


The Timken Company

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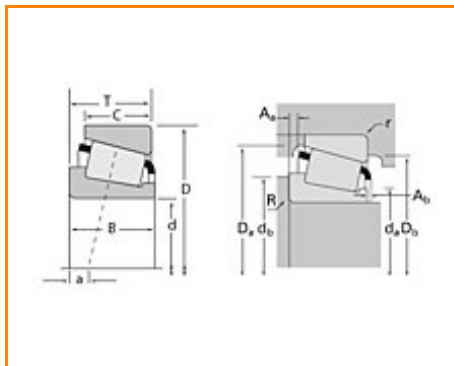
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Timken Part Number 49585 - 49522, Tapered Roller Bearings - TS (Tapered Single) Imperial

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.



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Specifications

Series	49500
Cone Part Number	49585
Cup Part Number	49522
Design Units	Imperial
Bearing Weight	1.100 Kg 2.50 lb
Cage Type	Stamped Steel

Dimensions

d - Bore	50.8 mm 2 in
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D - Cup Outer Diameter	101.600 mm 4.0000 in
B - Cone Width	31.750 mm 1.2500 in
C - Cup Width	25.400 mm 1.0000 in
T - Bearing Width	31.750 mm 1.2500 in

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius¹	3.560 mm 0.14 in
r - Cup Backface "To Clear" Radius²	0.76 mm 0.030 in
da - Cone Frontface Backing Diameter	58.93 mm 2.32 in
db - Cone Backface Backing Diameter	66.04 mm 2.60 in
Da - Cup Frontface Backing Diameter	97.00 mm 3.82 in
Db - Cup Backface Backing Diameter	89.92 mm 3.54 in
Ab - Cage-Cone Frontface Clearance	2.3 mm 0.09 in
Aa - Cage-Cone Backface Clearance	1.8 mm 0.07 in
a - Effective Center Location³	-7.10 mm -0.28 in

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)⁴	40800 N 9170 lbf
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C1 - Dynamic Radial Rating (1 million revolutions)⁵	157000 N 35400 lbf
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C0 - Static Radial Rating	155000 N 35000 lbf
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C_{a90} - Dynamic Thrust Rating (90 million revolutions)⁶	28000 N 6290 lbf
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Factors

K - Factor⁷	1.46
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e - ISO Factor⁸	0.40
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Y - ISO Factor⁹	1.5
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G1 - Heat Generation Factor (Roller-Raceway)	49.1
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G2 - Heat Generation Factor (Rib-Roller End)	14.2
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Cg - Geometry Factor	0.0946
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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.

