



**The Timken Company**

4500 Mt Pleasant St. NW

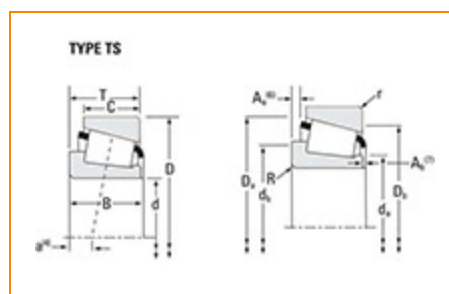
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## Timken Part Number X32016X - Y32016X, Tapered Roller Bearings - TS (Tapered Single) Metric

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	32016X
Cone Part Number	X32016X
Cup Part Number	Y32016X
Design Units	METRIC
Bearing Weight	1.3 Kg 2.8 lb
Cage Type	Stamped Steel

### Dimensions

<b>d - Bore</b>	80 mm 3.1496 in
<b>D - Cup Outer Diameter</b>	125 mm 4.9213 in
<b>B - Cone Width</b>	29.000 mm 1.1417 in
<b>C - Cup Width</b>	22.000 mm 0.8661 in
<b>T - Bearing Width</b>	29.000 mm 1.1417 in

## Abutment and Fillet Dimensions

<b>R - Cone Backface "To Clear" Radius<sup>1</sup></b>	1.520 mm 0.06 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>	87.12 mm 3.43 in
<b>db - Cone Backface Backing Diameter</b>	90.93 mm 3.58 in
<b>Da - Cup Frontface Backing Diameter</b>	119.90 mm 4.75 in
<b>Db - Cup Backface Backing Diameter</b>	114.05 mm 4.49 in
<b>Ab - Cage-Cone Frontface Clearance</b>	3 mm 0.12 in
<b>Aa - Cage-Cone Backface Clearance</b>	2.3 mm 0.09 in
<b>a - Effective Center Location<sup>3</sup></b>	-1.8 mm -0.07 in

## Basic Load Ratings

<b>C90 - Dynamic Radial Rating (90 million revolutions)<sup>4</sup></b>	51000 N 11500 lbf
<b>C1 - Dynamic Radial Rating (1 million revolutions)<sup>5</sup></b>	197000 N 44200 lbf
<b>C0 - Static Radial Rating</b>	238000 N 53600 lbf
<b>C<sub>a90</sub> - Dynamic Thrust Rating (90 million revolutions)<sup>6</sup></b>	36900 N 8300 lbf

## Factors

<b>K - Factor<sup>7</sup></b>	1.38
<b>e - ISO Factor<sup>8</sup></b>	0.42
<b>Y - ISO Factor<sup>9</sup></b>	1.42
<b>G1 - Heat Generation Factor (Roller-Raceway)</b>	104
<b>G2 - Heat Generation Factor (Rib-Roller End)</b>	36.3
<b>C<sub>g</sub> - Geometry Factor<sup>10</sup></b>	0.123

<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.

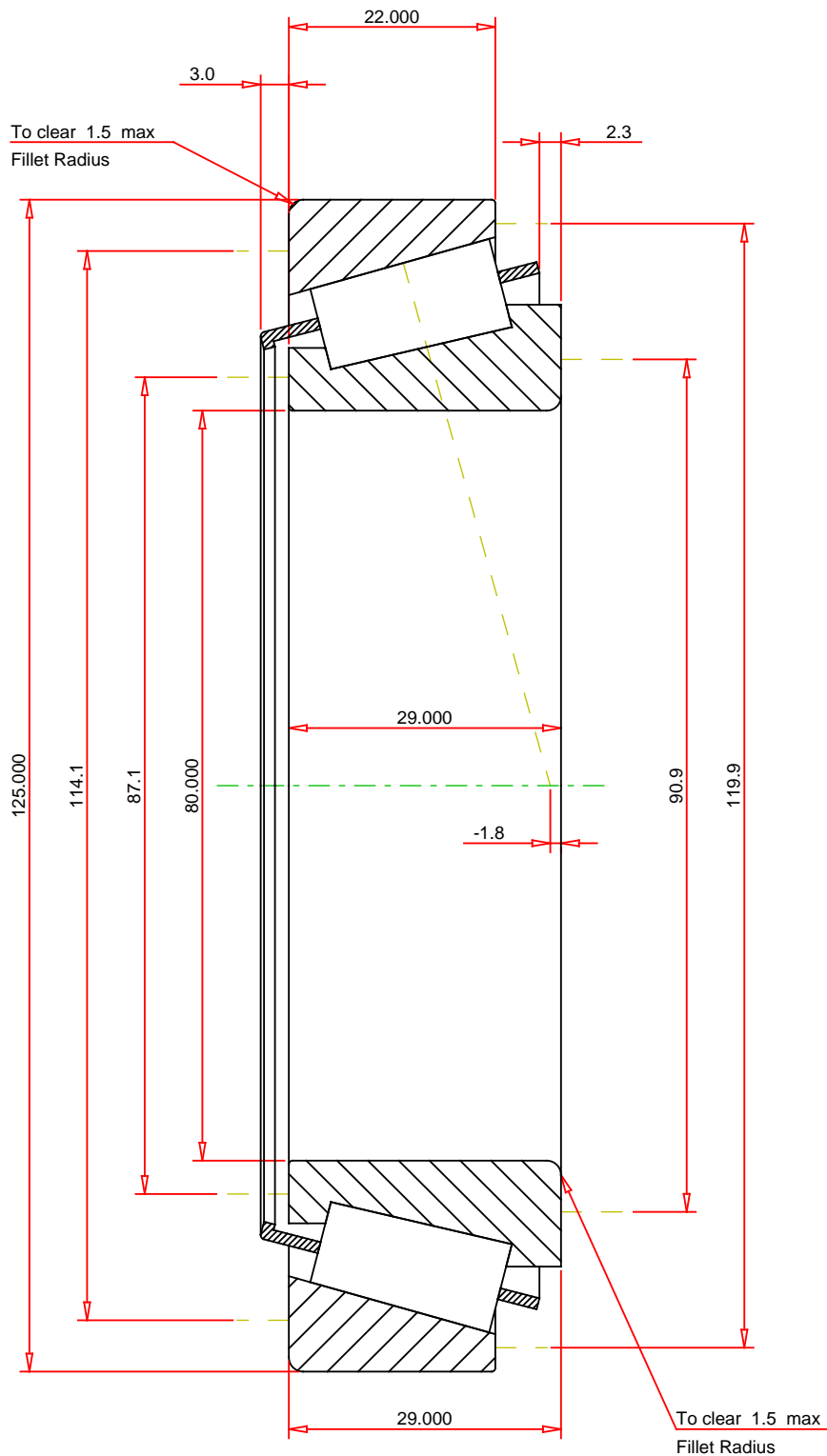
<sup>7</sup> These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

<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  $a_3$ .



## METRIC UNITS

ISO Factor - e	0.42
ISO Factor - Y	1.42
Bearing Weight	1.3 kg
Number of Rollers Per Row	25
Effective Center Location	-1.8 mm

**TIMKEN**®

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

**X32016X - Y32016X**  
**TS BEARING ASSEMBLY**

K Factor	1.38	
Dynamic Radial Rating - C90	51000	N
Dynamic Thrust Rating - Ca90	36900	N
Static Radial Rating - C0	238000	N
Dynamic Radial Rating - C1	197000	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**