The Timken Company
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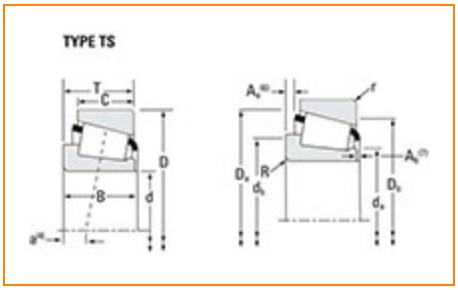
Part Number HH221431 - HH221410, Tapered Roller Bearings - TS (Tapered Single) Imperial

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.



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Specifications

Series	HH221400
Cone Part Number	HH221431
Cup Part Number	HH221410
Design Unit	Inch
Bearing Weight	18.5 lb 8.4 Kg
Cage Material	Stamped Steel

Dimensions

	2 1/8 in

d - Bore	3 1/8 in 79.375 mm
D - Cup Outer Diameter	7.5 in 190.5 mm
B - Cone Width	2.2650 in 57.531 mm
C - Cup Width	1.8125 in 46.038 mm
T - Bearing Width	2.2500 in 57.150 mm

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius[1]	0.14 in 3.6 mm
r - Cup Backface "To Clear" Radius[2]	0.130 in 3.3 mm
da - Cone Frontface Backing Diameter	3.82 in 97 mm
db - Cone Backface Backing Diameter	4.06 in 103 mm
Da - Cup Frontface Backing Diameter	7.06 in 179.10 mm
Db - Cup Backface Backing Diameter	6.73 in 170.94 mm
Ab - Cage-Cone Frontface Clearance	0.16 in 4.1 mm
Aa - Cage-Cone Backface Clearance	0.08 in 2 mm
a - Effective Center Location[3]	-0.59 in -15 mm

Basic Load Ratings

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

Factors

K - Factor[7]	1.74
e - ISO Factor[8]	0.33
Y - ISO Factor[9]	1.79
G1 - Heat Generation Factor (Roller-Raceway)	265.6
G2 - Heat Generation Factor (Rib-Roller End)	28.4
Cg - Geometry Factor[10]	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

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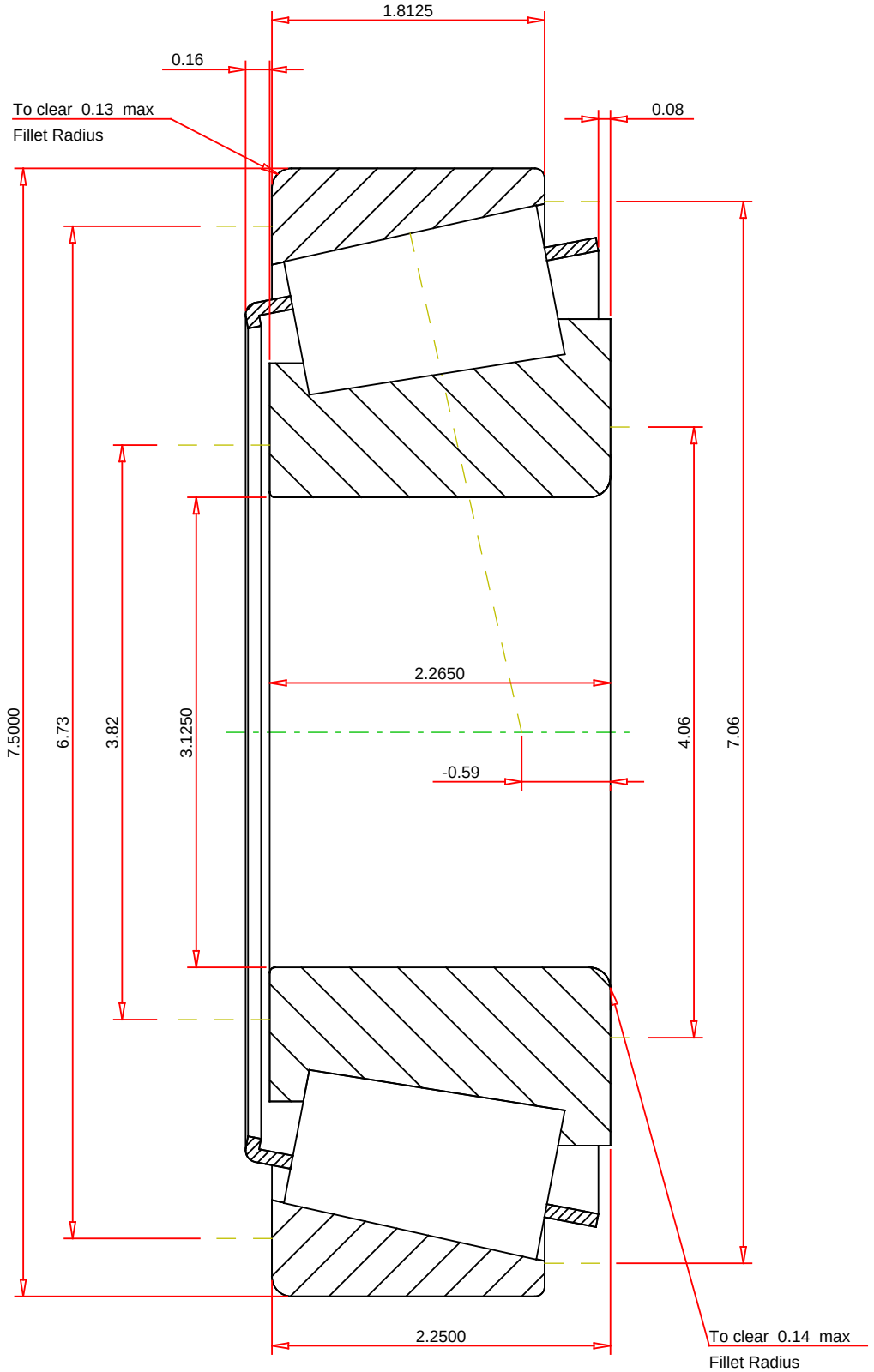
[9] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

[10] Geometry constant for Lubrication Life Adjustment Factor a3l.



IMPERIAL UNITS

ISO Factor - e	0.33	
ISO Factor - Y	1.79	
Bearing Weight	18.5	lb
Number of Rollers Per Row	17	
Effective Center Location	-0.59	inch

TIMKEN

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

HH221431 - HH221410

Tapered Roller Bearings - TS (Tapered Single)
Imperial

K Factor	1.74	
Dynamic Radial Rating - C90	31100	lbf
Dynamic Thrust Rating - Ca90	17800	lbf
Static Radial Rating - C0	156000	lbf
Dynamic Radial Rating - C1	120000	lbf

FOR DISCUSSION ONLY