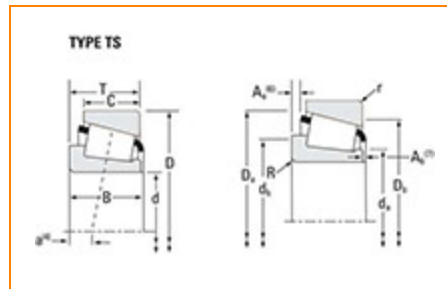


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Timken Part Number 45290 - 45220, Tapered Roller Bearings - TS (Tapered Single) Imperial

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	45200
Cone Part Number	45290
Cup Part Number	45220
Design Units	Imperial
Bearing Weight	1.1 Kg 2.4 lb
Cage Type	Stamped Steel

Dimensions

d - Bore	57.150 mm 2.2500 in
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D - Cup Outer Diameter	104.775 mm 4.1250 in
B - Cone Width	30.958 mm 1.2188 in
C - Cup Width	23.813 mm 0.9375 in
T - Bearing Width	30.163 mm 1.1875 in

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius¹	2.290 mm 0.09 in
r - Cup Backface "To Clear" Radius²	3.3 mm 0.130 in
da - Cone Frontface Backing Diameter	65.02 mm 2.56 in
db - Cone Backface Backing Diameter	68.07 mm 2.68 in
Da - Cup Frontface Backing Diameter	99.10 mm 3.94 in
Db - Cup Backface Backing Diameter	92.96 mm 3.66 in
Ab - Cage-Cone Frontface Clearance	2.5 mm 0.1 in
Aa - Cage-Cone Backface Clearance	1.8 mm 0.07 in
a - Effective Center Location³	-8.1 mm -0.32 in

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)⁴	8930 lbf 39700 N
C1 - Dynamic Radial Rating (1 million revolutions)⁵	34500 lbf 153000 N
C0 - Static Radial Rating	42600 lbf 189000 N
C_{a90} - Dynamic Thrust Rating (90 million revolutions)⁶	5090 lbf 22600 N

Factors

K - Factor⁷	1.76
e - ISO Factor⁸	0.33
Y - ISO Factor⁹	1.8
G1 - Heat Generation Factor (Roller-Raceway)	63.5
G2 - Heat Generation Factor (Rib-Roller End)	16.9
Cg - Geometry Factor¹⁰	0.0971

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 a_3 .

