

■ 斜齒系列 Helical Gear Series



GPB Series / P.005~014



GPD Series / P.015~024



GPV Series / P.025~032



GPE Series / P.033~040



GPBR Series / P.041~049



GPDR Series / P.051~058



GPVR Series / P.059~065



GPER Series / P.067~073

■ 直齒系列 Spur Gear Series



GPF Series / P.075~083



GPL Series / P.085~093



GPFR Series / P.095~101



GPLR Series / P.103~109

■ 換向器系列 Steering Gear Series



GPW Series / P.111~130



產品概述 PRODUCTS OVERVIEW

产品特点 Features

精密行星齒輪減速機是我公司自主研發的新一代實用性產品，融合了國內外先進的技術，具有以下一些主要特點：

1. 低噪音：低於 65db。
2. 低背隙：單級可達 3 弧分內，雙級可達 5 弧分內。
3. 高效率：單段式在 95% 以上，雙段式在 92% 以上。
4. 高輸入轉速：可達 8000RPM。
5. 高扭矩：比一般標準行星減速機扭矩高。
6. 高穩定性：採用高強度合金鋼材，整顆齒輪經硬化處理，非只有表面硬化，確保使用壽命及長期使用仍保持最初的精密度。
7. 高減速比：採用模組化設計，行星齒箱可相互連結，速比可達 1/1000 以上。

Precision planetary gearbox is a new-generation product developed by our company, which integrates advanced technologies at home and abroad, its main features are as follows:

- 1.Low Noise: Under 65db.
- 2.Low Backlash: Backlash less than 3 arcmin for single stage. Less than 5 arcmin for two stages.
- 3.High Efficiency: Above 95% for single stage, above 92% for two stages.
- 4.High Input Speed: up to 8000 RPM.
- 5.High Torque: Higher torque output than conventional standard planetary gearboxes.
- 6.High Stability: Employs high tensile strength alloy steel. Gear hardening is made for the entire gear instead of only surface hardening, which extends gear service life and maintain high accuracy as new after a long period of operation.
- 7.High Reduction Ratio: with modular design. the planetary gear boxes can be interconnected, speed reduction ratio could be over 1/1000.

產品用途 Application

精密行星齒輪減速機被廣泛應用於以下領域：

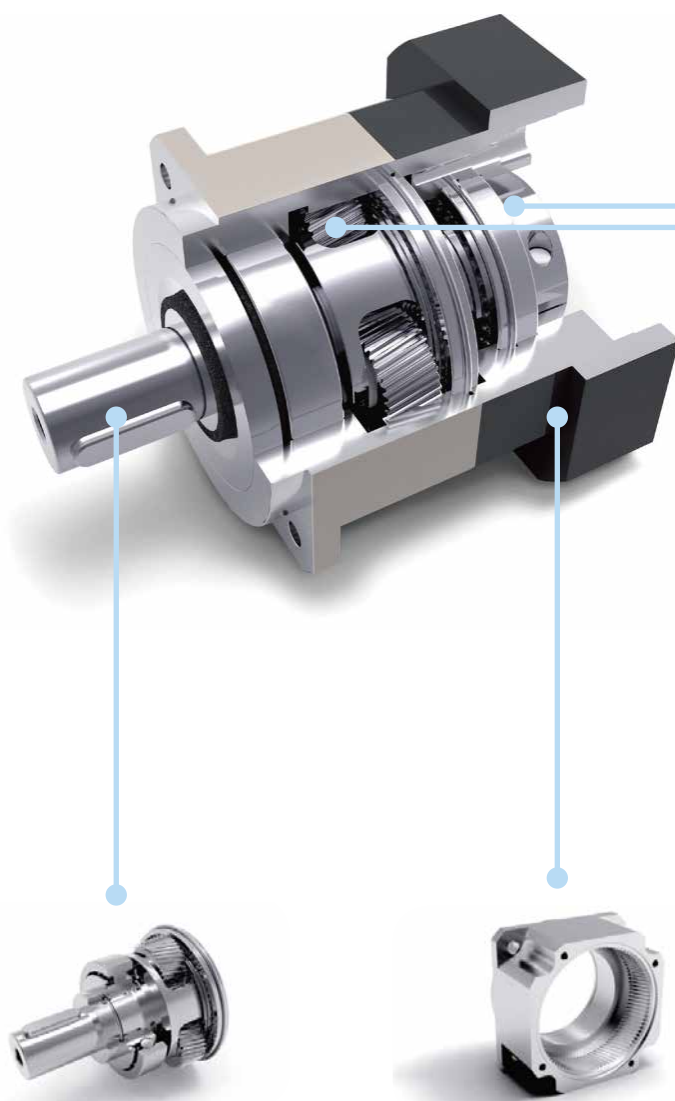
1. 航空航天、軍事產業。
2. 醫療衛生、電子資訊技術產業。
3. 工業機器人、生產自動化、數控機床製造產業。
4. 汽車製造、紡織、印刷、食品、冶金、環保工程、倉儲物流等產業。

Precision Planetary Gear Reducer is widely used in the fields :

- 1.Aerospace, military industry.
- 2.Medical health, electronic information technology industry.
- 3.Industrial robots, Production automation, CNC machine tool manufacturing industry.
- 4.Motor, textile, printing, food, metallurgical, environmental protection engineering and warehouse logistics industry.

