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SERVO GEARHEADS  
MOTOR · SPEED REDUCER · PRECISION GEARMOTOR

伺服專用減速機 · 馬達 · 減速機 · 齒輪馬達



Registration Number : 8590921716      Registration Number : 38E08590

# SERVO GEARHEAD SERIES LINEUP

## 伺服專用減速機 產品系列圖

### Program Features & Benefits

- Multiple design configurations and performance levels
- Adapters for all servo motors
- Drop-ins for most industry standards
- Hardened and ground gearing
- One-piece planet carrier/output shaft on most models
- Planets with full needle bearing support
- IP65 protection on most models

### 全系列產品特點

- 多樣化機種與性能搭配選擇
- 連接板適用各廠牌伺服馬達
- 應用設備範圍廣泛，可直接安裝使用
- 齒輪經獨特熱處理與研磨加工至最佳精度與耐磨耗度
- 一體成形行星固定架及出力軸設計
- 滿針排列行星齒輪針狀軸承
- IP65防護等級

### Premium Type (Helical Gear) 極精密斜齒型

- Backlash as low as 1 arc-minute, ultimate performance  
極精密背隙可達1弧分，高階應用性能
- 3 designs to choose from, up to 7 sizes available  
3款機種X7款框號，適用各式機械設備
- Capacity from 10-2000 Nm  
額定輸出力矩10-2000 Nm

### Precision Type (Helical Gear) 精密斜齒型

- 3 levels of backlash, for demanding applications  
3等級精密背隙，應用範圍最廣泛
- 3 designs configurations, 7 frame sizes 42-220 mm  
3款機種X7款框號選用搭配，尺寸42-220 mm
- Square or round mounting, ratio from 3-100:1  
方形或圓形安裝介面，減速比3-100:1

### Precision Type (Spur Gear) 精密直齒型

- 3 levels of backlash, 4 design configurations  
3等級精密背隙，4款平行軸機種
- 7 frame sizes 42-220 mm  
7款框號選用搭配，尺寸42-220 mm
- Square or round mounting, ratio from 3-100 : 1  
方形或圓形安裝介面，減速比3-100:1
- Stainless steel series available  
提供不鏽鋼材質機種搭配選用

### Standard Type (Spur Gear) 標準直齒型

- 5 frame sizes 42-115 mm, general purpose applications  
提供5種框號選用，最大尺寸115 mm
- Good backlash values, ratios up to 1000:1  
優異背隙精度，最高減速比達1000:1
- Reliable operating performance, cost effective integration  
性能穩定可靠，最適動力傳動性價比

### Primary Type (Spur Gear) 泛用直齒型

- 5 frame sizes 42-115 mm, general purpose applications  
提供5種框號選用，最大尺寸115 mm
- Good backlash values, ratios up to 1000:1  
優異背隙精度，最高減速比達1000:1
- Reliable operating performance, cost effective integration  
性能穩定可靠，最適動力傳動性價比

### Output Shaft 出力軸型

### In-line Series 平行出力軸系列

- Multiple models and performance levels including stainless steel material ready for most industry applications  
多樣化及不鏽鋼機型與性能搭配選擇，可直接安裝使用
- 3 levels of backlash, frame sizes 42-220 mm  
3等級精密背隙，框號尺寸42-220 mm
- Square or round mounting, ratios up to 1000:1  
方形或圓形安裝介面，最高減速比達1000:1

### Right Angle Series 直角型系列

- 3 models to choose from, saving linear space  
3種機型對應各式應用需求，節省安裝空間
- 3 backlash levels, 7 sizes from 42-220 mm  
3等級精密背隙X7款框號選用搭配，最大尺寸220 mm
- Premium and precision designs, ratios from 3-200:1  
高階精密齒輪設計，最高減速比200:1

### Output Flange 圓形法蘭面中空軸系列

- Right angle and inline models, ISO mounting dimensions  
平行中空軸與直角機型，連接板適用各廠牌伺服馬達
- 3 levels of backlash, 7 frame sizes available  
3款機種X7款框號選用搭配
- High moment and axial load capacity  
高容許彎曲力矩及軸向負載能力

