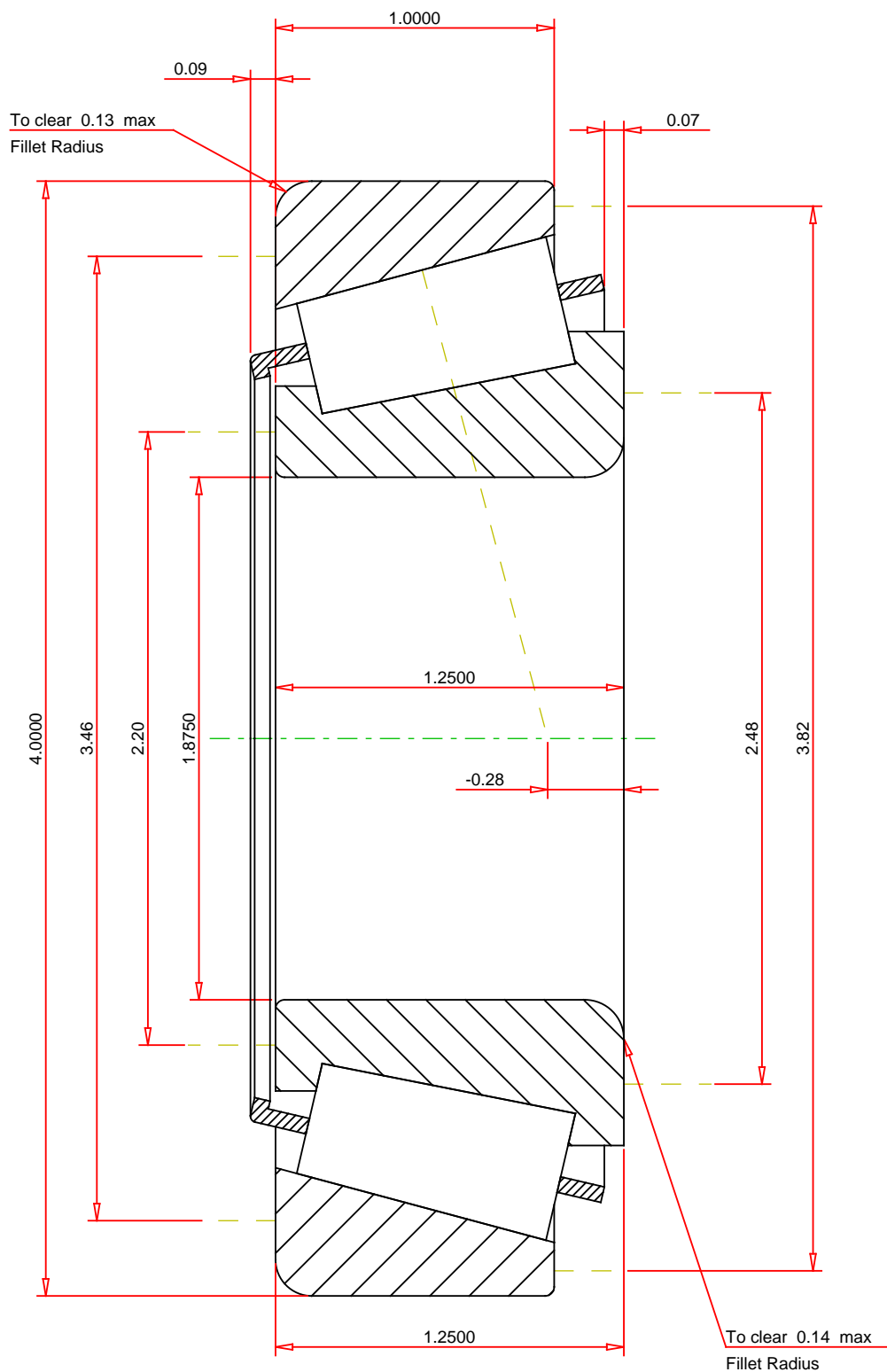
⁵ Based on 1×10^6 revolutions L_{10} life, for the ISO life calculation method.

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 0.4
 ISO Factor - Y 1.5
 Bearing Weight 2.6 lb
 Number of Rollers Per Row 16
 Effective Center Location -0.28 inch

TIMKEN®

THE TIMKEN COMPANY
 NORTH CANTON, OHIO USA

49580 - 49520
TS BEARING ASSEMBLY

K Factor 1.46
 Dynamic Radial Rating - C90 34400 lbf
 Dynamic Thrust Rating - Ca90 23600 lbf
 Static Radial Rating - C0 155000 lbf
 Dynamic Radial Rating - C1 133000 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