



The Timken Company

4500 Mt Pleasant St. NW

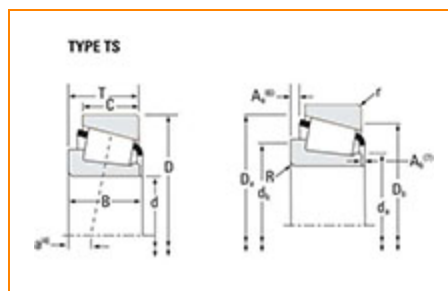
N. Canton, OH 44720

Phone: (234) 262-3000

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

Part Number 52393 - 52618, 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	52000
Cone Part Number	52393
Cup Part Number	52618
Design Units	Imperial
Bearing Weight	2.50 Kg 5.4 lb
Cage Type	Stamped Steel

Dimensions

d - Bore	100.013 mm 3.9375 in
----------	-------------------------

D - Cup Outer Diameter	157.163 mm 6.1875 in
B - Cone Width	36.116 mm 1.4219 in
C - Cup Width	26.195 mm 1.0313 in
T - Bearing Width	36.513 mm 1.4375 in

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius¹	3.560 mm 0.14 in
r - Cup Backface "To Clear" Radius²	3.3 mm 0.130 in
da - Cone Frontface Backing Diameter	108.97 mm 4.95 in
db - Cone Backface Backing Diameter	116.08 mm 4.57 in
Da - Cup Frontface Backing Diameter	151.90 mm 6.00 in
Db - Cup Backface Backing Diameter	141.99 mm 5.59 in
Ab - Cage-Cone Frontface Clearance	3 mm 0.12 in
Aa - Cage-Cone Backface Clearance	4.1 mm 0.16 in
a - Effective Center Location³	-0.5 mm -0.02 in

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)⁴	13000 lbf 57900 N
C1 - Dynamic Radial Rating (1 million revolutions)⁵	50200 lbf 223000 N
C0 - Static Radial Rating	77000 lbf 343000 N
C_{a90} - Dynamic Thrust Rating (90 million revolutions)⁶	10600 lbf 47100 N

Factors

K - Factor⁷	1.23
e - ISO Factor⁸	0.47
Y - ISO Factor⁹	1.26
G1 - Heat Generation Factor (Roller-Raceway)	175
G2 - Heat Generation Factor (Rib-Roller End)	41.7
Cg - Geometry Factor¹⁰	0.152

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.

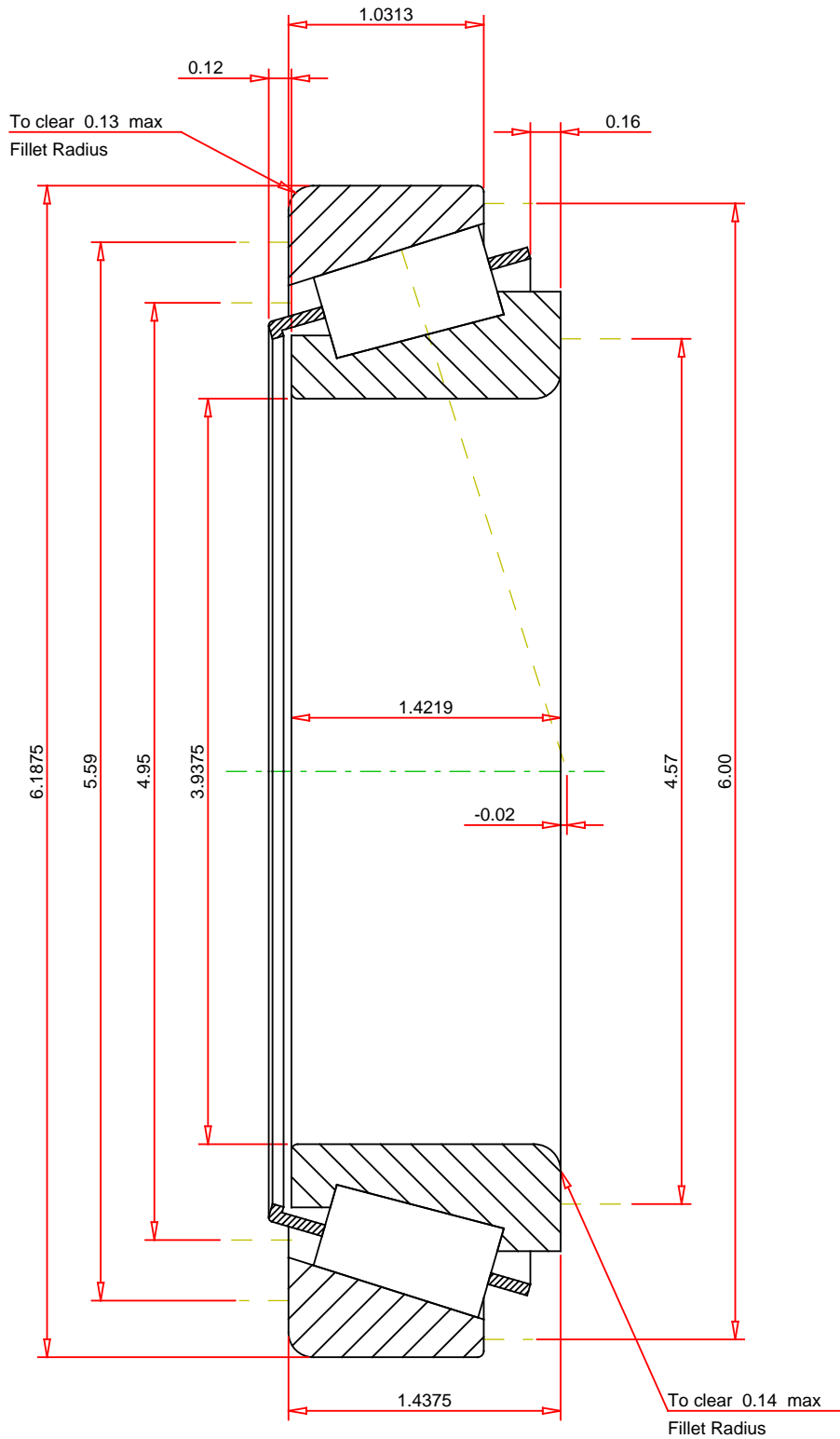
⁶ Based on 90×10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

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.

¹⁰ Geometry constant for Lubrication Life Adjustment Factor a_3 .



IMPERIAL UNITS

ISO Factor - e	0.47
ISO Factor - Y	1.26
Bearing Weight	5.4 lbf
Number of Rollers Per Row	26
Effective Center Location	-0.02 inch

TIMKEN®

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

52393 - 52618
TS BEARING ASSEMBLY

K Factor	1.23
Dynamic Radial Rating - C90	13000 lbf
Dynamic Thrust Rating - Ca90	10600 lbf
Static Radial Rating - C0	77000 lbf
Dynamic Radial Rating - C1	50200 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