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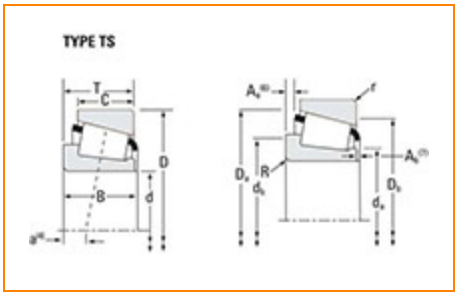
# Part Number 30203, Tapered Roller Bearings - TS (Tapered Single) Metric

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** | 30203 |
| **Cone Part Number** | X30203 |
| **Cup Part Number** | Y30203 |
| **Design Unit** | Metric |
| **Bearing Weight** | 0.1 Kg<br>0.2 lb |
| **Cage Material** | Stamped Steel |
| **Full Timken Part Number** | 30203 |

## Dimensions

| | |
|---|---|
| | 17 mm |

| | |
|---|---|
| **d - Bore** | 17 mm<br>0.6693 in |
| **D - Cup Outer Diameter** | 40.000 mm<br>1.5748 in |
| **B - Cone Width** | 12.000 mm<br>0.4724 in |
| **C - Cup Width** | 11.000 mm<br>0.4331 in |
| **T - Bearing Width** | 13.250 mm<br>0.5217 in |

## Abutment and Fillet Dimensions

| | |
|---|---|
| **R - Cone Backface "To Clear" Radius[1]** | 1.020 mm<br>0.04 in |
| **r - Cup Backface "To Clear" Radius[2]** | 1.02 mm<br>0.04 in |
| **da - Cone Frontface Backing Diameter** | 21 mm<br>0.83 in |
| **db - Cone Backface Backing Diameter** | 22 mm<br>0.87 in |
| **Da - Cup Frontface Backing Diameter** | 37.59 mm<br>1.48 in |
| **Db - Cup Backface Backing Diameter** | 35.05 mm<br>1.38 in |
| **Ab - Cage-Cone Frontface Clearance** | 2 mm<br>0.08 in |
| **Aa - Cage-Cone Backface Clearance** | -0.3 mm<br>-0.01 in |
| **a - Effective Center Location[3]** | -3.6 mm<br>-0.14 in |

## Basic Load Ratings

| | |
|---|---|
| **C90 - Dynamic Radial Rating (90 million revolutions)[4]** | 5530 N<br>1240 lbf |
| **C1 - Dynamic Radial Rating (1 million revolutions)[5]** | 21300 N<br>4800 lbf |
| **C0 - Static Radial Rating** | 19900 N<br>4460 lbf |
| **$C_{a90}$ - Dynamic Thrust Rating (90 million revolutions)[6]** | 3270 N<br>735 lbf |

