



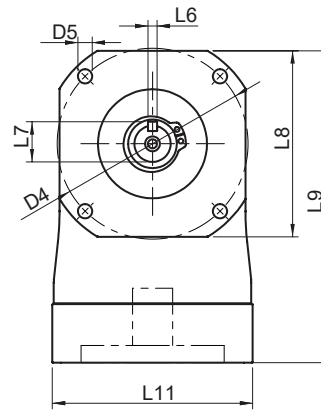
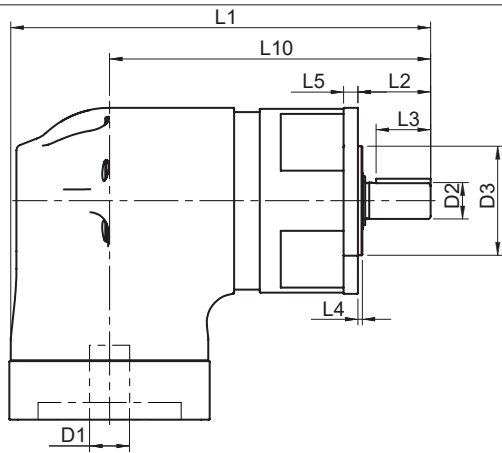
# ▶ EPR SERIES - EPR-X (NEMA)



EPR-X (NEMA) Series		23	34	42	56	
Stock Ratios		3, 5, 7, 10, 25, 50, 100		N/A	N/A	
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				
Nominal Output Torque ( $T_{2n}$ )	Nm (lb-in)	3:1	16 (142)	33 (292)	82 (726)	82 (726)
		4, 5, 7:1	22 (195)	45 (398)	101 (894)	101 (894)
		10, 100, 1000:1	14 (124)	34 (301)	90 (797)	90 (797)
		all other ratios	30 (266)	71 (628)	149 (1319)	149 (1319)
Max Accel. Torque ( $T_{2B}$ )	Nm (lb-in)	3:1	30 (266)	57 (504)	148 (1310)	148 (1310)
		4, 5, 7:1	37 (327)	84 (743)	168 (1487)	168 (1487)
		10, 100, 1000:1	21 (186)	65 (575)	155 (1372)	155 (1372)
		all other ratios	37 (327)	89 (788)	181 (1602)	181 (1602)
Emergency Output Torque ( $T_{2not}$ )	Nm (lb-in)	3:1	72 (637)	160 (1416)	200 (1770)	200 (1770)
		4, 5, 7:1	84 (743)	216 (1912)	480 (4248)	480 (4248)
		10, 100, 1000:1	62 (549)	160 (1416)	410 (3629)	410 (3629)
		all other ratios	84 (743)	216 (1912)	480 (4248)	480 (4248)
Nominal Speed ( $n_{in}$ )	RPM	-	3300	2900	2400	2400
Max Input Speed ( $n_{imax}$ )		-	6000	6000	5000	5000
Standard Output Backlash* (j)	arcmin	1-stage	< 12	< 12	< 10	< 10
		2-stage	< 14	< 14	< 12	< 12
		3-stage	< 15	< 15	< 12	< 12
Allowable Radial Load ( $F_{rad}$ ) <sup>1)</sup>	N (lbs)	-	450 (101)	900 (203)	2175 (489)	2175 (489)
Allowable Axial Load ( $F_{axial}$ )	N (lbs)	-	420 (95)	650 (146)	1375 (309)	1375 (309)
Torsional Stiffness* ( $C_{t21}$ )	Nm/arcmin (lb-in/arcmin)	10,100,1000	2.8 (25)	5.4 (48)	10 (89)	10 (89)
		7,70,700	3.2 (28)	6.8 (60)	16 (142)	16 (142)
		all other ratios	3.9 (35)	9.1 (81)	19 (168)	19 (168)
Weight (m)	kg (lbs)	1-stage	3.0 (6.6)	5.6 (12)	15 (33)	15 (33)
		2-stage	3.3 (7.3)	6.4 (14)	17 (37)	17 (37)
		3-stage	3.6 (7.9)	7.2 (16)	19 (42)	19 (42)
Noise Level ( $L_{pA}$ )	dB(A)	-	< 75	< 78	< 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)	22 (7.5)
		4:1, 12:1, 16:1	0.88 (0.30)	5.1 (1.7)	20 (6.8)	20 (6.8)
		5:1, 20:1, 25:1	0.86 (0.29)	5.1 (1.7)	20 (6.8)	20 (6.8)
		7:1, 35:1	0.85 (0.29)	5.0 (1.7)	19 (6.5)	19 (6.5)
		10:1, 40:1 - 100:1	0.84 (0.29)	4.9 (1.7)	19 (6.5)	19 (6.5)
120:1 - 1000:1	0.84 (0.29)	4.9 (1.7)	19 (6.5)	19 (6.5)	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

