

TIMKEN

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

Timken Part Number 48290 - 48220, 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	48200
Cone Part Number	48290
Cup Part Number	48220
Design Units	Imperial
Bearing Weight	3.300 Kg 7.20 lb
Cage Type	Stamped Steel

Dimensions

d - Bore	127 mm 5 in
D - Cup Outer Diameter	182.563 mm 7.1875 in

B - Cone Width	38.100 mm 1.5000 in
C - Cup Width	33.338 mm 1.3125 in
T - Bearing Width	39.688 mm 1.5625 in

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius¹	3.560 mm 0.14 in
r - Cup Backface "To Clear" Radius²	3.30 mm 0.130 in
da - Cone Frontface Backing Diameter	134.87 mm 6.26 in
db - Cone Backface Backing Diameter	140.97 mm 5.55 in
Da - Cup Frontface Backing Diameter	176.53 mm 6.95 in
Db - Cup Backface Backing Diameter	167.89 mm 6.61 in
Ab - Cage-Cone Frontface Clearance	3.8 mm 0.15 in
Aa - Cage-Cone Backface Clearance	1.5 mm 0.06 in
a - Effective Center Location³	-5.60 mm -0.22 in

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)⁴	69400 N 15600 lbf
C1 - Dynamic Radial Rating (1 million revolutions)⁵	268000 N 60200 lbf
C0 - Static Radial Rating	493000 N 111000 lbf
C_{a90} - Dynamic Thrust Rating (90 million revolutions)⁶	36300 N 8160 lbf

Factors

K - Factor⁷	1.91
e - ISO Factor⁸	0.31
Y - ISO Factor⁹	1.97
G1 - Heat Generation Factor (Roller-Raceway)	353
G2 - Heat Generation Factor (Rib-Roller End)	91.3
Cg - Geometry Factor	0.114

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.

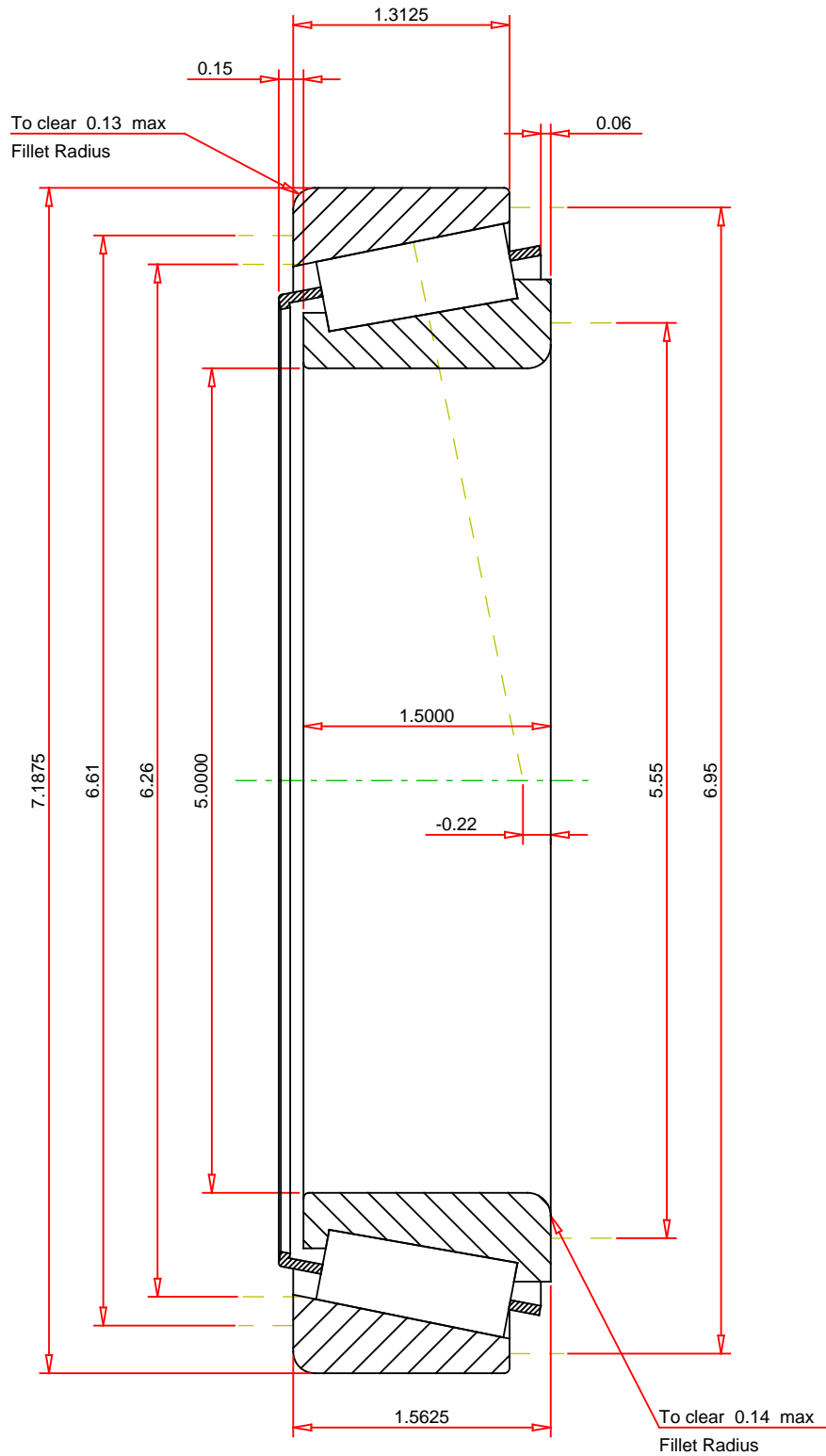
⁵ Based on 1×10^6 revolutions L_{10} life, for the ISO life calculation method.

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.



IMPERIAL UNITS

ISO Factor - e	0.31
ISO Factor - Y	1.97
Bearing Weight	7.2 lb
Number of Rollers Per Row	33
Effective Center Location	-0.22 inch

TIMKEN®

48290 - 48220
TS BEARING ASSEMBLY

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

K Factor	1.91
Dynamic Radial Rating - C90	69400 lbf
Dynamic Thrust Rating - Ca90	36300 lbf
Static Radial Rating - C0	493000 lbf
Dynamic Radial Rating - C1	268000 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