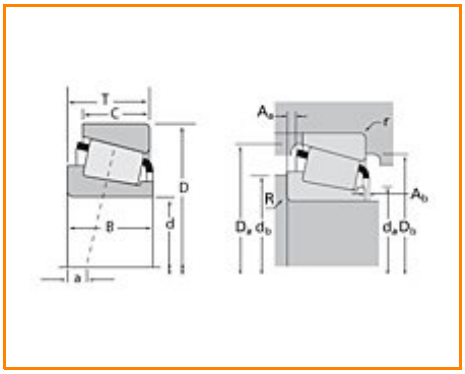
The Timken Company
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Timken Part Number L305649 - L305610, Tapered Roller Bearings - TS (Tapered Single) Imperial

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	L305600
Cone Part Number	L305649
Cup Part Number	L305610
Design Units	Imperial
Bearing Weight	0.400 Kg 0.80 lb
Cage Type	Stamped Steel

Dimensions

d - Bore	50.8 mm 2 in
D - Cup Outer Diameter	80.963 mm 3.1875 in
B - Cone Width	18.258 mm 0.7188 in
C - Cup Width	14.288 mm 0.5625 in
T - Bearing Width	18.258 mm 0.7188 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	55.88 mm 2.20 in
db - Cone Backface Backing Diameter	57.91 mm 2.28 in
Da - Cup Frontface Backing Diameter	77.00 mm 3.05 in
Db - Cup Backface Backing Diameter	72.90 mm 2.87 in
Ab - Cage-Cone Frontface Clearance	2.5 mm 0.1 in
Aa - Cage-Cone Backface Clearance	0 mm 0 in
a - Effective Center Location[3]	-2.5 mm -0.1 in

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)[4]	15800 N 3540 lbf
C1 - Dynamic Radial Rating (1 million revolutions)[5]	60800 N 13700 lbf
C0 - Static Radial Rating	88800 N 20000 lbf
C_{a90} - Dynamic Thrust Rating (90 million revolutions)[6]	9590 N 2160 lbf

Factors

K - Factor[7]	1.64
e - ISO Factor[8]	0.36
Y - ISO Factor[9]	1.69
G1 - Heat Generation Factor (Roller-Raceway)	38.8
G2 - Heat Generation Factor (Rib-Roller End)	27.8
Cg - Geometry Factor	0.0841

[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.

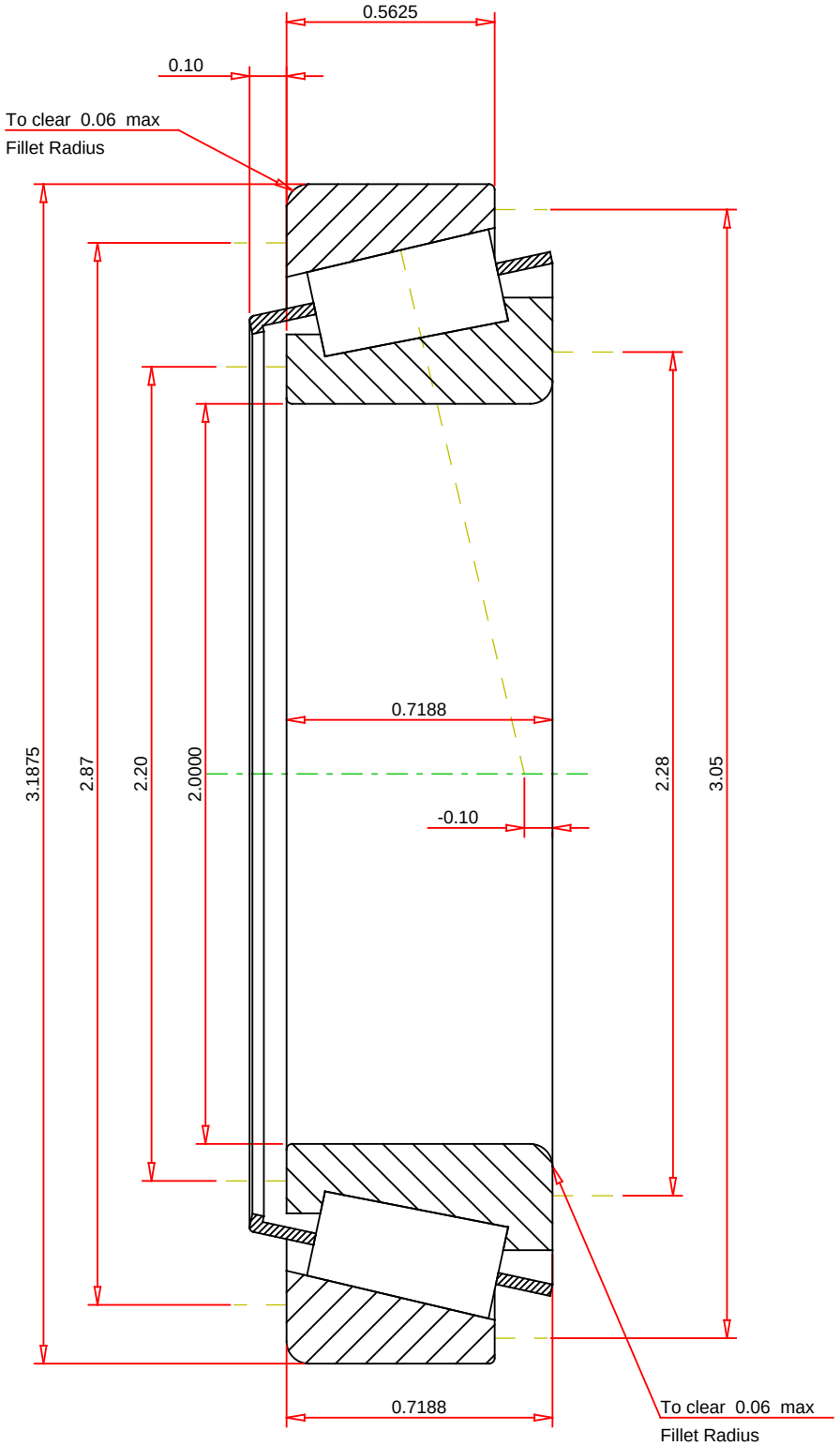
[6] Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

[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	0.36	
ISO Factor - Y	1.69	
Bearing Weight	0.8	lb
Number of Rollers Per Row	27	
Effective Center Location	-0.1	inch

TIMKEN®

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

L305649 - L305610
TS BEARING ASSEMBLY

K Factor	1.64	
Dynamic Radial Rating - C90	15800	lbf
Dynamic Thrust Rating - Ca90	9590	lbf
Static Radial Rating - C0	88800	lbf
Dynamic Radial Rating - C1	60800	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