


The Timken Company

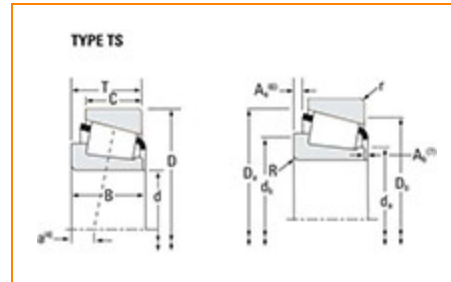
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Part Number 45287 - 45220, Tapered Roller Bearings - TS (Tapered Single) Imperial

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.




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Specifications

Series	45200
Cone Part Number	45287
Cup Part Number	45220
Design Unit	Inch
Cage Material	Stamped Steel

Dimensions

d - Bore	2.1250 in 53.975 mm
 - Cup Outer Diameter	4.1250 in 104.775 mm

B - Cone Width	1.2188 in 30.958 mm
C - Cup Width	0.9375 in 23.813 mm
T - Bearing Width	1.1875 in 30.163 mm

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius¹	0.030 in 0.80 mm
r - Cup Backface "To Clear" Radius²	0.130 in 3.30 mm
da - Cone Frontface Backing Diameter	2.52 in 64 mm
db - Cone Backface Backing Diameter	2.56 in 65 mm
Da - Cup Frontface Backing Diameter	3.94 in 99.10 mm
Db - Cup Backface Backing Diameter	3.66 in 92.96 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 Location³	-0.32 in -8.1 mm

Basic Load Ratings

C90 - Dynamic Radial Rating (90	8930 lbf
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million revolutions)⁴	39700 N
C1 - Dynamic Radial Rating (1 million revolutions)⁵	34500 lbf 153000 N
C0 - Static Radial Rating	42600 lbf 189000 N
C_{a90} - Dynamic Thrust Rating (90 million revolutions)⁶	5090 lbf 22600 N

Factors

K - Factor⁷	1.76
e - ISO Factor⁸	0.33
Y - ISO Factor⁹	1.8
C_g - Geometry Factor¹⁰	0.0971

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.

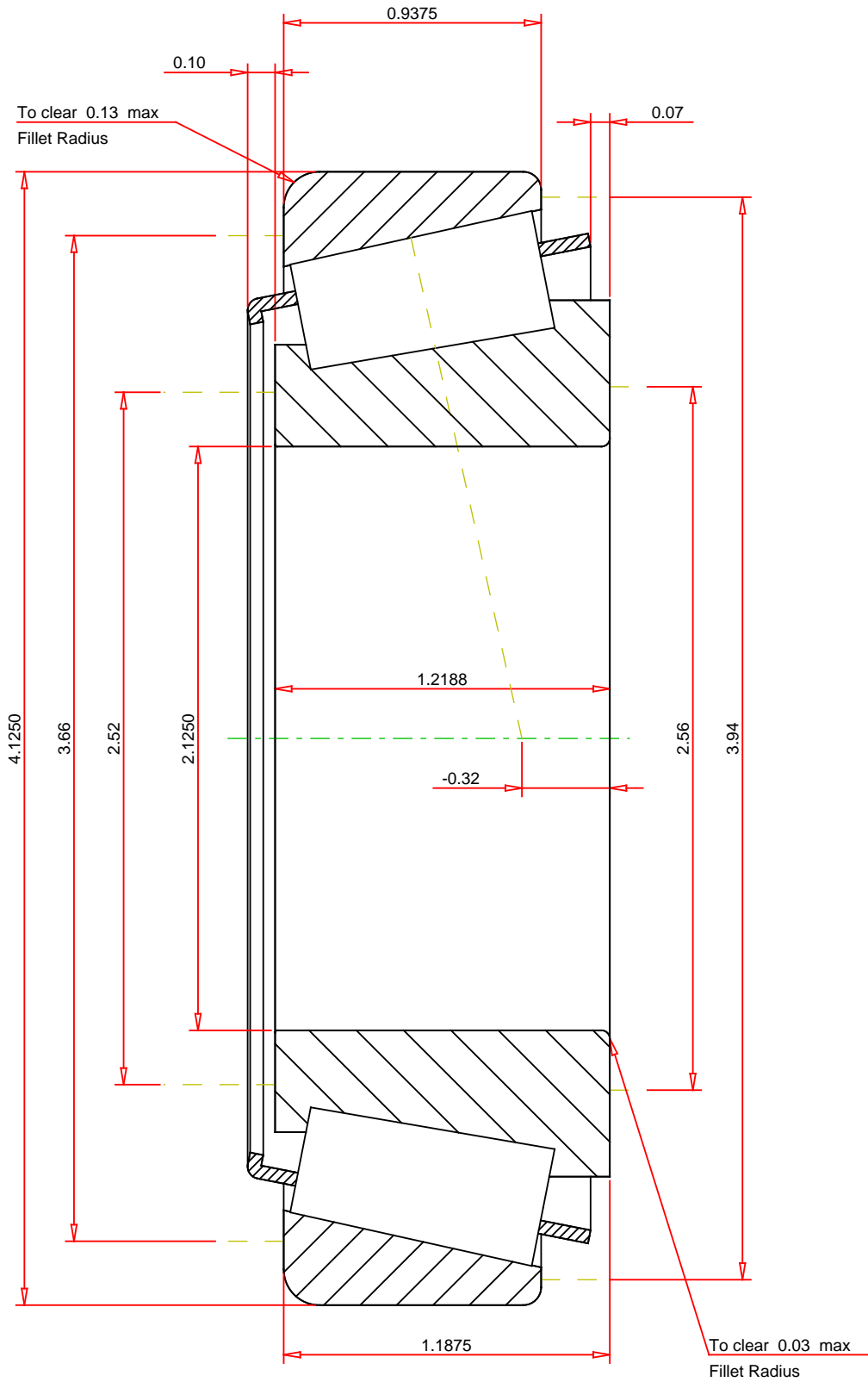
⁶ Based on 90×10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

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	0.33
ISO Factor - Y	1.8
Bearing Weight	2.5 lb
Number of Rollers Per Row	18
Effective Center Location	-0.32 inch

TIMKEN®

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

45287 - 45220
Tapered Roller Bearings - TS (Tapered Single)
Imperial

K Factor	1.76
Dynamic Radial Rating - C90	8930 lbf
Dynamic Thrust Rating - Ca90	5090 lbf
Static Radial Rating - C0	42600 lbf
Dynamic Radial Rating - C1	34500 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