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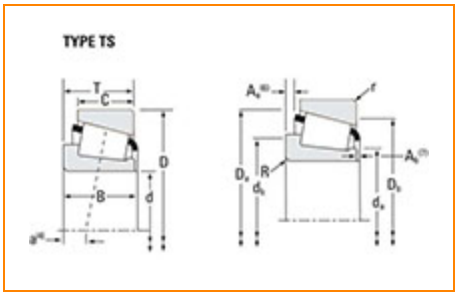
Timken Part Number JP12049A - JP12010, Tapered Roller Bearings - TS (Tapered Single) Metric

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	JP12000
Cone Part Number	JP12049A
Cup Part Number	JP12010
Design Units	METRIC
Bearing Weight	1.7 Kg 3.7 lb
Cage Type	Stamped Steel

Dimensions

d - Bore	120 mm 4.7244 in
D - Cup Outer Diameter	170 mm 6.6929 in
B - Cone Width	25.000 mm 0.9843 in
C - Cup Width	19.500 mm 0.7677 in
T - Bearing Width	27.000 mm 1.0630 in

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius[1]	6.100 mm 0.24 in
r - Cup Backface "To Clear" Radius[2]	3.05 mm 0.12 in
da - Cone Frontface Backing Diameter	127 mm 5 in
db - Cone Backface Backing Diameter	138.94 mm 5.47 in
Da - Cup Frontface Backing Diameter	165.10 mm 6.50 in
Db - Cup Backface Backing Diameter	156.97 mm 6.18 in
Ab - Cage-Cone Frontface Clearance	4.3 mm 0.17 in
Aa - Cage-Cone Backface Clearance	2.3 mm 0.09 in
a - Effective Center Location[3]	7.9 mm 0.31 in

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)[4]	50800 N 11400 lbf
C1 - Dynamic Radial Rating (1 million revolutions)[5]	196000 N 44100 lbf
C0 - Static Radial Rating	238000 N 53500 lbf
C_{a90} - Dynamic Thrust Rating (90 million revolutions)[6]	41100 N 9250 lbf

Factors

K - Factor[7]	1.24
e - ISO Factor[8]	0.47
Y - ISO Factor[9]	1.27
G1 - Heat Generation Factor (Roller-Raceway)	158
G2 - Heat Generation Factor (Rib-Roller End)	76.7
Cg - Geometry Factor[10]	0.145

[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

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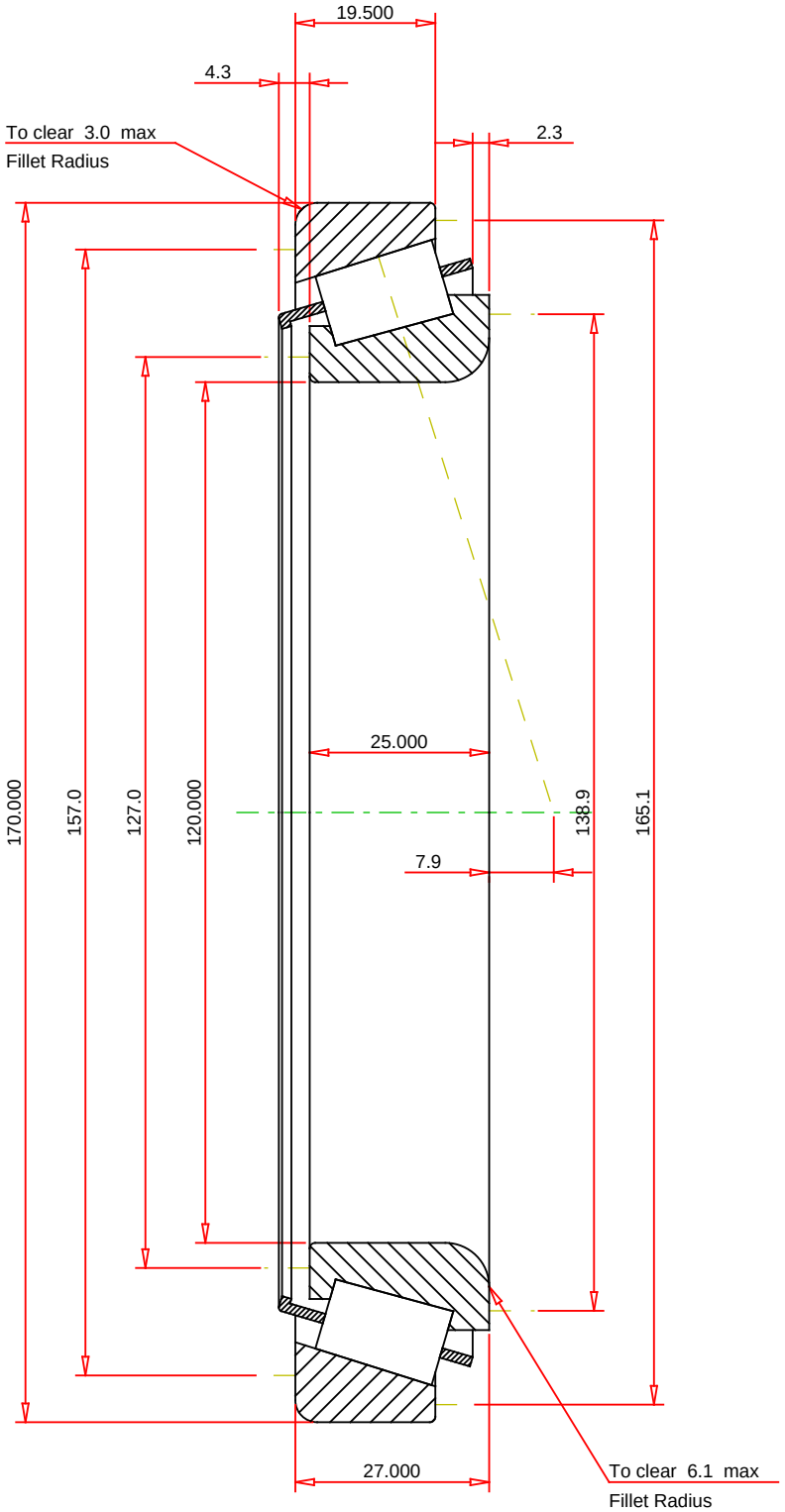
[9] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

[10] Geometry constant for Lubrication Life Adjustment Factor a3l.



METRIC UNITS

ISO Factor - e	0.47	
ISO Factor - Y	1.27	
Bearing Weight	1.7	kg
Number of Rollers Per Row	27	
Effective Center Location	7.9	mm

TIMKEN®

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

JP12049A - JP12010
TS BEARING ASSEMBLY

K Factor	1.24	
Dynamic Radial Rating - C90	50800	N
Dynamic Thrust Rating - Ca90	41100	N
Static Radial Rating - C0	238000	N
Dynamic Radial Rating - C1	196000	N

FOR DISCUSSION ONLY