

# Precision Planetary Reducer

## 精密行星減速機

Outstanding Energy Efficiency  
卓越節能

+

**GB/GBR**  
**SERIES 系列**

+

Minimal Heat Generation  
低熱量輸出

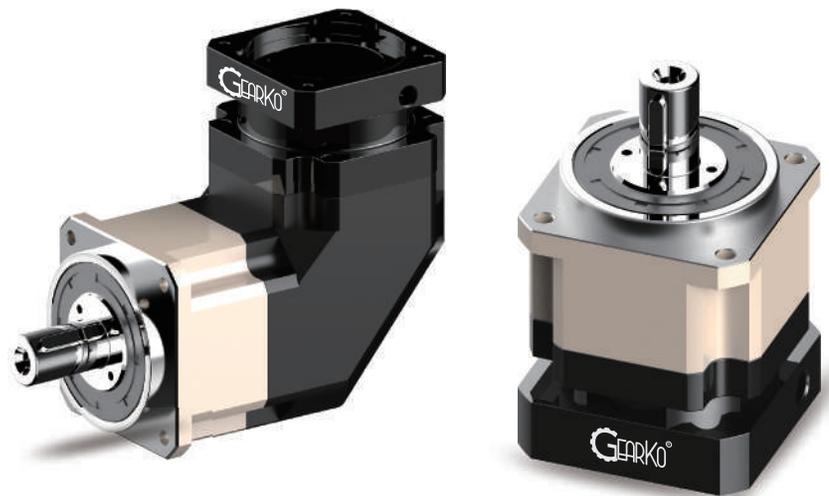
The GB/GBR series maintains exceptionally high efficiency even at maximum operating speeds, making it ideal for demanding, high-load industrial applications. It delivers powerful performance while offering excellent cost-effectiveness, making it a highly reliable planetary gearbox solution.

