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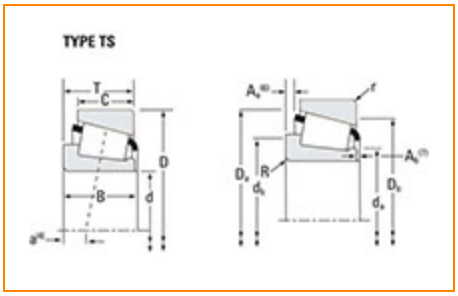
Timken Part Number X32220 - Y32220, Tapered Roller Bearings - TS (Tapered Single) Metric

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	32220
Cone Part Number	X32220
Cup Part Number	Y32220
Design Units	METRIC
Bearing Weight	4.9 Kg 10.8 lb
Cage Type	Stamped Steel

Dimensions

d - Bore	100 mm 3.937 in

D - Cup Outer Diameter	180 mm 7.0866 in
B - Cone Width	46.000 mm 1.8110 in
C - Cup Width	39 mm 1.5354 in
T - Bearing Width	49.000 mm 1.9291 in

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius[1]	3.050 mm 0.12 in
r - Cup Backface "To Clear" Radius[2]	2.54 mm 0.1 in
da - Cone Frontface Backing Diameter	112.01 mm 4.41 in
db - Cone Backface Backing Diameter	117.09 mm 4.61 in
Da - Cup Frontface Backing Diameter	170.90 mm 6.73 in
Db - Cup Backface Backing Diameter	163.07 mm 6.42 in
Ab - Cage-Cone Frontface Clearance	4.1 mm 0.16 in
Aa - Cage-Cone Backface Clearance	5.1 mm 0.2 in
a - Effective Center Location[3]	-7.1 mm -0.28 in

Basic Load Ratings

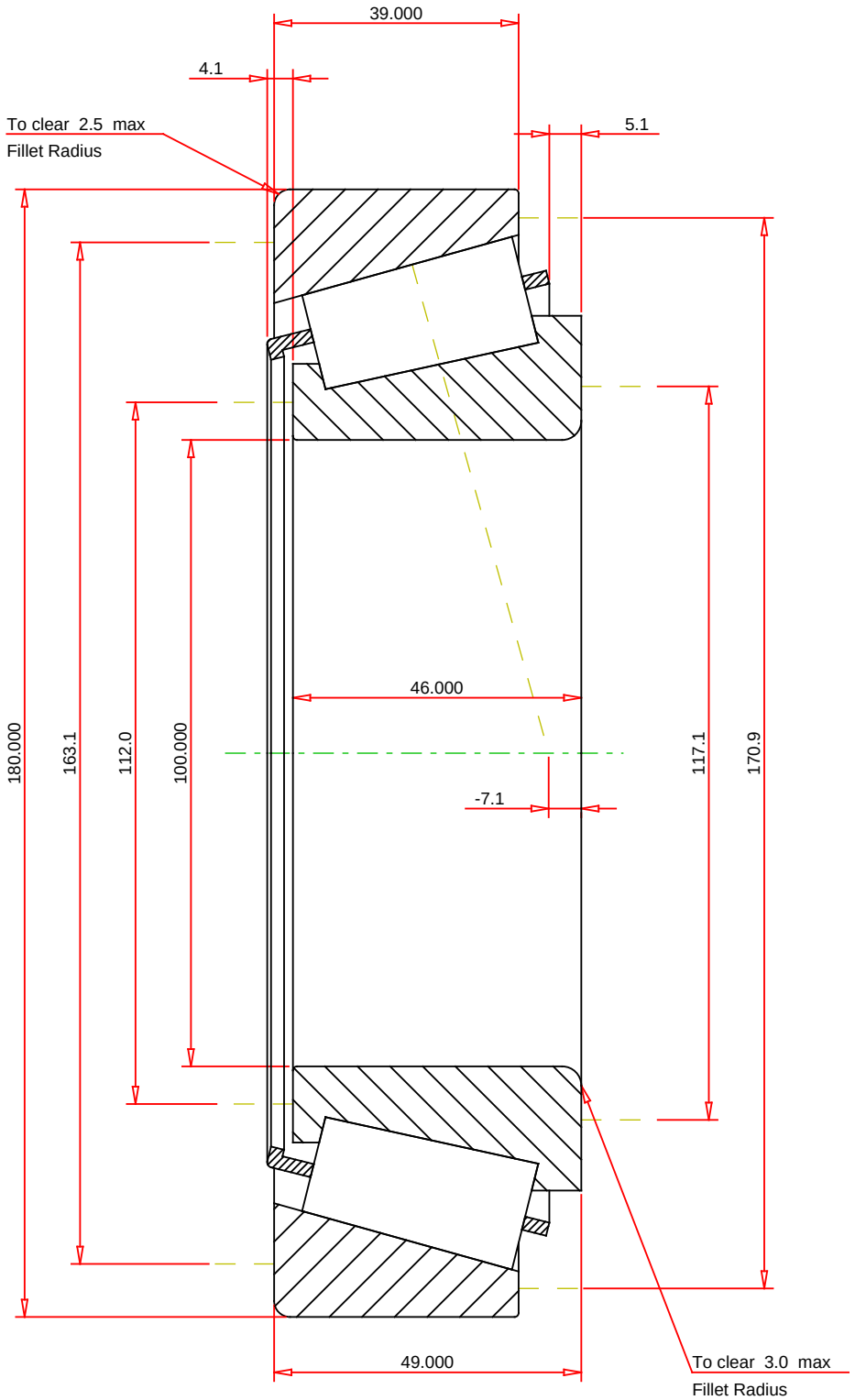
C90 - Dynamic Radial Rating (90 million revolutions)[4]	95300 N 21400 lbf
C1 - Dynamic Radial Rating (1 million revolutions)[5]	368000 N 82700 lbf
C0 - Static Radial Rating	478000 N 107000 lbf
C_{a90} - Dynamic Thrust Rating (90 million revolutions)[6]	68600 N 15400 lbf

Factors

K - Factor[7]	1.39
e - ISO Factor[8]	0.42
Y - ISO Factor[9]	1.43
G1 - Heat Generation Factor (Roller-Raceway)	198.1
G2 - Heat Generation Factor (Rib-Roller End)	39.4
Cg - Geometry Factor[10]	0.105

[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 x 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 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
[6] 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.
[7] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.
[8] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.
[9] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

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



METRIC UNITS

ISO Factor - e	0.42	
ISO Factor - Y	1.43	
Bearing Weight	4.9	kg
Number of Rollers Per Row	19	
Effective Center Location	-7.1	mm

TIMKEN®

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

X32220 - Y32220
TS BEARING ASSEMBLY

K Factor	1.39	
Dynamic Radial Rating - C90	95300	N
Dynamic Thrust Rating - Ca90	68600	N
Static Radial Rating - C0	478000	N
Dynamic Radial Rating - C1	368000	N

FOR DISCUSSION ONLY