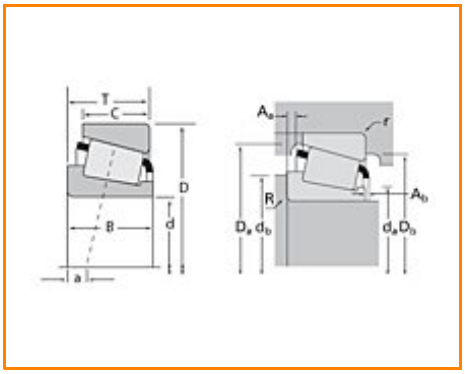
The Timken Company
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Timken Part Number JLM820048 - JLM820012, Tapered Roller Bearings - TS (Tapered Single) Metric

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	LM820000
Cone Part Number	JLM820048
Cup Part Number	JLM820012
Design Units	METRIC
Bearing Weight	1.800 Kg 4.00 lb
Cage Type	Stamped Steel

Dimensions

d - Bore	100 mm 3.937 in
D - Cup Outer Diameter	150 mm 5.9055 in
B - Cone Width	30.000 mm 1.1811 in
C - Cup Width	26.000 mm 1.0236 in
T - Bearing Width	32.000 mm 1.2598 in

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius[1]	2.290 mm 0.090 in
r - Cup Backface "To Clear" Radius[2]	2.29 mm 0.090 in
da - Cone Frontface Backing Diameter	106.93 mm 4.21 in
db - Cone Backface Backing Diameter	111.00 mm 4.37 in
Da - Cup Frontface Backing Diameter	145.03 mm 5.71 in
Db - Cup Backface Backing Diameter	134.87 mm 5.31 in
Ab - Cage-Cone Frontface Clearance	1.8 mm 0.07 in
Aa - Cage-Cone Backface Clearance	1.8 mm 0.07 in
a - Effective Center Location[3]	4.6 mm 0.18 in

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)[4]	42100 N 9470 lbf
C1 - Dynamic Radial Rating (1 million revolutions)[5]	162000 N 36500 lbf
C0 - Static Radial Rating	242000 N 54400 lbf
C_{a90} - Dynamic Thrust Rating (90 million revolutions)[6]	36200 N 8130 lbf

Factors

K - Factor[7]	1.16
e - ISO Factor[8]	0.5
Y - ISO Factor[9]	1.2
G1 - Heat Generation Factor (Roller-Raceway)	133
G2 - Heat Generation Factor (Rib-Roller End)	38.3
Cg - Geometry Factor	0.141

[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.

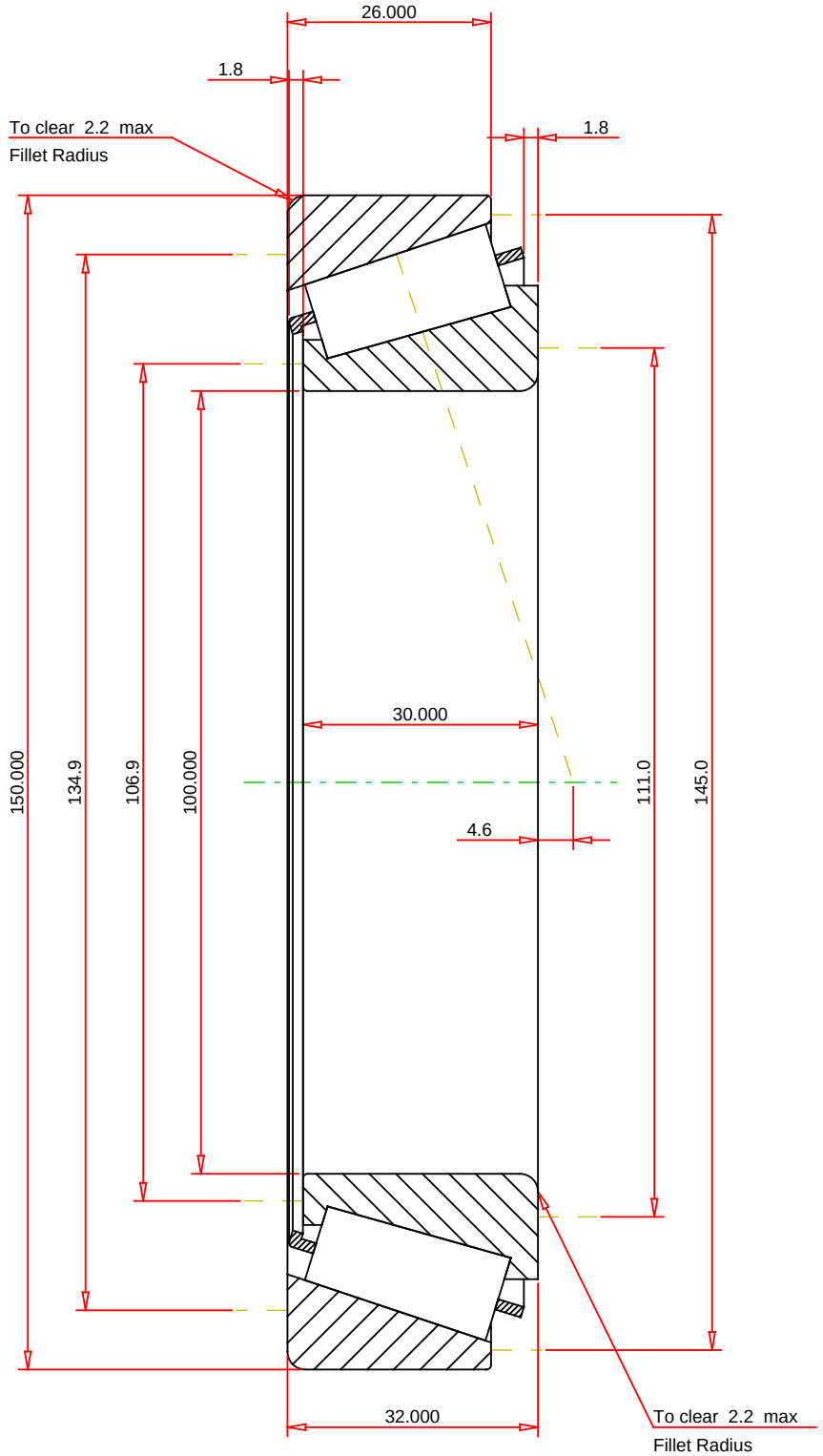
[6] Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

[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.



METRIC UNITS

ISO Factor - e	0.5	
ISO Factor - Y	1.2	
Bearing Weight	1.8	kg
Number of Rollers Per Row	26	
Effective Center Location	4.6	mm

TIMKEN®

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

JLM820048 - JLM820012
TS BEARING ASSEMBLY

K Factor	1.16	
Dynamic Radial Rating - C90	42100	N
Dynamic Thrust Rating - Ca90	36200	N
Static Radial Rating - C0	242000	N
Dynamic Radial Rating - C1	162000	N

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