

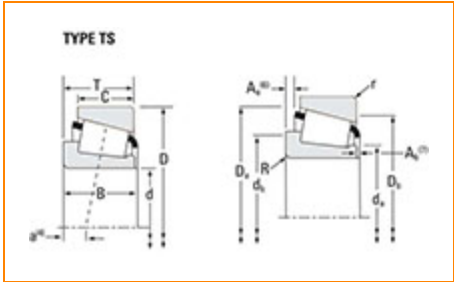


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Part Number HM813842 - HM813811, Tapered Roller Bearings - TS (Tapered Single)

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	HM813800
Cone Part Number	HM813842
Cup Part Number	HM813811
Design Unit	Inch
Bearing Weight	4.6 lb 2.1 Kg
Cage Material	Stamped Steel

Dimensions	
	2 1/2 in

d - Bore	$\angle \perp / \angle \parallel$ 63.500 mm
D - Cup Outer Diameter	5 in 127 mm
B - Cone Width	1.4375 in 36.513 mm
C - Cup Width	1.0625 in 26.988 mm
T - Bearing Width	1.4375 in 36.513 mm

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius¹	0.14 in 3.6 mm
r - Cup Backface "To Clear" Radius²	0.06 in 1.52 mm
da - Cone Frontface Backing Diameter	3.07 in 78 mm
db - Cone Backface Backing Diameter	3.31 in 84 mm
Da - Cup Frontface Backing Diameter	4.80 in 121.90 mm
Db - Cup Backface Backing Diameter	4.45 in 113.03 mm
Ab - Cage-Cone Frontface Clearance	0.08 in 2 mm
Aa - Cage-Cone Backface Clearance	0.14 in 3.6 mm
a - Effective Center Location³	-0.15 in -3.8 mm

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)⁴	13400 lbf 59400 N
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C1 - Dynamic Radial Rating (1 million revolutions)⁵	51500 lbf 229000 N
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C0 - Static Radial Rating	57600 lbf 256000 N
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C_{a90} - Dynamic Thrust Rating (90 million revolutions)⁶	11500 lbf 51100 N
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Factors

K - Factor⁷	1.16
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e - ISO Factor⁸	0.5
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Y - ISO Factor⁹	1.2
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C_g - Geometry Factor¹⁰	0.125
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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 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.

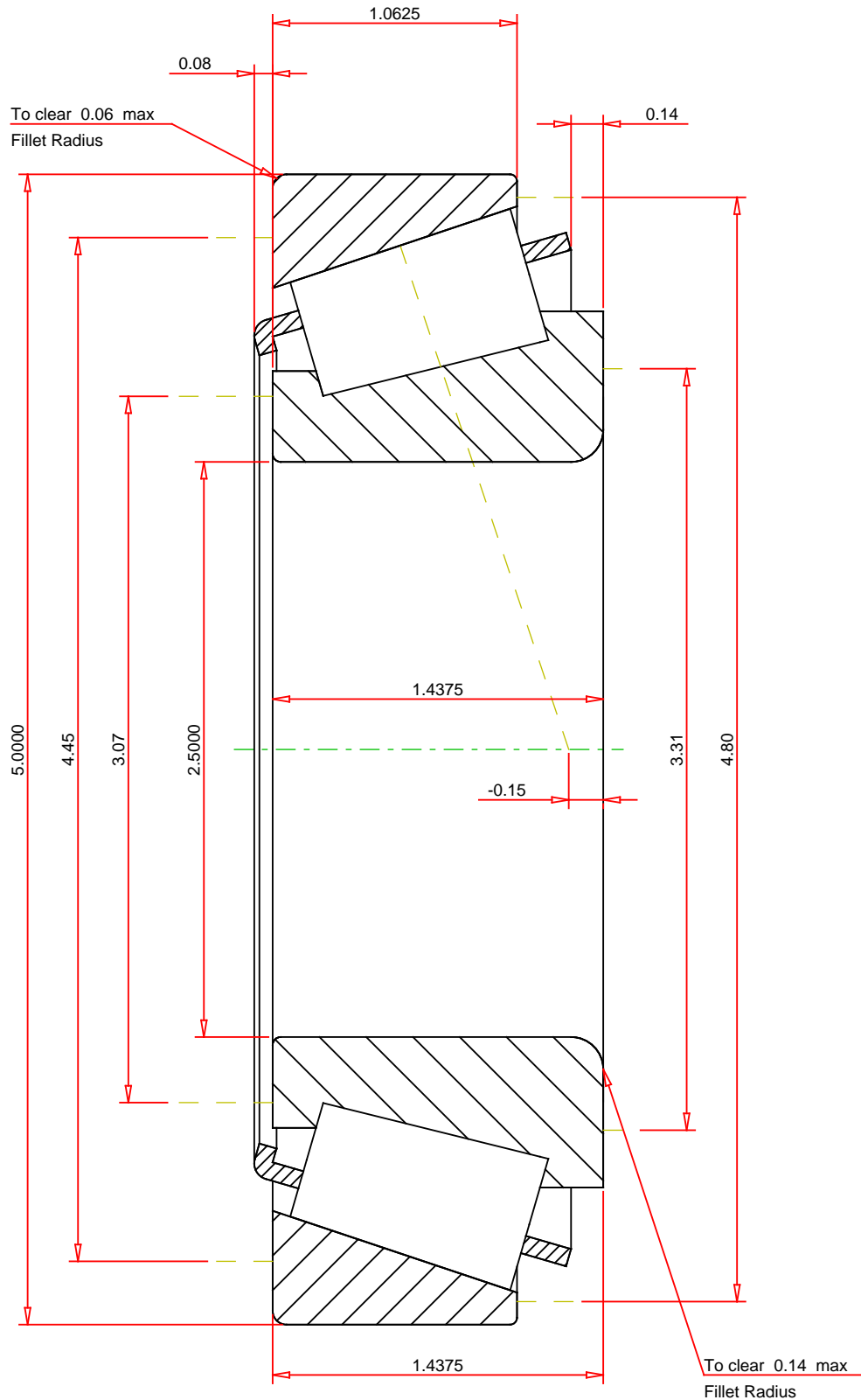
⁶ Based on 90×10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

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 Geometry constant for Lubrication Life Adjustment Factor a_3 .



IMPERIAL UNITS

ISO Factor - e 0.5
ISO Factor - Y 1.2
Bearing Weight 4.6 lbf
Number of Rollers Per Row 20
Effective Center Location -0.15 inch

TIMKEN®

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

HM813842 - HM813811
Tapered Roller Bearings - TS (Tapered Single)
Imperial

K Factor	1.16	
Dynamic Radial Rating - C90	13400	lbf
Dynamic Thrust Rating - Ca90	11500	lbf
Static Radial Rating - C0	57600	lbf
Dynamic Radial Rating - C1	51500	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