



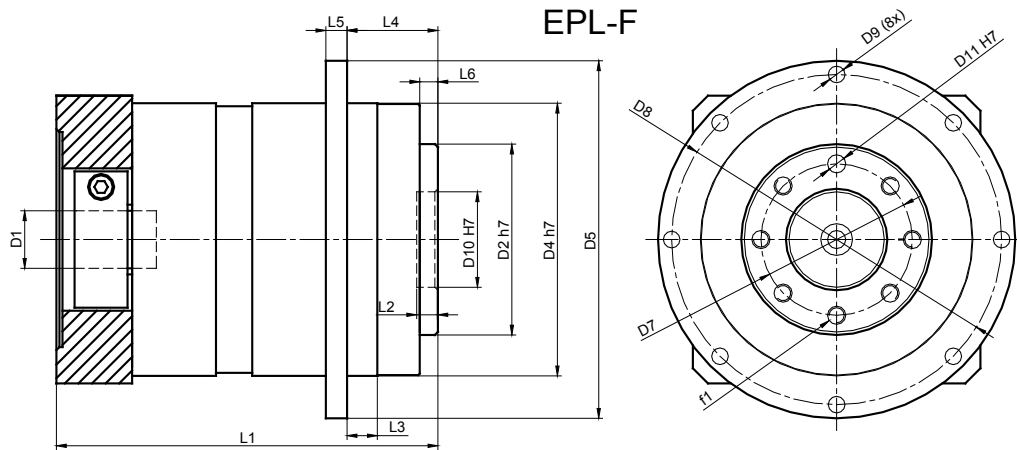
# EPL SERIES - EPL-F



EPL-F Series		47	64	90	110	140	
All Ratios Available		1-Stage: 3, 4, 5, 7, 10 2-Stage: 12, 16, 20, 25, 35, 40, 50, 70, 100 3-Stage: 120, 160, 200, 250, 350, 490, 700, 1000					
Nominal Output Torque ( $T_{2n}$ )	Nm (lb-in)	3:1	5 (44)	20 (177)	40 (354)	100 (885)	230 (2036)
		4, 5, 7:1	6.5 (58)	26 (230)	54 (478)	120 (1062)	310 (2744)
		10, 100, 1000:1	5 (44)	16 (142)	40 (354)	105 (929)	180 (1593)
		12:1	14 (124)	36 (319)	80 (708)	170 (1505)	272 (2407)
		all other ratios	16 (142)	42 (372)	100 (885)	210 (1859)	340 (3009)
Max Acceleration Output Torque ( $T_{2B}$ )	Nm (lb-in)	3:1	10 (89)	36 (319)	70 (620)	180 (1593)	360 (3186)
		4, 5, 7:1	13 (115)	44 (389)	100 (885)	200 (1770)	460 (4071)
		10, 100, 1000:1	10 (89)	24 (212)	75 (664)	180 (1593)	340 (3009)
		12:1	17.5 (155)	45 (398)	100 (885)	215 (1903)	360 (3186)
		all other ratios	20 (177)	52 (460)	125 (1106)	255 (2257)	460 (4071)
Emergency Output Torque ( $T_{2not}$ )	Nm (lb-in)	3:1	20 (177)	72 (637)	160 (1416)	200 (1770)	860 (7612)
		4, 5, 7:1	26 (230)	84 (743)	216 (1912)	480 (4248)	1000 (8851)
		10, 100, 1000:1	20 (177)	62 (549)	160 (1416)	410 (3629)	800 (7081)
		12:1	28 (248)	72 (637)	160 (1416)	400 (3540)	860 (7612)
		all other ratios	32 (283)	84 (743)	216 (1912)	480 (4248)	1000 (8851)
Nominal Speed ( $n_{1n}$ )	RPM	-	3500	3500	3000	2500	2500
Max Speed ( $n_{1max}$ )	RPM	-	6000	6000	6000	5000	4500
Standard Output Backlash* (j)	arcmin	1-stage	< 16	< 10	< 10	< 8	< 8
		2-stage	< 20	< 14	< 14	< 12	< 12
		3-stage	-	< 18	< 18	< 16	< 16
Allowable Radial Load ( $F_{rad}$ ) 1	N (lbs)	-	750 (169)	1200 (270)	2000 (450)	3100 (697)	8500 (1911)
Allowable Axial Load ( $F_{axial}$ )	N (lbs)	-	1000 (225)	1100 (247)	2500 (562)	3900 (877)	11200 (2518)
Torsional Stiffness* ( $C_{t21}$ )	Nm/arcmin (lb-in/arcmin)	10,100,1000	0.60 (5.3)	1.3 (11.5)	3.4 (30.1)	8.3 (73.5)	22 (194.7)
		7,70,700	0.78 (6.9)	1.7 (15)	4.8 (42.5)	13.6 (120.4)	27 (194.7)
		all other ratios	0.90 (8.0)	2.4 (21.2)	7.1 (62.8)	17.2 (152.2)	33 (292.1)
Weight (m)	kg (lbs)	1-stage	0.4 (0.9)	1 (2.2)	2.3 (5.1)	5.8 (12.8)	10.0 (22.1)
		2-stage	0.5 (1.1)	1.3 (2.9)	3.1 (6.8)	7.9 (17.4)	12.5 (27.6)
		3-stage	- -	1.96 (3.5)	3.9 (8.6)	10.0 (22.1)	15.0 (33.1)
Noise Level ( $L_{pa}$ )	dB(A)	-	< 64	< 66	< 68	< 70	< 72
Mass Moment of Inertia ( $J_1$ )	kg cm <sup>2</sup> (lb-in <sup>2</sup> )	3:1	0.06 (0.021)	0.61 (0.208)	1.79 (0.612)	8.53 (2.915)	12.23 (4.179)
		4:1, 12:1, 16:1	0.04 (0.014)	0.5 (0.171)	1.47 (0.502)	6.11 (2.088)	7.65 (2.614)
		5:1, 20:1, 25:1	0.04 (0.014)	0.48 (0.164)	1.23 (0.420)	4.87 (1.664)	6.24 (2.132)
		7:1, 35:1	0.04 (0.014)	0.39 (0.133)	1.14 (0.390)	3.71 (1.268)	4.7 (1.606)
		10:1, 40:1 - 100:1	0.04 (0.014)	0.38 (0.130)	1.1 (0.376)	3.38 (1.155)	3.8 (1.299)
		120:1 - 1000:1	- -	0.38 (0.130)	1.1 (0.376)	3.39 (1.158)	3.9 (1.333)
Efficiency at Load	1-stage: 94% 2-stage: 92% 3-stage: 90%						
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

