

NOMENCLATURE

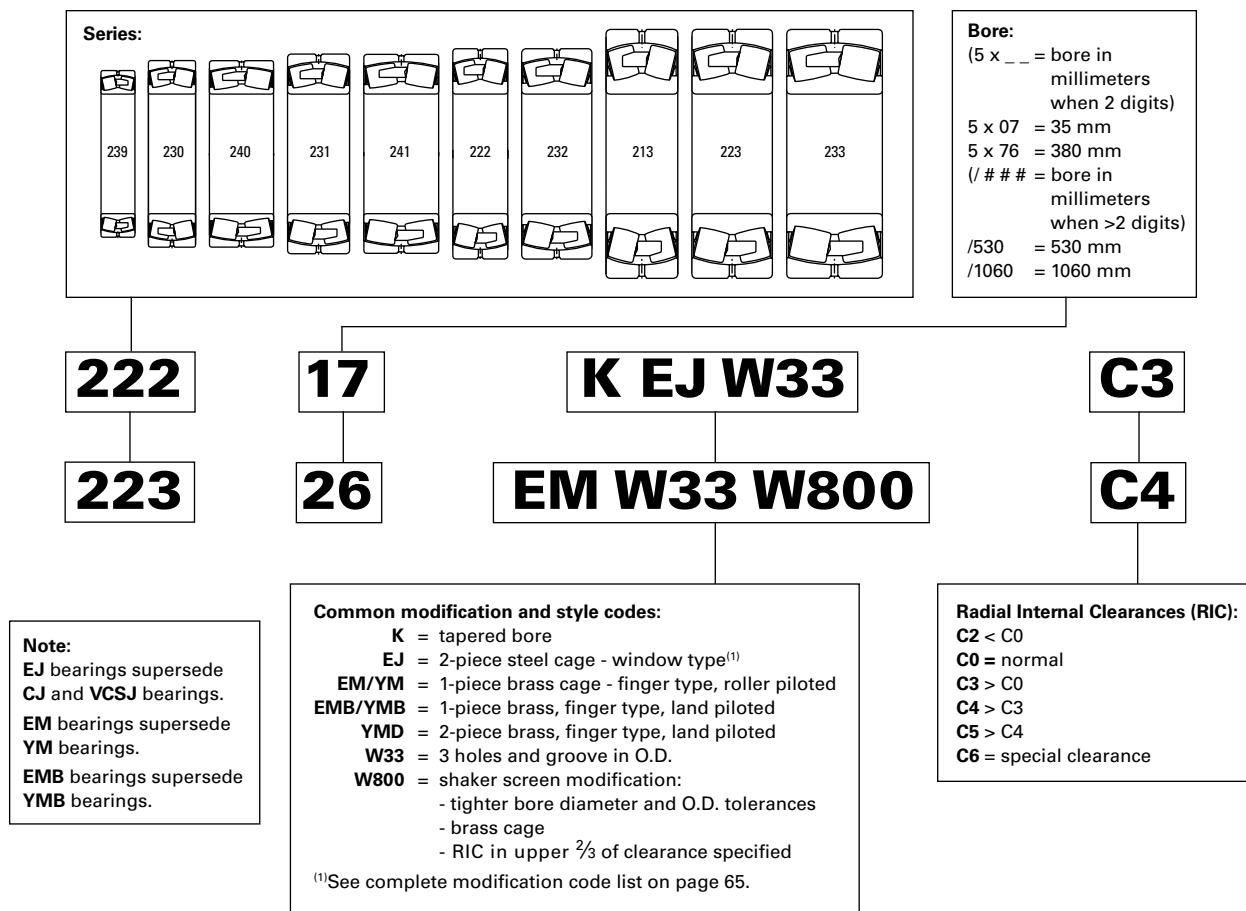
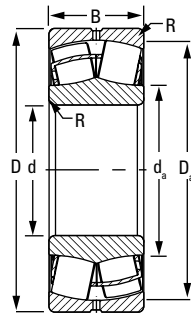
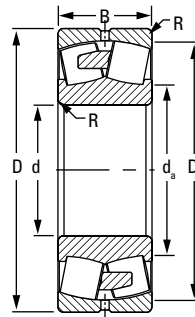


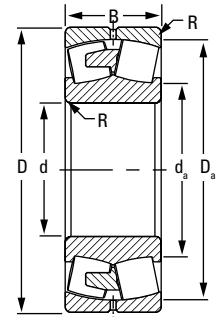
Fig. 23. Timken spherical roller bearing nomenclature.



