TIMKEN

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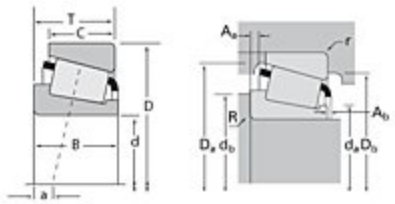
Timken Part Number 23100 - 23256, Tapered Roller Bearings - TS (Tapered Single) Imperial

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	23000
Cone Part Number	23100
Cup Part Number	23256
Design Units	Imperial
Bearing Weight	0.400 Kg 0.80 lb
Cage Type	Stamped Steel

Dimensions

d - Bore	25.400 mm 1.0000 in
D - Cup Outer Diameter	65.088 mm 2.5625 in

B - Cone Width	21.463 mm 0.8450 in
C - Cup Width	15.875 mm 0.6250 in
T - Bearing Width	22.225 mm 0.8750 in

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius[1]	1.520 mm 0.06 in
r - Cup Backface "To Clear" Radius[2]	1.52 mm 0.06 in
da - Cone Frontface Backing Diameter	34.54 mm 1.36 in
db - Cone Backface Backing Diameter	39.12 mm 1.54 in
Da - Cup Frontface Backing Diameter	63.00 mm 2.52 in
Db - Cup Backface Backing Diameter	53.09 mm 2.09 in
Ab - Cage-Cone Frontface Clearance	2.5 mm 0.1 in
Aa - Cage-Cone Backface Clearance	3 mm 0.12 in
a - Effective Center Location[3]	-2.30 mm -0.09 in

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)[4]	14200 N 3180 lbf
C1 - Dynamic Radial Rating (1 million revolutions)[5]	54600 N 12300 lbf
C0 - Static Radial Rating	55800 N 12500 lbf
C_{a90} - Dynamic Thrust Rating (90 million revolutions)[6]	17700 N 3990 lbf

Factors

K - Factor[7]	0.8
e - ISO Factor[8]	0.73
Y - ISO Factor[9]	0.82
G1 - Heat Generation Factor (Roller-Raceway)	11.3
G2 - Heat Generation Factor (Rib-Roller End)	6.57
Cg - Geometry Factor	0.07

[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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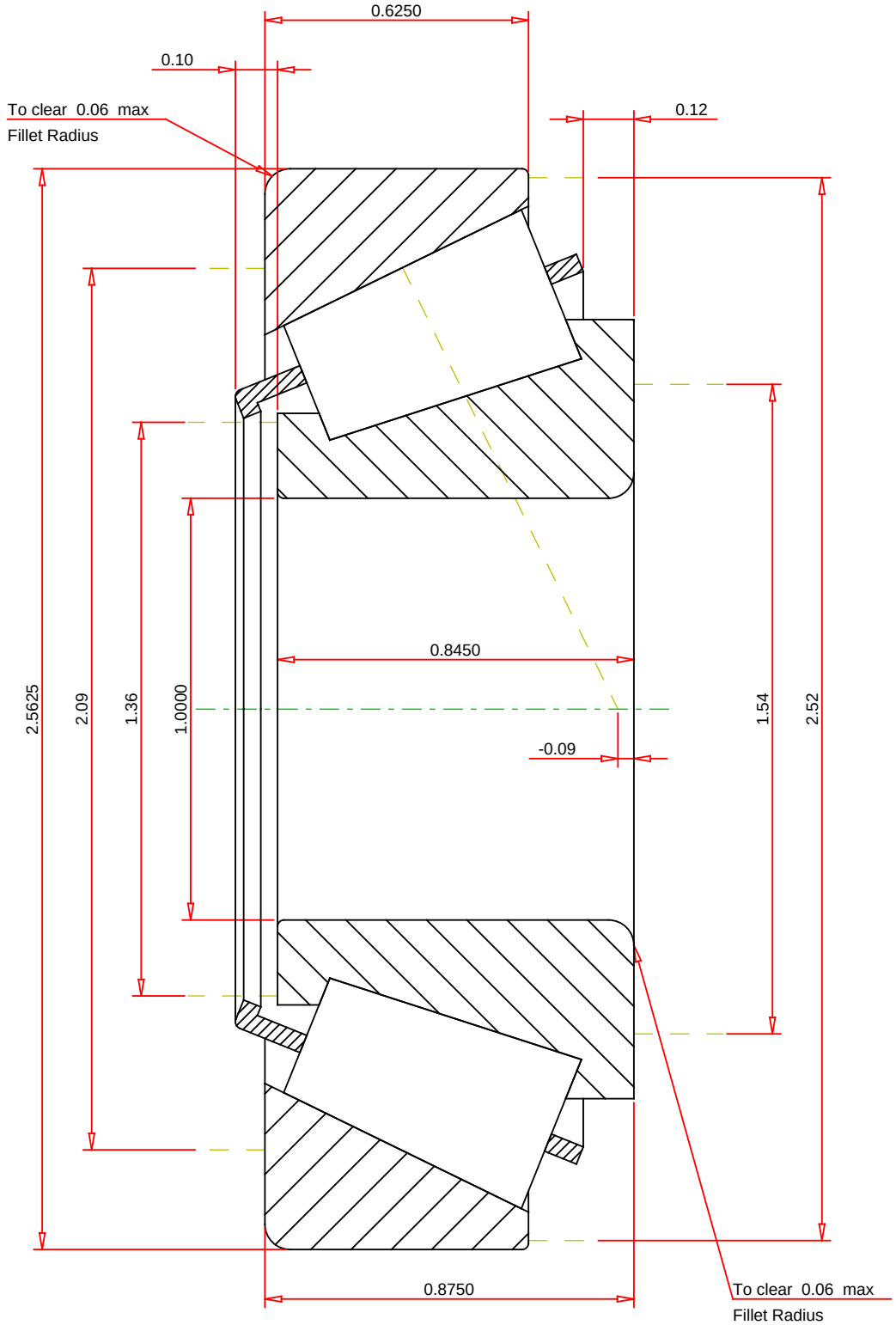

IMPERIAL UNITS

ISO Factor - e	0.73	
ISO Factor - Y	0.82	
Bearing Weight	0.8	lb
Number of Rollers Per Row	14	
Effective Center Location	-0.09	inch

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THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

23100 - 23256
TS BEARING ASSEMBLY

K Factor	0.8	
Dynamic Radial Rating - C90	14200	lbf
Dynamic Thrust Rating - Ca90	17700	lbf
Static Radial Rating - C0	55800	lbf
Dynamic Radial Rating - C1	54600	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