### Output Flange 圓形法蘭面

平行出力軸  
In-line Series

直角型  
Right Angle

中空軸  
Output Flange

直角型  
Right Angle



PHL Series  
High Precision



PGLH Series



PGH Series  
High Performance



PUL Series  
High Radial Load



PUA Series



PUR Series



PGRH Series



PHF Series



PGF Series



PHFR Series



PGFR Series



PGL Series



PGE Series



PGC Series



SGC Series  
Stainless Steel



SGE Series  
Stainless Steel



PGR Series



PAC Series



PAE Series



PGS Series



PAN Series  
(NEMA)  
High Ratio  
(max. i=1000)



PNS Series  
High Ratio  
(max. i=1000)

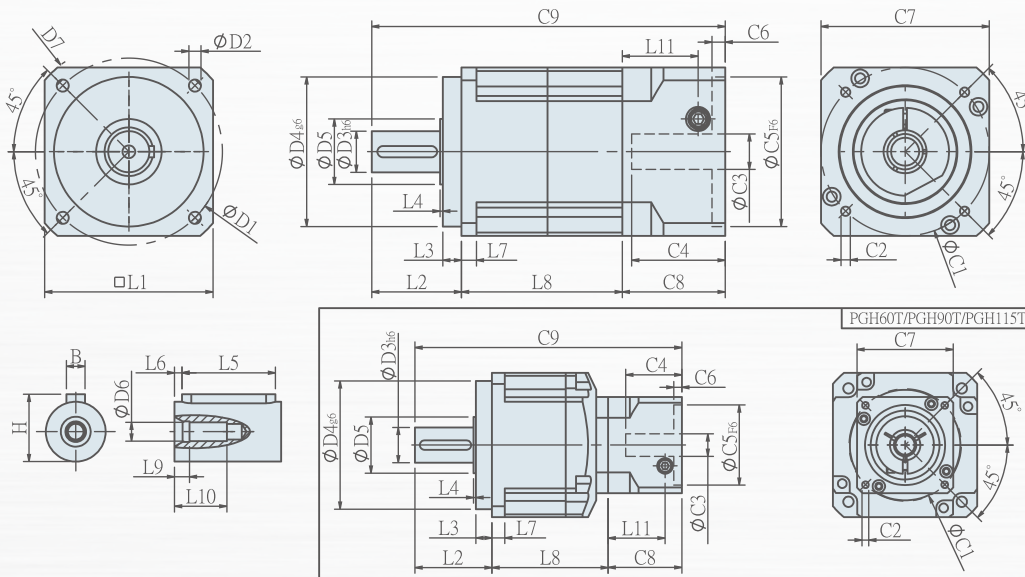


PBC Series  
High Ratio (max. i=1000)



PBE Series  
High Ratio (max. i=1000)