GB/GBR 系列在高速運轉下仍能維持極高效率，特別適用於高標準、高負載的工況需求，是兼具強效性能與高性價比的行星減速機解決方案。



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

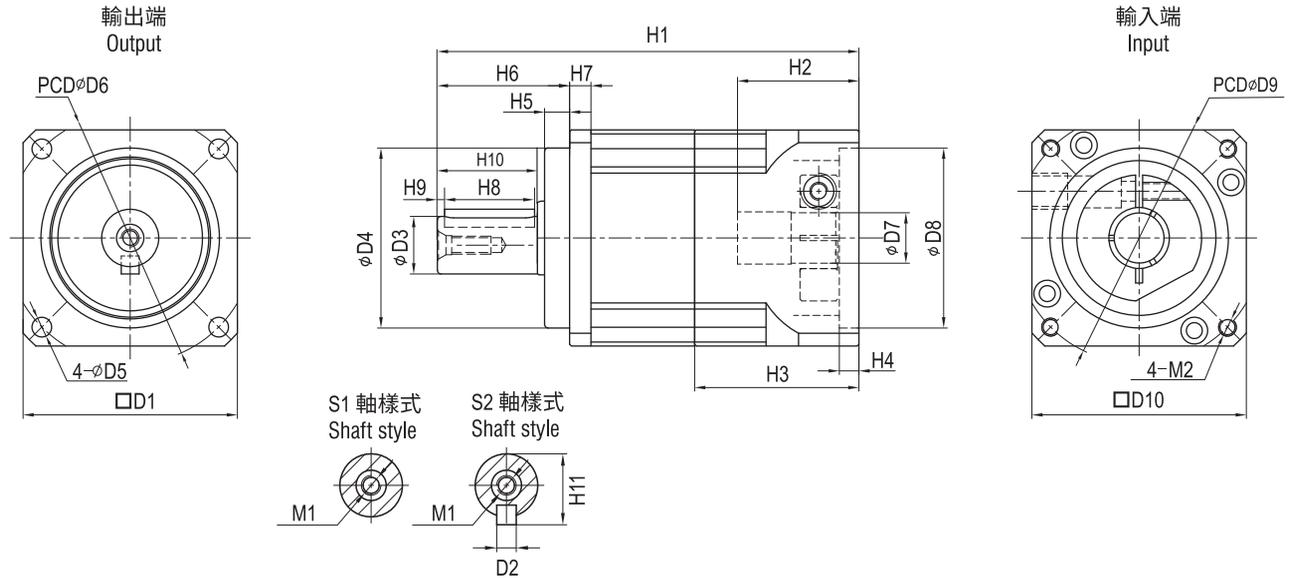
# DRIVES THE PRECISION



### Performance data 性能資料表

規格 Specification	段 Stage	減速比 Speed Ratio	框 Frame									
			GB042	GB060	GB090	GB115	GB142	GB180	GB220			
額定輸出力矩 Nominal Output Torque	1	3	-	52	130	210	340	590	1150			
		4	19	50	140	290	545	1050	1700			
		5	20	58	160	333	650	1200	2008			
		6	-	55	148	310	600	1108	1900			
		7	19	50	140	300	555	1100	1810			
		8	-	45	123	260	500	1000	1600			
		10	14	42	102	235	460	910	1550			
		15	-	52	130	210	340	590	1150			
		20	19	50	140	290	545	1050	1700			
		25	20	58	160	333	650	1200	2008			
	2	30	-	55	148	310	600	1108	1900			
		35	19	50	140	300	555	1100	1810			
		40	17	45	123	260	500	1000	1600			
		50	20	58	160	333	650	1200	2008			
		60	-	55	148	310	600	1108	1900			
		70	19	50	140	300	555	1100	1810			
		80	-	45	123	260	500	1000	1600			
		100	14	42	102	235	460	910	1550			
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			5000	5000	4000	4000	3000	3000	2000		
最大輸入轉速 Maximum Input Speed	rpm			10000	10000	8000	8000	6000	6000	4000		
背隙 Backlash	arcmin	1	3-10	P0	≤1							
				P1	≤3							
		2	15-100	P2	≤5							
				P1	≤5							
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	145	225		
最大徑向力 Maximum Radial Force	N			780	1530	3250	6700	9400	14500	50000		
最大軸向力 Maximum Axial Force	N			390	765	1625	3350	4700	7250	25000		
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 Noise	dB			1	3-10	≤55	≤58	≤60	≤63	≤65	≤66	≤70
				2	15-200	≤55	≤60	≤63	≤63	≤65	≤66	≤70
重量 Weight	Kg	1	3-10	0.5	1.3	3.6	8.5	16.5	27	51.5		
		2	15-200	0.7	1.9	4.5	9.5	16.4	34	63.5		
轉動慣量 Moment of Inertia	1	3	-	0.16	0.61	3.25	9.21	28.98	69.61			
		4	0.03	0.14	0.48	2.74	7.54	23.67	54.37			
		5	0.03	0.13	0.47	2.71	7.42	23.29	53.27			
		6	-	0.13	0.45	2.65	7.25	22.75	51.72			
		7	0.03	0.13	0.45	2.62	7.14	22.48	50.97			
		8	0.03	0.13	0.44	2.58	7.07	22.59	50.84			
		10	0.03	0.13	0.44	2.57	7.03	22.51	50.56			
		15	-	0.13	0.47	0.47	2.71	7.42	23.29			
		20,25	0.03	0.13	0.47	0.47	2.71	7.42	23.29			
		30	-	0.13	0.47	0.47	2.71	7.42	23.29			
	2	35	0.03	0.13	0.47	0.47	2.71	7.42	23.29			
		40	0.03	0.13	0.44	0.47	2.71	7.42	23.29			
		50	0.03	0.13	0.44	0.44	2.57	7.03	22.51			
		60	-	0.13	0.44	0.44	2.57	7.03	22.51			
		70	0.03	0.13	0.44	0.44	2.57	7.03	22.51			
		80	-	0.13	0.44	0.44	2.57	7.03	22.51			
100	0.03	0.13	0.44	0.44	2.57	7.03	22.51					

