TIMKEN

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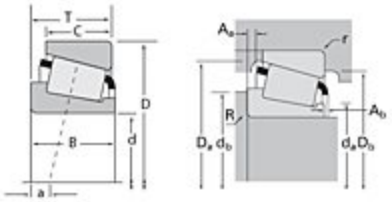
Timken Part Number 645 - 632, Tapered Roller Bearings - TS (Tapered Single) Imperial

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	635
Cone Part Number	645
Cup Part Number	632
Design Units	Imperial
Bearing Weight	2.500 Kg 5.60 lb
Cage Type	Stamped Steel

Dimensions

d - Bore	71.438 mm 2.8125 in
D - Cup Outer Diameter	136.525 mm 5.3750 in

B - Cone Width	41.275 mm 1.6250 in
C - Cup Width	31.750 mm 1.2500 in
T - Bearing Width	41.275 mm 1.6250 in

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius[1]	6.35 mm 0.25 in
r - Cup Backface "To Clear" Radius[2]	3.30 mm 0.130 in
da - Cone Frontface Backing Diameter	81.03 mm 3.87 in
db - Cone Backface Backing Diameter	92.96 mm 3.66 in
Da - Cup Frontface Backing Diameter	125.00 mm 4.96 in
Db - Cup Backface Backing Diameter	118.11 mm 4.65 in
Ab - Cage-Cone Frontface Clearance	2.5 mm 0.1 in
Aa - Cage-Cone Backface Clearance	3.8 mm 0.15 in
a - Effective Center Location[3]	-11.20 mm -0.44 in

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)[4]	71600 N 16100 lbf
C1 - Dynamic Radial Rating (1 million revolutions)[5]	276000 N 62100 lbf
C0 - Static Radial Rating	298000 N 67000 lbf
C_{a90} - Dynamic Thrust Rating (90 million revolutions)[6]	44400 N 9980 lbf

Factors

K - Factor[7]	1.61
e - ISO Factor[8]	0.36
Y - ISO Factor[9]	1.66
G1 - Heat Generation Factor (Roller-Raceway)	106
G2 - Heat Generation Factor (Rib-Roller End)	21
Cg - Geometry Factor	0.0814

[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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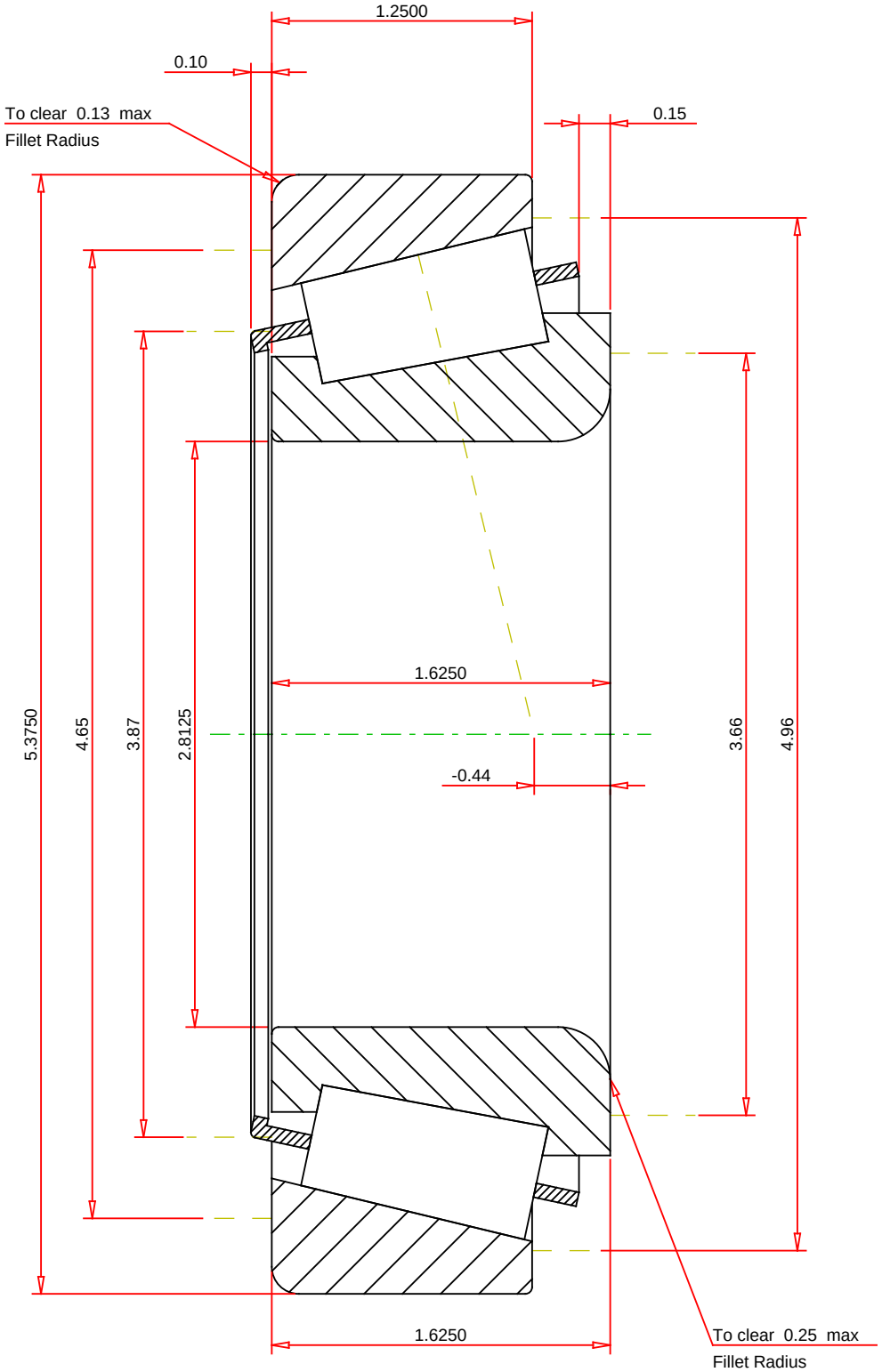

IMPERIAL UNITS

ISO Factor - e	0.36	
ISO Factor - Y	1.66	
Bearing Weight	5.6	lb
Number of Rollers Per Row	18	
Effective Center Location	-0.44	inch

TIMKEN

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

645 - 632
TS BEARING ASSEMBLY

K Factor	1.61	
Dynamic Radial Rating - C90	71600	lbf
Dynamic Thrust Rating - Ca90	44400	lbf
Static Radial Rating - C0	298000	lbf
Dynamic Radial Rating - C1	276000	lbf

FOR DISCUSSION ONLY