TIMKEN

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Timken Part Number M249732 - 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.
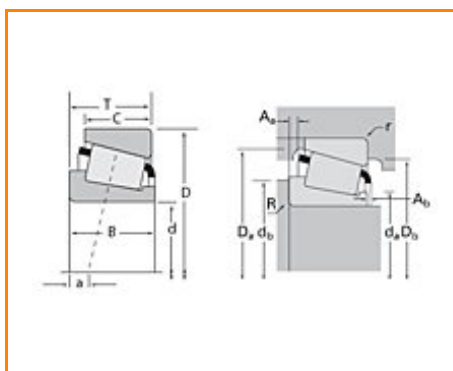
Specifications | Dimensions | Abutment and Fillet Dimensions | Basic Load Ratings | Factors

Specifications −

Series	M249700
Cone Part Number	M249732
Cup Part Number	M249710
Design Units	Imperial
Bearing Weight	26.80 Kg 59.00 lb
Cage Type	Stamped Steel

Dimensions −

d - Bore	228.600 mm 9.0000 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" Radius[1]	3.560 mm 0.14 in
r - Cup Backface "To Clear" Radius[2]	3.30 mm 0.130 in
da - Cone Frontface Backing Diameter	250.95 mm 11.06 in
db - Cone Backface Backing Diameter	256.03 mm 10.08 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 Location[3]	-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 - Factor[7]	1.76
e - ISO Factor[8]	0.33
Y - ISO Factor[9]	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.

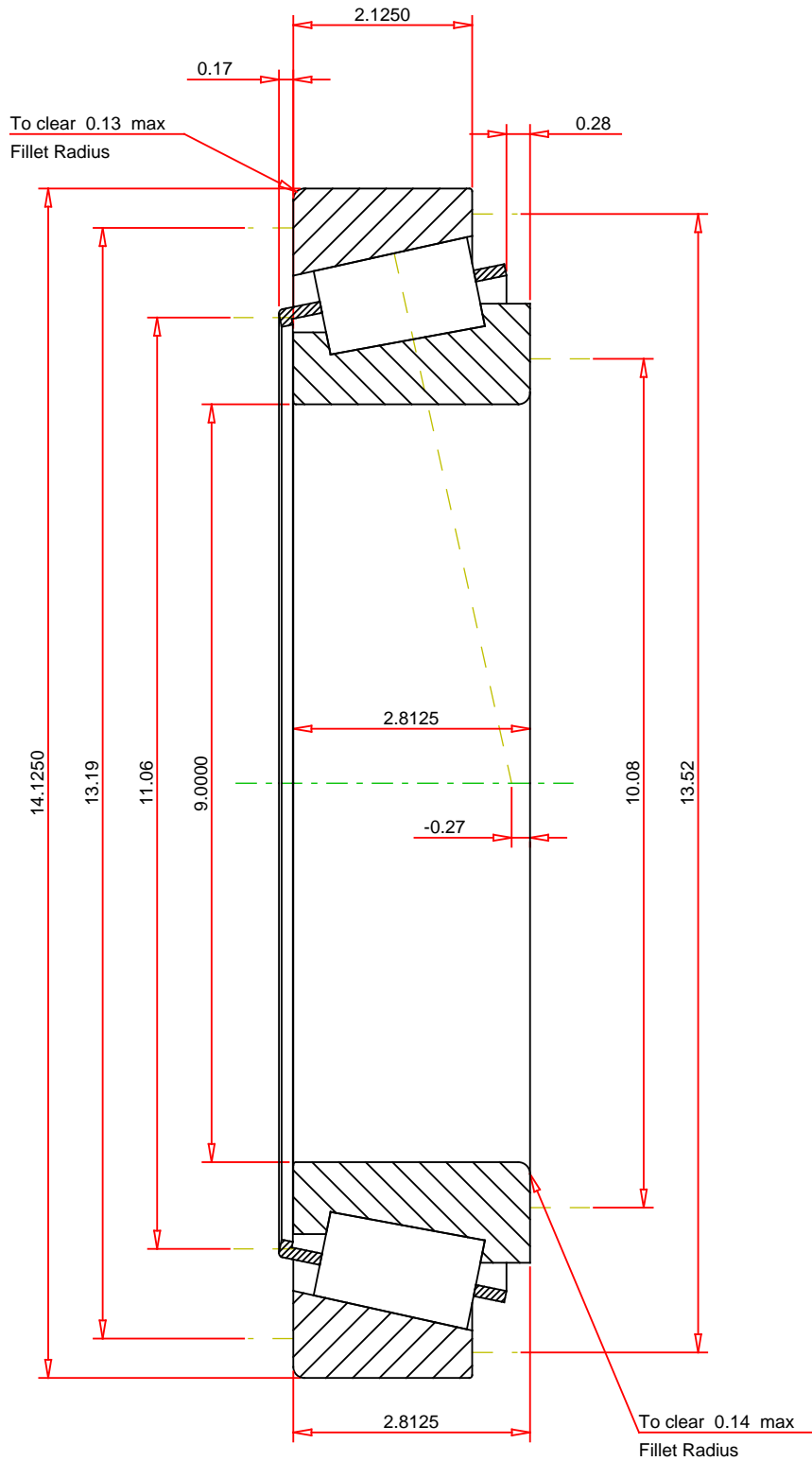[5] Based on 1×10^6 revolutions L_{10} life, for the ISO life calculation method.

[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.

Dimensions / annotations on drawing:

2.1250
0.17
0.28
To clear 0.13 max
Fillet Radius
14.1250
13.19
11.06
9.0000
2.8125
-0.27
10.08
13.52
2.8125
To clear 0.14 max
Fillet Radius

IMPERIAL UNITS

ISO Factor - e	0.33
ISO Factor - Y	1.8
Bearing Weight	59 lb
Number of Rollers Per Row	33
Effective Center Location	-0.27 inch

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THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

M249732 - 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