# Specification 規格尺寸表



型號 Model / 單位 Unit:mm		GB042	GB060	GB090	GB115	GB142	GB180	GB220
D1		42	60	90	115	142	180	220
D2		5	5	6	10	12	16	20
D3		13	16	22	32	40	55	75
D4		35	50	80	110	130	160	180
D5		3.4	5.5	7	9	11	13	17
D6		50	70	100	130	165	215	250
D7	L1	8	14	19	24	35	35	55
	L2	8	14	19	22	24	35	35
D8	L1	30	50	70	110	114.3	114.3	200
	L2	30	50	70	110	110	114.3	114.3
D9	L1	46	70	90	145	200	200	235
	L2	46	70	90	145	145	200	200
D10	L1	42	60	90	130	180	180	220
	L2	42	60	90	130	130	180	180
M1		M4	M5	M8	M12	M16	M20	M20
M2	L1	M4	M5	M5	M8	M12	M12	M10
	L2	M4	M5	M5	M8	M8	M12	M12
H1	L1	85.3	118	145	206	263	289	370
	L2	106.8	141	179.8	226	280	342.3	410
H2	L1	26.5	34	42.5	71	84	82	117.5
	L2	26	34.5	42.5	60.5	64.5	83.5	82
H3	L1	28.5	46	24	42	53.5	38	68
	L2	15.5	46	24	42	35	53.5	38
H4	L1	4	5.5	4	16	15	5	20
	L2	3.5	5.5	4	16	12	15	8
H5		5.5	7	10	12	15	20	30
H6		26	37	48	65	97	105	138
H7		4	6	10	12	15	20	25
H8		16	25.2	32	40	70.5	70.5	90
H9		2	2	3	5	4	6	7
H10		19.5	28	36.5	50.5	79	81.5	104
H11		15	18	24.5	35	43	58.7	79.5

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。

### Performance data 性能資料表

規格 Specification	段 Stage	減速比 Speed Ratio	框 Frame							
			GBR042	GBR060	GBR090	GBR115	GBR142	GBR180		
額定輸出力矩 Nominal Output Torque	1	3	-	50	100	200	340	590		
		4	15	48	120	260	540	1040		
		5	18	58	150	330	650	1200		
		6	18	55	148	310	600	1108		
		7	19	50	140	300	555	1100		
		8	17	45	123	260	500	1000		
		10	14	42	102	235	460	910		
		12	-	55	148	310	600	1108		
		14	-	42	140	300	555	1100		
		16	-	45	123	260	500	1000		
	1, 2(042)	20	15	42	102	235	450	910		
	2	25	18	58	150	330	650	1200		
		30	18	55	148	310	600	1108		
		35	19	50	140	300	555	1100		
		40	17	45	120	260	500	1000		
		50	18	58	150	330	650	1200		
		60	18	55	148	310	600	1108		
		70	19	50	140	300	555	1100		
		80	17	45	123	260	500	1000		
		100	14	42	102	235	460	910		
120		-	55	148	310	600	1108			
140	-	50	140	300	555	1100				
160	-	45	123	260	500	1000				
200	-	42	102	235	460	910				
急停扭矩 Emergent Stop Torque	Nm	1, 2	3-200	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			5000	5000	4000	4000	3000	3000	
最大輸入轉速 Maximum Input Speed	rpm			10000	10000	8000	8000	6000	6000	
背隙 Backlash	arcmin	1	3-20	P0	-					
				P1	≤4					
		2	20-200	P0	-					
				P1	≤7					
效率 Efficiency	%	1	3-20	≥95						
		2	20-200	≥92						
扭轉剛性 Torsional Rigidity	Nm/arcmin	1, 2	3-200	3	7	14	25	50	145	
最大徑向力 Maximum Radial Force	N			780	1530	3250	6700	9400	14500	
最大軸向力 Maximum Axial Force	N			390	765	1625	3350	4700	7250	
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	3-20	≤61	≤63	≤65	≤68	≤70	≤72	
		2	20-200	≤61	≤63	≤65	≤68	≤70	≤72	
重量 Weight	Kg	1	3-20	0.7	2	6	13	25.2	46.5	
		2	20-200	0.9	2.5	6.3	12.5	21.4	43	

