



The Timken Company

4500 Mt Pleasant St. NW

N. Canton, OH 44720

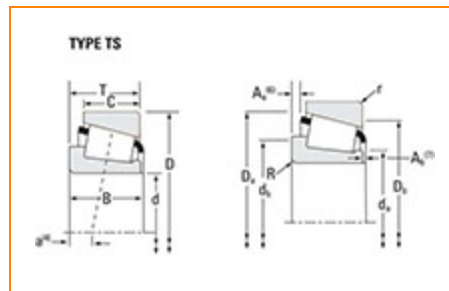
Phone: (234) 262-3000

E-Mail: CustomerCAD@timken.com • **Web site:** www.timken.com

Part Number HM803145 - HM803110, 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 | HM803100 |
| Cone Part Number | HM803145 |
| Cup Part Number | HM803110 |
| Design Units | Imperial |
| Bearing Weight | 0.9 Kg 2 lb |
| Cage Type | Stamped Steel |

Dimensions

41.275 mm

| | |
|-------------------------------|------------------------|
| d - Bore | 41.275 mm 1.6250 in |
| D - Cup Outer Diameter | 88.900 mm 3.5000 in |
| B - Cone Width | 29.370 mm 1.1563 in |
| C - Cup Width | 23.020 mm 0.9063 in |
| T - Bearing Width | 30.163 mm 1.1875 in |

Abutment and Fillet Dimensions

| | |
|--|---------------------|
| R - Cone Backface "To Clear" Radius¹ | 0.760 mm 0.03 in |
| r - Cup Backface "To Clear" Radius² | 3.3 mm 0.130 in |
| da - Cone Frontface Backing Diameter | 53.09 mm 2.09 in |
| db - Cone Backface Backing Diameter | 54.10 mm 2.13 in |
| Da - Cup Frontface Backing Diameter | 85.10 mm 3.39 in |
| Db - Cup Backface Backing Diameter | 73.91 mm 2.91 in |
| Ab - Cage-Cone Frontface Clearance | 2.8 mm 0.11 in |
| Aa - Cage-Cone Backface Clearance | 1 mm 0.04 in |
| a - Effective Center Location³ | -4.3 mm -0.17 in |

Basic Load Ratings

| | |
|---|-----------------------|
| C90 - Dynamic Radial Rating (90 million revolutions)⁴ | 6630 lbf 29500 N |
| C1 - Dynamic Radial Rating (1 million revolutions)⁵ | 25600 lbf 114000 N |
| C0 - Static Radial Rating | 32400 lbf 144000 N |
| C_{a90} - Dynamic Thrust Rating (90 million revolutions)⁶ | 6200 lbf 27600 N |

Factors

| | |
|---|--------|
| K - Factor⁷ | 1.07 |
| e - ISO Factor⁸ | 0.55 |
| Y - ISO Factor⁹ | 1.1 |
| G1 - Heat Generation Factor (Roller-Raceway) | 39.2 |
| G2 - Heat Generation Factor (Rib-Roller End) | 13.7 |
| C_g - Geometry Factor¹⁰ | 0.0974 |

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.

