The Timken Company
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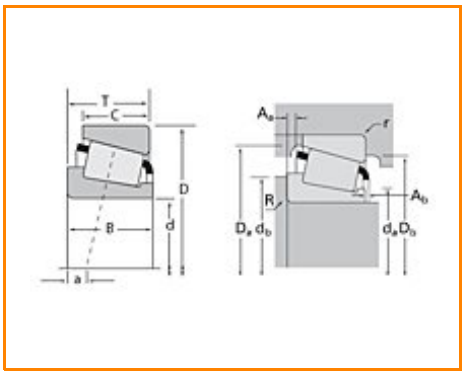
Timken Part Number 99500 - 99100, Tapered Roller Bearings - TS (Tapered Single) Imperial

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	99500
Cup Part Number	99100
Design Units	Imperial
Bearing Weight	15.500 Kg 34.100 lb
Cage Type	Stamped Steel

Dimensions

d - Bore	127 mm 5 in

D - Cup Outer Diameter	254.000 mm 10.0000 in
B - Cone Width	66.675 mm 2.6250 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" Radius[1]	6.35 mm 0.25 in
r - Cup Backface "To Clear" Radius[2]	3.30 mm 0.130 in
da - Cone Frontface Backing Diameter	149.10 mm 6.80 in
db - Cone Backface Backing Diameter	159.00 mm 6.26 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	4.8 mm 0.19 in
Aa - Cage-Cone Backface Clearance	8.6 mm 0.34 in
a - Effective Center Location[3]	-12.2 mm -0.48 in

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)[4]	171000 N 38500 lbf
C1 - Dynamic Radial Rating (1 million revolutions)[5]	660000 N 148000 lbf
C0 - Static Radial Rating	1030000 N 231000 lbf
C_{a90} - Dynamic Thrust Rating (90 million revolutions)[6]	119000 N 26800 lbf

Factors

K - Factor[7]	1.43
e - ISO Factor[8]	0.41
Y - ISO Factor[9]	1.47
G1 - Heat Generation Factor (Roller-Raceway)	556
G2 - Heat Generation Factor (Rib-Roller End)	73.5
Cg - Geometry Factor	0.146

[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.
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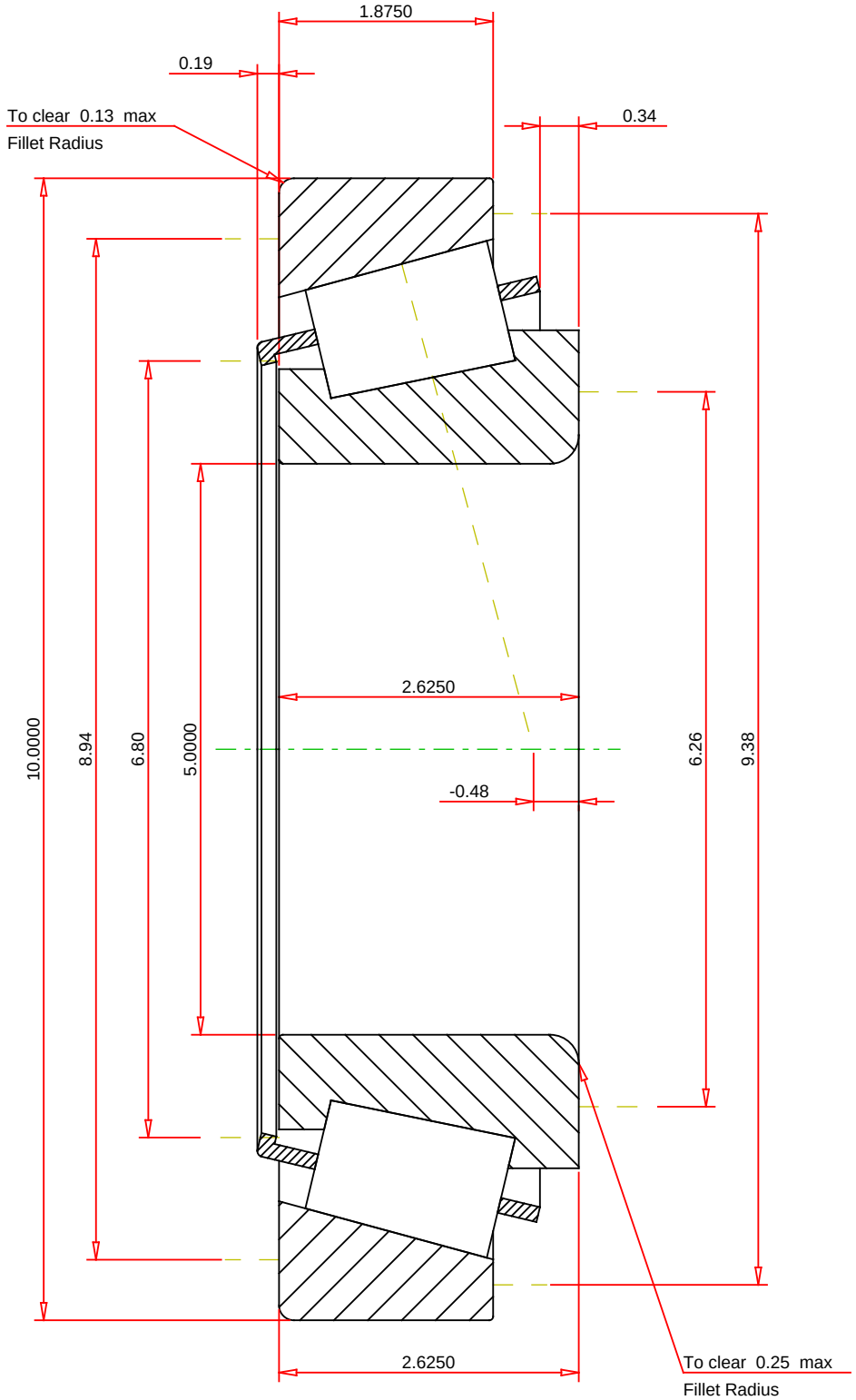

IMPERIAL UNITS

ISO Factor - e	0.41	
ISO Factor - Y	1.47	
Bearing Weight	34.1	lb
Number of Rollers Per Row	23	
Effective Center Location	-0.48	inch

TIMKEN®

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

99500 - 99100
TS BEARING ASSEMBLY

K Factor	1.43	
Dynamic Radial Rating - C90	171000	lbf
Dynamic Thrust Rating - Ca90	119000	lbf
Static Radial Rating - C0	1030000	lbf
Dynamic Radial Rating - C1	660000	lbf

FOR DISCUSSION ONLY