

# Precision Planetary Reducer

## 精密行星減速機

Modular & Economical Design  
模組化且經濟的設計

+

**GCB/GCBR/GCE**  
**SERIES系列**

+

Optimized Performance  
優化的性能

GCB/GCBR/GCE series planetary reducer backlash is low and its transmission capacity is strong, the input end can be matched with servo, stepping and any other motors.

GCB/GCBR/GCE系列行星減速機具有低背隙和強大的傳動能力，其輸入端可以與伺服、步進和其他任何馬達相匹配。



[www.gearko-tw.com](http://www.gearko-tw.com)

# DRIVES THE PRECISION



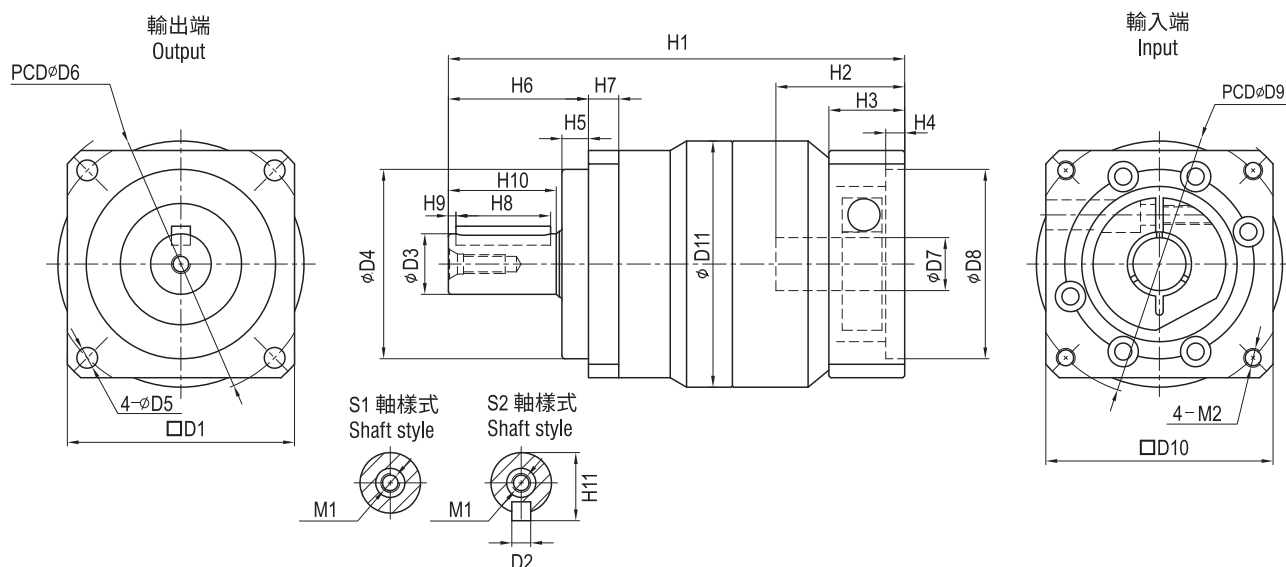
## Performance data 性能資料表

規格 Specification		段 Stage	減速比 Speed Ratio	框 Frame						
				GCB042	GCB060	GCB090	GCB120	GCB140	GCB180	
額定輸出力矩 Nominal Output Torque	Nm	1	3	-	40	100	200	340	580	
			4	17	45	110	280	535	1020	
			5	19	55	150	320	650	1180	
			6	18	50	140	310	600	1050	
			7	19	45	135	300	550	1050	
			8	16	45	120	255	500	970	
		2	10	14	35	100	220	445	870	
			15	-	40	100	200	340	580	
			20	17	45	110	280	535	1020	
			25	19	55	150	320	650	1180	
			30	18	50	140	310	600	1050	
			35	18	45	135	300	550	1050	
			40	16	45	120	255	500	970	
			50	19	55	150	320	650	1180	
			60	18	50	140	310	600	1050	
			70	18	45	135	300	550	1050	
			80	16	45	120	255	500	970	
			100	14	35	100	220	445	870	
急停扭矩 Emergent Stop Toruqe	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	3000	2000	2000	
最大輸入轉速 Maximum Input Speed	rpm			6000	6000	6000	6000	4000	4000	
背隙 Backlash	arcmin	1	3-10	P0	-					
				P1	≤3					
				P2	≤5					
		2	15-100	P0	-					
P1	≤5									
P2	≤7									
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	25	50	140	
最大徑向力 Maximum Radial Force	N			760	1530	3250	6700	9400	14100	
最大軸向力 Maximum Axial Force	N			380	765	1625	3350	4700	7050	
使用壽命 Service Life	hr			20,000						
使用溫度 Operating Temperature	°C			-20~90						
防護等級 Protection Class				IP65						
潤滑 Lubrication				合成潤滑油脂 Synthetic Grease						
