



The Timken Company

4500 Mt Pleasant St. NW

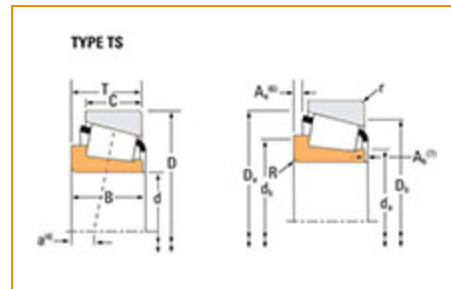
N. Canton, OH 44720

Phone: (234) 262-3000

E-Mail: CustomerCAD@timken.com • Web site: www.timken.com

Part Number A4050, Tapered Roller Bearings - Single Cones - 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	A4000
Cone Part Number	A4050
Design Units	Imperial
Cage Type	Stamped Steel
C1 - Dynamic Radial Rating (Two-Row, 1 million revolutions) ¹	5150 lbf 22900 N
C90(2) - Dynamic Radial Rating (Two-Row, 90 million revolutions) ²	1330 lbf 5940 N

Dimensions

d - Bore	0.5000 in 12.700 mm
B - Cone Width	0.4326 in 10.988 mm

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius³	0.050 in 1.300 mm
da - Cone Frontface Backing Diameter	0.67 in 17 mm
db - Cone Backface Backing Diameter	0.73 in 18.5 mm
Ab - Cage-Cone Frontface Clearance	0.07 in 1.8 mm
Aa - Cage-Cone Backface Clearance	0 in 0 mm
a - Effective Center Location⁴	-0.1 in -2.5 mm

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)⁵	767 lbf 3410 N
C1 - Dynamic Radial Rating (1 million revolutions)⁶	2960 lbf 13200 N
C0 - Static Radial Rating	2580 lbf 11500 N
C_{a90} - Dynamic Thrust Rating (90 million revolutions)⁷	594 lbf 2640 N

Factors

K - Factor ⁸	1.29
G1 - Heat Generation Factor (Roller-Raceway)	2.3
G2 - Heat Generation Factor (Rib-Roller End)	4.12
Cg - Geometry Factor ⁹	0.0355

¹ Based on 1×10^6 revolutions L_{10} life, for the ISO life calculation method.

² 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.

³ These maximum fillet radii will be cleared by the bearing corners.

⁴ Negative value indicates effective center inside cone backface.

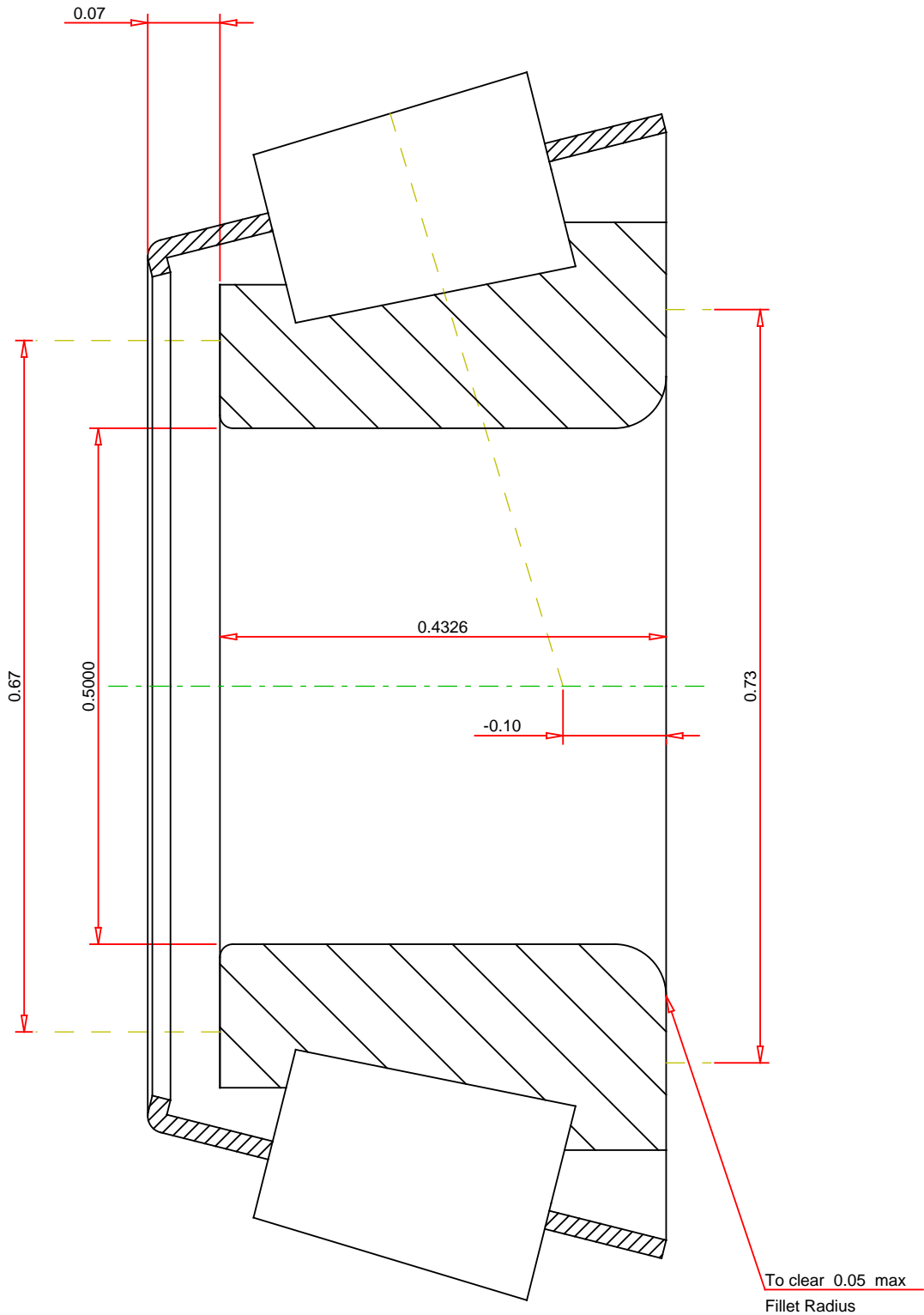
⁵ Based on 90×10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.

⁶ Based on 1×10^6 revolutions L_{10} life, for the ISO life calculation method.

⁷ 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.

⁸ These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

⁹ Geometry constant for Lubrication Life Adjustment Factor a3l.



IMPERIAL UNITS

Number of Rollers Per Row

12

TIMKEN®

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

A4050
SINGLE TAPERED CONE

K Factor	1.29
Dynamic Radial Rating - C90	767 lbf
Dynamic Thrust Rating - Ca90	594 lbf
Dynamic Radial Rating - C1	2960 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