



The Timken Company

4500 Mt Pleasant St. NW

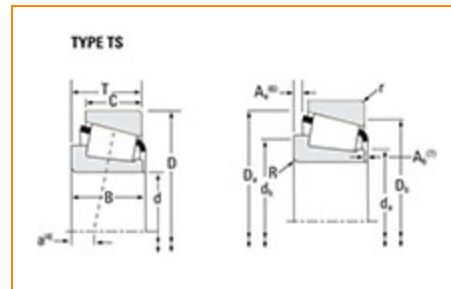
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Part Number 98400 - 98788, Tapered Roller Bearings - TS (Tapered Single) Imperial

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	98000
Cone Part Number	98400
Cup Part Number	98788
Design Units	Imperial
Bearing Weight	6.8 Kg 14.9 lb
Cage Type	Stamped Steel

Dimensions

d - Bore	101.600 mm 4.0000 in
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D - Cup Outer Diameter	200 mm 7.874 in
B - Cone Width	49.213 mm 1.9375 in
C - Cup Width	34.925 mm 1.3750 in
T - Bearing Width	52.761 mm 2.0772 in

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius¹	3.560 mm 0.14 in
r - Cup Backface "To Clear" Radius²	3.3 mm 0.130 in
da - Cone Frontface Backing Diameter	120.65 mm 5.67 in
db - Cone Backface Backing Diameter	128.02 mm 5.04 in
Da - Cup Frontface Backing Diameter	188.00 mm 7.41 in
Db - Cup Backface Backing Diameter	173.99 mm 6.85 in
Ab - Cage-Cone Frontface Clearance	6.1 mm 0.24 in
Aa - Cage-Cone Backface Clearance	7.9 mm 0.31 in
a - Effective Center Location³	1.3 mm 0.05 in

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)⁴	28100 lbf 125000 N
C1 - Dynamic Radial Rating (1 million revolutions)⁵	108000 lbf 482000 N
C0 - Static Radial Rating	117000 lbf 519000 N
C_{a90} - Dynamic Thrust Rating (90 million revolutions)⁶	30400 lbf 135000 N

Factors

K - Factor⁷	0.92
e - ISO Factor⁸	0.63
Y - ISO Factor⁹	0.95
G1 - Heat Generation Factor (Roller-Raceway)	203
G2 - Heat Generation Factor (Rib-Roller End)	37.4
C_g - Geometry Factor¹⁰	0.12

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.

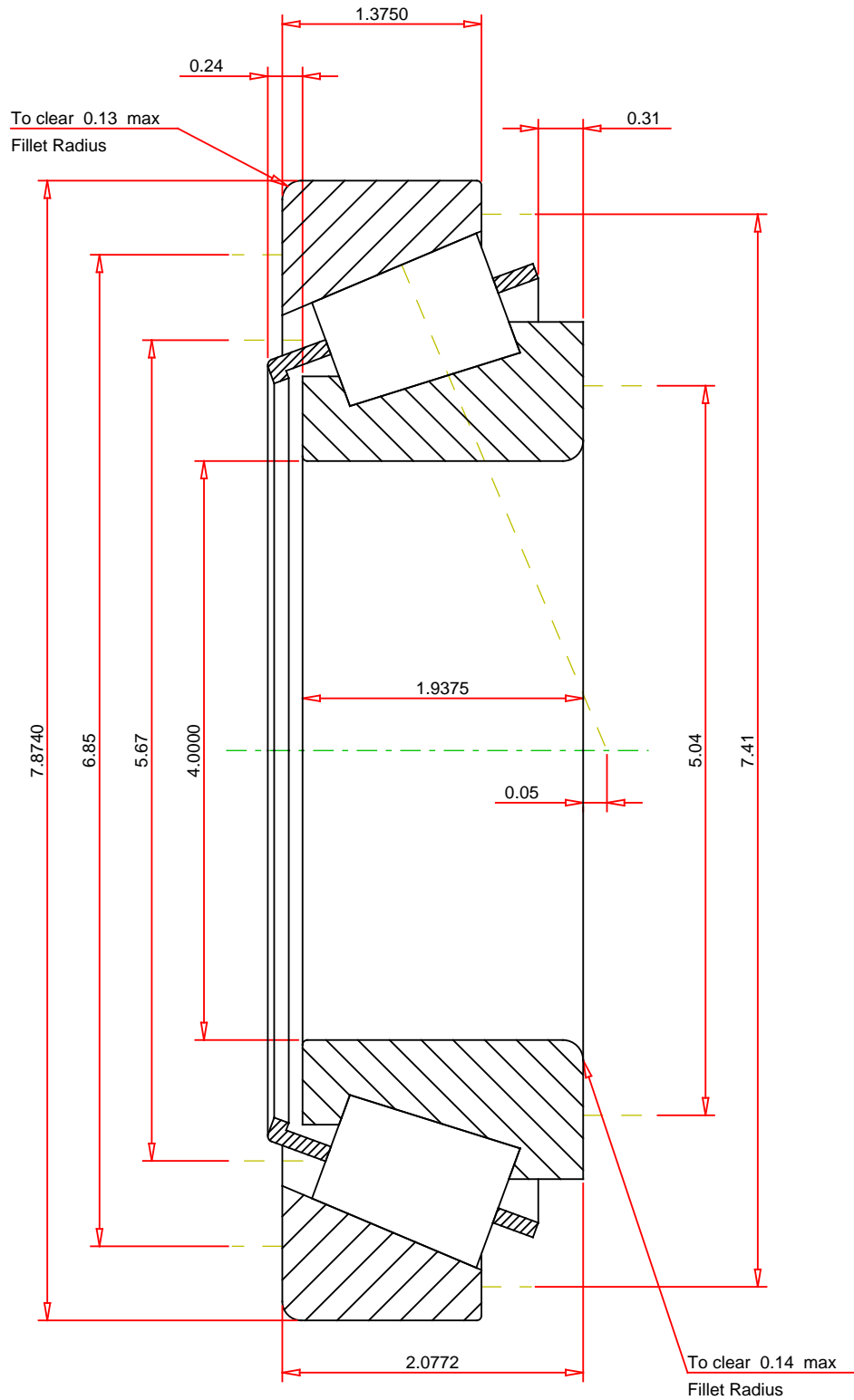
⁶ Based on 90×10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

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 a3l.



IMPERIAL UNITS

ISO Factor - e	0.63
ISO Factor - Y	0.95
Bearing Weight	14.9 lb
Number of Rollers Per Row	18
Effective Center Location	0.05 inch

TIMKEN®

**98400 - 98788
TS BEARING ASSEMBLY**

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

K Factor	0.92
Dynamic Radial Rating - C90	28100 lbf
Dynamic Thrust Rating - Ca90	30400 lbf
Static Radial Rating - C0	117000 lbf
Dynamic Radial Rating - C1	108000 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