

The Timken Company

4500 Mt Pleasant St. NW N. Canton, OH 44720

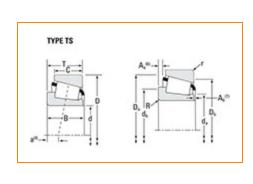
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Part Number 02473 - 02420, Tapered Roller Bearings - TS (Tapered Single) Imperial

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.





<u>Specifications</u> | <u>Dimensions</u> | <u>Abutment and Fillet Dimensions</u> | <u>Basic Load Ratings</u> | <u>Factors</u>

Specifications –			
	Series	02400	
	Cone Part Number	02473	
	Cup Part Number	02420	
	Design Unit	Inch	
	Bearing Weight	0.90 lb 0.4 Kg	
	Cage Material	Stamped Steel	

Dimensions		-
Bore	1 in 25.400 mm	

D - Cup Outer Diameter	2.6875 in 68.263 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	0.06 in 1.52 mm	
	da - Cone Frontface Backing Diameter	1.32 in 33.5 mm	
	db - Cone Backface Backing Diameter	1.36 in 34.5 mm	
	Da - Cup Frontface Backing Diameter	2.52 in 63.00 mm	
	Db - Cup Backface Backing Diameter	2.32 in 58.93 mm	
	Ab - Cage-Cone Frontface Clearance	0.06 in 1.5 mm	
	Aa - Cage-Cone Backface Clearance	0.03 in 0.8 mm	
	a - Effective Center Location ³	-0.2 in -5.1 mm	

Basic Load Ratings

-5.1 mm

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)	8.5
	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.

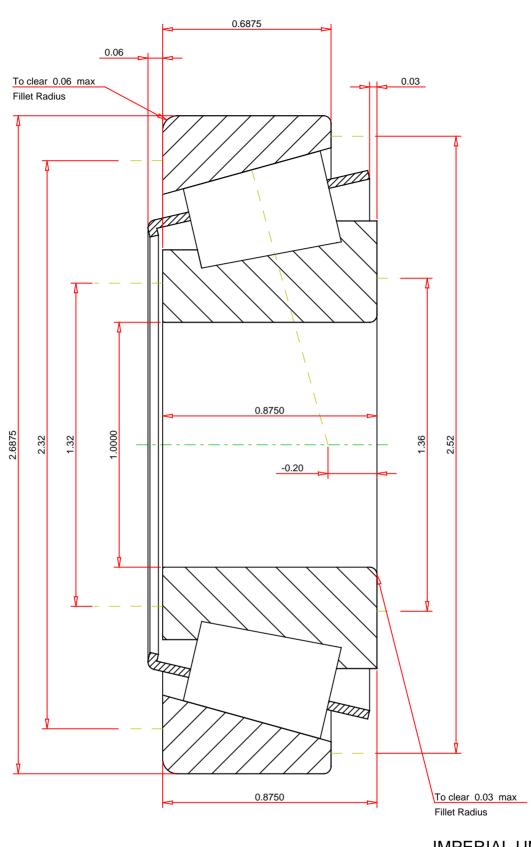
 $^{^6}$ Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

 $^{^{7}}$ 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.

 10 Geometry constant for Lubrication Life Adjustment Factor a3l.

⁹ These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.



IMPERIAL UNITS

ISO Factor - e ISO Factor - Y Bearing Weight Number of Rollers Per Row Effective Center Location	0.42 1.44 0.9 lb 16 -0.2 inch	
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THE TIMKEN COMPANY NORTH CANTON, OHIO USA

02473 - 02420 Tapered Roller Bearings - TS (Tapered Single) Imperial

 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

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