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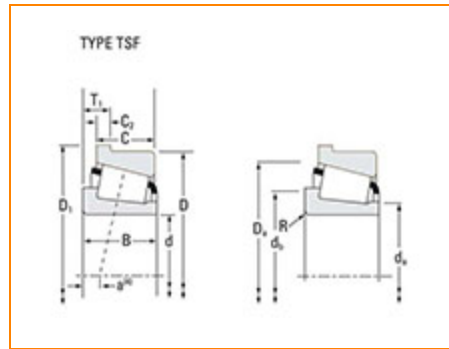
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## Timken Part Number H414249 - H414210-B, Tapered Roller Bearings - TSF (Tapered Single with Flange) Imperial

Like the TS bearing design, the TSF design 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. TSF bearings have flanged cups to facilitate axial location and accurately align seals in through-bored housings.

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### Specifications

Series	H414200
Cone Part Number	H414249
Cup Part Number	H414210-B
Design Units	Imperial
Bearing Weight	5.9 lb 2.7 Kg

Cage Type

Stamped Steel

## Dimensions

<b>d - Bore</b>	2.8125 in 71.438 mm
<b>D - Cup Outer Diameter</b>	5.3750 in 136.525 mm
<b>D1 - Flange Outer Diameter</b>	5.6550 in 143.637 mm
<b>B - Cone Width</b>	1.6250 in 41.275 mm
<b>C - Cup Width</b>	1.2500 in 31.750 mm
<b>C1 - Cup Flange Width</b>	0.2800 in 7.112 mm
<b>T1 - Bearing Width</b>	1.625 in 41.275 mm
<b>T - Bearing Width to Flange</b>	0.6550 in 16.637 mm

## Abutment and Fillet Dimensions

<b>R - Cone Backface "To Clear" Radius<sup>1</sup></b>	0.14 in 3.600 mm
<b>r - Cup Backface "To Clear" Radius<sup>2</sup></b>	0.130 in 3.30 mm
<b>da - Cone Frontface Backing Diameter</b>	3.27 in 83.10 mm
<b>db - Cone Backface Backing Diameter</b>	3.5 in 88.90 mm
<b>Da - Cup Frontface Backing</b>	5.16 in

<b>Diameter</b>	130.05 mm
<b>Ab - Cage-Cone Frontface Clearance</b>	0.14 in 3.6 mm
<b>Aa - Cage-Cone Backface Clearance</b>	0.13 in 3.3 mm
<b>a - Effective Center Location<sup>3</sup></b>	-0.43 in -10.9 mm