1. Speed ratio 減速比 ( $i = S_{in} / S_{out}$ )

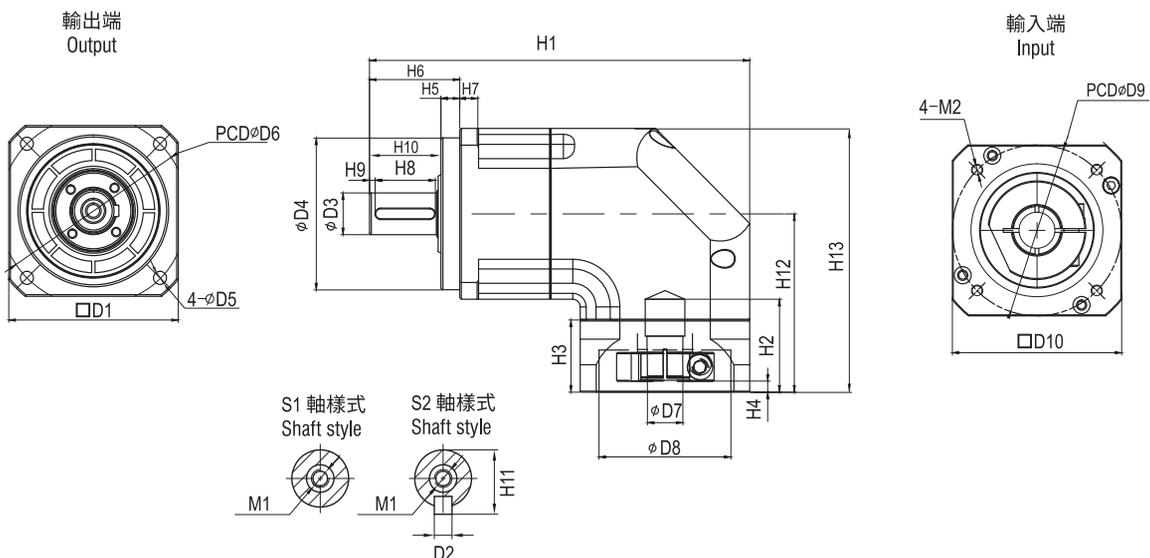
2. When the output speed is 100 rpm, it acts on the center of the output shaft. 輸出轉速 100rpm 時，作用於輸出軸中心

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		GBR042	GBR060	GBR090	GBR115	GBR142	GBR180
D1		42	60	90	115	142	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	42
	L2	8	14	19	19	24	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	60	90	130	180	180
	L2	42	60	90	90	130	180
M1		M4	M5	M8	M12	M16	M20
M2	L1	M4	M5	M6	M8	M12	M12
	L2	M4	M5	M5	M5	M8	M12
H1	L1	103.8	147	202	264	339.5	416
	L2	125.8	170	236.8	264	345.5	419.8
H2	L1	28	36	49	63.7	97	89.7
	L2	28	36	49	49	74.5	97
H3	L1	25	34	38	50	53.5	38
	L2	25	34	38	38	42	53.5
H4	L1	4.5	6	6	10	15	8
	L2	4.5	6	6	5	16	15
H5		5.5	7	10	12	15	20
H6		26	37	48	65	97	105
H7		4	6	10	12	15	20
H8		16	25.2	32	40	70.5	70.5
H9		2	2	3	5	4	6
H10		19.5	28	36	41	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					
			GBR042	GBR060	GBR090	GBR115	GBR142	GBR180
轉動慣量 Moment of Inertia	1	3	-	0.35	2.25	6.84	23.4	68.9
		4.5,(6),7,(8)	0.09	0.35	2.25	6.84	23.4	68.9
		10,12	0.09	0.07	2.25	6.25	21.8	65.6
		14,16	0.09	0.07	1.87	6.25	21.8	65.6
	2	20	0.09	0.07	1.87	6.25	21.8	65.6
		25,(30),35,40,50,(60),70	0.09	0.09	2.25	2.25	6.84	23.4
		(80),100	0.09	0.09	2.25	1.87	6.25	21.8
		120,140,160,200	-	0.09	1.87	1.87	6.25	21.8

括號所列之減速比不適用於 042 框徑。 The reduction ratios shown in parentheses are not applicable to the 042 frame.