Precision Planetary Reducer
精密行星減速機

Universal type with complete specification
具備完整規格的通用型

+

GA/GAE SERIES系列

+

Strong and durable
強壯且耐用

GA/GAE series planetary reducer is an universal type with compelete specification,
the input end are designed as quick release flange which can be matched with servo, stepping and any other motors.

GA/GAE系列行星減速器是一種具有完整規格的通用型號，其輸入端設計為快拆式法蘭，
可與伺服、步進和其他任何馬達相匹配。

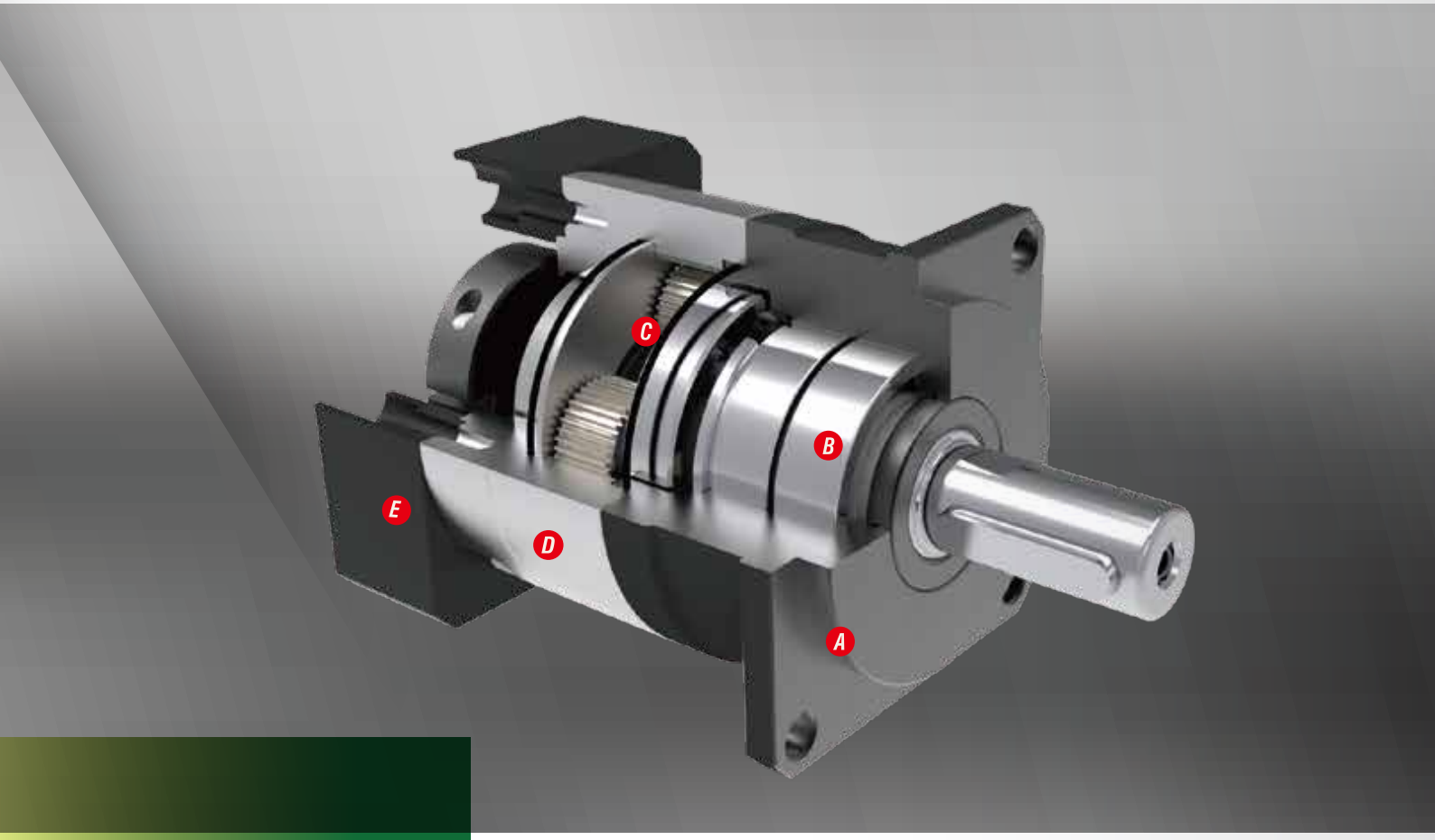
GEARKO®

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DRIVES THE PRECISION



GA/GAE SERIES
直齒減速機產品介紹
SPUR GEARBOX INTRODUCTION



A 出力法蘭：有通孔(GA)及鎖孔(GAE)系列兩種設計，可應用在各種不同場合
Output flanges are available in two designs: with through hole (GA) and with keyway (GAE) series, and can be applied in various different situations.

B 雙軸承設計：提高傳動效率，增強軸向剛度，增加穩定性
Dual-bearing design: improves transmission efficiency, enhances axial stiffness, and increases stability.

C 齒輪離子氮化：嚴格控制熱處理的參數，齒輪具有優異的耐磨性，齒面硬度可承受更大的負載
Gear ion nitriding: by strictly controlling the parameters of heat treatment, the gear has excellent wear resistance, and the tooth surface hardness can withstand larger loads.

