TIMKEN

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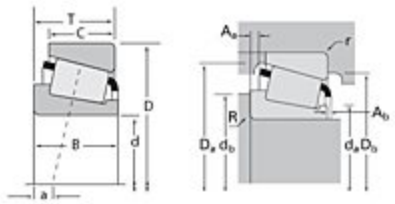
Timken Part Number 3478 - 3420, Tapered Roller Bearings - TS (Tapered Single) Imperial

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	3400
Cone Part Number	3478
Cup Part Number	3420
Design Units	Imperial
Bearing Weight	0.700 Kg 1.50 lb
Cage Type	Stamped Steel

Dimensions

d - Bore	34.925 mm 1.3750 in
D - Cup Outer Diameter	79.375 mm 3.1250 in

B - Cone Width	29.771 mm 1.1721 in
C - Cup Width	23.813 mm 0.9375 in
T - Bearing Width	29.370 mm 1.1563 in

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius[1]	3.560 mm 0.14 in
r - Cup Backface "To Clear" Radius[2]	3.30 mm 0.130 in
da - Cone Frontface Backing Diameter	43.43 mm 1.71 in
db - Cone Backface Backing Diameter	50.04 mm 1.97 in
Da - Cup Frontface Backing Diameter	74.68 mm 2.94 in
Db - Cup Backface Backing Diameter	67.06 mm 2.64 in
Ab - Cage-Cone Frontface Clearance	1.3 mm 0.05 in
Aa - Cage-Cone Backface Clearance	1 mm 0.04 in
a - Effective Center Location[3]	-8.60 mm -0.34 in

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)[4]	27100 N 6100 lbf
C1 - Dynamic Radial Rating (1 million revolutions)[5]	105000 N 23500 lbf
C0 - Static Radial Rating	119000 N 26800 lbf
C_{a90} - Dynamic Thrust Rating (90 million revolutions)[6]	17000 N 3820 lbf

Factors

K - Factor[7]	1.6
e - ISO Factor[8]	0.37
Y - ISO Factor[9]	1.64
G1 - Heat Generation Factor (Roller-Raceway)	29.9
G2 - Heat Generation Factor (Rib-Roller End)	11.2
Cg - Geometry Factor	0.0781

[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 x 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 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
[6] Based on 90 x 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.
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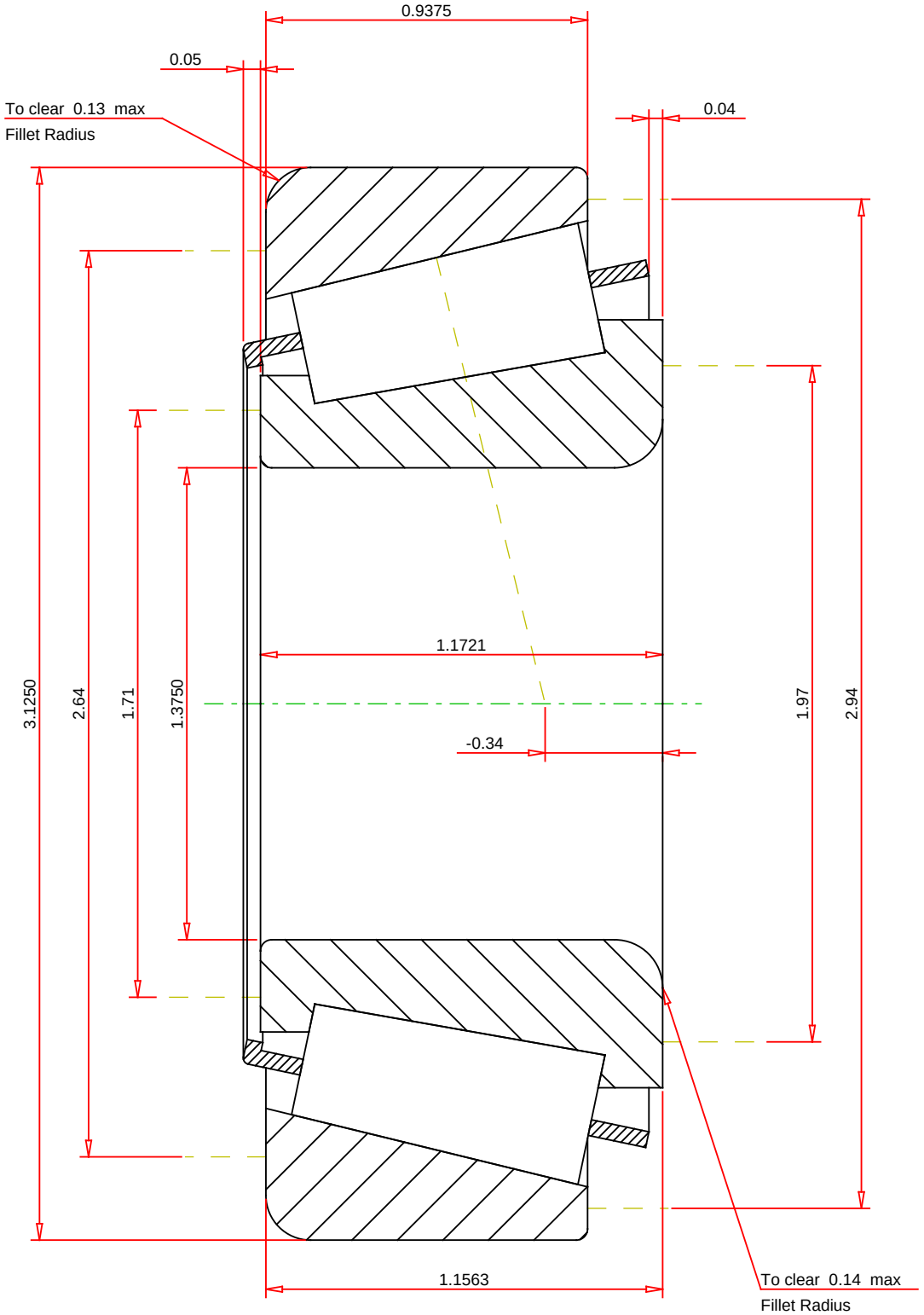

IMPERIAL UNITS

ISO Factor - e	0.37	
ISO Factor - Y	1.64	
Bearing Weight	1.5	lb
Number of Rollers Per Row	15	
Effective Center Location	-0.34	inch

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THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

3478 - 3420
TS BEARING ASSEMBLY

K Factor	1.6	
Dynamic Radial Rating - C90	27100	lbf
Dynamic Thrust Rating - Ca90	17000	lbf
Static Radial Rating - C0	119000	lbf
Dynamic Radial Rating - C1	105000	lbf

FOR DISCUSSION ONLY