# PGH Double Stage Dimensions PGH 雙段外型尺寸圖



## Specifications 規格 Unit:mm

尺寸 Dimensions	PGH42	PGH60	PGH60T	PGH90	PGH90T	PGH115T	PGH142T	PGH180T	PGH220T
D1	50	70		100		130	165	215	250
D2	3.4	5.5		6.5		8.5	10.5	13	17
D3 <sub>h6</sub>	13	16		22		32	40	55	75
D4 <sub>g6</sub>	35	50		80		110	130	160	180
D5	15	25		35		45	50	70	114.4
D6	M4x0.7P	M5x0.8P		M8x1.25P		M12x1.75P	M16x2.0P	M20x2.5P	M20x1.5P
D7	56	80		118		148	186	239	292
L1	42.6	60		90		115	142	182	220
L2	26	37		48		63	91.5	100.5	138
L3	5.5	7		10		10	10	16	30
L4	1	1.5		1.5		3.5	2.5	2.5	3
L5	15	25		32		40	60	70	90
L6	2	2		3		5	5	6	7
L7	4	6		8		11	16	18	20
L8	55.3	70	65.5	86	78.5	99.5	127.5	166	202
L9	4	4		4.5		6	6	8	15
L10	14	16.5		20.5		30	38	48	42
L11	29	35.5	29	40.5	35.5	40.5	42	63	74
C1 <sup>2</sup>	46	70	46	90	70	90	115	145	200
C2 <sup>2</sup>	M4x0.7P	M5x0.8P	M4x0.7P	M6x1.0P	M5x0.8P	M6x1.0P	M8x1.25P	M8x1.25P	M12x1.75P
C3 <sup>2</sup>	≤8/≤11	≤14	≤8/≤11	≤19/≤24	≤14	≤19/≤24	≤24/≤32	≤35/≤38	≤50
C4 <sup>2</sup>	27	37	27	47	37	47	56	66.5	81
C5 <sup>2</sup> <sub>F6</sub>	30	50	30	70	50	70	95	110	114.3
C6 <sup>2</sup>	4	4	4	6	4	6	10	6	6
C7 <sup>2</sup>	42.6	60	42.6	90	60	90	115	140	180
C8 <sup>2</sup>	38.5	46	38.5	55	46	55	63	80	93
C9 <sup>2</sup>	119.8	153	141	189	172.5	217.5	282	346.5	433
B	5	5		6		10	12	16	20
H	15	18		24.5		35	43	59	79.5

★ C1~C9是公製標準馬達連接板尺寸·請依所選用的馬達決定。 ★ C1~C9 are motor specific dimensions(metric std shown), Size may vary according to motor flange.  
★ 本公司有權針對以上數據規格進行設計變更不先行告知。 ★ Specification subject to change without notice.

