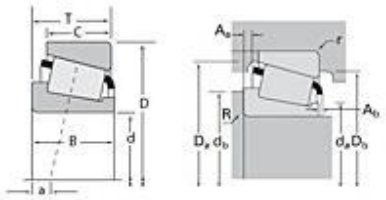
TIMKEN

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 02872 - 02820, Tapered Roller Bearings - TS (Tapered Single) 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.




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

### Specifications

| | |
|---|---|
| **Series** | 02800 |
| **Cone Part Number** | 02872 |
| **Cup Part Number** | 02820 |
| **Design Units** | Imperial |
| **Bearing Weight** | 1.00 lb<br>0.500 Kg |
| **Cage Type** | Stamped Steel |

### Dimensions

| | |
|---|---|
| **d - Bore** | 1.1250 in<br>28.575 mm |
| **D - Cup Outer Diameter** | 2.8750 in<br>73.025 mm |

| | |
|---|---|
| **B - Cone Width** | 0.8750 in<br>22.225 mm |
| **C - Cup Width** | 0.6875 in<br>17.463 mm |
| **T - Bearing Width** | 0.8750 in<br>22.225 mm |

## Abutment and Fillet Dimensions

| | |
|---|---|
| **R - Cone Backface "To Clear" Radius[1]** | 0.03 in<br>0.760 mm |
| **r - Cup Backface "To Clear" Radius[2]** | 0.130 in<br>3.30 mm |
| **da - Cone Frontface Backing Diameter** | 1.46 in<br>37.08 mm |
| **db - Cone Backface Backing Diameter** | 1.48 in<br>37.59 mm |
| **Da - Cup Frontface Backing Diameter** | 2.72 in<br>68.10 mm |
| **Db - Cup Backface Backing Diameter** | 2.44 in<br>61.98 mm |
| **Ab - Cage-Cone Frontface Clearance** | 0.07 in<br>1.8 mm |
| **Aa - Cage-Cone Backface Clearance** | 0.03 in<br>0.8 mm |
| **a - Effective Center Location[3]** | -0.15 in<br>-3.80 mm |

