NOMENCLATURE

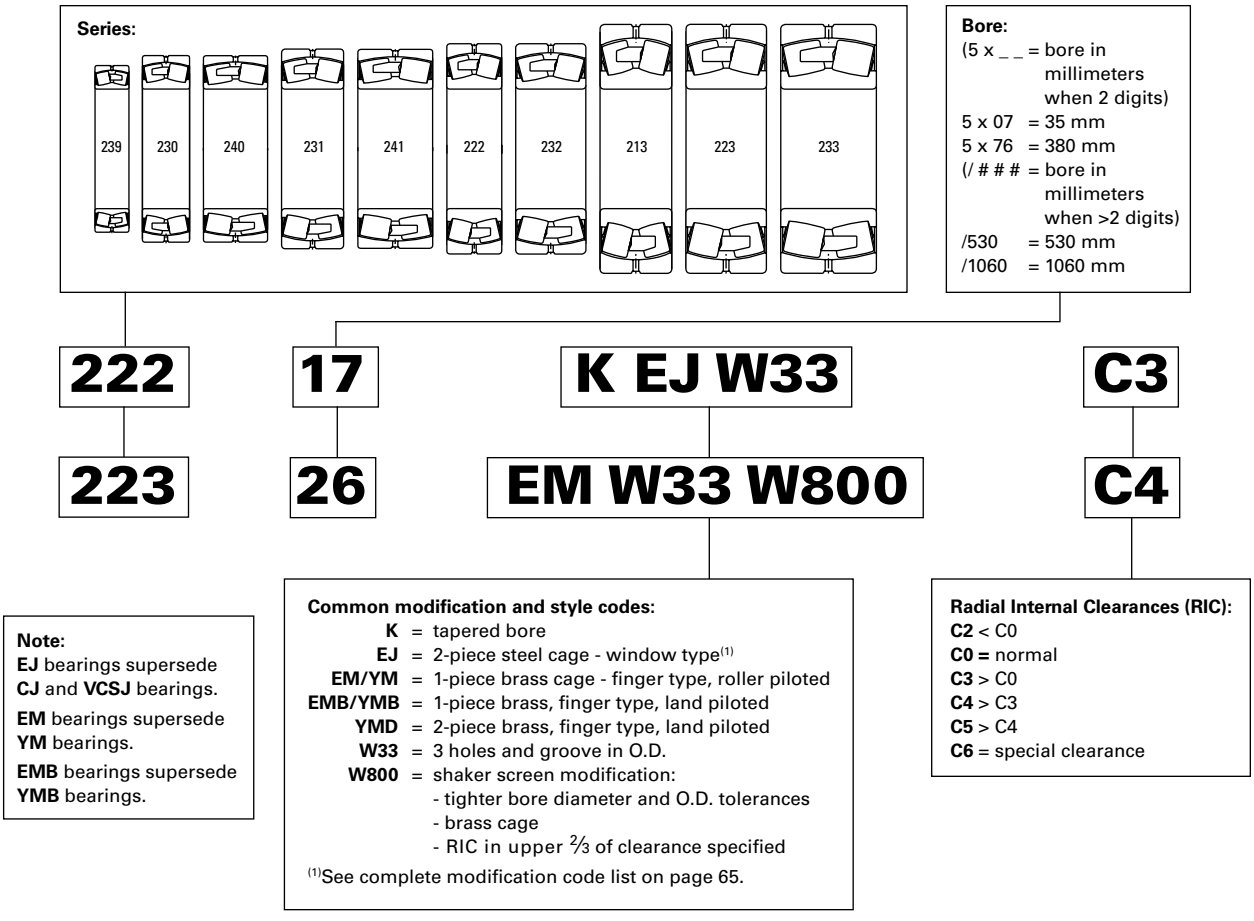

Fig. 23. Timken spherical roller bearing nomenclature.

SPHERICAL ROLLER BEARINGS

- Shaft and housing fits, internal clearances, tolerances and other technical data for these bearings are found in the engineering section of this catalog and the Timken Engineering Manual (order no. 10424).
- Bearings are available with a tapered bore for adapter-type mounting. To order, add the suffix "K" to bearing number (e.g., 23120K).
- Consult your Timken sales engineer for up-to-date information about the availability of the bearings you have selected.