# PGH Specifications Table PGH 性能規格共表

規格 Specifications		節數 Stage	減速比 Ratio	PGH-42	PGH-60	PGH-90	PGH-115	PGH-142	PGH-180	PGH-220	
額定輸出力矩 $T_{2N}$ Nominal Output Torque	N • m	1	3	19	53	145	290	520	950	1100	
			4	20	55	150	300	550	1000	1700	
			5	17	54	140	290	530	1050	2000	
			6	15	46	135	280	490	1000	1850	
			7	14	44	125	270	450	960	1750	
			8	12	41	110	240	390	900	1550	
			9	11	37	95	220	360	800	1500	
			10	11	37	95	220	360	800	1450	
			節數 Stage	減速比 Ratio	PGH-42	PGH-60 (T)	PGH-90(T)	PGH-115T	PGH-142T	PGH-180T	PGH-220T
			15	19	53	145	290	520	950	2000	
		20	20	55	150	300	550	1000	2000		
		25	17	54	140	290	530	1050	2000		
		30	17	54	140	290	530	1050	2000		
		35	17	54	140	290	530	1050	2000		
		40	17	54	140	290	530	1050	2000		
		45	17	54	140	290	530	1050	2000		
		50	17	54	140	290	530	1050	2000		
		60	15	46	135	280	490	1000	1850		
		70	14	44	125	270	450	960	1750		
		80	12	41	110	240	390	900	1550		
90	11	37	95	220	360	800	1500				
100	11	37	95	220	360	800	1450				
急停力矩 $T_{2NOT}$ Emergency Stop Torque	N • m	3.0 倍額定輸出力矩 (3.0 times of Nominal Output Torque) (* 最大輸出力矩 Max. Output Torque $T_{2B}$ = 60% of Emergency Stop Torque)									
額定輸入轉速 $n_{1N}$ Nominal Input Speed	rpm	1,2	3-100	5000	5000	4000	4000	3000	3000	2000	
最大輸入轉速 $n_{1max}$ Max. Input Speed	rpm	1,2	3-100	10000	10000	8000	8000	6000	6000	4000	
超精密背隙 Micro Backlash P0	arcmin	1	3-10	≤ 2	≤ 2	≤ 2	≤ 1	≤ 1	≤ 1	≤ 1	
精密背隙 Precision Backlash P1	arcmin	1	3-10	≤ 4	≤ 4	≤ 4	≤ 3	≤ 3	≤ 3	≤ 3	
		2	15-100	≤ 6	≤ 6	≤ 6	≤ 5	≤ 5	≤ 5	≤ 5	
標準背隙 Standard Backlash P2	arcmin	1	3-10	≤ 6	≤ 6	≤ 6	≤ 5	≤ 5	≤ 5	≤ 5	
		2	15-100	≤ 8	≤ 8	≤ 8	≤ 7	≤ 7	≤ 7	≤ 7	
扭轉剛性 Torsional Rigidity	N • m /arcmin	1,2	3-100	2.5	6	12	23	45	75	130	
容許徑向力 $F_{2rB}^1$ Max. Radial Load	N	1,2	3-100	760	1570	2780	5340	8400	13000	13810	
容許軸向力 $F_{2aB}^1$ Max. Axial Load	N	1,2	3-100	410	750	1870	3310	4670	6460	18530	
使用溫度 Operating Temp.	°C	-10 °C ~ +90 °C									
使用壽命 Service Life	hr	3-100 20,000 (10,000/ 連續運轉 Continuous operation)									
效率 Efficiency	%	1	3-10	≥ 97%							
		2	15-100	≥ 94%							
重量 Weight	kg	1	3-10	0.6	1.3	3.5	7.8	16.1	27	55	
		2	15-100	0.9	2.0/1.6	5.6/3.9	9.5	19	34	68.5	
安裝方向 Mounting Position	-	1,2	3-100	任意方向 Any direction							
噪音值 Noise Level <sup>2</sup>	dB(A)/1m	1,2	3-100	56	58	60	63	65	67	70	
防護等級 Protection Class	-	1,2	3-100	IP65							
潤滑 Lubrication	-	1,2	3-100	全合成潤滑油 Synthetic Lubricant							
減速機轉動慣量 Inertia(J1)											
節數 Stage	減速比 Ratio	單位 unit	PGH-42	PGH-60	PGH-90	PGH-115	PGH-142	PGH-180	PGH-220		
1	3	Kg • cm <sup>2</sup>	0.03	0.23	0.97	2.35	10.00	30.50	79.50		
	4		0.02	0.18	0.67	1.66	7.17	25.86	58.21		
	5		0.02	0.17	0.65	1.50	6.52	23.63	54.36		
	6/7/8		0.02	0.14	0.60	1.45	6.17	22.92	54.12		
	9/10		0.02	0.14	0.58	1.41	6.10	22.73	53.98		
節數 Stage	減速比 Ratio		PGH-42	PGH-60(T)	PGH-90(T)	PGH-115T	PGH-142T	PGH-180T	PGH-220T		
2	15/20/25		0.02	0.17(0.02)	0.65(0.17)	0.65	1.50	6.52	23.63		
	30/35/40		0.02	0.14(0.02)	0.60(0.14)	0.60	1.45	6.17	22.92		
	45/50/60/70/80/90/100		0.02	0.14(0.02)	0.58(0.14)	0.58	1.41	6.10	22.73		

\* 1. 輸出轉速 100rpm 時，作用於輸出軸中心位置。Applied to the output shaft center @100rpm.

\* 2. 3000rpm 空載量測。Measured at 3000 rpm with no load. These values are measured by gearbox with ratio = 10 (1-stage) or ratio = 100 (2-stage) at nominal input speed or 3000 rpm (if nominal input speed is higher than 3000 rpm) with no load.