產品特性 Property

以 GPB 系列為例
Take GPB series as an example



輸入軸與鎖緊裝置採用一體化設計，雙螺栓對稱分佈，達到動平衡的同時，通過雙螺栓的強力鎖死，有效防止電機軸傳動打滑，實現高精度零背隙的動力傳送。

The input shaft and locking device adopt integrated design, and the double bolts are symmetrically distributed to achieve dynamic balance. At the same time, the strong locking of the double bolts effectively prevent the motor shaft transmission from slipping and realize high-precision power transmission with zero backlash.



齒輪材料採用優質合金鋼，經碳 - 氮共滲處理，從而獲得最佳的耐磨性和耐衝擊韌性。

The gear material is made of high-quality alloy steel and treated by nitrocarburizing, so as to obtain the best wear resistance and impact toughness.



利用 ANSYS 技術對齒輪強度進行有限元分析，同時對齒面作齒形及導程修整，以減低齒輪嚙合的衝擊和噪音，增加齒輪系的使用壽命。

The finite element analysis of gear strength is carried out by using ANSYS technology, and the tooth profile and lead are trimmed on the tooth surface to reduce the impact and noise of gear meshing and extend the service life of gear system.

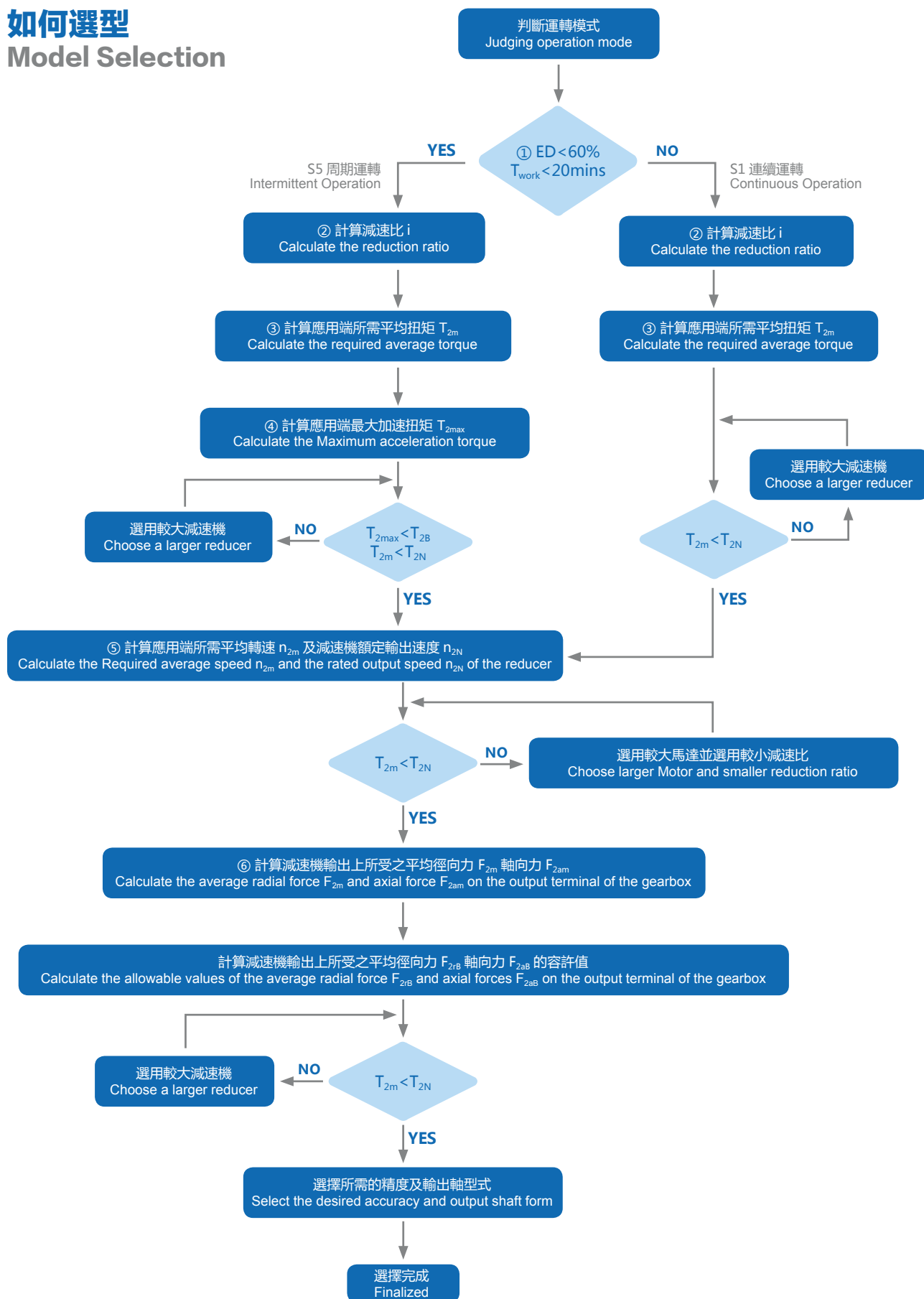
輸出行星架採用一體式（雙支撐）的結構設計，前後軸承大跨距分佈於箱體內，形成穩定的一體式結構，以確保較高的扭轉剛性和精度。

