



**The Timken Company**

4500 Mt Pleasant St. NW

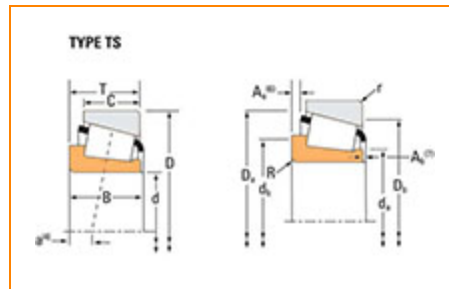
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## Part Number 782, Tapered Roller Bearings - Single Cones - Imperial

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	775
Cone Part Number	782
Design Units	Imperial
Cage Type	Stamped Steel
C1 - Dynamic Radial Rating (Two-Row, 1 million revolutions) <sup>1</sup>	135000 lbf 603000 N
C90(2) - Dynamic Radial Rating (Two-Row, 90 million revolutions) <sup>2</sup>	35100 lbf 156000 N

### Dimensions

<b>d - Bore</b>	4.1250 in 104.775 mm
<b>B - Cone Width</b>	1.8900 in 48.006 mm

## Abutment and Fillet Dimensions

<b>R - Cone Backface "To Clear" Radius<sup>3</sup></b>	0.14 in 3.600 mm
<b>da - Cone Frontface Backing Diameter</b>	4.57 in 116 mm
<b>db - Cone Backface Backing Diameter</b>	4.8 in 122 mm
<b>Ab - Cage-Cone Frontface Clearance</b>	0.07 in 1.8 mm
<b>Aa - Cage-Cone Backface Clearance</b>	0.13 in 3.3 mm
<b>a - Effective Center Location<sup>4</sup></b>	-0.32 in -8.1 mm

## Basic Load Ratings

<b>C90 - Dynamic Radial Rating (90 million revolutions)<sup>5</sup></b>	20200 lbf 89700 N
<b>C1 - Dynamic Radial Rating (1 million revolutions)<sup>6</sup></b>	77800 lbf 346000 N
<b>C0 - Static Radial Rating</b>	111000 lbf 495000 N
<b>C<sub>a90</sub> - Dynamic Thrust Rating (90 million revolutions)<sup>7</sup></b>	13300 lbf 59200 N

## Factors

<b>K - Factor<sup>8</sup></b>	1.51
<b>G1 - Heat Generation Factor (Roller-Raceway)</b>	227.3
<b>G2 - Heat Generation Factor (Rib-Roller End)</b>	41.3
<b>Cg - Geometry Factor<sup>9</sup></b>	0.107

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

<sup>2</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>3</sup> These maximum fillet radii will be cleared by the bearing corners.

<sup>4</sup> Negative value indicates effective center inside cone backface.

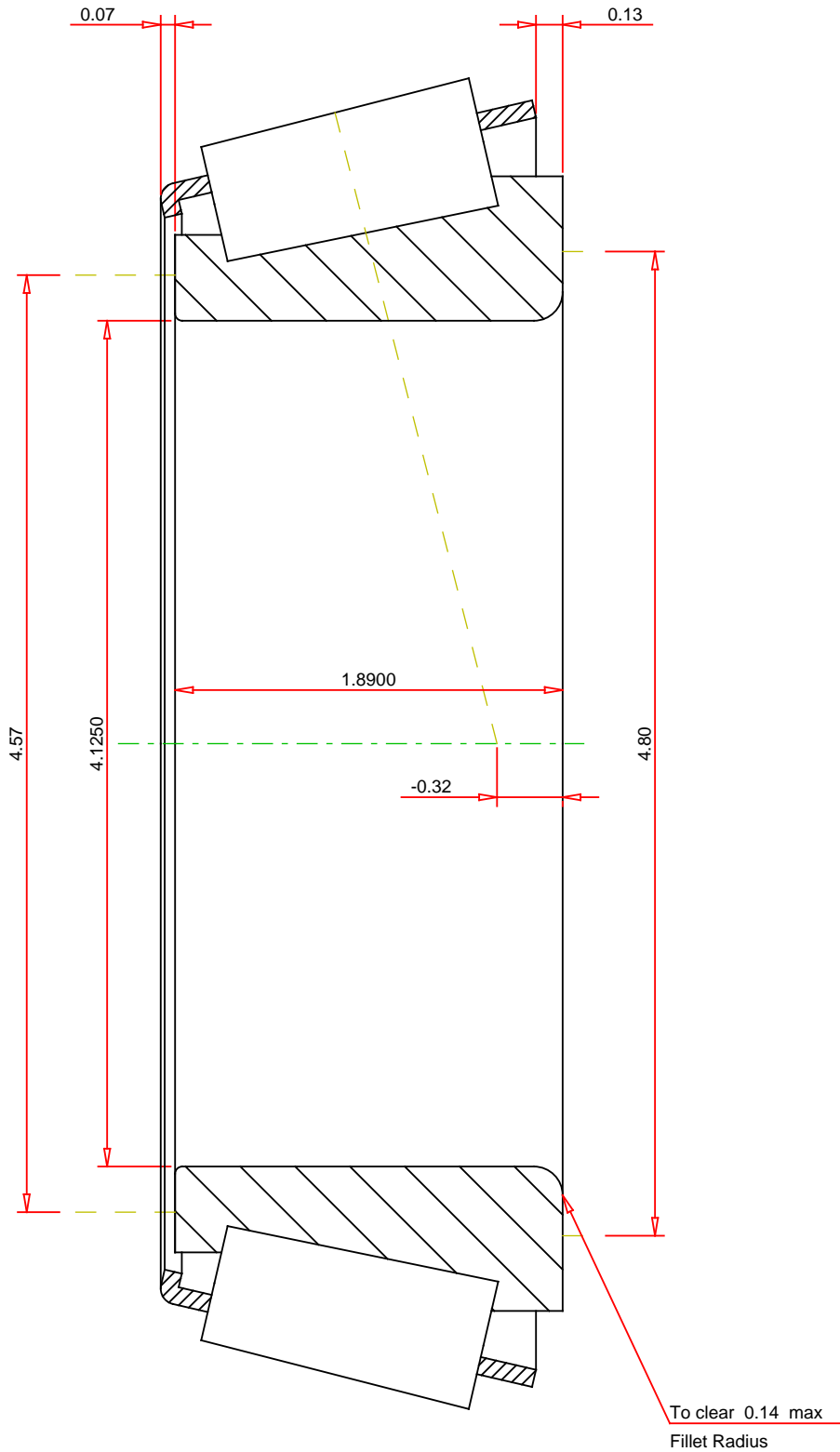
<sup>5</sup> Based on  $90 \times 10^6$  revolutions  $L_{10}$  life, for The Timken Company life calculation method.  $C_{90}$  and  $C_{a90}$  are radial and thrust values.

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

<sup>7</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>8</sup> These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

<sup>9</sup> Geometry constant for Lubrication Life Adjustment Factor  $a_3$ .



IMPERIAL UNITS

Number of Rollers Per Row 21

TIMKEN®

THE TIMKEN COMPANY  
NORTH CANTON, OHIO USA

782  
SINGLE TAPERED CONE

K Factor	1.51	
Dynamic Radial Rating - C90	20200	lbf
Dynamic Thrust Rating - Ca90	13300	lbf
Dynamic Radial Rating - C1	77800	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