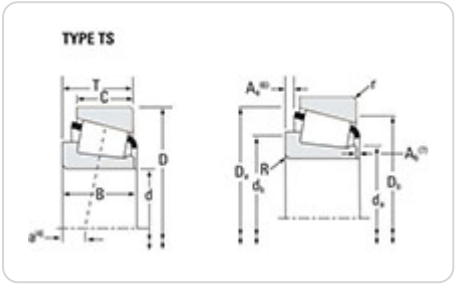
The Timken Company
4500 Mt Pleasant St. NW
N. Canton, OH 44720
Phone: (234) 262-3000
E-Mail: CustomerCAD@timken.com (mailto:CustomerCAD@timken.com) • **Web site:** www.timken.com (http://www.timken.com)

Part Number 33209, Tapered Roller Bearings - TS (Tapered Single) Metric





Key Features

- Available in single, double and multi-row configurations, as well as proprietary sizes
- Designed in collaboration with OE engineers to design, engineer and test bearings for premium performance in many applications
- Power dense designs allow for heavier loads and can help extend bearing life
- Optimized internal geometry lowers torque and operating temperatures to extend lubrication system life

- Can be designed to withstand high-corrosive, high-temperature and vacuum or low-lubrication environments with proprietary enhancements

Key Dimensions

Cone Part Number	X33209
Cup Part Number	Y33209
Bore (d)	45.000 mm 1.7717 in
O.D. (D)	85.000 mm 3.3465 in
Width (T)	32.000 mm 1.2598 in
Dynamic Radial Load Rating - 1M Revs (C1) [1]	149000 N 33400 lbf
Dynamic Radial Load Rating - 90M Revs (C90) [2]	38500 N 8660 lbf
e Factor [3]	0.39
K Factor [4]	1.51
Series	33209
Y Factor [5]	1.56

Other Dimensions

Inner Ring Width (B)	32.000 mm 1.2598 in
Outer Ring Width (C)	25.000 mm 0.9843 in
Effective Center Location[6]	-9.9 mm -0.39 in
Max Shaft Fillet Radius[7]	1.520 mm 0.060 in
Max Housing Fillet Radius[8]	1.52 mm 0.06 in
Shaft Backing Shoulder Diameter - Frontface (da)	52 mm 2.05 in
Shaft Backing Shoulder Diameter - Backface (db)	57 mm 2.24 in
Housing Backing Shoulder Diameter - Frontface (Da)	82.00 mm 3.23 in
Housing Backing Shoulder Diameter - Backface (Db)	73.91 mm 2.91 in
Cage Location Relative to Backface (Aa)	2.3 mm 0.09 in
Cage Location Relative to Frontface (Ab)	3 mm 0.12 in
Weight	0.80 Kg 1.7 lb

Ratings

Dynamic Axial Rating - 90M Revs (Ca90)[9]	25400 N 5720 lbf
Static Radial Load Rating (C0)	155000 N 34800 lbf

Factors

G1 Factor	41.9
G2 Factor	14.5
Geometry Factor (Cg)[10]	0.0892

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

[2] 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.

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

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

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

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

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

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

[9] 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.

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