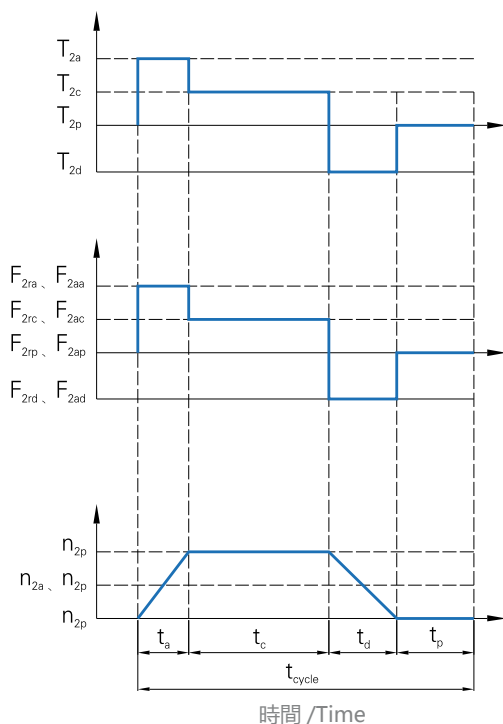
The output planet carrier adopts integrated (double support) structural design, and the front and rear bearings are distributed in the housing with a large span to form stable integrated structure to ensure high torsional rigidity and accuracy.

齒圈與輸出殼體採用一體化設計，採用優質鋼材，經熱鍛成形，從而獲得較高的材料密度。一體化設計能保證所有幾何尺寸一次性加工完成，與其它內嵌式、夾裝式等結構相比具有更高的精度和強度。

The gear ring and output housing adopt integrated design and high-quality steel, and formed by hot forging, so as to obtain high material density. The integrated design can ensure that all geometric dimensions can be processed at one time, and has higher precision and strength compared with other embedded and clamping structures.

如何選型 Model Selection



輸出軸扭矩
Output shaft torque輸出軸承受作用力
Output shaft load輸出轉速
Output speed

S5 周期運轉建議，一般應用慣量須符合以下公式：
S5 suggestions for cycle operation General application inertia must conform to the following formula:

$$\frac{J_L}{i^2} \leq 4 \times J_m$$

最適當的應用慣量須符合以下公式：
The most appropriate application inertia must conform to the following formula:

$$\frac{J_L}{i^2} \cong J_m$$

J_L : 負載慣量 / Load inertia
 J_m : 馬達慣量 / Motor inertia

①

$$ED = \frac{t_a + t_c + t_d}{t_{\text{cycle}}} \times 100\%, \quad t_{\text{work}} = t_a + t_c + t_d$$

a: 加速 / accelerate c: 等速 / constant
d: 減速 / deelerate p: 停止 / stop

②

$$i \cong \frac{n_m}{n_{\text{work}}}$$

n_m : 馬達輸出速度 / Motor output speed
 n_{work} : 實際應用速度 / Actual application speed

③

$$T_{2m} = 3 \sqrt{\frac{n_{2a} \times t_a \times T_{2a}^3 + n_{2c} \times t_c \times T_{2c}^3 + n_{2d} \times t_d \times T_{2d}^3}{n_{2a} \times t_a + n_{2c} \times t_c + n_{2d} \times t_d}}$$

④

$$T_{2\max} = T_{mB} \times i \times k_s \times \eta$$

Ks	Ks	周期次數 / 小時 Cycles/Hours
負載 系數 Load Factors	1.0	0~1000
	1.1	1000~1500
	1.3	1500~2000
	1.6	2000~3000
	1.8	3000~5000

T_{mB} : 馬達最大輸出扭矩 / Motor Maximum output torque
 η : 減速機運轉效率 / Gearbox operating efficiency

⑤

$$n_{2a} = n_{2d} = \frac{1}{2} \times n_{2c}$$

$$n_{2m} = \frac{n_{2a} \times t_a + n_{2c} \times t_c + n_{2d} \times t_d}{t_a + t_c + t_d}$$

$$n_{2N} = \frac{n_{1N}}{i}$$

⑥

$$F_{2m} = 3 \sqrt{\frac{n_{2a} \times t_a \times F_{2a}^3 + n_{2c} \times t_c \times F_{2c}^3 + n_{2d} \times t_d \times F_{2d}^3}{n_{2a} \times t_a + n_{2c} \times t_c + n_{2d} \times t_d}}$$

$$F_{2am} = 3 \sqrt{\frac{n_{2a} \times t_a \times F_{2aa}^3 + n_{2c} \times t_c \times F_{2ac}^3 + n_{2d} \times t_d \times F_{2ad}^3}{n_{2a} \times t_a + n_{2c} \times t_c + n_{2d} \times t_d}}$$



