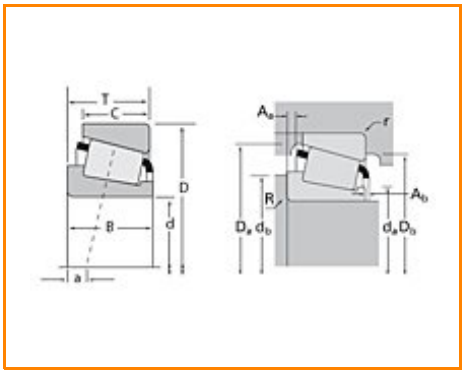
The Timken Company
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Timken Part Number HM218238 - HM218210, Tapered Roller Bearings - TS (Tapered Single) Imperial

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	HM218238
Cup Part Number	HM218210
Design Units	Imperial
Bearing Weight	3.000 Kg 6.50 lb
Cage Type	Stamped Steel

Dimensions

d - Bore	79.974 mm 3.1486 in
D - Cup Outer Diameter	146.975 mm 5.7864 in
B - Cone Width	40.000 mm 1.5748 in
C - Cup Width	32.499 mm 1.2795 in
T - Bearing Width	40.000 mm 1.5748 in

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius[1]	7.110 mm 0.280 in
r - Cup Backface "To Clear" Radius[2]	3.56 mm 0.140 in
da - Cone Frontface Backing Diameter	90.93 mm 4.40 in
db - Cone Backface Backing Diameter	103.89 mm 4.09 in
Da - Cup Frontface Backing Diameter	141.00 mm 5.57 in
Db - Cup Backface Backing Diameter	133.10 mm 5.24 in
Ab - Cage-Cone Frontface Clearance	3.6 mm 0.14 in
Aa - Cage-Cone Backface Clearance	1 mm 0.04 in
a - Effective Center Location[3]	-8.60 mm -0.34 in

Basic Load Ratings

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

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.

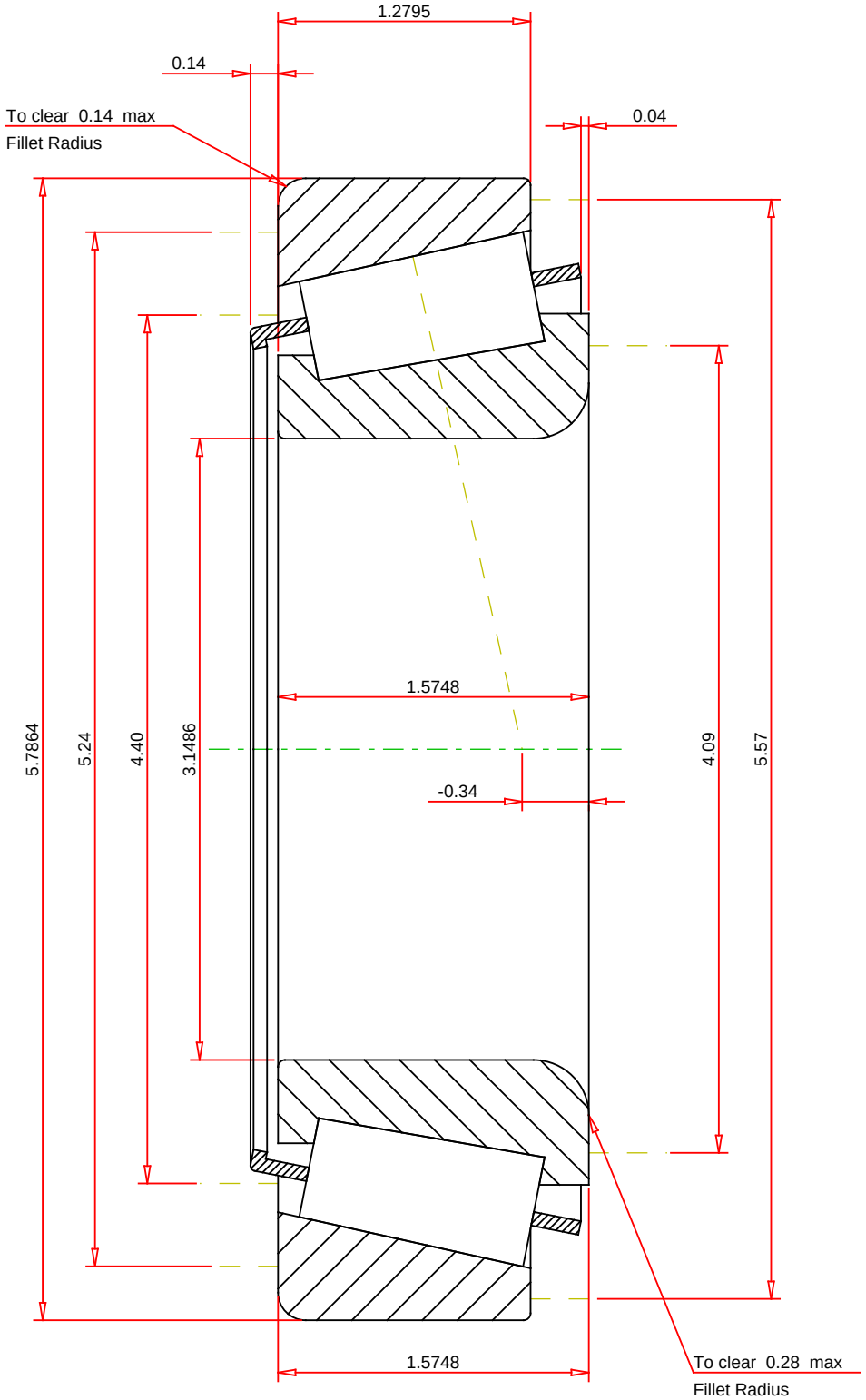
[6] Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

[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	6.5	lb
Number of Rollers Per Row	21	
Effective Center Location	-0.34	inch

TIMKEN®

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

HM218238 - HM218210
TS BEARING ASSEMBLY

K Factor	1.76	
Dynamic Radial Rating - C90	84200	lbf
Dynamic Thrust Rating - Ca90	47900	lbf
Static Radial Rating - C0	388000	lbf
Dynamic Radial Rating - C1	325000	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