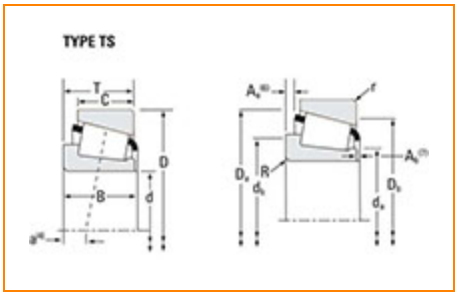
The Timken Company
4500 Mt Pleasant St. NW
N. Canton, OH 44720
Phone: (234) 262-3000
E-Mail: CustomerCAD@timken.com • **Web site:** www.timken.com

Part Number 30205, 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	30205M
Cone Part Number	X30205M
Cup Part Number	Y30205M
Design Unit	Metric
Bearing Weight	0.2 Kg 0.3 lb
Cage Material	Stamped Steel
Full Timken Part Number	30205

Dimensions

	25 mm

d - Bore	25 mm 0.9843 in
D - Cup Outer Diameter	52.0 mm 2.0472 in
B - Cone Width	15.000 mm 0.5906 in
C - Cup Width	13.000 mm 0.5118 in
T - Bearing Width	16.250 mm 0.6398 in

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius[1]	1.020 mm 0.04 in
r - Cup Backface "To Clear" Radius[2]	1.02 mm 0.04 in
da - Cone Frontface Backing Diameter	31 mm 1.22 in
db - Cone Backface Backing Diameter	32.5 mm 1.28 in
Da - Cup Frontface Backing Diameter	49.00 mm 1.93 in
Db - Cup Backface Backing Diameter	45.47 mm 1.79 in
Ab - Cage-Cone Frontface Clearance	2.3 mm 0.09 in
Aa - Cage-Cone Backface Clearance	0 mm 0 in
a - Effective Center Location[3]	-3.8 mm -0.15 in

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)[4]	9570 N 2150 lbf
C1 - Dynamic Radial Rating (1 million revolutions)[5]	36900 N 8300 lbf
C0 - Static Radial Rating	38300 N 8620 lbf
C_{a90} - Dynamic Thrust Rating (90 million revolutions)[6]	6150 N 1380 lbf

Factors

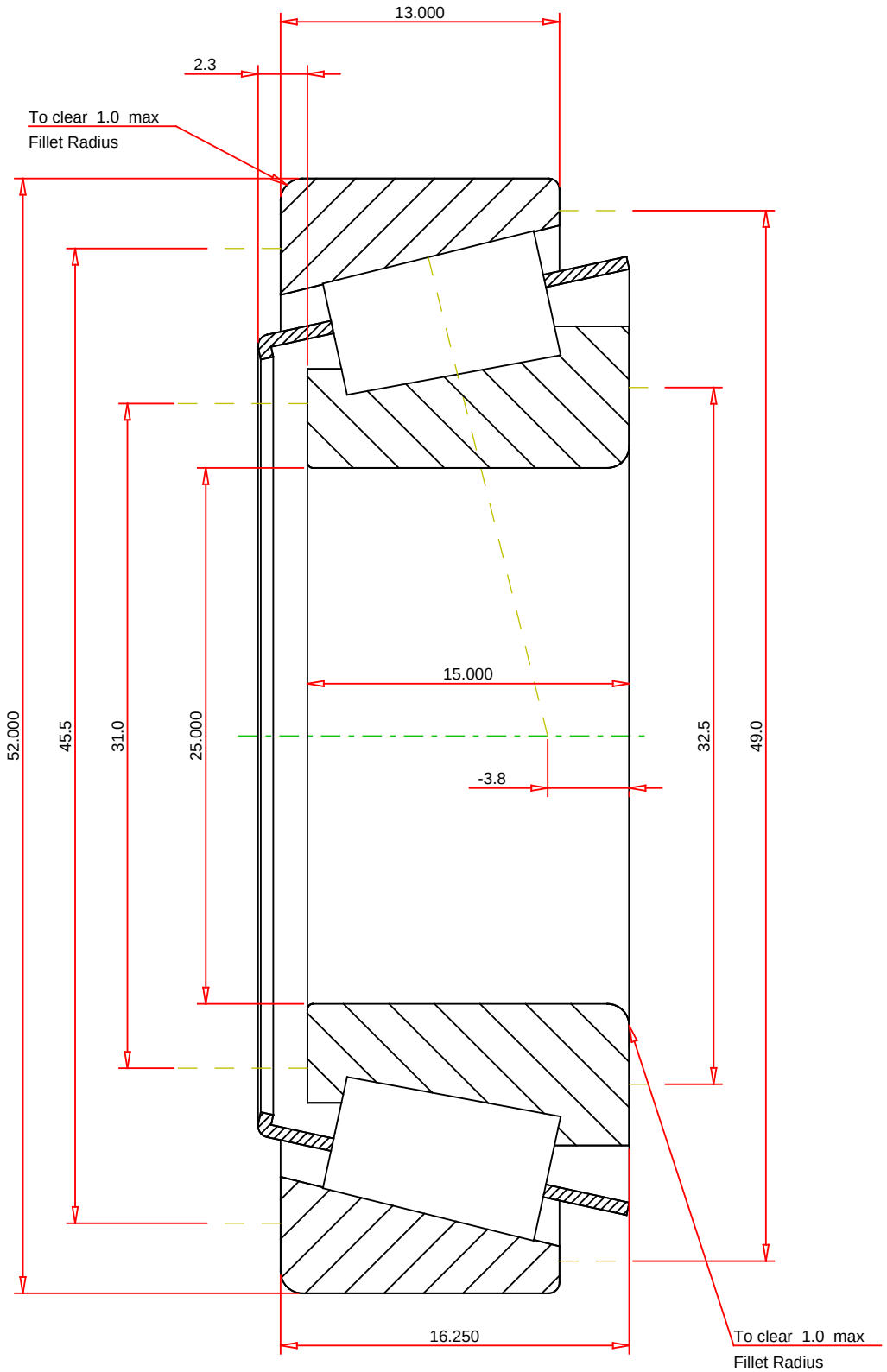
K - Factor[7]	1.56
e - ISO Factor[8]	0.37
Y - ISO Factor[9]	1.6
G1 - Heat Generation Factor (Roller-Raceway)	9
G2 - Heat Generation Factor (Rib-Roller End)	8
Cg - Geometry Factor[10]	0.0529

[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	0.37	
ISO Factor - Y	1.6	
Bearing Weight	0.2	kg
Number of Rollers Per Row	17	
Effective Center Location	-3.8	mm

TIMKEN®

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

X30205M - Y30205M

Tapered Roller Bearings - TS (Tapered Single)
Metric

K Factor	1.56	
Dynamic Radial Rating - C90	9570	N
Dynamic Thrust Rating - Ca90	6150	N
Static Radial Rating - C0	38300	N
Dynamic Radial Rating - C1	36900	N

FOR DISCUSSION ONLY