



**The Timken Company**

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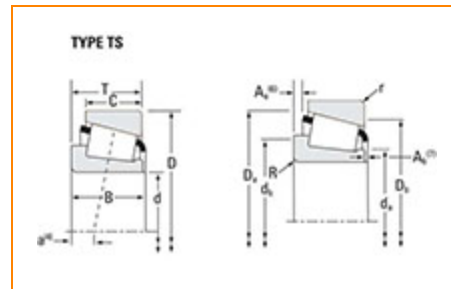
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## Part Number 497 - 492A, Tapered Roller Bearings - TS (Tapered Single) Imperial

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	497
Cup Part Number	492A
Design Units	Imperial
Bearing Weight	1.4 Kg 3.1 lb
Cage Type	Stamped Steel

### Dimensions

d - Bore	85.725 mm 3.3750 in
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<b>D - Cup Outer Diameter</b>	133.350 mm 5.2500 in
<b>B - Cone Width</b>	29.769 mm 1.1720 in
<b>C - Cup Width</b>	22.225 mm 0.8750 in
<b>T - Bearing Width</b>	30.163 mm 1.1875 in

## Abutment and Fillet Dimensions

<b>R - Cone Backface "To Clear" Radius<sup>1</sup></b>	3.560 mm 0.14 in
<b>r - Cup Backface "To Clear" Radius<sup>2</sup></b>	3.3 mm 0.130 in
<b>da - Cone Frontface Backing Diameter</b>	92.96 mm 4.43 in
<b>db - Cone Backface Backing Diameter</b>	99.06 mm 3.9 in
<b>Da - Cup Frontface Backing Diameter</b>	129.00 mm 5.08 in
<b>Db - Cup Backface Backing Diameter</b>	119.89 mm 4.72 in
<b>Ab - Cage-Cone Frontface Clearance</b>	3 mm 0.12 in
<b>Aa - Cage-Cone Backface Clearance</b>	1.8 mm 0.07 in
<b>a - Effective Center Location<sup>3</sup></b>	-0.8 mm -0.03 in

## Basic Load Ratings

<b>C90 - Dynamic Radial Rating (90 million revolutions)<sup>4</sup></b>	9000 lbf 40000 N
<b>C1 - Dynamic Radial Rating (1 million revolutions)<sup>5</sup></b>	34700 lbf 154000 N
<b>C0 - Static Radial Rating</b>	48600 lbf 216000 N
<b>C<sub>a90</sub> - Dynamic Thrust Rating (90 million revolutions)<sup>6</sup></b>	6850 lbf 30500 N

## Factors

<b>K - Factor<sup>7</sup></b>	1.31
<b>e - ISO Factor<sup>8</sup></b>	0.44
<b>Y - ISO Factor<sup>9</sup></b>	1.35
<b>G1 - Heat Generation Factor (Roller-Raceway)</b>	105
<b>G2 - Heat Generation Factor (Rib-Roller End)</b>	29.3
<b>C<sub>g</sub> - Geometry Factor<sup>10</sup></b>	0.125

<sup>1</sup> These maximum fillet radii will be cleared by the bearing corners.

<sup>2</sup> These maximum fillet radii will be cleared by the bearing corners.

<sup>3</sup> Negative value indicates effective center inside cone backface.

<sup>4</sup> Based on  $90 \times 10^6$  revolutions  $L_{10}$  life, for The Timken Company life calculation method.  $C_{90}$  and  $C_{a90}$  are radial and thrust values.

<sup>5</sup> Based on  $1 \times 10^6$  revolutions  $L_{10}$  life, for the ISO life calculation method.

