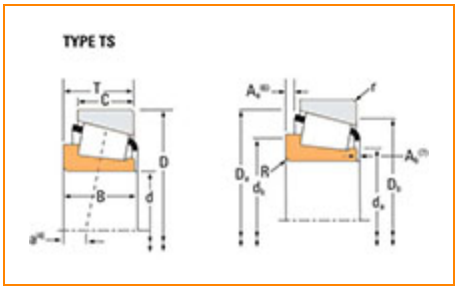
The Timken Company
4500 Mt Pleasant St. NW
N. Canton, OH 44720
Phone: (234) 262-3000
E-Mail: CustomerCAD@timken.com • **Web site:** www.timken.com

Part Number XAA32011X, Tapered Roller Bearings - Single Cones - Metric

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	32011X
Cone Part Number	XAA32011X
Design Units	METRIC
Cage Type	Stamped Steel
C1 - Dynamic Radial Rating (Two-Row, 1 million revolutions)[1]	196000 N 44000 lbf
C90(2) - Dynamic Radial Rating (Two-Row, 90 million revolutions)[2]	50800 N 11400 lbf
Full Timken Part Number	32011X

Dimensions

d - Cone Bore	55 mm 2.1654 in
B - Cone Width	23.000 mm 0.9055 in

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius[3]	4.06 mm 0.16 in
da - Cone Frontface Backing Diameter	62 mm 2.44 in
db - Cone Backface Backing Diameter	70 mm 2.76 in
Ab - Cage-Cone Frontface Clearance	2.5 mm 0.1 in
Aa - Cage-Cone Backface Clearance	1.3 mm 0.05 in
a - Effective Center Location[4]	-3 mm -0.12 in

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)[5]	29100 N 6550 lbf
C1 - Dynamic Radial Rating (1 million revolutions)[6]	112000 N 25300 lbf
C0 - Static Radial Rating	126000 N 28300 lbf
C_{a90} - Dynamic Thrust Rating (90 million revolutions)[7]	20300 N 4560 lbf

Factors

K - Factor[8]	1.44
G1 - Heat Generation Factor (Roller-Raceway)	46
G2 - Heat Generation Factor (Rib-Roller End)	28
Cg - Geometry Factor[9]	0.0931

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

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

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

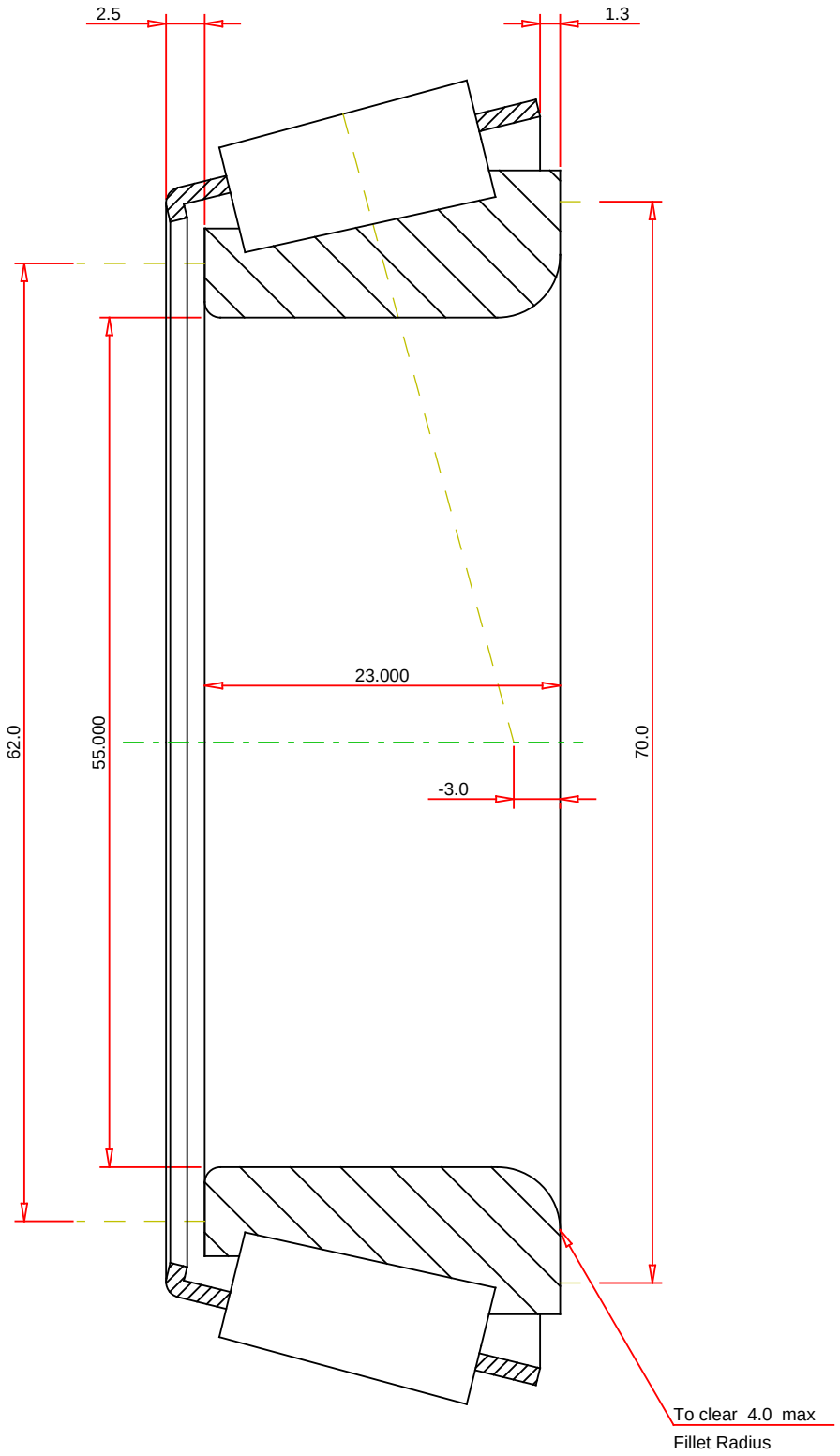
[5] Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.

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

[7] 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.

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

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



METRIC UNITS

Number of Rollers Per Row	23

TIMKEN®

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

XAA32011X
Tapered Roller Bearings - Single Cones - Metric

K Factor	1.44	
Dynamic Radial Rating - C90	29100	N
Dynamic Thrust Rating - Ca90	20300	N
Dynamic Radial Rating - C1	112000	N

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