


The Timken Company

4500 Mt Pleasant St. NW

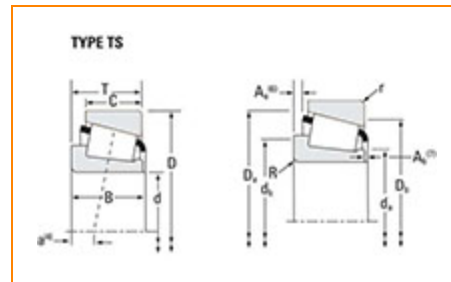
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Part Number 32314, Tapered Roller Bearings - TS (Tapered Single) Metric

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.



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Specifications

Series	32314
Cone Part Number	X32314M
Cup Part Number	Y32314M
Design Unit	Metric
Bearing Weight	4.39 Kg 9.69 lb
Cage Material	Stamped Steel
Full Timken Part Number	32314

Dimensions



d - Bore	70 mm 2.7559 in
D - Cup Outer Diameter	150 mm 5.9055 in
B - Cone Width	51 mm 2.0079 in
C - Cup Width	42 mm 1.6535 in
T - Bearing Width	54 mm 2.126 in

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius¹	3 mm 0.12 in
r - Cup Backface "To Clear" Radius²	2.5 mm 0.1 in
da - Cone Frontface Backing Diameter	86 mm 3.39 in
db - Cone Backface Backing Diameter	94 mm 3.7 in
Da - Cup Frontface Backing Diameter	140 mm 5.51 in
Db - Cup Backface Backing Diameter	133 mm 5.24 in
Ab - Cage-Cone Frontface Clearance	5.3 mm 0.21 in
Aa - Cage-Cone Backface Clearance	3.6 mm 0.14 in
a - Effective Center Location³	-16.8 mm -0.66 in

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)⁴	112000 N 25300 lbf
C1 - Dynamic Radial Rating (1 million revolutions)⁵	434000 N 97500 lbf
C0 - Static Radial Rating	448000 N 101000 lbf
C_{a90} - Dynamic Thrust Rating (90 million revolutions)⁶	66400 N 14900 lbf

Factors

K - Factor⁷	1.69
e - ISO Factor⁸	0.35
Y - ISO Factor⁹	1.74
G1 - Heat Generation Factor (Roller-Raceway)	141.9
G2 - Heat Generation Factor (Rib-Roller End)	33.1
C_g - Geometry Factor¹⁰	0.0828

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

⁵ Based on 1×10^6 revolutions L_{10} life, for the ISO life calculation method.

⁶ 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.

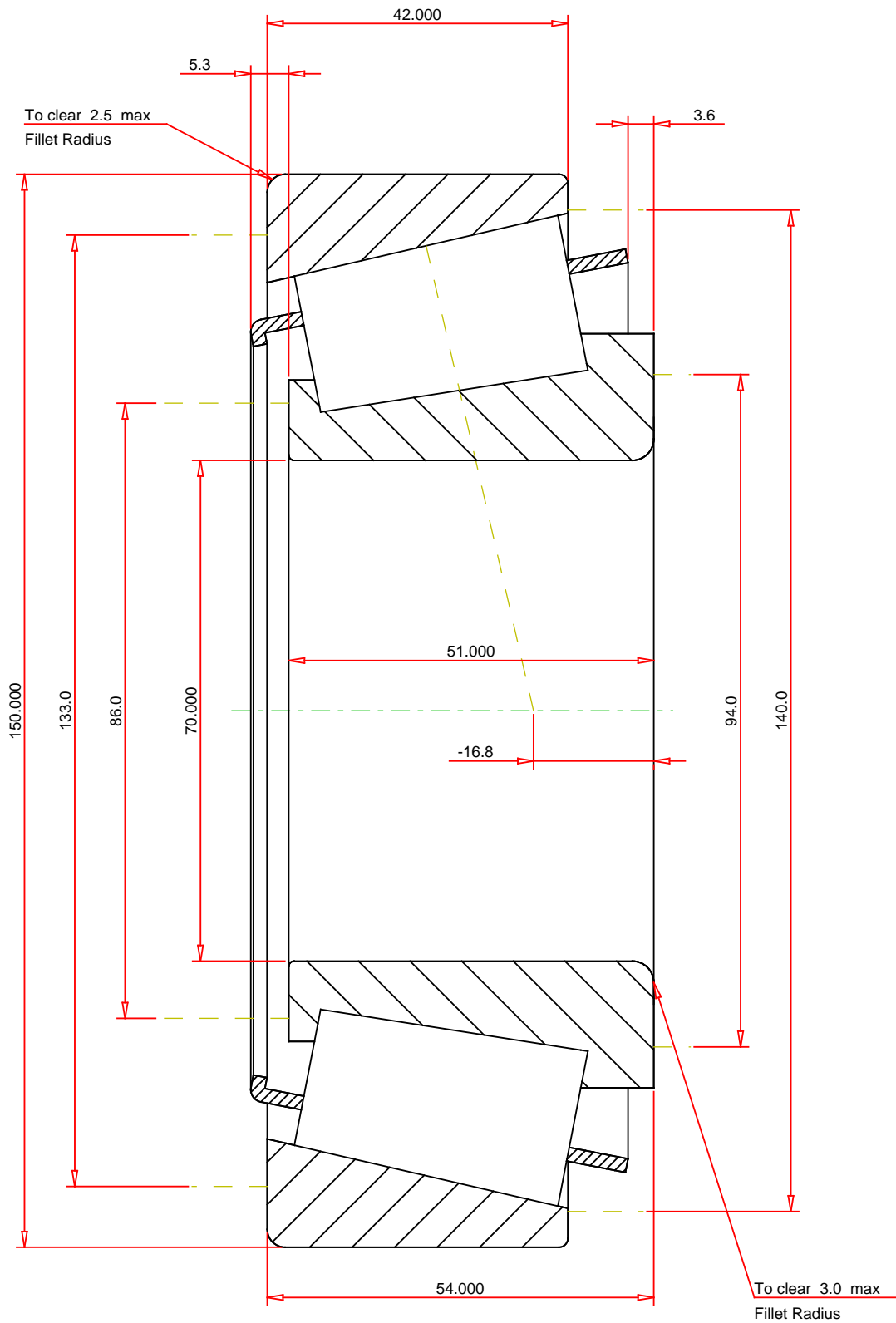
⁷ These factors apply for both inch and metric calculations. Consult your Timken representative for instruction

on use.

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

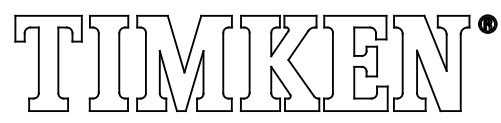
⁹ These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

¹⁰ Geometry constant for Lubrication Life Adjustment Factor a3l.



METRIC UNITS

ISO Factor - e	0.35
ISO Factor - Y	1.74
Bearing Weight	4.39 kg
Number of Rollers Per Row	16
Effective Center Location	-16.8 mm



X32314M - Y32314M
 Tapered Roller Bearings - TS (Tapered Single)
 Metric

THE TIMKEN COMPANY
 NORTH CANTON, OHIO USA

K Factor	1.69
Dynamic Radial Rating - C90	112000 N
Dynamic Thrust Rating - Ca90	66400 N
Static Radial Rating - C0	448000 N
Dynamic Radial Rating - C1	434000 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