



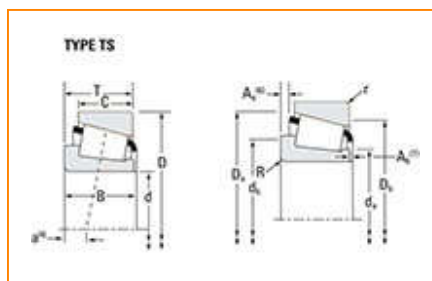
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Timken Part Number X32024X - Y32024X, Tapered Roller Bearings - TS (Tapered Single) Metric

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	32024X
Cone Part Number	X32024X
Cup Part Number	Y32024X
Design Units	METRIC
Bearing Weight	3.3 Kg 7.2 lb
Cage Type	Stamped Steel

Dimensions

d - Bore	120 mm 4.7244 in
D - Cup Outer Diameter	180 mm 7.0866 in
B - Cone Width	38.000 mm 1.4961 in
C - Cup Width	29.000 mm 1.1417 in
T - Bearing Width	38.000 mm 1.4961 in

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius¹	2.540 mm 0.1 in
r - Cup Backface "To Clear" Radius²	2.03 mm 0.08 in
da - Cone Frontface Backing Diameter	130.05 mm 5.12 in
db - Cone Backface Backing Diameter	134.11 mm 5.28 in
Da - Cup Frontface Backing Diameter	174.00 mm 6.86 in
Db - Cup Backface Backing Diameter	165.10 mm 6.50 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 Location³	1.5 mm 0.06 in

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)⁴	75800 N 17000 lbf
C1 - Dynamic Radial Rating (1 million revolutions)⁵	292000 N 65700 lbf
C0 - Static Radial Rating	466000 N 105000 lbf
C_{a90} - Dynamic Thrust Rating (90 million revolutions)⁶	59500 N 13400 lbf

Factors

K - Factor⁷	1.27
e - ISO Factor⁸	0.46
Y - ISO Factor⁹	1.31
G1 - Heat Generation Factor (Roller-Raceway)	255.1
G2 - Heat Generation Factor (Rib-Roller End)	58.3
C_g - Geometry Factor¹⁰	0.117

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.

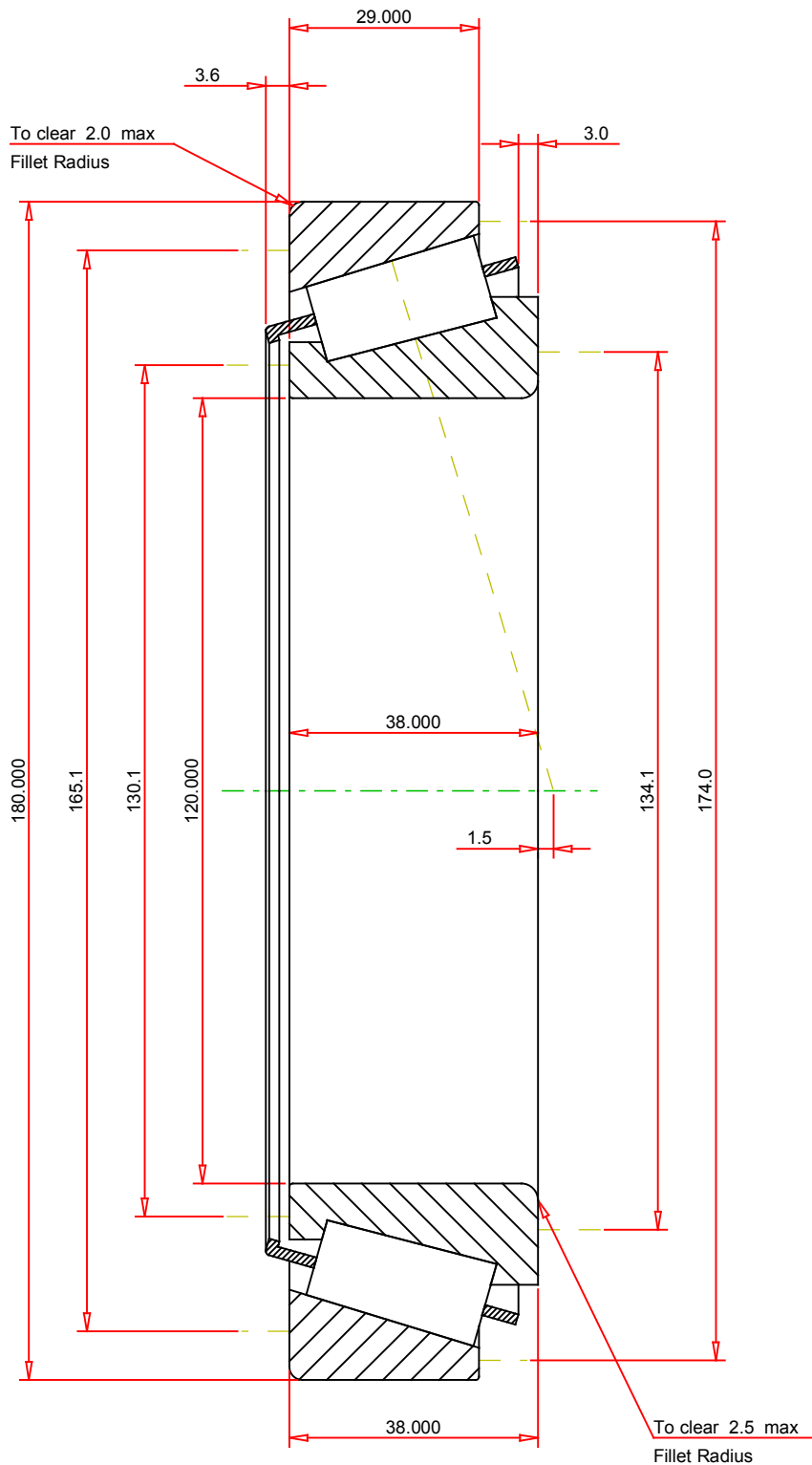
⁷ These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

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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	3.3 kg
Number of Rollers Per Row	28
Effective Center Location	1.5 mm

TIMKEN®

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

X32024X - Y32024X
TS BEARING ASSEMBLY

K Factor	1.27
Dynamic Radial Rating - C90	75800 N
Dynamic Thrust Rating - Ca90	59500 N
Static Radial Rating - C0	466000 N
Dynamic Radial Rating - C1	292000 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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