



The Timken Company

4500 Mt Pleasant St. NW

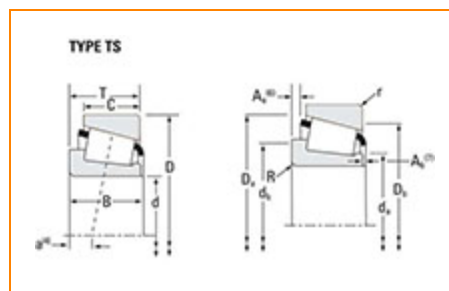
N. Canton, OH 44720

Phone: (234) 262-3000

E-Mail: CustomerCAD@timken.com • **Web site:** www.timken.com

Part Number 53178 - 53377, Tapered Roller Bearings - TS (Tapered Single) Imperial

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	53000
Cone Part Number	53178
Cup Part Number	53377
Design Units	Imperial
Bearing Weight	0.9 Kg 2 lb
Cage Type	Stamped Steel

Dimensions

d - Bore	44.450 mm 1.7500 in
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D - Cup Outer Diameter	95.250 mm 3.7500 in
B - Cone Width	28.301 mm 1.1142 in
C - Cup Width	20.638 mm 0.8125 in
T - Bearing Width	30.955 mm 1.2187 in

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius¹	2.030 mm 0.080 in
r - Cup Backface "To Clear" Radius²	2.29 mm 0.090 in
da - Cone Frontface Backing Diameter	52.58 mm 2.07 in
db - Cone Backface Backing Diameter	59.94 mm 2.36 in
Da - Cup Frontface Backing Diameter	89.90 mm 3.54 in
Db - Cup Backface Backing Diameter	80.01 mm 3.15 in
Ab - Cage-Cone Frontface Clearance	3 mm 0.12 in
Aa - Cage-Cone Backface Clearance	4.8 mm 0.19 in
a - Effective Center Location³	-0.3 mm -0.01 in

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)⁴	6920 lbf 30800 N
C1 - Dynamic Radial Rating (1 million revolutions)⁵	26700 lbf 119000 N
C0 - Static Radial Rating	23400 lbf 104000 N
C_{a90} - Dynamic Thrust Rating (90 million revolutions)⁶	8760 lbf 39000 N

Factors

K - Factor⁷	0.79
e - ISO Factor⁸	0.74
Y - ISO Factor⁹	0.81
G1 - Heat Generation Factor (Roller-Raceway)	26.7
G2 - Heat Generation Factor (Rib-Roller End)	9.6
Cg - Geometry Factor¹⁰	0.093

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.

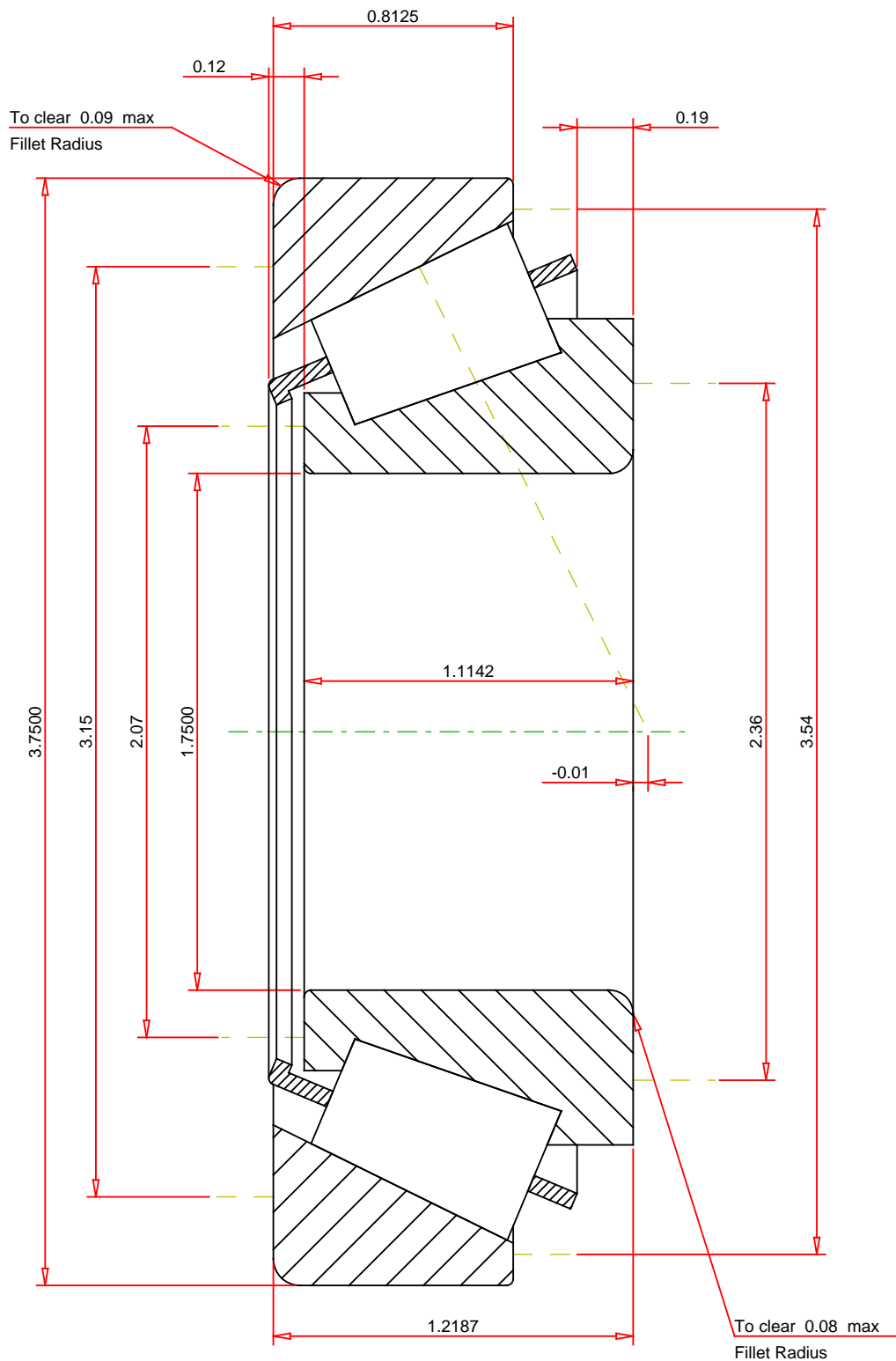
⁶ Based on 90×10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

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

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 a_3 .



IMPERIAL UNITS

ISO Factor - e 0.74
ISO Factor - Y 0.81
Bearing Weight 2 lbf
Number of Rollers Per Row 14
Effective Center Location -0.01 inch

TIMKEN®

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

53178 - 53377
TS BEARING ASSEMBLY

K Factor	0.79
Dynamic Radial Rating - C90	6920 lbf
Dynamic Thrust Rating - Ca90	8760 lbf
Static Radial Rating - C0	23400 lbf
Dynamic Radial Rating - C1	26700 lbf

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