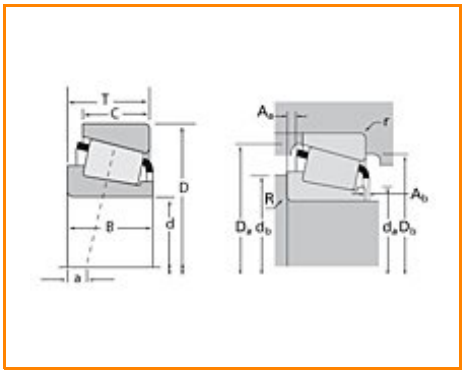
The Timken Company
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Timken Part Number HM259049H - HM259010, Tapered Roller Bearings - TS (Tapered Single) Imperial

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	HM259000
Cone Part Number	HM259049H
Cup Part Number	HM259010
Design Units	Imperial
Bearing Weight	41.60 Kg 91.700 lb
Cage Type	Stamped Steel

Dimensions

d - Bore	317.500 mm 12.5000 in
D - Cup Outer Diameter	447.675 mm 17.6250 in
B - Cone Width	85.725 mm 3.3750 in
C - Cup Width	68.263 mm 2.6875 in
T - Bearing Width	85.728 mm 3.3751 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	338.07 mm 14.49 in
db - Cone Backface Backing Diameter	341.88 mm 13.46 in
Da - Cup Frontface Backing Diameter	427.99 mm 16.85 in
Db - Cup Backface Backing Diameter	418.08 mm 16.46 in
Ab - Cage-Cone Frontface Clearance	3.3 mm 0.13 in
Aa - Cage-Cone Backface Clearance	0 mm 0 in
a - Effective Center Location[3]	-4.8 mm -0.19 in

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)[4]	427000 N 96000 lbf
C1 - Dynamic Radial Rating (1 million revolutions)[5]	1650000 N 370000 lbf
C0 - Static Radial Rating	2690000 N 606000 lbf
C_{a90} - Dynamic Thrust Rating (90 million revolutions)[6]	245000 N 55000 lbf

Factors

K - Factor[7]	1.74
e - ISO Factor[8]	0.33
Y - ISO Factor[9]	1.79
G1 - Heat Generation Factor (Roller-Raceway)	2645.1
G2 - Heat Generation Factor (Rib-Roller End)	284.4
Cg - Geometry Factor	0.179

[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 x 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 x 10^6 revolutions L_{10} life, for the ISO life calculation method.

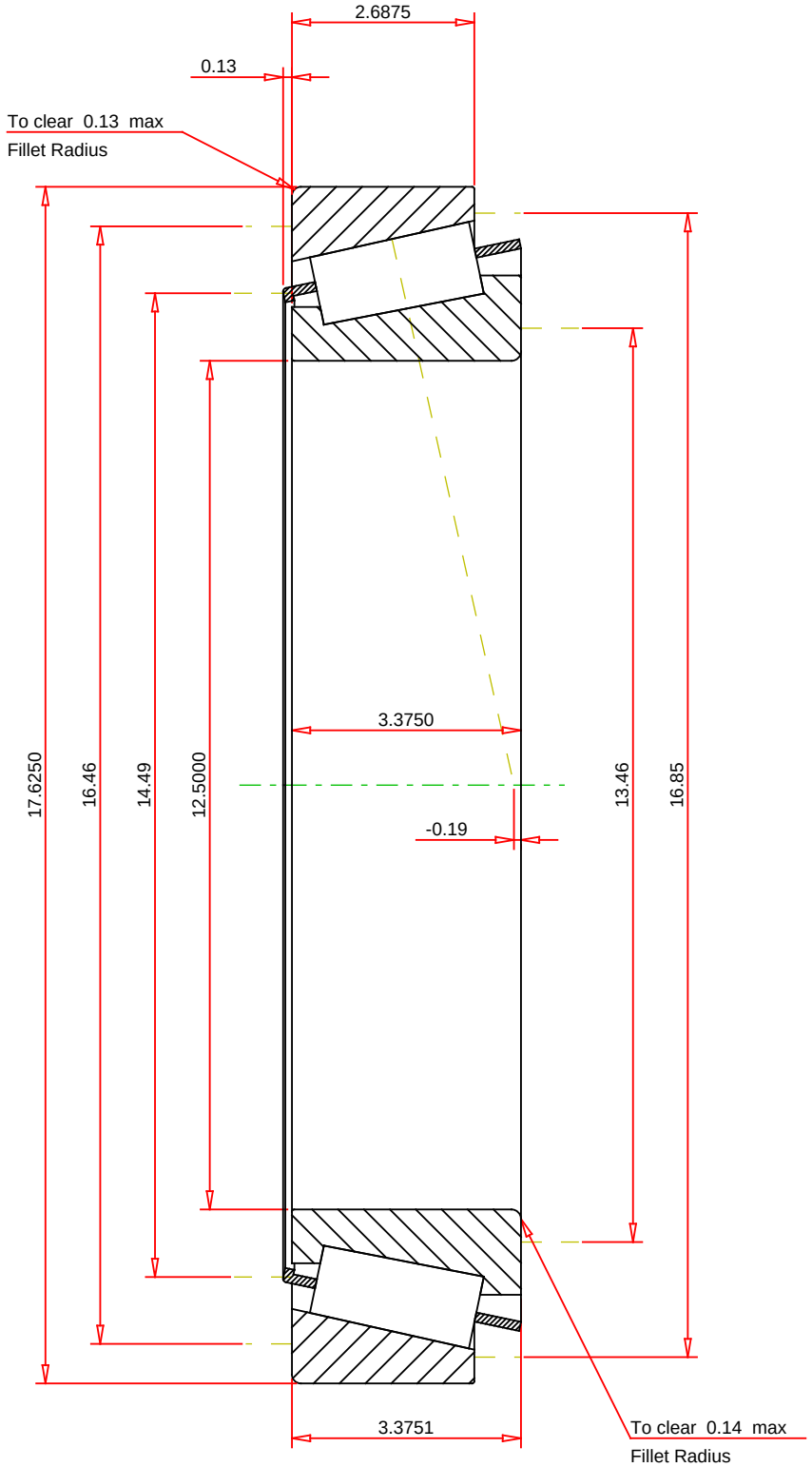
[6] Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

[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	1.79	
Bearing Weight	91.7	lb
Number of Rollers Per Row	31	
Effective Center Location	-0.19	inch

TIMKEN®

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

HM259049H - HM259010
TS BEARING ASSEMBLY

K Factor	1.74	
Dynamic Radial Rating - C90	427000	lbf
Dynamic Thrust Rating - Ca90	245000	lbf
Static Radial Rating - C0	2690000	lbf
Dynamic Radial Rating - C1	1650000	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