TIMKEN

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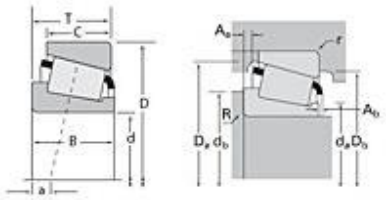
Timken Part Number M12648 - M12610, Tapered Roller Bearings - TS (Tapered Single) Imperial

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	M12600
Cone Part Number	M12648
Cup Part Number	M12610
Design Units	Imperial
Bearing Weight	0.4 lb 0.200 Kg
Cage Type	Stamped Steel

Dimensions

d - Bore	0.8750 in 22.225 mm
D - Cup Outer Diameter	1.9687 in 50.005 mm

B - Cone Width	0.7200 in 18.288 mm
C - Cup Width	0.5500 in 13.970 mm
T - Bearing Width	0.6900 in 17.526 mm

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius[1]	0.050 in 1.270 mm
r - Cup Backface "To Clear" Radius[2]	0.050 in 1.27 mm
da - Cone Frontface Backing Diameter	1.04 in 26.42 mm
db - Cone Backface Backing Diameter	1.12 in 28.45 mm
Da - Cup Frontface Backing Diameter	1.83 in 46.48 mm
Db - Cup Backface Backing Diameter	1.73 in 43.94 mm
Ab - Cage-Cone Frontface Clearance	0.07 in 1.8 mm
Aa - Cage-Cone Backface Clearance	-0.01 in -0.3 mm
a - Effective Center Location[3]	-0.25 in -6.40 mm

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)[4]	3040 lbf 13500 N
C1 - Dynamic Radial Rating (1 million revolutions)[5]	11700 lbf 52200 N
C0 - Static Radial Rating	9780 lbf 43500 N
C_{a90} - Dynamic Thrust Rating (90 million revolutions)[6]	1450 lbf 6440 N

Factors

K - Factor[7]	2.1
e - ISO Factor[8]	0.28
Y - ISO Factor[9]	2.16
G1 - Heat Generation Factor (Roller-Raceway)	9.1
G2 - Heat Generation Factor (Rib-Roller End)	5.63
Cg - Geometry Factor	0.0479

[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.
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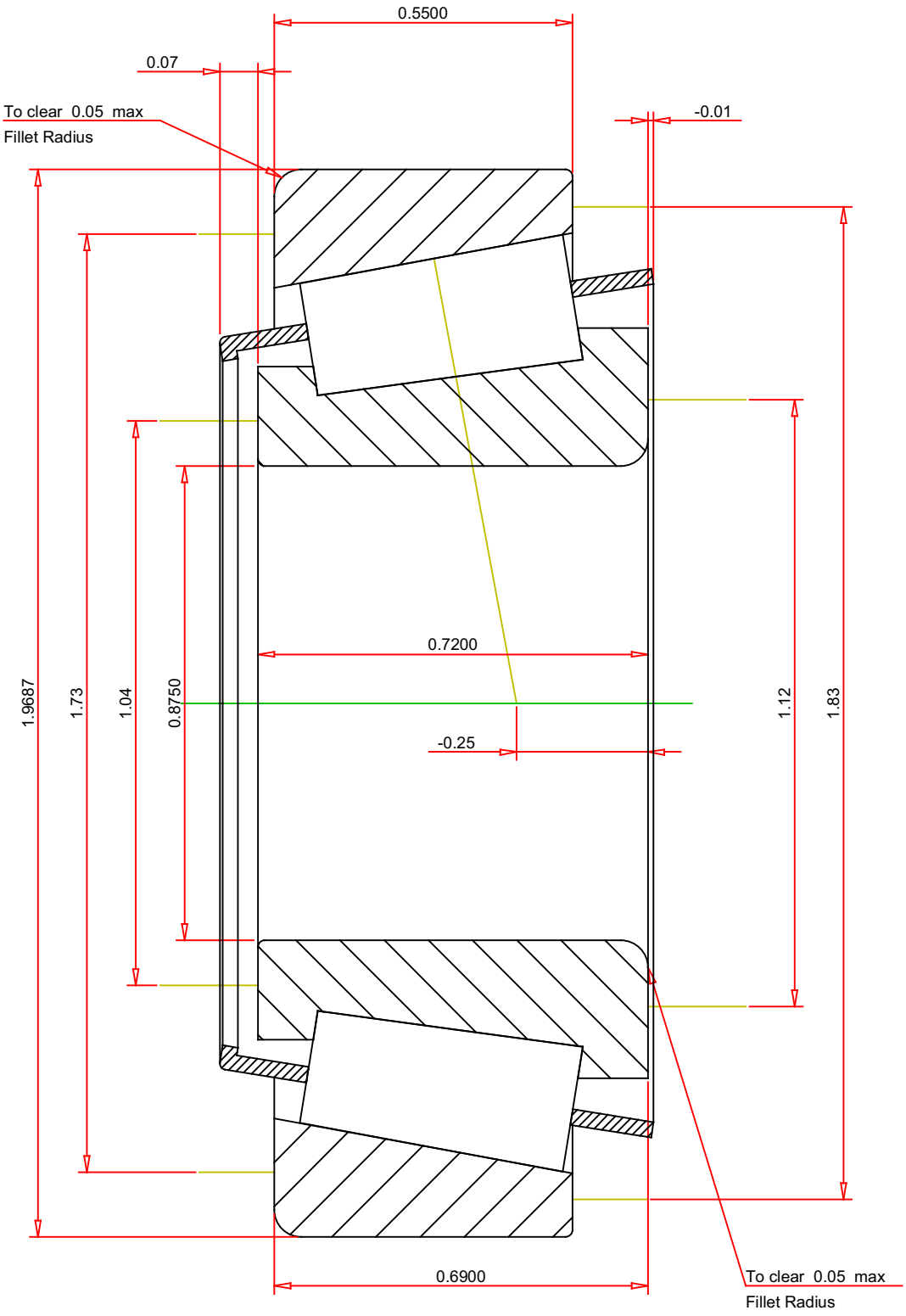

IMPERIAL UNITS

ISO Factor - e	0.28	
ISO Factor - Y	2.16	
Bearing Weight	0.4	lb
Number of Rollers Per Row	14	
Effective Center Location	-0.25	inch

TIMKEN®

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

M12648 - M12610
TS BEARING ASSEMBLY

K Factor	2.1	
Dynamic Radial Rating - C90	3040	lbf
Dynamic Thrust Rating - Ca90	1450	lbf
Static Radial Rating - C0	9780	lbf
Dynamic Radial Rating - C1	11700	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