


**The Timken Company**

4500 Mt Pleasant St. NW

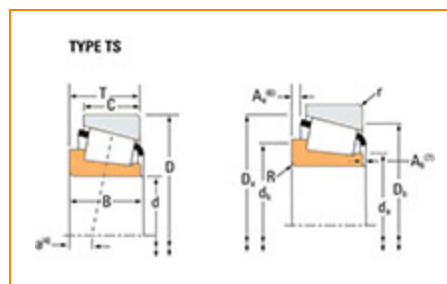
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## Part Number 3378, Tapered Roller Bearings - Single Cones - Imperial

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

<b>Series</b>	3300
<b>Cone Part Number</b>	3378
<b>Design Units</b>	Imperial
<b>Cage Type</b>	Stamped Steel
<b>C1 - Dynamic Radial Rating (Two-Row, 1 million revolutions)<sup>1</sup></b>	45000 lbf 200000 N
<b>C90(2) - Dynamic Radial Rating (Two-Row, 90 million revolutions)<sup>2</sup></b>	11700 lbf 51900 N



Dimensions

<b>d - Cone Bore</b>	1.4365 in 36.487 mm
<b>B - Cone Width</b>	1.1965 in 30.391 mm

## Abutment and Fillet Dimensions

<b>R - Cone Backface "To Clear" Radius<sup>3</sup></b>	0.140 in 3.6 mm
<b>da - Cone Frontface Backing Diameter</b>	1.69 in 43 mm
<b>db - Cone Backface Backing Diameter</b>	1.95 in 49.5 mm
<b>Ab - Cage-Cone Frontface Clearance</b>	0.07 in 1.8 mm
<b>Aa - Cage-Cone Backface Clearance</b>	0.06 in 1.5 mm
<b>a - Effective Center Location<sup>4</sup></b>	-0.43 in -10.9 mm

## Basic Load Ratings

<b>C90 - Dynamic Radial Rating (90 million revolutions)<sup>5</sup></b>	6700 lbf 29800 N
<b>C1 - Dynamic Radial Rating (1 million revolutions)<sup>6</sup></b>	25800 lbf 115000 N
<b>C0 - Static Radial Rating</b>	29100 lbf 129000 N
<b>C<sub>a90</sub> - Dynamic Thrust Rating (90 million revolutions)<sup>7</sup></b>	3130 lbf 13900 N

## Factors

**K - Factor<sup>8</sup>**

2.14

**Cg - Geometry Factor<sup>9</sup>**

0.0744

<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.

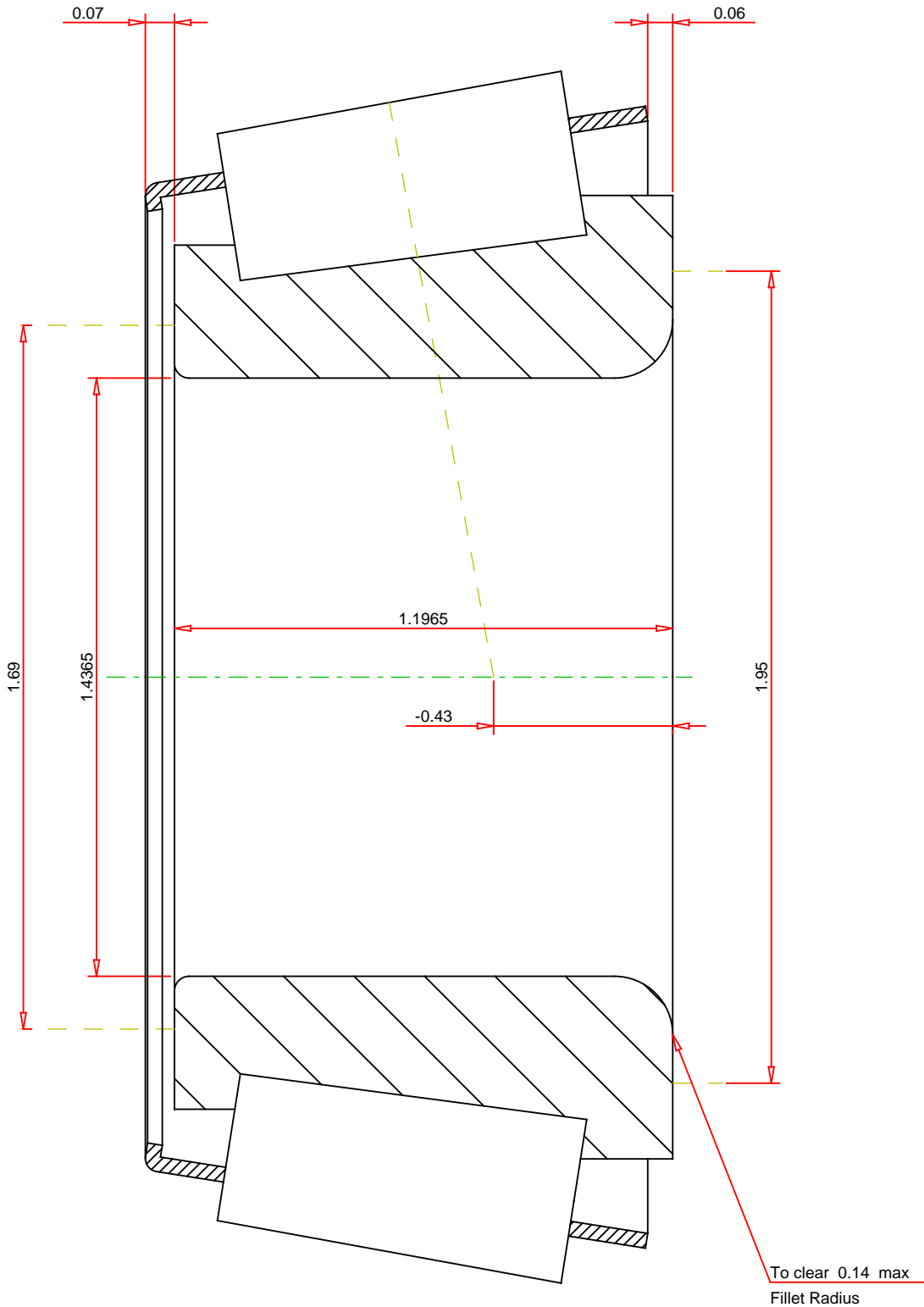
<sup>5</sup> Based on  $90 \times 10^6$  revolutions  $L_{10}$  life, for The Timken Company life calculation method.  $C_{90}$  and  $C_{a90}$  are radial and thrust values.

<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

15

**TIMKEN®**

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

**3378**

Tapered Roller Bearings - Single Cones - Imperial

K Factor	2.14	
Dynamic Radial Rating - C90	6700	lbf
Dynamic Thrust Rating - Ca90	3130	lbf
Dynamic Radial Rating - C1	25800	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**