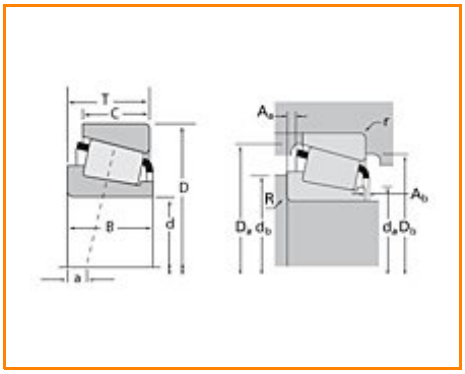
The Timken Company
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Timken Part Number L116149 - L116110, Tapered Roller Bearings - TS (Tapered Single) Imperial

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	L116100
Cone Part Number	L116149
Cup Part Number	L116110
Design Units	Imperial
Bearing Weight	0.700 Kg 1.50 lb
Cage Type	Stamped Steel

Dimensions

d - Bore	82.550 mm 3.2500 in
D - Cup Outer Diameter	115.888 mm 4.5625 in
B - Cone Width	21.433 mm 0.8438 in
C - Cup Width	16.670 mm 0.6563 in
T - Bearing Width	20.638 mm 0.8125 in

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius[1]	1.520 mm 0.06 in
r - Cup Backface "To Clear" Radius[2]	1.52 mm 0.06 in
da - Cone Frontface Backing Diameter	87.88 mm 4.25 in
db - Cone Backface Backing Diameter	89.92 mm 3.54 in
Da - Cup Frontface Backing Diameter	112.00 mm 4.41 in
Db - Cup Backface Backing Diameter	107.95 mm 4.25 in
Ab - Cage-Cone Frontface Clearance	1.8 mm 0.07 in
Aa - Cage-Cone Backface Clearance	0.3 mm 0.01 in
a - Effective Center Location[3]	-1.30 mm -0.05 in

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)[4]	23400 N 5260 lbf
C1 - Dynamic Radial Rating (1 million revolutions)[5]	90200 N 20300 lbf
C0 - Static Radial Rating	147000 N 33100 lbf
C_{a90} - Dynamic Thrust Rating (90 million revolutions)[6]	12300 N 2770 lbf

Factors

K - Factor[7]	1.9
e - ISO Factor[8]	0.31
Y - ISO Factor[9]	1.95
G1 - Heat Generation Factor (Roller-Raceway)	97.2
G2 - Heat Generation Factor (Rib-Roller End)	64.3
Cg - Geometry Factor	0.108

[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.

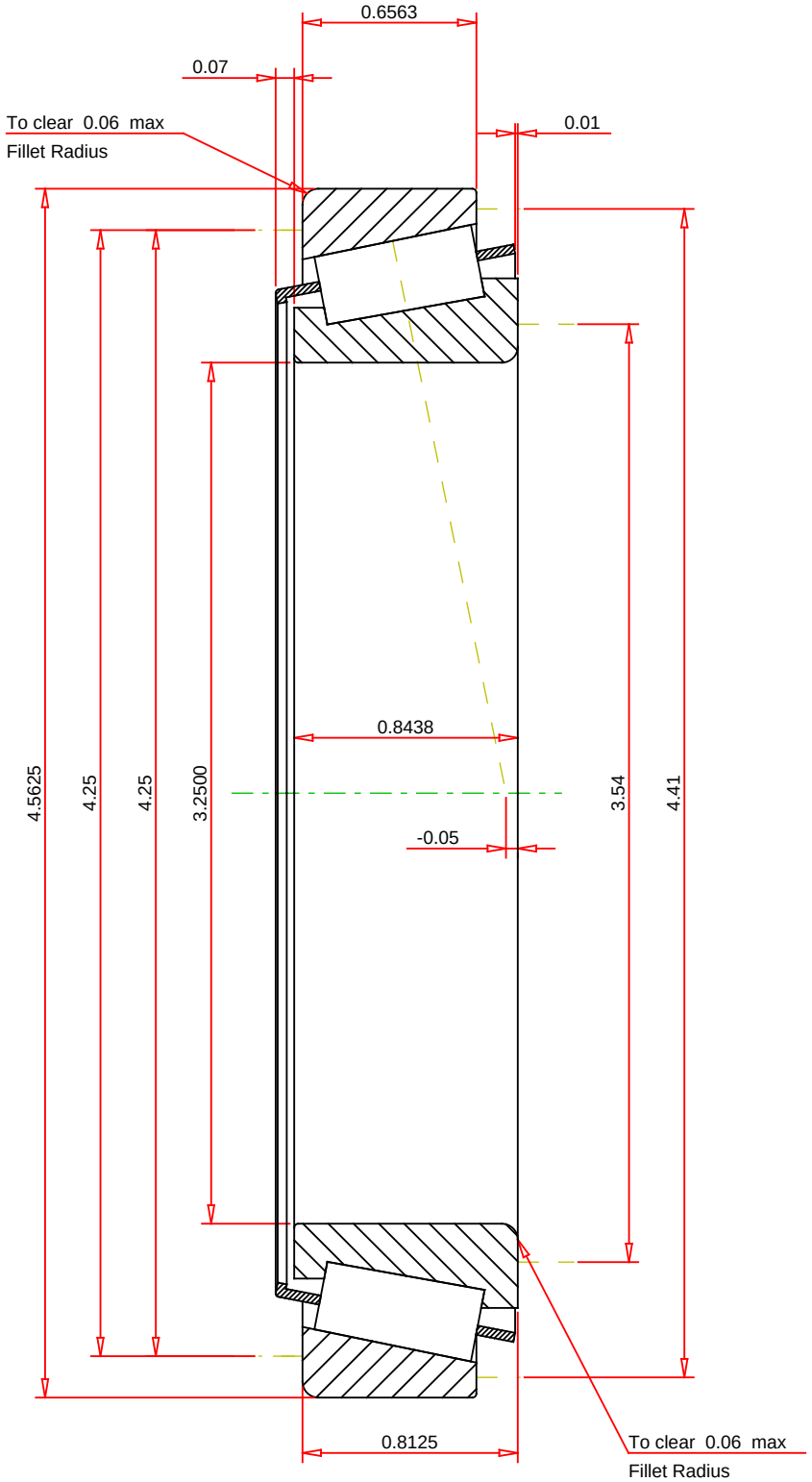
[6] Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

[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	0.31	
ISO Factor - Y	1.95	
Bearing Weight	1.5	lb
Number of Rollers Per Row	32	
Effective Center Location	-0.05	inch

TIMKEN

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

L116149 - L116110
TS BEARING ASSEMBLY

K Factor	1.9	
Dynamic Radial Rating - C90	23400	lbf
Dynamic Thrust Rating - Ca90	12300	lbf
Static Radial Rating - C0	147000	lbf
Dynamic Radial Rating - C1	90200	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