GPB Series



型號說明 / MODEL

GPB	090	-	10K	-	(- - -)	-	
系列代碼 Series	規格 Size		減速比 Ratio		輸入端安裝尺寸 Input mounting size		非標定製 Customization
			雙級 Double (L2) 12K 15K 16K 20K 25K 28K 30K 35K 40K 50K 60K 70K 80K 100K				
			單級 Single (L1) 3K 4K 5K 7K 10K				
	042						
	060						
	090						
	115						
	142						
	180						
	220						

依據馬達連接尺寸確認
According to the motor connection size

a	馬達輸出軸直徑 Motor Shaft diameter
b	馬達止口直徑 Motor Spigot diameter
c	馬達安裝孔 PCD Motor Mounting Hole PCD
d	馬達安裝螺紋孔 Motor mounting threaded hole

例 Example : (19-70-90-M5)

依據尺寸圖確認
According to the drawing
空白 : 標準品
Blank : Standard

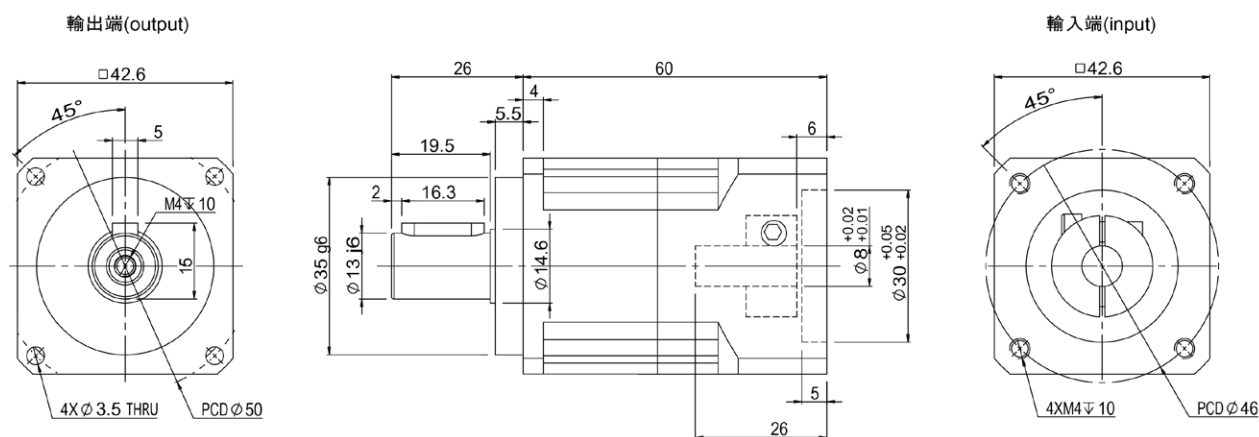
轉動慣量總表 / MOMENT OF INERTIA

規格 specification	級數 stage	減速比 Ratio	GPB042	GPB060	GPB090	GPB115	GPB142	GPB180	GPB220
轉動慣量 J1 Moment of inertia J1	1	3K	0.03	0.16	0.61	3.25	9.21	28.98	69.61
		4K	0.03	0.14	0.48	2.74	7.54	23.67	54.37
		5K	0.03	0.13	0.47	2.71	7.42	23.29	53.27
		7K	0.03	0.13	0.45	2.62	7.14	22.48	50.97
		10K	0.03	0.13	0.44	2.57	7.03	22.51	50.56
	2	12K	0.03	0.03	0.13	0.47	2.71	7.42	23.29
		15K	0.03	0.03	0.13	0.47	2.71	7.42	23.29
		16K	0.03	0.03	0.13	0.47	2.71	7.42	23.29
		20K	0.03	0.03	0.13	0.47	2.71	7.42	23.29
		25K	0.03	0.03	0.13	0.47	2.71	7.42	23.29
		28K	0.03	0.03	0.13	0.47	2.71	7.42	23.29
		30K	0.03	0.03	0.13	0.47	2.71	7.42	23.29
		35K	0.03	0.03	0.13	0.47	2.71	7.42	23.29
		40K	0.03	0.03	0.13	0.47	2.71	7.42	23.29
		50K	0.03	0.03	0.13	0.44	2.57	7.03	22.51
		60K	0.03	0.03	0.13	0.44	2.57	7.03	22.51
		70K	0.03	0.03	0.13	0.44	2.57	7.03	22.51
		80K	0.03	0.03	0.13	0.44	2.57	7.03	22.51
		100K	0.03	0.03	0.13	0.44	2.57	7.03	22.51

