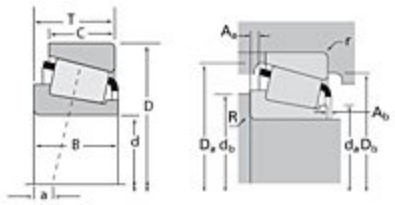
TIMKEN

The Timken Company
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Timken Part Number 28150 - 28300, 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	28000
Cone Part Number	28150
Cup Part Number	28300
Design Units	Imperial
Bearing Weight	0.400 Kg 0.90 lb
Cage Type	Stamped Steel

Dimensions

d - Bore	38.1 mm 1.5 in
D - Cup Outer Diameter	76.2 mm 3 in

B - Cone Width	20.940 mm 0.8244 in
C - Cup Width	15.507 mm 0.6105 in
T - Bearing Width	20.638 mm 0.8125 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]	1.27 mm 0.050 in
da - Cone Frontface Backing Diameter	43.43 mm 1.71 in
db - Cone Backface Backing Diameter	45.47 mm 1.79 in
Da - Cup Frontface Backing Diameter	71.88 mm 2.83 in
Db - Cup Backface Backing Diameter	68.07 mm 2.68 in
Ab - Cage-Cone Frontface Clearance	1.8 mm 0.07 in
Aa - Cage-Cone Backface Clearance	1.5 mm 0.06 in
a - Effective Center Location[3]	-4.80 mm -0.19 in

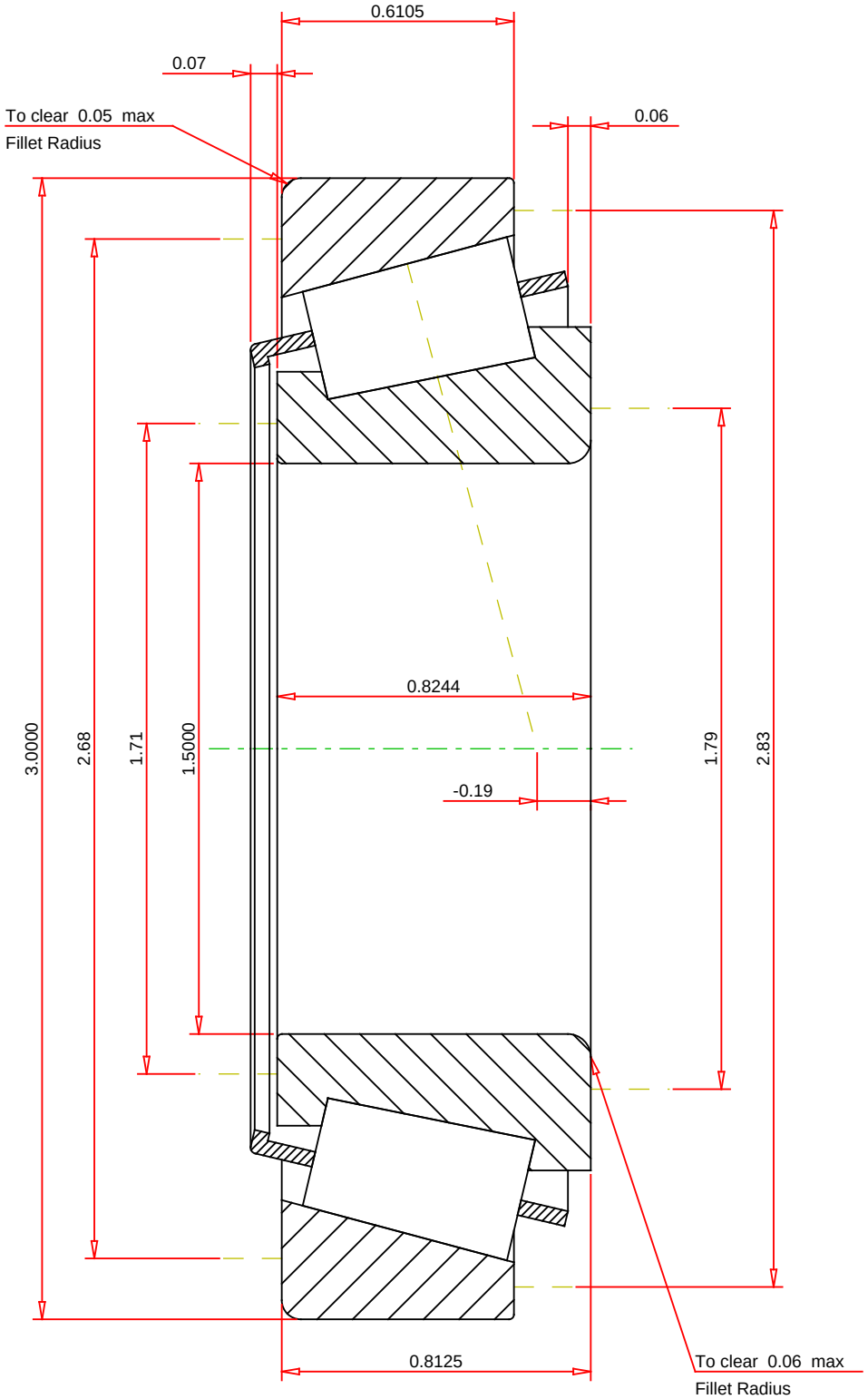
Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)[4]	19500 N 4390 lbf
C1 - Dynamic Radial Rating (1 million revolutions)[5]	75200 N 16900 lbf
C0 - Static Radial Rating	68900 N 15500 lbf
C_{a90} - Dynamic Thrust Rating (90 million revolutions)[6]	13400 N 3020 lbf

Factors

K - Factor[7]	1.45
e - ISO Factor[8]	0.40
Y - ISO Factor[9]	1.49
G1 - Heat Generation Factor (Roller-Raceway)	20.7
G2 - Heat Generation Factor (Rib-Roller End)	12.5
Cg - Geometry Factor	0.0709

[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.



IMPERIAL UNITS

ISO Factor - e	0.4	
ISO Factor - Y	1.49	
Bearing Weight	0.9	lb
Number of Rollers Per Row	17	
Effective Center Location	-0.19	inch

TIMKEN®

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

28150 - 28300
TS BEARING ASSEMBLY

K Factor	1.45	
Dynamic Radial Rating - C90	19500	lbf
Dynamic Thrust Rating - Ca90	13400	lbf
Static Radial Rating - C0	68900	lbf
Dynamic Radial Rating - C1	75200	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