



▶ HIGH PERFORMANCE: EPL SERIES

GAM can.

If you don't see exactly what you need, let us know. We can modify the EPL Series gearboxes to meet your needs. Page 4 provides a list of commonly requested modifications to give you a feel for our capabilities.

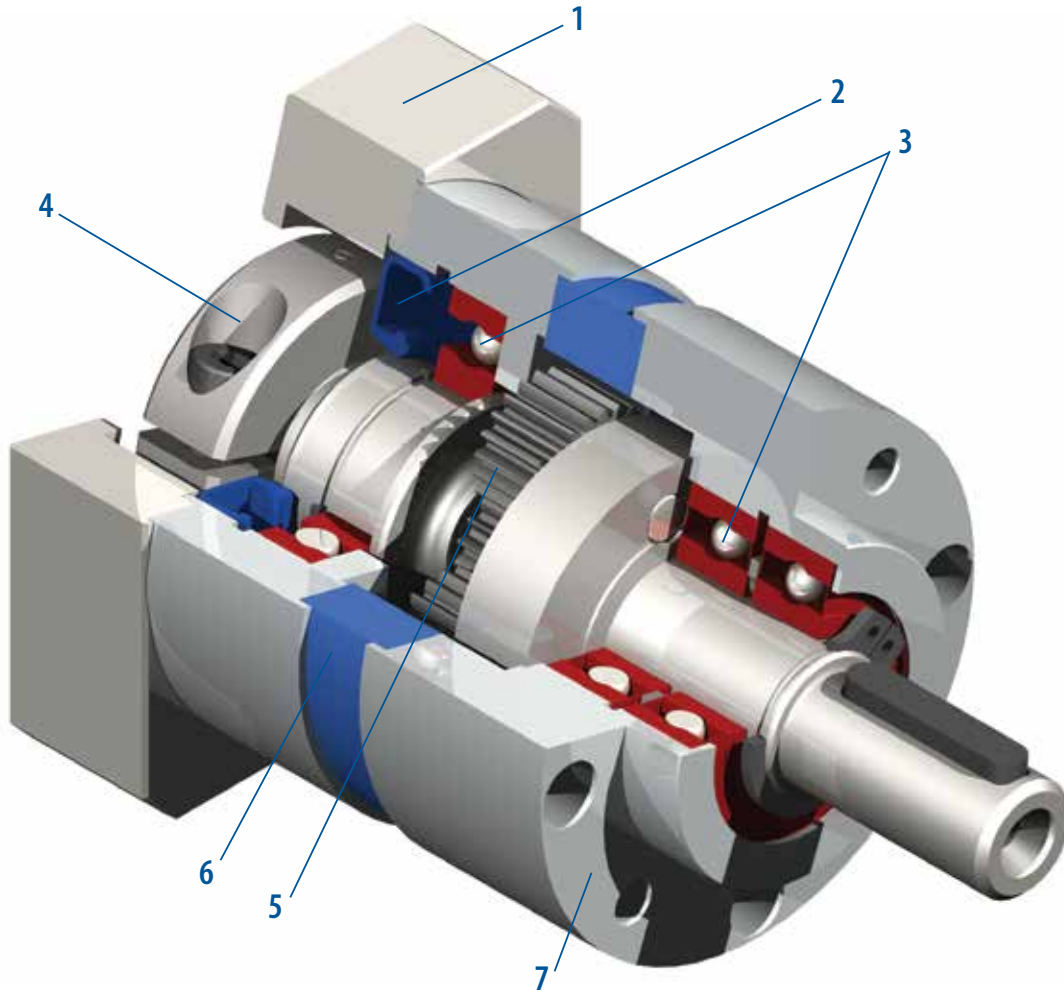
Our EPL Series is widely known as the best value on the market- tens of thousands of EPL's installed since 1998 in North America alone. That's because it offers the best quality available for the price point. We've added some features that make it unequalled in its class and ideal for most servo applications.

EPL Series enhancements include:

- A 50 mm frame size in our standard shaft version (-V) that is a drop-in for many gearboxes
- NEMA output version with oversized english shaft for improved performance
- Option for larger motor shafts

New output configurations include:

- EPL-A dimensions that drop in for popular planetary gearboxes on the market.
- EPL-F that features a flange output for a compact design and allows for easy connecting of mechanical elements such as pulleys and pinions.



1. Adapter Plate

(Customized adapter plates for quick and easy motor mounting)

2. Seals

(Protective seals to isolate the gearbox)

3. Angular Contact Bearings

(for high radial and axial loading)

4. Input Clamping Element

5. Planet Gears

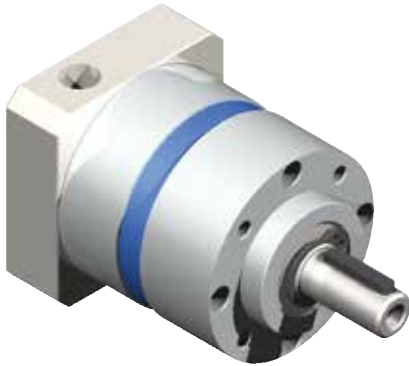
(Precision ground gears)

