



The Timken Company

4500 Mt Pleasant St. NW

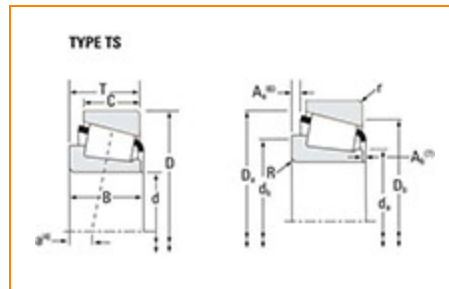
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Part Number 99603 - 99100, Tapered Roller Bearings - TS (Tapered Single) Imperial

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	99000
Cone Part Number	99603
Cup Part Number	99100
Design Units	Imperial
Bearing Weight	12.7 Kg 28.1 lb
Cage Type	Stamped Steel

Dimensions

d - Bore	152.400 mm 6.0000 in
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D - Cup Outer Diameter	254.000 mm 10.0000 in
B - Cone Width	71.438 mm 2.8125 in
C - Cup Width	47.625 mm 1.8750 in
T - Bearing Width	66.675 mm 2.6250 in

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius¹	1.520 mm 0.06 in
r - Cup Backface "To Clear" Radius²	3.3 mm 0.130 in
da - Cone Frontface Backing Diameter	169.93 mm 7.52 in
db - Cone Backface Backing Diameter	169.93 mm 6.69 in
Da - Cup Frontface Backing Diameter	238.30 mm 9.38 in
Db - Cup Backface Backing Diameter	227.08 mm 8.94 in
Ab - Cage-Cone Frontface Clearance	0.8 mm 0.03 in
Aa - Cage-Cone Backface Clearance	8.6 mm 0.34 in
a - Effective Center Location³	-12.2 mm -0.48 in

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)⁴	34100 lbf 152000 N
C1 - Dynamic Radial Rating (1 million revolutions)⁵	132000 lbf 585000 N
C0 - Static Radial Rating	211000 lbf 938000 N
C_{a90} - Dynamic Thrust Rating (90 million revolutions)⁶	23800 lbf 106000 N

Factors

K - Factor⁷	1.43
e - ISO Factor⁸	0.41
Y - ISO Factor⁹	1.47
G1 - Heat Generation Factor (Roller-Raceway)	521.2
G2 - Heat Generation Factor (Rib-Roller End)	69.2
Cg - Geometry Factor¹⁰	0.143

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.

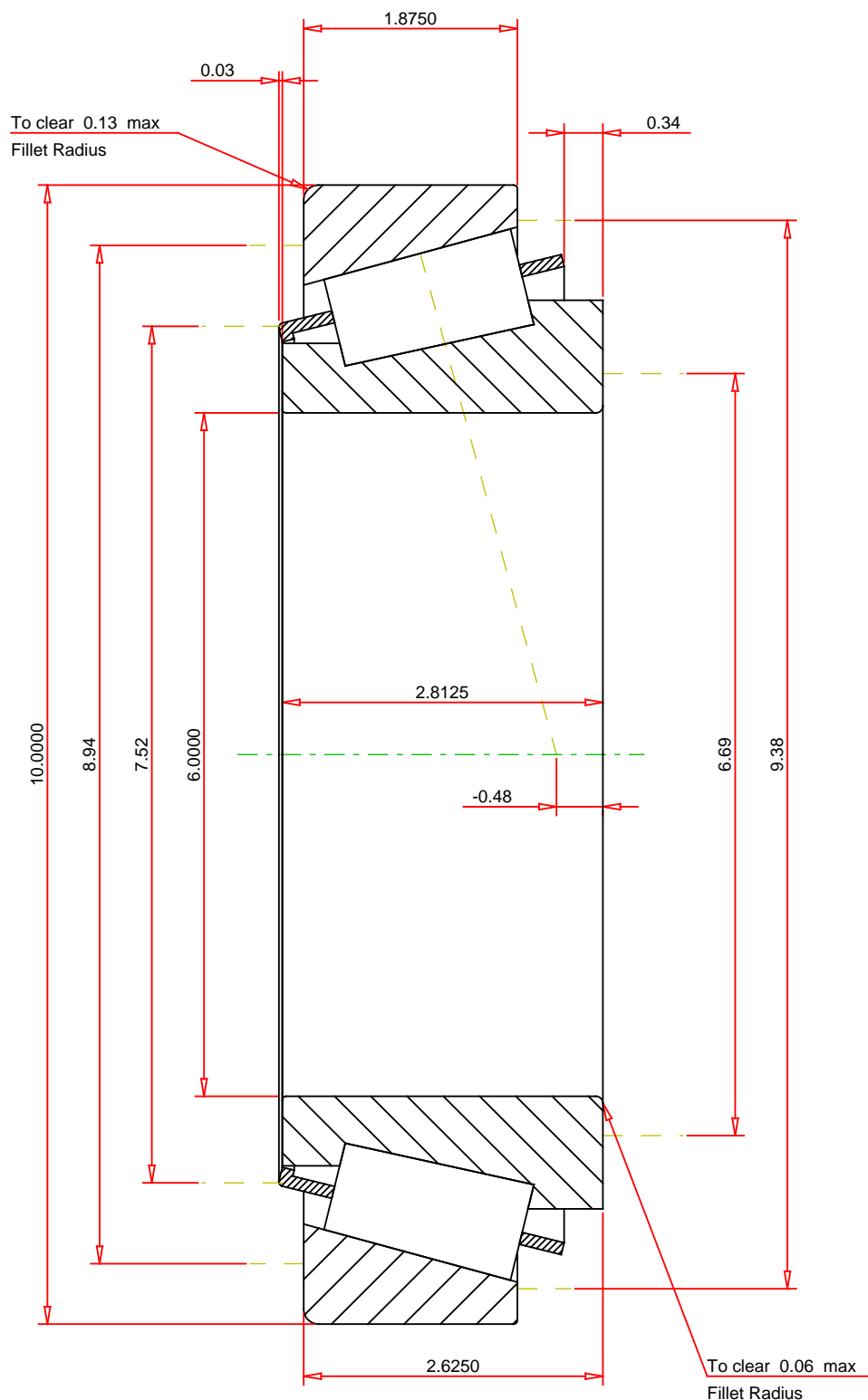
⁶ Based on 90×10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

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	0.41
ISO Factor - Y	1.47
Bearing Weight	28.1 lb
Number of Rollers Per Row	21
Effective Center Location	-0.48 inch

TIMKEN®

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

99603 - 99100
TS BEARING ASSEMBLY

K Factor	1.43
Dynamic Radial Rating - C90	34100 lbf
Dynamic Thrust Rating - Ca90	23800 lbf
Static Radial Rating - C0	211000 lbf
Dynamic Radial Rating - C1	132000 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