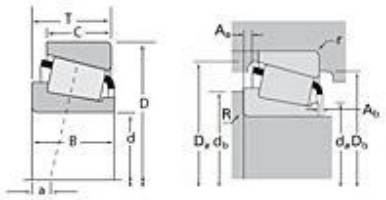
TIMKEN

The Timken Company
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Timken Part Number 25577 - 25523, 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	25500
Cone Part Number	25577
Cup Part Number	25523
Design Units	Imperial
Bearing Weight	1.40 lb 0.600 Kg
Cage Type	Stamped Steel

Dimensions

d - Bore	1.6880 in 42.875 mm
D - Cup Outer Diameter	3.2650 in 82.931 mm

B - Cone Width	1.0000 in 25.400 mm
C - Cup Width	0.8750 in 22.225 mm
T - Bearing Width	1.0625 in 26.988 mm

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius[1]	0.14 in 3.560 mm
r - Cup Backface "To Clear" Radius[2]	0.090 in 2.29 mm
da - Cone Frontface Backing Diameter	1.93 in 49.02 mm
db - Cone Backface Backing Diameter	2.17 in 55.12 mm
Da - Cup Frontface Backing Diameter	3.05 in 77.00 mm
Db - Cup Backface Backing Diameter	2.83 in 71.88 mm
Ab - Cage-Cone Frontface Clearance	0.06 in 1.5 mm
Aa - Cage-Cone Backface Clearance	0.01 in 0.3 mm
a - Effective Center Location[3]	-0.25 in -6.40 mm

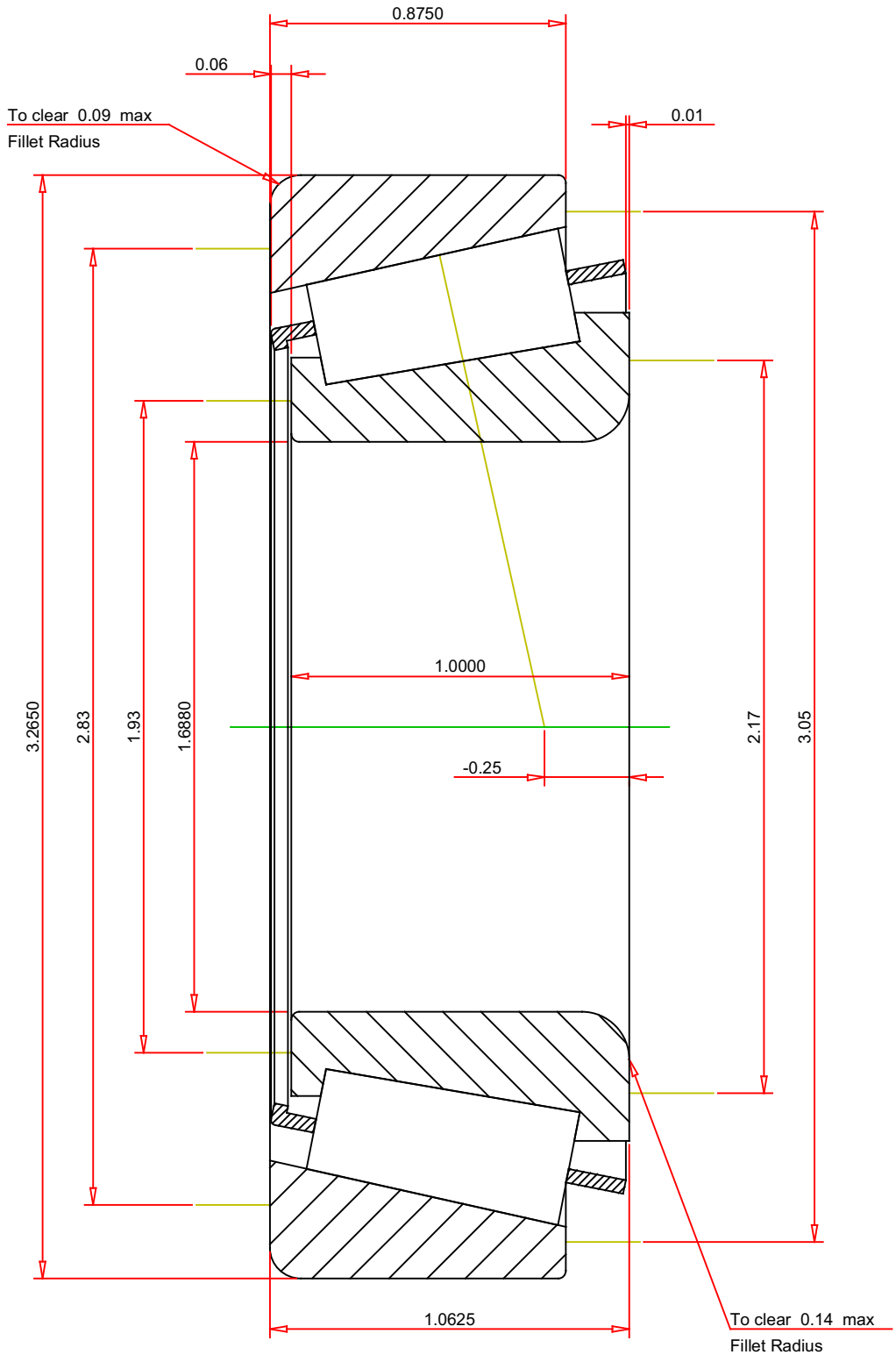
Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)[4]	5270 lbf 23500 N
C1 - Dynamic Radial Rating (1 million revolutions)[5]	20300 lbf 90500 N
C0 - Static Radial Rating	24900 lbf 111000 N
C_{a90} - Dynamic Thrust Rating (90 million revolutions)[6]	3020 lbf 13500 N

Factors

K - Factor[7]	1.74
e - ISO Factor[8]	0.33
Y - ISO Factor[9]	1.79
G1 - Heat Generation Factor (Roller-Raceway)	35.2
G2 - Heat Generation Factor (Rib-Roller End)	14.3
Cg - Geometry Factor	0.0801

[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 x 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 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
[6] 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.
[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	0.33	
ISO Factor - Y	1.79	
Bearing Weight	1.4	lb
Number of Rollers Per Row	18	
Effective Center Location	-0.25	inch

TIMKEN®

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

25577 - 25523
TS BEARING ASSEMBLY

K Factor	1.74	
Dynamic Radial Rating - C90	5270	lbf
Dynamic Thrust Rating - Ca90	3020	lbf
Static Radial Rating - C0	24900	lbf
Dynamic Radial Rating - C1	20300	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