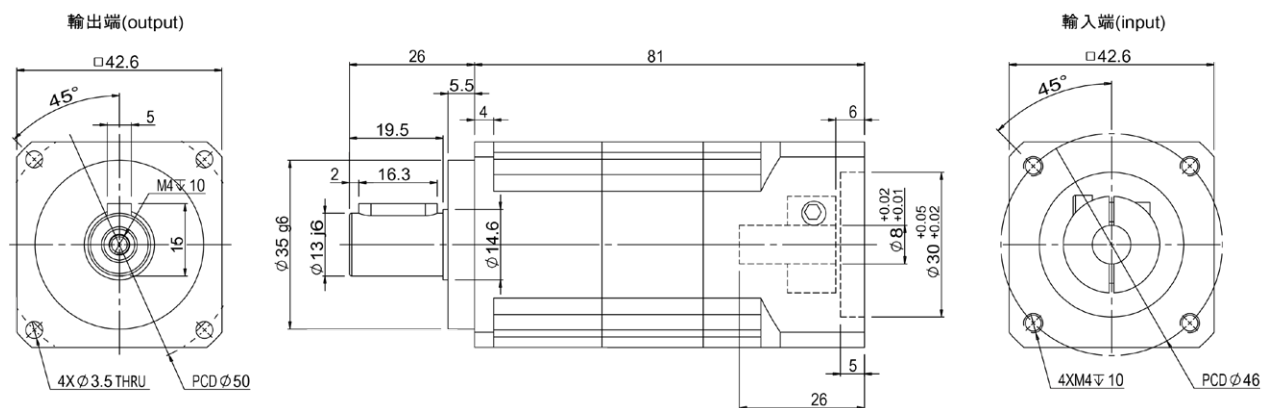
減速機性能資料 / PERFORMANCE

規格 specification		節數 stage	減速比 ratio	GPB042	GPB060	GPB090	GPB115	GPB142	GPB180	GPB220
額定輸出力矩 Rated output torque T_{2N}	Nm	1	3K	20	55	130	208	342	588	1140
			4K	19	50	140	290	543	1050	1700
			5K	22	60	160	330	650	1200	2000
			7K	19	50	140	300	550	1100	1800
			10K	14	40	100	230	450	900	1500
		2	12K	20	55	130	208	342	588	1140
			15K	20	55	130	208	342	588	1140
			16K	19	50	140	290	543	1050	1700
			20K	19	50	140	290	542	1050	1700
			25K	22	60	160	330	650	1200	2000
			28K	19	50	140	290	543	1050	1700
			30K	20	55	150	310	600	1100	1900
			35K	19	50	140	300	550	1100	1800
			40K	17	45	120	260	500	1000	1600
			50K	22	60	160	330	650	1200	2000
			60K	20	55	150	310	600	1100	1900
			70K	19	50	140	300	550	1100	1800
			80K	17	45	120	260	500	1000	1600
			100K	14	40	100	230	450	900	1500
急停扭矩 T_{2NOT} Emergency stop torque T_{2NOT}	Nm	1 & 2	3 ~ 100K	3 倍額定輸出力矩 / 3 times rated output torque						
額定輸入轉速 n_{1N} Rated input speed n_{1N}	rpm	1 & 2	3 ~ 100K	5000	5000	4000	4000	3000	3000	2000
最大輸入轉速 n_{1B} Max input speed n_{1B}		1 & 2	3 ~ 100K	10000	10000	8000	8000	6000	6000	4000
精密背隙 P1 Precision backlash P1	arcmin	1	3 ~ 10K	-	≤ 3	≤ 3	≤ 3	≤ 3	≤ 3	≤ 3
		2	12 ~ 100K	-	≤ 5	≤ 5	≤ 5	≤ 5	≤ 5	≤ 5
標準背隙 P2 Standard backlash P2	arcmin	1	3 ~ 10K	≤ 5	≤ 5	≤ 5	≤ 5	≤ 5	≤ 5	≤ 5
		2	12 ~ 100K	≤ 8	≤ 8	≤ 8	≤ 8	≤ 8	≤ 8	≤ 8
扭轉剛性 Torsional rigidity	Nm/arcmin	1 & 2	3 ~ 100K	3	7	14	25	50	145	225
容許徑向力 F_{2rB} Allowable radial force F_{2rB}	N	1 & 2	3 ~ 100K	780	1530	3250	6700	9400	14500	50000
容許軸向力 F_{2aB} Allowable axial force F_{2aB}	N	1 & 2	3 ~ 100K	390	765	1625	3350	4700	7250	25000
使用壽命 Lifespan	Hr	1 & 2	3 ~ 100K	20000						
效率 Efficiency	%	1	3 ~ 10K	≥ 97%						
		2	12 ~ 100K	≥ 94%						
重量 Weight	kg	1	3 ~ 10K	0.6	1.3	3.7	7.8	14.5	29	48
		2	12 ~ 100K	0.8	1.5	4.1	9	17.5	33	60
使用溫度 Working temperature	°C	1 & 2	3 ~ 100K	-10°C ~ 90°C						
潤滑 Grease		1 & 2	3 ~ 100K	合成潤滑油脂 / Synthetic lubricating grease						
防護等級 IP Grade		1 & 2	3 ~ 100K	IP65						
安裝方向 Installation direction		1 & 2	3 ~ 100K	任意方向 / Any direction						
噪音值 ($n_1=3000\text{rpm}$, 無負載) Noise Value ($n_1=3000\text{rpm}$, off load)	Db	1 & 2	3 ~ 100K	≤ 56	≤ 58	≤ 60	≤ 63	≤ 65	≤ 67	≤ 70

