


The Timken Company

4500 Mt Pleasant St. NW

N. Canton, OH 44720

Phone: (234) 262-3000

E-Mail: CustomerCAD@timken.com • **Web site:** www.timken.com

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.



[Specifications](#) | [Dimensions](#) | [Abutment and Fillet Dimensions](#) | [Basic Load Ratings](#) | [Factors](#)

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" Radius¹	0.03 in 0.760 mm
r - Cup Backface "To Clear" Radius²	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 Location³	-0.2 in -5.1 mm

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 - Factor⁷	1.4
e - ISO Factor⁸	0.42
Y - ISO Factor⁹	1.44
G1 - Heat Generation Factor (Roller-Raceway)	17.5
G2 - Heat Generation Factor (Rib-Roller End)	8.5
Cg - Geometry Factor¹⁰	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 90×10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.

⁵ Based on 1×10^6 revolutions L_{10} life, for the ISO life calculation method.

⁶ Based on 90×10^6 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 a_3 .

