**The Timken Company**
4500 Mt Pleasant St. NW
N. Canton, OH 44720
**Phone:** (234) 262-3000
**E-Mail:** CustomerCAD@timken.com • **Web site:** www.timken.com

# Timken Part Number JM624649 - JM624610-B, Tapered Roller Bearings - TSF (Tapered Single with Flange) Metric

Like the TS bearing design, the TSF design 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. TSF bearings have flanged cups to facilitate axial location and accurately align seals in through-bored housings.



Specifications | Dimensions | Abutment and Fillet Dimensions | Basic Load Ratings | Factors

## Specifications

| | |
|---|---|
| **Series** | M624600 |
| **Cone Part Number** | JM624649 |
| **Cup Part Number** | JM624610-B |
| **Design Units** | METRIC |
| **Bearing Weight** | 3.000 Kg<br>6.70 lb |
| **Cage Type** | Stamped Steel |

## Dimensions

| | |
|---|---|
| **d - Bore** | 120 mm<br>4.7244 in |
| **D - Cup Outer Diameter** | 180 mm<br>7.0866 in |
| **D1 - Flange Outer Diameter** | 188.000 mm<br>7.4016 in |
| **B - Cone Width** | 36 mm<br>1.4173 in |
| **C - Cup Width** | 26.000 mm<br>1.0236 in |
| **C1 - Cup Flange Width** | 6.580 mm<br>0.2591 in |
| **T1 - Bearing Width** | 36.000 mm<br>1.4173 in |
| **T - Bearing Width to Flange** | 16.350 mm<br>0.6437 in |

## Abutment and Fillet Dimensions

| | |
|---|---|
| **R - Cone Backface "To Clear" Radius[1]** | 3.600 mm<br>0.14 in |
| **r - Cup Backface "To Clear" Radius[2]** | 1.5 mm<br>0.06 in |
| **da - Cone Frontface Backing Diameter** | 128.00 mm<br>5.04 in |
| **db - Cone Backface Backing Diameter** | 134.90 mm<br>5.31 in |
| **Da - Cup Frontface Backing Diameter** | 175.01 mm<br>6.93 in |
| **Ab - Cage-Cone Frontface Clearance** | 3.3 mm<br>0.13 in |

| | |
|---|---|
| **Aa - Cage-Cone Backface Clearance** | 3.3 mm<br>0.13 in |
| **a - Effective Center Location[3]** | 0 mm<br>0 in |

## Basic Load Ratings

| | |
|---|---|
| **C90 - Dynamic Radial Rating (90 million revolutions)[4]** | 64000 N<br>14400 lbf |
| **C1 - Dynamic Radial Rating (1 million revolutions)[5]** | 247000 N<br>55500 lbf |
| **C0 - Static Radial Rating** | 377000 N<br>84700 lbf |
| **$C_{a90}$ - Dynamic Thrust Rating (90 million revolutions)[6]** | 45300 N<br>10200 lbf |

## Factors

| | |
|---|---|
| **K - Factor[7]** | 1.41 |
| **e - ISO Factor[8]** | 0.41 |
| **Y - ISO Factor[9]** | 1.45 |
| **G1 - Heat Generation Factor (Roller-Raceway)[10]** | 227 |
| **G2 - Heat Generation Factor (Rib-Roller End)** | 61.6 |
| **Cg - Geometry Factor[11]** | 0.108 |

[1] These maximum fillet radii will be cleared by the bearing corners.
[2] These maximum fillet radii will be cleared by the bearing corners.
[3] Negative value indicates effective center inside cone backface.
[4] Based on 90 x $10^6$ revolutions $L_{10}$ life, for The Timken Company life calculation method. $C_{90}$ and $C_{a90}$ are

radial and thrust values.

[5] Based on 1 x $10^6$ revolutions $L_{10}$ life, for the ISO life calculation method.

[6] Based on 90 x $10^6$ 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.

