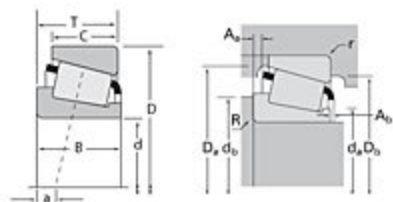


TIMKEN

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Timken Part Number 23690 - 23620, 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	23600
Cone Part Number	23690
Cup Part Number	23620
Design Units	Imperial
Bearing Weight	0.500 Kg 1.10 lb
Cage Type	Stamped Steel

Dimensions

d - Bore	34.925 mm 1.3750 in
D - Cup Outer Diameter	73.025 mm 2.8750 in

B - Cone Width	26.975 mm 1.0620 in
C - Cup Width	22.225 mm 0.8750 in
T - Bearing Width	26.988 mm 1.0625 in

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius¹	3.560 mm 0.14 in
r - Cup Backface "To Clear" Radius²	1.52 mm 0.06 in
da - Cone Frontface Backing Diameter	41.91 mm 1.65 in
db - Cone Backface Backing Diameter	49.02 mm 1.93 in
Da - Cup Frontface Backing Diameter	68.10 mm 2.72 in
Db - Cup Backface Backing Diameter	62.99 mm 2.48 in
Ab - Cage-Cone Frontface Clearance	1.5 mm 0.06 in
Aa - Cage-Cone Backface Clearance	1.3 mm 0.05 in
a - Effective Center Location³	-8.10 mm -0.32 in

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)⁴	23200 N 5210 lbf
C1 - Dynamic Radial Rating (1 million revolutions)⁵	89400 N 20100 lbf
C0 - Static Radial Rating	102000 N 22900 lbf
C_{a90} - Dynamic Thrust Rating (90 million revolutions)⁶	14700 N 3300 lbf

Factors

K - Factor⁷	1.58
e - ISO Factor⁸	0.37
Y - ISO Factor⁹	1.62
G1 - Heat Generation Factor (Roller-Raceway)	24.4
G2 - Heat Generation Factor (Rib-Roller End)	10.7
Cg - Geometry Factor	0.0734

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.

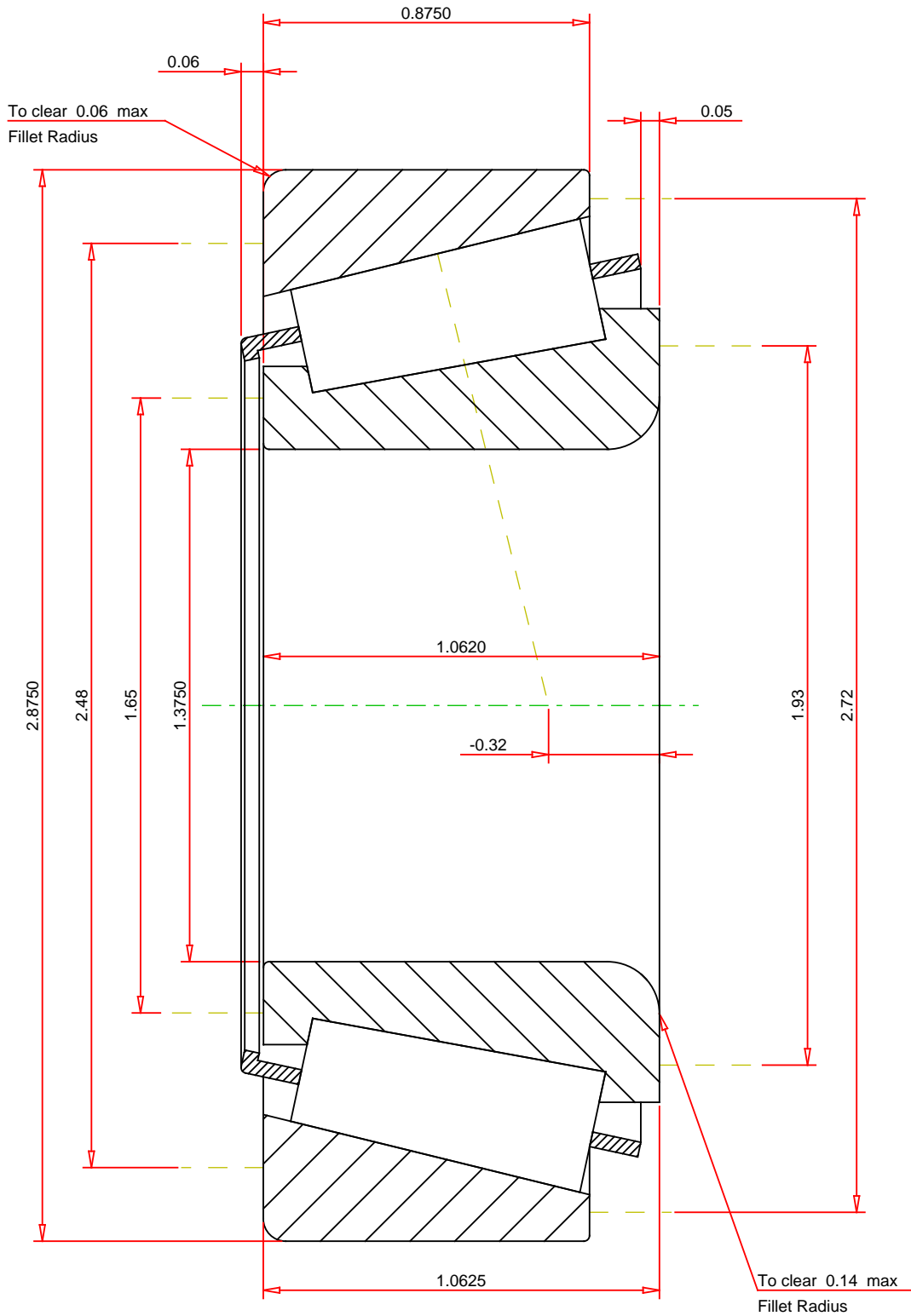
⁵ Based on 1×10^6 revolutions L_{10} life, for the ISO life calculation method.

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	0.37
ISO Factor - Y	1.62
Bearing Weight	1.1 lb
Number of Rollers Per Row	16
Effective Center Location	-0.32 inch

TIMKEN®

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

23690 - 23620
TS BEARING ASSEMBLY

K Factor	1.58
Dynamic Radial Rating - C90	23200 lbf
Dynamic Thrust Rating - Ca90	14700 lbf
Static Radial Rating - C0	102000 lbf
Dynamic Radial Rating - C1	89400 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