


The Timken Company

4500 Mt Pleasant St. NW

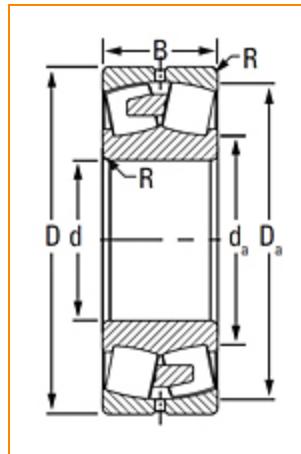
N. Canton, OH 44720

Phone: (234) 262-3000

E-Mail: CustomerCAD@timken.com • **Web site:** www.timken.com

Part Number 22220EMW33C3, 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

Design Unit	Metric
d - Bore	100 mm
Cage Type	EM
Cage Material	Brass
Superseded Part	22220YMW33C3

Dimensions

D - Outer Diameter	180 mm 7.0866 in
 - Inner Ring Width	46 mm 1.811 in

B - Outer Ring Width	46 mm 1.811 in
-----------------------------	-------------------

Abutment and Fillet Dimensions

R - Inner Ring "To Clear" Radius¹	2 mm 0.080 in
---	------------------

r - Outer Ring "To Clear" Radius²	2 mm 0.08 in
---	-----------------

da - Inner Ring Backing Diameter	120 mm 4.7000 in
---	---------------------

Da - Outer Ring Backing Diameter	163.000 mm 6.400 in
---	------------------------

Basic Load Ratings

C0 - Static Radial Rating	502000 N 113000 lbf
----------------------------------	------------------------

C1(2) - Dynamic Radial Rating (Two-Rows)	435000 N 97700 lbf
---	-----------------------

Factors

e - ISO Factor³	0.24
-----------------------------------	------

Y0 - ISO Factor⁴	2.78
------------------------------------	------

Y1 - ISO Factor⁵	2.85
------------------------------------	------

Y2 - ISO Factor⁶	4.24
------------------------------------	------

Reference Thermal Speed Rating (Grease)	3100 rpm
--	----------

Reference Thermal Speed Rating (Oil)⁷	3800 rpm
---	----------

Cg - Geometry Factor⁸

0.0694

¹ Maximum housing fillet radius that bearing corners will clear.

² Maximum shaft fillet radius that bearing corners will clear.

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

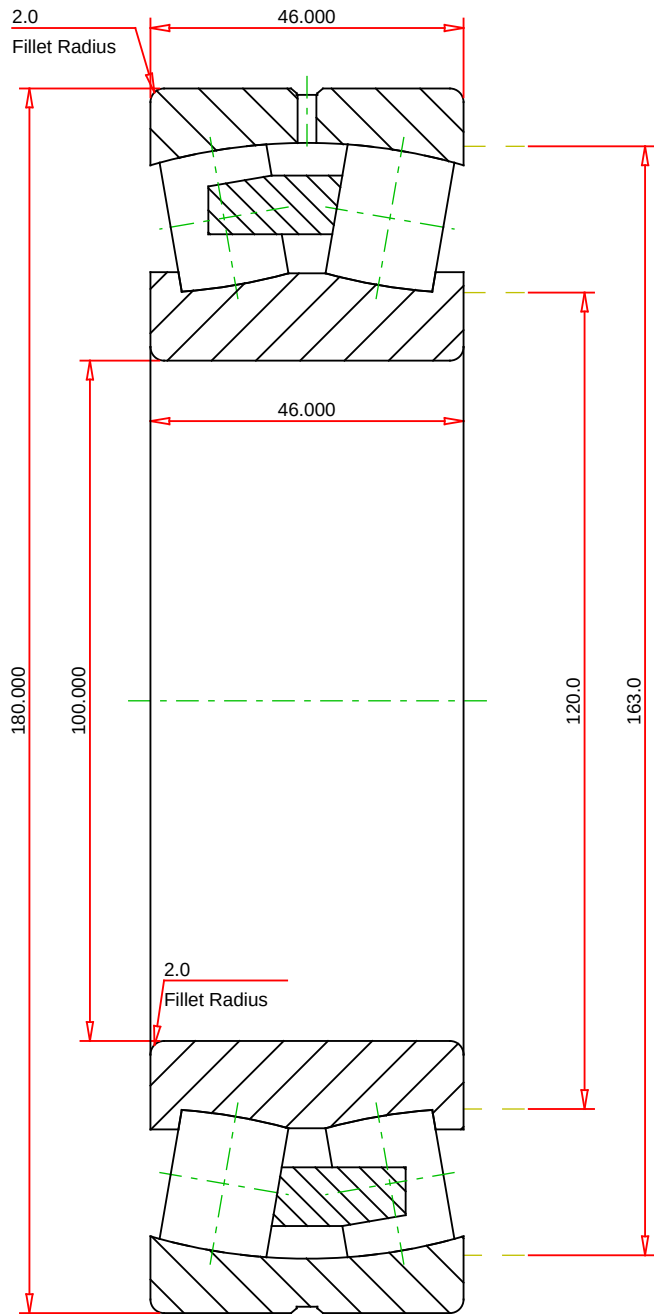
⁴ These factors apply for both inch and metric calculations. See engineering

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

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

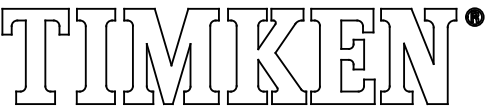
⁷ See thermal speed ratings in the engineering section.

⁸ Geometry constant for Lubrication Life Adjustment Factor a_3 .



METRIC UNITS

Number of Rollers Per Row	19
ISO Factor e	0.24
ISO Factor Y0	2.78
ISO Factor Y1	2.85
ISO Factor Y2	4.24
Bearing Weight	5.0 kg
Cage Type	EM
Cage Material	Brass



THE TIMKEN COMPANY

NORTH CANTON, OHIO USA

22220EMW33C3 SRB ASSEMBLY		
Dynamic Radial Rating (Two Rows)	435000	N
Static Radial Rating	502000	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