

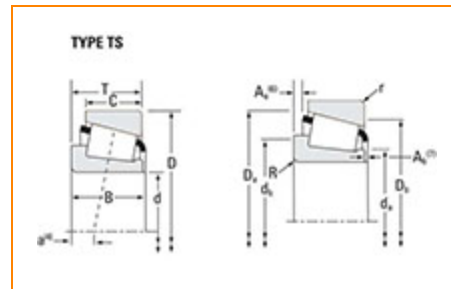


**The Timken Company**  
4500 Mt Pleasant St. NW  
N. Canton, OH 44720  
Phone: (234) 262-3000

E-Mail: [CustomerCAD@timken.com](mailto:CustomerCAD@timken.com) • Web site: [www.timken.com](http://www.timken.com)

## Timken Part Number X32214 - Y32214, Tapered Roller Bearings - TS (Tapered Single) Metric

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	32214
Cone Part Number	X32214
Cup Part Number	Y32214
Design Units	METRIC
Bearing Weight	1.6 Kg 3.600 lb
Cage Type	Stamped Steel

### Dimensions

d - Bore	70 mm 2.7559 in
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<b>D - Cup Outer Diameter</b>	125 mm 4.9213 in
<b>B - Cone Width</b>	31.000 mm 1.2205 in
<b>C - Cup Width</b>	27 mm 1.063 in
<b>T - Bearing Width</b>	33.250 mm 1.3091 in

## Abutment and Fillet Dimensions

<b>R - Cone Backface "To Clear" Radius<sup>1</sup></b>	2.030 mm 0.080 in
<b>r - Cup Backface "To Clear" Radius<sup>2</sup></b>	1.52 mm 0.06 in
<b>da - Cone Frontface Backing Diameter</b>	78.99 mm 3.11 in
<b>db - Cone Backface Backing Diameter</b>	82.04 mm 3.23 in
<b>Da - Cup Frontface Backing Diameter</b>	119.89 mm 4.72 in
<b>Db - Cup Backface Backing Diameter</b>	114.05 mm 4.49 in
<b>Ab - Cage-Cone Frontface Clearance</b>	4.1 mm 0.16 in
<b>Aa - Cage-Cone Backface Clearance</b>	2.8 mm 0.11 in
<b>a - Effective Center Location<sup>3</sup></b>	-4.6 mm -0.18 in

## Basic Load Ratings

<b>C90 - Dynamic Radial Rating (90 million revolutions)<sup>4</sup></b>	56000 N 12600 lbf
<b>C1 - Dynamic Radial Rating (1 million revolutions)<sup>5</sup></b>	216000 N 48600 lbf
<b>C0 - Static Radial Rating</b>	224000 N 50400 lbf
<b>C<sub>a90</sub> - Dynamic Thrust Rating (90 million revolutions)<sup>6</sup></b>	40300 N 9060 lbf

## Factors

<b>K - Factor<sup>7</sup></b>	1.39
<b>e - ISO Factor<sup>8</sup></b>	0.42
<b>Y - ISO Factor<sup>9</sup></b>	1.43
<b>G1 - Heat Generation Factor (Roller-Raceway)</b>	81.4
<b>G2 - Heat Generation Factor (Rib-Roller End)</b>	25.6
<b>C<sub>g</sub> - Geometry Factor<sup>10</sup></b>	0.0779

<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.

