TIMKEN

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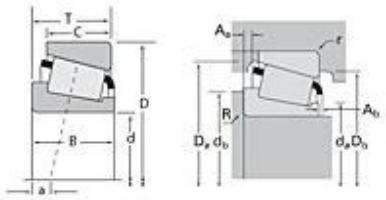
Timken Part Number 13889 - 13836, Tapered Roller Bearings - TS (Tapered Single) Imperial

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.





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Specifications

Series	13800
Cone Part Number	13889
Cup Part Number	13836
Design Units	Imperial
Bearing Weight	0.4 lb 0.200 Kg
Cage Type	Stamped Steel

Dimensions

d - Bore	1.5 in 38.1 mm
D - Cup Outer Diameter	2.5625 in 65.088 mm

B - Cone Width	0.4688 in 11.908 mm
C - Cup Width	0.3750 in 9.525 mm
T - Bearing Width	0.5000 in 12.700 mm

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius[1]	0.060 in 1.520 mm
r - Cup Backface "To Clear" Radius[2]	0.030 in 0.76 mm
da - Cone Frontface Backing Diameter	1.67 in 42.42 mm
db - Cone Backface Backing Diameter	1.77 in 44.96 mm
Da - Cup Frontface Backing Diameter	2.44 in 61.00 mm
Db - Cup Backface Backing Diameter	2.32 in 58.93 mm
Ab - Cage-Cone Frontface Clearance	0.08 in 2 mm
Aa - Cage-Cone Backface Clearance	-0.01 in -0.3 mm
a - Effective Center Location[3]	-0.03 in -0.80 mm

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)[4]	1580 lbf 7040 N
C1 - Dynamic Radial Rating (1 million revolutions)[5]	6100 lbf 27200 N
C0 - Static Radial Rating	7430 lbf 33000 N
C_{a90} - Dynamic Thrust Rating (90 million revolutions)[6]	938 lbf 4170 N

Factors

K - Factor[7]	1.69
e - ISO Factor[8]	0.35
Y - ISO Factor[9]	1.73
G1 - Heat Generation Factor (Roller-Raceway)	14.8
G2 - Heat Generation Factor (Rib-Roller End)	23.3
Cg - Geometry Factor	0.0601

[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.
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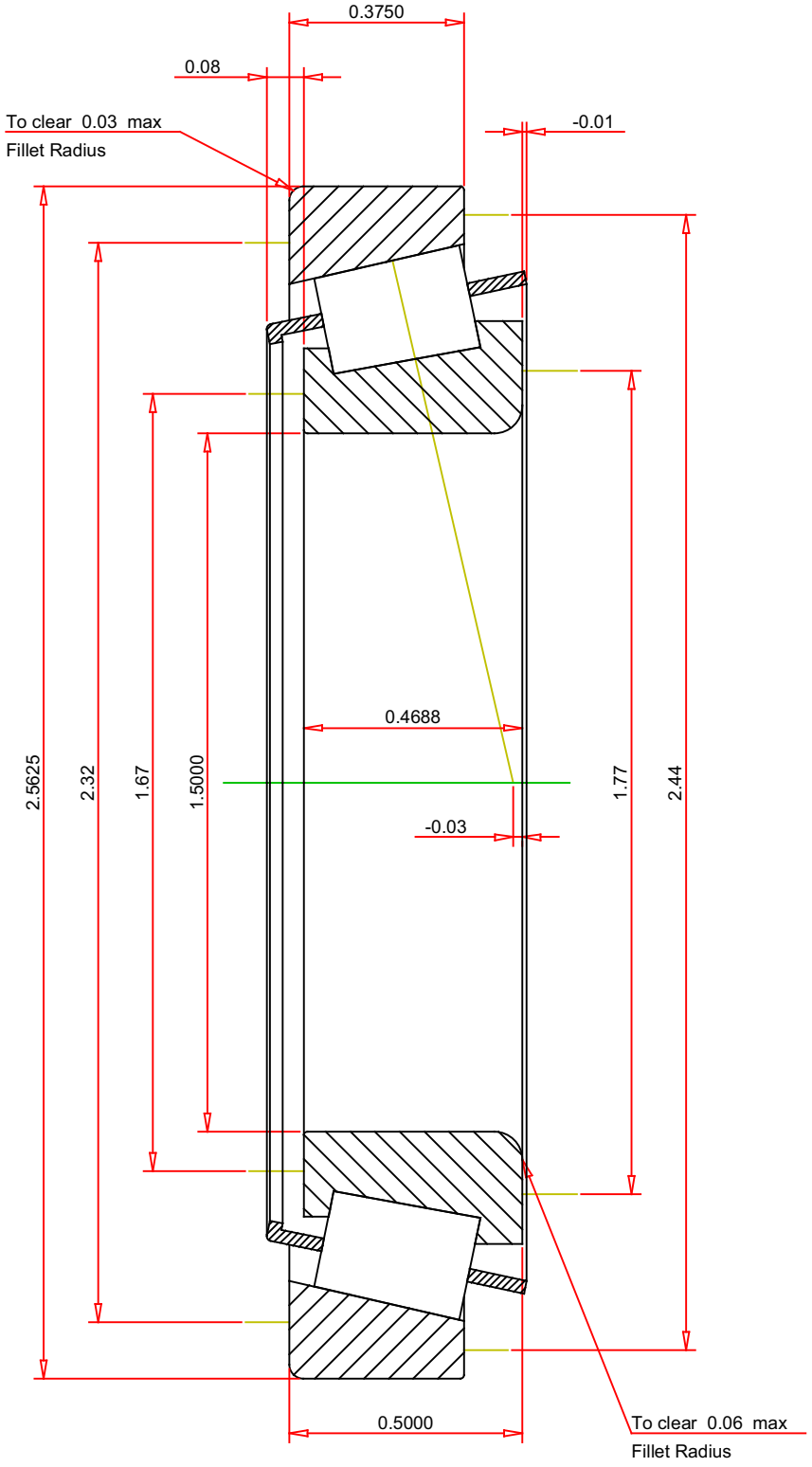

IMPERIAL UNITS

ISO Factor - e	0.35	
ISO Factor - Y	1.73	
Bearing Weight	0.4	lb
Number of Rollers Per Row	24	
Effective Center Location	-0.03	inch

TIMKEN®

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

13889 - 13836
TS BEARING ASSEMBLY

K Factor	1.69	
Dynamic Radial Rating - C90	1580	lbf
Dynamic Thrust Rating - Ca90	938	lbf
Static Radial Rating - C0	7430	lbf
Dynamic Radial Rating - C1	6100	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