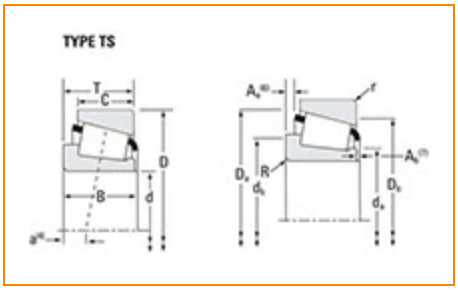
The Timken Company
4500 Mt Pleasant St. NW
N. Canton, OH 44720
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E-Mail: CustomerCAD@timken.com • **Web site:** www.timken.com

Part Number 64450 - 64700, 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.





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

Specifications

Series	64000
Cone Part Number	64450
Cup Part Number	64700
Design Unit	Inch
Cage Material	Stamped Steel
Related Assembly Number(s)	64450-90021 64450-9X021

Dimensions

- Bore	4.5000 in 114.300 mm

D - Cup Outer Diameter	7.0000 in 177.800 mm
B - Cone Width	1.625 in 41.275 mm
C - Cup Width	1.1875 in 30.163 mm
T - Bearing Width	1.6250 in 41.275 mm

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius[1]	0.14 in 3.600 mm
r - Cup Backface "To Clear" Radius[2]	0.130 in 3.30 mm
da - Cone Frontface Backing Diameter	4.92 in 125 mm
db - Cone Backface Backing Diameter	5.16 in 131 mm
Da - Cup Frontface Backing Diameter	6.81 in 172 mm
Db - Cup Backface Backing Diameter	6.3 in 160.02 mm
Ab - Cage-Cone Frontface Clearance	0.11 in 2.8 mm
Aa - Cage-Cone Backface Clearance	0.2 in 5.1 mm
a - Effective Center Location[3]	0.05 in 1.3 mm

Basic Load Ratings

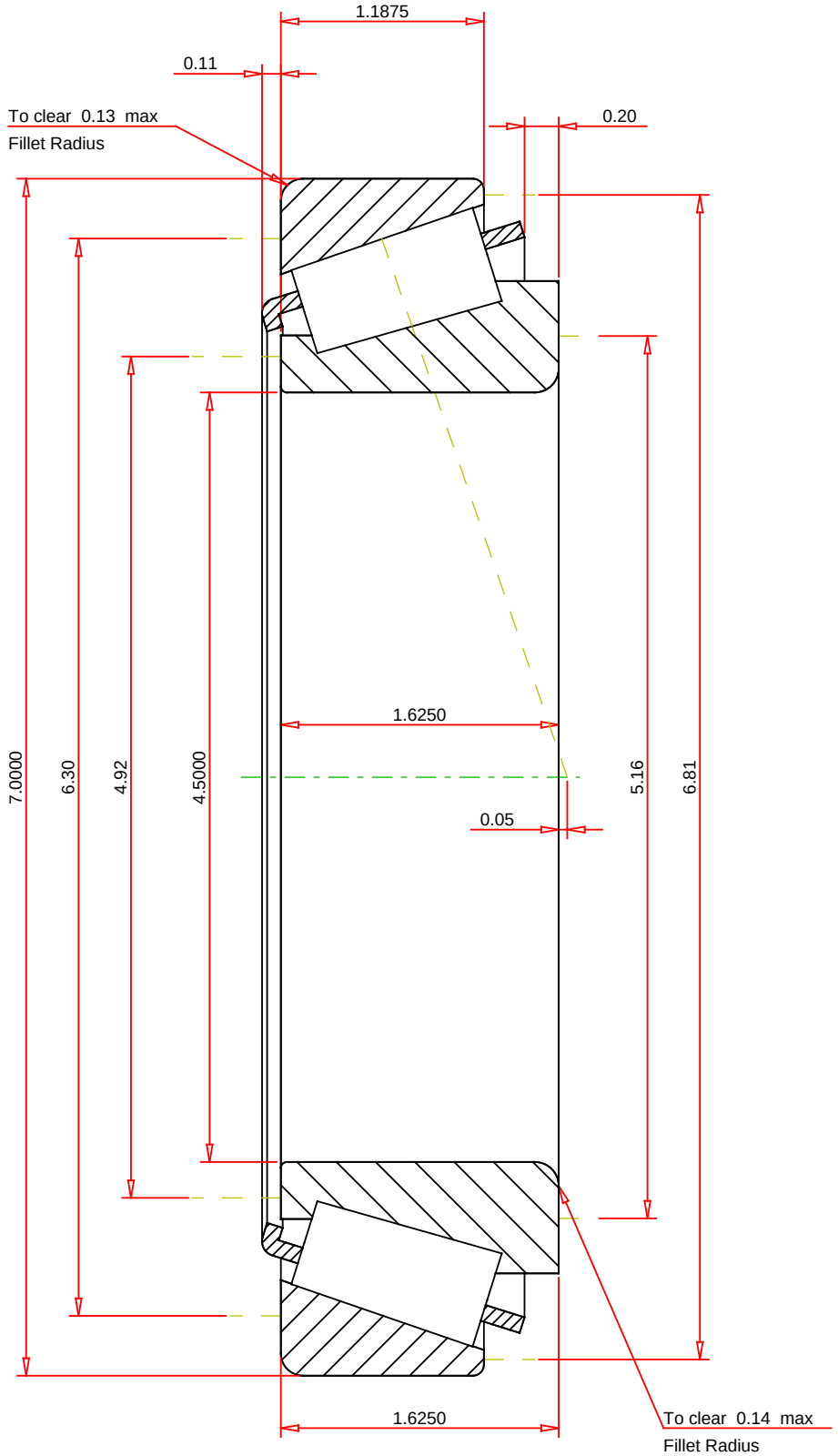
C90 - Dynamic Radial Rating (90 million revolutions)[4]	16000 lbf 71200 N
C1 - Dynamic Radial Rating (1 million revolutions)[5]	61800 lbf 275000 N
C0 - Static Radial Rating	94200 lbf 419000 N
C_{a90} - Dynamic Thrust Rating (90 million revolutions)[6]	14100 lbf 62900 N

Factors

K - Factor[7]	1.13
e - ISO Factor[8]	0.52
Y - ISO Factor[9]	1.16
G1 - Heat Generation Factor (Roller-Raceway)	219
G2 - Heat Generation Factor (Rib-Roller End)	45.3
Cg - Geometry Factor[10]	0.115

[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 a3l.



IMPERIAL UNITS

ISO Factor - e	0.52	
ISO Factor - Y	1.16	
Bearing Weight	7.6	lb
Number of Rollers Per Row	25	
Effective Center Location	0.05	inch

TIMKEN

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

64450 - 64700

Tapered Roller Bearings - TS (Tapered Single)
Imperial

K Factor	1.13	
Dynamic Radial Rating - C90	16000	lbf
Dynamic Thrust Rating - Ca90	14100	lbf
Static Radial Rating - C0	94200	lbf
Dynamic Radial Rating - C1	61800	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