


The Timken Company

4500 Mt Pleasant St. NW

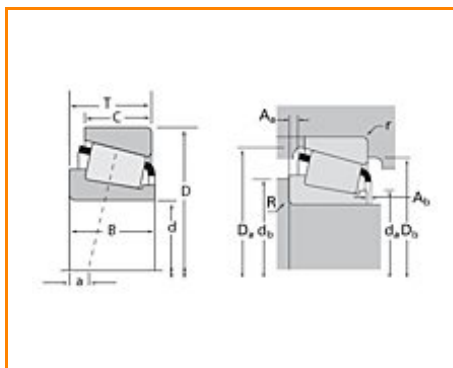
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Timken Part Number X30216 - Y30216, Tapered Roller Bearings - TS (Tapered Single) Metric

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	30216
Cone Part Number	X30216
Cup Part Number	Y30216
Design Units	METRIC
Bearing Weight	1.600 Kg 3.60 lb
Cage Type	Stamped Steel

Dimensions

d - Bore	80 mm 3.1496 in
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D - Cup Outer Diameter	140.000 mm 5.5118 in
B - Cone Width	26.000 mm 1.0236 in
C - Cup Width	22.000 mm 0.8661 in
T - Bearing Width	28.250 mm 1.1122 in

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius¹	2.540 mm 0.1 in
r - Cup Backface "To Clear" Radius²	2.03 mm 0.08 in
da - Cone Frontface Backing Diameter	88.90 mm 3.50 in
db - Cone Backface Backing Diameter	92.96 mm 3.66 in
Da - Cup Frontface Backing Diameter	133.35 mm 5.25 in
Db - Cup Backface Backing Diameter	127.00 mm 5.00 in
Ab - Cage-Cone Frontface Clearance	4.3 mm 0.17 in
Aa - Cage-Cone Backface Clearance	1 mm 0.04 in
a - Effective Center Location³	0 mm 0 in

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)⁴	42400 N 9530 lbf
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C1 - Dynamic Radial Rating (1 million revolutions)⁵	164000 N 36800 lbf
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C0 - Static Radial Rating	187000 N 42000 lbf
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C_{a90} - Dynamic Thrust Rating (90 million revolutions)⁶	30500 N 6860 lbf
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Factors

K - Factor⁷	1.39
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e - ISO Factor⁸	0.42
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Y - ISO Factor⁹	1.43
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G1 - Heat Generation Factor (Roller-Raceway)	80.7
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G2 - Heat Generation Factor (Rib-Roller End)	28.4
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Cg - Geometry Factor	0.0771
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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.

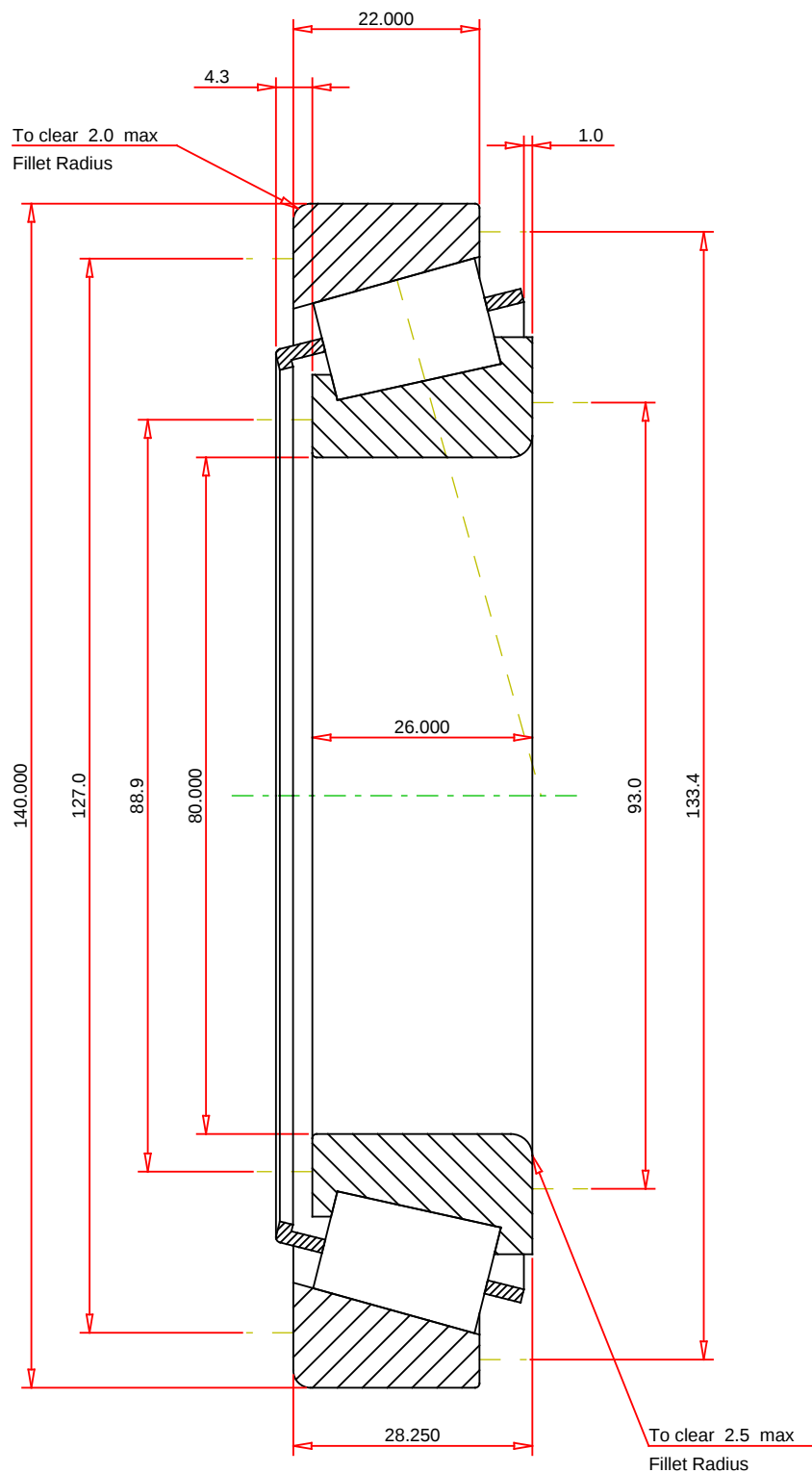
⁵ Based on 1×10^6 revolutions L_{10} life, for the ISO life calculation method.

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.



METRIC UNITS

ISO Factor - e 0.42
 ISO Factor - Y 1.43
 Bearing Weight 1.6 kg
 Number of Rollers Per Row 18
 Effective Center Location 0 mm

TIMKEN®

THE TIMKEN COMPANY
 NORTH CANTON, OHIO USA

X30216 - Y30216
 TS BEARING ASSEMBLY

K Factor 1.39
 Dynamic Radial Rating - C90 42400 N
 Dynamic Thrust Rating - Ca90 30500 N
 Static Radial Rating - C0 187000 N
 Dynamic Radial Rating - C1 164000 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