



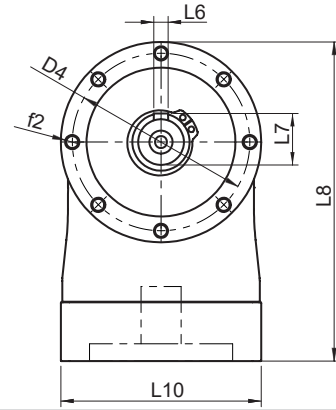
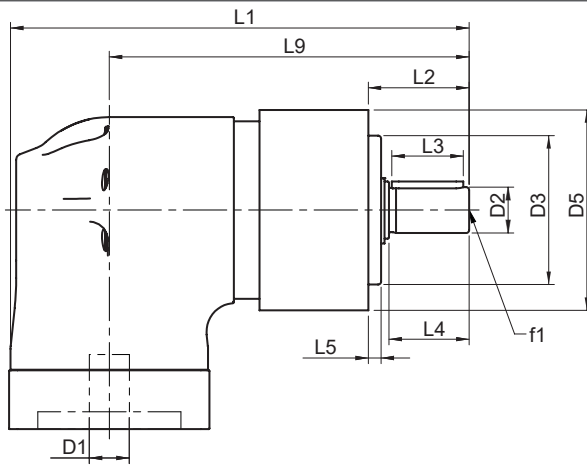
# EPR SERIES - EPR-A



EPR-A Series		70	90	120	
All Ratios Available		1-Stage Planetary: 3, 4, 5, 7, 10 2-Stage Planetary: 12, 16, 20, 25, 35, 40, 50, 70, 100 3-Stage Planetary: 120, 160, 200, 250, 350, 490, 700, 1000 (Consult GAM for other ratios)			
		3:1	16 (142)	33 (292)	82 (726)
Nominal Output Torque ( $T_{2n}$ )	Nm (lb-in)	4, 5, 7:1	22 (195)	45 (398)	101 (894)
		10, 100, 1000:1	14 (124)	34 (301)	90 (797)
		all other ratios	30 (266)	71 (628)	149 (1319)
		3:1	30 (266)	57 (504)	148 (1310)
Max Acceleration Output Torque ( $T_{2B}$ )	Nm (lb-in)	4, 5, 7:1	37 (327)	84 (743)	168 (1487)
		10, 100, 1000:1	21 (186)	65 (575)	155 (1372)
		all other ratios	37 (327)	89 (788)	181 (1602)
		3:1	72 (637)	160 (1416)	200 (1770)
Emergency Output Torque ( $T_{2not}$ )	Nm (lb-in)	4, 5, 7:1	84 (743)	216 (1912)	480 (4248)
		10, 100, 1000:1	62 (549)	160 (1416)	410 (3629)
		all other ratios	84 (743)	216 (1912)	480 (4248)
		-	3300	2900	2400
Nominal Speed ( $n_{1n}$ )	RPM	-	6000	6000	5000
Max Speed ( $n_{1max}$ )	RPM	-	6000	6000	5000
Standard Output Backlash* (j)	arcmin	1-stage	< 12	< 12	< 10
		2-stage	< 14	< 14	< 12
		3-stage	< 15	< 15	< 12
Allowable Radial Load ( $F_{rad}$ ) <sup>1)</sup>	N (lbs)	-	1550 (348)	2400 (540)	4600 (1034)
Allowable Axial Load ( $F_{axial}$ )	N (lbs)	-	1450 (326)	1900 (427)	4000 (899)
Torsional Stiffness* ( $C_{221}$ )	Nm/arcmin (lb-in/arcmin)	10,100,1000	2.8 (25)	5.4 (48)	10 (89)
		7,70,700	3.2 (28)	6.8 (60)	16 (142)
		all other ratios	3.9 (35)	9.1 (81)	19 (168)
Weight (m)	kg (lbs)	1-stage	3.0 (6.6)	5.6 (12)	15 (33)
		2-stage	3.3 (7.3)	6.4 (14)	17 (37)
		3-stage	3.6 (7.9)	7.2 (16)	19 (42)
Noise Level ( $L_{pA}$ )	dB(A)	-	< 75	< 78	< 78
Mass Moment of Inertia ( $J_1$ )	kg cm <sup>2</sup> (lb-in <sup>2</sup> )	3:1	0.95 (0.32)	5.4 (1.8)	22 (7.5)
		4:1, 12:1, 16:1	0.88 (0.30)	5.1 (1.7)	20 (6.8)
		5:1, 20:1, 25:1	0.86 (0.29)	5.1 (1.7)	20 (6.8)
		7:1, 35:1	0.85 (0.29)	5.0 (1.7)	19 (6.5)
		10:1, 40:1 - 100:1	0.84 (0.29)	4.9 (1.7)	19 (6.5)
		120:1 - 1000:1	0.84 (0.29)	4.9 (1.7)	19 (6.5)
Efficiency at Load	1-stage: 92% 2-stage: 90% 3-stage: 88%				
Service Life	> 30,000 hours				
Lubrication	Mineral Grease EPO				
Protection Rating	IP 64				
Operating Temperature Range	-20°C to 90°C				

