



The Timken Company

4500 Mt Pleasant St. NW

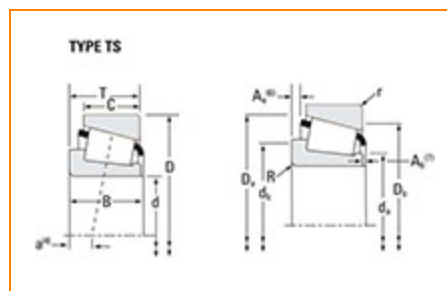
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Timken Part Number 3872 - 3820, Tapered Roller Bearings - TS (Tapered Single) Imperial

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.



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Specifications

Series	3800
Cone Part Number	3872
Cup Part Number	3820
Design Units	Imperial
Bearing Weight	0.9 Kg 2 lb
Cage Type	Stamped Steel

Dimensions

d - Bore	34.925 mm 1.3750 in
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D - Cup Outer Diameter	85.725 mm 3.3750 in
B - Cone Width	30.163 mm 1.1875 in
C - Cup Width	23.813 mm 0.9375 in
T - Bearing Width	30.165 mm 1.1876 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	45.97 mm 1.81 in
db - Cone Backface Backing Diameter	53.09 mm 2.09 in
Da - Cup Frontface Backing Diameter	82.00 mm 3.23 in
Db - Cup Backface Backing Diameter	72.90 mm 2.87 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	-8.1 mm -0.32 in

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)⁴	7240 lbf 32200 N
C1 - Dynamic Radial Rating (1 million revolutions)⁵	27900 lbf 124000 N
C0 - Static Radial Rating	33200 lbf 148000 N
C_{a90} - Dynamic Thrust Rating (90 million revolutions)⁶	4980 lbf 22200 N

Factors

K - Factor⁷	1.45
e - ISO Factor⁸	0.4
Y - ISO Factor⁹	1.49
G1 - Heat Generation Factor (Roller-Raceway)	37.8
G2 - Heat Generation Factor (Rib-Roller End)	13.5
C_g - Geometry Factor¹⁰	0.0873

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.

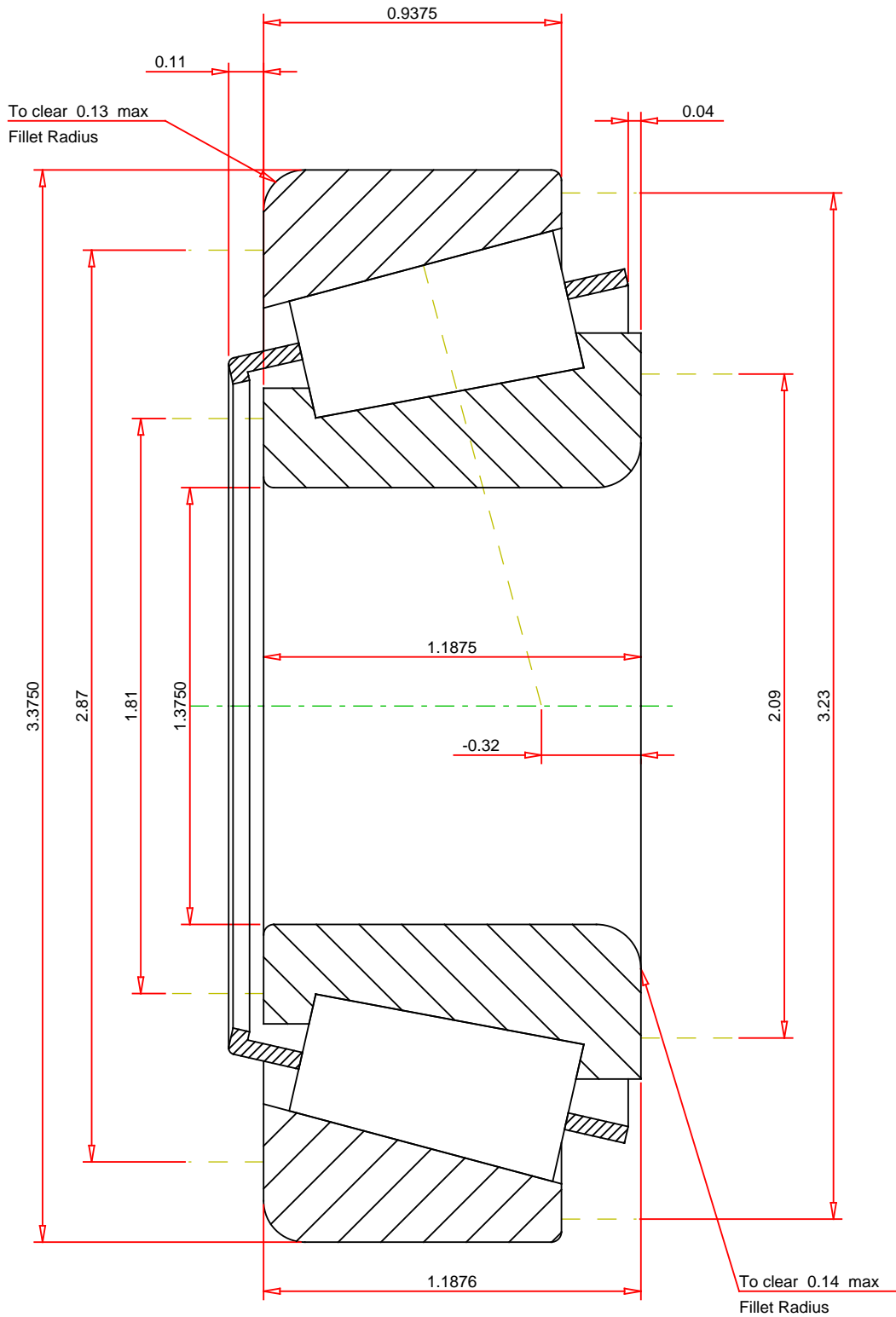
⁶ Based on 90×10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

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

ISO Factor - e	0.4
ISO Factor - Y	1.49
Bearing Weight	2 lb
Number of Rollers Per Row	16
Effective Center Location	-0.32 inch

TIMKEN®

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

3872 - 3820
TS BEARING ASSEMBLY

K Factor	1.45
Dynamic Radial Rating - C90	7240 lbf
Dynamic Thrust Rating - Ca90	4980 lbf
Static Radial Rating - C0	33200 lbf
Dynamic Radial Rating - C1	27900 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