6. Ring Gear

(Ring gear incorporated into housing)

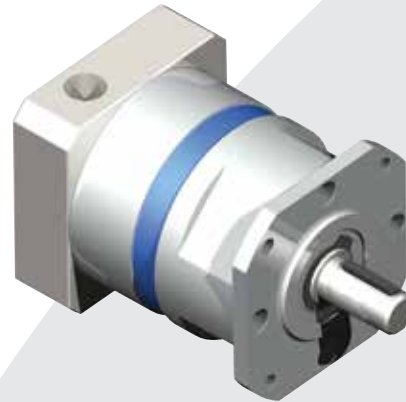
7. Output Face

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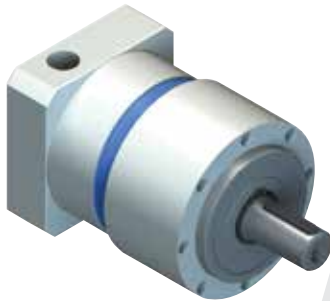
EPL-W

- GAM Metric Output Face
- Heavy Duty Output Bearings
- Ratios 3:1 to 1000:1
- Frame sizes from 50 mm to 150 mm
- Ready to mount to your motor



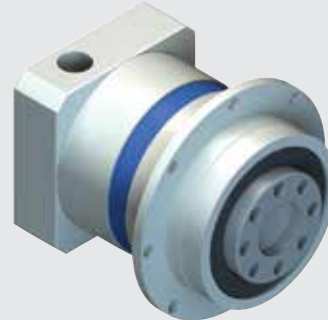
EPL-X (NEMA)

- NEMA output face with oversized english shaft
- Ratios 3:1 to 1000:1
- Frame sizes from NEMA 17 to 56
- Ready to mount to your motor



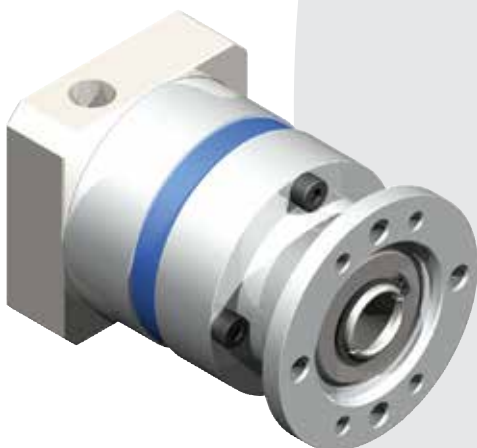
EPL-A

- Metric output dimensions match many other popular inline planetary gear reducers on the market.
- Ratios 3:1 to 1000:1
- Frame sizes from 50mm to 155mm
- Ready to mount to your motor



EPL-F

- Flange output
- Compact design
- Ratios 3:1 to 1000:1
- Ready to mount to your motor



EPL-H Linear Mount

- Hollow output with zero backlash clamping ring
- A quick, simple, low cost solution used to mount onto any “off the shelf” linear belt or ball screw module.
- Ready to mount to your motor on the input
- Ready to mount to your module on the output
- For more information on **Linear Mounts**, refer to [page 186](#).



