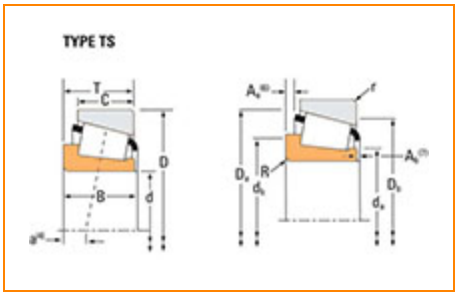
The Timken Company
4500 Mt Pleasant St. NW
N. Canton, OH 44720
Phone: (234) 262-3000
E-Mail: CustomerCAD@timken.com • **Web site:** www.timken.com

Part Number 71450, Tapered Roller Bearings - Single Cones - 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	71000
Cone Part Number	71450
Design Units	Imperial
Cage Type	Stamped Steel
C1 - Dynamic Radial Rating (Two-Row, 1 million revolutions)[1]	142000 lbf 633000 N
C90(2) - Dynamic Radial Rating (Two-Row, 90 million revolutions)[2]	36900 lbf 164000 N

Dimensions

d - Bore	4.5000 in 114.300 mm
B - Cone Width	1.9375 in 49.213 mm

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius[3]	0.14 in 3.600 mm
da - Cone Frontface Backing Diameter	4.92 in 125 mm
db - Cone Backface Backing Diameter	5.2 in 132 mm
Ab - Cage-Cone Frontface Clearance	0.1 in 2.5 mm
Aa - Cage-Cone Backface Clearance	0.18 in 4.6 mm
a - Effective Center Location[4]	-0.26 in -6.6 mm

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)[5]	21200 lbf 94300 N
C1 - Dynamic Radial Rating (1 million revolutions)[6]	81700 lbf 364000 N
C0 - Static Radial Rating	122000 lbf 543000 N
C_{a90} - Dynamic Thrust Rating (90 million revolutions)[7]	15100 lbf 67100 N

Factors

K - Factor[8]	1.4
G1 - Heat Generation Factor (Roller-Raceway)	269.2
G2 - Heat Generation Factor (Rib-Roller End)	49.5
Cg - Geometry Factor[9]	0.116

[1] Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.

[2] 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.

[3] These maximum fillet radii will be cleared by the bearing corners.

[4] Negative value indicates effective center inside cone backface.

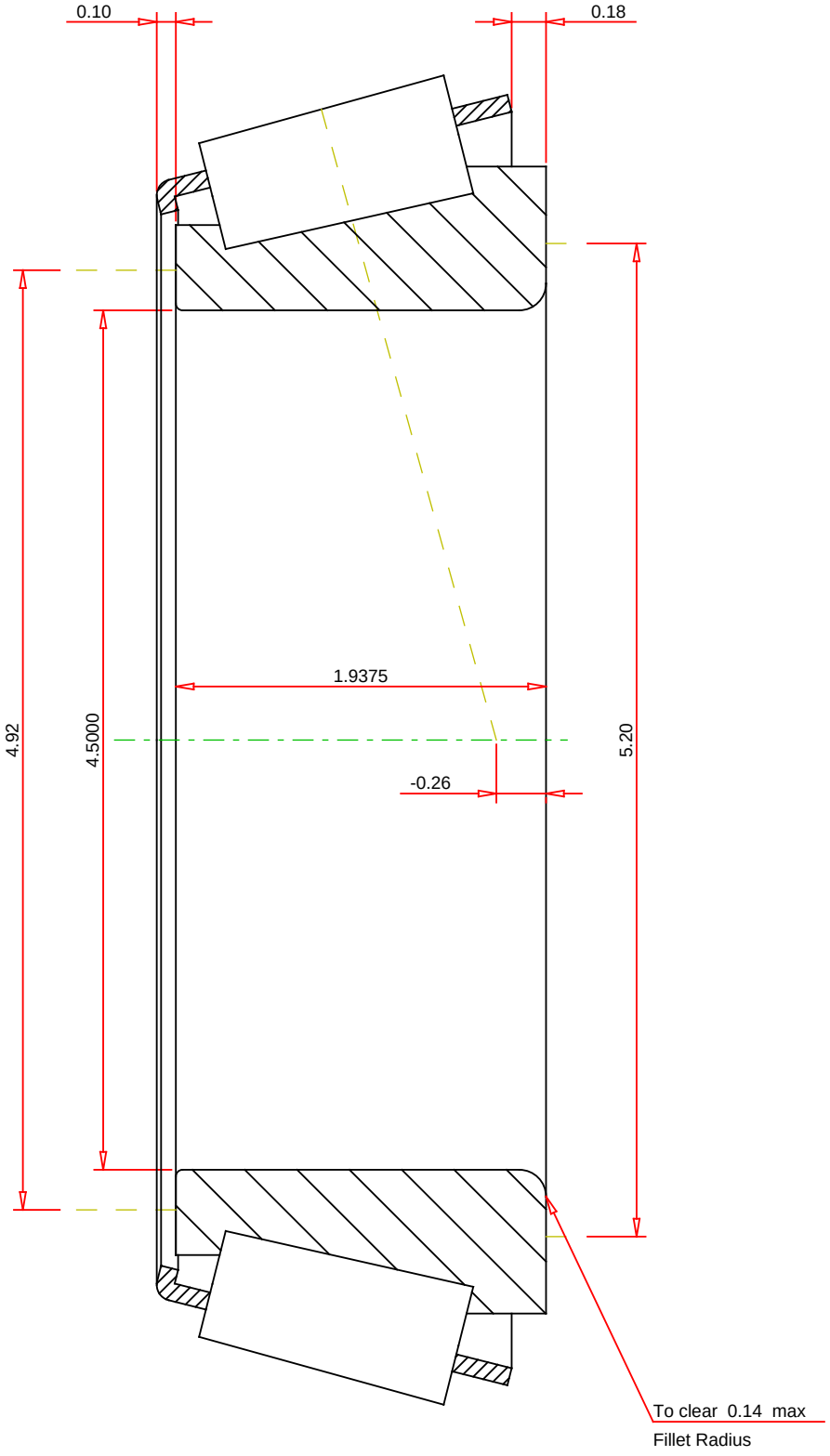
[5] Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.

[6] Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.

[7] 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.

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

[9] Geometry constant for Lubrication Life Adjustment Factor a3l.



IMPERIAL UNITS

Number of Rollers Per Row	23

TIMKEN

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

71450
SINGLE TAPERED CONE

K Factor	1.4	
Dynamic Radial Rating - C90	21200	lbf
Dynamic Thrust Rating - Ca90	15100	lbf
Dynamic Radial Rating - C1	81700	lbf

FOR DISCUSSION ONLY