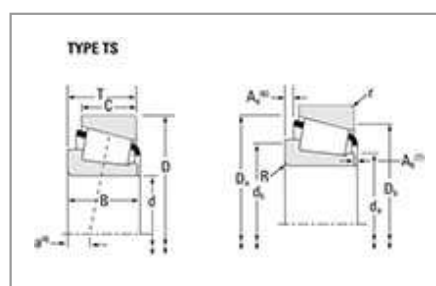




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## Part Number JM515649 - JM515610, Tapered Roller Bearings - TS (Tapered Single) Metric

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	M515600
Cone Part Number	JM515649
Cup Part Number	JM515610
Design Unit	Metric
Bearing Weight	1.7 Kg 3.8 lb
Cage Material	Stamped Steel
Full Timken Part Number	M515600

### Dimensions



90 mm

<b>d - Bore</b>	80 mm 3.1496 in
<b>D - Cup Outer Diameter</b>	130.000 mm 5.1181 in
<b>B - Cone Width</b>	34.000 mm 1.3386 in
<b>C - Cup Width</b>	28.500 mm 1.1220 in
<b>T - Bearing Width</b>	35.000 mm 1.3780 in

## Abutment and Fillet Dimensions

<b>R - Cone Backface "To Clear" Radius<sup>1</sup></b>	3.050 mm 0.12 in
<b>r - Cup Backface "To Clear" Radius<sup>2</sup></b>	2.54 mm 0.1 in
<b>da - Cone Frontface Backing Diameter</b>	88 mm 3.46 in
<b>db - Cone Backface Backing Diameter</b>	94 mm 3.7 in
<b>Da - Cup Frontface Backing Diameter</b>	125.00 mm 4.96 in
<b>Db - Cup Backface Backing Diameter</b>	117.09 mm 4.61 in
<b>Ab - Cage-Cone Frontface Clearance</b>	3.3 mm 0.13 in
<b>Aa - Cage-Cone Backface Clearance</b>	1 mm 0.04 in
<b>a - Effective Center Location<sup>3</sup></b>	-5.1 mm -0.2 in

## Basic Load Ratings

<b>C90 - Dynamic Radial Rating (90 million revolutions)<sup>4</sup></b>	61000 N 13700 lbf
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<b>C1 - Dynamic Radial Rating (1 million revolutions)<sup>5</sup></b>	235000 N 52900 lbf
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<b>C0 - Static Radial Rating</b>	283000 N 63500 lbf
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<b>C<sub>a90</sub> - Dynamic Thrust Rating (90 million revolutions)<sup>6</sup></b>	40600 N 9120 lbf
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## Factors

<b>K - Factor<sup>7</sup></b>	1.5
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<b>e - ISO Factor<sup>8</sup></b>	0.39
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<b>Y - ISO Factor<sup>9</sup></b>	1.54
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<b>G1 - Heat Generation Factor (Roller-Raceway)</b>	118
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<b>G2 - Heat Generation Factor (Rib-Roller End)</b>	31.1
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<b>C<sub>g</sub> - Geometry Factor<sup>10</sup></b>	0.0863
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<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.

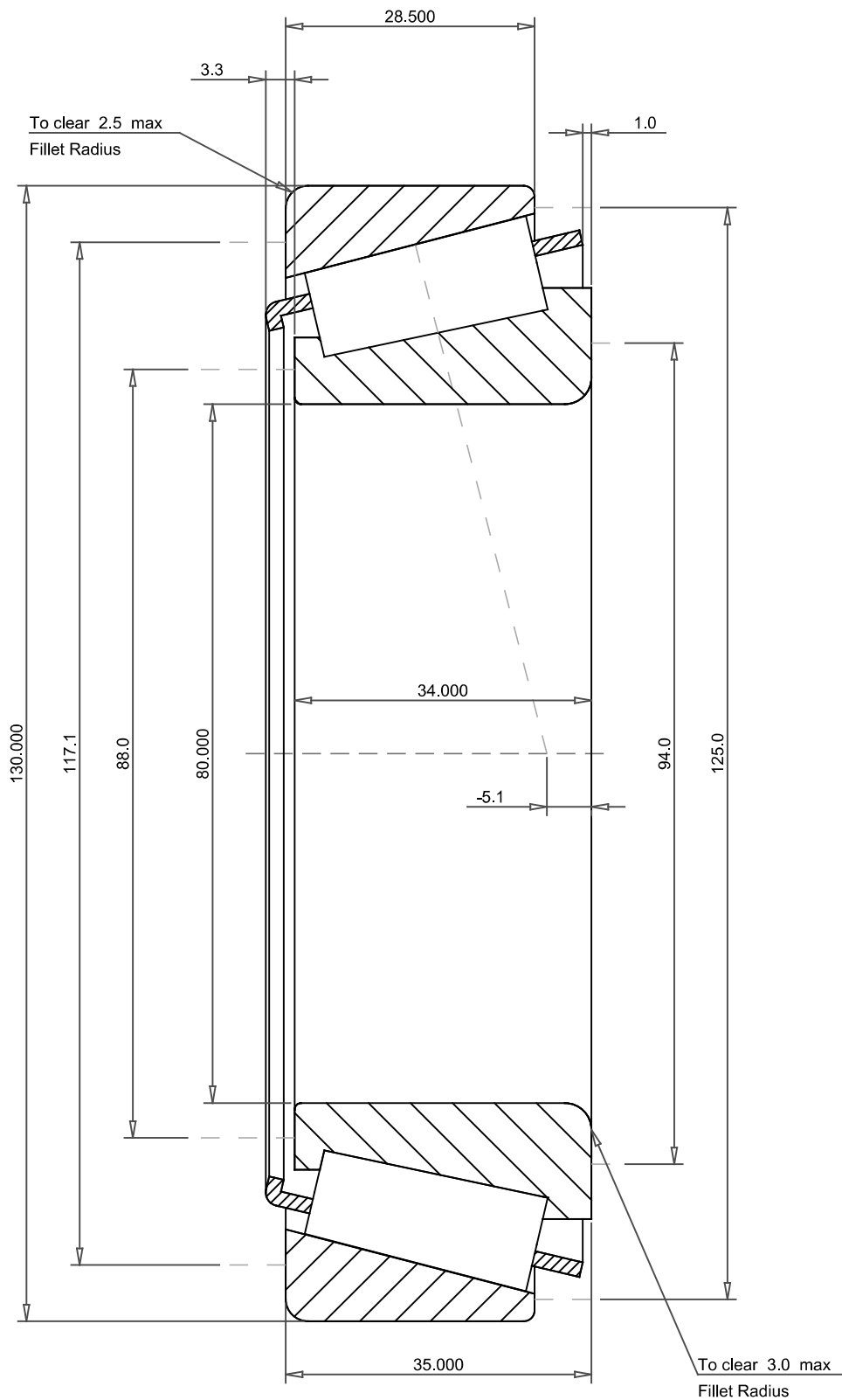
<sup>7</sup> These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

<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	0.39
ISO Factor - Y	1.54
Bearing Weight	1.7 kg
Number of Rollers Per Row	22
Effective Center Location	-5.1 mm

**TIMKEN**®

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

**JM515649 - JM515610**  
Tapered Roller Bearings - TS (Tapered Single)  
Metric

K Factor	1.5	
Dynamic Radial Rating - C90	61000	N
Dynamic Thrust Rating - Ca90	40600	N
Static Radial Rating - C0	283000	N
Dynamic Radial Rating - C1	235000	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**