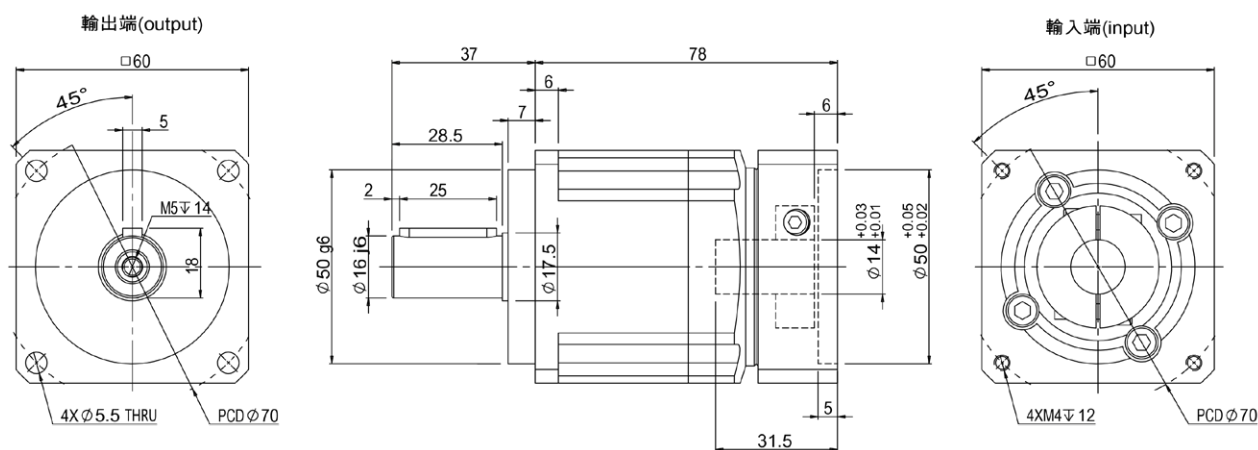
■ GPB042-L1



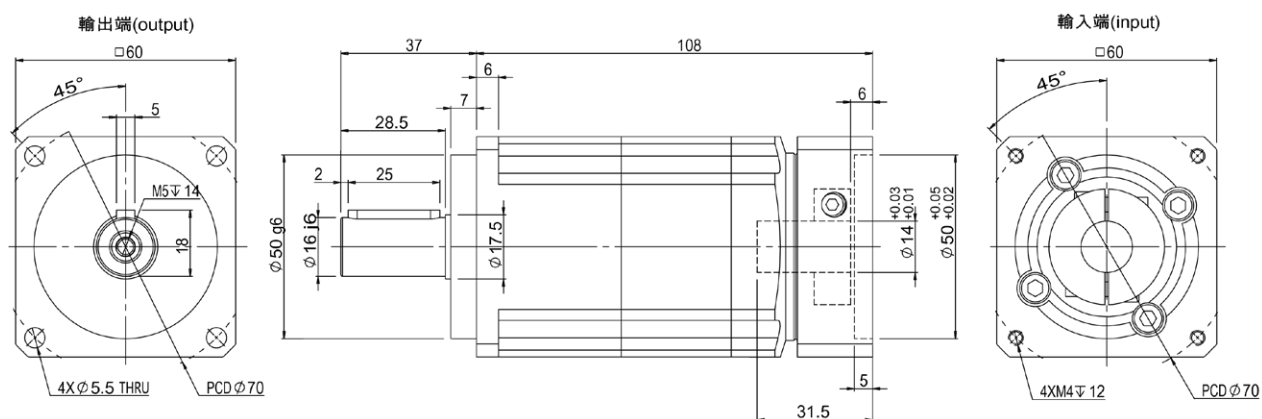
■ GPB042-L2



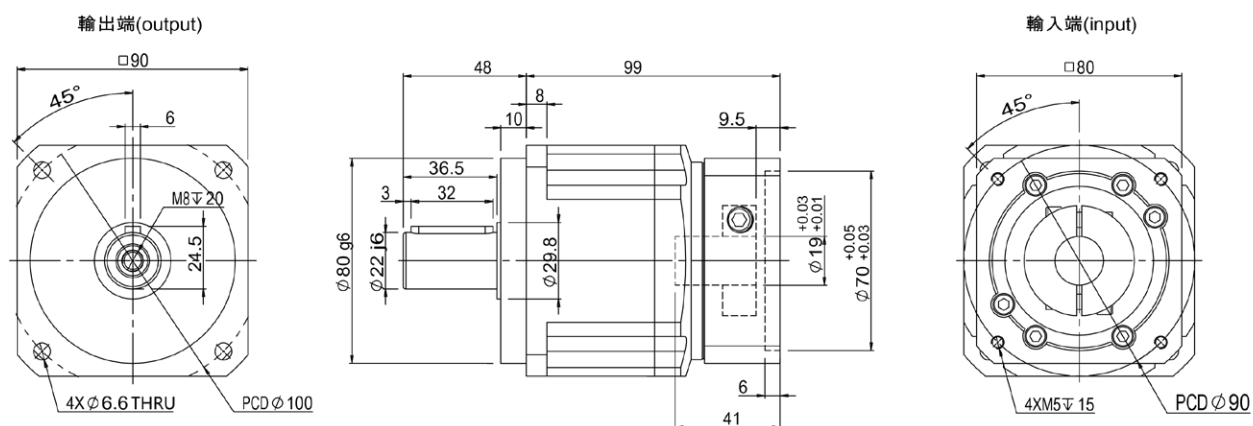
