


The Timken Company

4500 Mt Pleasant St. NW

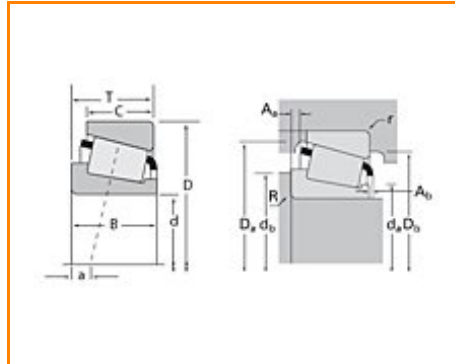
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Timken Part Number 86650 - 86100, Tapered Roller Bearings - TS (Tapered Single) Imperial

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	86000
Cone Part Number	86650
Cup Part Number	86100
Design Units	Imperial
Bearing Weight	7.60 Kg 16.700 lb
Cage Type	Stamped Steel

Dimensions

d - Bore	165.1 mm 6.5 in
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D - Cup Outer Diameter	254.000 mm 10.0000 in
B - Cone Width	46.038 mm 1.8125 in
C - Cup Width	33.338 mm 1.3125 in
T - Bearing Width	46.038 mm 1.8125 in

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius¹	4.830 mm 0.190 in
r - Cup Backface "To Clear" Radius²	3.30 mm 0.130 in
da - Cone Frontface Backing Diameter	176.02 mm 7.87 in
db - Cone Backface Backing Diameter	184.91 mm 7.28 in
Da - Cup Frontface Backing Diameter	239.52 mm 9.43 in
Db - Cup Backface Backing Diameter	233.93 mm 9.21 in
Ab - Cage-Cone Frontface Clearance	2.8 mm 0.11 in
Aa - Cage-Cone Backface Clearance	6.3 mm 0.25 in
a - Effective Center Location³	-1.5 mm -0.06 in

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)⁴	129000 N 29000 lbf
C1 - Dynamic Radial Rating (1 million revolutions)⁵	498000 N 112000 lbf
C0 - Static Radial Rating	644000 N 145000 lbf
C_{a90} - Dynamic Thrust Rating (90 million revolutions)⁶	81600 N 18300 lbf

Factors

K - Factor⁷	1.58
e - ISO Factor⁸	0.37
Y - ISO Factor⁹	1.62
G1 - Heat Generation Factor (Roller-Raceway)	466
G2 - Heat Generation Factor (Rib-Roller End)	112
Cg - Geometry Factor	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.

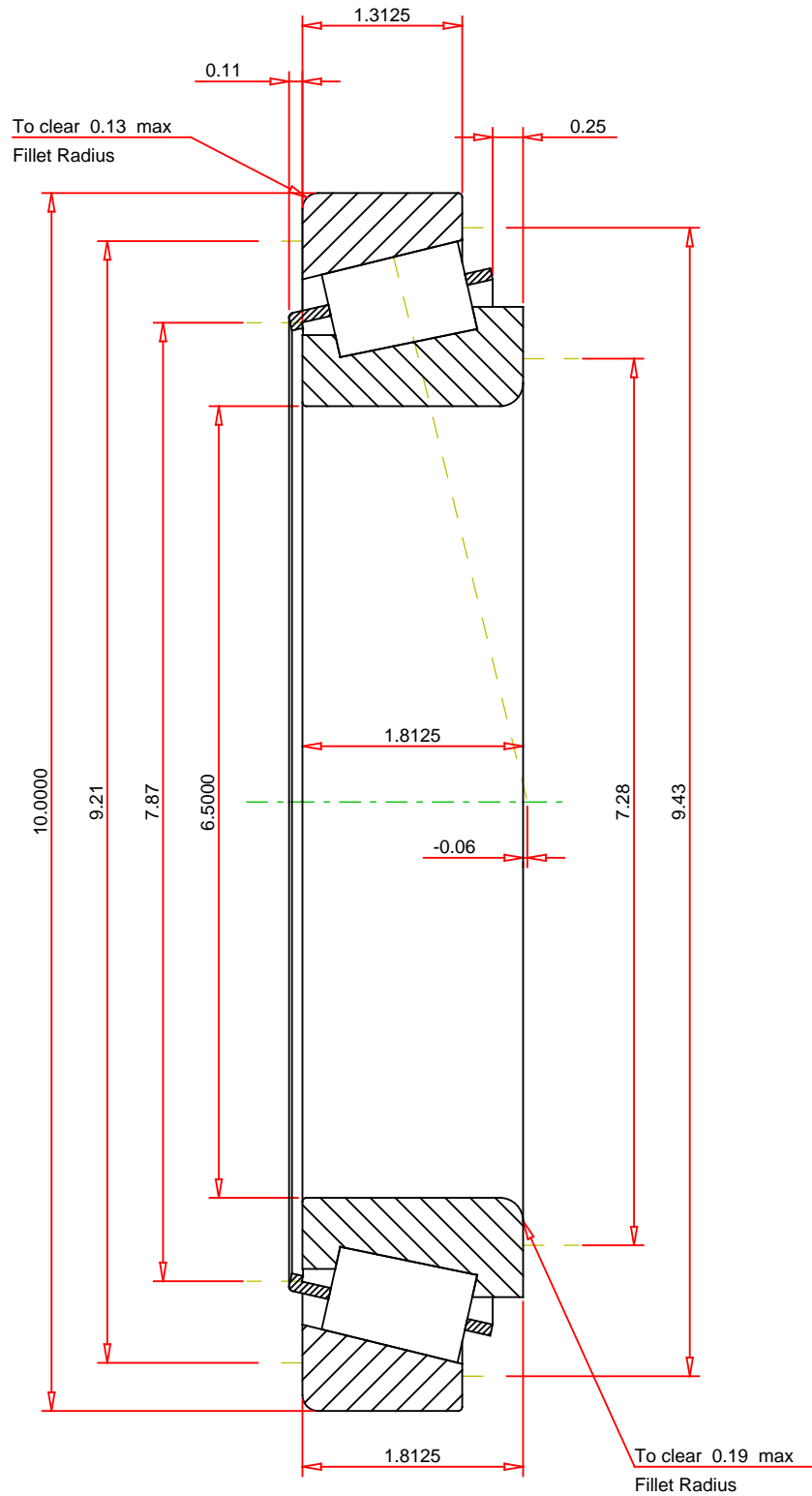
⁵ Based on 1×10^6 revolutions L_{10} life, for the ISO life calculation method.

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.

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



IMPERIAL UNITS

ISO Factor - e 0.37
 ISO Factor - Y 1.62
 Bearing Weight 16.7 lb
 Number of Rollers Per Row 27
 Effective Center Location -0.06 inch

TIMKEN®

THE TIMKEN COMPANY
 NORTH CANTON, OHIO USA

86650 - 86100
 TS BEARING ASSEMBLY

K Factor 1.58
 Dynamic Radial Rating - C90 129000 lbf
 Dynamic Thrust Rating - Ca90 81600 lbf
 Static Radial Rating - C0 644000 lbf
 Dynamic Radial Rating - C1 498000 lbf

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