


The Timken Company

4500 Mt Pleasant St. NW

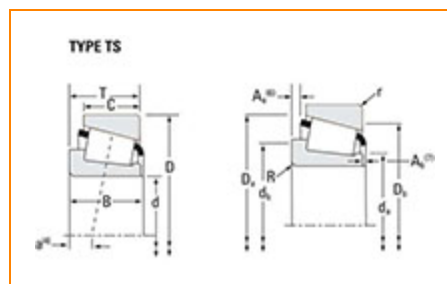
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Part Number 18790 - 18720, Tapered Roller Bearings - TS (Tapered Single) Imperial

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	18700
Cone Part Number	18790
Cup Part Number	18720
Design Unit	Inch
Cage Material	Stamped Steel
Related Assembly Number(s)	18790-90011

Dimensions


1 - Bore

 2 in
50.8 mm

D - Cup Outer Diameter	3.3465 in 85.001 mm
B - Cone Width	0.6875 in 17.463 mm
C - Cup Width	0.5313 in 13.495 mm
T - Bearing Width	0.6875 in 17.463 mm

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius¹	0.14 in 3.600 mm
r - Cup Backface "To Clear" Radius²	0.06 in 1.52 mm
da - Cone Frontface Backing Diameter	2.2 in 56 mm
db - Cone Backface Backing Diameter	2.44 in 62 mm
Da - Cup Frontface Backing Diameter	3.18 in 80.77 mm
Db - Cup Backface Backing Diameter	3.03 in 76.96 mm
Ab - Cage-Cone Frontface Clearance	0.09 in 2.3 mm
Aa - Cage-Cone Backface Clearance	0.02 in 0.5 mm
a - Effective Center Location³	-0.03 in -0.8 mm

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)⁴	3190 lbf 14200 N
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C1 - Dynamic Radial Rating (1 million revolutions)⁵	12300 lbf 54700 N
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C0 - Static Radial Rating	15200 lbf 67500 N
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C_{a90} - Dynamic Thrust Rating (90 million revolutions)⁶	2210 lbf 9840 N
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Factors

K - Factor⁷	1.44
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e - ISO Factor⁸	0.41
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Y - ISO Factor⁹	1.48
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G1 - Heat Generation Factor (Roller-Raceway)	28.6
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G2 - Heat Generation Factor (Rib-Roller End)	21.5
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C_g - Geometry Factor¹⁰	0.0789
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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.

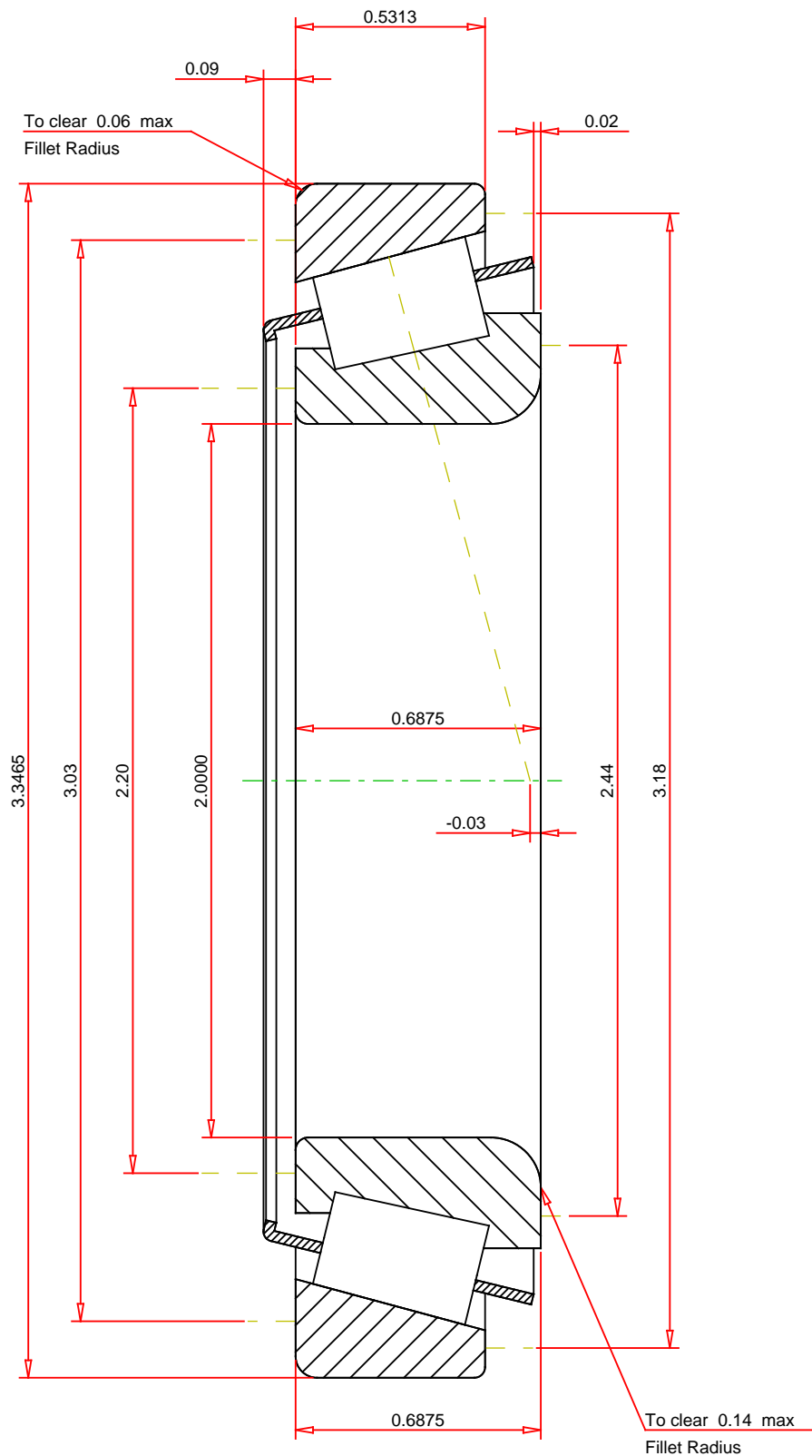
⁶ Based on 90×10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

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.

¹⁰ Geometry constant for Lubrication Life Adjustment Factor a_3 .



IMPERIAL UNITS

ISO Factor - e	0.41
ISO Factor - Y	1.48
Bearing Weight	0.8 lb
Number of Rollers Per Row	22
Effective Center Location	-0.03 inch

TIMKEN®

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

18790 - 18720
Tapered Roller Bearings - TS (Tapered Single)
Imperial

K Factor	1.44
Dynamic Radial Rating - C90	3190 lbf
Dynamic Thrust Rating - Ca90	2210 lbf
Static Radial Rating - C0	15200 lbf
Dynamic Radial Rating - C1	12300 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