■ GPB060-L1



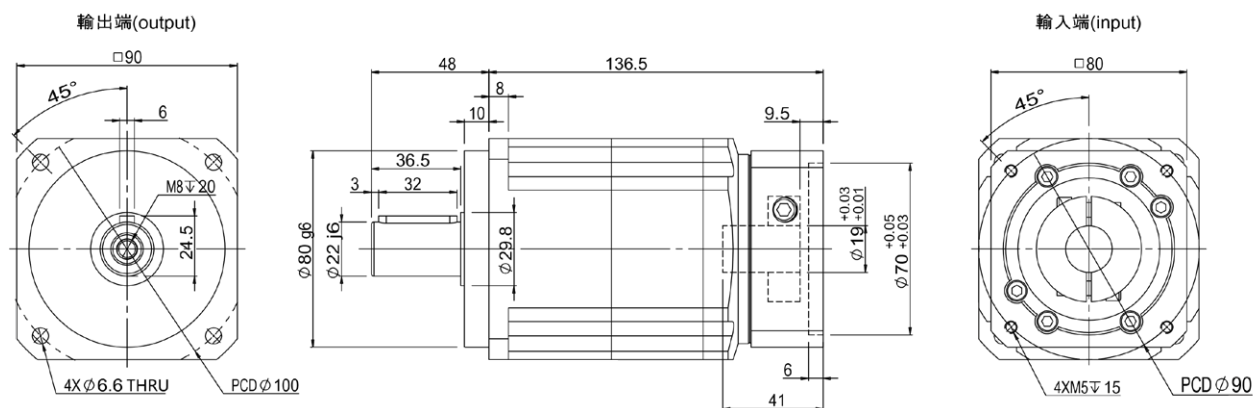
■ GPB060-L2



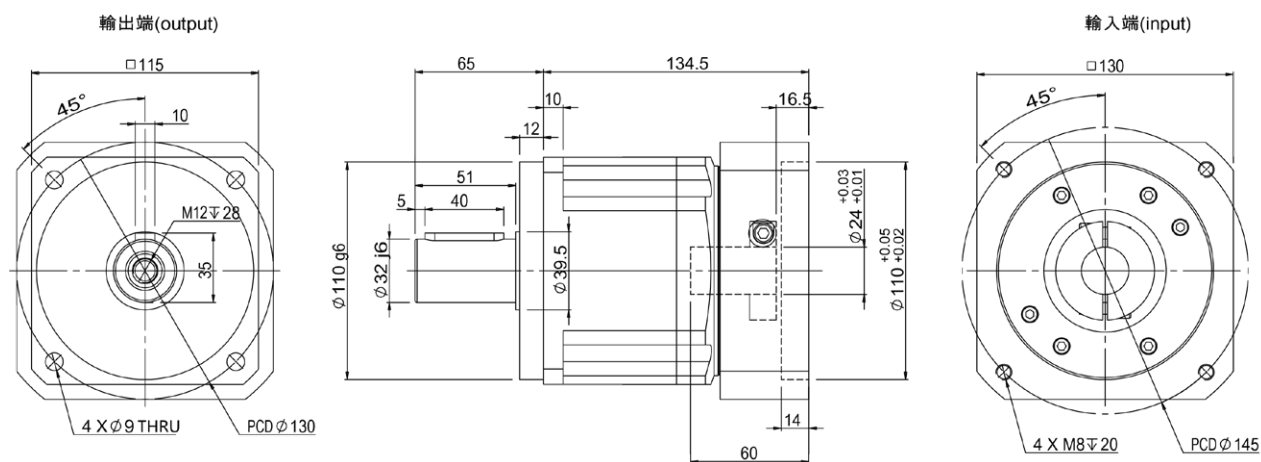
■ GPB090-L1