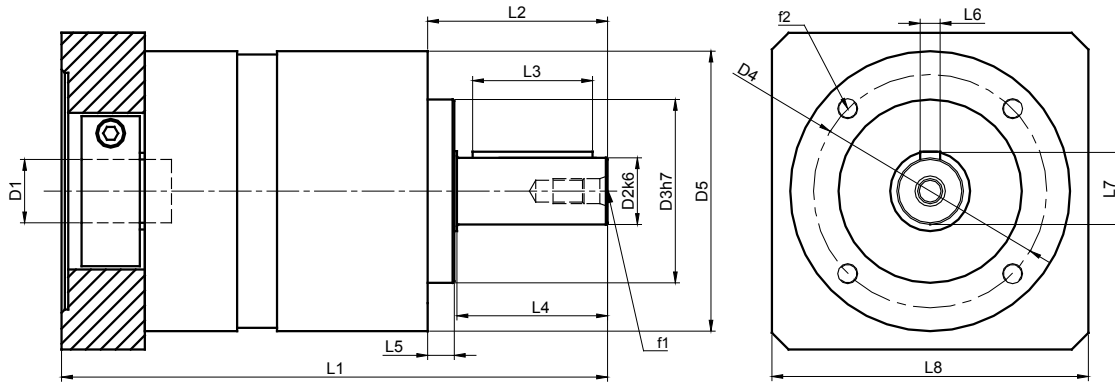
EPL SERIES - EPL-W



EPL Series		50	64	84	118	150	
Stock Ratios		3, 5, 7, 10, 25, 50, 100 (Standard Input)					N/A
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 (Consult GAM for other ratios)					
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)	-	650 (146)	1900 (428)	2800 (630)	5000 (1125)	7500 (1688)
Allowable Axial Load (F_{axial})	N (lbs)	-	700 (158)	1500 (338)	2500 (563)	4500 (1013)	6000 (1350)
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 (239)
		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)	1.0 (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	-	1.6 (3.5)	3.9 (8.6)	10.0 (22.1)	15.0 (33.1)
Noise Level (L_{pk})	dB(A)	-	<64	<66	<68	<70	<72
Mass Moment of Inertia (J_1)	kg cm ² (lb-in ²)	3:1	0.06 (0.021)	0.45 (0.154)	1.37 (0.468)	6.54 (2.235)	12.23 (4.179)
		4:1, 12:1, 16:1	0.04 (0.014)	0.38 (0.130)	1.14 (0.390)	4.8 (1.640)	7.65 (2.614)
		5:1, 20:1, 25:1	0.04 (0.014)	0.36 (0.123)	1.05 (0.359)	4.05 (1.384)	6.24 (2.132)
		7:1, 35:1	0.04 (0.014)	0.35 (0.120)	0.97 (0.331)	3.4 (1.162)	4.7 (1.606)
		10:1, 40:1 - 100:1	0.04 (0.014)	0.34 (0.116)	0.93 (0.318)	3.1 (1.059)	3.8 (1.299)
		120:1 - 1000:1	(0.000)	0.34 (0.116)	0.93 (0.318)	3.12 (1.066)	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

EPL-W



EPL-W Series		50		64		84		118		150	
		mm	(in)	mm	(in)	mm	(in)	mm	(in)	mm	(in)
D1 ^{max standard*}	motor shaft diameter	11	(0.433)	14	(0.551)	19	(0.748)	24	(0.945)	28	(1.102)
D1 ^{max available*}	motor shaft diameter	14	(0.551)	16	(0.63)	24	(0.945)	32	(1.26)	38	(1.496)
D2 ^{k6}	output shaft diameter	12	(0.472)	14	(0.551)	20	(0.787)	25	(0.984)	40	(1.575)
D3 ^{h7}	pilot diameter	35	(1.378)	40	(1.575)	55	(2.165)	80	(3.15)	110	(4.331)
D4	bolt circle	44	(1.732)	52	(2.047)	70	(2.756)	100	(3.937)	130	(5.118)
D5	housing diameter	50	(1.969)	64	(2.52)	84	(3.307)	118	(4.646)	150	(5.906)
f1	shaft thread	M4x8		M5x12		M6x16		M10x22		M10x30	
f2	mounting holes	M4x6		M5x12		M6x14		M8x18		M10x20	
L1 1-STAGE**	gearbox total length	93 (3.661)		117 (4.606)		162 (6.378)		199 (7.835)		265 (10.433)	
L1 2-STAGE**		109 (4.291)		139 (5.472)		195 (7.677)		239 (9.409)		305 (12.008)	
L1 3-STAGE**		-		161 (6.339)		228 (8.976)		280 (11.024)		346 (13.622)	
L2	shaft length	24.5	(0.965)	39	(1.535)	54	(2.126)	61	(2.402)	81	(3.189)
L3	key length	16	(0.63)	25	(0.984)	36	(1.417)	45	(1.772)	60	(2.362)
L4	usable shaft length	18	(0.709)	30	(1.181)	45	(1.772)	50	(1.969)	70	(2.756)
L5	pilot height	4	(0.157)	8	(0.315)	8	(0.315)	10	(0.394)	10	(0.394)
L6	key width	4	(0.157)	5	(0.197)	6	(0.236)	8	(0.315)	12	(0.472)
L7	key height	13.5	(0.531)	16	(0.63)	22.5	(0.886)	28	(1.102)	43	(1.693)
L8**	adapter size	50	(1.969)	70	(2.756)	90	(3.543)	120	(4.724)	150	(5.906)

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

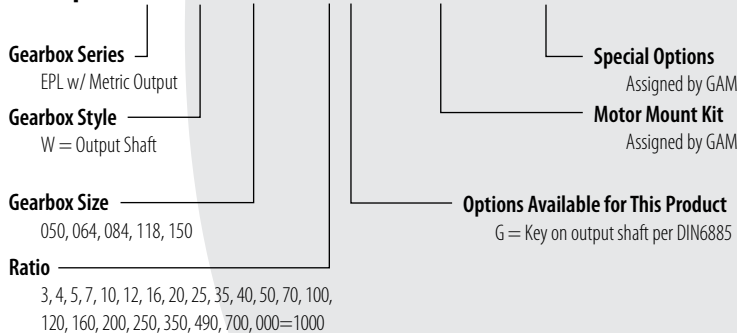


Recommended Output Coupling (if necessary)

	metal bellows	KLC-25	KLC-50	KLC-125	KM-270	KM-400
elastomer	EKM-45	EKM-60	EKM-150	EKM-300	EKM-400	

TYPE CODES FOR EPL SERIES (EPL-W)

Example: EPL - W - 084 - 005 G - [115 - A01] - S111



Tolerances (mm)		
Size	k6	h7
Over 10	+0.012	0
Thru 18	+0.001	-0.018
Over 18	+0.015	0
Thru 30	+0.002	-0.021
Over 30	+0.018	0
Thru 50	+0.002	-0.025
Over 50	+0.021	0
Thru 80	+0.002	-0.030
Over 80	+0.025	0
Thru 120	+0.003	-0.035