


The Timken Company

4500 Mt Pleasant St. NW

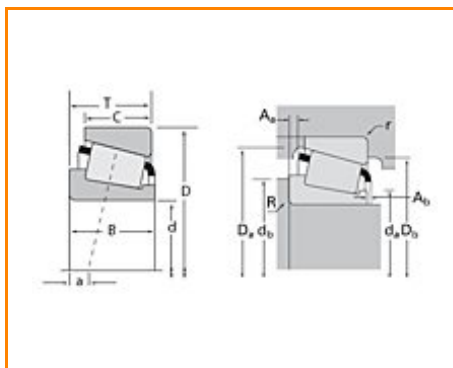
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Timken Part Number 496 - 493, Tapered Roller Bearings - TS (Tapered Single) Imperial

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 | 495 |
| Cone Part Number | 496 |
| Cup Part Number | 493 |
| Design Units | Imperial |
| Bearing Weight | 1.700 Kg 3.70 lb |
| Cage Type | Stamped Steel |

Dimensions

| | |
|-----------------|------------------------|
| d - Bore | 80.963 mm 3.1875 in |
|-----------------|------------------------|

| | |
|-------------------------------|-------------------------|
| D - Cup Outer Diameter | 136.525 mm 5.3750 in |
| B - Cone Width | 29.769 mm 1.1720 in |
| C - Cup Width | 22.225 mm 0.8750 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 | 88.90 mm 4.29 in |
| db - Cone Backface Backing Diameter | 95.00 mm 3.74 in |
| Da - Cup Frontface Backing Diameter | 131.06 mm 5.16 in |
| Db - Cup Backface Backing Diameter | 121.92 mm 4.80 in |
| Ab - Cage-Cone Frontface Clearance | 3 mm 0.12 in |
| Aa - Cage-Cone Backface Clearance | 1.8 mm 0.07 in |
| a - Effective Center Location³ | -0.8 mm -0.03 in |

Basic Load Ratings

| | |
|---|---------------------|
| C90 - Dynamic Radial Rating (90 million revolutions)⁴ | 40000 N 9000 lbf |
|---|---------------------|

| | |
|---|-----------------------|
| C1 - Dynamic Radial Rating (1 million revolutions)⁵ | 154000 N 34700 lbf |
|---|-----------------------|

| | |
|----------------------------------|-----------------------|
| C0 - Static Radial Rating | 216000 N 48600 lbf |
|----------------------------------|-----------------------|

| | |
|---|---------------------|
| C_{a90} - Dynamic Thrust Rating (90 million revolutions)⁶ | 30500 N 6850 lbf |
|---|---------------------|

Factors

| | |
|-------------------------------|------|
| K - Factor⁷ | 1.31 |
|-------------------------------|------|

| | |
|-----------------------------------|------|
| e - ISO Factor⁸ | 0.44 |
|-----------------------------------|------|

| | |
|-----------------------------------|------|
| Y - ISO Factor⁹ | 1.35 |
|-----------------------------------|------|

| | |
|---|-----|
| G1 - Heat Generation Factor (Roller-Raceway) | 105 |
|---|-----|

| | |
|---|------|
| G2 - Heat Generation Factor (Rib-Roller End) | 29.3 |
|---|------|

| | |
|-----------------------------|-------|
| Cg - Geometry Factor | 0.125 |
|-----------------------------|-------|

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.

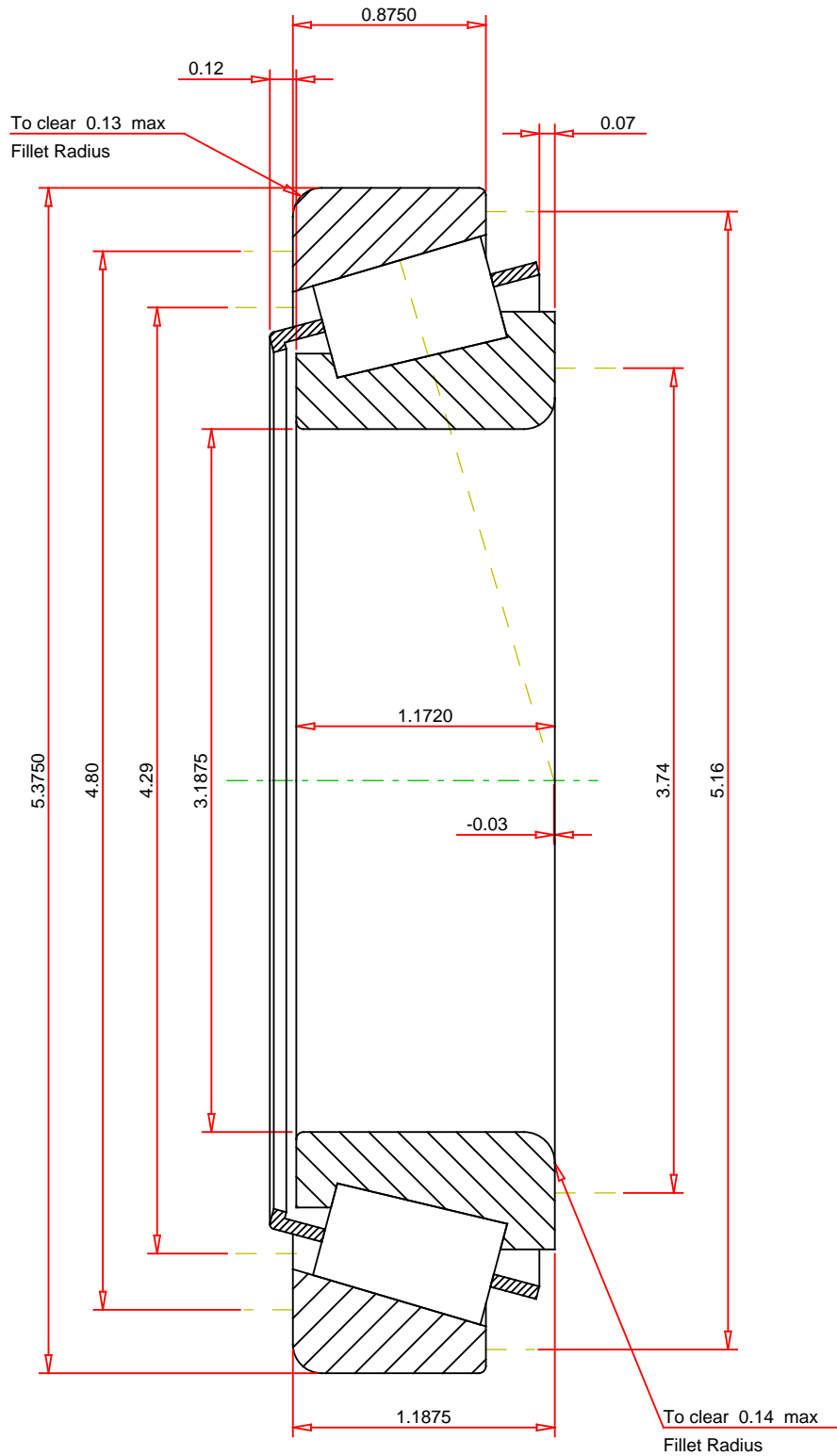
⁵ Based on 1×10^6 revolutions L_{10} life, for the ISO life calculation method.

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 0.44
 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

496 - 493
 TS BEARING ASSEMBLY

K Factor 1.31
 Dynamic Radial Rating - C90 40000 lbf
 Dynamic Thrust Rating - Ca90 30500 lbf
 Static Radial Rating - C0 216000 lbf
 Dynamic Radial Rating - C1 154000 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