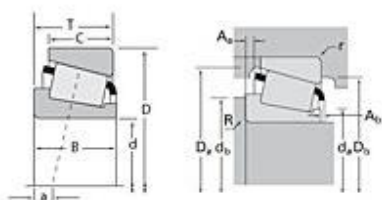


TIMKEN

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Timken Part Number M86649 - M86610, 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 | M86600 |
| Cone Part Number | M86649 |
| Cup Part Number | M86610 |
| Design Units | Imperial |
| Bearing Weight | 0.70 lb 0.300 Kg |
| Cage Type | Stamped Steel |

Dimensions

| | |
|-------------------------------|------------------------|
| d - Bore | 1.1875 in 30.163 mm |
| D - Cup Outer Diameter | 2.5312 in 64.292 mm |

| | |
|--------------------------|------------------------|
| B - Cone Width | 0.8438 in 21.433 mm |
| C - Cup Width | 0.6563 in 16.670 mm |
| T - Bearing Width | 0.8438 in 21.433 mm |

Abutment and Fillet Dimensions

| | |
|--|----------------------|
| R - Cone Backface "To Clear" Radius¹ | 0.060 in 1.520 mm |
| r - Cup Backface "To Clear" Radius² | 0.060 in 1.52 mm |
| da - Cone Frontface Backing Diameter | 1.50 in 38.10 mm |
| db - Cone Backface Backing Diameter | 1.73 in 43.94 mm |
| Da - Cup Frontface Backing Diameter | 2.40 in 60.96 mm |
| Db - Cup Backface Backing Diameter | 2.13 in 54.10 mm |
| Ab - Cage-Cone Frontface Clearance | 0.07 in 1.8 mm |
| Aa - Cage-Cone Backface Clearance | 0.03 in 0.8 mm |
| a - Effective Center Location³ | -0.13 in -3.30 mm |

Basic Load Ratings

| | |
|---|----------------------|
| C90 - Dynamic Radial Rating (90 million revolutions)⁴ | 3510 lbf 15600 N |
| C1 - Dynamic Radial Rating (1 million revolutions)⁵ | 13500 lbf 60200 N |
| C0 - Static Radial Rating | 16100 lbf 71700 N |
| C_{a90} - Dynamic Thrust Rating (90 million revolutions)⁶ | 3280 lbf 14600 N |

Factors

| | |
|---|--------|
| K - Factor⁷ | 1.07 |
| e - ISO Factor⁸ | 0.55 |
| Y - ISO Factor⁹ | 1.1 |
| G1 - Heat Generation Factor (Roller-Raceway) | 16.8 |
| G2 - Heat Generation Factor (Rib-Roller End) | 9.36 |
| Cg - Geometry Factor | 0.0736 |

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 90×10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.

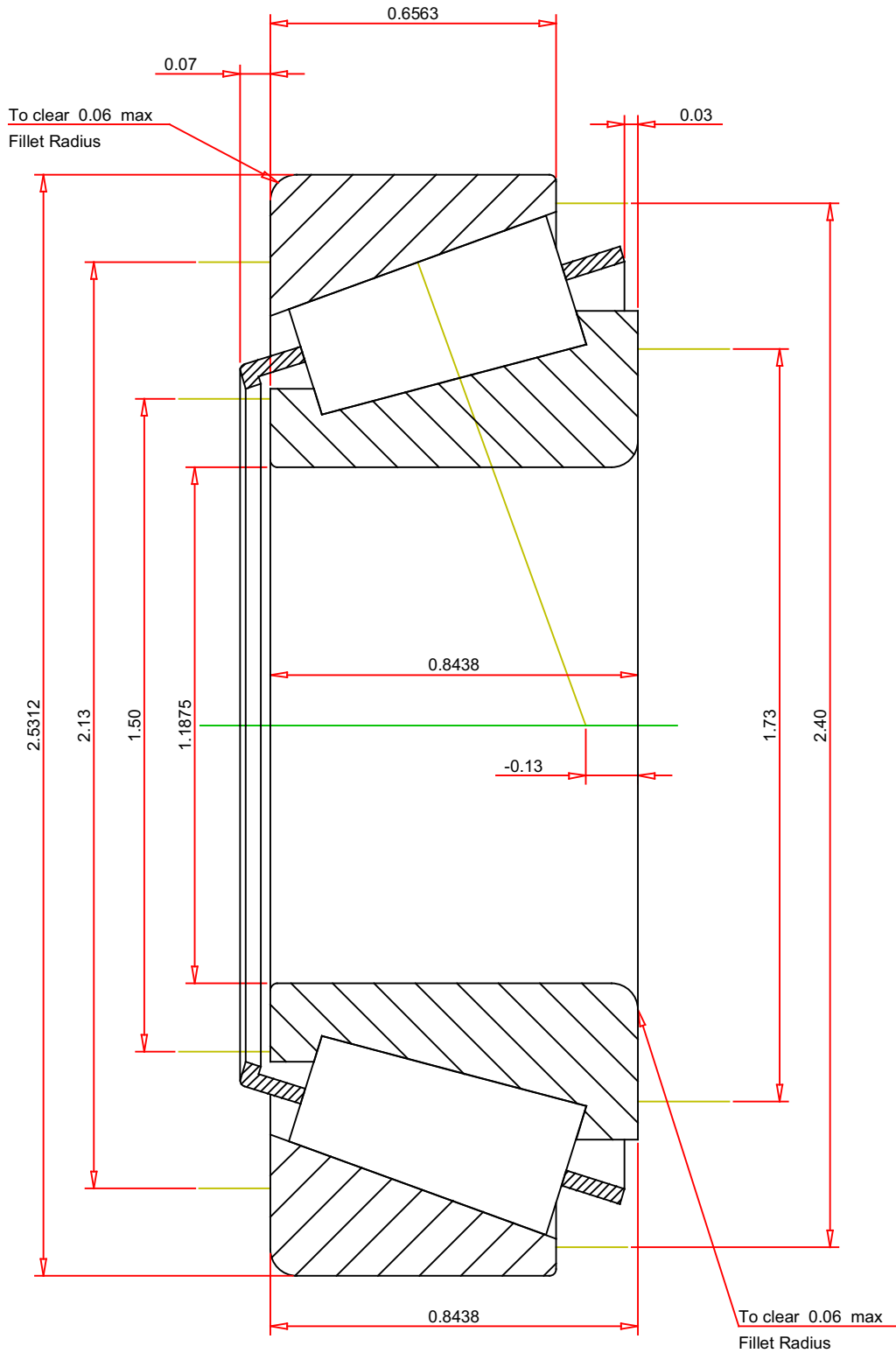
⁵ Based on 1×10^6 revolutions L_{10} life, for the ISO life calculation method.

⁶ Based on 90×10^6 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 | 0.55 |
| ISO Factor - Y | 1.1 |
| Bearing Weight | 0.7 lb |
| Number of Rollers Per Row | 18 |
| Effective Center Location | -0.13 inch |

TIMIKEN®

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

M86649 - M86610
TS BEARING ASSEMBLY

| | |
|------------------------------|-----------|
| K Factor | 1.07 |
| Dynamic Radial Rating - C90 | 3510 lbf |
| Dynamic Thrust Rating - Ca90 | 3280 lbf |
| Static Radial Rating - C0 | 16100 lbf |
| Dynamic Radial Rating - C1 | 13500 lbf |

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