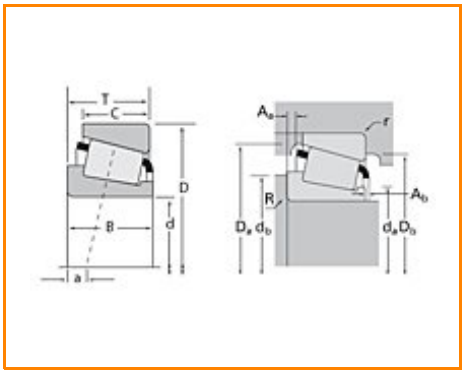
The Timken Company
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Timken Part Number HM535349 - HM535310, Tapered Roller Bearings - TS (Tapered Single) Imperial

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	HM535300
Cone Part Number	HM535349
Cup Part Number	HM535310
Design Units	Imperial
Bearing Weight	12.20 Kg 26.900 lb
Cage Type	Stamped Steel

Dimensions

d - Bore	171.450 mm 6.7500 in
D - Cup Outer Diameter	260.350 mm 10.2500 in
B - Cone Width	66.675 mm 2.6250 in
C - Cup Width	52.388 mm 2.0625 in
T - Bearing Width	66.675 mm 2.6250 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	187.96 mm 8.46 in
db - Cone Backface Backing Diameter	192.02 mm 7.56 in
Da - Cup Frontface Backing Diameter	250.44 mm 9.86 in
Db - Cup Backface Backing Diameter	235.97 mm 9.29 in
Ab - Cage-Cone Frontface Clearance	3.3 mm 0.13 in
Aa - Cage-Cone Backface Clearance	5.3 mm 0.21 in
a - Effective Center Location[3]	-8.60 mm -0.34 in

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)[4]	169000 N 38100 lbf
C1 - Dynamic Radial Rating (1 million revolutions)[5]	654000 N 147000 lbf
C0 - Static Radial Rating	1180000 N 265000 lbf
C_{a90} - Dynamic Thrust Rating (90 million revolutions)[6]	117000 N 26200 lbf

Factors

K - Factor[7]	1.45
e - ISO Factor[8]	0.40
Y - ISO Factor[9]	1.49
G1 - Heat Generation Factor (Roller-Raceway)	750
G2 - Heat Generation Factor (Rib-Roller End)	116
Cg - Geometry Factor	0.126

[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.

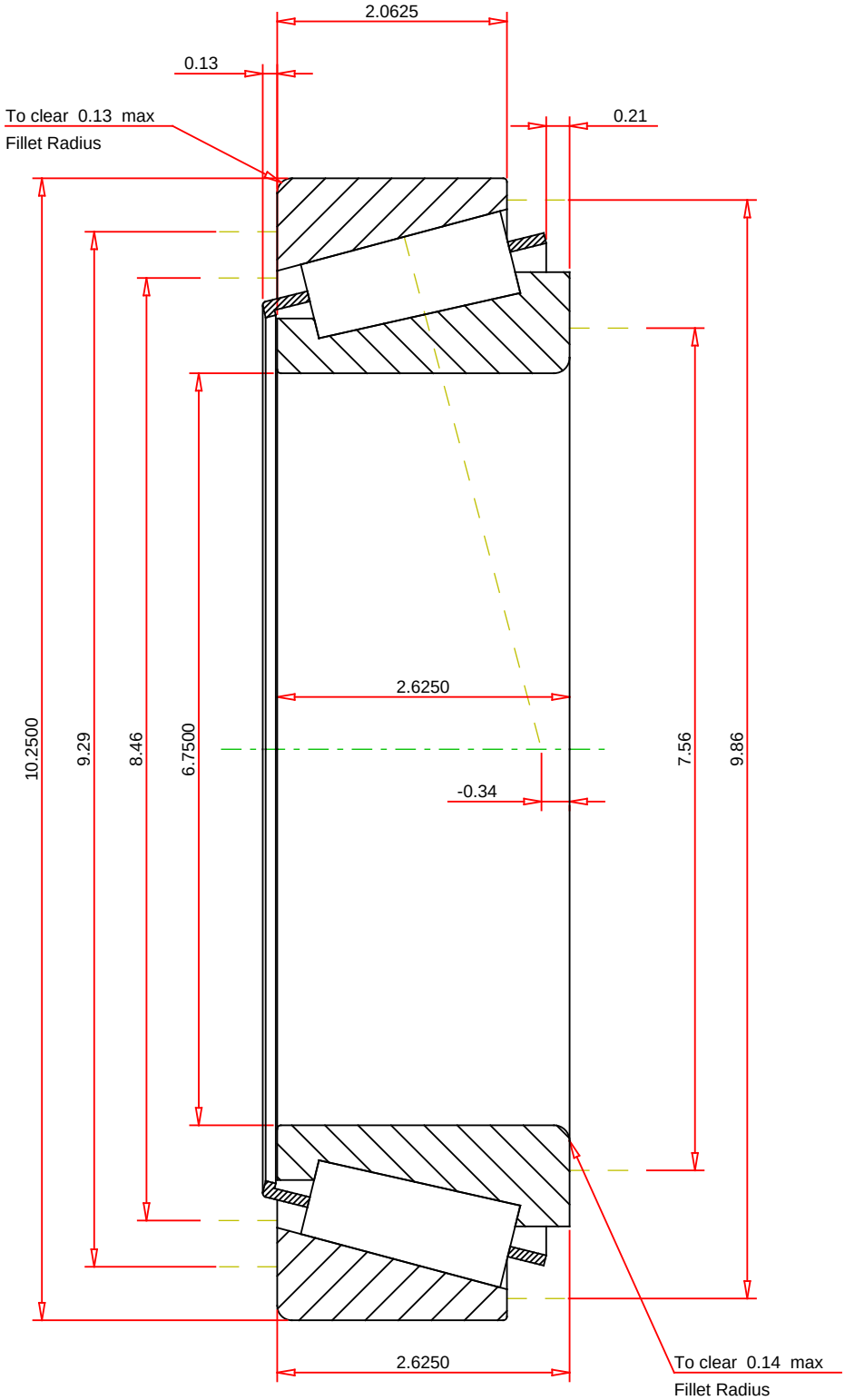
[6] Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

[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	0.4	
ISO Factor - Y	1.49	
Bearing Weight	26.9	lb
Number of Rollers Per Row	28	
Effective Center Location	-0.34	inch

TIMKEN

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

HM535349 - HM535310
TS BEARING ASSEMBLY

K Factor	1.45	
Dynamic Radial Rating - C90	169000	lbf
Dynamic Thrust Rating - Ca90	117000	lbf
Static Radial Rating - C0	1180000	lbf
Dynamic Radial Rating - C1	654000	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