

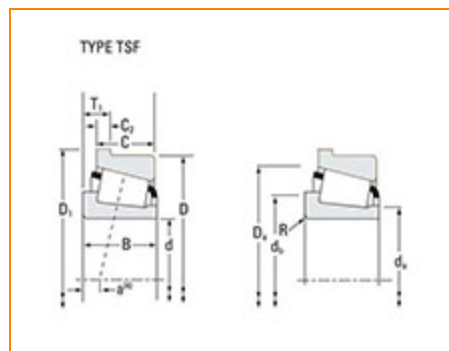


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Part Number LM451349 - LM451310-B, Tapered Roller Bearings - TSF (Tapered Single with Flange) Imperial

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.



[Specifications](#) | [Dimensions](#) | [Abutment and Fillet Dimensions](#) | [Basic Load Ratings](#) | [Factors](#)

Specifications

Series	LM451300
Cone Part Number	LM451349
Cup Part Number	LM451310-B
Design Units	Imperial
Bearing Weight	34.6 lb 15.7 Kg
Cage Type	Stamped Steel

Dimensions

d - Bore	10.5 in 266.7 mm
D - Cup Outer Diameter	14 in 355.6 mm
D1 - Flange Outer Diameter	14.3750 in 365.125 mm
B - Cone Width	2.2500 in 57.150 mm
C - Cup Width	1.7500 in 44.450 mm
C1 - Cup Flange Width	0.3750 in 9.525 mm
T1 - Bearing Width	2.250 in 57.15 mm
T - Bearing Width to Flange	0.8750 in 22.225 mm

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius¹	0.14 in 3.600 mm
r - Cup Backface "To Clear" Radius²	0.130 in 3.3 mm
da - Cone Frontface Backing Diameter	11.06 in 280.90 mm
db - Cone Backface Backing Diameter	11.22 in 285 mm
Da - Cup Frontface Backing Diameter	13.58 in 343.92 mm
Ab - Cage-Cone Frontface Clearance	0.18 in 4.6 mm
Aa - Cage-Cone Backface	0.19 in

Clearance	4.8 mm
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a - Effective Center Location ³	0.2 in 5.1 mm
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Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions) ⁴	43300 lbf 193000 N
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C1 - Dynamic Radial Rating (1 million revolutions) ⁵	167000 lbf 743000 N
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C0 - Static Radial Rating	339000 lbf 1510000 N
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C _{a90} - Dynamic Thrust Rating (90 million revolutions) ⁶	26700 lbf 119000 N
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Factors

K - Factor ⁷	1.62
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e - ISO Factor ⁸	0.36
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Y - ISO Factor ⁹	1.67
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G1 - Heat Generation Factor (Roller-Raceway) ¹⁰	1550
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G2 - Heat Generation Factor (Rib-Roller End)	212
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C _g - Geometry Factor ¹¹	0.154
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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 L₁₀ life, for The Timken Company life calculation method. C₉₀ and C_{a90} are radial and thrust values.

⁵ Based on 1×10^6 revolutions L₁₀ life, for the ISO life calculation method.

Based on 1×10^7 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.

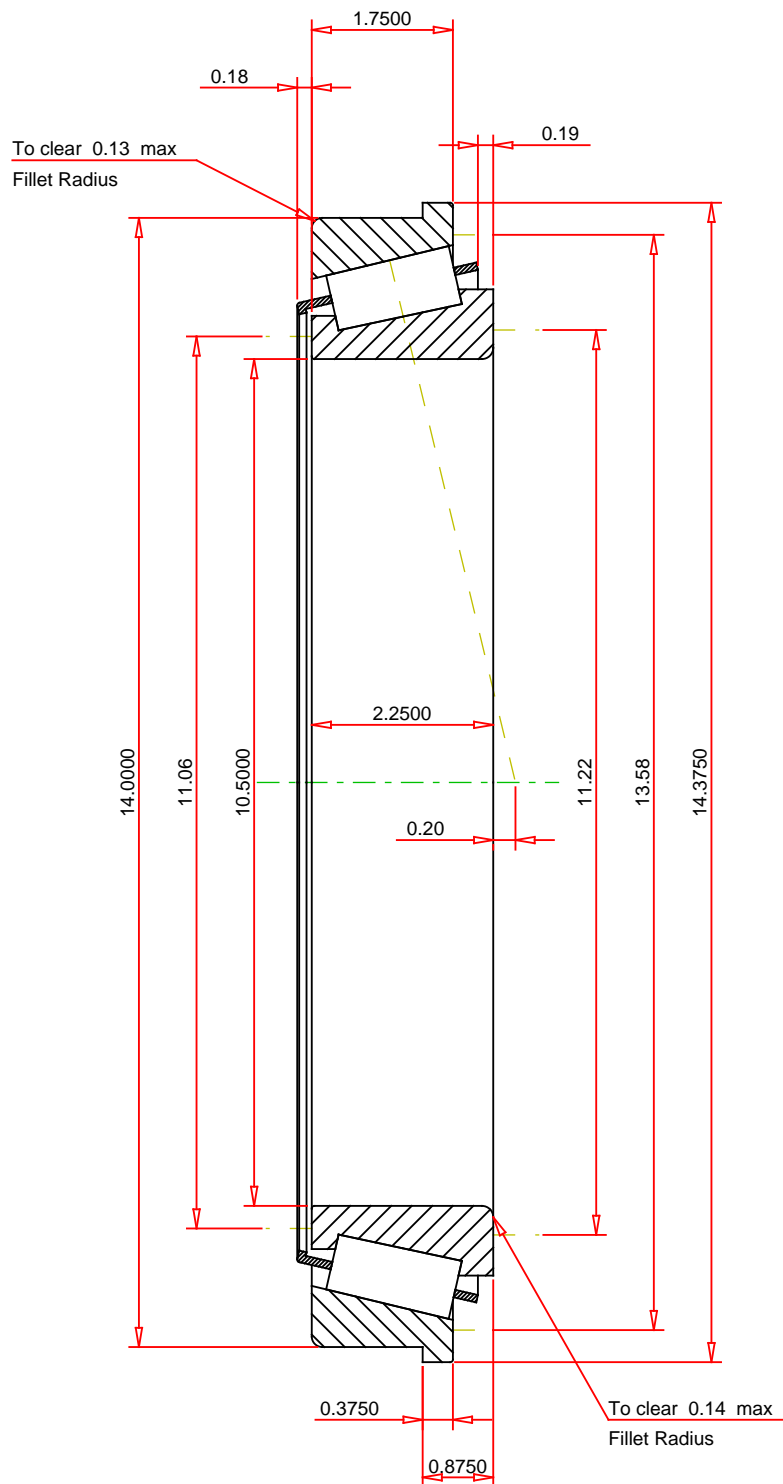
⁷ These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

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 1.67
Bearing Weight 34.6 lb
Number of Rollers Per Row 39
Effective Center Location 0.2 inch

TIMKEN®

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

LM451349 - LM451310-B
TSF BEARING ASSEMBLY

K Factor 1.62
Dynamic Radial Rating - C90 43300 lbf
Dynamic Thrust Rating - Ca90 26700 lbf
Static Radial Rating - C0 339000 lbf
Dynamic Radial Rating - C1 167000 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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