



The Timken Company

4500 Mt Pleasant St. NW

N. Canton, OH 44720

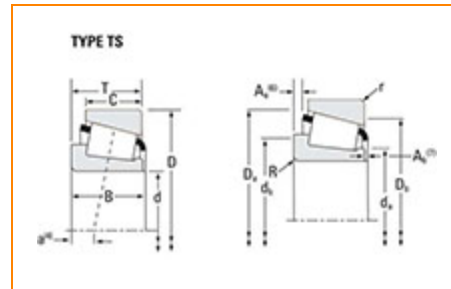
Phone: (234) 262-3000

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

Part Number HH224346V - HH224310V, 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	HH224300
Cone Part Number	HH224346V
Cup Part Number	HH224310V
Design Units	Imperial
Bearing Weight	9.9 Kg 21.8 lb
Cage Type	Stamped Steel

Dimensions

114.300 mm

d - Bore	114.500 mm 4.5000 in
D - Cup Outer Diameter	212.725 mm 8.3750 in
B - Cone Width	66.675 mm 2.6250 in
C - Cup Width	53.975 mm 2.1250 in
T - Bearing Width	66.678 mm 2.6251 in

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius¹	7.110 mm 0.280 in
r - Cup Backface "To Clear" Radius²	3.3 mm 0.130 in
da - Cone Frontface Backing Diameter	131.06 mm 6.14 in
db - Cone Backface Backing Diameter	143 mm 5.63 in
Da - Cup Frontface Backing Diameter	201.70 mm 7.95 in
Db - Cup Backface Backing Diameter	192.02 mm 7.56 in
Ab - Cage-Cone Frontface Clearance	3.8 mm 0.15 in
Aa - Cage-Cone Backface Clearance	4.1 mm 0.16 in
a - Effective Center Location³	-18.8 mm -0.74 in

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)⁴	47000 lbf 209000 N
C1 - Dynamic Radial Rating (1 million revolutions)⁵	181000 lbf 806000 N
C0 - Static Radial Rating	204000 lbf 906000 N
C_{a90} - Dynamic Thrust Rating (90 million revolutions)⁶	26200 lbf 116000 N

Factors

K - Factor⁷	1.79
e - ISO Factor⁸	0.33
Y - ISO Factor⁹	1.84
G1 - Heat Generation Factor (Roller-Raceway)	366.6
G2 - Heat Generation Factor (Rib-Roller End)	47.9
C_g - Geometry Factor¹⁰	0.118

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.

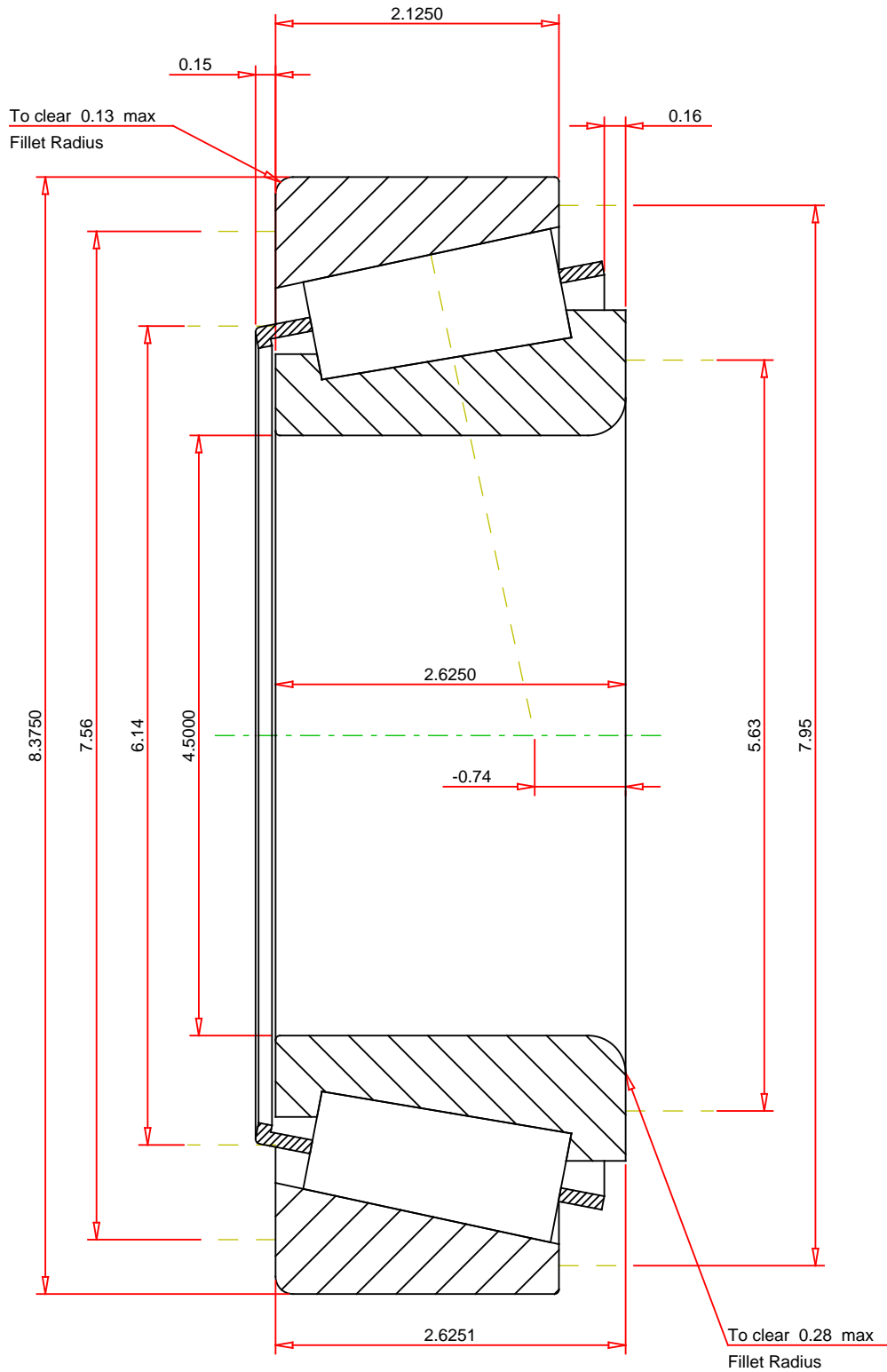
⁷ These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

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	0.33
ISO Factor - Y	1.84
Bearing Weight	21.8 lb
Number of Rollers Per Row	17
Effective Center Location	-0.74 inch

TIMKEN®

HH224346V - HH224310V
TS BEARING ASSEMBLY

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

K Factor	1.79
Dynamic Radial Rating - C90	47000 lbf
Dynamic Thrust Rating - Ca90	26200 lbf
Static Radial Rating - C0	204000 lbf
Dynamic Radial Rating - C1	181000 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