噪音值 Noise	dB			3-10	≤56	≤58	≤60	≤63	≤65	≤67
				15-200	≤56	≤58	≤60	≤63	≤65	≤67
重量 Weight	Kg			1	3-10	0.5	1.3	3.5	8	17
		2	15-200	0.7	1.7	5.1	9.5	19.8	27	

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

Any product models and parameters in this sample are subject to change without prior notice. Please confirm with the company before ordering. 此型錄中所有產品型號及參數如有變更，恕不另行公告。訂購前請與我們確認。

# Specification 規格尺寸表



型號 Model / 單位 Unit:mm		GCB042	GCB060	GCB090	GCB120	GCB140	GCB180
D1		42	60	90	120	140	180
D2		5	5	6	10	12	16
D3		13	16	22	32	40	55
D4		35	50	80	110	130	160
D5		3.4	5.5	7	9	11	13
D6		50	70	100	130	165	215
D7	L1	8	14	19	24	35	35
	L2	8	14	19	19	22	35
D8	L1	30	50	70	110	114.3	114.3
	L2	30	50	70	70	110	114.3
D9	L1	46	70	90	145	200	200
	L2	46	70	90	90	145	200
D10	L1	42	61	90	130	180	180
	L2	42	60	90	90	130	180
D11		47	65	95	122	155.5	205
M1		M4	M5	M8	M12	M16	M20
M2	L1	M4	M5	M5	M8	M12	M12
	L2	M4	M5	M5	M5	M8	M12
H1	L1	86.3	116	145	198	275	289
	L2	108.3	138.5	176.3	206	286	343.5
H2	L1	27.5	34.5	45	69	89	82
	L2	27.5	34.5	45	45	64.7	83.5
H3	L1	17	41	24	35	53.5	38
	L2	17	20	24	24	30.5	53.5
H4	L1	5	5	4	12	15	8
	L2	5	5	4	4	10	15
H5		5.5	7	10	12	13.5	20
H6		26	37	48	65	97	105
H7		4	8	8	12	12	20
H8		16	25	32	40	70.5	70.5
H9		2	2	3	5	4	6
H10		19.5	28.5	35.5	50	79	82
H11		15	18	24.5	35	43	58.7

# Moment of Inertia 轉動慣量

規格 Specification	段 Stage	減速比 Speed Ratio	框 Frame					
			GCB042	GCB060	GCB090	GCB120	GCB140	GCB180
轉動慣量 Moment of Inertia	1	3	-	0.16	0.61	3.25	9.21	28.98
		4	0.03	0.14	0.48	2.74	7.54	23.37
		5	0.03	0.13	0.47	2.71	7.42	23.29
		6	0.03	0.13	0.45	2.65	7.25	22.75
		7	0.03	0.13	0.45	2.62	7.14	22.48
		8	0.03	0.13	0.44	2.58	7.07	22.59
		10	0.03	0.13	0.44	2.57	7.03	22.51
	2	15	-	0.13	0.47	0.47	2.71	7.42
		20,25,30,35,40	0.03	0.13	0.47	0.47	2.71	7.42
		50,60,70,80,100	0.03	0.13	0.44	0.44	2.57	7.03