D 內齒環：內齒環採用拉齒設計，其結構簡單，維護方便，且大量生產下仍可保持高加工精度
Internal gear: the internal gear adopts a tooth-pulling design, which has a simple structure, easy maintenance, and can maintain high processing accuracy even under mass production.

E 入力法蘭：快拆式設計，組裝便捷容易，尺寸齊全，適配市面上絕大多數的伺服電機和步進馬達
Input flange: quick-release design, easy to assemble and convenient, complete dimensions, compatible with the vast majority of servo motors and stepper motors on the market.

較高的穩定性
較長的使用壽命
較簡單的製造工藝

Higher stability
Longer service life
Simpler manufacturing process

GA系列 / GA SERIES



直齒型：GA系列
特色：泛用型
方形出力端/通孔式安裝
背隙：≦10弧分
框號：42,62,90
噪音值：60-67dBA
IP等級：IP65

Spur Tooth Type：GA SERIES
Feature：Universal,square output
Backlash：≦10 arcmin
Size：42,62,90
Noise：60-67dBA
ingress Protetion：IP65

GAE系列 / GAE SERIES



直齒型：GAE系列
特色：泛用型
圓形出力端/牙孔式安裝
背隙：≦10弧分
框號：40,60,80
噪音值：60-67dBA
IP等級：IP65

Spur Tooth Type：GAE SERIES
Feature：Universal,round output
Backlash：≦10 arcmin
Size：40,60,80
Noise：60-67dBA
ingress Protetion：IP65



Choose spur gearboxes for a more efficient, longer-lasting, and more stable transmission at a lower cost!

