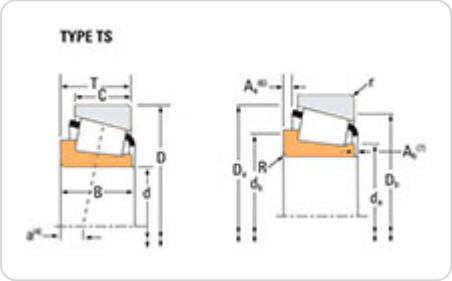
The Timken Company
4500 Mt Pleasant St. NW
N. Canton, OH 44720
Phone: (234) 262-3000
E-Mail: CustomerCAD@timken.com (mailto:CustomerCAD@timken.com) • **Web site:** www.timken.com (http://www.timken.com)

Part Number 31593, Tapered Roller Bearings - Single Cones - 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.

Key Dimensions

Series	31500
Cone Part Number	31593

Bore (d)	1.3750 in 34.925 mm
Dynamic Radial Load Rating - 90M Revs (C90) [1]	5520 lbf 24600 N
Dynamic Radial Load Rating - 1M Revs (C1) [2]	21300 lbf 94700 N
C1 - Dynamic Radial Rating (Two-Row, 1 million revolutions)[3]	37100 lbf 165000 N
Dynamic Radial Load Rating 2-Row - 90M Revs (C90-2row) [4]	9610 lbf 42800 N
K Factor [5]	1.45

Other Dimensions

Inner Ring Width (B)	1.1250 in 28.575 mm
Max Shaft Fillet Radius[6]	0.14 in 3.600 mm
Shaft Backing Shoulder Diameter - Frontface (da)	1.71 in 43.5 mm
Shaft Backing Shoulder Diameter - Backface (db)	1.97 in 50 mm
Cage Location Relative to Frontface (Ab)	0.08 in 2 mm
Cage Location Relative to Backface (Aa)	0.04 in 1 mm
Effective Center Location[7]	-0.3 in -7.6 mm
Weight	2.3 lb 1.00 Kg

Ratings

Static Radial Load Rating (C0)	24100 lbf 107000 N
C_{a90} - Dynamic Thrust Rating (90 million revolutions)[8]	3800 lbf 16900 N

Factors

G1 Factor	26.3
G2 Factor	9.08
Geometry Factor (Cg)[9]	0.0773

[1] 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.

[2] Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.

[3] Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.

[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 for a single-row, $C_{90(2)}$ is the two-row radial value.

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

[6] These maximum fillet radii will be cleared by the bearing corners.

[7] Negative value indicates effective center inside cone backface.

[8] 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.

[9] Geometry constant for Lubrication Life Adjustment Factor a3l.