


The Timken Company

4500 Mt Pleasant St. NW

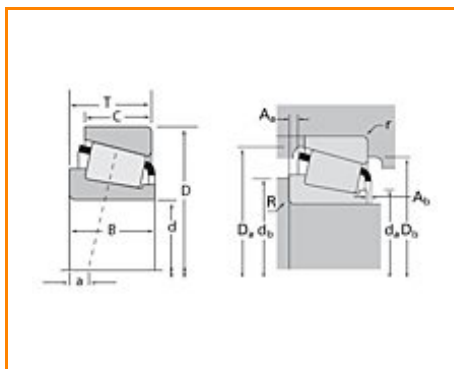
N. Canton, OH 44720

Phone: (234) 262-3000

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

Timken Part Number HM212049 - HM212011, 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	HM212000
Cone Part Number	HM212049
Cup Part Number	HM212011
Design Units	Imperial
Bearing Weight	1.800 Kg 4.10 lb
Cage Type	Stamped Steel

Dimensions

d - Bore	66.675 mm 2.6250 in
D - Cup Outer Diameter	122.238 mm 4.8125 in
B - Cone Width	38.354 mm 1.5100 in
C - Cup Width	29.718 mm 1.1700 in
T - Bearing Width	38.100 mm 1.5000 in

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius¹	3.560 mm 0.14 in
r - Cup Backface "To Clear" Radius²	3.30 mm 0.130 in
da - Cone Frontface Backing Diameter	75.44 mm 3.58 in
db - Cone Backface Backing Diameter	82.04 mm 3.23 in
Da - Cup Frontface Backing Diameter	116.10 mm 4.60 in
Db - Cup Backface Backing Diameter	107.95 mm 4.25 in
Ab - Cage-Cone Frontface Clearance	3.8 mm 0.15 in
Aa - Cage-Cone Backface Clearance	1.8 mm 0.07 in
a - Effective Center Location³	-10.9 mm -0.43 in

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)⁴	69200 N 15600 lbf
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C1 - Dynamic Radial Rating (1 million revolutions)⁵	267000 N 60000 lbf
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C0 - Static Radial Rating	279000 N 62700 lbf
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C_{a90} - Dynamic Thrust Rating (90 million revolutions)⁶	40000 N 8990 lbf
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Factors

K - Factor⁷	1.73
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e - ISO Factor⁸	0.34
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Y - ISO Factor⁹	1.78
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G1 - Heat Generation Factor (Roller-Raceway)	92.2
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G2 - Heat Generation Factor (Rib-Roller End)	18.1
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Cg - Geometry Factor	0.0759
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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.

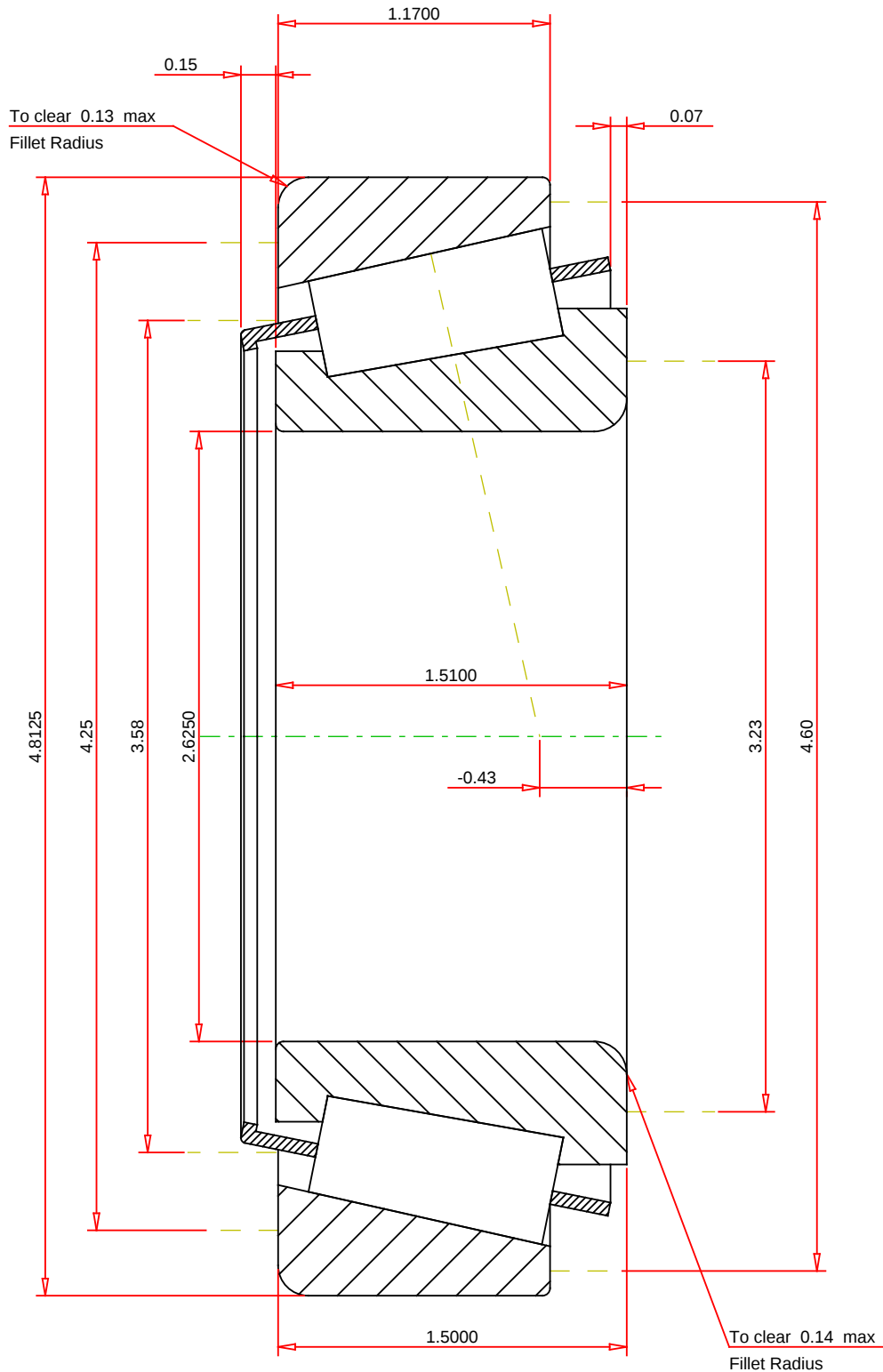
⁶ Based on 90×10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

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.



IMPERIAL UNITS

ISO Factor - e	0.34
ISO Factor - Y	1.78
Bearing Weight	4.1 lb
Number of Rollers Per Row	17
Effective Center Location	-0.43 inch

TIMKEN®

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

HM212049 - HM212011
TS BEARING ASSEMBLY

K Factor	1.73	
Dynamic Radial Rating - C90	69200	lbf
Dynamic Thrust Rating - Ca90	40000	lbf
Static Radial Rating - C0	279000	lbf
Dynamic Radial Rating - C1	267000	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