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Timken Part Number 3490 - 3420-B, Tapered Roller Bearings - TSF (Tapered Single with Flange) Imperial

Like the TS bearing design, the TSF design 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. TSF bearings have flanged cups to facilitate axial location and accurately align seals in through-bored housings.



Specifications | Dimensions | Abutment and Fillet Dimensions | Basic Load Ratings | Factors

Specifications

Series	3400
Cone Part Number	3490
Cup Part Number	3420-B
Design Units	Imperial
Bearing Weight	2.00 lb 0.900 Kg
Cage Type	Stamped Steel

Dimensions

d - Bore	1.5 in 38.1 mm
D - Cup Outer Diameter	3.1250 in 79.375 mm
D1 - Flange Outer Diameter	3.3090 in 84.049 mm
B - Cone Width	1.1721 in 29.771 mm
C - Cup Width	0.9375 in 23.813 mm
C1 - Cup Flange Width	0.1875 in 4.763 mm
T1 - Bearing Width	1.1563 in 29.370 mm
T - Bearing Width to Flange	0.4063 in 10.320 mm

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius[1]	0.14 in 3.600 mm
r - Cup Backface "To Clear" Radius[2]	0.130 in 3.30 mm
da - Cone Frontface Backing Diameter	1.80 in 45.70 mm
db - Cone Backface Backing Diameter	2.05 in 52.10 mm
Da - Cup Frontface Backing Diameter	3.03 in 75.95 mm
Ab - Cage-Cone Frontface Clearance	0.05 in 1.3 mm

Aa - Cage-Cone Backface Clearance	0.04 in 1 mm
a - Effective Center Location[3]	-0.34 in -8.60 mm

Basic Load Ratings

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

Factors

K - Factor[7]	1.6
e - ISO Factor[8]	0.37
Y - ISO Factor[9]	1.64
G1 - Heat Generation Factor (Roller-Raceway)[10]	29.9
G2 - Heat Generation Factor (Rib-Roller End)	11.2
Cg - Geometry Factor[11]	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.

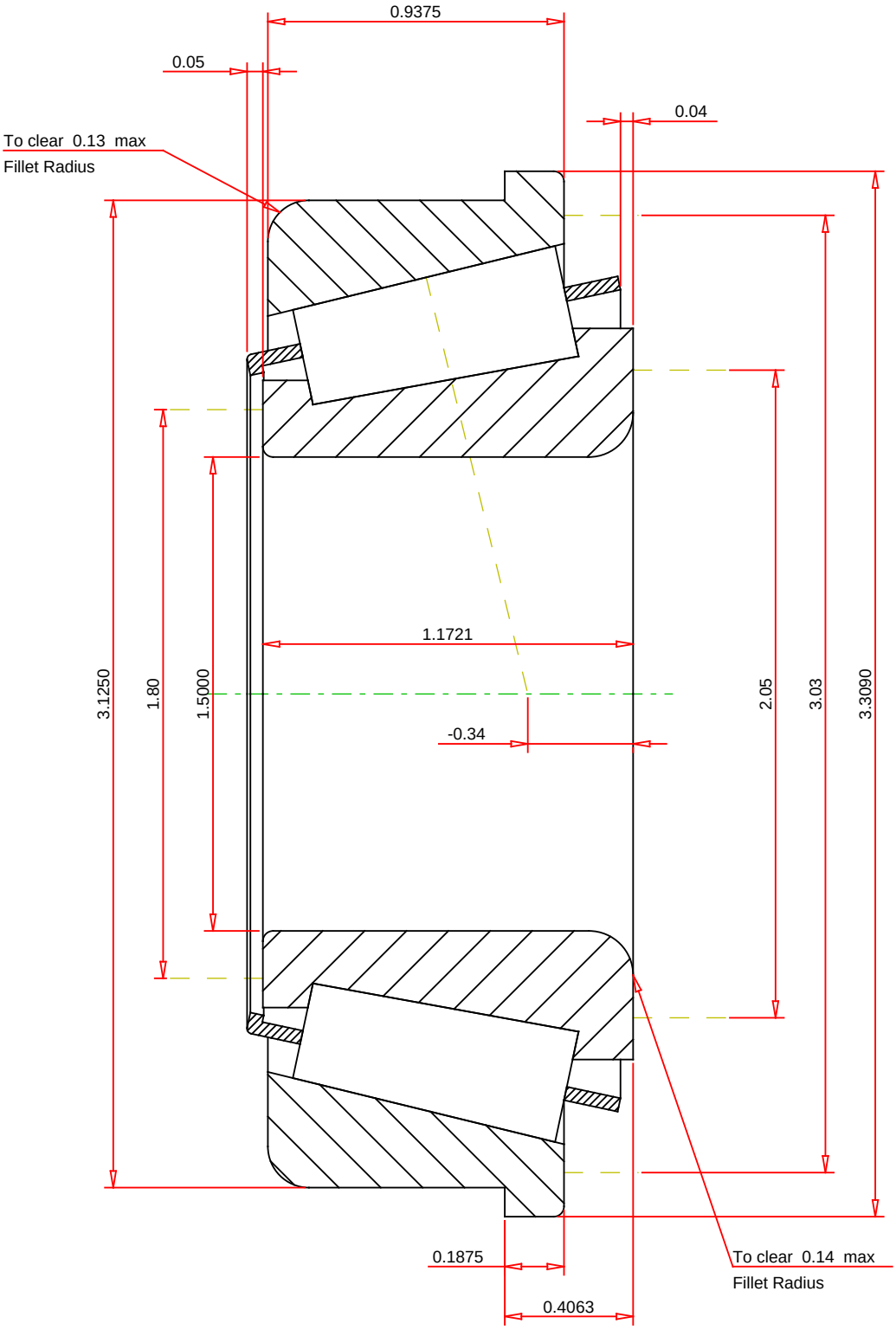
[7] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

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

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



IMPERIAL UNITS

ISO Factor - e	0.37	
ISO Factor - Y	1.64	
Bearing Weight	2	lb
Number of Rollers Per Row	15	
Effective Center Location	-0.34	inch

TIMKEN®

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

3490 - 3420-B
TSF BEARING ASSEMBLY

K Factor	1.6	
Dynamic Radial Rating - C90	6100	lbf
Dynamic Thrust Rating - Ca90	3820	lbf
Static Radial Rating - C0	26800	lbf
Dynamic Radial Rating - C1	23500	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