



The Timken Company

4500 Mt Pleasant St. NW

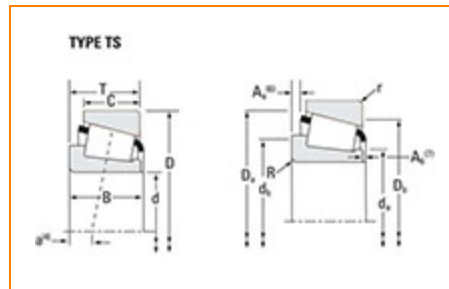
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Part Number HM89449 - HM89410, Tapered Roller Bearings - TS (Tapered Single) Imperial

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	HM89400
Cone Part Number	HM89449
Cup Part Number	HM89410
Design Units	Imperial
Bearing Weight	0.6 Kg 1.400 lb
Cage Type	Stamped Steel

Dimensions

d - Bore	36.513 mm 1.4375 in
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D - Cup Outer Diameter	76.2 mm 3 in
B - Cone Width	28.575 mm 1.1250 in
C - Cup Width	23.020 mm 0.9063 in
T - Bearing Width	29.370 mm 1.1563 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	44.45 mm 1.75 in
db - Cone Backface Backing Diameter	56.90 mm 2.24 in
Da - Cup Frontface Backing Diameter	73.90 mm 2.91 in
Db - Cup Backface Backing Diameter	61.98 mm 2.44 in
Ab - Cage-Cone Frontface Clearance	2 mm 0.08 in
Aa - Cage-Cone Backface Clearance	1.5 mm 0.06 in
a - Effective Center Location³	-5.6 mm -0.22 in

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)⁴	6440 lbf 28600 N
C1 - Dynamic Radial Rating (1 million revolutions)⁵	24800 lbf 110000 N
C0 - Static Radial Rating	26700 lbf 119000 N
C_{a90} - Dynamic Thrust Rating (90 million revolutions)⁶	6020 lbf 26800 N

Factors

K - Factor⁷	1.07
e - ISO Factor⁸	0.55
Y - ISO Factor⁹	1.1
G1 - Heat Generation Factor (Roller-Raceway)	28.9
G2 - Heat Generation Factor (Rib-Roller End)	13.1
C_g - Geometry Factor¹⁰	0.0883

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.

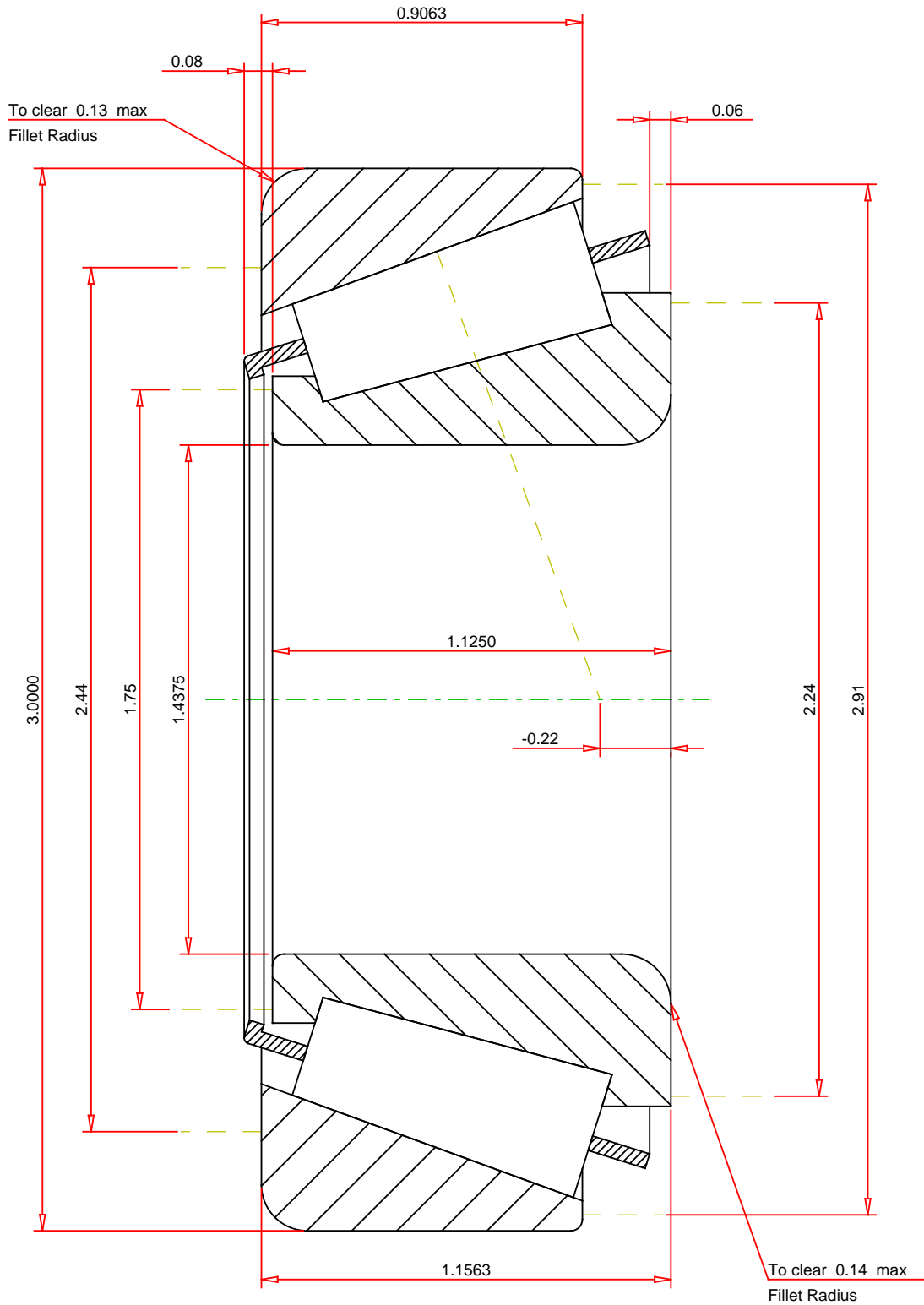
⁶ Based on 90×10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

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	0.55
ISO Factor - Y	1.1
Bearing Weight	1.4 lb
Number of Rollers Per Row	18
Effective Center Location	-0.22 inch

TIMKEN®

HM89449 - HM89410
TS BEARING ASSEMBLY

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

K Factor	1.07
Dynamic Radial Rating - C90	6440 lbf
Dynamic Thrust Rating - Ca90	6020 lbf
Static Radial Rating - C0	26700 lbf
Dynamic Radial Rating - C1	24800 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