



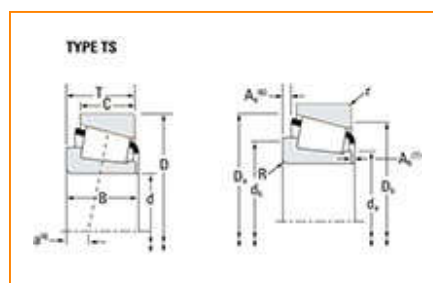
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Timken Part Number XAA32020X - Y32020X, Tapered Roller Bearings - TS (Tapered Single) Metric

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.



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Specifications

Series	32020X
Cone Part Number	XAA32020X
Cup Part Number	Y32020X
Design Units	METRIC
Bearing Weight	1.9 Kg 4.2 lb
Cage Type	Stamped Steel

Dimensions

d - Bore	100 mm 3.937 in
D - Cup Outer Diameter	150 mm 5.9055 in
B - Cone Width	32.000 mm 1.2598 in
C - Cup Width	24.000 mm 0.9449 in
T - Bearing Width	32.000 mm 1.2598 in

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius¹	6.600 mm 0.260 in
r - Cup Backface "To Clear" Radius²	1.52 mm 0.06 in
da - Cone Frontface Backing Diameter	107.95 mm 4.25 in
db - Cone Backface Backing Diameter	121.92 mm 4.8 in
Da - Cup Frontface Backing Diameter	146.05 mm 5.75 in
Db - Cup Backface Backing Diameter	136.91 mm 5.39 in
Ab - Cage-Cone Frontface Clearance	3 mm 0.12 in
Aa - Cage-Cone Backface Clearance	2.8 mm 0.11 in
a - Effective Center Location³	0.8 mm 0.03 in

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)⁴	59800 N 13400 lbf
C1 - Dynamic Radial Rating (1 million revolutions)⁵	231000 N 51800 lbf
C0 - Static Radial Rating	295000 N 66400 lbf
C_{a90} - Dynamic Thrust Rating (90 million revolutions)⁶	46900 N 10600 lbf

Factors

K - Factor⁷	1.27
e - ISO Factor⁸	0.46
Y - ISO Factor⁹	1.31
G1 - Heat Generation Factor (Roller-Raceway)	153.8
G2 - Heat Generation Factor (Rib-Roller End)	50.3
C_g - Geometry Factor¹⁰	0.144

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.

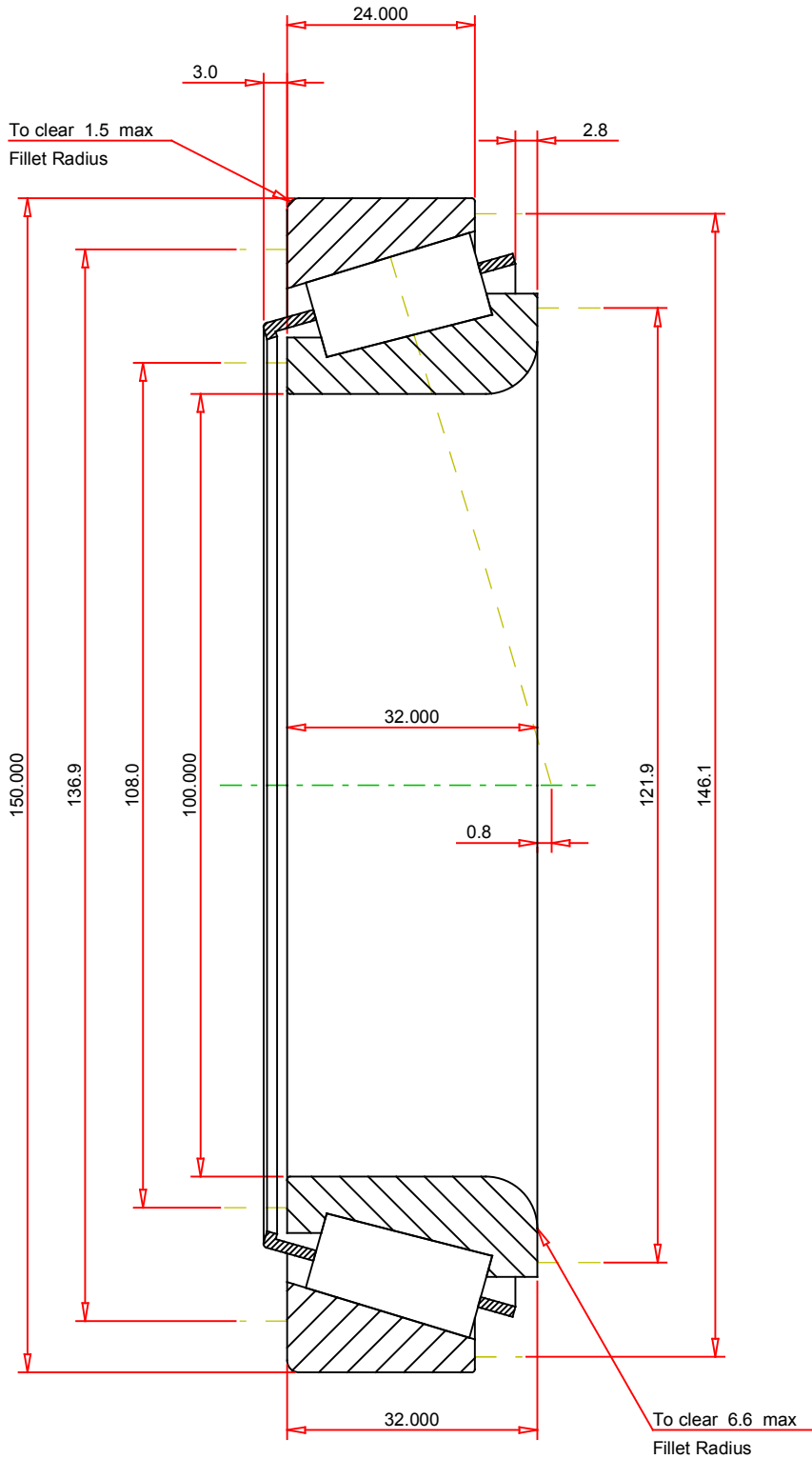
⁷ These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

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¹⁰ Geometry constant for Lubrication Life Adjustment Factor a_{3l} .



METRIC UNITS

ISO Factor - e	0.46
ISO Factor - Y	1.31
Bearing Weight	1.9 kg
Number of Rollers Per Row	27
Effective Center Location	0.8 mm

TIMKEN®

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

XAA32020X - Y32020X
TS BEARING ASSEMBLY

K Factor	1.27
Dynamic Radial Rating - C90	59800 N
Dynamic Thrust Rating - Ca90	46900 N
Static Radial Rating - C0	295000 N
Dynamic Radial Rating - C1	231000 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.

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