


**The Timken Company**

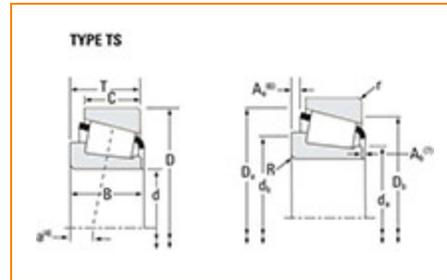
4500 Mt Pleasant St. NW

N. Canton, OH 44720

**Phone:** (234) 262-3000

**E-Mail:** [CustomerCAD@timken.com](mailto:CustomerCAD@timken.com) • **Web site:** [www.timken.com](http://www.timken.com)
**Part Number 3782 - 3720, 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>	3700
<b>Cone Part Number</b>	3782
<b>Cup Part Number</b>	3720
<b>Design Unit</b>	Inch
<b>Cage Material</b>	Stamped Steel

**Dimensions**

<b>d - Bore</b>	44.450 mm
<b>D - Cup Outer Diameter</b>	93.264 mm
<b>B - Cone Width</b>	30.302 mm



<b>C - Cup Width</b>	23.813 mm
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<b>T - Bearing Width</b>	30.163 mm
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## Abutment and Fillet Dimensions

<b>R - Cone Backface "To Clear" Radius<sup>1</sup></b>	3.600 mm
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<b>r - Cup Backface "To Clear" Radius<sup>2</sup></b>	3.3 mm
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<b>da - Cone Frontface Backing Diameter</b>	52 mm
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<b>db - Cone Backface Backing Diameter</b>	58 mm
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<b>Da - Cup Frontface Backing Diameter</b>	87.90 mm
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<b>Db - Cup Backface Backing Diameter</b>	82.04 mm
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<b>Ab - Cage-Cone Frontface Clearance</b>	1.5 mm
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<b>Aa - Cage-Cone Backface Clearance</b>	1.5 mm
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<b>a - Effective Center Location<sup>3</sup></b>	-8.1 mm
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## Basic Load Ratings

<b>C90 - Dynamic Radial Rating (90 million revolutions)<sup>4</sup></b>	31700 N
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<b>C1 - Dynamic Radial Rating (1 million revolutions)<sup>5</sup></b>	122000 N
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<b>C0 - Static Radial Rating</b>	153000 N
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**C<sub>a90</sub> - Dynamic Thrust Rating (90 million revolutions)<sup>6</sup>** 18300 N

## Factors

<b>K - Factor<sup>7</sup></b>	1.73
<b>e - ISO Factor<sup>8</sup></b>	0.34
<b>Y - ISO Factor<sup>9</sup></b>	1.77
<b>G1 - Heat Generation Factor (Roller-Raceway)</b>	49.9
<b>G2 - Heat Generation Factor (Rib-Roller End)</b>	14.5
<b>C<sub>g</sub> - Geometry Factor<sup>10</sup></b>	0.0903

<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.

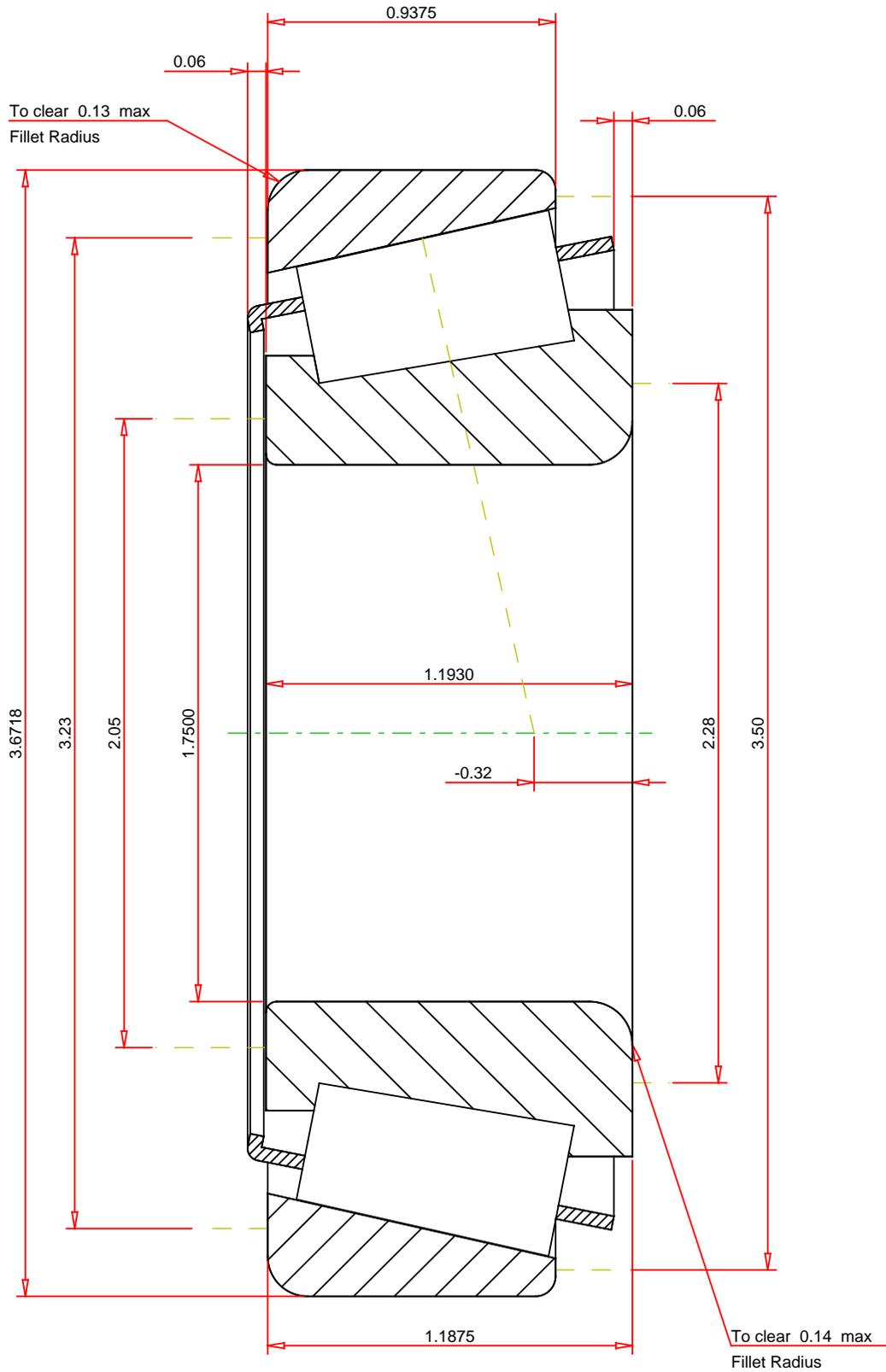
<sup>6</sup> Based on  $90 \times 10^6$  revolutions  $L_{10}$  life, for The Timken Company life calculation method.  $C_{90}$  and  $C_{a90}$  are radial and thrust values for a single-row,  $C_{90(2)}$  is the two-row radial value.

<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	0.34
ISO Factor - Y	1.77
Bearing Weight	2.1 lb
Number of Rollers Per Row	18
Effective Center Location	-0.32 inch

**TIMKEN**®

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

**3782 - 3720**  
Tapered Roller Bearings - TS (Tapered Single)  
Imperial

K Factor	1.73
Dynamic Radial Rating - C90	7120 lbf
Dynamic Thrust Rating - Ca90	4120 lbf
Static Radial Rating - C0	34300 lbf
Dynamic Radial Rating - C1	27500 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**