



The Timken Company

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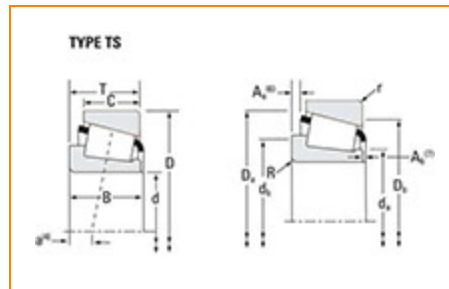
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Part Number 6580 - 6535, Tapered Roller Bearings - TS (Tapered Single) Imperial

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.



[Specifications](#) | [Dimensions](#) | [Abutment and Fillet Dimensions](#) | [Basic Load Ratings](#) | [Factors](#)

Specifications

Series	6500
Cone Part Number	6580
Cup Part Number	6535
Design Units	Imperial
Bearing Weight	4.7 Kg 10.4 lb
Cage Type	Stamped Steel

Dimensions

d - Bore	88.900 mm 3.5000 in
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D - Cup Outer Diameter	161.925 mm 6.3750 in
B - Cone Width	55.100 mm 2.1693 in
C - Cup Width	42.863 mm 1.6875 in
T - Bearing Width	53.978 mm 2.1251 in

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius¹	3.560 mm 0.14 in
r - Cup Backface "To Clear" Radius²	3.3 mm 0.130 in
da - Cone Frontface Backing Diameter	102.11 mm 4.72 in
db - Cone Backface Backing Diameter	113.03 mm 4.45 in
Da - Cup Frontface Backing Diameter	154.43 mm 6.08 in
Db - Cup Backface Backing Diameter	140.97 mm 5.55 in
Ab - Cage-Cone Frontface Clearance	1.5 mm 0.06 in
Aa - Cage-Cone Backface Clearance	3.8 mm 0.15 in
a - Effective Center Location³	-13.2 mm -0.52 in

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)⁴	25600 lbf 114000 N
C1 - Dynamic Radial Rating (1 million revolutions)⁵	98800 lbf 439000 N
C0 - Static Radial Rating	118000 lbf 523000 N
C_{a90} - Dynamic Thrust Rating (90 million revolutions)⁶	17600 lbf 78100 N

Factors

K - Factor⁷	1.46
e - ISO Factor⁸	0.4
Y - ISO Factor⁹	1.5
G1 - Heat Generation Factor (Roller-Raceway)	199
G2 - Heat Generation Factor (Rib-Roller End)	33.5
Cg - Geometry Factor¹⁰	0.104

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.

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¹⁰ Geometry constant for Lubrication Life Adjustment Factor a_3 .

