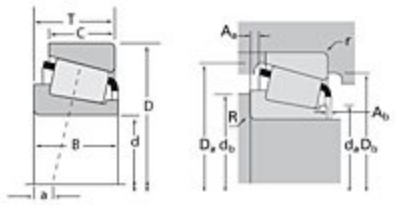
TIMKEN

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

Timken Part Number LL319349 - LL319310, 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	LL319300
Cone Part Number	LL319349
Cup Part Number	LL319310
Design Units	Imperial
Bearing Weight	0.500 Kg 1.20 lb
Cage Type	Stamped Steel

Dimensions

d - Bore	95.250 mm 3.7500 in
D - Cup Outer Diameter	128.588 mm 5.0625 in

B - Cone Width	15.083 mm 0.5938 in
C - Cup Width	11.908 mm 0.4688 in
T - Bearing Width	15.875 mm 0.6250 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	100.08 mm 4.63 in
db - Cone Backface Backing Diameter	103.12 mm 4.06 in
Da - Cup Frontface Backing Diameter	124.00 mm 4.89 in
Db - Cup Backface Backing Diameter	121.92 mm 4.80 in
Ab - Cage-Cone Frontface Clearance	3 mm 0.12 in
Aa - Cage-Cone Backface Clearance	0.3 mm 0.01 in
a - Effective Center Location[3]	4.3 mm 0.17 in

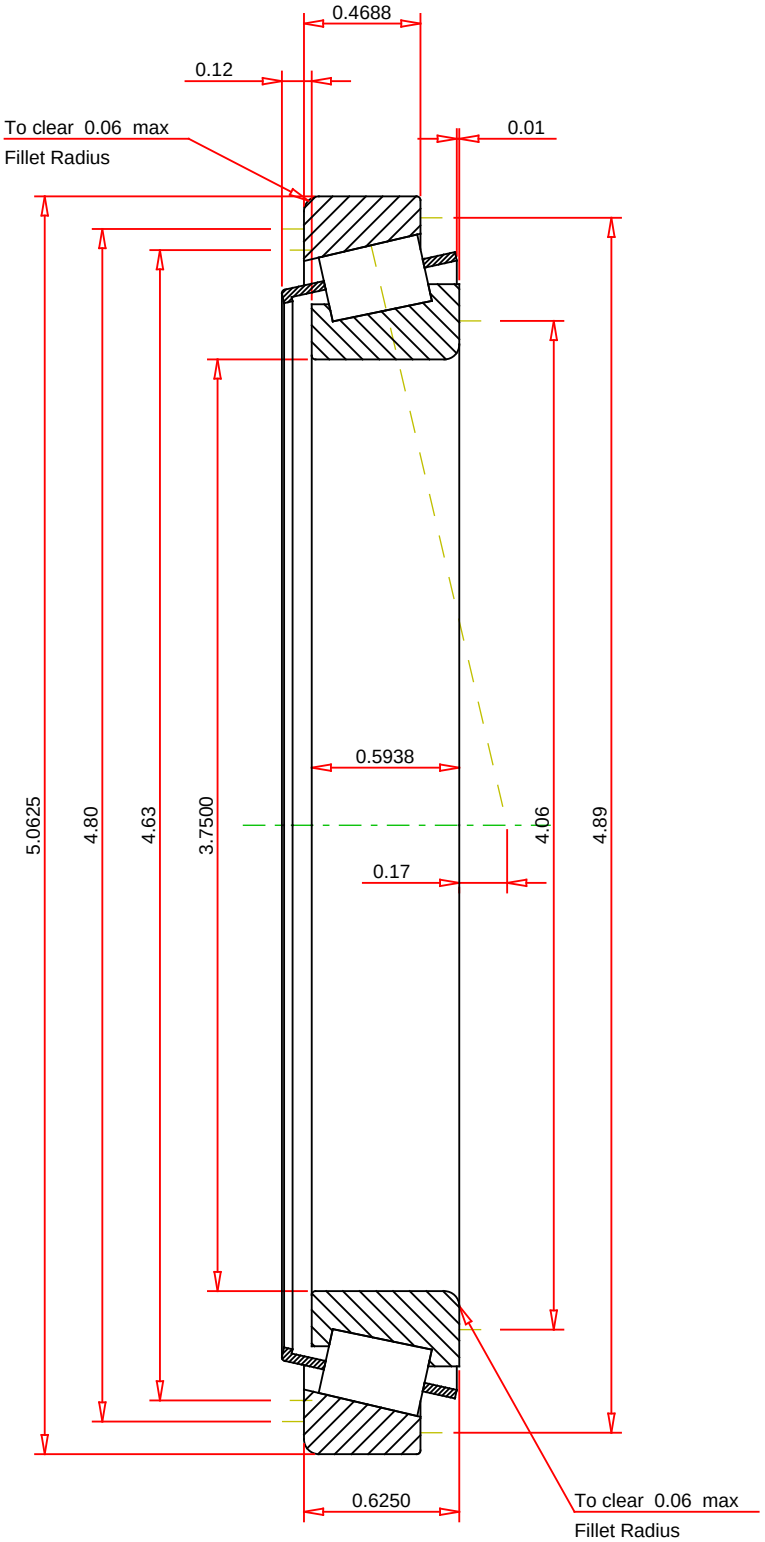
Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)[4]	16500 N 3700 lbf
C1 - Dynamic Radial Rating (1 million revolutions)[5]	63500 N 14300 lbf
C0 - Static Radial Rating	99400 N 22400 lbf
C_{a90} - Dynamic Thrust Rating (90 million revolutions)[6]	9910 N 2230 lbf

Factors

K - Factor[7]	1.66
e - ISO Factor[8]	0.35
Y - ISO Factor[9]	1.71
G1 - Heat Generation Factor (Roller-Raceway)	86.3
G2 - Heat Generation Factor (Rib-Roller End)	88.3
Cg - Geometry Factor	0.107

[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	0.35	
ISO Factor - Y	1.71	
Bearing Weight	1.2	lb
Number of Rollers Per Row	37	
Effective Center Location	0.17	inch

TIMKEN

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

LL319349 - LL319310
TS BEARING ASSEMBLY

K Factor	1.66	
Dynamic Radial Rating - C90	16500	lbf
Dynamic Thrust Rating - Ca90	9910	lbf
Static Radial Rating - C0	99400	lbf
Dynamic Radial Rating - C1	63500	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