EJ



EM/YM



EMB/YMB

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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 ₀		Fillet ⁽¹⁾ (Max.) R	Backing Diameter		Dynamic		Static	Thermal Reference Speed ⁽⁴⁾		Limiting Speed ⁽⁵⁾			
								Shaft d _a	Housing D _a	e	F _a ≤ e F _r X = 1 Y	F _a > e F _r X = 0.67 Y				In All Cases Y ₀		
	mm in.	mm in.	mm in.	kN lbf.	kN lbf.		mm in.	mm in.	mm in.						RPM	RPM	RPM	kg lbs.
22210	50 1.9685	90 3.5433	23 0.9055	117 26300	118 26600	EJ	1 0.04	59 2.3	82 3.2	0.24	2.84	4.23	2.78	0.049	6200	5000	9450	0.6 1.3
22210	50 1.9685	90 3.5433	23 0.9055	112 25200	112 25100	EM	1 0.04	59 2.3	82 3.2	0.24	2.84	4.23	2.78	0.048	6300	5100	9110	0.6 1.3
21310	50 1.9685	110 4.3307	27 1.0630	163 36700	151 33800	EJ	2 0.08	67 2.6	99 3.9	0.24	2.83	4.21	2.76	0.055	5900	4900	7710	1.2 2.6
22310	50 1.9685	110 4.3307	40 1.5748	238 53500	241 54200	EJ	2 0.08	65 2.6	98 3.9	0.36	1.89	2.81	1.85	0.055	5500	4600	6430	1.9 4.2
22310	50 1.9685	110 4.3307	40 1.5748	227 51000	225 50600	EM	2 0.08	65 2.6	98 3.9	0.36	1.89	2.81	1.85	0.052	5600	4700	6630	1.9 4.2
22211	55 2.1654	100 3.9370	25 0.9843	140 31400	142 31900	EJ	1.5 0.06	66 2.6	91 3.6	0.23	2.95	4.40	2.89	0.052	5800	4700	8980	0.8 1.8
22211	55 2.1654	100 3.9370	25 0.9843	134 30100	134 30100	EM	1.5 0.06	66 2.6	91 3.6	0.23	2.95	4.40	2.89	0.052	5900	4700	8910	0.9 1.9
21311	55 2.1654	120 4.7244	29 1.1417	188 42400	176 39500	EJ	2 0.08	73 2.9	108 4.2	0.24	2.81	4.18	2.75	0.051	5500	4500	6930	1.6 3.5
22311	55 2.1654	120 4.7244	43 1.6929	266 59800	265 59500	EJ	2 0.08	69 2.7	106 4.2	0.36	1.89	2.81	1.84	0.050	5100	4300	5890	2.4 5.3
22311	55 2.1654	120 4.7244	43 1.6929	266 59800	265 59500	EM	2 0.08	69 2.7	106 4.2	0.36	1.89	2.81	1.84	0.050	5200	4400	6110	2.4 5.3
22212	60 2.3622	110 4.3307	28 1.1024	169 38100	174 39000	EJ	1.5 0.06	72 2.8	100 4.0	0.24	2.84	4.23	2.78	0.055	5500	4400	7960	1.1 2.5
22212	60 2.3622	110 4.3307	28 1.1024	163 36600	164 36900	EM	1.5 0.06	72 2.8	100 4.0	0.24	2.84	4.23	2.78	0.055	5600	4500	9000	1.2 2.6
21312	60 2.3622	130 5.1181	31 1.2205	225 50500	219 49200	EJ	2 0.08	80 3.2	116 4.6	0.23	2.91	4.33	2.84	0.054	5100	4200	6660	2.0 4.4
22312	60 2.3622	130 5.1181	46 1.8110	306 68800	307 69000	EJ	2 0.08	77 3.0	117 4.6	0.34	1.98	2.94	1.93	0.053	4700	4000	5360	3.0 6.6
22312	60 2.3622	130 5.1181	46 1.8110	306 68800	307 69000	EM	2 0.08	77 3.0	117 4.6	0.34	1.98	2.94	1.93	0.053	4900	4100	5540	3.0 6.6
22213	65 2.5591	120 4.7244	31 1.2205	206 46400	216 48600	EJ	1.5 0.06	78 3.1	109 4.3	0.24	2.79	4.15	2.73	0.051	5100	4200	7320	1.5 3.3

⁽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.

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