- GB
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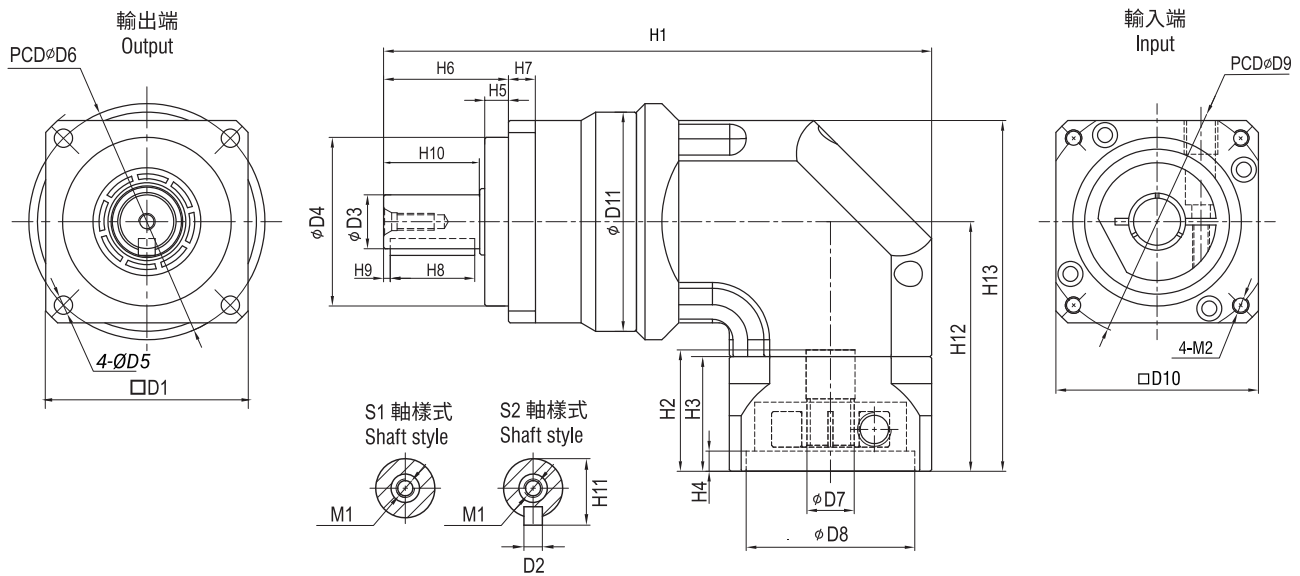
## Performance data 性能資料表

規格 Specification	段 Stage	減速比 Speed Ratio	框 Frame						
			GCBR042	GCBR060	GCBR090	GCBR120			
額定輸出力矩 Nominal Output Torque	1	3	-	35	80	190			
		4	11	45	115	245			
		5	13	55	140	315			
		6	16	50	140	305			
		7	17	46	135	290			
		8	15	43	115	255			
		10	13	40	97	225			
		12	-	50	140	305			
		14	-	40	135	290			
		16	-	43	115	255			
	1,2(042)	20	13	40	97	225			
	2	25	13	55	140	315			
		30	16	50	140	305			
		35	17	46	135	290			
		40	15	43	115	255			
		50	13	55	140	315			
		60	16	50	140	305			
		70	17	46	135	290			
		80	15	43	115	255			
		100	13	40	97	225			
120		-	50	140	305				
140	-	46	135	290					
160	-	43	115	255					
200	-	40	97	225					
急停扭矩 Emergent Stop Toruqe	Nm	1, 2	4-200	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	3000		
最大輸入轉速 Maximum Input Speed	rpm			6000	6000	6000	5000		
背隙 Backlash	arcmin	1	4-20	P0	-	≤4			
				P1	≤6	≤6			
				P2	≤8	≤8			
		2	20-200	P0	-	≤7			
				P1	≤9	≤9			
				P2	≤12	≤12			
效率 Efficiency	%	1	4-20	≥95					
		2	20-200	≥92					
扭轉剛性 Torsional Rigidity	Nm/arcmin	1, 2	4-200	3	6	14	25		
最大徑向力 Maximum Radial Force	N			760	1450	3200	6600		
最大軸向力 Maximum Axial Force	N			380	724	1600	3200		
使用壽命 Service Life	hr			20,000					
使用溫度 Operating Temperature	°C			-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	4-20	≤63	≤66	≤67	≤70
				2	25-200	≤63	≤66	≤67	≤70
重量 Weight	Kg	1	4-20	0.9	1.5	6.4	13		
		2	25-200	1.1	2.1	7.7	14		

