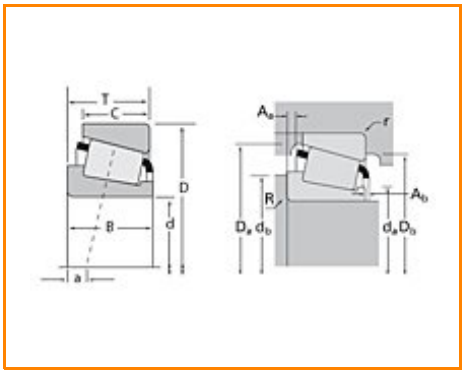
The Timken Company
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Timken Part Number LM102949 - LM102910, Tapered Roller Bearings - TS (Tapered Single) Imperial

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	LM102900
Cone Part Number	LM102949
Cup Part Number	LM102910
Design Units	Imperial
Bearing Weight	0.300 Kg 0.70 lb
Cage Type	Stamped Steel

Dimensions

d - Bore	45.242 mm 1.7812 in
D - Cup Outer Diameter	73.431 mm 2.8910 in
B - Cone Width	19.812 mm 0.7800 in
C - Cup Width	15.748 mm 0.6200 in
T - Bearing Width	19.558 mm 0.7700 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]	0.76 mm 0.030 in
da - Cone Frontface Backing Diameter	50.04 mm 1.97 in
db - Cone Backface Backing Diameter	55.88 mm 2.20 in
Da - Cup Frontface Backing Diameter	71.10 mm 2.80 in
Db - Cup Backface Backing Diameter	68.07 mm 2.68 in
Ab - Cage-Cone Frontface Clearance	1.8 mm 0.07 in
Aa - Cage-Cone Backface Clearance	0.3 mm 0.01 in
a - Effective Center Location[3]	-4.6 mm -0.18 in

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)[4]	18900 N 4250 lbf
C1 - Dynamic Radial Rating (1 million revolutions)[5]	72900 N 16400 lbf
C0 - Static Radial Rating	81800 N 18400 lbf
C_{a90} - Dynamic Thrust Rating (90 million revolutions)[6]	9870 N 2220 lbf

Factors

K - Factor[7]	1.91
e - ISO Factor[8]	0.31
Y - ISO Factor[9]	1.97
G1 - Heat Generation Factor (Roller-Raceway)	31.1
G2 - Heat Generation Factor (Rib-Roller End)	18
Cg - Geometry Factor	0.0744

[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.

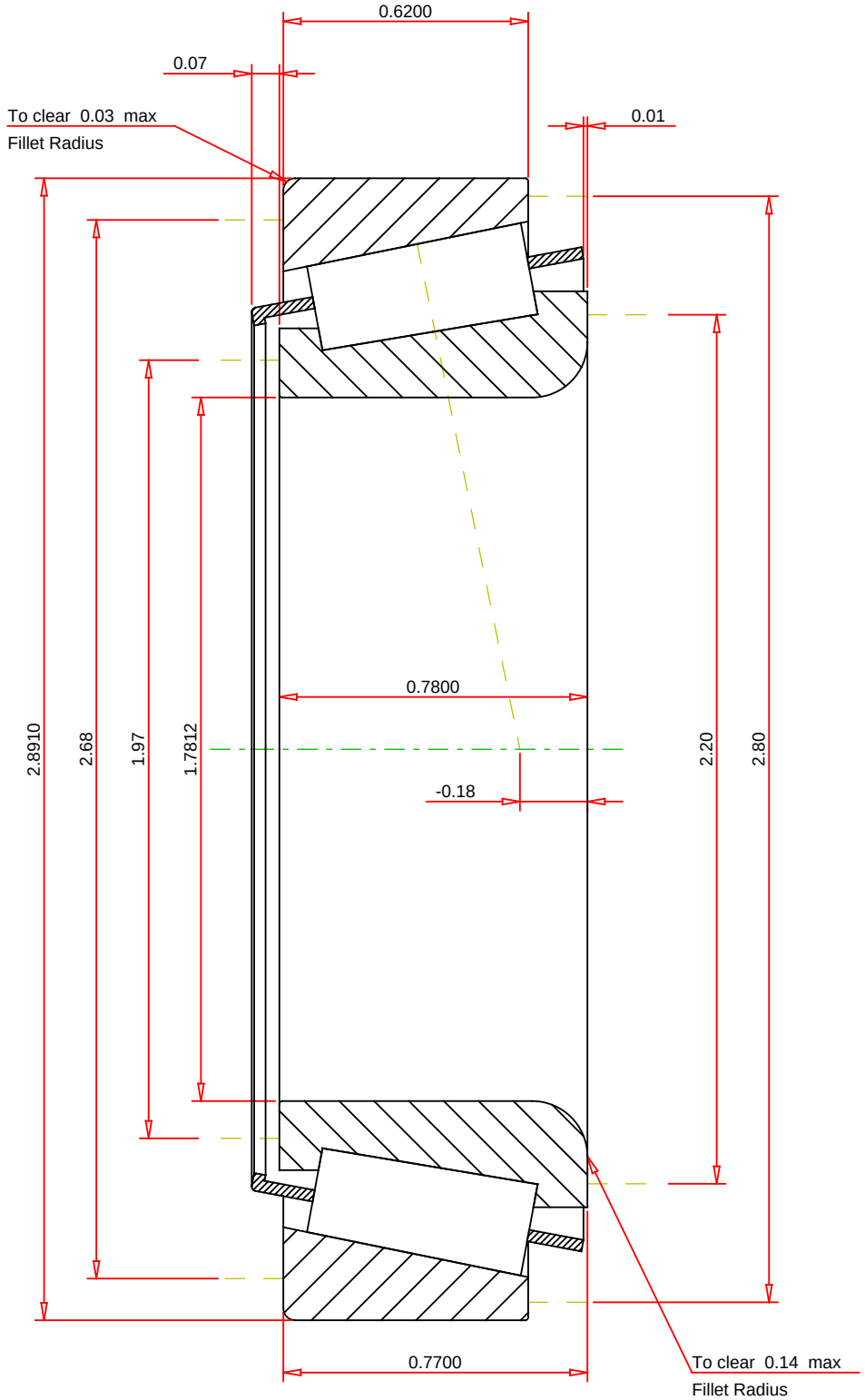
[6] Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

[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	0.31	
ISO Factor - Y	1.97	
Bearing Weight	0.7	lb
Number of Rollers Per Row	23	
Effective Center Location	-0.18	inch

TIMKEN®

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

LM102949 - LM102910
TS BEARING ASSEMBLY

K Factor	1.91	
Dynamic Radial Rating - C90	18900	lbf
Dynamic Thrust Rating - Ca90	9870	lbf
Static Radial Rating - C0	81800	lbf
Dynamic Radial Rating - C1	72900	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