TIMKEN

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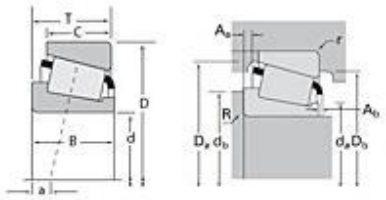
Timken Part Number 02872 - 02820, Tapered Roller Bearings - TS (Tapered Single) Imperial

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	02800
Cone Part Number	02872
Cup Part Number	02820
Design Units	Imperial
Bearing Weight	1.00 lb 0.500 Kg
Cage Type	Stamped Steel

Dimensions

d - Bore	1.1250 in 28.575 mm
D - Cup Outer Diameter	2.8750 in 73.025 mm

B - Cone Width	0.8750 in 22.225 mm
C - Cup Width	0.6875 in 17.463 mm
T - Bearing Width	0.8750 in 22.225 mm

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius[1]	0.03 in 0.760 mm
r - Cup Backface "To Clear" Radius[2]	0.130 in 3.30 mm
da - Cone Frontface Backing Diameter	1.46 in 37.08 mm
db - Cone Backface Backing Diameter	1.48 in 37.59 mm
Da - Cup Frontface Backing Diameter	2.72 in 68.10 mm
Db - Cup Backface Backing Diameter	2.44 in 61.98 mm
Ab - Cage-Cone Frontface Clearance	0.07 in 1.8 mm
Aa - Cage-Cone Backface Clearance	0.03 in 0.8 mm
a - Effective Center Location[3]	-0.15 in -3.80 mm

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)[4]	3830 lbf 17000 N
C1 - Dynamic Radial Rating (1 million revolutions)[5]	14800 lbf 65700 N
C0 - Static Radial Rating	16800 lbf 74900 N
C_{a90} - Dynamic Thrust Rating (90 million revolutions)[6]	2980 lbf 13200 N

Factors

K - Factor[7]	1.29
e - ISO Factor[8]	0.45
Y - ISO Factor[9]	1.32
G1 - Heat Generation Factor (Roller-Raceway)	20.6
G2 - Heat Generation Factor (Rib-Roller End)	10.1
Cg - Geometry Factor	0.074

[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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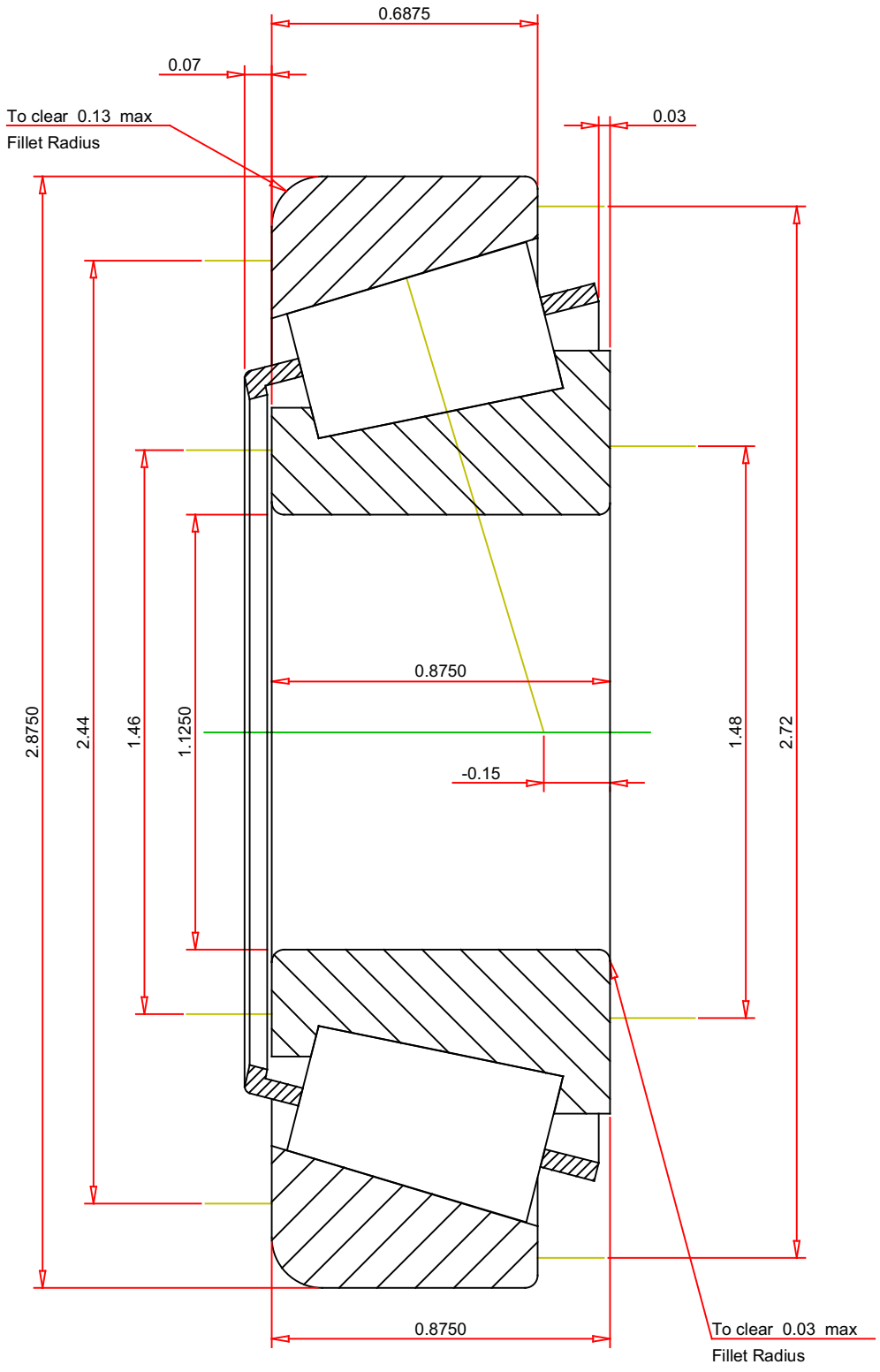

IMPERIAL UNITS

ISO Factor - e	0.45	
ISO Factor - Y	1.32	
Bearing Weight	1	lb
Number of Rollers Per Row	17	
Effective Center Location	-0.15	inch

TIMKEN®

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

02872 - 02820
TS BEARING ASSEMBLY

K Factor	1.29	
Dynamic Radial Rating - C90	3830	lbf
Dynamic Thrust Rating - Ca90	2980	lbf
Static Radial Rating - C0	16800	lbf
Dynamic Radial Rating - C1	14800	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