


The Timken Company

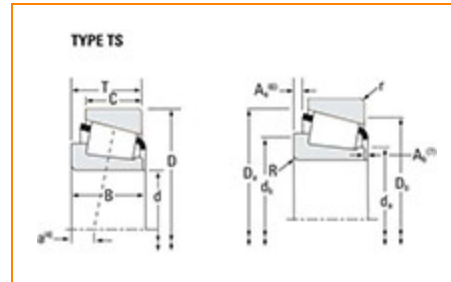
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Part Number 16150 - 16283, Tapered Roller Bearings - TS (Tapered Single) Imperial

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	16000
Cone Part Number	16150
Cup Part Number	16283
Design Unit	Inch
Bearing Weight	0.9 lb 0.4 Kg
Cage Material	Stamped Steel

Dimensions

- Bore

 1 1/2 in
38.1 mm

D - Cup Outer Diameter	2.844 in 72.238 mm
B - Cone Width	0.8125 in 20.638 mm
C - Cup Width	0.7500 in 19.050 mm
T - Bearing Width	0.9375 in 23.813 mm

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius¹	0.140 in 3.6 mm
r - Cup Backface "To Clear" Radius²	0.090 in 2.29 mm
da - Cone Frontface Backing Diameter	1.69 in 43 mm
db - Cone Backface Backing Diameter	1.95 in 49.5 mm
Da - Cup Frontface Backing Diameter	2.68 in 67.10 mm
Db - Cup Backface Backing Diameter	2.40 in 60.96 mm
Ab - Cage-Cone Frontface Clearance	0.07 in 1.8 mm
Aa - Cage-Cone Backface Clearance	0.02 in 0.5 mm
a - Effective Center Location³	-0.16 in -4.1 mm

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)⁴	3300 lbf 14700 N
C1 - Dynamic Radial Rating (1 million revolutions)⁵	12700 lbf 56600 N
C0 - Static Radial Rating	14800 lbf 65800 N
C_{a90} - Dynamic Thrust Rating (90 million revolutions)⁶	2270 lbf 10100 N

Factors

K - Factor⁷	1.45
e - ISO Factor⁸	0.4
Y - ISO Factor⁹	1.49
G1 - Heat Generation Factor (Roller-Raceway)	20.3
G2 - Heat Generation Factor (Rib-Roller End)	10.6
C_g - Geometry Factor¹⁰	0.0707

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.

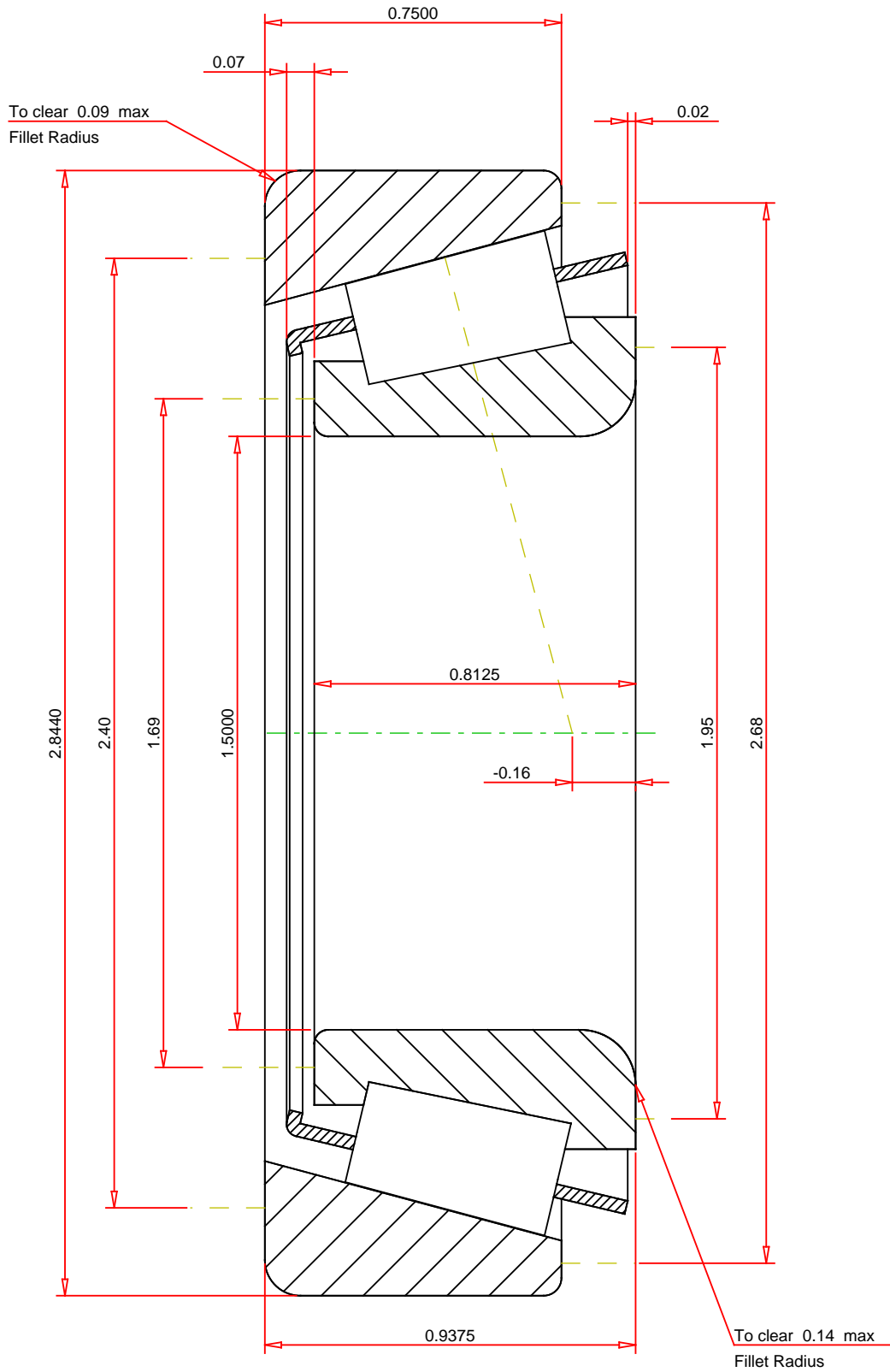
⁶ Based on 90×10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

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 a3l.



IMPERIAL UNITS

ISO Factor - e	0.4
ISO Factor - Y	1.49
Bearing Weight	0.9 lb
Number of Rollers Per Row	18
Effective Center Location	-0.16 inch

TIMKEN®

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

16150 - 16283
Tapered Roller Bearings - TS (Tapered Single)
Imperial

K Factor	1.45
Dynamic Radial Rating - C90	3300 lbf
Dynamic Thrust Rating - Ca90	2270 lbf
Static Radial Rating - C0	14800 lbf
Dynamic Radial Rating - C1	12700 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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