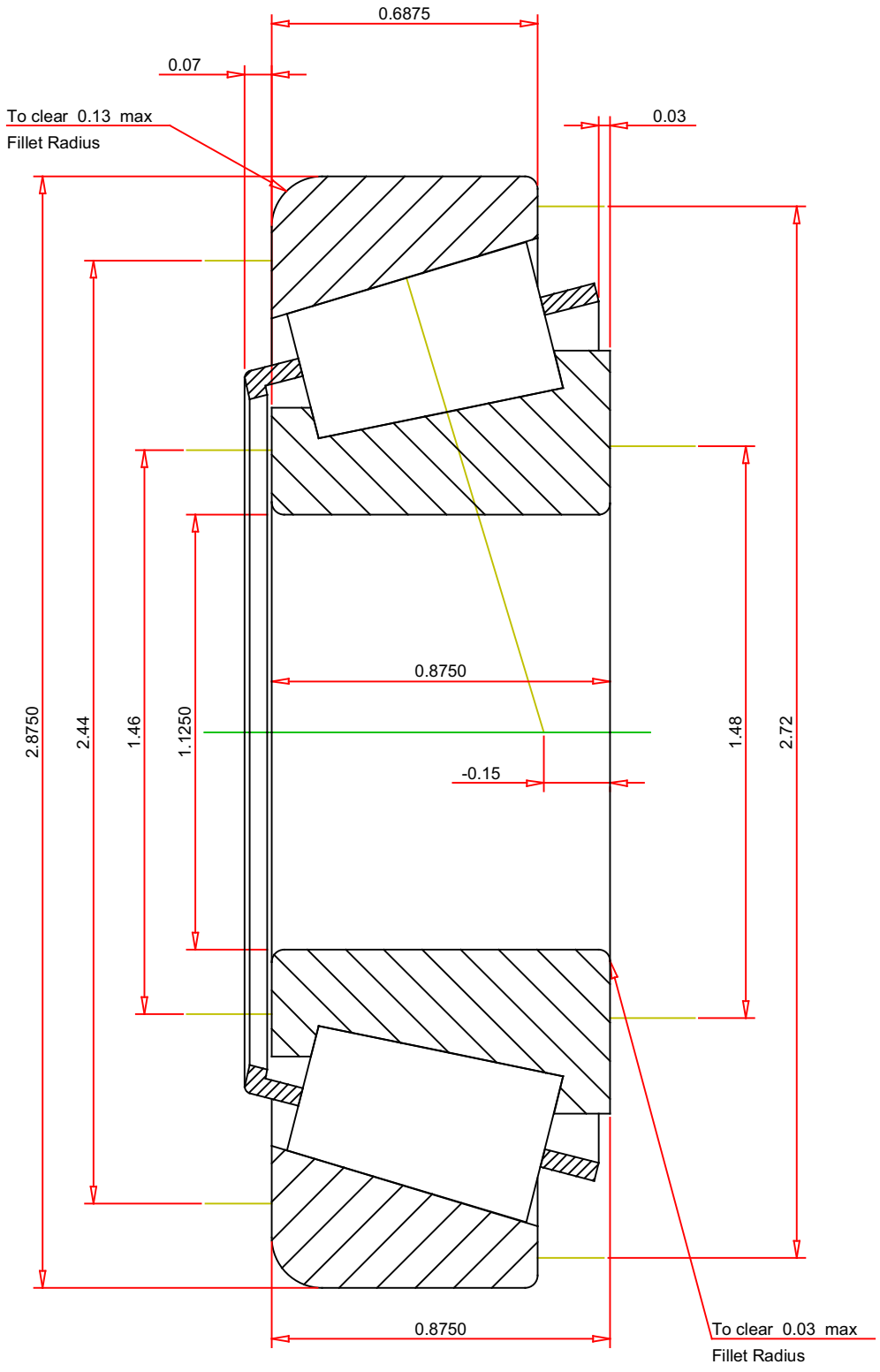
## Basic Load Ratings

| | |
|---|---|
| **C90 - Dynamic Radial Rating (90 million revolutions)[4]** | 3830 lbf<br>17000 N |
| **C1 - Dynamic Radial Rating (1 million revolutions)[5]** | 14800 lbf<br>65700 N |
| **C0 - Static Radial Rating** | 16800 lbf<br>74900 N |
| **$C_{a90}$ - Dynamic Thrust Rating (90 million revolutions)[6]** | 2980 lbf<br>13200 N |

## Factors

| | |
|---|---|
| **K - Factor[7]** | 1.29 |
| **e - ISO Factor[8]** | 0.45 |
| **Y - ISO Factor[9]** | 1.32 |
| **G1 - Heat Generation Factor (Roller-Raceway)** | 20.6 |
| **G2 - Heat Generation Factor (Rib-Roller End)** | 10.1 |
| **Cg - Geometry Factor** | 0.074 |

[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.




IMPERIAL UNITS

| | | |
|---|---|---|
| ISO Factor - e | 0.45 | |
| ISO Factor - Y | 1.32 | |
| Bearing Weight | 1 | lb |
| Number of Rollers Per Row | 17 | |
| Effective Center Location | -0.15 | inch |

TIMKEN®

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

02872 - 02820
TS BEARING ASSEMBLY

| | | |
|---|---|---|
| K Factor | 1.29 | |
| Dynamic Radial Rating - C90 | 3830 | lbf |
| Dynamic Thrust Rating - Ca90 | 2980 | lbf |
| Static Radial Rating - C0 | 16800 | lbf |
| Dynamic Radial Rating - C1 | 14800 | lbf |



FOR DISCUSSION ONLY