TIMKEN

The Timken Company
4500 Mt Pleasant St. NW
N. Canton, OH 44720
Phone: (234) 262-3000
E-Mail: CustomerCAD@timken.com • **Web site:** www.timken.com

Timken Part Number 49576 - 49520, 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.
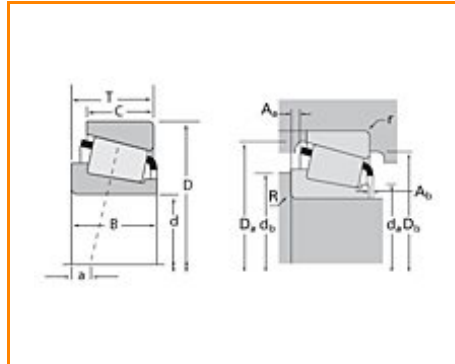
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Specifications —

Series	49500
Cone Part Number	49576
Cup Part Number	49520
Design Units	Imperial
Bearing Weight	1.200 Kg 2.70 lb
Cage Type	Stamped Steel

Dimensions —

d - Bore	44.450 mm 1.7500 in

D - Cup Outer Diameter	101.600 mm 4.0000 in
B - Cone Width	31.750 mm 1.2500 in
C - Cup Width	25.400 mm 1.0000 in
T - Bearing Width	31.750 mm 1.2500 in

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius[1]	0.760 mm 0.03 in
r - Cup Backface "To Clear" Radius[2]	3.30 mm 0.130 in
da - Cone Frontface Backing Diameter	54.10 mm 2.13 in
db - Cone Backface Backing Diameter	55.12 mm 2.17 in
Da - Cup Frontface Backing Diameter	97.00 mm 3.82 in
Db - Cup Backface Backing Diameter	87.88 mm 3.46 in
Ab - Cage-Cone Frontface Clearance	2.3 mm 0.09 in
Aa - Cage-Cone Backface Clearance	1.8 mm 0.07 in
a - Effective Center Location[3]	-7.10 mm -0.28 in

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)[4]	40800 N 9170 lbf
C1 - Dynamic Radial Rating (1 million revolutions)[5]	157000 N 35400 lbf
C0 - Static Radial Rating	155000 N 35000 lbf
C_{a90} - Dynamic Thrust Rating (90 million revolutions)[6]	28000 N 6290 lbf

Factors   −

K - Factor[7]	1.46
e - ISO Factor[8]	0.40
Y - ISO Factor[9]	1.5
G1 - Heat Generation Factor (Roller-Raceway)	49.1
G2 - Heat Generation Factor (Rib-Roller End)	14.2
Cg - Geometry Factor	0.0946

[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.

1.0000

0.09

To clear 0.13 max
Fillet Radius

0.07

4.0000

3.46

2.13

1.7500

1.2500

-0.28

2.17

3.82

1.2500

To clear 0.03 max
Fillet Radius

IMPERIAL UNITS

ISO Factor - e	0.4	
ISO Factor - Y	1.5	
Bearing Weight	2.7	lb
Number of Rollers Per Row	16	
Effective Center Location	-0.28	inch

TIMKEN ®

49576 - 49520
TS BEARING ASSEMBLY

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

K Factor	1.46	
Dynamic Radial Rating - C90	40800	lbf
Dynamic Thrust Rating - Ca90	28000	lbf
Static Radial Rating - C0	155000	lbf
Dynamic Radial Rating - C1	157000	lbf

FOR DISCUSSION ONLY