The Timken Company
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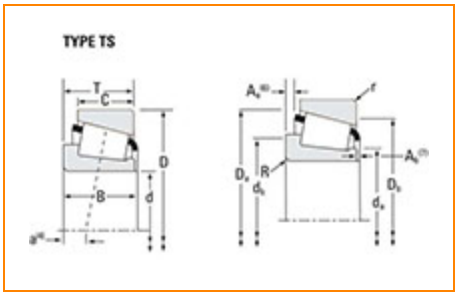
Part Number 496 - 493, Tapered Roller Bearings - TS (Tapered Single) Imperial

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	495
Cone Part Number	496
Cup Part Number	493
Design Units	Imperial
Bearing Weight	1.7 Kg 3.7 lb
Cage Type	Stamped Steel

Dimensions

d - Bore	80.963 mm 3.1875 in

D - Cup Outer Diameter	136.525 mm 5.3750 in
B - Cone Width	29.769 mm 1.1720 in
C - Cup Width	22.225 mm 0.8750 in
T - Bearing Width	30.163 mm 1.1875 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]	3.3 mm 0.130 in
da - Cone Frontface Backing Diameter	88.90 mm 4.29 in
db - Cone Backface Backing Diameter	95 mm 3.74 in
Da - Cup Frontface Backing Diameter	131.06 mm 5.16 in
Db - Cup Backface Backing Diameter	121.92 mm 4.80 in
Ab - Cage-Cone Frontface Clearance	3 mm 0.12 in
Aa - Cage-Cone Backface Clearance	1.8 mm 0.07 in
a - Effective Center Location[3]	-0.8 mm -0.03 in

Basic Load Ratings

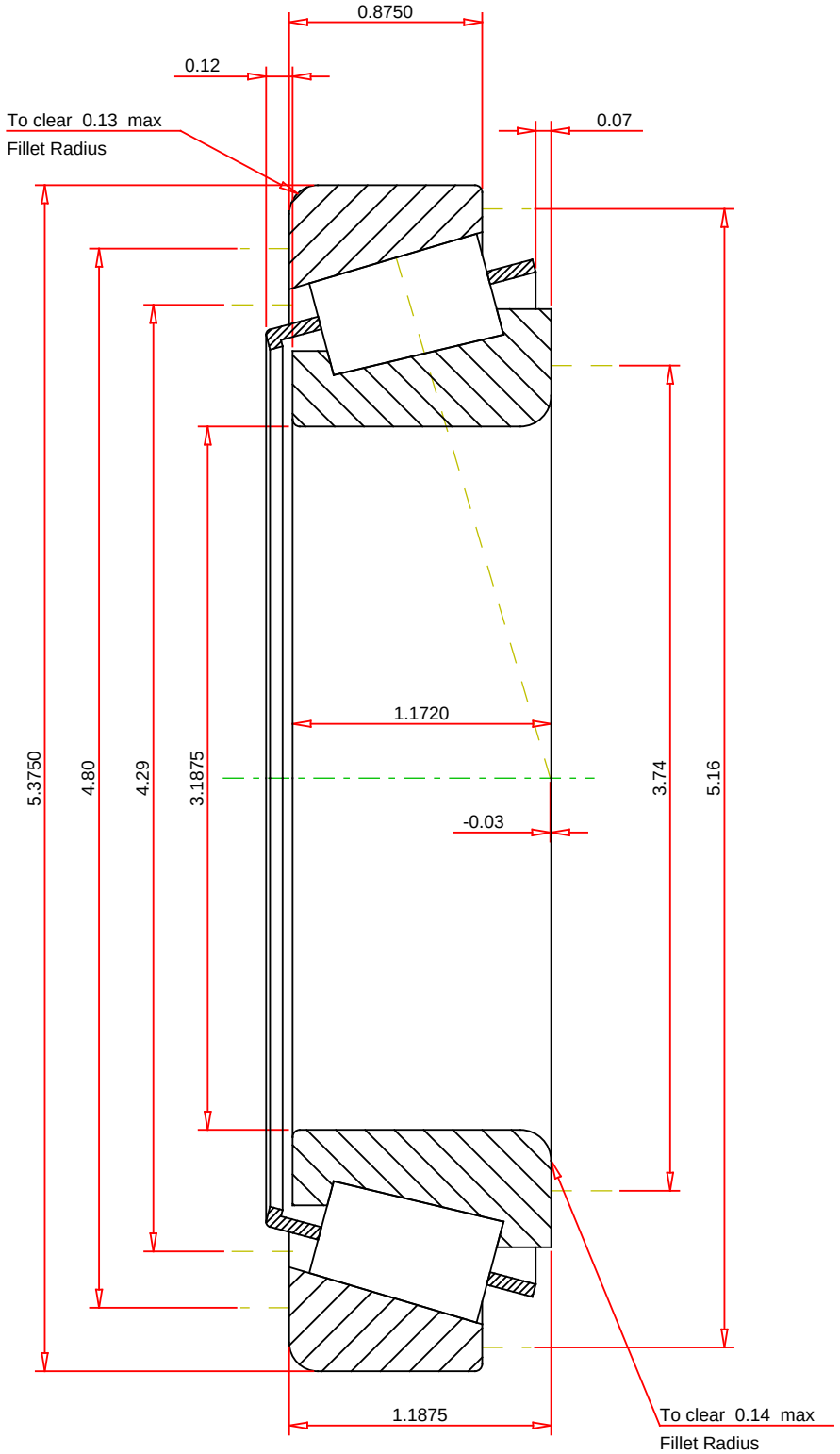
C90 - Dynamic Radial Rating (90 million revolutions)[4]	9000 lbf 40000 N
C1 - Dynamic Radial Rating (1 million revolutions)[5]	34700 lbf 154000 N
C0 - Static Radial Rating	48600 lbf 216000 N
C_{a90} - Dynamic Thrust Rating (90 million revolutions)[6]	6850 lbf 30500 N

Factors

K - Factor[7]	1.31
e - ISO Factor[8]	0.44
Y - ISO Factor[9]	1.35
G1 - Heat Generation Factor (Roller-Raceway)	105
G2 - Heat Generation Factor (Rib-Roller End)	29.3
Cg - Geometry Factor[10]	0.125

[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] Geometry constant for Lubrication Life Adjustment Factor a3l.



IMPERIAL UNITS

ISO Factor - e	0.44	
ISO Factor - Y	1.35	
Bearing Weight	3.7	lb
Number of Rollers Per Row	23	
Effective Center Location	-0.03	inch

TIMKEN

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

496 - 493
TS BEARING ASSEMBLY

K Factor	1.31	
Dynamic Radial Rating - C90	9000	lbf
Dynamic Thrust Rating - Ca90	6850	lbf
Static Radial Rating - C0	48600	lbf
Dynamic Radial Rating - C1	34700	lbf

FOR DISCUSSION ONLY