



The Timken Company

4500 Mt Pleasant St. NW

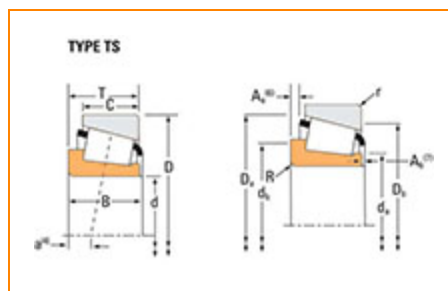
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Part Number JM612949, Tapered Roller Bearings - Single Cones - Metric

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.



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Specifications

Series	M612900
Cone Part Number	JM612949
Design Units	METRIC
Cage Type	Stamped Steel
C1 - Dynamic Radial Rating (Two-Row, 1 million revolutions) ¹	69600 lbf 310000 N
C90(2) - Dynamic Radial Rating (Two-Row, 90 million revolutions) ²	18000 lbf 80300 N

Dimensions

d - Bore	70 mm 2.7559 in
B - Cone Width	29.000 mm 1.1417 in
WPD	109.2 mm 4.3 in
DD	97.3 mm 3.83 in

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius³	3.050 mm 0.12 in
da - Cone Frontface Backing Diameter	77 mm 3.03 in
db - Cone Backface Backing Diameter	83 mm 3.27 in
Ab - Cage-Cone Frontface Clearance	2.8 mm 0.11 in
Aa - Cage-Cone Backface Clearance	0.5 mm 0.02 in
a - Effective Center Location⁴	-2.5 mm -0.1 in

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)⁵	46100 N 10400 lbf
C1 - Dynamic Radial Rating (1 million revolutions)⁶	178000 N 40000 lbf
C0 - Static Radial Rating	198000 N 44500 lbf

C_{a90} - Dynamic Thrust Rating	33900 N
(90 million revolutions)⁷	7630 lbf

Factors

K - Factor⁸ 1.36

**G1 - Heat Generation Factor
(Roller-Raceway)** 76.7

**G2 - Heat Generation Factor
(Rib-Roller End)** 25.7

C_g - Geometry Factor⁹ 0.112

¹ Based on 1×10^6 revolutions L_{10} life, for the ISO life calculation method.

² Based on 90×10^6 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.

³ These maximum fillet radii will be cleared by the bearing corners.

⁴ Negative value indicates effective center inside cone backface.

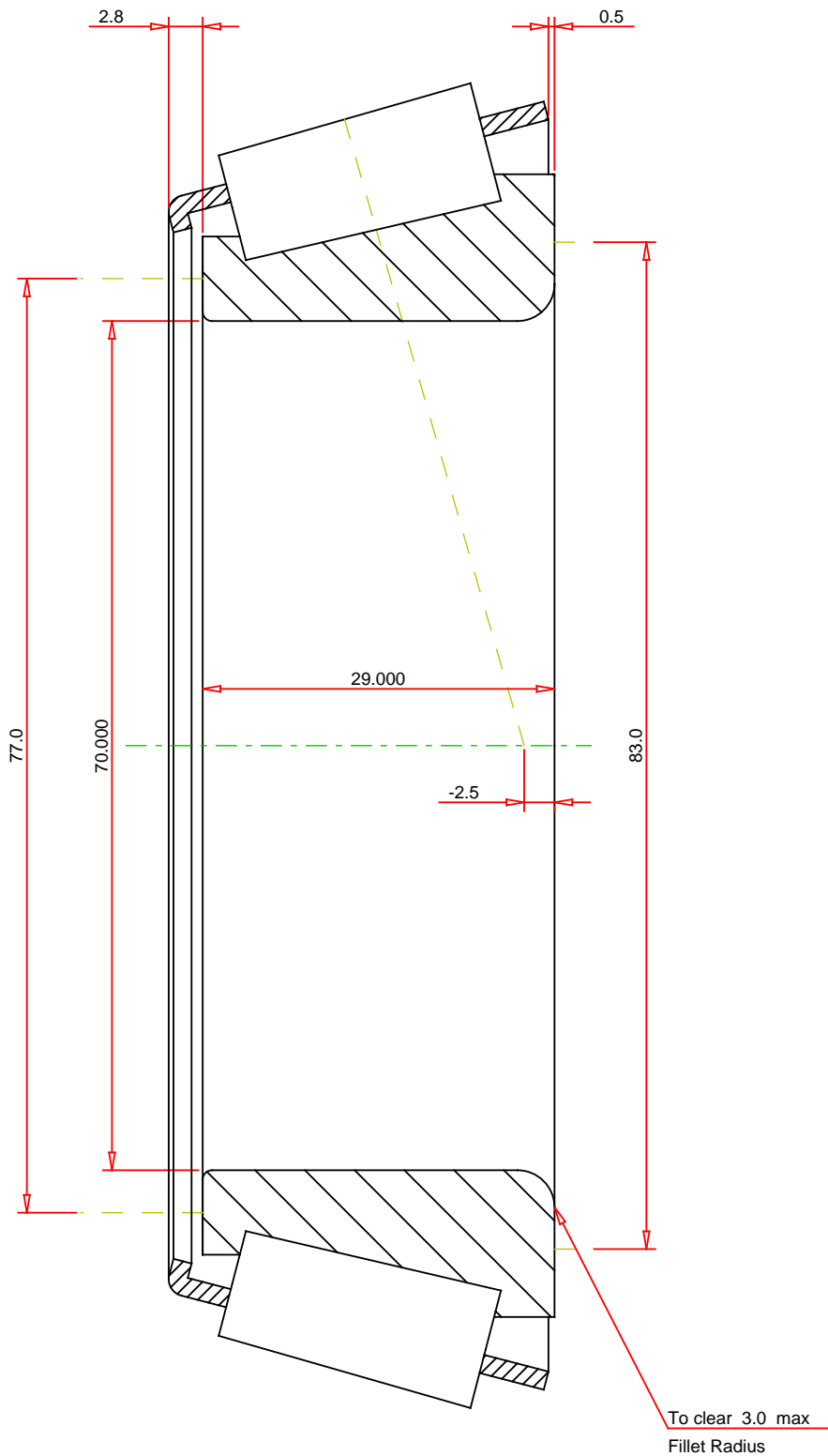
⁵ Based on 90×10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.

⁶ Based on 1×10^6 revolutions L_{10} life, for the ISO life calculation method.

⁷ Based on 90×10^6 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.

⁸ These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

⁹ Geometry constant for Lubrication Life Adjustment Factor a_3 .



METRIC UNITS

Number of Rollers Per Row 20

TIMKEN®

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

JM612949
SINGLE TAPERED CONE

K Factor	1.36	
Dynamic Radial Rating - C90	46100	N
Dynamic Thrust Rating - Ca90	33900	N
Dynamic Radial Rating - C1	178000	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