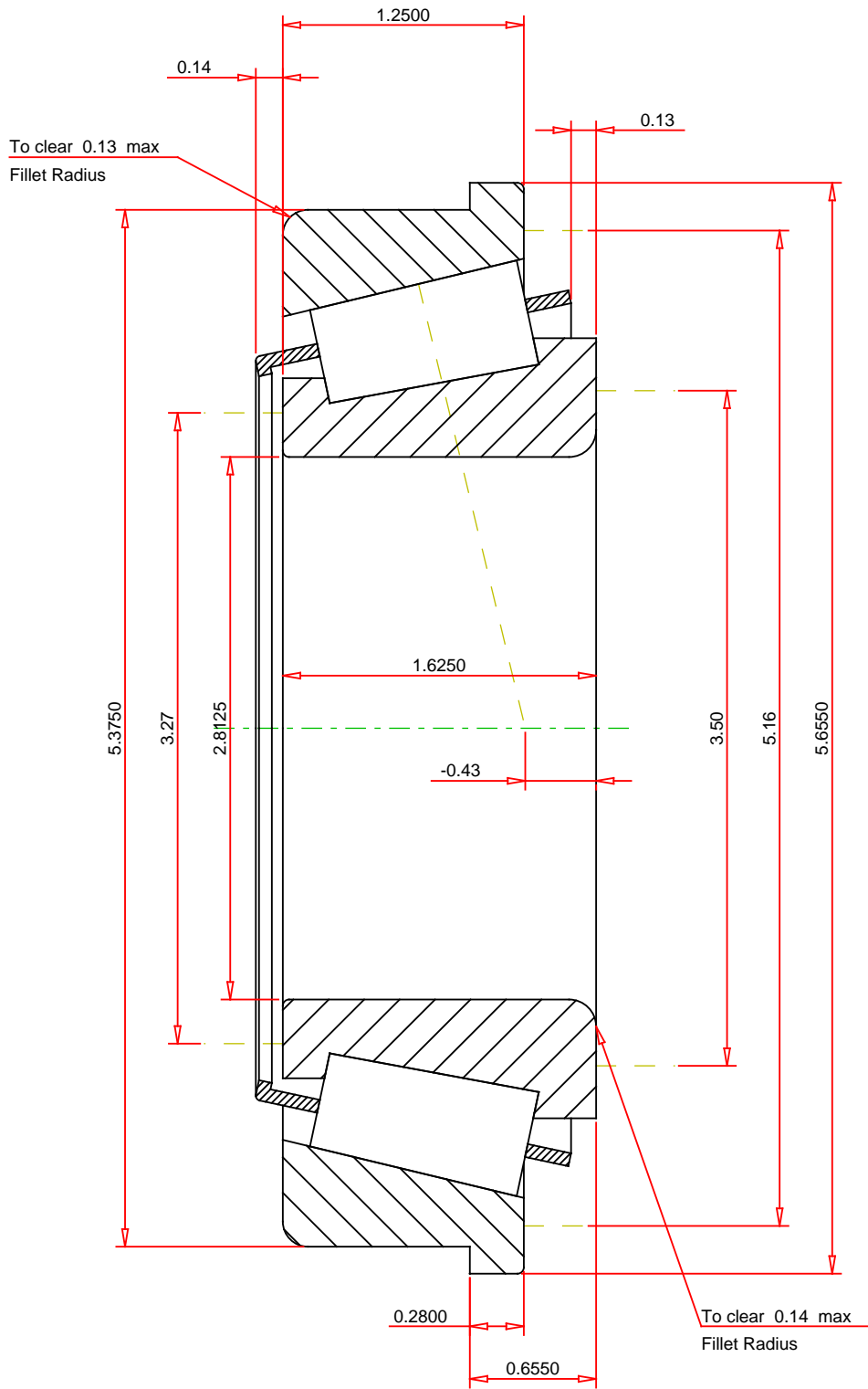
## Basic Load Ratings

<b>C90 - Dynamic Radial Rating (90 million revolutions)<sup>4</sup></b>	18800 lbf 83700 N
<b>C1 - Dynamic Radial Rating (1 million revolutions)<sup>5</sup></b>	72600 lbf 323000 N
<b>C0 - Static Radial Rating</b>	75400 lbf 335000 N
<b>C<sub>a90</sub> - Dynamic Thrust Rating (90 million revolutions)<sup>6</sup></b>	11600 lbf 51600 N

## Factors

<b>K - Factor<sup>7</sup></b>	1.62
<b>e - ISO Factor<sup>8</sup></b>	0.36
<b>Y - ISO Factor<sup>9</sup></b>	1.67
<b>G1 - Heat Generation Factor (Roller-Raceway)<sup>10</sup></b>	113
<b>G2 - Heat Generation Factor (Rib-Roller End)</b>	22.8
<b>Cg - Geometry Factor<sup>11</sup></b>	0.0827

- <sup>1</sup> These maximum fillet radii will be cleared by the bearing corners.
- <sup>2</sup> These maximum fillet radii will be cleared by the bearing corners.
- <sup>3</sup> Negative value indicates effective center inside cone backface.
- <sup>4</sup> Based on  $90 \times 10^6$  revolutions  $L_{10}$  life, for The Timken Company life calculation method.  $C_{90}$  and  $C_{a90}$  are radial and thrust values.
- <sup>5</sup> Based on  $1 \times 10^6$  revolutions  $L_{10}$  life, for the ISO life calculation method.
- <sup>6</sup> Based on  $90 \times 10^6$  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.
- <sup>7</sup> These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.
- <sup>8</sup> These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.
- <sup>9</sup> These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.
- <sup>10</sup> These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.
- <sup>11</sup> Geometry constant for Lubrication Life Adjustment Factor  $a_3$ .



**IMPERIAL UNITS**

ISO Factor - e	0.36
ISO Factor - Y	1.67
Bearing Weight	5.9 lb
Number of Rollers Per Row	17
Effective Center Location	-0.43 inch

**TIMKEN**®

**H414249 - H414210-B  
TSF BEARING ASSEMBLY**

**THE TIMKEN COMPANY**  
NORTH CANTON, OHIO USA

K Factor	1.62
Dynamic Radial Rating - C90	18800 lbf
Dynamic Thrust Rating - Ca90	11600 lbf
Static Radial Rating - C0	75400 lbf
Dynamic Radial Rating - C1	72600 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**