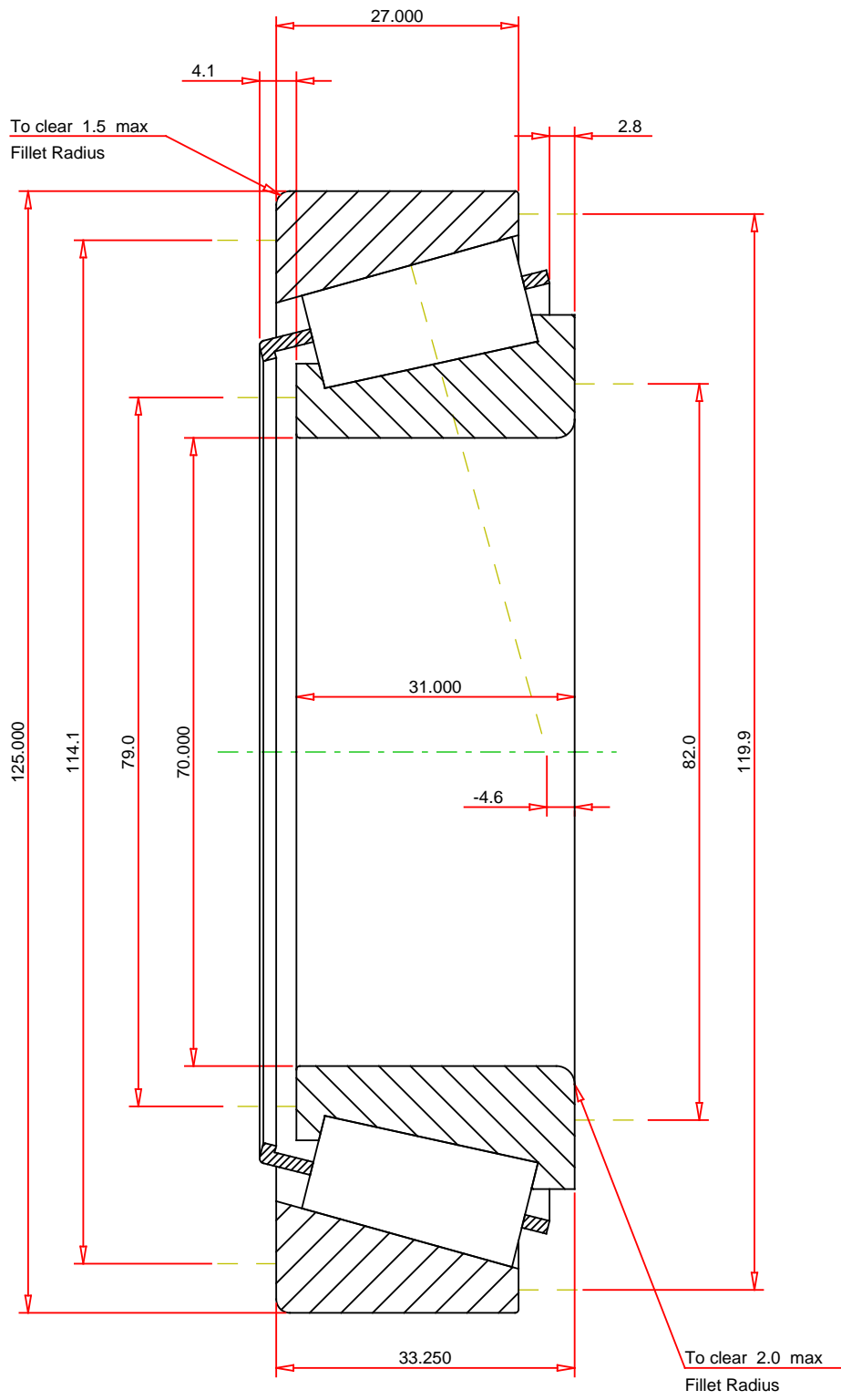
<sup>6</sup> Based on  $90 \times 10^6$  revolutions  $L_{10}$  life, for The Timken Company life calculation method.  $C_{90}$  and  $C_{a90}$  are radial and thrust values for a single-row,  $C_{90(2)}$  is the two-row radial value.

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

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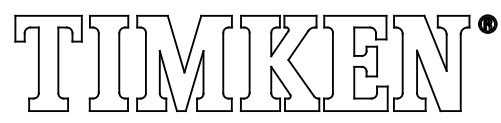
<sup>9</sup> These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

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



**METRIC UNITS**

ISO Factor - e	0.42
ISO Factor - Y	1.43
Bearing Weight	1.6 kg
Number of Rollers Per Row	19
Effective Center Location	-4.6 mm



**X32214 - Y32214  
TS BEARING ASSEMBLY**

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

K Factor	1.39
Dynamic Radial Rating - C90	56000 N
Dynamic Thrust Rating - Ca90	40300 N
Static Radial Rating - C0	224000 N
Dynamic Radial Rating - C1	216000 N

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**