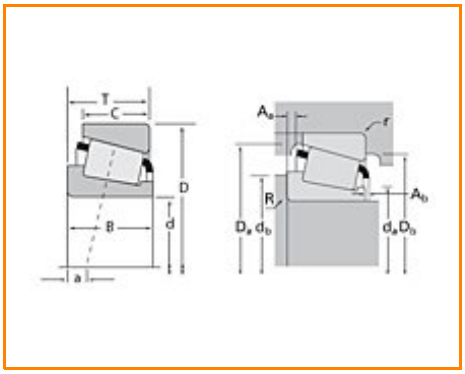
The Timken Company
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Timken Part Number LL580049 - LL580010, Tapered Roller Bearings - TS (Tapered Single) Imperial

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	LL580000
Cone Part Number	LL580049
Cup Part Number	LL580010
Design Units	Imperial
Bearing Weight	23.10 Kg 50.90 lb
Cage Type	Stamped Steel

Dimensions

d - Bore	615.950 mm 24.2500 in
D - Cup Outer Diameter	708.025 mm 27.8750 in
B - Cone Width	41.275 mm 1.6250 in
C - Cup Width	29.367 mm 1.1562 in
T - Bearing Width	41.275 mm 1.6250 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	629.92 mm 29.41 in
db - Cone Backface Backing Diameter	632.97 mm 24.92 in
Da - Cup Frontface Backing Diameter	690.63 mm 27.19 in
Db - Cup Backface Backing Diameter	687.07 mm 27.05 in
Ab - Cage-Cone Frontface Clearance	4.8 mm 0.19 in
Aa - Cage-Cone Backface Clearance	1.5 mm 0.06 in
a - Effective Center Location[3]	61.70 mm 2.43 in

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)[4]	157000 N 35200 lbf
C1 - Dynamic Radial Rating (1 million revolutions)[5]	605000 N 136000 lbf
C0 - Static Radial Rating	1840000 N 414000 lbf
C_{a90} - Dynamic Thrust Rating (90 million revolutions)[6]	104000 N 23400 lbf

Factors

K - Factor[7]	1.51
e - ISO Factor[8]	0.39
Y - ISO Factor[9]	1.55
G1 - Heat Generation Factor (Roller-Raceway)	6270
G2 - Heat Generation Factor (Rib-Roller End)	2020
Cg - Geometry Factor	0.242

[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.

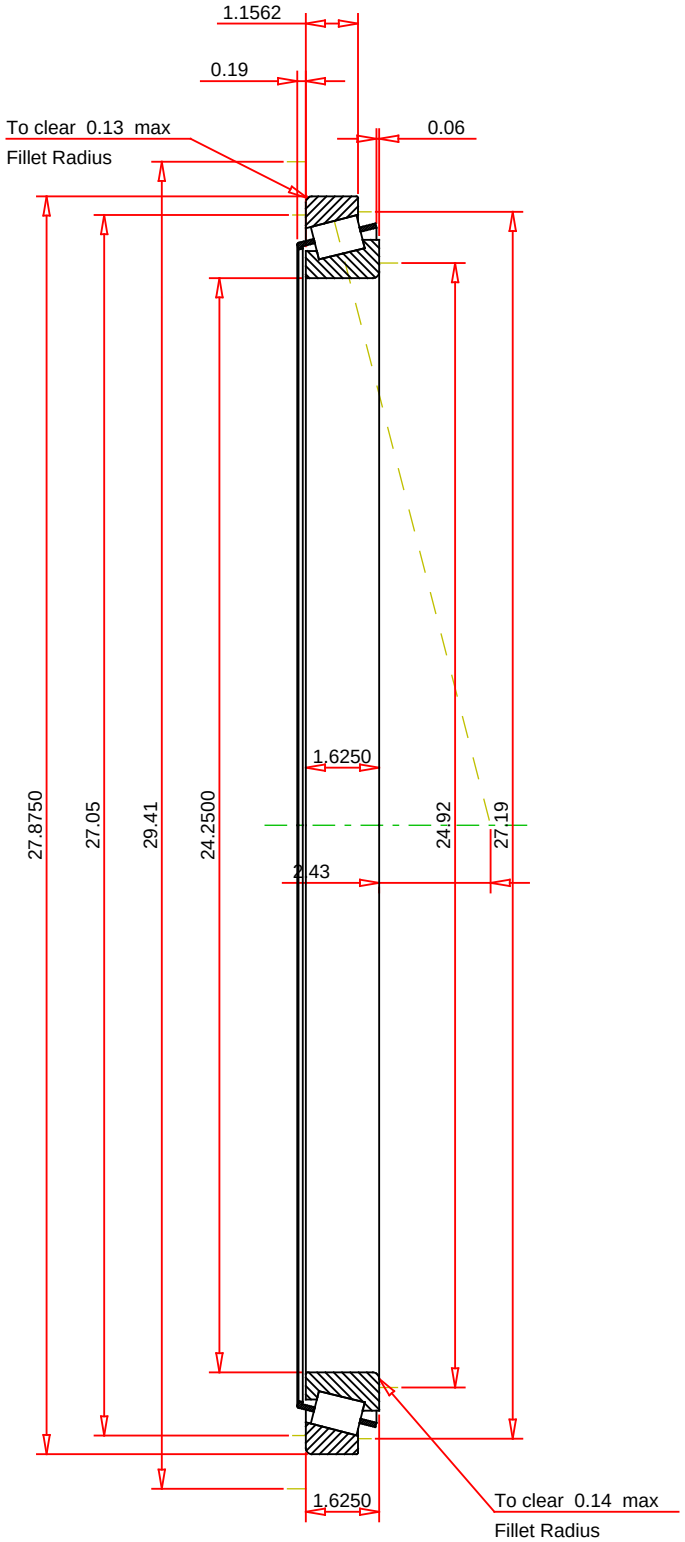
[6] Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

[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	0.39	
ISO Factor - Y	1.55	
Bearing Weight	50.9	lb
Number of Rollers Per Row	85	
Effective Center Location	2.43	inch

TIMKEN®

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

LL580049 - LL580010
TS BEARING ASSEMBLY

K Factor	1.51	
Dynamic Radial Rating - C90	157000	lbf
Dynamic Thrust Rating - Ca90	104000	lbf
Static Radial Rating - C0	1840000	lbf
Dynamic Radial Rating - C1	605000	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