


The Timken Company

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Timken Part Number L305648 - L305610-B, Tapered Roller Bearings - TSF (Tapered Single with Flange) Imperial

Like the TS bearing design, the TSF design 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. TSF bearings have flanged cups to facilitate axial location and accurately align seals in through-bored housings.



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Specifications

Series	L305600
Cone Part Number	L305648
Cup Part Number	L305610-B
Design Units	Imperial
Bearing Weight	0.80 lb 0.400 Kg
Cage Type	Stamped Steel

Dimensions

d - Bore	1.9680 in 49.987 mm
D - Cup Outer Diameter	3.1875 in 80.963 mm
D1 - Flange Outer Diameter	3.3085 in 84.036 mm
B - Cone Width	0.7188 in 18.258 mm
C - Cup Width	0.5625 in 14.288 mm
C1 - Cup Flange Width	0.1250 in 3.175 mm
T1 - Bearing Width	0.7188 in 18.258 mm
T - Bearing Width to Flange	0.2813 in 7.145 mm

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius¹	0.06 in 1.5 mm
r - Cup Backface "To Clear" Radius²	0.06 in 1.5 mm
da - Cone Frontface Backing Diameter	2.17 in 55.10 mm
db - Cone Backface Backing Diameter	2.24 in 56.90 mm
Da - Cup Frontface Backing Diameter	3.11 in 78.99 mm
Ab - Cage-Cone Frontface Clearance	0.1 in 2.5 mm

Aa - Cage-Cone Backface Clearance	0 in 0 mm
a - Effective Center Location³	-0.1 in -2.5 mm

Basic Load Ratings

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

Factors

K - Factor⁷	1.64
e - ISO Factor⁸	0.36
Y - ISO Factor⁹	1.69
G1 - Heat Generation Factor (Roller-Raceway)¹⁰	38.8
G2 - Heat Generation Factor (Rib-Roller End)	27.8
Cg - Geometry Factor¹¹	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 90×10^6 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.

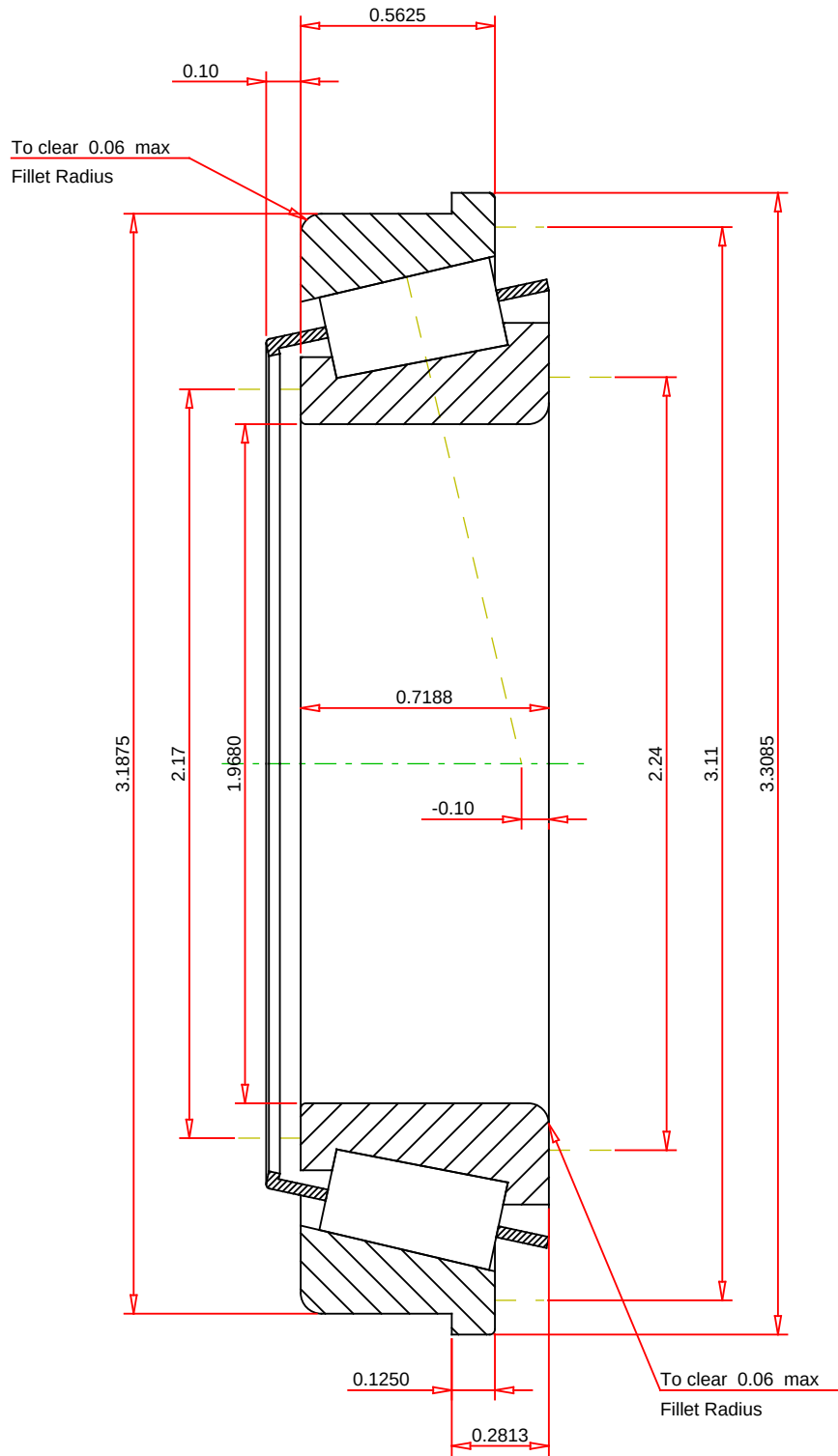
⁷ These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

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 These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

¹¹ Geometry constant for Lubrication Life Adjustment Factor a_3 .



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

L305648 - L305610-B
TSF BEARING ASSEMBLY

K Factor	1.64	
Dynamic Radial Rating - C90	3540	lbf
Dynamic Thrust Rating - Ca90	2160	lbf
Static Radial Rating - C0	20000	lbf
Dynamic Radial Rating - C1	13700	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.

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