



The Timken Company

4500 Mt Pleasant St. NW

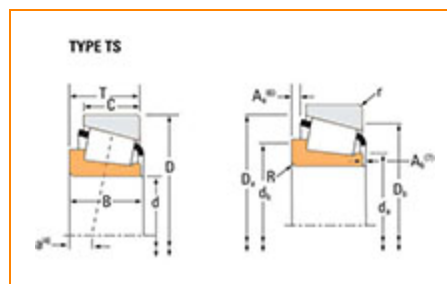
N. Canton, OH 44720

Phone: (234) 262-3000

E-Mail: CustomerCAD@timken.com • **Web site:** www.timken.com

Part Number 02877, Tapered Roller Bearings - Single Cones - 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	02800
Cone Part Number	02877
Design Units	Imperial
Cage Type	Stamped Steel
C1 - Dynamic Radial Rating (Two-Row, 1 million revolutions)¹	25700 lbf 114000 N
C90(2) - Dynamic Radial Rating (Two-Row, 90 million revolutions)²	6670 lbf 29700 N



Dimensions

d - Cone Bore	1 3/8 in 34.925 mm
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B - Cone Width	0.8750 in 22.225 mm
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Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius³	0.03 in 0.8 mm
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da - Cone Frontface Backing Diameter	1.65 in 42 mm
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db - Cone Backface Backing Diameter	1.91 in 48.5 mm
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Ab - Cage-Cone Frontface Clearance	0.07 in 1.8 mm
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Aa - Cage-Cone Backface Clearance	0.03 in 0.8 mm
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a - Effective Center Location⁴	-0.15 in -3.8 mm
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Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)⁵	3830 lbf 17000 N
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C1 - Dynamic Radial Rating (1 million revolutions)⁶	14800 lbf 65700 N
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C0 - Static Radial Rating	16800 lbf 74900 N
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C_{a90} - Dynamic Thrust Rating (90 million revolutions)⁷	2980 lbf 13200 N
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Factors

K - Factor⁸	1.29
G1 - Heat Generation Factor (Roller-Raceway)	20.6
G2 - Heat Generation Factor (Rib-Roller End)	10.1
Cg - Geometry Factor⁹	0.074

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

² 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.

³ These maximum fillet radii will be cleared by the bearing corners.

⁴ Negative value indicates effective center inside cone backface.

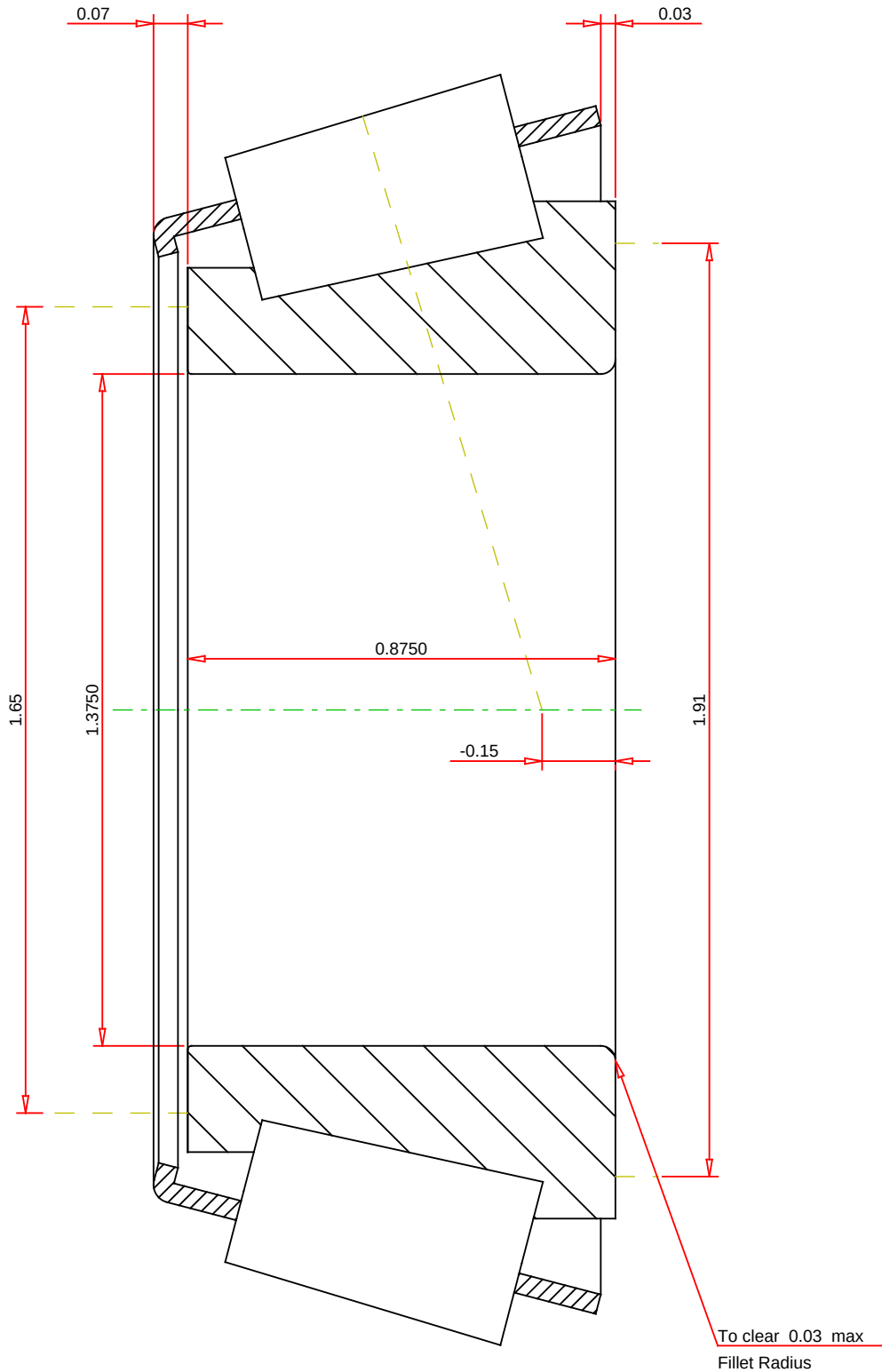
⁵ Based on 90×10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.

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

⁷ 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.

⁸ These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

⁹ Geometry constant for Lubrication Life Adjustment Factor a_3 .



IMPERIAL UNITS

Number of Rollers Per Row17	TIMKEN® THE TIMKEN COMPANY NORTH CANTON, OHIO USA	02877 Tapered Roller Bearings - Single Cones - Imperial K Factor Dynamic Radial Rating - C90 Dynamic Thrust Rating - Ca90 Dynamic Radial Rating - C1 1.29 3830 lbf 2980 lbf 14800 lbf
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