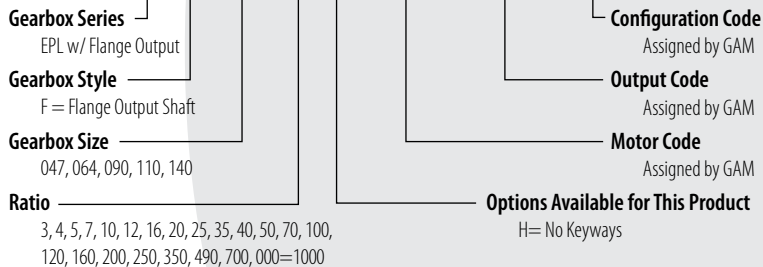


EPL-F Series		47		64		90		110		140	
		mm	(in)	mm	(in)	mm	(in)	mm	(in)	mm	(in)
D1 <sub>max standard</sub> *	motor shaft diameter	11	(0.433)	14	(0.551)	19	(0.748)	24	(0.945)	32	(1.260)
D1 <sub>max available</sub> *	motor shaft diameter	14	(0.551)	16	(0.630)	24	(0.945)	32	(1.260)	38	(1.496)
D2 h7	output flange diameter	28	(1.102)	40	(1.575)	63	(2.480)	80	(3.150)	100	(3.937)
D4 h7	pilot diameter	47	(1.850)	64	(2.520)	90	(3.543)	110	(4.331)	140	(5.512)
D5	flange diameter	72	(2.835)	86	(3.386)	118	(4.646)	145	(5.709)	179	(7.047)
D7	inner bolt circle	20	(0.787)	31.5	(1.240)	50	(1.968)	63	(2.480)	80	(3.150)
D8	outer bolt circle	67	(2.638)	79	(3.110)	109	(4.291)	135	(5.315)	168	(6.614)
D9	mounting hole diameter (8x)	(8) 3.5	(0.138)	(8) 4.5	(0.177)	(8) 5.5	(0.217)	(8) 5.5	(0.217)	(12) 7.3	(0.287)
D10 H7	flange pilot	12	(0.472)	20	(0.787)	31.5	(1.240)	40	(1.575)	50	(1.968)
D11 H7	dowel diameter	3	(0.118)	5	(0.197)	6	(0.236)	6	(0.236)	8	(0.315)
f1	flange tap	(7) M4x8		(7) M5x7		(7) M6x10		(15) M6x12		(11) M8x16	
L1 1-stage**	gearbox total length	84	(3.307)	93	(3.661)	126	(4.961)	150	(5.905)	189	(7.441)
L1 2-stage**		102	(4.106)	113	(4.490)	158	(6.220)	190	(7.480)	230	(9.055)
L1 3-stage**		120	(4.724)	129	(5.08)	191	(7.520)	231	(9.094)	270	(10.63)
L2	flange pilot depth	4	(0.157)	4	(0.157)	6	(0.236)	6	(0.236)	6	(0.236)
L3	pilot height	-	-	7	(0.276)	10	(0.394)	10	(0.394)	12	(0.472)
L4	output length	19.5	(0.768)	19.5	(0.768)	30	(1.181)	29	(1.142)	38	(1.496)
L5	flange thickness	4	(0.157)	4	(0.157)	7	(0.276)	8	(0.315)	10	(0.394)
L6	output flange length	3	(0.118)	3	(0.118)	6	(0.236)	6	(0.236)	6	(0.236)

\* for larger motor shaft diameters, please contact GAM \*\* depending on the motor, value can vary

### TYPE CODES FOR EPL SERIES (EPL-F)

**Example: EPL - F - 090 - 005 H - M0000 - H0000 - C0000**



Size	Tolerances (mm)	
	h7	H7
Over 10	0	0.018
Thru 18	-0.018	0
Over 18	0	0.021
Thru 30	-0.021	0
Over 30	0	+0.025
Thru 50	-0.025	0
Over 50	0	+0.030
Thru 80	-0.030	0
Over 80	0	+0.035
Thru 120	-0.035	0