


**The Timken Company**

4500 Mt Pleasant St. NW

N. Canton, OH 44720

**Phone:** (234) 262-3000

**E-Mail:** [CustomerCAD@timken.com](mailto:CustomerCAD@timken.com) • **Web site:** [www.timken.com](http://www.timken.com)
**Part Number 22308EMW33W800, 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.




[Specifications](#) | [Dimensions](#) | [Abutment and Fillet Dimensions](#) | [Basic Load Ratings](#) | [Factors](#)

**Specifications**

<b>Design Unit</b>	Metric
<b>d - Bore</b>	40 mm
<b>Cage Type</b>	EM
<b>Cage Material</b>	Brass
<b>Superseded Part</b>	22308YMW33W800

**Dimensions**

<b>D - Outer Diameter</b>	89.993 mm 3.543 in
 <b>d' - Inner Ring Width</b>	33 mm 1.2992 in

<b>B - Outer Ring Width</b>	33 mm 1.2992 in
-----------------------------	--------------------

## Abutment and Fillet Dimensions

<b>R - Inner Ring "To Clear" Radius<sup>1</sup></b>	1.5 mm 0.060 in
---	--------------------

<b>r - Outer Ring "To Clear" Radius<sup>2</sup></b>	1.5 mm 0.06 in
---	-------------------

<b>da - Inner Ring Backing Diameter</b>	53.000 mm 2.100 in
---	-----------------------

<b>Da - Outer Ring Backing Diameter</b>	81.00 mm 3.200 in
---	----------------------

## Basic Load Ratings

<b>C0 - Static Radial Rating</b>	147000 N 33100 lbf
----------------------------------	-----------------------

<b>C1(2) - Dynamic Radial Rating (Two-Rows)</b>	137000 N 30800 lbf
---	-----------------------

## Factors

<b>e - ISO Factor<sup>3</sup></b>	0.36
-----------------------------------	------

<b>Y0 - ISO Factor<sup>4</sup></b>	1.83
------------------------------------	------

<b>Y1 - ISO Factor<sup>5</sup></b>	1.87
------------------------------------	------

<b>Y2 - ISO Factor<sup>6</sup></b>	2.79
------------------------------------	------

<b>Reference Thermal Speed Rating (Grease)</b>	5600 rpm
--	----------

<b>Reference Thermal Speed Rating (Oil)<sup>7</sup></b>	6700 rpm
---	----------

<b>Cg - Geometry Factor<sup>8</sup></b>	0.0458
---	--------

<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.

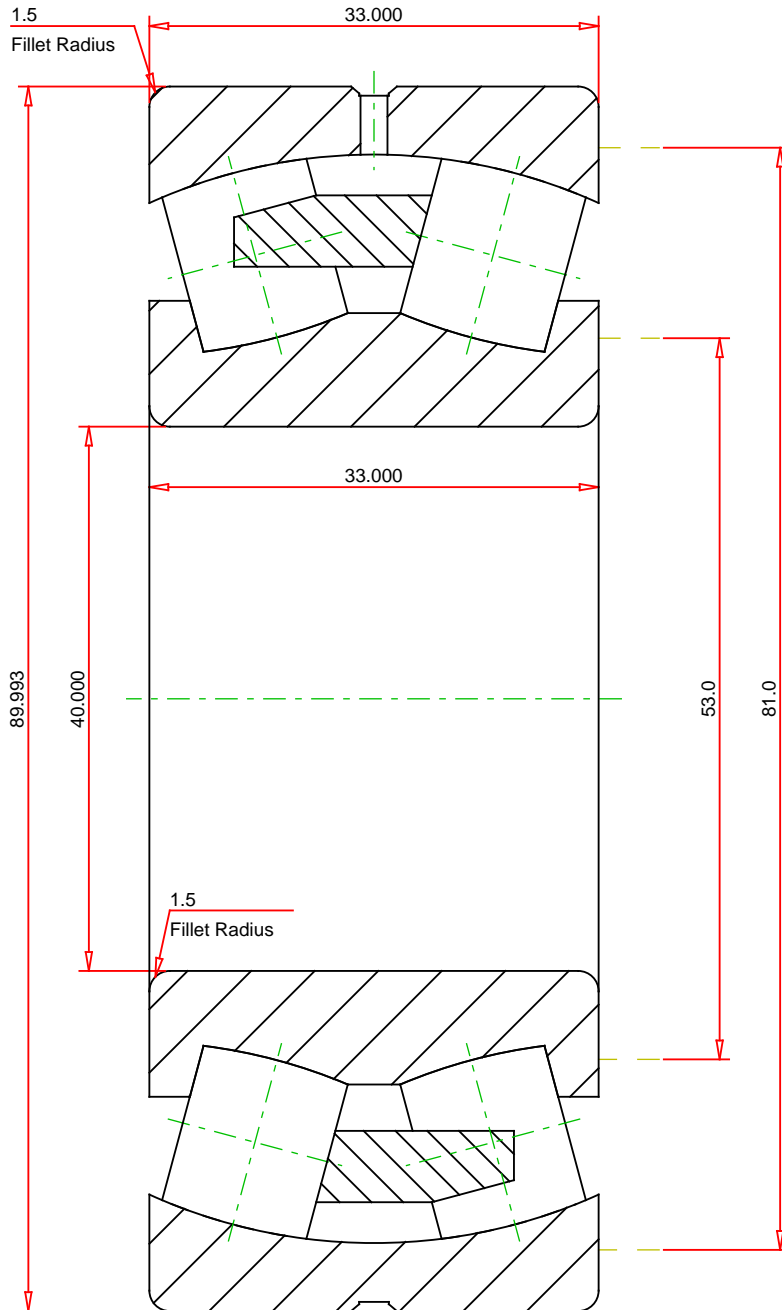
<sup>4</sup> These factors apply for both inch and metric calculations. See engineering

<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 a3l.



METRIC UNITS

Number of Rollers Per Row	14
ISO Factor e	0.36
ISO Factor Y0	1.83
ISO Factor Y1	1.87
ISO Factor Y2	2.79
Bearing Weight	1.1 kg
Cage Type	EM
Cage Material	Brass



22308EMW33W800  
SRB ASSEMBLY

THE TIMKEN COMPANY  
NORTH CANTON, OHIO USA

Dynamic Radial Rating (Two Rows)	137000	N
Static Radial Rating	147000	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