The Timken Company
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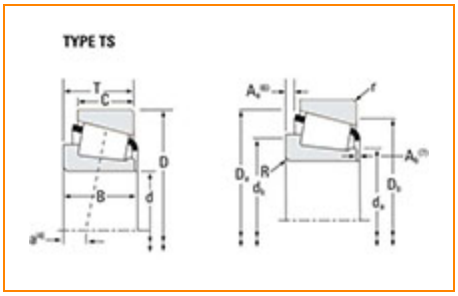
Part Number 02475 - 02420, Tapered Roller Bearings - TS (Tapered Single) Imperial

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	02400
Cone Part Number	02475
Cup Part Number	02420
Design Units	Imperial
Bearing Weight	0.4 Kg 0.8 lb
Cage Type	Stamped Steel

Dimensions

d - Bore	31.750 mm 1.2500 in

D - Cup Outer Diameter	68.263 mm 2.6875 in
B - Cone Width	22.225 mm 0.8750 in
C - Cup Width	17.463 mm 0.6875 in
T - Bearing Width	22.225 mm 0.8750 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]	1.52 mm 0.06 in
da - Cone Frontface Backing Diameter	38.61 mm 1.52 in
db - Cone Backface Backing Diameter	44.45 mm 1.75 in
Da - Cup Frontface Backing Diameter	63.00 mm 2.52 in
Db - Cup Backface Backing Diameter	58.93 mm 2.32 in
Ab - Cage-Cone Frontface Clearance	1.5 mm 0.06 in
Aa - Cage-Cone Backface Clearance	0.8 mm 0.03 in
a - Effective Center Location[3]	-5.1 mm -0.2 in

Basic Load Ratings

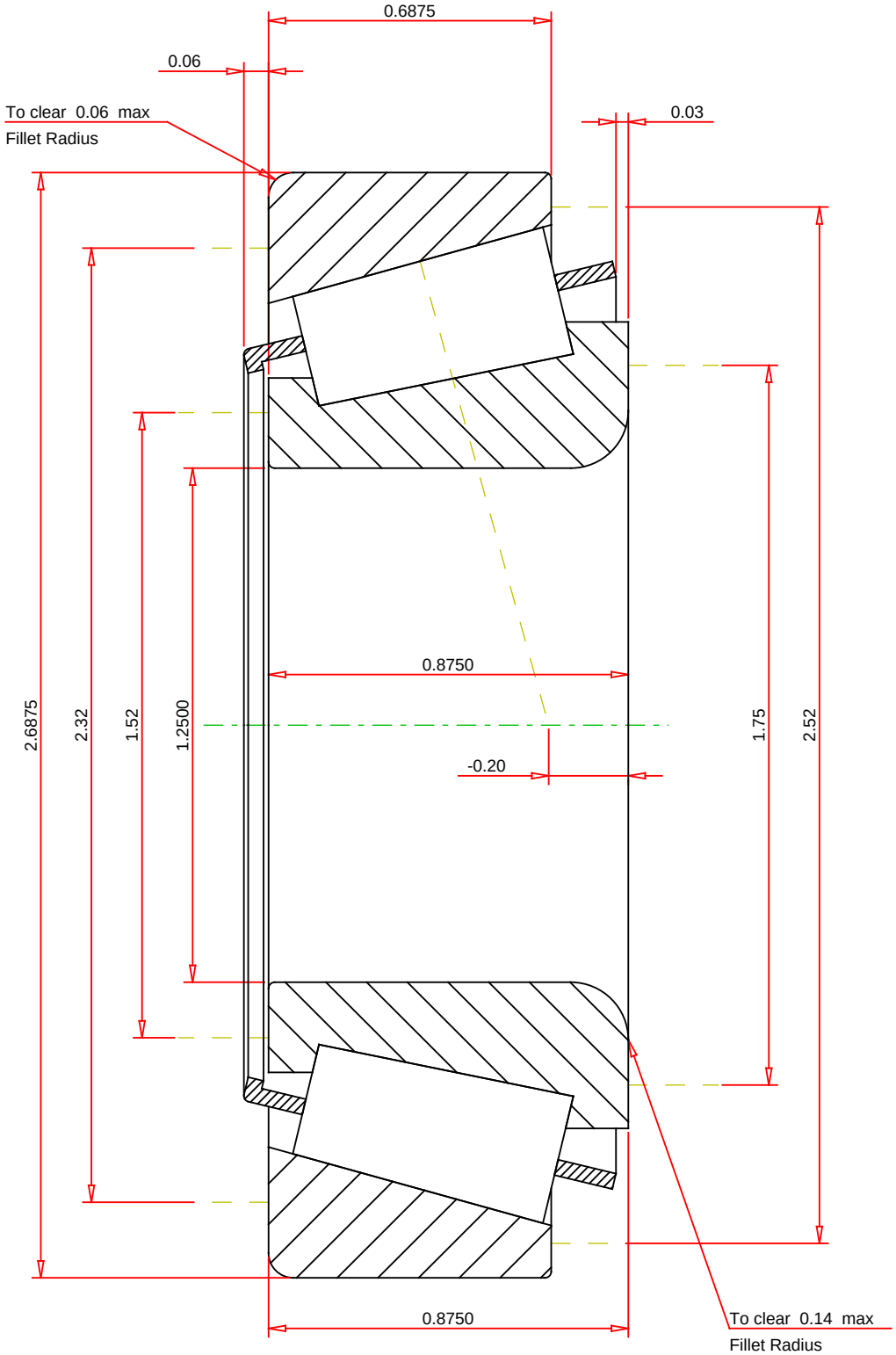
C90 - Dynamic Radial Rating (90 million revolutions)[4]	3720 lbf 16500 N
C1 - Dynamic Radial Rating (1 million revolutions)[5]	14300 lbf 63800 N
C0 - Static Radial Rating	15800 lbf 70200 N
C_{a90} - Dynamic Thrust Rating (90 million revolutions)[6]	2650 lbf 11800 N

Factors

K - Factor[7]	1.4
e - ISO Factor[8]	0.42
Y - ISO Factor[9]	1.44
G1 - Heat Generation Factor (Roller-Raceway)	17.5
G2 - Heat Generation Factor (Rib-Roller End)	8.48
Cg - Geometry Factor[10]	0.0681

[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	0.42	
ISO Factor - Y	1.44	
Bearing Weight	0.8	lb
Number of Rollers Per Row	16	
Effective Center Location	-0.2	inch

TIMKEN

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

02475 - 02420
TS BEARING ASSEMBLY

K Factor	1.4	
Dynamic Radial Rating - C90	3720	lbf
Dynamic Thrust Rating - Ca90	2650	lbf
Static Radial Rating - C0	15800	lbf
Dynamic Radial Rating - C1	14300	lbf

FOR DISCUSSION ONLY