

TIMKEN

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Timken Part Number 748-S - 742, 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	745
Cone Part Number	748-S
Cup Part Number	742
Design Units	Imperial
Bearing Weight	3.700 Kg 8.10 lb
Cage Type	Stamped Steel

Dimensions

d - Bore	76.2 mm 3 in
D - Cup Outer Diameter	150.089 mm 5.9090 in

B - Cone Width	46.673 mm 1.8375 in
C - Cup Width	36.513 mm 1.4375 in
T - Bearing Width	44.450 mm 1.7500 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	87.12 mm 4.21 in
db - Cone Backface Backing Diameter	92.96 mm 3.66 in
Da - Cup Frontface Backing Diameter	142.00 mm 5.63 in
Db - Cup Backface Backing Diameter	134.11 mm 5.28 in
Ab - Cage-Cone Frontface Clearance	2 mm 0.08 in
Aa - Cage-Cone Backface Clearance	1.3 mm 0.05 in
a - Effective Center Location³	-11.9 mm -0.47 in

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)⁴	97600 N 21900 lbf
C1 - Dynamic Radial Rating (1 million revolutions)⁵	377000 N 84700 lbf
C0 - Static Radial Rating	417000 N 93800 lbf
C_{a90} - Dynamic Thrust Rating (90 million revolutions)⁶	54400 N 12200 lbf

Factors

K - Factor⁷	1.8
e - ISO Factor⁸	0.33
Y - ISO Factor⁹	1.84
G1 - Heat Generation Factor (Roller-Raceway)	160
G2 - Heat Generation Factor (Rib-Roller End)	26.3
Cg - Geometry Factor	0.0898

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.

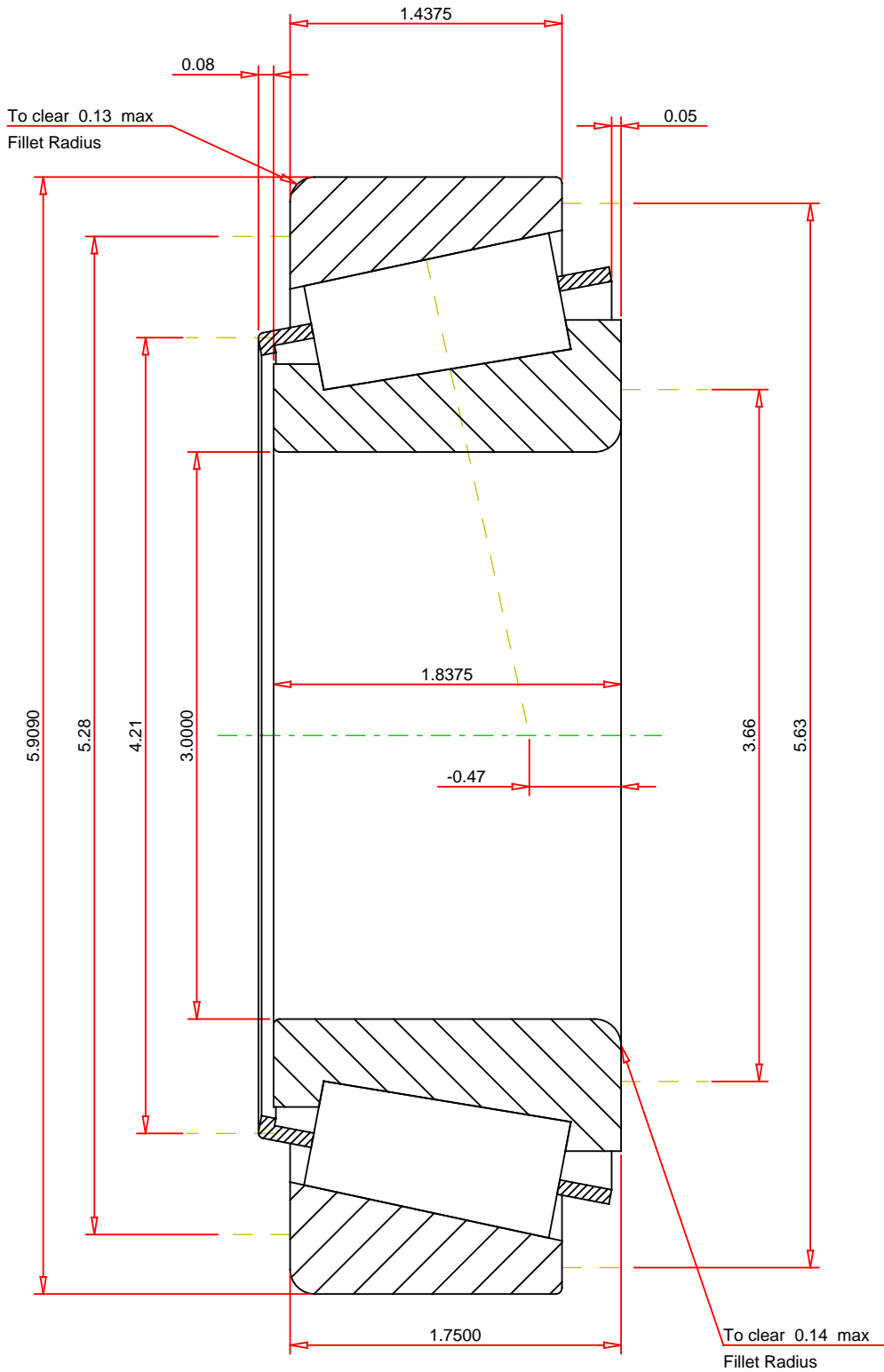
⁵ Based on 1×10^6 revolutions L_{10} life, for the ISO life calculation method.

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	1.84
Bearing Weight	8.1 lb
Number of Rollers Per Row	18
Effective Center Location	-0.47 inch

TIMKEN®

748-S - 742
TS BEARING ASSEMBLY

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

K Factor	1.8
Dynamic Radial Rating - C90	97600 lbf
Dynamic Thrust Rating - Ca90	54400 lbf
Static Radial Rating - C0	417000 lbf
Dynamic Radial Rating - C1	377000 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