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		GCBR042	GCBR060	GCBR090	GCBR120
D1		42	60	90	120
D2		5	5	6	10
D3		13	16	22	32
D4		35	50	80	110
D5		3.4	5.5	7	9
D6		50	70	100	130
D7	L1	8	14	19	24
	L2	8	14	19	19
D8	L1	30	50	70	110
	L2	30	50	70	70
D9	L1	46	70	90	145
	L2	46	70	90	90
D10	L1	42	60	90	130
	L2	42	60	90	90
D11		47	65	95	122
M1		M4	M5	M8	M12
M2	L1	M4	M5	M6	M8
	L2	M4	M5	M5	M6
H1	L1	103.8	162.5	212.2	288.5
	L2	125.8	185	243.5	275
H2	L1	28	36	49	68
	L2	28	36	49	49
H3	L1	25	34	38	35
	L2	25	34	38	38
H4	L1	4.5	6	6	12
	L2	4.5	6	6	6
H5		5.5	7	10	12
H6		26	37	48	65
H7		4	8	8	12
H8		16	25	32	40
H9		2	2	3	5
H10		19.5	28.5	36.5	51.5
H11		15	18	24.5	35

# Moment of Inertia 轉動慣量

規格 Specification	段 Stage	減速比 Speed Ratio	框 Frame			
			GCBR042	GCBR060	GCBR090	GCBR120
轉動慣量 Moment of Inertia	1	3	-	0.35	2.25	6.84
		4,5,6,7,8	0.09	0.35	2.25	6.84
		10	0.09	0.07	2.25	6.25
		12	-	0.07	2.25	6.25
		14,16	-	0.07	1.87	6.25
	1,2(042)	20	0.09	0.07	1.87	6.25
	2	25,30,35,40,50,60,70	0.09	0.09	0.35	2.25
		80,100	0.09	0.09	0.35	1.87
		120,140,160,200	-	0.09	1.87	1.87

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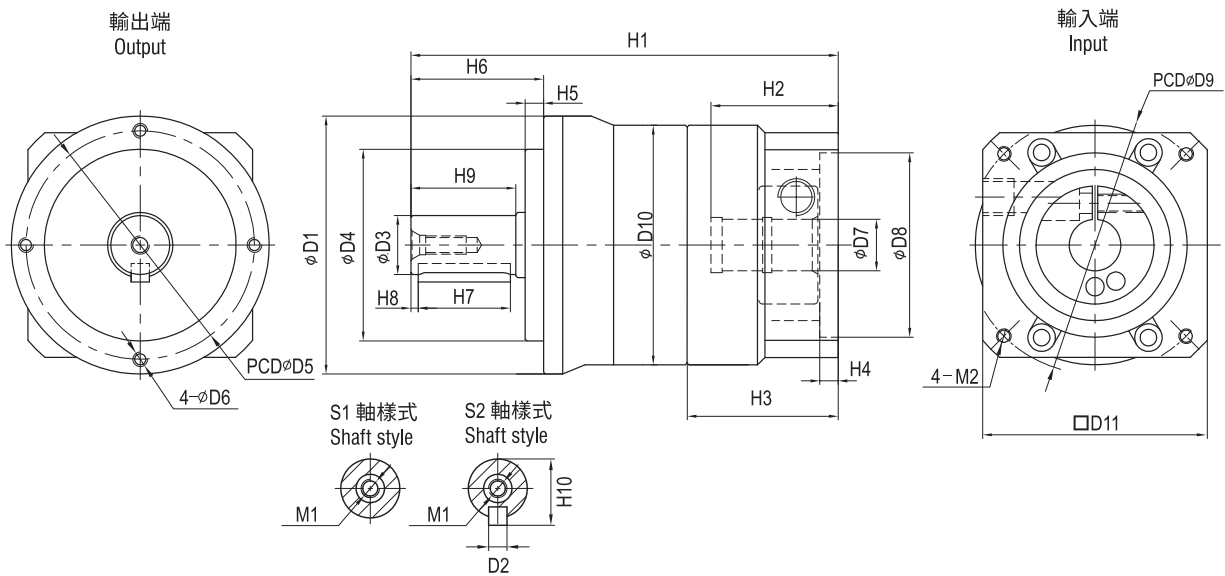
## Performance data 性能資料表

