The Timken Company
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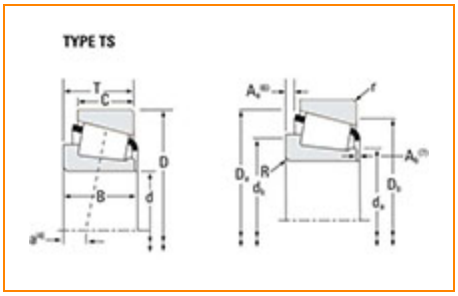
Part Number 32316, Tapered Roller Bearings - TS (Tapered Single) Metric

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	32316
Cone Part Number	X32316M
Cup Part Number	Y32316M
Design Units	METRIC
Bearing Weight	6.3 Kg 14 lb
Cage Type	Stamped Steel

Dimensions

d - Bore	80 mm 3.1496 in

D - Cup Outer Diameter	170 mm 6.6929 in
B - Cone Width	58.000 mm 2.2835 in
C - Cup Width	48 mm 1.8898 in
T - Bearing Width	61.500 mm 2.4213 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	100.08 mm 3.94 in
db - Cone Backface Backing Diameter	104.90 mm 4.13 in
Da - Cup Frontface Backing Diameter	160.00 mm 6.30 in
Db - Cup Backface Backing Diameter	151.89 mm 5.98 in
Ab - Cage-Cone Frontface Clearance	4.3 mm 0.17 in
Aa - Cage-Cone Backface Clearance	3.3 mm 0.13 in
a - Effective Center Location[3]	-19.1 mm -0.75 in

Basic Load Ratings

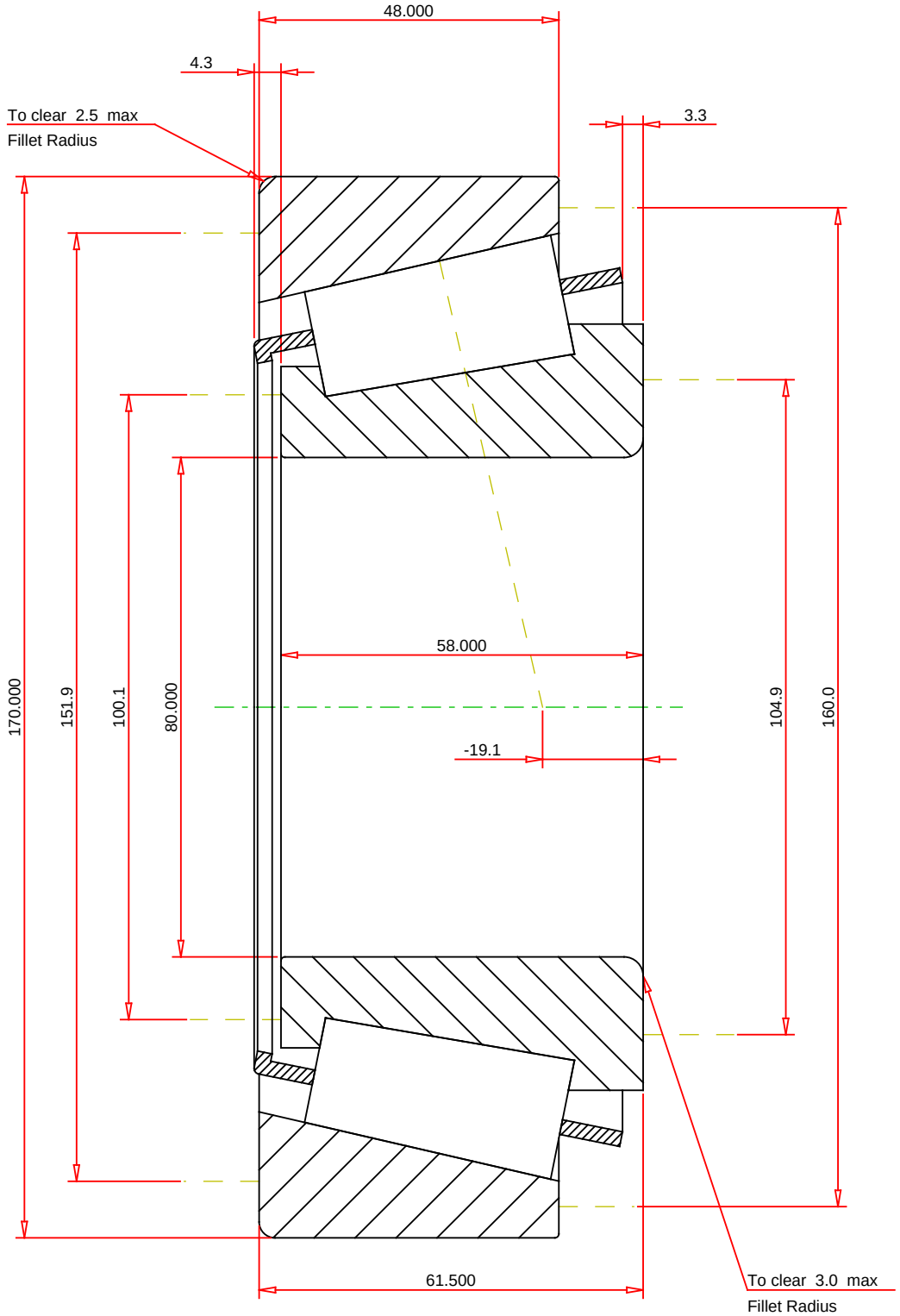
C90 - Dynamic Radial Rating (90 million revolutions)[4]	116000 N 26100 lbf
C1 - Dynamic Radial Rating (1 million revolutions)[5]	448000 N 101000 lbf
C0 - Static Radial Rating	566000 N 127000 lbf
C_{a90} - Dynamic Thrust Rating (90 million revolutions)[6]	68700 N 15400 lbf

Factors

K - Factor[7]	1.69
e - ISO Factor[8]	0.35
Y - ISO Factor[9]	1.74
G1 - Heat Generation Factor (Roller-Raceway)	196.5
G2 - Heat Generation Factor (Rib-Roller End)	27.7
Cg - Geometry Factor[10]	0.0923

[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	0.35	
ISO Factor - Y	1.74	
Bearing Weight	6.3	kg
Number of Rollers Per Row	16	
Effective Center Location	-19.1	mm

TIMKEN®

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

X32316M - Y32316M
TS BEARING ASSEMBLY

K Factor	1.69	
Dynamic Radial Rating - C90	116000	N
Dynamic Thrust Rating - Ca90	68700	N
Static Radial Rating - C0	566000	N
Dynamic Radial Rating - C1	448000	N

FOR DISCUSSION ONLY