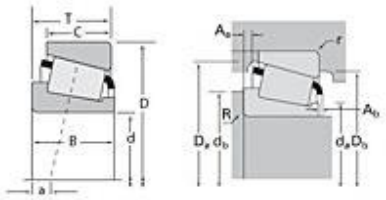
TIMKEN

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Timken Part Number HM218248 - HM218210, 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	HM218200
Cone Part Number	HM218248
Cup Part Number	HM218210
Design Units	Imperial
Bearing Weight	5.60 lb 2.500 Kg
Cage Type	Stamped Steel

Dimensions

d - Bore	3.5423 in 89.974 mm
D - Cup Outer Diameter	5.7864 in 146.975 mm

B - Cone Width	1.5748 in 40.000 mm
C - Cup Width	1.2795 in 32.499 mm
T - Bearing Width	1.5748 in 40.000 mm

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius[1]	0.280 in 7.110 mm
r - Cup Backface "To Clear" Radius[2]	0.140 in 3.56 mm
da - Cone Frontface Backing Diameter	4.61 in 99.06 mm
db - Cone Backface Backing Diameter	4.41 in 112.01 mm
Da - Cup Frontface Backing Diameter	5.57 in 141.00 mm
Db - Cup Backface Backing Diameter	5.24 in 133.10 mm
Ab - Cage-Cone Frontface Clearance	0.14 in 3.6 mm
Aa - Cage-Cone Backface Clearance	0.04 in 1 mm
a - Effective Center Location[3]	-0.34 in -8.60 mm

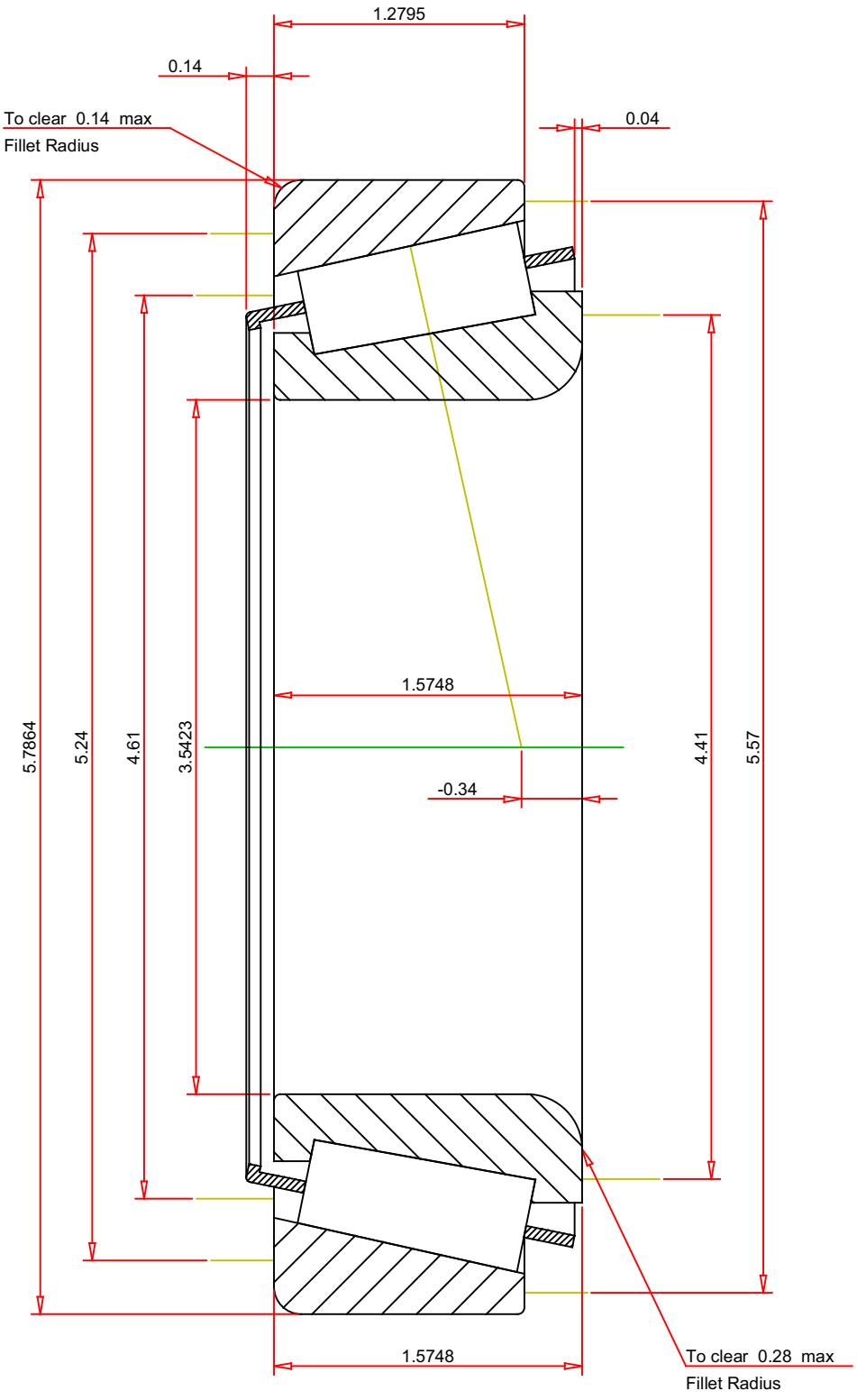
Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)[4]	18900 lbf 84200 N
C1 - Dynamic Radial Rating (1 million revolutions)[5]	73000 lbf 325000 N
C0 - Static Radial Rating	87300 lbf 388000 N
C_{a90} - Dynamic Thrust Rating (90 million revolutions)[6]	10800 lbf 47900 N

Factors

K - Factor[7]	1.76
e - ISO Factor[8]	0.33
Y - ISO Factor[9]	1.8
G1 - Heat Generation Factor (Roller-Raceway)	168
G2 - Heat Generation Factor (Rib-Roller End)	34.7
Cg - Geometry Factor	0.0921

[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	1.8	
Bearing Weight	5.6	lb
Number of Rollers Per Row	21	
Effective Center Location	-0.34	inch

TIMKEN®

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

HM218248 - HM218210
TS BEARING ASSEMBLY

K Factor	1.76	
Dynamic Radial Rating - C90	18900	lbf
Dynamic Thrust Rating - Ca90	10800	lbf
Static Radial Rating - C0	87300	lbf
Dynamic Radial Rating - C1	73000	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