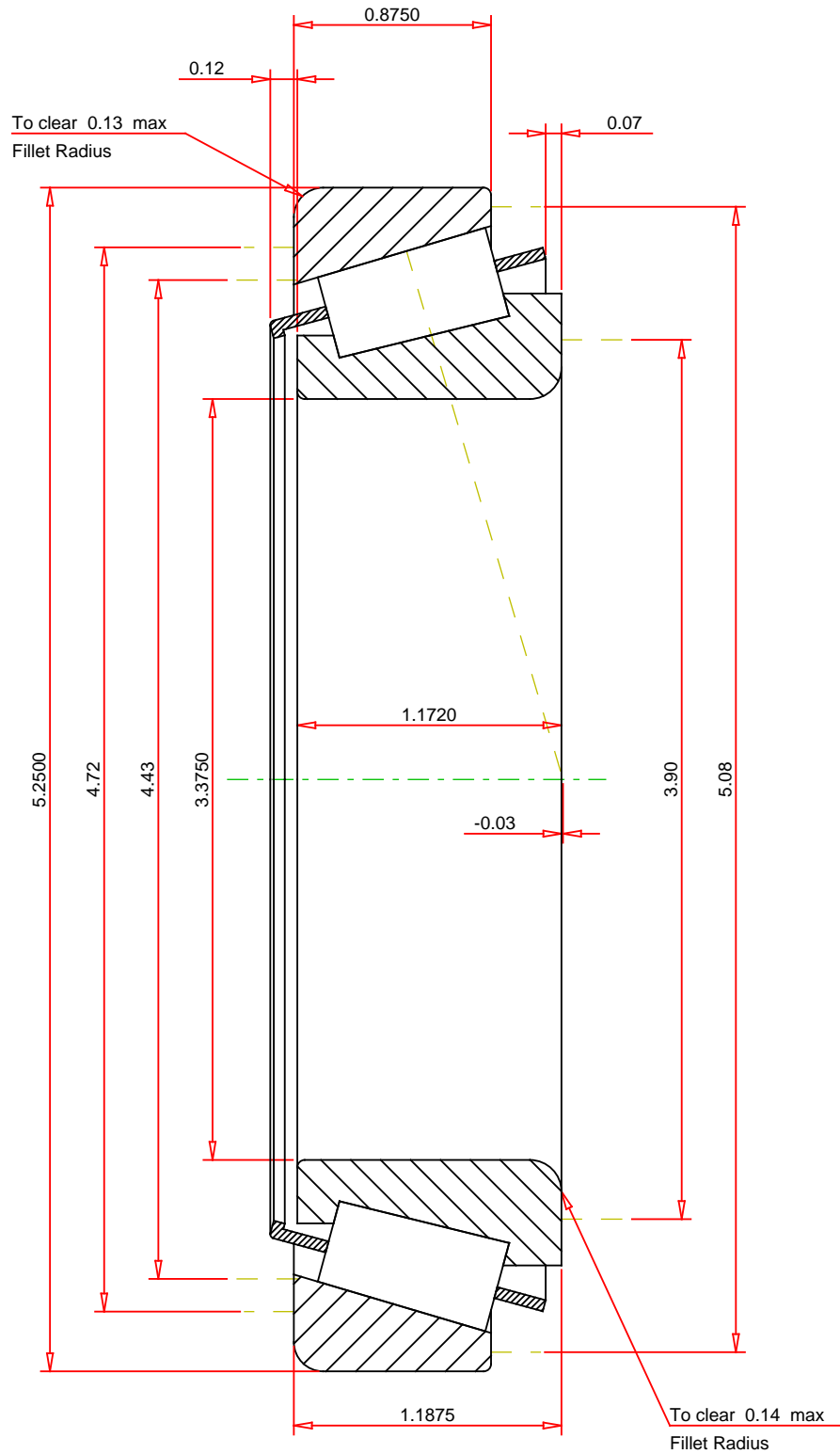
<sup>6</sup> Based on  $90 \times 10^6$  revolutions  $L_{10}$  life, for The Timken Company life calculation method.  $C_{90}$  and  $C_{a90}$  are radial and thrust values for a single-row,  $C_{90(2)}$  is the two-row radial value.

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

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

<sup>9</sup> These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

<sup>10</sup> Geometry constant for Lubrication Life Adjustment Factor a3l.



IMPERIAL UNITS

ISO Factor - e	0.44
ISO Factor - Y	1.35
Bearing Weight	3.1 lb
Number of Rollers Per Row	23
Effective Center Location	-0.03 inch

**TIMKEN**®

**THE TIMKEN COMPANY**  
NORTH CANTON, OHIO USA

**497 - 492A**  
TS 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.

**FOR DISCUSSION ONLY**