



The Timken Company

4500 Mt Pleasant St. NW

N. Canton, OH 44720

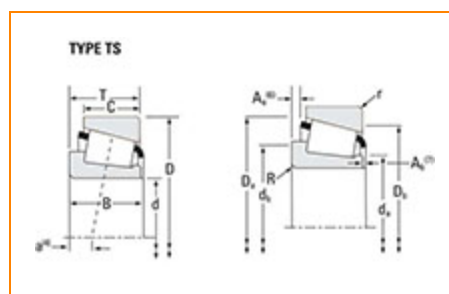
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Part Number HM813839 - HM813810, Tapered Roller Bearings - TS (Tapered Single)

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	HM813800
Cone Part Number	HM813839
Cup Part Number	HM813810
Design Units	Imperial
Bearing Weight	2.2 Kg 4.8 lb
Cage Type	Stamped Steel

Dimensions

50.007 mm

d - Bore	57.78 mm 2.3617 in
D - Cup Outer Diameter	127 mm 5 in
B - Cone Width	36.513 mm 1.4375 in
C - Cup Width	26.988 mm 1.0625 in
T - Bearing Width	36.513 mm 1.4375 in

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius¹	3.560 mm 0.14 in
r - Cup Backface "To Clear" Radius²	3.3 mm 0.130 in
da - Cone Frontface Backing Diameter	74.93 mm 2.95 in
db - Cone Backface Backing Diameter	82.04 mm 3.23 in
Da - Cup Frontface Backing Diameter	121.90 mm 4.80 in
Db - Cup Backface Backing Diameter	111.00 mm 4.37 in
Ab - Cage-Cone Frontface Clearance	2 mm 0.08 in
Aa - Cage-Cone Backface Clearance	3.6 mm 0.14 in
a - Effective Center Location³	-3.8 mm -0.15 in

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)⁴	13400 lbf 59400 N
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C1 - Dynamic Radial Rating (1 million revolutions)⁵	51500 lbf 229000 N
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C0 - Static Radial Rating	57600 lbf 256000 N
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C_{a90} - Dynamic Thrust Rating (90 million revolutions)⁶	11500 lbf 51100 N
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Factors

K - Factor⁷	1.16
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e - ISO Factor⁸	0.5
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Y - ISO Factor⁹	1.2
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G1 - Heat Generation Factor (Roller-Raceway)	91.7
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G2 - Heat Generation Factor (Rib-Roller End)	24.3
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C_g - Geometry Factor¹⁰	0.125
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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.

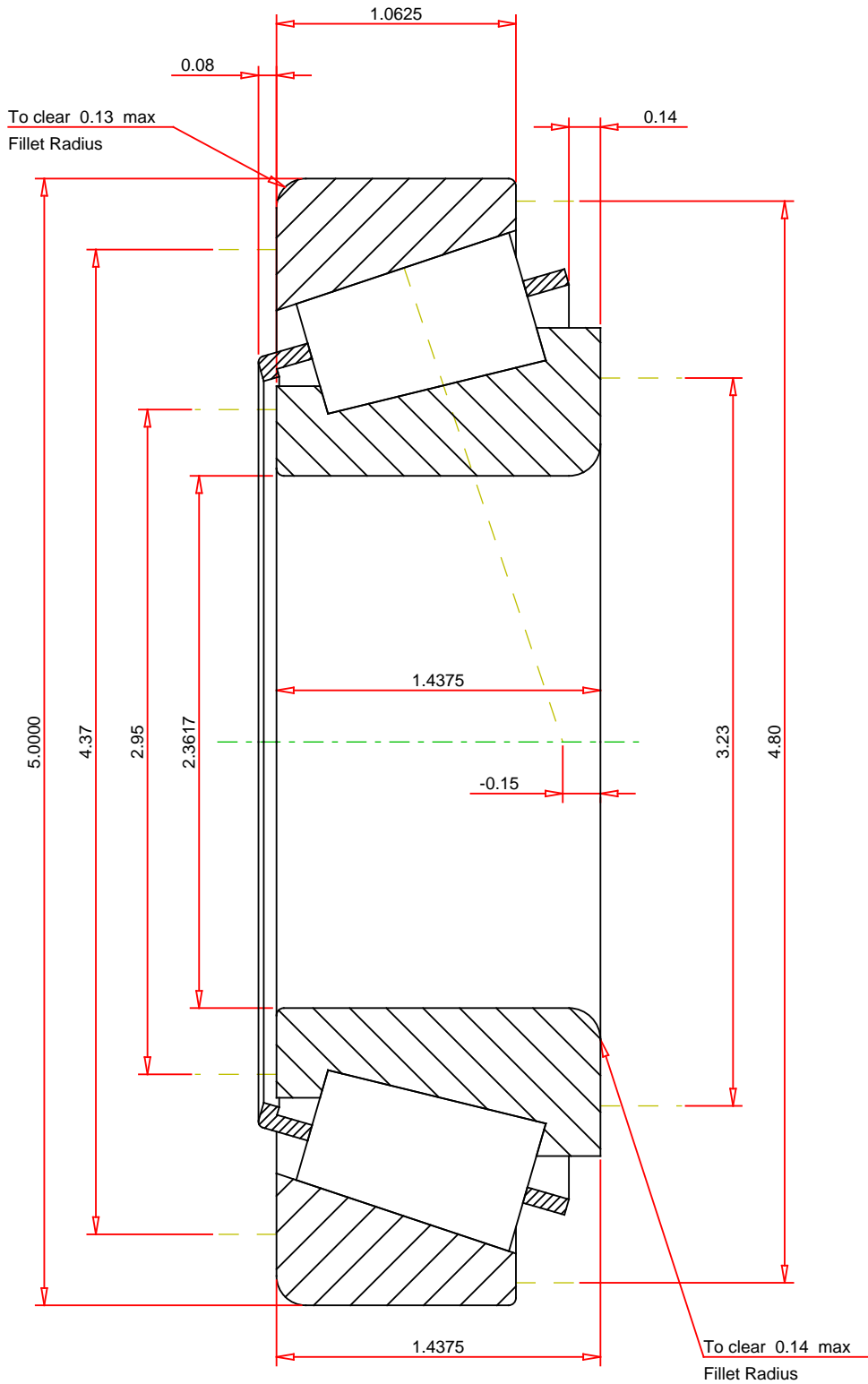
⁷ These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

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.

¹⁰ Geometry constant for Lubrication Life Adjustment Factor a_3 .



IMPERIAL UNITS

ISO Factor - e		0.5		<div>HM813839 - HM813810</div> <div>TS BEARING ASSEMBLY</div>	
ISO Factor - Y		1.2			
Bearing Weight		4.8 lb			
Number of Rollers Per Row		20			
Effective Center Location		-0.15 inch			
			<div>THE TIMKEN COMPANY</div> <div>NORTH CANTON, OHIO USA</div>		
			K Factor	1.16	
			Dynamic Radial Rating - C90	13400	lbf
			Dynamic Thrust Rating - Ca90	11500	lbf
			Static Radial Rating - C0	57600	lbf
			Dynamic Radial Rating - C1	51500	lbf