


The Timken Company

4500 Mt Pleasant St. NW

N. Canton, OH 44720

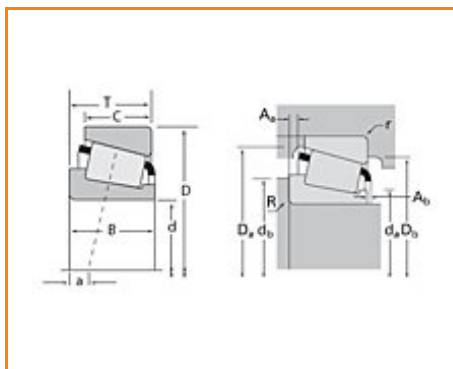
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Timken Part Number M249749 - M249710, Tapered Roller Bearings - TS (Tapered Single)

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	M249700
Cone Part Number	M249749
Cup Part Number	M249710
Design Units	Imperial
Bearing Weight	21.40 Kg 47.200 lb
Cage Type	Stamped Steel

Dimensions

d - Bore	254.000 mm 10.0000 in
D - Cup Outer Diameter	358.775 mm 14.1250 in
B - Cone Width	71.438 mm 2.8125 in
C - Cup Width	53.975 mm 2.1250 in
T - Bearing Width	71.438 mm 2.8125 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	270.00 mm 11.63 in
db - Cone Backface Backing Diameter	274.07 mm 10.79 in
Da - Cup Frontface Backing Diameter	343.41 mm 13.52 in
Db - Cup Backface Backing Diameter	335.03 mm 13.19 in
Ab - Cage-Cone Frontface Clearance	4.3 mm 0.17 in
Aa - Cage-Cone Backface Clearance	7.1 mm 0.28 in
a - Effective Center Location³	-6.9 mm -0.27 in

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)⁴	237000 N 53300 lbf
C1 - Dynamic Radial Rating (1 million revolutions)⁵	914000 N 206000 lbf
C0 - Static Radial Rating	1850000 N 416000 lbf
C_{a90} - Dynamic Thrust Rating (90 million revolutions)⁶	135000 N 30300 lbf

Factors

K - Factor⁷	1.76
e - ISO Factor⁸	0.33
Y - ISO Factor⁹	1.8
G1 - Heat Generation Factor (Roller-Raceway)	1630
G2 - Heat Generation Factor (Rib-Roller End)	168
Cg - Geometry Factor	0.153

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.

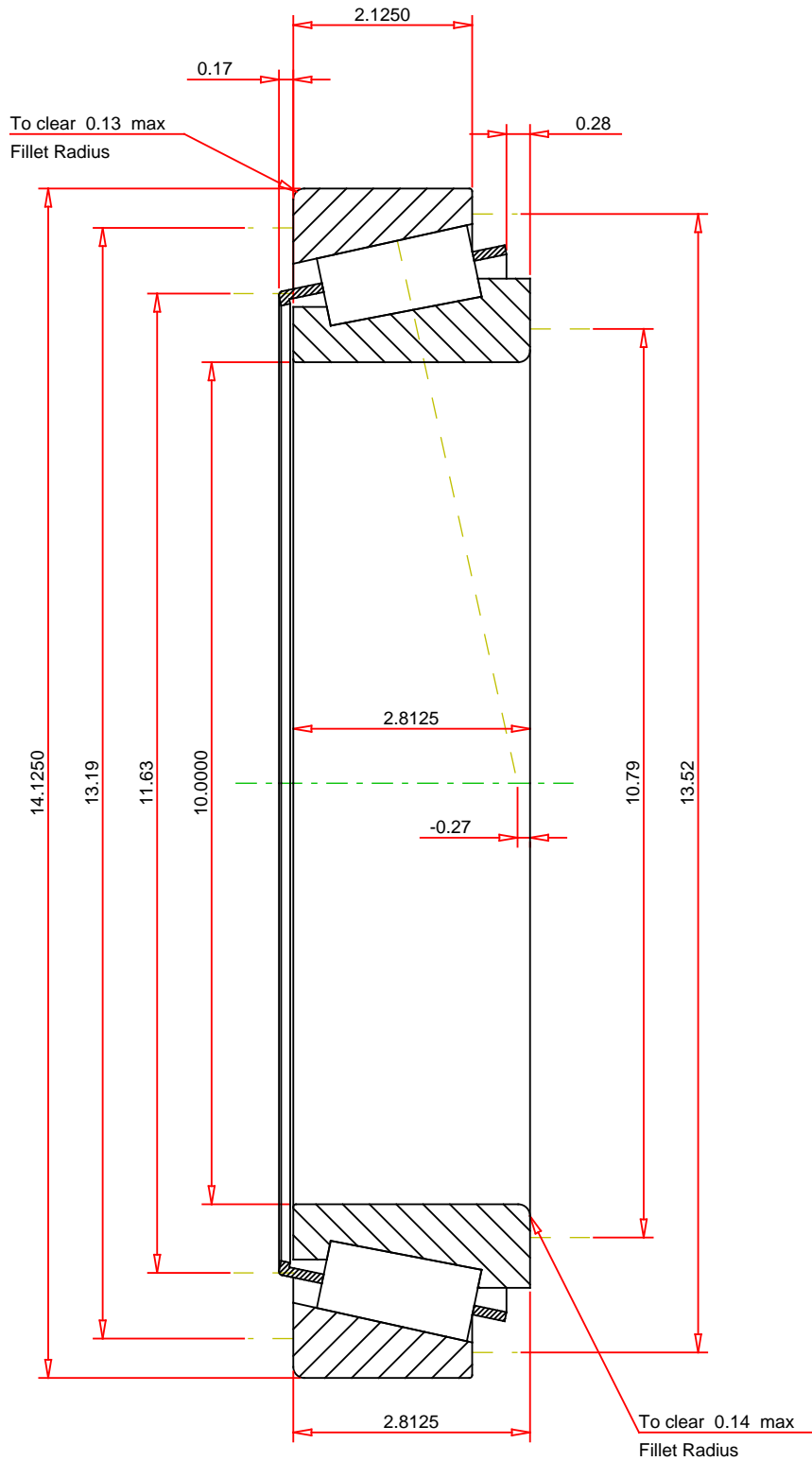
⁶ Based on 90×10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

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 0.33
ISO Factor - Y 1.8
Bearing Weight 47.2 lb
Number of Rollers Per Row 33
Effective Center Location -0.27 inch

TIMKEN®

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

M249749 - M249710
TS BEARING ASSEMBLY

K Factor 1.76
Dynamic Radial Rating - C90 237000 lbf
Dynamic Thrust Rating - Ca90 135000 lbf
Static Radial Rating - C0 1850000 lbf
Dynamic Radial Rating - C1 914000 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