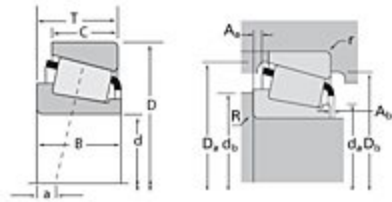


# TIMKEN

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## Timken Part Number 46780 - 46720, 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

<b>Series</b>	46700
<b>Cone Part Number</b>	46780
<b>Cup Part Number</b>	46720
<b>Design Units</b>	Imperial
<b>Bearing Weight</b>	5.200 Kg 11.40 lb
<b>Cage Type</b>	Stamped Steel

### Dimensions

<b>d - Bore</b>	158.750 mm 6.2500 in
<b>D - Cup Outer Diameter</b>	225.425 mm 8.875 in

<b>B - Cone Width</b>	39.688 mm 1.5625 in
<b>C - Cup Width</b>	33.338 mm 1.3125 in
<b>T - Bearing Width</b>	41.275 mm 1.6250 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>	3.30 mm 0.130 in
<b>da - Cone Frontface Backing Diameter</b>	168.91 mm 7.48 in
<b>db - Cone Backface Backing Diameter</b>	176.02 mm 6.93 in
<b>Da - Cup Frontface Backing Diameter</b>	218.90 mm 8.62 in
<b>Db - Cup Backface Backing Diameter</b>	209.04 mm 8.23 in
<b>Ab - Cage-Cone Frontface Clearance</b>	3 mm 0.12 in
<b>Aa - Cage-Cone Backface Clearance</b>	3.3 mm 0.13 in
<b>a - Effective Center Location<sup>3</sup></b>	2.50 mm 0.10 in

#### Basic Load Ratings

<b>C90 - Dynamic Radial Rating (90 million revolutions)<sup>4</sup></b>	78600 N 17700 lbf
<b>C1 - Dynamic Radial Rating (1 million revolutions)<sup>5</sup></b>	303000 N 68200 lbf
<b>C0 - Static Radial Rating</b>	635000 N 143000 lbf
<b>C<sub>a90</sub> - Dynamic Thrust Rating (90 million revolutions)<sup>6</sup></b>	51600 N 11600 lbf

## Factors

<b>K - Factor<sup>7</sup></b>	1.52
<b>e - ISO Factor<sup>8</sup></b>	0.38
<b>Y - ISO Factor<sup>9</sup></b>	1.57
<b>G1 - Heat Generation Factor (Roller-Raceway)</b>	572
<b>G2 - Heat Generation Factor (Rib-Roller End)</b>	133
<b>Cg - Geometry Factor</b>	0.143

<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.

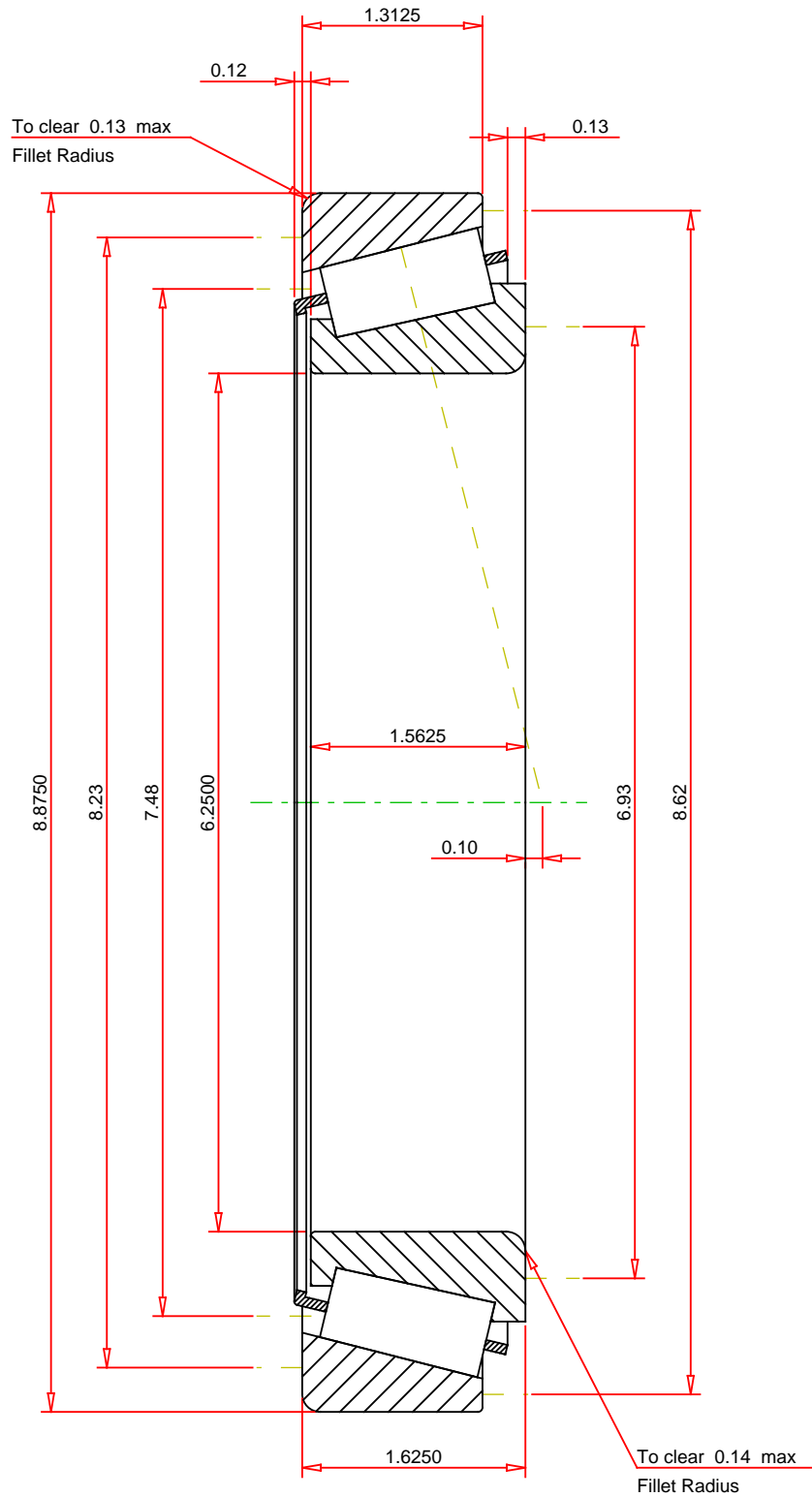
<sup>5</sup> Based on  $1 \times 10^6$  revolutions  $L_{10}$  life, for the ISO life calculation method.

<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.



**IMPERIAL UNITS**

ISO Factor - e	0.38
ISO Factor - Y	1.57
Bearing Weight	11.4 lb
Number of Rollers Per Row	42
Effective Center Location	0.1 inch

**TIMKEN®**

**46780 - 46720  
TS BEARING ASSEMBLY**

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

K Factor	1.52
Dynamic Radial Rating - C90	78600 lbf
Dynamic Thrust Rating - Ca90	51600 lbf
Static Radial Rating - C0	635000 lbf
Dynamic Radial Rating - C1	303000 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**