


The Timken Company

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Part Number 56425 - 56650, 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	56000
Cone Part Number	56425
Cup Part Number	56650
Design Unit	Inch
Bearing Weight	5.8 lb 2.6 Kg
Cage Material	Stamped Steel

Dimensions


- Bore

 4-1/4 in
107.95 mm

D - Cup Outer Diameter	6.5 in 165.1 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	0.140 in 3.6 mm
r - Cup Backface "To Clear" Radius²	0.130 in 3.3 mm
da - Cone Frontface Backing Diameter	4.61 in 117 mm
db - Cone Backface Backing Diameter	4.84 in 123 mm
Da - Cup Frontface Backing Diameter	6.30 in 160.00 mm
Db - Cup Backface Backing Diameter	5.87 in 149.10 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	0.08 in 2 mm

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)⁴	13200 lbf 58700 N
C1 - Dynamic Radial Rating (1 million revolutions)⁵	50900 lbf 226000 N
C0 - Static Radial Rating	79700 lbf 355000 N
C_{a90} - Dynamic Thrust Rating (90 million revolutions)⁶	11200 lbf 50000 N

Factors

K - Factor⁷	1.18
e - ISO Factor⁸	0.5
Y - ISO Factor⁹	1.21
G1 - Heat Generation Factor (Roller-Raceway)	191
G2 - Heat Generation Factor (Rib-Roller End)	47.7
Cg - Geometry Factor¹⁰	0.158

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.

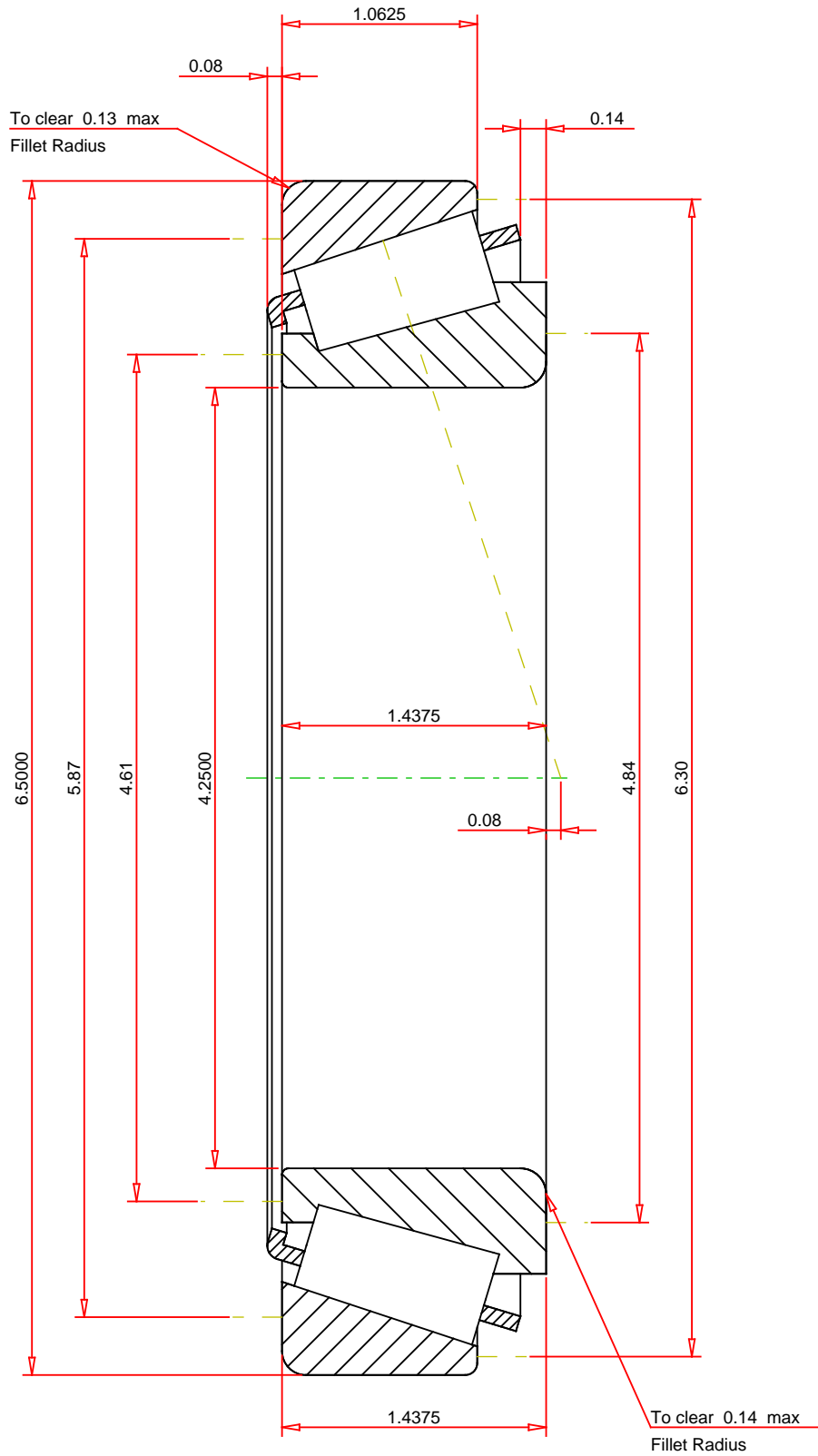
⁶ Based on 90×10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

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	1.21
Bearing Weight	5.8 lb
Number of Rollers Per Row	27
Effective Center Location	0.08 inch

TIMKEN®

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

56425 - 56650
Tapered Roller Bearings - TS (Tapered Single)
Imperial

K Factor	1.18
Dynamic Radial Rating - C90	13200 lbf
Dynamic Thrust Rating - Ca90	11200 lbf
Static Radial Rating - C0	79700 lbf
Dynamic Radial Rating - C1	50900 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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