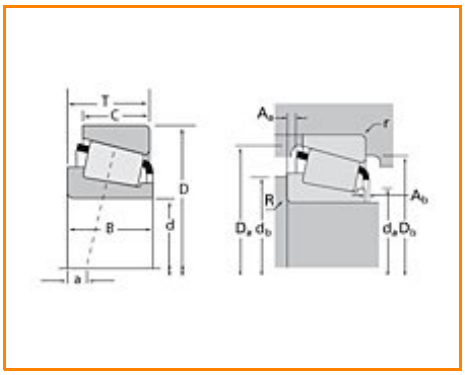
The Timken Company
4500 Mt Pleasant St. NW
N. Canton, OH 44720
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E-Mail: CustomerCAD@timken.com • **Web site:** www.timken.com

Timken Part Number 52400 - 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	52400
Cup Part Number	52618
Design Units	Imperial
Bearing Weight	2.400 Kg 5.30 lb
Cage Type	Stamped Steel

Dimensions

d - Bore	101.600 mm 4.0000 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" Radius[1]	3.560 mm 0.14 in
r - Cup Backface "To Clear" Radius[2]	3.30 mm 0.130 in
da - Cone Frontface Backing Diameter	111 mm 5.06 in
db - Cone Backface Backing Diameter	117.09 mm 4.61 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 Location[3]	-0.50 mm -0.02 in

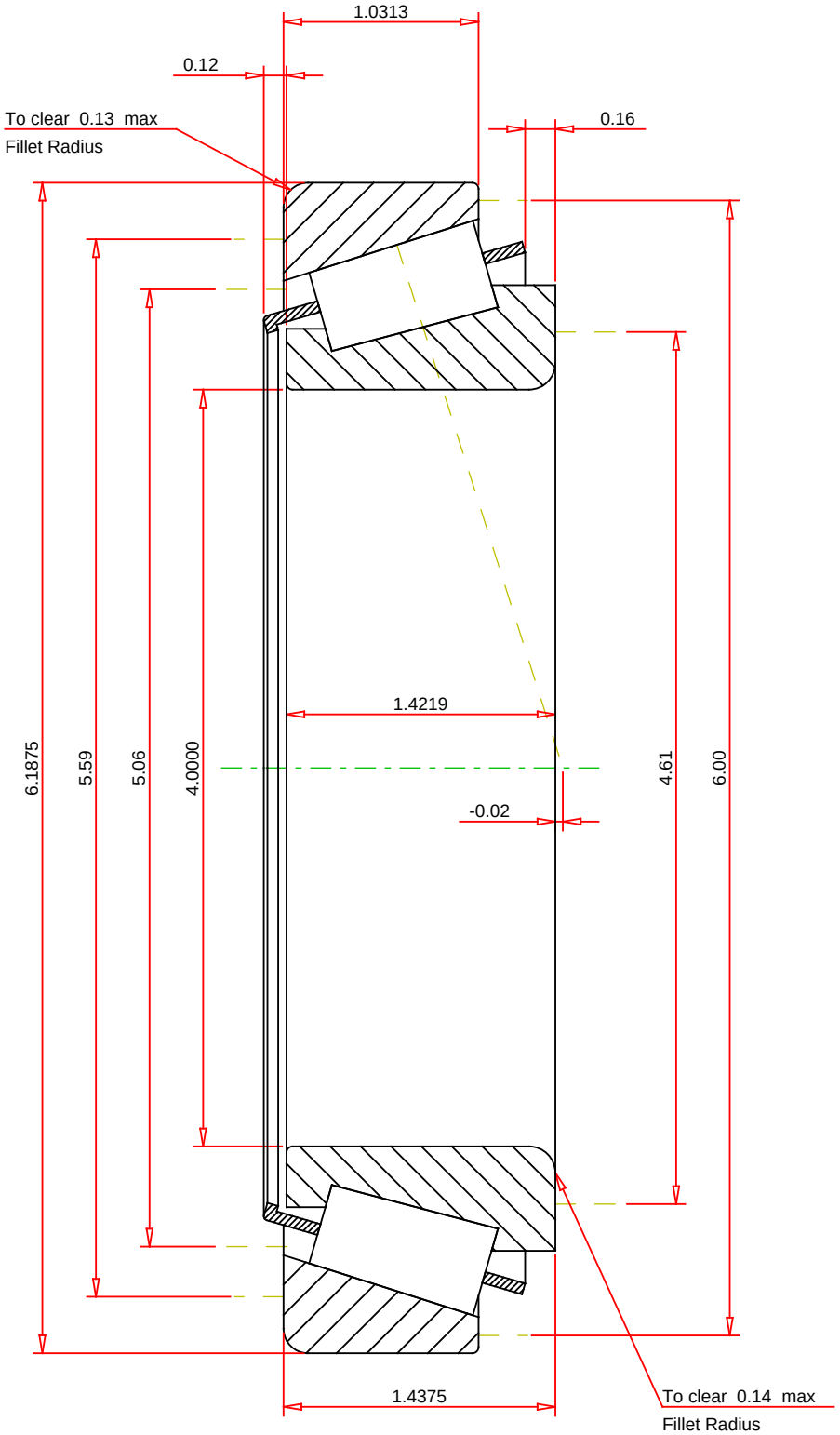
Basic Load Ratings

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

Factors

K - Factor[7]	1.23
e - ISO Factor[8]	0.47
Y - ISO Factor[9]	1.26
G1 - Heat Generation Factor (Roller-Raceway)	175
G2 - Heat Generation Factor (Rib-Roller End)	41.7
Cg - Geometry Factor	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 x 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 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
[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.



IMPERIAL UNITS

ISO Factor - e	0.47	
ISO Factor - Y	1.26	
Bearing Weight	5.3	lb
Number of Rollers Per Row	26	
Effective Center Location	-0.02	inch

TIMKEN

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

52400 - 52618
TS BEARING ASSEMBLY

K Factor	1.23	
Dynamic Radial Rating - C90	57900	lbf
Dynamic Thrust Rating - Ca90	47100	lbf
Static Radial Rating - C0	343000	lbf
Dynamic Radial Rating - C1	223000	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