


The Timken Company

4500 Mt Pleasant St. NW

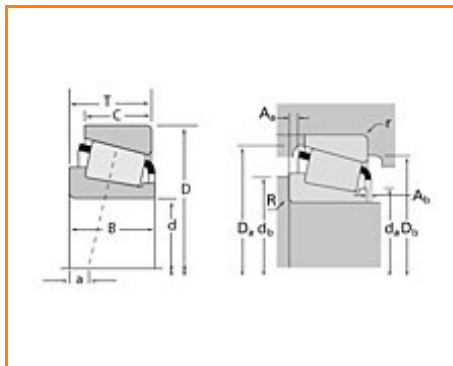
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Timken Part Number 3780 - 3720, Tapered Roller Bearings - TS (Tapered Single) Imperial

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	3700
Cone Part Number	3780
Cup Part Number	3720
Design Units	Imperial
Bearing Weight	0.800 Kg 1.90 lb
Cage Type	Stamped Steel

Dimensions

d - Bore	50.8 mm 2 in
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D - Cup Outer Diameter	93.264 mm 3.6718 in
B - Cone Width	30.302 mm 1.1930 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	3.560 mm 0.14 in
r - Cup Backface "To Clear" Radius²	3.30 mm 0.130 in
da - Cone Frontface Backing Diameter	57.91 mm 2.28 in
db - Cone Backface Backing Diameter	64.01 mm 2.52 in
Da - Cup Frontface Backing Diameter	87.90 mm 3.50 in
Db - Cup Backface Backing Diameter	82.04 mm 3.23 in
Ab - Cage-Cone Frontface Clearance	1.5 mm 0.06 in
Aa - Cage-Cone Backface Clearance	1.5 mm 0.06 in
a - Effective Center Location³	-8.1 mm -0.32 in

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)⁴	31700 N 7120 lbf
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C1 - Dynamic Radial Rating (1 million revolutions)⁵	122000 N 27500 lbf
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C0 - Static Radial Rating	153000 N 34300 lbf
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C_{a90} - Dynamic Thrust Rating (90 million revolutions)⁶	18300 N 4120 lbf
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Factors

K - Factor⁷	1.73
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e - ISO Factor⁸	0.34
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Y - ISO Factor⁹	1.77
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G1 - Heat Generation Factor (Roller-Raceway)	49.9
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G2 - Heat Generation Factor (Rib-Roller End)	14.5
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Cg - Geometry Factor	0.0903
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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.

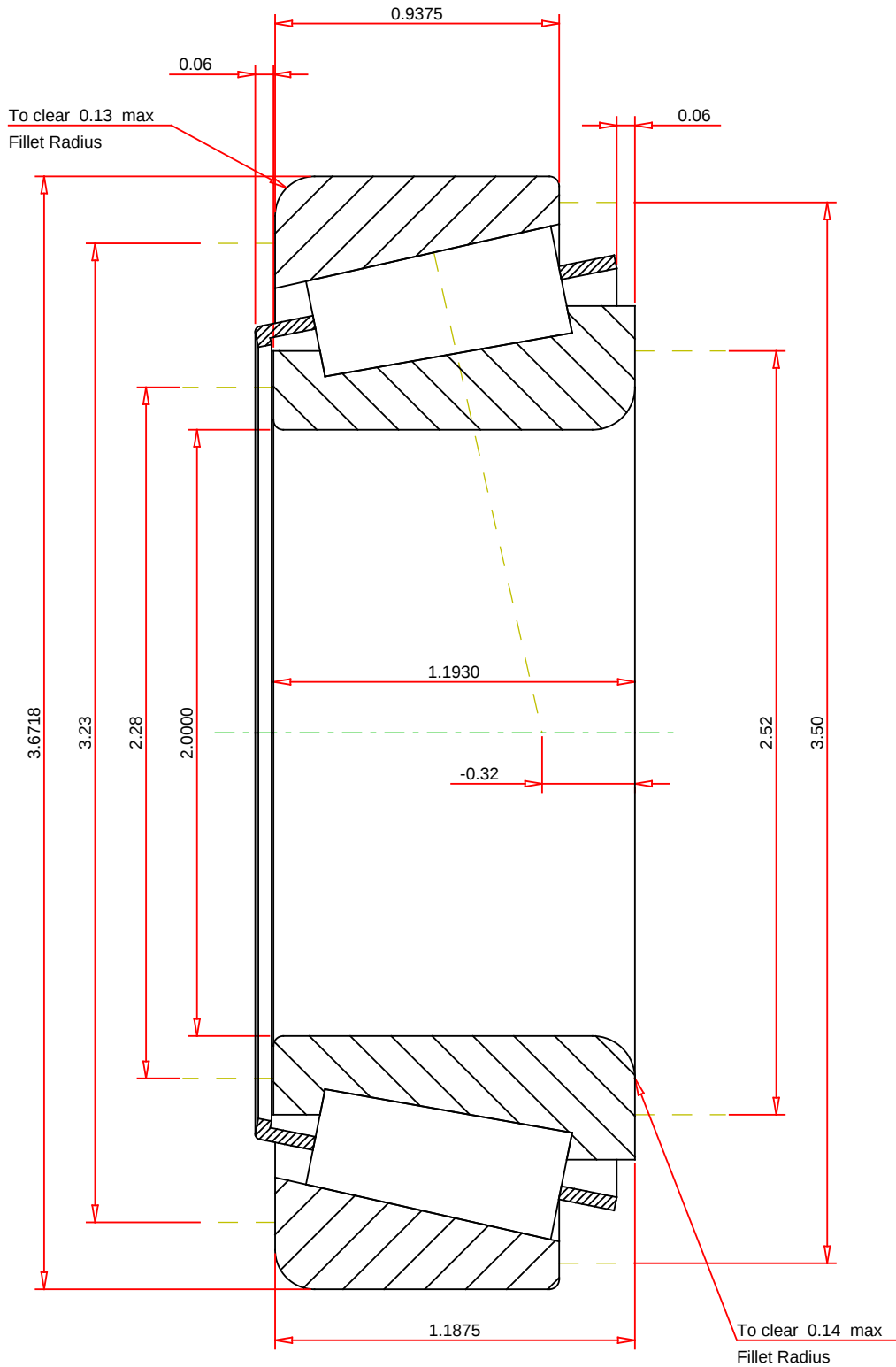
⁵ Based on 1×10^6 revolutions L_{10} life, for the ISO life calculation method.

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.



IMPERIAL UNITS

ISO Factor - e0.34 ISO Factor - Y1.77 Bearing Weight1.9 lb Number of Rollers Per Row18 Effective Center Location-0.32 inch		TIMKEN® THE TIMKEN COMPANY NORTH CANTON, OHIO USA		3780 - 3720 TS BEARING ASSEMBLY	
				K Factor1.73 Dynamic Radial Rating - C9031700 lbf Dynamic Thrust Rating - Ca9018300 lbf Static Radial Rating - C0153000 lbf Dynamic Radial Rating - C1122000 lbf	