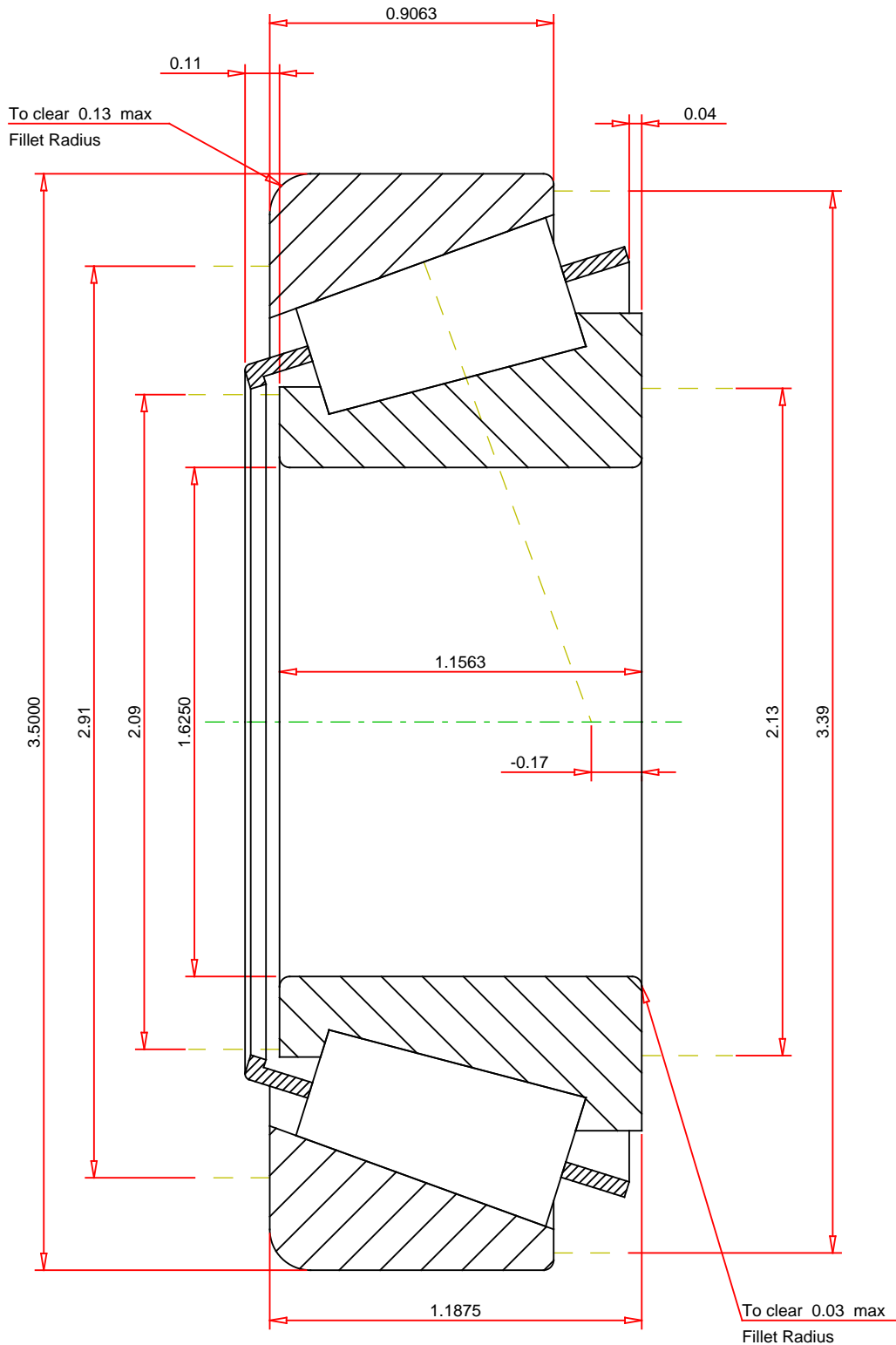
⁷ These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

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.

¹⁰ Geometry constant for Lubrication Life Adjustment Factor a_3 .



IMPERIAL UNITS

| | | | | | |
|--|--|--|--|---|--|
| <div>ISO Factor - e0.55</div> <div>ISO Factor - Y1.1</div> <div>Bearing Weight2 lb</div> <div>Number of Rollers Per Row18</div> <div>Effective Center Location-0.17 inch</div> | | <div>TIMKEN®</div> <div>THE TIMKEN COMPANY</div> <div>NORTH CANTON, OHIO USA</div> | | <div>HM803145 - HM803110</div> <div>TS BEARING ASSEMBLY</div> | |
| | | | | <div>K Factor1.07</div> <div>Dynamic Radial Rating - C906630 lbf</div> <div>Dynamic Thrust Rating - Ca906200 lbf</div> <div>Static Radial Rating - C032400 lbf</div> <div>Dynamic Radial Rating - C125600 lbf</div> | |