


The Timken Company

4500 Mt Pleasant St. NW

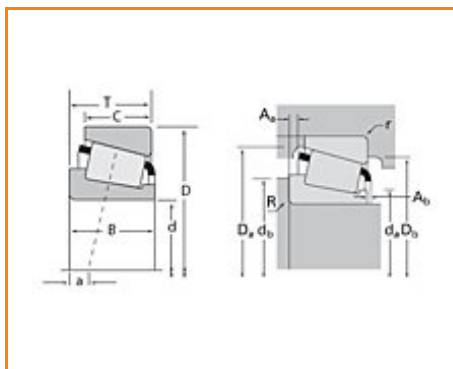
N. Canton, OH 44720

Phone: (234) 262-3000

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

Timken Part Number HH221431 - HH221410, 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	HH221400
Cone Part Number	HH221431
Cup Part Number	HH221410
Design Units	Imperial
Bearing Weight	8.40 Kg 18.500 lb
Cage Type	Stamped Steel

Dimensions

d - Bore	79.375 mm 3.1250 in
D - Cup Outer Diameter	190.5 mm 7.5 in
B - Cone Width	57.531 mm 2.2650 in
C - Cup Width	46.038 mm 1.8125 in
T - Bearing Width	57.150 mm 2.2500 in

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius¹	3.560 mm 0.14 in
r - Cup Backface "To Clear" Radius²	3.30 mm 0.130 in
da - Cone Frontface Backing Diameter	97.03 mm 4.55 in
db - Cone Backface Backing Diameter	103.12 mm 4.06 in
Da - Cup Frontface Backing Diameter	179.10 mm 7.06 in
Db - Cup Backface Backing Diameter	170.94 mm 6.73 in
Ab - Cage-Cone Frontface Clearance	4.1 mm 0.16 in
Aa - Cage-Cone Backface Clearance	2 mm 0.08 in
a - Effective Center Location³	-15 mm -0.59 in

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)⁴	138000 N 31100 lbf
C1 - Dynamic Radial Rating (1 million revolutions)⁵	534000 N 120000 lbf
C0 - Static Radial Rating	692000 N 156000 lbf
C_{a90} - Dynamic Thrust Rating (90 million revolutions)⁶	79300 N 17800 lbf

Factors

K - Factor⁷	1.74
e - ISO Factor⁸	0.33
Y - ISO Factor⁹	1.79
G1 - Heat Generation Factor (Roller-Raceway)	266
G2 - Heat Generation Factor (Rib-Roller End)	28.4
Cg - Geometry Factor	0.107

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.

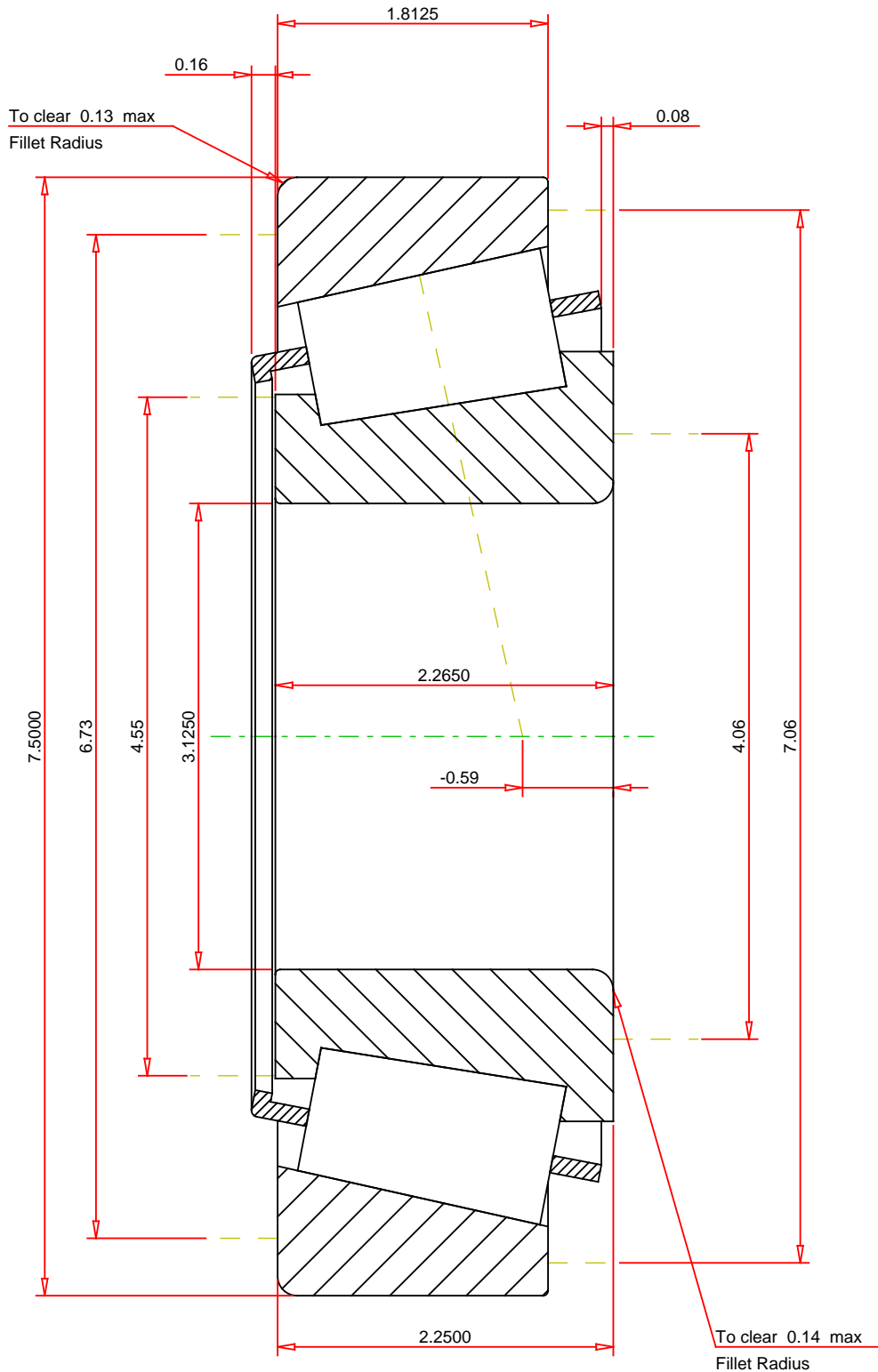
⁶ Based on 90×10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

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

<div>ISO Factor - e0.33</div> <div>ISO Factor - Y1.79</div> <div>Bearing Weight18.5 lb</div> <div>Number of Rollers Per Row17</div> <div>Effective Center Location-0.59 inch</div>		<div>TIMKEN®</div> <div>THE TIMKEN COMPANY</div> <div>NORTH CANTON, OHIO USA</div>		<div>HH221431 - HH221410</div> <div>TS BEARING ASSEMBLY</div>	
				<div>K Factor1.74</div> <div>Dynamic Radial Rating - C90138000 lbf</div> <div>Dynamic Thrust Rating - Ca9079300 lbf</div> <div>Static Radial Rating - C0692000 lbf</div> <div>Dynamic Radial Rating - C1534000 lbf</div>	