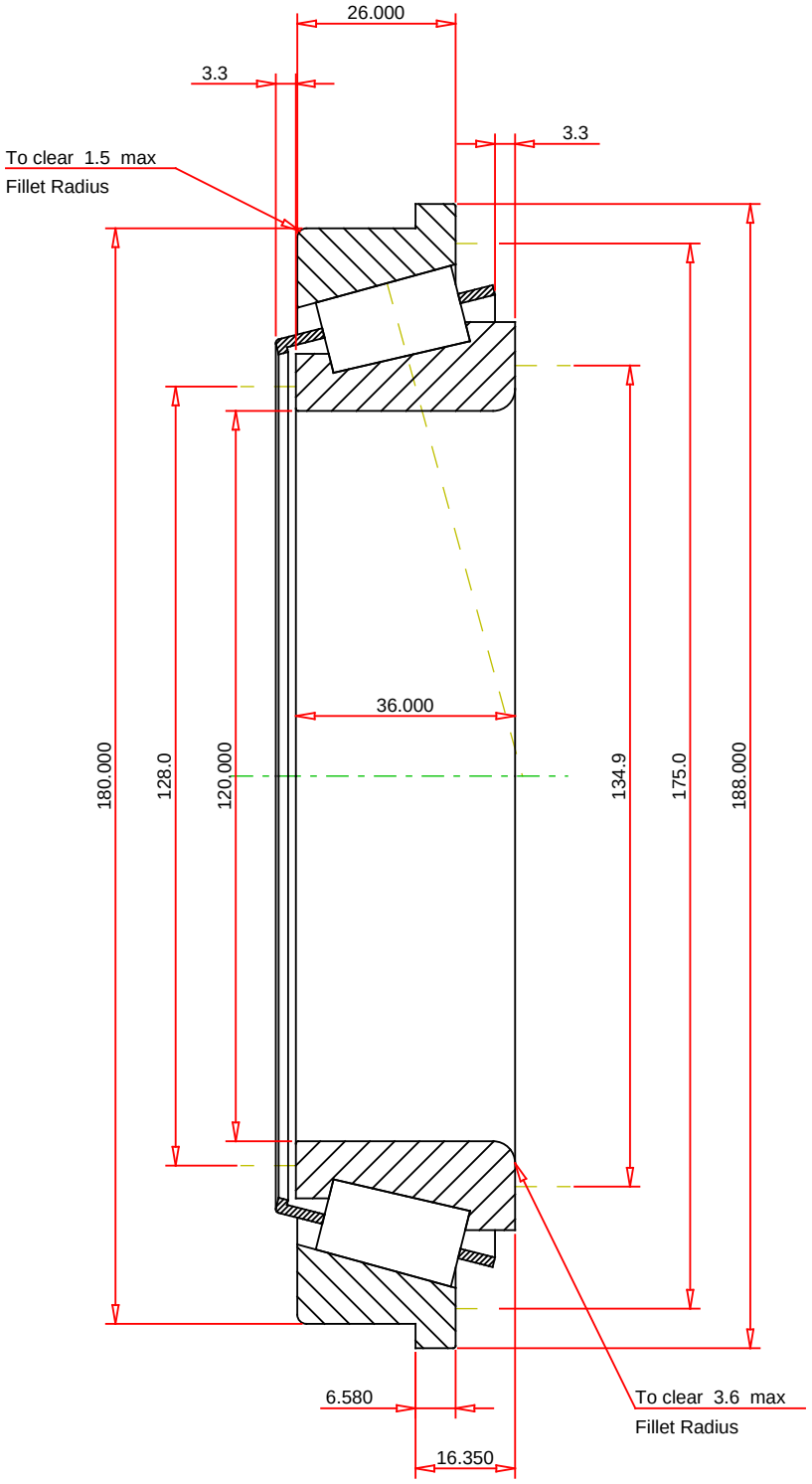
[7] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

[8] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

[9] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

[10] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

[11] Geometry constant for Lubrication Life Adjustment Factor a3l.




METRIC UNITS

| | | |
|---|---|---|
| ISO Factor - e | 0.41 | |
| ISO Factor - Y | 1.45 | |
| Bearing Weight | 3 | kg |
| Number of Rollers Per Row | 26 | |
| Effective Center Location | 0 | mm |

TIMKEN®

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

JM624649 - JM624610-B
TSF BEARING ASSEMBLY

| | | |
|---|---|---|
| K Factor | 1.41 | |
| Dynamic Radial Rating - C90 | 64000 | N |
| Dynamic Thrust Rating - Ca90 | 45300 | N |
| Static Radial Rating - C0 | 377000 | N |
| Dynamic Radial Rating - C1 | 247000 | 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