規格 Specification		段 Stage	減速比 Speed Ratio	框 Frame					
				GCE070	GCE090	GCE120	GCE155		
額定輸出力矩 Nominal Output Torque	Nm	1	3	40	100	200	340		
			4	45	110	280	535		
			5	55	150	320	650		
			6	50	140	310	600		
			7	45	135	300	550		
			8	45	120	255	500		
		2	10	35	100	220	445		
			15	40	100	200	340		
			20	45	110	280	535		
			25	55	150	320	650		
			30	50	140	310	600		
			35	45	135	300	550		
			40	45	120	255	500		
			50	55	150	320	650		
			60	50	140	310	600		
			70	45	135	300	550		
			80	45	120	255	500		
			100	35	100	220	445		
急停扭矩 Emergent Stop Toruqe	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	2000		
最大輸入轉速 Maximum Input Speed	rpm			6000	6000	6000	4000		
背隙 Backlash	arcmin	1	3-10	P0	-				
				P1	≤3				
				P2	≤5				
		2	15-100	P0	-				
				P1	≤5				
				P2	≤7				
效率 Efficiency	%	1	3-10	≥97					
		2	15-100	≥94					
扭轉剛性 Torsional Rigidity	Nm/arcmin	1, 2	3-100	7	14	25	50		
最大徑向力 Maximum Radial Force	N			1530	3250	6700	9400		
最大軸向力 Maximum Axial Force	N			765	1625	3350	4700		
使用壽命 Service Life	hr			20,000					
使用溫度 Operating Temperature	°C			-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	≤58	≤60	≤63	≤65
				2	15-100	≤58	≤60	≤63	≤65
重量 Weight	Kg	1	3-10	1.6	3.4	7.8	19		
		2	15-100	1.9	5.2	8.5	20		

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		GCE070	GCE090	GCE120	GCE155
D1		70	90	120	155.5
D2		5	6	10	12
D3		16	22	32	40
D4		52	68	90	120
D5		62	80	108	140
D6		M5	M6	M8	M10
D7	L1	14	19	22	35
	L2	14	19	19	24
D8	L1	50	70	110	114.3
	L2	50	70	70	110
D9	L1	70	90	145	200
	L2	70	90	90	145
D10		N/A	95	122	155.5
D11	L1	60	90	130	180
	L2	60	90	90	130
M1		M5	M8	M12	M16
M2	L1	M4	M5	M8	M12
	L2	M4	M5	M5	M8
H1	L1	116	145	205	275
	L2	138	176.3	206.4	290
H2	L1	35	45	76.2	91
	L2	35	44	44.9	69
H3	L1	41	24	42	53.5
	L2	20	24	24	35
H4	L1	5	4	16	15
	L2	5	4	4	12
H5		5	7	17.5	15
H6		36	46	70	97
H7		25	32	41	70.5
H8		2	3	5	4
H9		28.5	37	50	79
H10		18	24.5	35	43

# Moment of Inertia 轉動慣量

規格 Specification	段 Stage	減速比 Speed Ratio	框 Frame			
			GCE070	GCE090	GCE120	GCE155
轉動慣量 Moment of Inertia	1	3	0.16	0.61	3.25	9.21
		4	0.14	0.48	2.74	7.54
		5	0.13	0.47	2.71	7.42
		6	0.13	0.45	2.65	7.25
		7	0.13	0.45	2.62	7.14
		8	0.13	0.44	2.58	7.07
		10	0.13	0.44	2.57	7.03
	2	15,20,25,30,35,40	0.13	0.47	0.47	2.71
		50,60,70,80,100	0.13	0.44	0.44	2.57