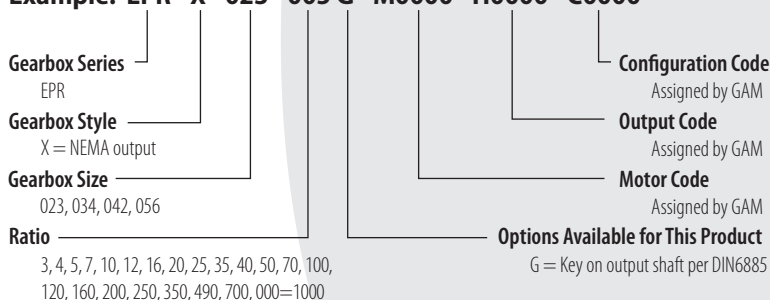


EPR-X Series		23		34		42		56	
		mm	(in)	mm	(in)	mm	(in)	mm	(in)
D1 <sub>max standard</sub>	motor shaft diameter	14	(0.55)	19	(0.748)	24	(0.945)	24	(0.945)
D2 k6	output shaft diameter	12.7	(0.50)	19.1	(0.75)	25	(0.984)	25	(0.984)
D3 h7	pilot diameter	38.1	(1.50)	73.0	(2.875)	55.55	(2.187)	114.30	(4.50)
D4	bolt circle	66.7	(2.625)	98.4	(3.875)	125.7	(4.95)	177.8	(7.000)
D5	mounting holes	5	(0.197)	5.5	(0.217)	7.1	(0.28)	10.2	(0.402)
L1 (1-stage)*	gearbox length	147.2	(5.795)	203	(7.992)	276.5	(10.886)	275.5	(10.846)
L1 (2-stage)*		169.2	(6.661)	236	(9.291)	316.5	(12.461)	316.0	(12.440)
L1 (3-stage)*		191.2	(7.528)	269	(10.591)	357.5	(14.075)	356.5	(14.035)
L2	shaft length	25.4	(1.000)	31.8	(1.25)	42	(1.654)	41	(1.614)
L3	key length	19.1	(0.75)	25.4	(1.00)	38	(1.496)	32	(1.26)
L4	pilot height	1.6	(0.063)	1.7	(0.067)	2.4	(0.094)	4	(0.157)
L5	flange thickness	5	(0.197)	10	(0.394)	19	(0.748)	20	(0.7874)
L6	key width	3.18	(0.125)	4.78	(0.188)	8	(0.315)	8	(0.315)
L7	key height / flat height	14.22	(0.56)	21.29	(0.838)	28	(1.102)	28	(1.102)
L8	flange size	65	(2.559)	90	(3.543)	120	(4.724)	145	(5.709)
L9**	gearbox height	109	(4.291)	154.7	(6.091)	184.5	(7.264)	184.5	(7.264)
L10 (1-stage)	length to input centerline	112.2	(4.417)	156	(6.142)	216.5	(8.524)	216.5	(8.524)
L10 (2-stage)		134.2	(5.283)	189	(7.441)	256.5	(10.098)	256.5	(10.098)
L10 (3-stage)		156.2	(6.150)	222	(8.740)	297.5	(11.713)	297.5	(11.713)
L11*	adapter size	70	(2.756)	90	(3.543)	120	(4.724)	120	(4.724)

\*depending on the motor, value can vary

### TYPE CODES FOR EPR SERIES (EPR-X (NEMA))

**Example: EPR - X - 023 - 005 G - M0000 - H0000 - C0000**



Shaft (Outer Diameter) Tolerances (mm)			
Over	To (incl.)	h7	k6
6	10	0 -0.015	+0.010 +0.001
10	18	0 -0.018	+0.012 +0.001
18	30	0 -0.021	+0.015 +0.002
30	50	0 -0.025	+0.018 +0.002
50	80	0 -0.030	+0.021 +0.002
80	120	0 -0.035	+0.025 +0.003
120	180	0 -0.040	+0.028 +0.003