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## AC Induction Motors AC感應式馬達



### Features & Types 特色與機型

- Uni-directional and continuous operation.
- Variable AC power input options.
- Output 6W up to 90W.
- Wide ranges of model work with magnetic brake, speed reducer and control circuits.
- Thermo switch available (optional).
- CE(EMC & LVD)、UL、CCC certified.
- 對應全球電壓規格，提供AC電源即可運轉。
- 6W~90W輸出，可依需求結合減速機、剎車器或控制回路使用。
- 機種齊全：可逆式馬達、無段變速馬達、煞車馬達、離合煞車馬達、轉矩馬達。
- 內建溫控保護開關(選配)。
- CE(EMC & LVD)、UL、CCC認證。
- 最適合單向連續運轉、正逆轉之自動化輸送設備。

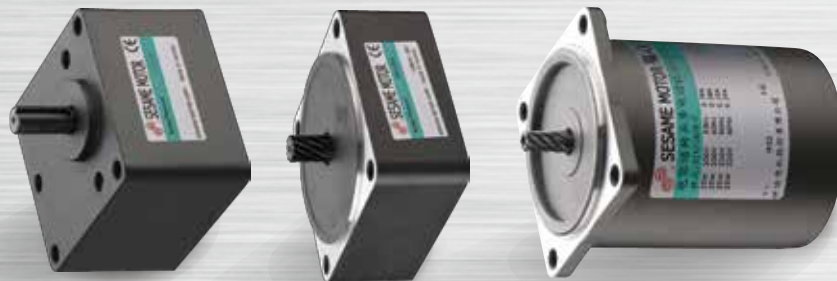
Product defect or damage due to human error or over load usage will not be covered under warranty.  
(產品超限使用，不在保固範圍)

## Speed Reducer 減速機

SPEED REDUCER  
減速機

INTERMEDIATE  
SPEED REDUCER  
中間減速機

MOTOR <GEAR SHAFT>  
馬達 (齒輪軸)



### Features & Types 特色與機型

- Integrated gear box contributes precision and efficiency.
- Ball bearing + closed gear box ensure radial and axial loading capacity.
- Low noise and long service life.
- BLDC compatible (GB series).
- Gear ratio 3~180.
- 與馬達結合可降低轉速、提高轉矩、應用廣泛。
- 一體成形齒箱，精度高、效率佳。
- 可承受更高之側向力與軸向力。
- 滾珠軸承+封閉式齒箱設計，低噪音、壽命長。
- 無刷直流馬達專用GB系列。
- 減速比3~180比。

## Assembled Type Variable Speed Motor / Assembled Type Speed Controller 組合型無段變速馬達 / 組合型速度控制器



Circuits, capacitor and variable resistor are assembled in controller, which is attached to motor via extended cable. Ready-to-use once power is supplied.

控制用迴路、運轉電容及可變電阻等均組合在控制器內，並採用延長線與馬達連結，只要接上電源即可使用。

### Features 特點

- Easy wiring and speed control.
- Built-in electronic brake circuits for instant braking.
- Wide range of variable speeds.
- Parallel rotation performance.
- High-responsive and great stability in speed control.
- Connection with other control systems is available.

- 配線簡單，速度控制容易。
- 內建電子式煞車迴路，具瞬時剎車功能。
- 速度變化範圍寬廣。
- 具備並列運轉之功能。
- 高應答性、高安定性之速度變化。
- 能與其他控制系統連結。

### Application 應用

Machine Tool Accessories, Cutting Equipment, Bar Feeder, Conveyor Equipment, Packaging Machinery, Food Processing Machinery, Printing Machine, Agricultural Machinery, Medical Equipment...etc.

工作母機配件、裁剪設備、送料設備、輸送設備、包裝機、食品機械、印刷設備、農用機械、醫療設備等。

## Separated Type Speed Controller 分離型速度控制器



According to different purposes and needs, induction and reversible motors equipped with generators will adopt various wiring methods and controller types.

附轉速發電機的感應式與可逆式馬達，可依據用途及需求而採用不同的配線方式與控制器連結。

### Features 特點

- Easy wiring and speed control.
- Built-in electronic brake circuits for instant braking.
- Wide range of variable speeds.
- Parallel rotation performance.
- High-responsive and great stability in speed control.
- Connection with other control systems is available.

