The Timken Company
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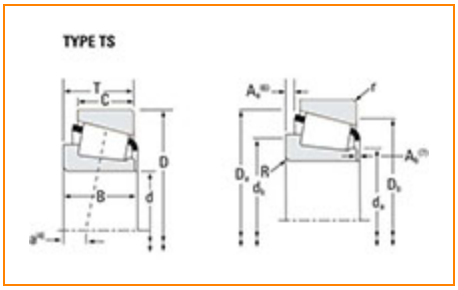
Part Number 566-S - 563, Tapered Roller Bearings - TS (Tapered Single) Imperial

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	565
Cone Part Number	566-S
Cup Part Number	563
Design Unit	Inch
Bearing Weight	4.2 lb 1.9 Kg
Cage Material	Stamped Steel

Dimensions

- Bore	2 3/4 in 69.850 mm

D - Cup Outer Diameter	5 in 127 mm
B - Cone Width	1.4240 in 36.170 mm
C - Cup Width	1.1250 in 28.575 mm
T - Bearing Width	1.4375 in 36.513 mm

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius[1]	0.03 in 0.8 mm
r - Cup Backface "To Clear" Radius[2]	0.130 in 3.30 mm
da - Cone Frontface Backing Diameter	3.07 in 78 mm
db - Cone Backface Backing Diameter	3.11 in 79 mm
Da - Cup Frontface Backing Diameter	4.75 in 119.90 mm
Db - Cup Backface Backing Diameter	4.41 in 112.01 mm
Ab - Cage-Cone Frontface Clearance	0.11 in 2.8 mm
Aa - Cage-Cone Backface Clearance	0.1 in 2.5 mm
a - Effective Center Location[3]	-0.32 in -8.1 mm

Basic Load Ratings

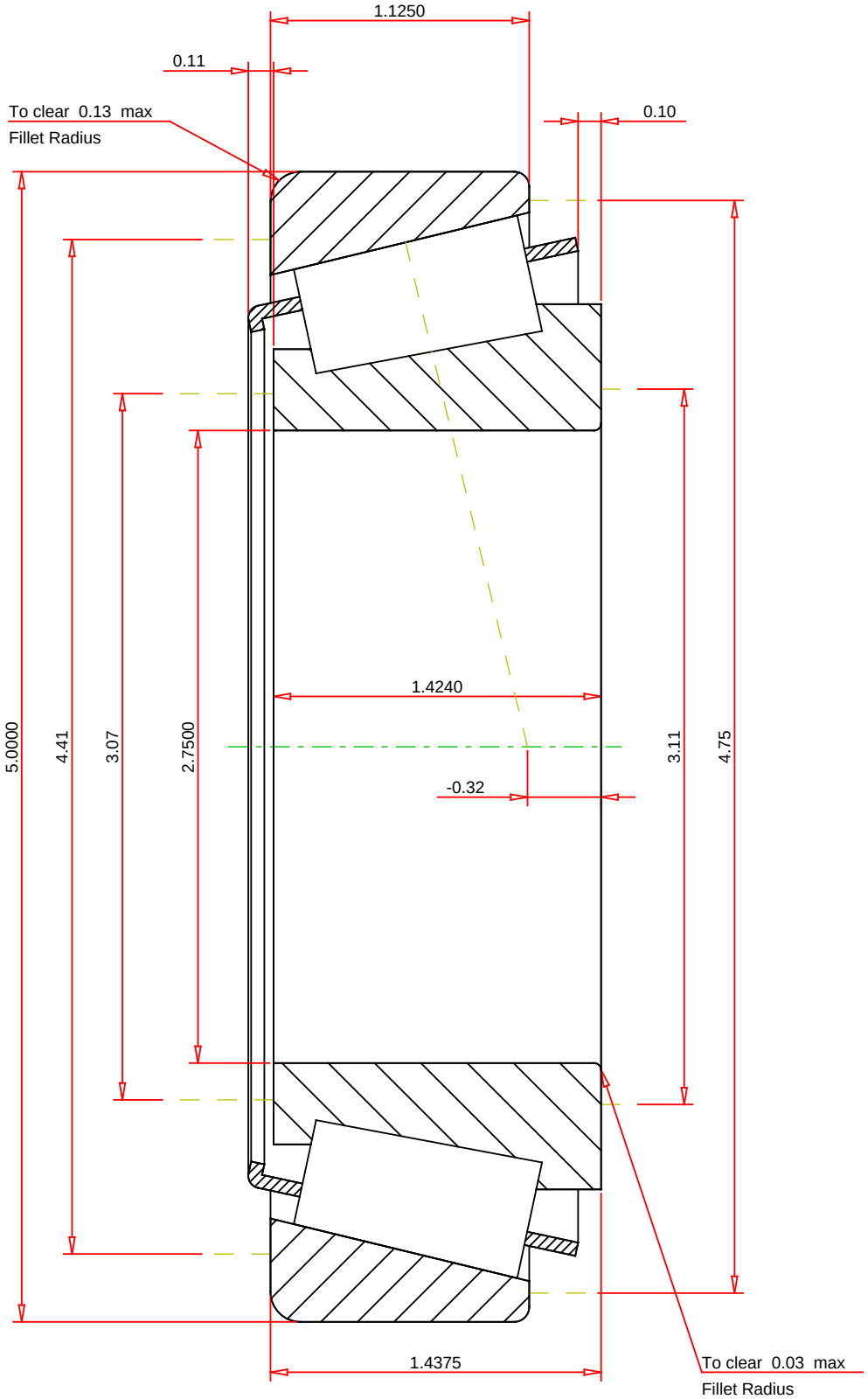
C90 - Dynamic Radial Rating (90 million revolutions)[4]	11400 lbf 50900 N
C1 - Dynamic Radial Rating (1 million revolutions)[5]	44100 lbf 196000 N
C0 - Static Radial Rating	58900 lbf 262000 N
C_{a90} - Dynamic Thrust Rating (90 million revolutions)[6]	7130 lbf 31700 N

Factors

K - Factor[7]	1.61
e - ISO Factor[8]	0.36
Y - ISO Factor[9]	1.65
G1 - Heat Generation Factor (Roller-Raceway)	101.3
G2 - Heat Generation Factor (Rib-Roller End)	24
Cg - Geometry Factor[10]	0.117

[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	0.36	
ISO Factor - Y	1.65	
Bearing Weight	4.2	lb
Number of Rollers Per Row	20	
Effective Center Location	-0.32	inch

TIMKEN

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

566-S - 563

Tapered Roller Bearings - TS (Tapered Single)
Imperial

K Factor	1.61	
Dynamic Radial Rating - C90	11400	lbf
Dynamic Thrust Rating - Ca90	7130	lbf
Static Radial Rating - C0	58900	lbf
Dynamic Radial Rating - C1	44100	lbf

FOR DISCUSSION ONLY