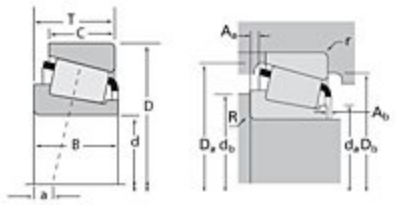
TIMKEN

The Timken Company
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Timken Part Number 2788 - 2729, 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	2700
Cone Part Number	2788
Cup Part Number	2729
Design Units	Imperial
Bearing Weight	1.10 lb 0.500 Kg
Cage Type	Stamped Steel

Dimensions

d - Bore	1.5 in 38.1 mm
D - Cup Outer Diameter	3 in 76.2 mm

B - Cone Width	1.0100 in 25.654 mm
C - Cup Width	0.7500 in 19.050 mm
T - Bearing Width	0.9375 in 23.813 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]	0.030 in 0.76 mm
da - Cone Frontface Backing Diameter	1.71 in 43.43 mm
db - Cone Backface Backing Diameter	1.97 in 50.04 mm
Da - Cup Frontface Backing Diameter	2.80 in 71.10 mm
Db - Cup Backface Backing Diameter	2.68 in 68.07 mm
Ab - Cage-Cone Frontface Clearance	0.06 in 1.5 mm
Aa - Cage-Cone Backface Clearance	0.04 in 1 mm
a - Effective Center Location[3]	-0.32 in -8.10 mm

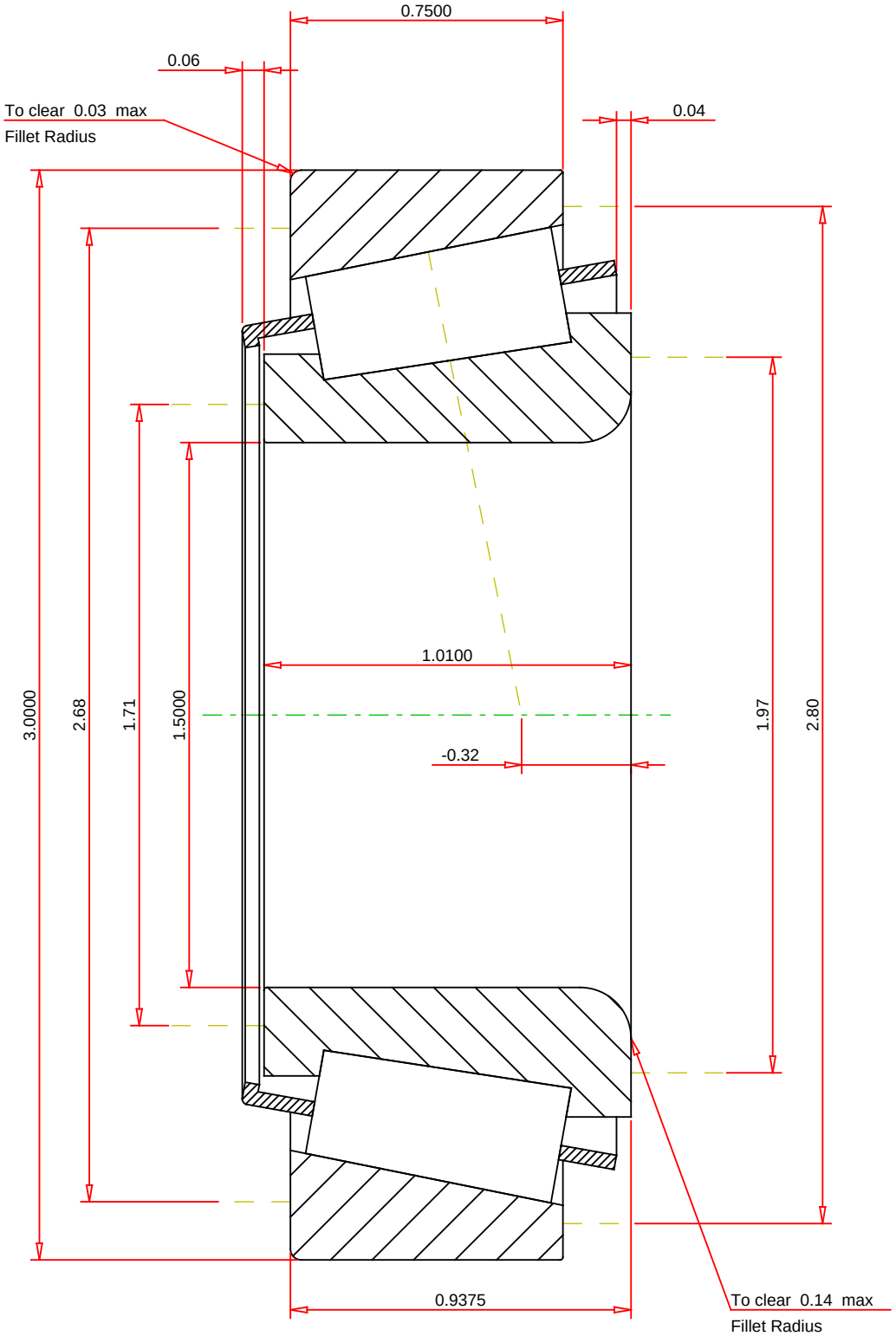
Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)[4]	5060 lbf 22500 N
C1 - Dynamic Radial Rating (1 million revolutions)[5]	19500 lbf 86900 N
C0 - Static Radial Rating	23000 lbf 102000 N
C_{a90} - Dynamic Thrust Rating (90 million revolutions)[6]	2630 lbf 11700 N

Factors

K - Factor[7]	1.93
e - ISO Factor[8]	0.3
Y - ISO Factor[9]	1.98
G1 - Heat Generation Factor (Roller-Raceway)	28.7
G2 - Heat Generation Factor (Rib-Roller End)	12.2
Cg - Geometry Factor	0.0725

[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	0.3	
ISO Factor - Y	1.98	
Bearing Weight	1.1	lb
Number of Rollers Per Row	17	
Effective Center Location	-0.32	inch

TIMKEN

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

2788 - 2729
TS BEARING ASSEMBLY

K Factor	1.93	
Dynamic Radial Rating - C90	5060	lbf
Dynamic Thrust Rating - Ca90	2630	lbf
Static Radial Rating - C0	23000	lbf
Dynamic Radial Rating - C1	19500	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