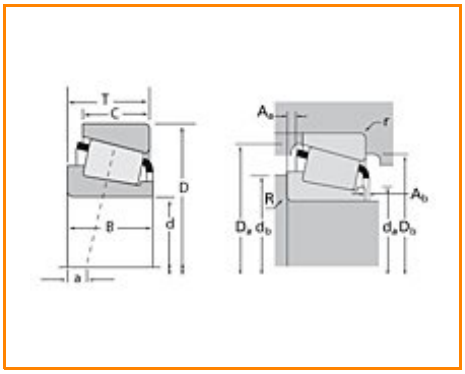
The Timken Company
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Timken Part Number HH249949 - HH249910, Tapered Roller Bearings - TS (Tapered Single) Imperial

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	HH249900
Cone Part Number	HH249949
Cup Part Number	HH249910
Design Units	Imperial
Bearing Weight	60.600 Kg 133.60 lb
Cage Type	Pin-Type

Dimensions

d - Bore	247.650 mm 9.7500 in
D - Cup Outer Diameter	406.400 mm 16.0000 in
B - Cone Width	117.475 mm 4.6250 in
C - Cup Width	93.663 mm 3.6875 in
T - Bearing Width	115.888 mm 4.5625 in

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius[1]	6.35 mm 0.25 in
r - Cup Backface "To Clear" Radius[2]	6.35 mm 0.250 in
da - Cone Frontface Backing Diameter	275.08 mm 11.89 in
db - Cone Backface Backing Diameter	283.97 mm 11.18 in
Da - Cup Frontface Backing Diameter	383.54 mm 15.10 in
Db - Cup Backface Backing Diameter	366.01 mm 14.41 in
Ab - Cage-Cone Frontface Clearance	6.1 mm 0.24 in
Aa - Cage-Cone Backface Clearance	7.1 mm 0.28 in
a - Effective Center Location[3]	-28.7 mm -1.13 in

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)[4]	539000 N 121000 lbf
C1 - Dynamic Radial Rating (1 million revolutions)[5]	2080000 N 468000 lbf
C0 - Static Radial Rating	3770000 N 846000 lbf
C_{a90} - Dynamic Thrust Rating (90 million revolutions)[6]	307000 N 69000 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)	2370
G2 - Heat Generation Factor (Rib-Roller End)	173
Cg - Geometry Factor	0.175

[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.

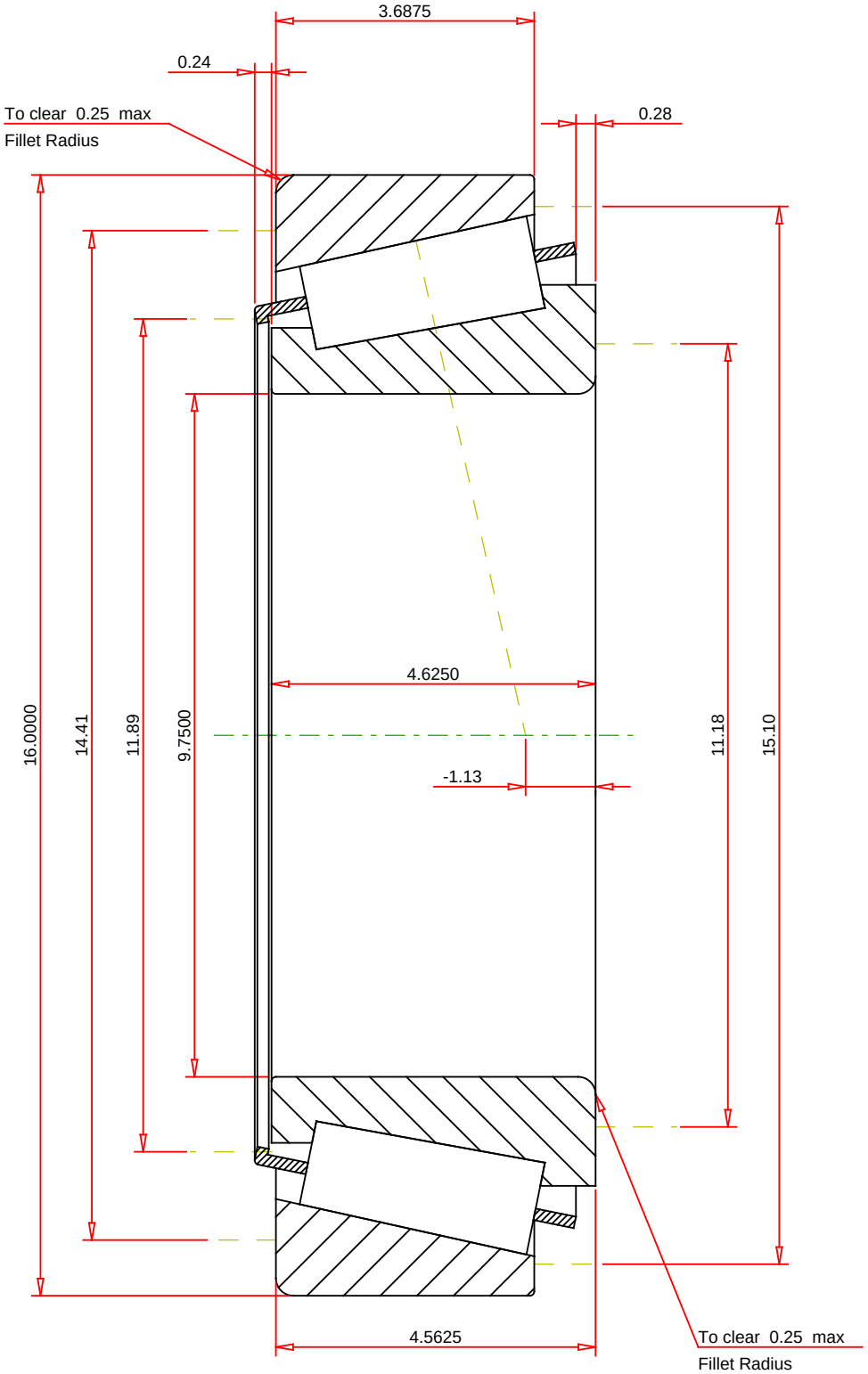
[6] Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

[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	1.8	
Bearing Weight	133.6	lb
Number of Rollers Per Row	26	
Effective Center Location	-1.13	inch

TIMKEN

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

HH249949 - HH249910
TS BEARING ASSEMBLY

K Factor	1.76	
Dynamic Radial Rating - C90	539000	lbf
Dynamic Thrust Rating - Ca90	307000	lbf
Static Radial Rating - C0	3770000	lbf
Dynamic Radial Rating - C1	2080000	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