


The Timken Company

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Timken Part Number 495 - 493-B, Tapered Roller Bearings - TSF (Tapered Single with Flange) Imperial

Like the TS bearing design, the TSF design 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. TSF bearings have flanged cups to facilitate axial location and accurately align seals in through-bored housings.



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Specifications

Series	495
Cone Part Number	495
Cup Part Number	493-B
Design Units	Imperial
Bearing Weight	3.70 lb 1.700 Kg
Cage Type	Stamped Steel

Dimensions

d - Bore	3.2500 in 82.550 mm
D - Cup Outer Diameter	5.3750 in 136.525 mm
D1 - Flange Outer Diameter	5.5890 in 141.961 mm
B - Cone Width	1.1720 in 29.769 mm
C - Cup Width	0.8750 in 22.225 mm
C1 - Cup Flange Width	0.2180 in 5.537 mm
T1 - Bearing Width	1.1875 in 30.163 mm
T - Bearing Width to Flange	0.5305 in 13.475 mm

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius¹	0.14 in 3.600 mm
r - Cup Backface "To Clear" Radius²	0.130 in 3.30 mm
da - Cone Frontface Backing Diameter	3.54 in 89.90 mm
db - Cone Backface Backing Diameter	3.82 in 97.00 mm
Da - Cup Frontface Backing Diameter	5.19 in 131.83 mm
Ab - Cage-Cone Frontface Clearance	0.12 in 3 mm

Aa - Cage-Cone Backface Clearance	0.07 in 1.8 mm
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a - Effective Center Location³	-0.03 in -0.8 mm
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Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)⁴	9000 lbf 40000 N
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C1 - Dynamic Radial Rating (1 million revolutions)⁵	34700 lbf 154000 N
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C0 - Static Radial Rating	48600 lbf 216000 N
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C_{a90} - Dynamic Thrust Rating (90 million revolutions)⁶	6850 lbf 30500 N
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Factors

K - Factor⁷	1.31
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e - ISO Factor⁸	0.44
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Y - ISO Factor⁹	1.35
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G1 - Heat Generation Factor (Roller-Raceway)¹⁰	105
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G2 - Heat Generation Factor (Rib-Roller End)	29.3
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Cg - Geometry Factor¹¹	0.125
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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.

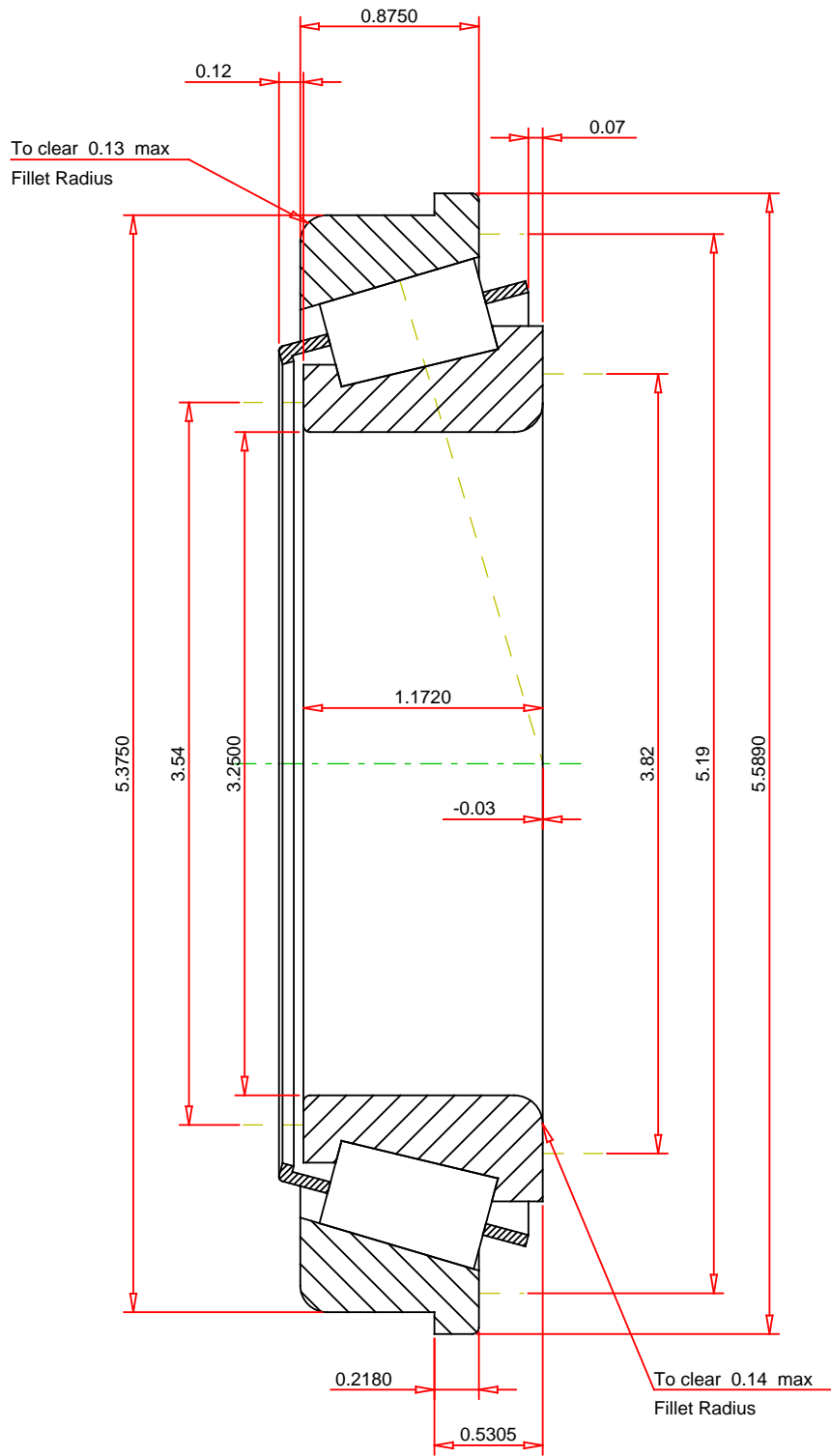
⁷ These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

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

¹¹ Geometry constant for Lubrication Life Adjustment Factor a_3 .



IMPERIAL UNITS

ISO Factor - e 0.44
 ISO Factor - Y 1.35
 Bearing Weight 3.7 lb
 Number of Rollers Per Row 23
 Effective Center Location -0.03 inch

TIMKEN®

THE TIMKEN COMPANY
 NORTH CANTON, OHIO USA

495 - 493-B
TSF BEARING ASSEMBLY

K Factor 1.31
 Dynamic Radial Rating - C90 9000 lbf
 Dynamic Thrust Rating - Ca90 6850 lbf
 Static Radial Rating - C0 48600 lbf
 Dynamic Radial Rating - C1 34700 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.

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