



**The Timken Company**

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## Part Number 22312EMW33C3, Spherical Roller Bearings - Brass Cage

Spherical bearings are designed to manage high radial loads even when misalignment, poor lubrication, contamination, extreme speeds or critical application stresses are present.



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### Specifications

<b>Design Unit</b>	Metric
<b>d - Bore</b>	60 mm
<b>Cage Type</b>	EM
<b>Cage Material</b>	Brass
<b>Superseded Part</b>	22312YMW33C3

### Dimensions

<b>D - Outer Diameter</b>	130 mm
<b>B' - Inner Ring Width</b>	46 mm
<b>B - Outer Ring Width</b>	46 mm



## Abutment and Fillet Dimensions

<b>R - Inner Ring "To Clear" Radius<sup>1</sup></b>	2 mm
<b>r - Outer Ring "To Clear" Radius<sup>2</sup></b>	2 mm
<b>da - Inner Ring Backing Diameter</b>	77.00 mm
<b>Da - Outer Ring Backing Diameter</b>	117.000 mm

## Basic Load Ratings

<b>C0 - Static Radial Rating</b>	307000 N
<b>C1(2) - Dynamic Radial Rating (Two-Rows)</b>	306000 N

## Factors

<b>e - ISO Factor<sup>3</sup></b>	0.34
<b>Y0 - ISO Factor<sup>4</sup></b>	1.93
<b>Y1 - ISO Factor<sup>5</sup></b>	1.98
<b>Y2 - ISO Factor<sup>6</sup></b>	2.94
<b>Reference Thermal Speed Rating (Grease)</b>	4100 rpm
<b>Reference Thermal Speed Rating (Oil)<sup>7</sup></b>	4900 rpm
<b>Cg - Geometry Factor<sup>8</sup></b>	0.0532

<sup>1</sup> Maximum housing fillet radius that bearing corners will clear.

<sup>2</sup> Maximum shaft fillet radius that bearing corners will clear.

<sup>3</sup> These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

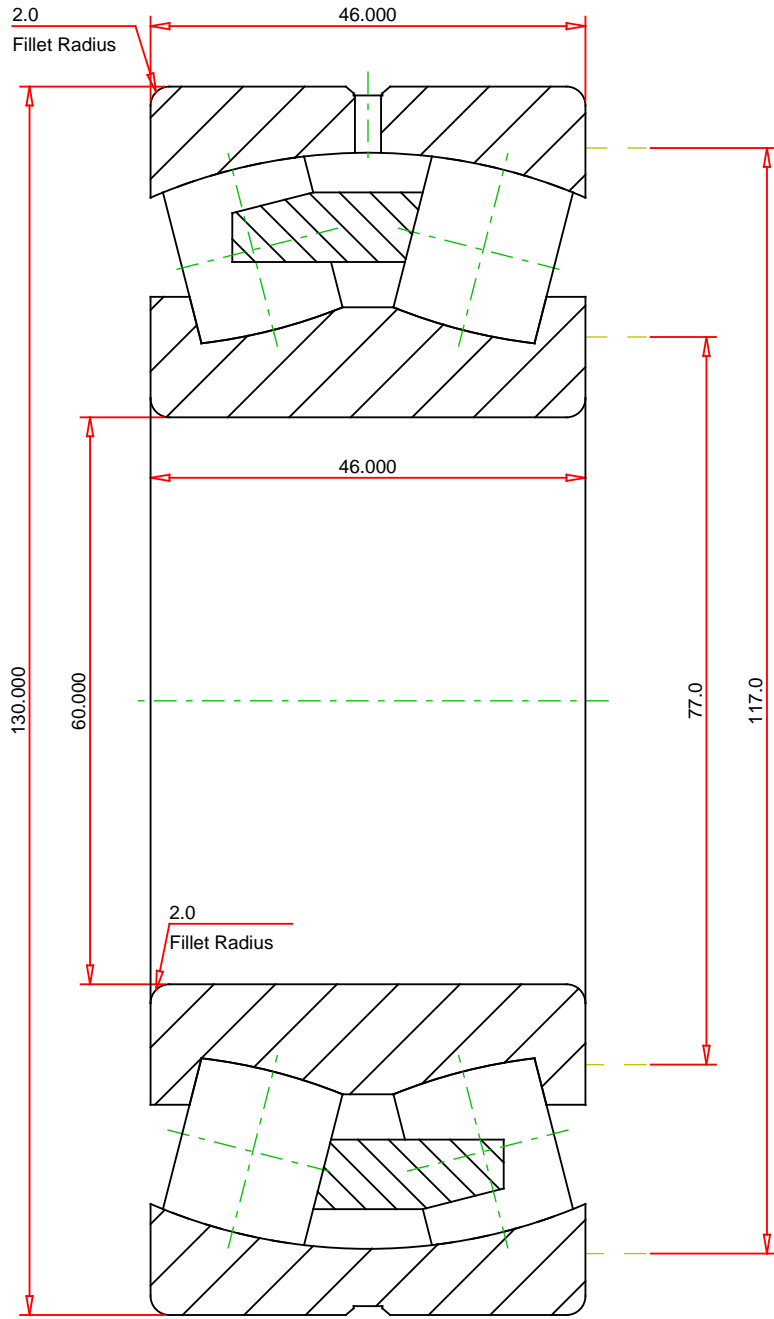
<sup>4</sup> These factors apply for both inch and metric calculations. See engineering

<sup>5</sup> These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

<sup>6</sup> These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

<sup>7</sup> See thermal speed ratings in the engineering section.

<sup>8</sup> Geometry constant for Lubrication Life Adjustment Factor  $a_3$ .



METRIC UNITS

Number of Rollers Per Row	14
ISO Factor e	0.34
ISO Factor Y0	1.93
ISO Factor Y1	1.98
ISO Factor Y2	2.94
Bearing Weight	3.0 kg
Cage Type	EM
Cage Material	Brass

**TIMKEN**®

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

<b>22312EMW33C3</b> SRB ASSEMBLY	
Dynamic Radial Rating (Two Rows)	306000 N
Static Radial Rating	307000 N

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**