選擇直齒減速機，享受更高效率、更長壽命、更穩定傳動，且價格更為便宜！

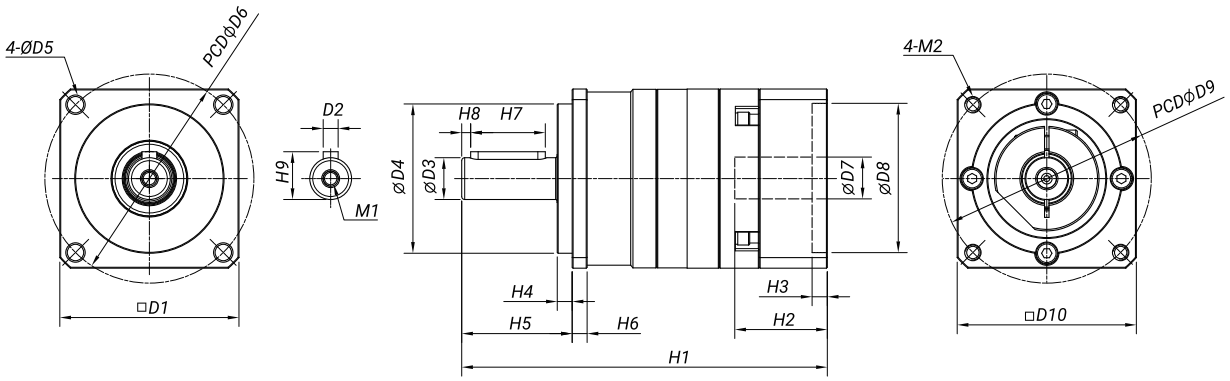
Performance data 性能資料表

規格 Specification		段 Stage	減速比 Speed Ratio		框 Frame GA042	GA062	GA090
額定輸出力矩 Nominal Output Torque	Nm	1	3		19	45	108
			4		18	41	116
			5		20	49	135
			7		17	41	116
			10		13	33	82
		2	15		19	45	108
			20		18	41	116
			25		20	49	135
			35		17	41	116
			50		20	49	135
			70		17	41	116
			100		13	33	82
急停扭矩 Emergency Stop Torque	Nm	1, 2	3-100		3 倍額定輸出力矩 3 times of nominal output torque		
最大輸出扭矩 Maximum Output Torque	Nm				1.8 倍額定輸出力矩 1.8 times of nominal output torque		
額定輸入轉速 Nominal Input Speed	rpm				3000	3000	3000
最大輸入轉速 Maximum Input Speed	rpm				6000	6000	5000
背隙 Backlash	arcmin	1	3-10	P0	-		
				P1	≤10		
				P2	-		
		2	15-100	P0	-		
				P1	≤12		
				P2	-		
效率 Efficiency	%	1	3-10		≥97		
		2	15-100		≥94		
扭轉剛性 Torsional Rigidity	Nm/arcmin	1, 2	3-100		3	7	14
最大徑向力 Maximum Radial Force	N				400	730	1100
最大軸向力 Maximum Axial Force	N				480	900	1320
使用壽命 Service Life	hr				20,000		
使用溫度 Operating Temperature	℃				-20～90		
防護等級 Protection Class	-				IP65		
潤滑 Lubrication	-				合成潤滑油脂 Synthetic Grease		
安裝位置 Mounting Position	-				任意方向 Any Direction		
噪音值 Noise	dB	1	3-10		≤60	≤63	≤65
		2	15-100		≤60	≤63	≤65
重量 Weight	Kg	1	3-10		0.5	1	3.2
		2	15-100		0.6	1.2	4

1. Speed ratio 減速比 ($i=S_{in} / S_{out}$)
2. When the output speed is 100 rpm, it acts on the center of the output shaft. 輸出轉速 100rpm 時，作用於輸出軸中心
3. For Continuous operation, the service life is no less than 10,000 hours. 連續運轉時，壽命為 10,000 小時
4. The noise value was measured based on the input rotational speed of 3000 rpm, i=10. 噪音值為輸入轉速 3000rpm，i=10 所得

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Specification 規格尺寸表



型號 Model / 單位 Unit:mm		GA042	GA062	GA090
D1		42	60	90
D2		3	5	6
D3		10	14	20
D4		35	50	80
D5		4.5	5.5	6.5
D6		50	70	100
D7		8	14	19
D8		30	50	70
D9		46	70	90
D10		40	60	90
M1		M4	M5	M6
M2		M4	M5	M6
H1	L1	96.65	122.45	149.2
	L2	113.15	143.35	175.5
H2		26	31	41
H3		5.1	5.1	6.1
H4		2	5	3
H5		26	37	40
H6		4	N/A	N/A
H7		18	25	30
H8		2.5	3	4
H9		11.2	16	22.5

Moment of Inertia 轉動慣量

規格 Specification		段 Stage	減速比 Speed Ratio	框 Frame		
				GA042	GA062	GA090
轉動慣量 Moment of Inertia	Kg.cm²	1	3	0.03	0.16	0.61
			4	0.03	0.14	0.48
			5	0.03	0.13	0.47
			7	0.03	0.13	0.45
			10	0.03	0.13	0.44
		2	15,20,25,35	0.03	0.13	0.44
			50,70,100	0.03	0.13	0.43

