The Timken Company
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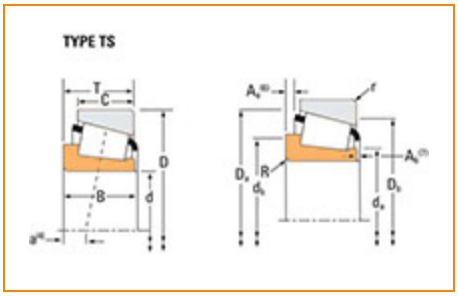
Part Number 45291, Tapered Roller Bearings - Single Cones - Imperial

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	45200
Cone Part Number	45291
Design Units	Imperial
Cage Type	Stamped Steel
C1 - Dynamic Radial Rating (Two-Row, 1 million revolutions)[1]	60000 lbf 267000 N
C90(2) - Dynamic Radial Rating (Two-Row, 90 million revolutions)[2]	15600 lbf 69200 N

Dimensions

d - Bore	2.2500 in 57.150 mm
B - Cone Width	1.2188 in 30.958 mm

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius[3]	0.25 in 6.400 mm
da - Cone Frontface Backing Diameter	2.6 in 66 mm
db - Cone Backface Backing Diameter	3.07 in 78 mm
Ab - Cage-Cone Frontface Clearance	0.1 in 2.5 mm
Aa - Cage-Cone Backface Clearance	0.07 in 1.8 mm
a - Effective Center Location[4]	-0.32 in -8.1 mm

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)[5]	8930 lbf 39700 N
C1 - Dynamic Radial Rating (1 million revolutions)[6]	34500 lbf 153000 N
C0 - Static Radial Rating	42600 lbf 189000 N
C_{a90} - Dynamic Thrust Rating (90 million revolutions)[7]	5090 lbf 22600 N

Factors

K - Factor[8]	1.76
G1 - Heat Generation Factor (Roller-Raceway)	63.5
G2 - Heat Generation Factor (Rib-Roller End)	16.9
Cg - Geometry Factor[9]	0.0971

[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.

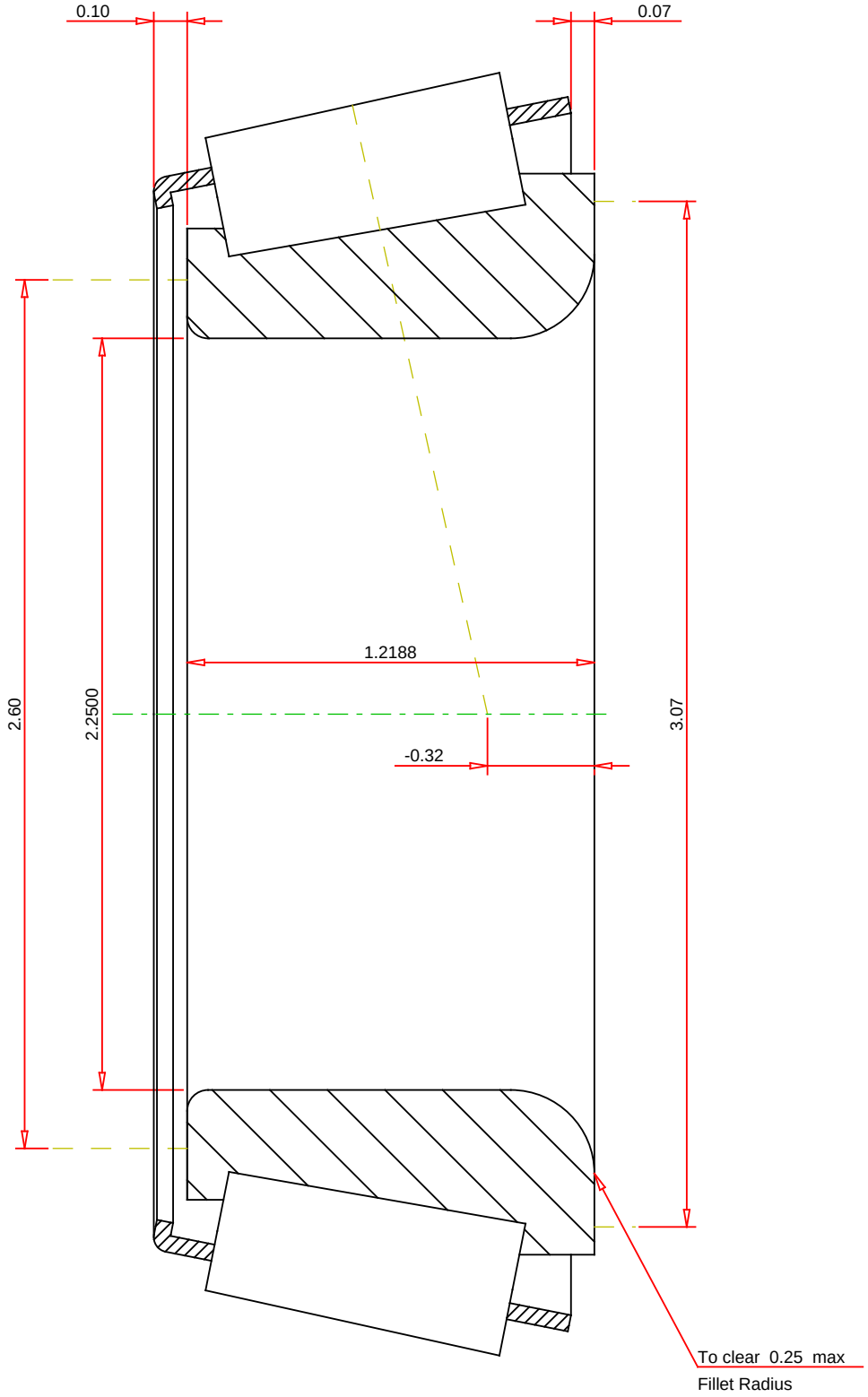
[5] Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.

[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	18

TIMKEN

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

45291
SINGLE TAPERED CONE

K Factor	1.76	
Dynamic Radial Rating - C90	8930	lbf
Dynamic Thrust Rating - Ca90	5090	lbf
Dynamic Radial Rating - C1	34500	lbf

FOR DISCUSSION ONLY