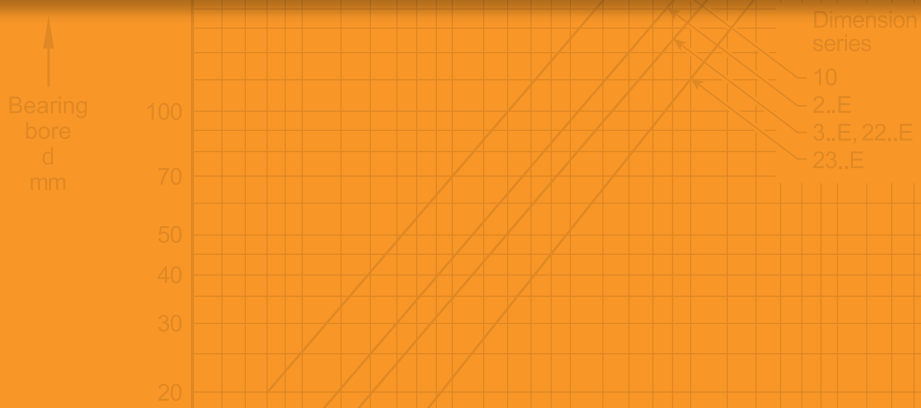


TIMKEN



TIMKEN SPHERICAL ROLLER BEARING CATALOG



SPHERICAL ROLLER BEARINGS – continued

- 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.

Continued from previous page.

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		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		
											Oil	Grease						
	mm in.	mm in.	mm in.	kN lbf.	kN lbf.		mm in.	mm in.	mm in.						RPM	RPM	RPM	kg lbs.
22319	95 3.7402	200 7.8740	67 2.6378	694 156000	774 174000	EJ	2.5 0.1	122 4.8	180 7.1	0.32	2.10	3.13	2.05	0.072	3000	2600	3470	10.2 22.4
22319	95 3.7402	200 7.8740	67 2.6378	663 149000	725 163000	EM	2.5 0.1	122 4.8	180 7.1	0.32	2.10	3.13	2.05	0.071	3100	2600	4020	10.2 22.4
24020	100 3.9370	150 5.9055	50 1.9685	352 79100	506 114000	EJ	1.5 0.06	111 4.4	139 5.5	0.29	2.32	3.45	2.26	0.065	3200	2700	4060	3.0 6.6
21320	100 3.9370	215 8.4646	47 1.8504	521 119000	530 121000	EJ	2.5 0.1	133 5.2	193 7.6	0.22	3.13	4.66	3.06	0.075	3400	2800	4190	8.1 17.7
23120	100 3.9370	165 6.4961	52 2.0472	446 100000	583 131000	EJ	2 0.08	114 4.5	150 6.0	0.28	2.35	3.50	2.30	0.067	3200	2700	4070	4.4 9.7
23120	100 3.9370	165 6.4961	52 2.0472	446 100000	583 131000	EM	2 0.08	114 4.5	150 6.0	0.28	2.35	3.50	2.30	0.067	3200	2700	4060	4.4 9.7
22220	100 3.9370	180 7.0866	46 1.8110	435 97700	502 113000	EJ	2 0.08	120 4.7	163 6.4	0.24	2.85	4.24	2.78	0.069	3800	3100	4990	5.0 11.0
22220	100 3.9370	180 7.0866	46 1.8110	435 97700	502 113000	EM	2 0.08	120 4.7	163 6.4	0.24	2.85	4.24	2.78	0.069	3800	3100	5230	5.0 11.0
23220	100 3.9370	180 7.0866	60.3 2.3740	554 124000	678 152000	EJ	2 0.08	119 4.7	164 6.5	0.30	2.22	3.30	2.17	0.070	2700	2300	3780	6.6 14.5
23220	100 3.9370	180 7.0866	60.3 2.374	554 124000	678 152000	EM	2 0.08	119 4.7	164 6.5	0.30	2.22	3.30	2.17	0.070	2700	2300	3440	6.6 14.5
22320	100 3.9370	215 8.4646	73 2.8740	804 181000	910 205000	EJ	2.5 0.1	131 5.1	193 7.6	0.33	2.06	3.07	2.02	0.075	2800	2400	3250	12.7 28.2
22320	100 3.9370	215 8.4646	73 2.8740	768 173000	853 192000	EM	2.5 0.1	130 5.1	193 7.6	0.33	2.06	3.07	2.02	0.074	2900	2500	3810	12.8 28.2
23022	110 4.3307	170 6.6929	45 1.7717	391 88000	534 120000	EJ	2 0.08	125 4.9	158 6.2	0.23	2.90	4.32	2.84	0.071	3600	2900	4300	3.6 7.9
24022	110 4.3307	170 6.6929	60 2.3622	493 111000	706 159000	EJ	2 0.08	122 4.8	157 6.2	0.31	2.15	3.21	2.11	0.070	2900	2500	3660	4.9 10.8
23122	110 4.3307	180 7.0866	56 2.2047	518 116000	686 154000	EJ	2 0.08	126 5.0	166 6.5	0.28	2.40	3.58	2.35	0.072	2900	2500	3730	5.6 12.3
23122	110 4.3307	180 7.0866	56 2.2047	518 116000	686 154000	EM	2 0.08	126 5.0	166 6.5	0.28	2.40	3.58	2.35	0.072	2900	2500	3720	5.6 12.3
24122	110 4.3307	180 7.0866	69 2.7165	595 134000	811 182000	EJ	2 0.08	124 4.9	164 6.5	0.34	1.96	2.92	1.92	0.071	2100	1800	3000	6.7 14.7
22222	110 4.3307	200 7.8740	53 2.0866	555 125000	653 147000	EJ	2 0.08	133 5.2	182 7.2	0.25	2.73	4.06	2.67	0.074	3500	2900	4410	7.2 15.8

