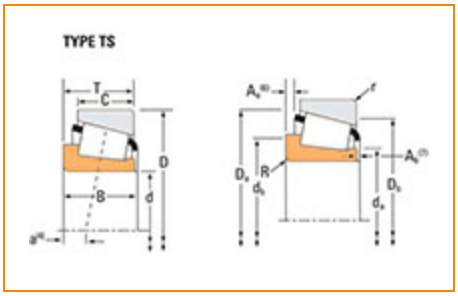
The Timken Company
4500 Mt Pleasant St. NW
N. Canton, OH 44720
Phone: (234) 262-3000
E-Mail: CustomerCAD@timken.com • **Web site:** www.timken.com

Part Number XAA32024X, 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	32024X
Cone Part Number	XAA32024X
Design Units	METRIC
Cage Type	Stamped Steel
C1 - Dynamic Radial Rating (Two-Row, 1 million revolutions)[1]	136000 lbf 603000 N
C90(2) - Dynamic Radial Rating (Two-Row, 90 million revolutions)[2]	35200 lbf 156000 N

Dimensions

d - Bore	120 mm 4.7244 in
B - Cone Width	38.000 mm 1.4961 in
WPD	172.3 mm 6.78 in
DD	155.8 mm 6.14 in

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius[3]	5.080 mm 0.2 in
da - Cone Frontface Backing Diameter	130 mm 5.12 in
db - Cone Backface Backing Diameter	141 mm 5.55 in
Ab - Cage-Cone Frontface Clearance	3.6 mm 0.14 in
Aa - Cage-Cone Backface Clearance	3 mm 0.12 in
a - Effective Center Location[4]	1.5 mm 0.06 in

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)[5]	89800 N 20200 lbf
C1 - Dynamic Radial Rating (1 million revolutions)[6]	347000 N 77900 lbf
C0 - Static Radial Rating	466000 N 105000 lbf

C_{a90} - Dynamic Thrust Rating (90 million revolutions)[7]	70500 N 15900 lbf

Factors

K - Factor[8]	1.27
G1 - Heat Generation Factor (Roller-Raceway)	255
G2 - Heat Generation Factor (Rib-Roller End)	58.3
Cg - Geometry Factor[9]	0.117

[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.

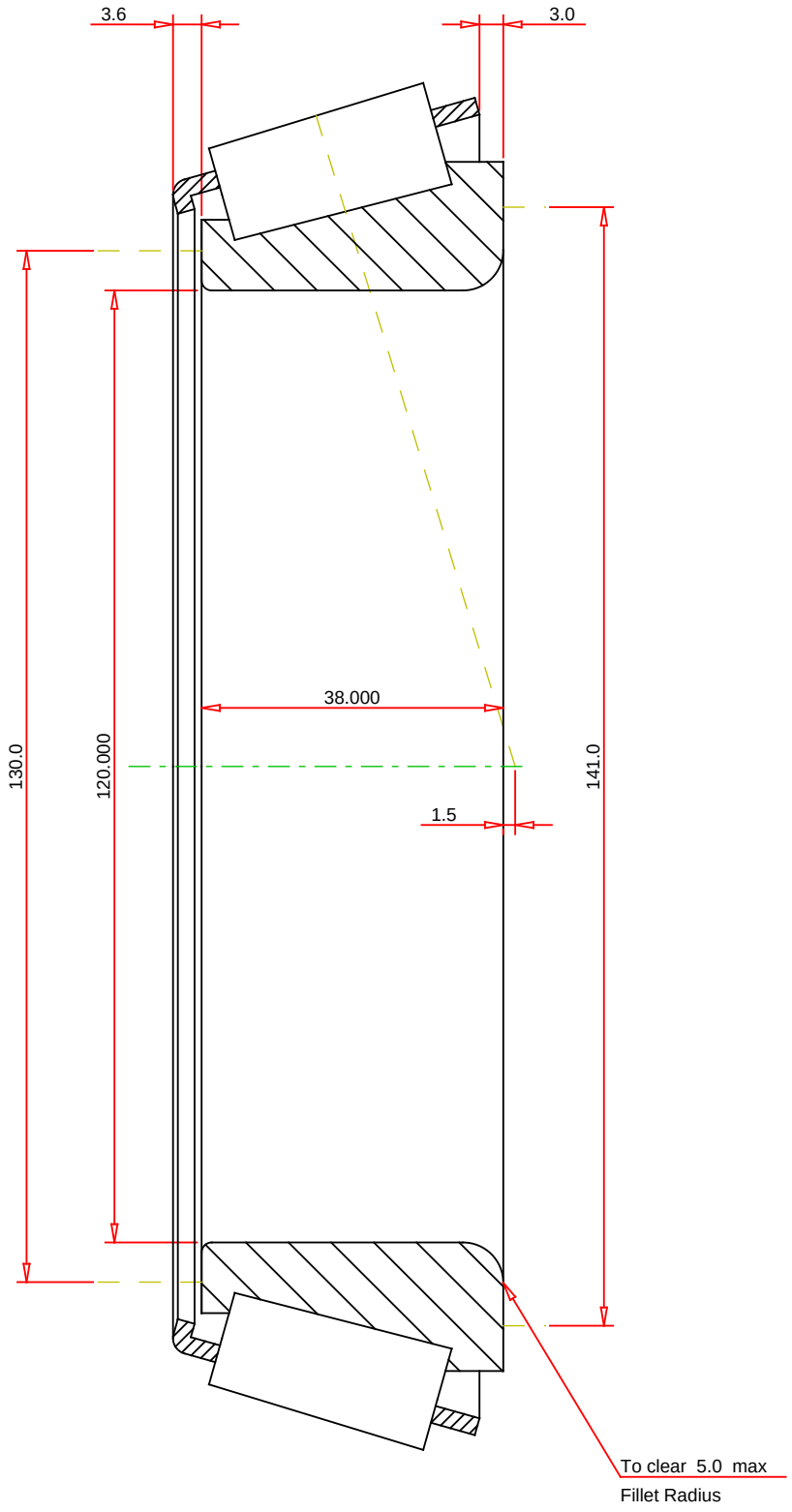
[5] Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.

[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	28

TIMKEN

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

XAA32024X
SINGLE TAPERED CONE

K Factor	1.27	
Dynamic Radial Rating - C90	89800	N
Dynamic Thrust Rating - Ca90	70500	N
Dynamic Radial Rating - C1	347000	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