



The Timken Company

4500 Mt Pleasant St. NW

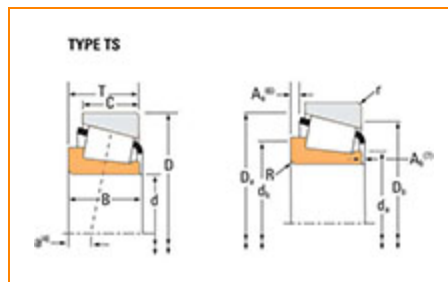
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Part Number 463, Tapered Roller Bearings - Single Cones - Imperial

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	455
Cone Part Number	463
Design Units	Imperial
Cage Type	Stamped Steel
C1 - Dynamic Radial Rating (Two-Row, 1 million revolutions)¹	236000 N
C90(2) - Dynamic Radial Rating (Two-Row, 90 million revolutions)²	61200 N



Dimensions

d - Cone Bore	47.625 mm
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B - Cone Width	29.317 mm
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Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius ³	4.8 mm
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da - Cone Frontface Backing Diameter	56 mm
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db - Cone Backface Backing Diameter	65 mm
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Ab - Cage-Cone Frontface Clearance	2 mm
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Aa - Cage-Cone Backface Clearance	1.8 mm
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a - Effective Center Location ⁴	-7.1 mm
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Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions) ⁵	35200 N
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C1 - Dynamic Radial Rating (1 million revolutions) ⁶	136000 N
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C0 - Static Radial Rating	166000 N
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C _{a90} - Dynamic Thrust Rating (90 million revolutions) ⁷	20200 N
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Factors

K - Factor⁸	1.74
G1 - Heat Generation Factor (Roller-Raceway)	58.6
G2 - Heat Generation Factor (Rib-Roller End)	17.1
Cg - Geometry Factor⁹	0.0946

¹ Based on 1×10^6 revolutions L_{10} life, for the ISO life calculation method.

² 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.

³ These maximum fillet radii will be cleared by the bearing corners.

⁴ Negative value indicates effective center inside cone backface.

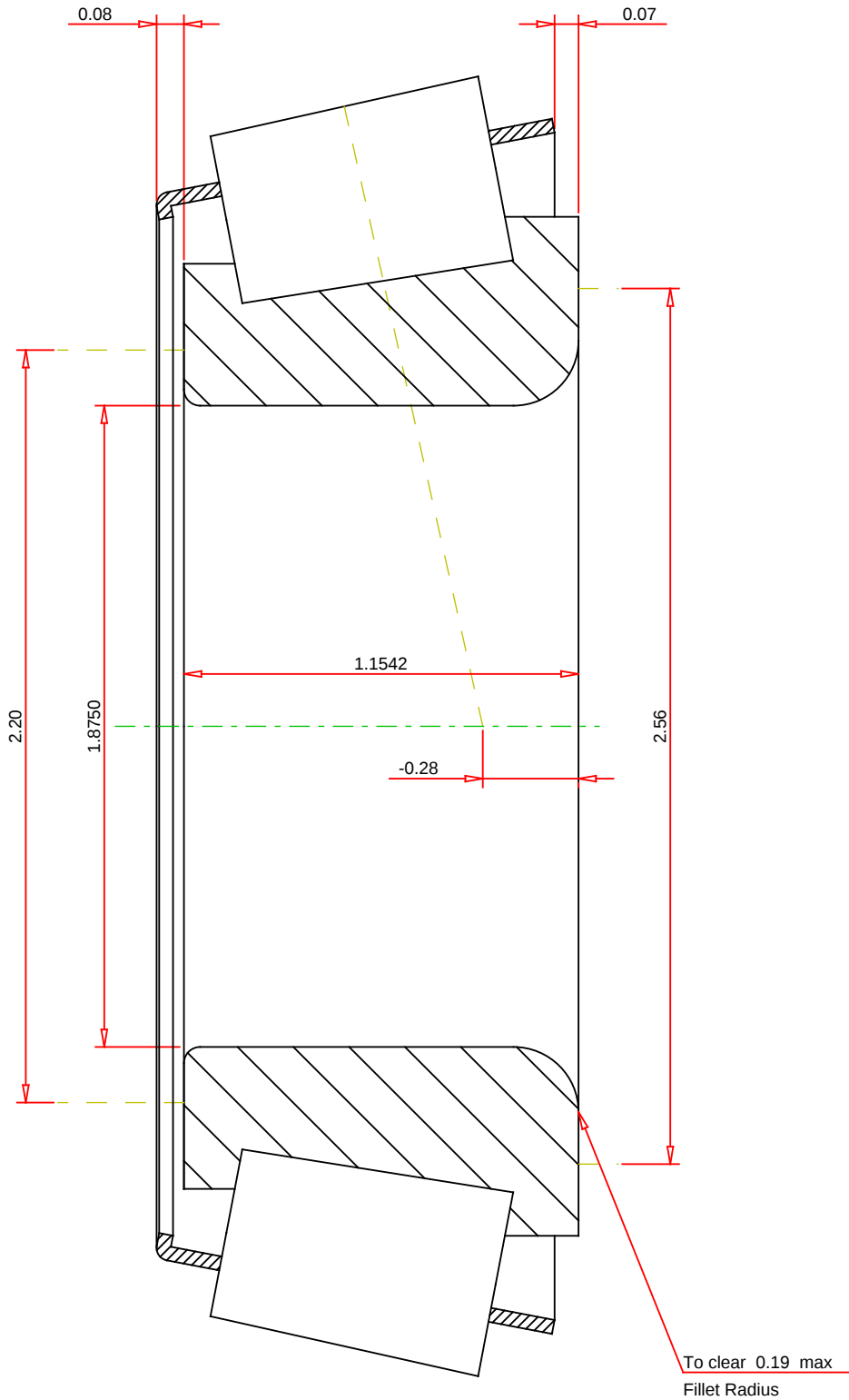
⁵ Based on 90×10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.

⁶ Based on 1×10^6 revolutions L_{10} life, for the ISO life calculation method.

⁷ 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.

⁸ These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

⁹ Geometry constant for Lubrication Life Adjustment Factor a_3 .



IMPERIAL UNITS

Number of Rollers Per Row18	TIMKEN® THE TIMKEN COMPANY NORTH CANTON, OHIO USA	463 Tapered Roller Bearings - Single Cones - Imperial K Factor Dynamic Radial Rating - C90 Dynamic Thrust Rating - Ca90 Dynamic Radial Rating - C1 1.74 7900 4540 30500 lbf lbf lbf
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