⁽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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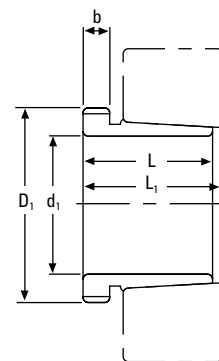
METRIC ACCESSORIES INDEX

Bearing Bore mm	Bearing Part Number	Adapter Sleeve		Withdrawal Sleeve	
		Metric Shaft	Hydraulic Metric Shaft	Metric Shaft	Hydraulic Metric Shaft
25	22205K	H305			
30	22206K	H306			
35	22207K	H307			
40	21308K	H308		AH308	
40	22208K	H308		AH308	
40	22308K	H2308		AH2308	
45	21309K	H309		AH309	
45	22209K	H309		AH309	
45	22309K	H2309		AH2309	
50	21310K	H310		AHX310	
50	22210K	H310		AHX310	
50	22310K	H2310		AHX2310	
55	21311K	H311		AHX311	
55	22211K	H311		AHX311	
55	22311K	H2311		AHX2311	
60	21312K	H312		AHX312	
60	22212K	H312		AHX312	
60	22312K	H2312		AHX2312	
65	21313K	H313		AH313G	
65	22213K	H313		AH313G	
65	22313K	H2313		AH2313G	
70	21314K	H314		AH314G	
70	22214K	H314		AH314G	
70	22314K	H2314		AHX2314G	
75	21315K	H315		AH315G	
75	22215K	H315		AH315G	
75	22315K	H2315		AHX2315G	
80	21316K	H316		AH316	
80	22216K	H316		AH316	
80	22316K	H2316		AHX2316	
85	21317K	H317		AHX317	
85	22217K	H317		AHX317	
85	22317K	H2317		AHX2317	
90	21318K	H318		AHX318	
90	22218K	H318		AHX318	
90	22318K	H2318		AHX2318	
90	23218K	H2318		AHX3218	
95	22219K	H319		AHX319	
95	22319K	H2319		AHX2319	
100	22220K	H320		AHX320	
100	22320K	H2320		AHX2320	
100	23120K	H3120		AHX3120	
100	23220K	H2320		AHX3220	
105	23221K	H2321			
110	22222K	H322		AHX3122	
110	22322K	H2322		AHX2322G	
110	23022K	H322		AHX322	
110	23122K	H3122		AHX3122	
110	23222K	H2322		AHX3222G	
110	24122K			AH24122	

Continued on next page.

METRIC AH WITHDRAWAL SLEEVES – continued

- Sleeves used in the dismounting of tapered bore bearing from shaft.
- Effective dismounting.
- Other dimensions may be available, consult your Timken sales engineer.



Continued from previous page.

d ₁	Withdrawal Sleeve Part Number	L	L ₁ ⁽¹⁾	b	Thread ⁽²⁾ D ₁	Weight	Appropriate Withdrawal Nut No.	Appropriate Hydraulic Nut
mm		mm	mm	mm	mm	kg		
105	AHX322	63	67	12	M 120X2	0.66	KM24	HMV24
105	AHX3122	68	72	11	M 120X2	0.76	KM24	HMV24
105	AH24122	82	91	13	M 115x2	0.73	KM23	HMV23
105	AHX3222G	82	86	11	M 120X2	1.00	KM24	HMV24
105	AHX2322G	98	102	16	M 120X2	1.26	KM24	HMV24
115	AHX3024	60	64	13	M 130x2	0.75	KM26	HMV26
115	AH24024	73	82	13	M 125x2	0.65	KM25	HMV25
115	AHX3124	75	79	12	M 130x2	0.95	KM26	HMV26
115	AHX3224G	90	94	13	M 130x2	1.20	KM26	HMV26
115	AH24124	93	102	13	M 130x2	1.00	KM26	HMV26
115	AHX2324G	105	109	17	M 130x2	1.49	KM26	HMV26
125	AHX3026	67	71	14	M 140x2	0.93	KM28	HMV28
125	AHX3126	78	82	12	M 140x2	1.09	KM28	HMV28
125	AH24026	83	93	14	M 135x2	0.84	KM27	HMV27
125	AH24126	94	104	14	M 140x2	1.15	KM28	HMV28
125	AHX3226G	98	102	15	M 140x2	1.47	KM28	HMV28
125	AHX2326G	115	119	19	M 140x2	1.83	KM28	HMV28
135	AHX3028	68	73	14	M 150x2	1.01	KM30	HMV30
135	AH24028	83	93	14	M 145x2	0.91	KM29	HMV29
135	AHX3128	83	88	14	M 150x2	1.28	KM30	HMV30
135	AH24128	99	109	14	M 150x2	1.25	KM30	HMV30
135	AHX3228G	104	109	15	M 150x2	1.72	KM30	HMV30
135	AHX2328G	125	130	20	M 150x2	2.22	KM30	HMV30
145	AHX3030	72	77	15	M 160x3	1.15	KM32	HMV32
145	AHX3130G	96	101	15	M 160x3	1.64	KM32	HMV32
145	AHX3230G	114	119	17	M 160x3	2.07	KM32	HMV32
145	AH24130	115	126	15	M 160x3	1.60	KM32	HMV32
145	AHX2330G	135	140	24	M 160x3	2.60	KM32	HMV32

⁽¹⁾Dimension L₁ decreases as the withdrawal sleeve is driven in during mounting.

⁽²⁾M means metric thread and the digits are major diameter of thread and pitch.

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