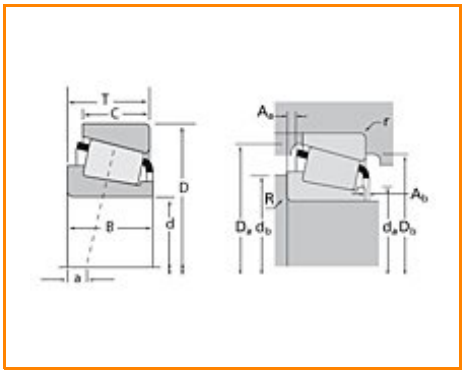
The Timken Company
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N. Canton, OH 44720
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E-Mail: CustomerCAD@timken.com • **Web site:** www.timken.com

Timken Part Number LL778149 - LL778110, 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	LL778100
Cone Part Number	LL778149
Cup Part Number	LL778110
Design Units	Imperial
Bearing Weight	28.900 Kg 63.80 lb
Cage Type	Stamped Steel

Dimensions

d - Bore	584.200 mm 23.0000 in
D - Cup Outer Diameter	685.800 mm 27.0000 in
B - Cone Width	49.213 mm 1.9375 in
C - Cup Width	34.925 mm 1.3750 in
T - Bearing Width	49.213 mm 1.9375 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	599.95 mm 28.09 in
db - Cone Backface Backing Diameter	603.00 mm 23.74 in
Da - Cup Frontface Backing Diameter	672.08 mm 26.46 in
Db - Cup Backface Backing Diameter	662.94 mm 26.10 in
Ab - Cage-Cone Frontface Clearance	4.8 mm 0.19 in
Aa - Cage-Cone Backface Clearance	3.6 mm 0.14 in
a - Effective Center Location[3]	64.50 mm 2.54 in

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)[4]	207000 N 46500 lbf
C1 - Dynamic Radial Rating (1 million revolutions)[5]	798000 N 179000 lbf
C0 - Static Radial Rating	2280000 N 513000 lbf
C_{a90} - Dynamic Thrust Rating (90 million revolutions)[6]	155000 N 34800 lbf

Factors

K - Factor[7]	1.34
e - ISO Factor[8]	0.44
Y - ISO Factor[9]	1.37
G1 - Heat Generation Factor (Roller-Raceway)	5980
G2 - Heat Generation Factor (Rib-Roller End)	1580
Cg - Geometry Factor	0.249

[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.

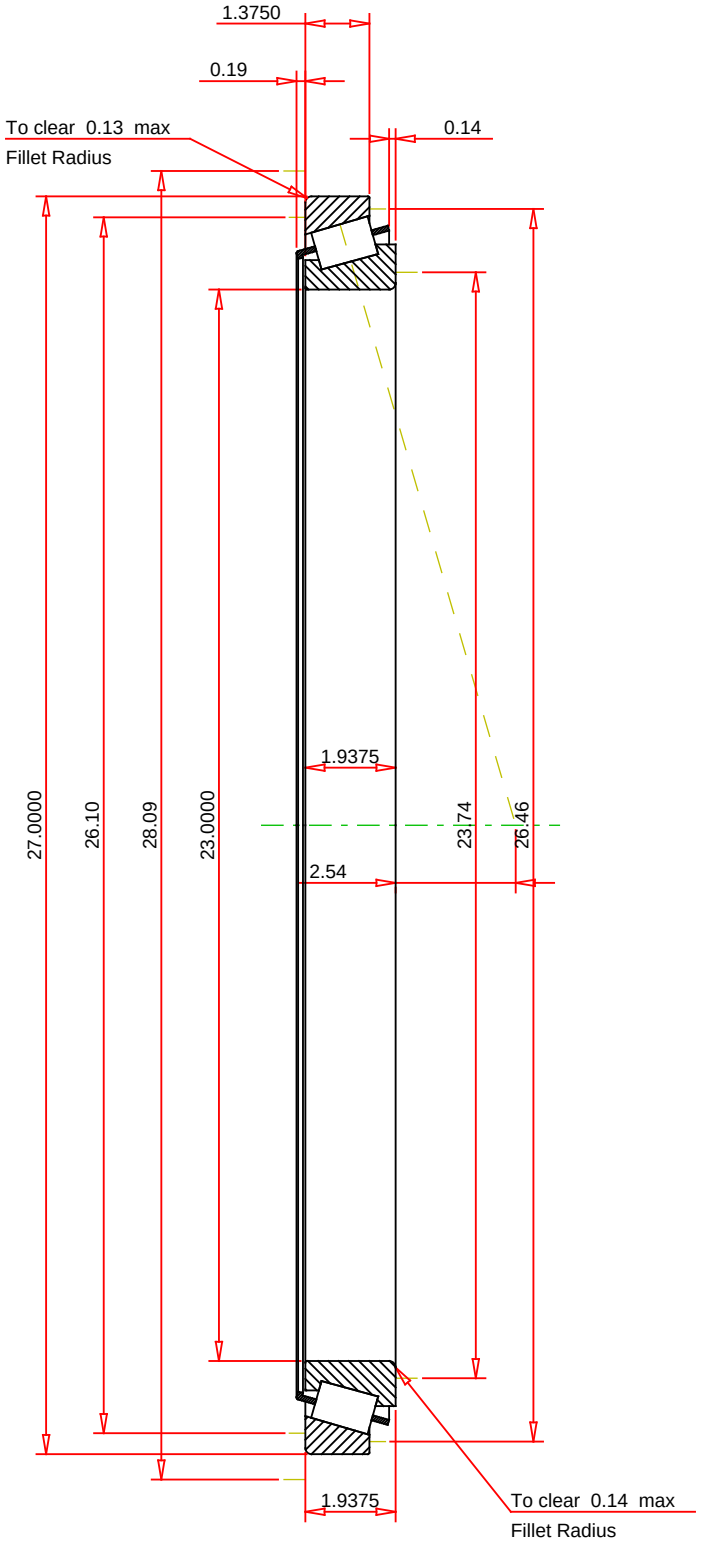
[6] Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

[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	0.44	
ISO Factor - Y	1.37	
Bearing Weight	63.8	lb
Number of Rollers Per Row	73	
Effective Center Location	2.54	inch

TIMKEN®

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

LL778149 - LL778110
TS BEARING ASSEMBLY

K Factor	1.34	
Dynamic Radial Rating - C90	207000	lbf
Dynamic Thrust Rating - Ca90	155000	lbf
Static Radial Rating - C0	2280000	lbf
Dynamic Radial Rating - C1	798000	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