Bearing Part Number	Bearing Dimensions			Load Ratings		Cage Type	Mounting Data			Equivalent Radial Load Factors[2]				Geometry Factor[3] C_g	Speed Reference			Weight
	Bore d	O.D. D	Width B	Dynamic C	Static C_o		Fillet[1] (Max.) R	Backing Diameter Shaft d_a	Backing Diameter Housing D_a	e	Dynamic $\frac{F_a}{F_r} \le e$ X = 1 Y	Dynamic $\frac{F_a}{F_r} > e$ X = 0.67 Y	Static In All Cases Y_0		Thermal Reference Speed[4] Oil	Thermal Reference Speed[4] Grease	Limiting Speed[5]	
	mm in.	mm in.	mm in.	kN lbf.	kN lbf.		mm in.	mm in.	mm in.						RPM	RPM	RPM	kg lbs.
22205	**25** 0.9843	**52** 2.0472	**18** 0.7087	**50.6** 11400	**43.1** 9690	EJ	**1** 0.04	**30** 1.2	**47** 1.9	0.34	2.00	2.98	1.96	0.033	11500	9200	17220	**0.2** 0.4
21305	**25** 0.9843	**62** 2.4409	**17** 0.6693	**55.5** 12500	**44.3** 9970	EJ	**1** 0.04	**35** 1.4	**55** 2.1	0.27	2.48	3.70	2.43	0.037	10100	8100	13720	**0.3** 0.6
22206	**30** 1.1811	**62** 2.4409	**20** 0.7874	**67.4** 15200	**60.8** 13700	EJ	**1** 0.04	**38** 1.5	**56** 2.2	0.31	2.15	3.20	2.10	0.037	9700	7800	13360	**0.3** 0.6
22206	**30** 1.1811	**62** 2.4409	**20** 0.7874	**64.3** 14400	**56.8** 12800	EM	**1** 0.04	**38** 1.5	**56** 2.2	0.31	2.15	3.20	2.10	0.036	9900	7900	14030	**0.3** 0.6
21306	**30** 1.1811	**72** 2.8346	**19** 0.7480	**70.3** 15800	**56.5** 12700	EJ	**1** 0.04	**41** 1.6	**64** 2.5	0.26	2.60	3.87	2.54	0.041	8900	7200	11590	**0.4** 0.9
22207	**35** 1.3780	**72** 2.8346	**23** 0.9055	**90.5** 20300	**88** 19700	EJ	**1** 0.04	**45** 1.8	**65** 2.6	0.31	2.21	3.29	2.16	0.041	8600	6900	11900	**0.4** 1.0
22207	**35** 1.3780	**72** 2.8346	**23** 0.9055	**86.5** 19400	**82** 18500	EM	**1** 0.04	**45** 1.8	**65** 2.6	0.31	2.21	3.29	2.16	0.041	8700	7000	13290	**0.4** 1.0
21307	**35** 1.3780	**80** 3.1496	**21** 0.8268	**90.2** 20300	**77.8** 17500	EJ	**1.5** 0.06	**47** 1.9	**71** 2.8	0.26	2.56	3.81	2.50	0.044	7900	6400	10580	**0.5** 1.1
22208	**40** 1.5748	**80** 3.1496	**23** 0.9055	**104** 23400	**99.7** 22400	EJ	**1** 0.04	**50** 2.0	**73** 2.9	0.27	2.47	3.67	2.41	0.044	7500	6000	10980	**0.5** 1.2
22208	**40** 1.5748	**80** 3.1496	**23** 0.9055	**99.6** 22400	**93.4** 21000	EM	**1** 0.04	**50** 2.0	**73** 2.9	0.27	2.47	3.67	2.41	0.044	7600	6100	9990	**0.5** 1.2
21308	**40** 1.5748	**90** 3.5433	**23** 0.9055	**113** 25400	**102** 22900	EJ	**1.5** 0.06	**54** 2.1	**80** 3.2	0.26	2.64	3.93	2.58	0.048	7100	5800	9240	**0.7** 1.5
22308	**40** 1.5748	**90** 3.5433	**33** 1.2992	**155** 34900	**147** 33100	EJ	**1.5** 0.06	**53** 2.1	**81** 3.2	0.36	1.87	2.79	1.83	0.046	6700	5600	7560	**1.0** 2.2
22308	**40** 1.5748	**90** 3.5433	**33** 1.2992	**147** 33100	**137** 30800	EM	**1.5** 0.06	**53** 2.1	**81** 3.2	0.36	1.87	2.79	1.83	0.045	6700	5600	8040	**1.1** 2.3
22209	**45** 1.7717	**85** 3.3465	**23** 0.9055	**109** 24500	**108** 24200	EJ	**1** 0.04	**55** 2.2	**77** 3.0	0.26	2.64	3.93	2.58	0.046	6800	5500	10400	**0.6** 1.3
22209	**45** 1.7717	**85** 3.3465	**23** 0.9055	**104** 23500	**101** 22800	EM	**1** 0.04	**55** 2.2	**77** 3.0	0.26	2.64	3.93	2.58	0.046	6900	5600	9400	**0.6** 1.3
21309	**45** 1.7717	**100** 3.9370	**25** 0.9843	**138** 31000	**125** 28200	EJ	**1.5** 0.06	**60** 2.4	**90** 3.5	0.25	2.75	4.09	2.69	0.052	6500	5300	8510	**1.0** 2.2
22309	**45** 1.7717	**100** 3.9370	**36** 1.4173	**190** 42700	**182** 40800	EJ	**1.5** 0.06	**58** 2.3	**90** 3.5	0.36	1.90	2.83	1.86	0.049	6100	5100	7090	**1.3** 3.0
22309	**45** 1.7717	**100** 3.9370	**36** 1.4173	**180** 40500	**169** 37900	EM	**1.5** 0.06	**58** 2.3	**90** 3.5	0.36	1.90	2.83	1.86	0.048	6100	5100	7020	**1.4** 3.1

[1]Maximum shaft or housing fillet radius that bearing corners will clear.

[2]These factors apply for both inch and metric calculations. See engineering section for instructions on use.

[3]Geometry constant for Lubrication Life Factor a31 is found in the Bearing Ratings section of the Engineering Manual (order no. 10424).

[4]See thermal reference speed in the Engineering Manual (order no. 10424) and on page 61.

[5]See limiting speed on page 61.

Continued on next page.