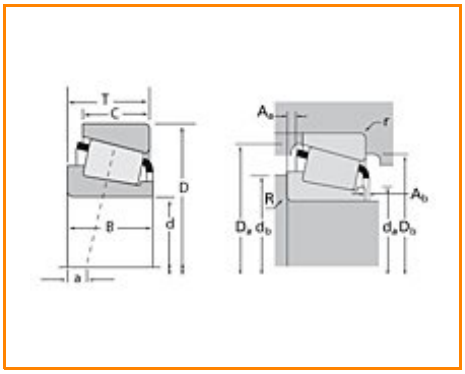
The Timken Company
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Timken Part Number XAB-33212 - Y33212, Tapered Roller Bearings - TS (Tapered Single) Metric

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.





Specifications | Dimensions | Abutment and Fillet Dimensions | Basic Load Ratings | Factors

Specifications

Series	33212
Cone Part Number	XAB-33212
Cup Part Number	Y33212
Design Units	METRIC
Bearing Weight	1.500 Kg 3.40 lb
Cage Type	Stamped Steel

Dimensions

d - Bore	60.000 mm 2.3622 in
D - Cup Outer Diameter	110.000 mm 4.3307 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" Radius[1]	5.080 mm 0.2 in
r - Cup Backface "To Clear" Radius[2]	1.52 mm 0.06 in
da - Cone Frontface Backing Diameter	68.07 mm 2.68 in
db - Cone Backface Backing Diameter	83.06 mm 3.27 in
Da - Cup Frontface Backing Diameter	105.40 mm 4.15 in
Db - Cup Backface Backing Diameter	98.04 mm 3.86 in
Ab - Cage-Cone Frontface Clearance	3.3 mm 0.13 in
Aa - Cage-Cone Backface Clearance	3.3 mm 0.13 in
a - Effective Center Location[3]	-9.9 mm -0.39 in

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)[4]	51200 N 11500 lbf
C1 - Dynamic Radial Rating (1 million revolutions)[5]	198000 N 44400 lbf
C0 - Static Radial Rating	253000 N 56800 lbf
C_{a90} - Dynamic Thrust Rating (90 million revolutions)[6]	35500 N 7970 lbf

Factors

K - Factor[7]	1.44
e - ISO Factor[8]	0.40
Y - ISO Factor[9]	1.48
G1 - Heat Generation Factor (Roller-Raceway)	76.2
G2 - Heat Generation Factor (Rib-Roller End)	18.1
Cg - Geometry Factor	0.0758

[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.

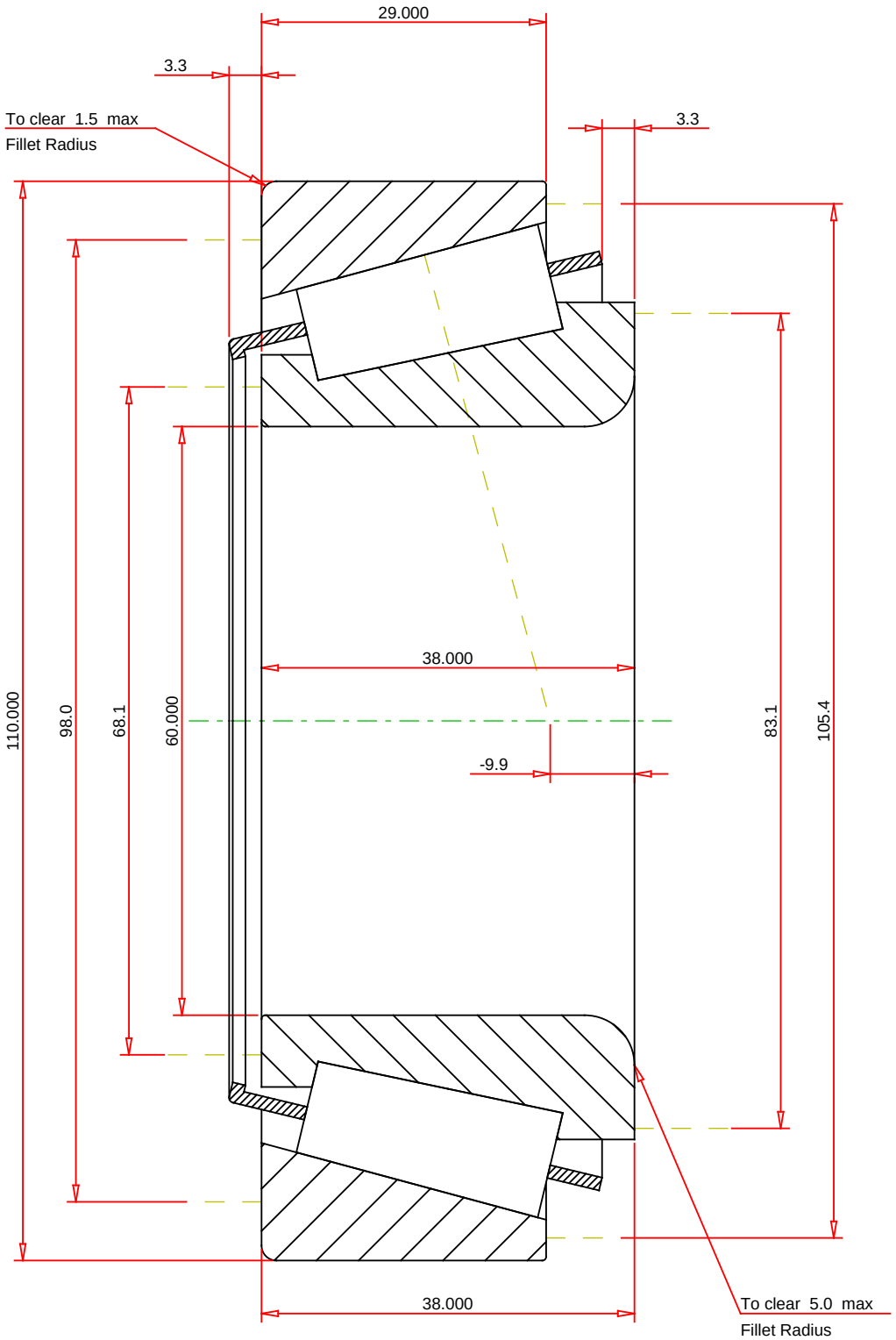
[6] Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

[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.



METRIC UNITS

ISO Factor - e	0.4	
ISO Factor - Y	1.48	
Bearing Weight	1.5	kg
Number of Rollers Per Row	18	
Effective Center Location	-9.9	mm

TIMKEN®

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

XAB-33212 - Y33212
TS BEARING ASSEMBLY

K Factor	1.44	
Dynamic Radial Rating - C90	51200	N
Dynamic Thrust Rating - Ca90	35500	N
Static Radial Rating - C0	253000	N
Dynamic Radial Rating - C1	198000	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