## Factors

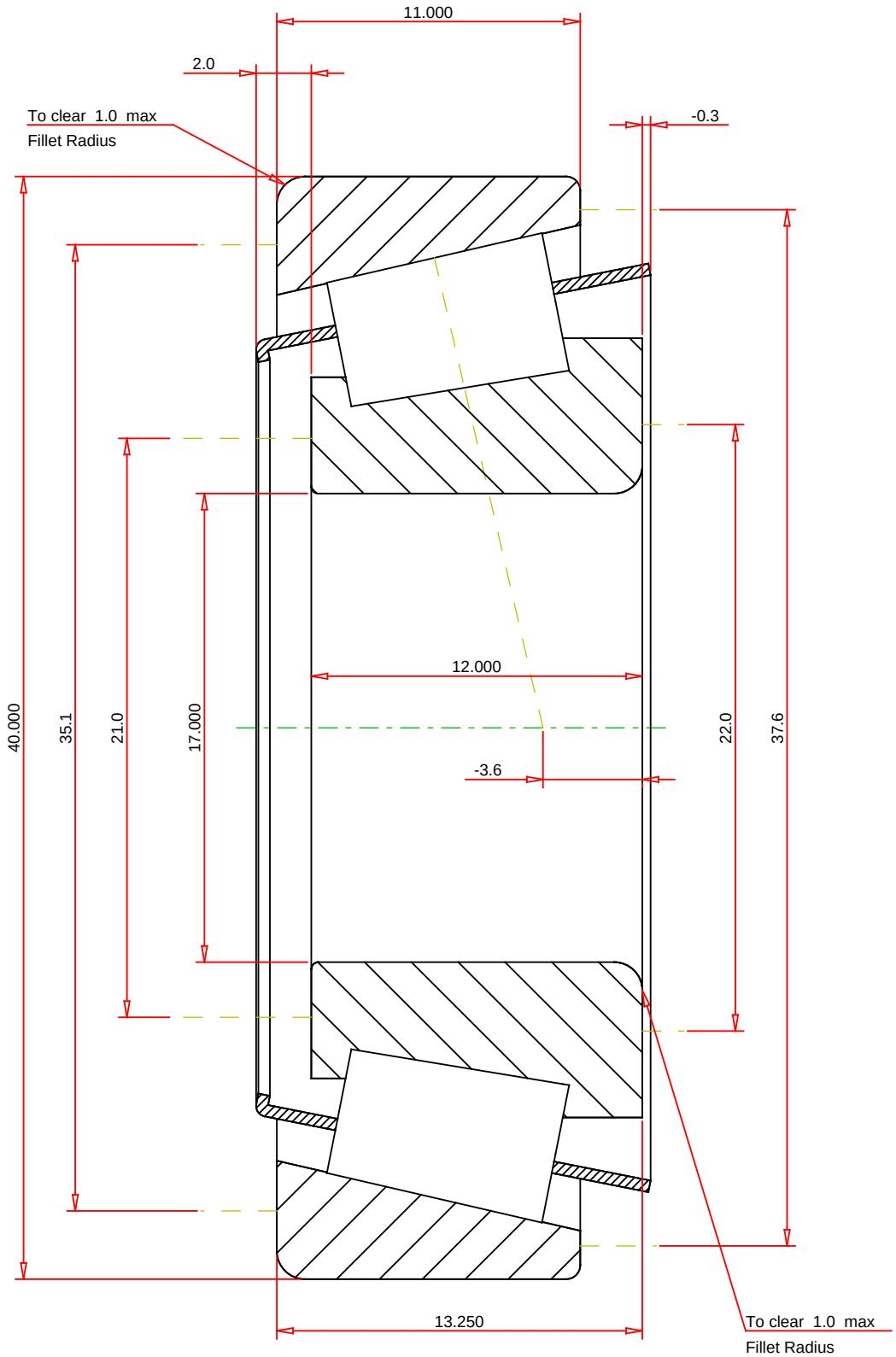
| | |
|---|---|
| **K - Factor[7]** | 1.69 |
| **e - ISO Factor[8]** | 0.35 |
| **Y - ISO Factor[9]** | 1.74 |
| **G1 - Heat Generation Factor (Roller-Raceway)** | 4.2 |
| **G2 - Heat Generation Factor (Rib-Roller End)** | 6 |
| **Cg - Geometry Factor[10]** | 0.0398 |

[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.

[10] Geometry constant for Lubrication Life Adjustment Factor a3l.




METRIC UNITS

| | | |
|---|---|---|
| ISO Factor - e | 0.35 | |
| ISO Factor - Y | 1.74 | |
| Bearing Weight | 0.1 | kg |
| Number of Rollers Per Row | 15 | |
| Effective Center Location | -3.6 | mm |

TIMKEN®

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

# X30203 - Y30203

Tapered Roller Bearings - TS (Tapered Single)
Metric

| | | |
|---|---|---|
| K Factor | 1.69 | |
| Dynamic Radial Rating - C90 | 5530 | N |
| Dynamic Thrust Rating - Ca90 | 3270 | N |
| Static Radial Rating - C0 | 19900 | N |
| Dynamic Radial Rating - C1 | 21300 | N |



FOR DISCUSSION ONLY