- 配線簡單，速度控制容易。
- 內建電子式煞車迴路，具瞬時剎車功能。
- 速度變化範圍寬廣。
- 具備並列運轉之功能。
- 高應答性、高安定性之速度變化。
- 能與其他控制系統連結。

### Application 應用

Machine Tool Accessories, Cutting Equipment, Bar Feeder, Conveyor Equipment, Packaging Machinery, Food Processing Machinery, Printing Machine, Agricultural Machinery, Medical Equipment...etc.

工作母機配件、裁剪設備、送料設備、輸送設備、包裝機、食品機械、印刷設備、農用機械、醫療設備等。

**NEW****High Efficiency IEC Motors 高效率IEC馬達****Features & Types 特色與機型**

- Standard IEC metric sizes, variable AC power input options.
- IE3 Premium efficiency, low vibration, low noise.
- Output 750W (1HP) ~ 2200W (3HP). Insulation F class.
- IEC標準多電壓設計，適用於全球大多數國家地區使用。
- IE3優級能效，高效率、低振動、低噪音。
- 750W (1HP) ~ 2200W (3HP) 輸出，絕緣等級F級。

**NEW****Gear Motor 齒輪減速馬達****Features & Types 特色與機型**

- Modular products for the optimum flexibility. Gear ratio 3~180.
- Impact size and structure with precision gear process ensure low vibration and noise.
- Aluminum housing benefits heat diffusion.
- Output 100W (1/8HP) up to 750W (1HP).
- Wide range of application with brake and various AC power supply options.
- Thermo switch available (optional). IP65 enclosure (optional).
- 組合式馬達與減速機設計，彈性搭配各式減速比使用。減速比3~180比。
- 體積小、結構緊湊，齒輪經精密加工，振動小、噪音低。
- 輕量化鋁壓鑄材質齒箱，散熱性佳。可搭配煞車器，應用廣泛。
- 對應全球電壓規格，100W (1/8HP) ~ 750W (1HP) 足瓦輸出。
- 內建溫控保護開關(選配)。IP65防護等級(選配)。

**Applications 應用**

Machine Tool Accssories, Bar Feeder, Conveyor, Gliding Machine, Elevator, Transporting Equipment, Printing Machinery, Food Process Machinery, Packaging Machinery, Plastic & Rubber Processing Machinery ...etc.

工具機配件、送料設備、輸送設備、燙金設備、昇降機、搬運設備、印刷設備、食品機械、包裝機、塑橡膠機械等。

## Precision Gear Motor 中型齒輪減速馬達



### Features & Types 特色與機型

- Impact size and structure with precision gear process ensure low vibration and noise.
- Aluminum housing benefits heat diffusion.
- Output 100W (1/8HP) up to 2200W (3HP).
- Wide range of application with brake and various AC power supply options.
- Thermo switch available (optional).
- CE(EMC & LVD) · UL · CCC certified. IP65 enclosure (optional).
- 體積小、結構緊湊，齒輪經精密加工，振動小、噪音低。
- 輕量化鋁壓鑄材質齒箱，散熱性佳。可搭配煞車器，應用廣泛。
- 對應全球電壓規格，100W (1/8HP) ~ 2200W (3HP) 足瓦輸出。內建溫控保護開關(選配)。
- CE(EMC & LVD) · UL · CCC認證。IP65防護等級(選配)。

### Applications 應用

Machine Tool Accessories, Bar Feeder, Conveyor, Gliding Machine, Elevator, Transporting Equipment, Printing Machinery, Food Process Machinery, Packaging Machinery, Plastic & Rubber Processing Machinery ...etc.

工具機配件、送料設備、輸送設備、燙金設備、昇降機、搬運設備、印刷設備、食品機械、包裝機、塑橡膠機械等。

Product defect or damage due to human error or over load usage will not be covered under warranty.  
(產品超限使用，不在保固範圍)



Sesame Motor Corp.,  
A Leading Brand in Power Transmission

科技與口碑結合的領先品牌  
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599, Sec 1, Hemu Rd., Shengang, Taichung 42953, Taiwan

TEL : +886-4-2561-0011      FAX : +886-4-2562-7766

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