1) Load applied at center of output shaft @100 RPM

\* See page 224 for definitions

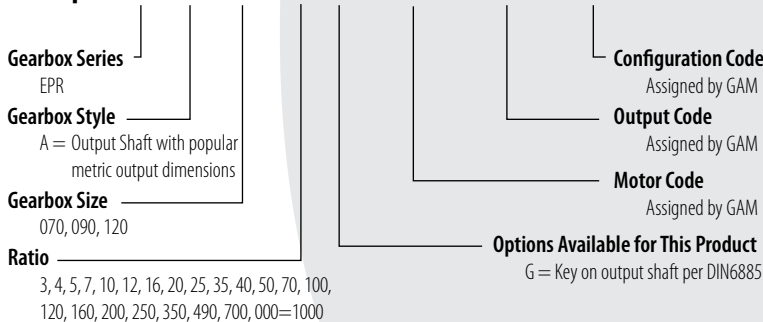


EPR-A Series		70		90		120	
		mm	(in)	mm	(in)	mm	(in)
D1 <sup>max standard</sup>	motor shaft diameter	14	(0.551)	19	(0.748)	24	(0.945)
D2 k6	output shaft diameter	16	(0.630)	22	(0.866)	32	(1.260)
D3 h7	pilot diameter	52	(2.047)	68	(2.677)	90	(3.543)
D4	bolt circle	62	(2.441)	80	(3.150)	108	(4.252)
D5	housing diameter	70	(2.756)	90	(3.543)	118	(4.646)
f1	shaft thread	M5x17		M8x25		M12x37	
f2	mounting holes	(8x) M5x12		(8x) M6x14		(8x) M8x18	
L1 (1-stage)*	gearbox total length	161	(6.339)	212	(8.346)	300.5	(11.831)
L1 (2-stage)*		183	(7.205)	244	(9.606)	341.5	(13.445)
L1 (3-stage)*		205	(8.071)	277	(10.906)	382.5	(15.059)
L2	shaft length	36	(1.417)	46	(1.811)	70	(2.756)
L3	key length	25	(0.984)	30	(1.181)	50	(1.968)
L4	usable shaft length	28	(1.102)	35	(1.378)	58	(2.283)
L5	pilot height	5.5	(0.217)	9	(0.354)	7	(0.276)
L6	key width	5	(0.197)	6	(0.236)	10	(0.394)
L7	key height	18	(0.709)	24.5	(0.965)	35	(1.378)
L8**	gearbox height	111.5	(4.390)	156	(6.142)	184.5	(7.264)
L9 (1-stage)	length to input centerline	126	(4.961)	166	(6.535)	240.5	(9.469)
L9 (2-stage)		148	(5.827)	198	(7.795)	281.5	(11.083)
L9 (3-stage)		170	(6.693)	231	(9.094)	322.5	(12.697)
L10**	adapter size	70	(2.756)	90	(3.543)	120	(4.724)

\*depending on the motor, value can vary

### TYPE CODES FOR EPR SERIES (EPR-A)

**Example: EPR - A - 090 - 005 G - M0000 - H0000 - C0000**



Shaft (Outer Diameter) Tolerances (mm)			
Over	To (incl.)	h6	k6
6	10	0 -0.009	+0.010 +0.001
10	18	0 -0.011	+0.012 +0.001
18	30	0 -0.013	+0.015 +0.002
30	50	0 -0.016	+0.018 +0.002
50	80	0 -0.019	+0.021 +0.002
80	120	0 -0.022	+0.025 +0.003
120	180	0 -0.025	+0.028 +0.003