GAE Series
GAE 系列

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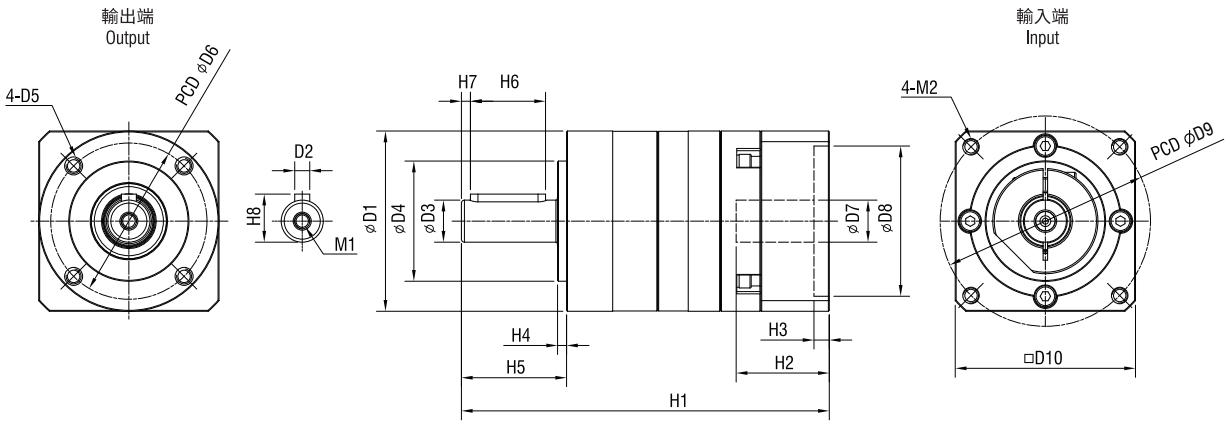
Performance data 性能資料表

規格 Specification		段 Stage	減速比 Speed Ratio		框 Frame GAE040	GAE060	GAE080
額定輸出力矩 Nominal Output Torque	Nm	1	3		19	45	108
			4		18	41	116
			5		20	49	135
			7		17	41	116
			10		13	33	82
		2	15		19	45	108
			20		18	41	116
			25		20	49	135
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急停扭矩 Emergency Stop Torque	Nm	1, 2	3-100		3 倍額定輸出力矩 3 times of nominal output torque		
最大輸出扭矩 Maximum Output Torque	Nm				1.8 倍額定輸出力矩 1.8 times of nominal output torque		
額定輸入轉速 Nominal Input Speed	rpm				3000	3000	3000
最大輸入轉速 Maximum Input Speed	rpm				6000	6000	5000
背隙 Backlash	arcmin	1	3-10	P0	-		
				P1	≤10		
				P2	-		
		2	15-100	P0	-		
				P1	≤12		
				P2	-		
效率 Efficiency	%	1	3-10		≥97		
		2	15-100		≥94		
扭轉剛性 Torsional Rigidity	Nm/arcmin	1, 2	3-100		3	7	14
最大徑向力 Maximum Radial Force	N				400	730	1100
最大軸向力 Maximum Axial Force	N				480	900	1320
使用壽命 Service Life	hr				20,000		
使用溫度 Operating Temperature	℃				-20~90		
防護等級 Protection Class	-				IP65		
潤滑 Lubrication	-				合成潤滑油脂 Synthetic Grease		
安裝位置 Mounting Position	-				任意方向 Any Direction		
噪音值 Noise	dB	1	3-10		≤60	≤63	≤65
		2	15-100		≤60	≤63	≤65
重量 Weight	Kg	1	3-10		0.5	1	2.9
		2	15-100		0.6	1.4	3.7

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D4		26	40	60
D5		M4	M5	M6
D6		34	52	70
D7		8	14	19
D8		30	50	70
D9		46	70	90
D10		40	60	90
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H8		11.2	16	22.5

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			10	0.03	0.13	0.44
		2	15,20,25,35	0.03	0.13	0.44
			50,70,100	0.03	0.13	0.43