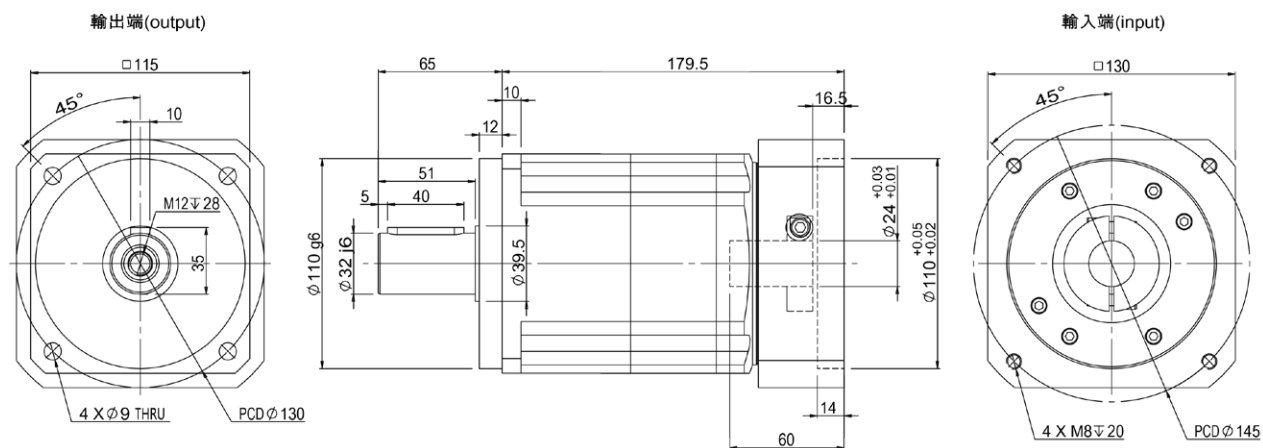
■ GPB090-L2



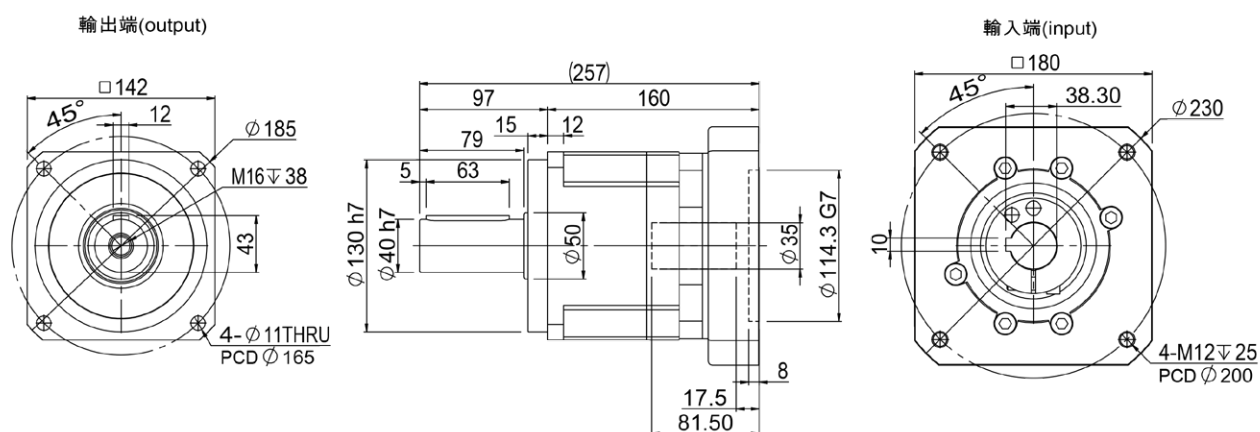
■ GPB115-L1



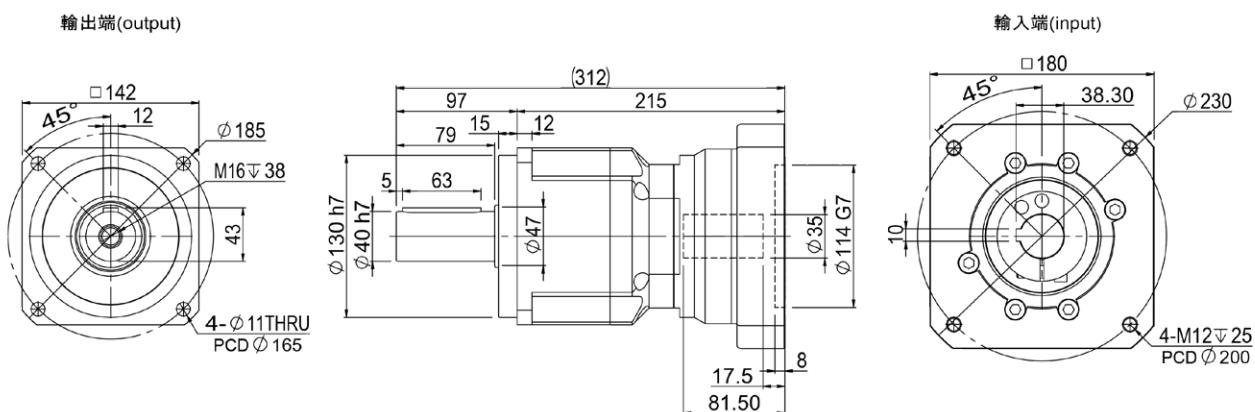
■ GPB115-L2



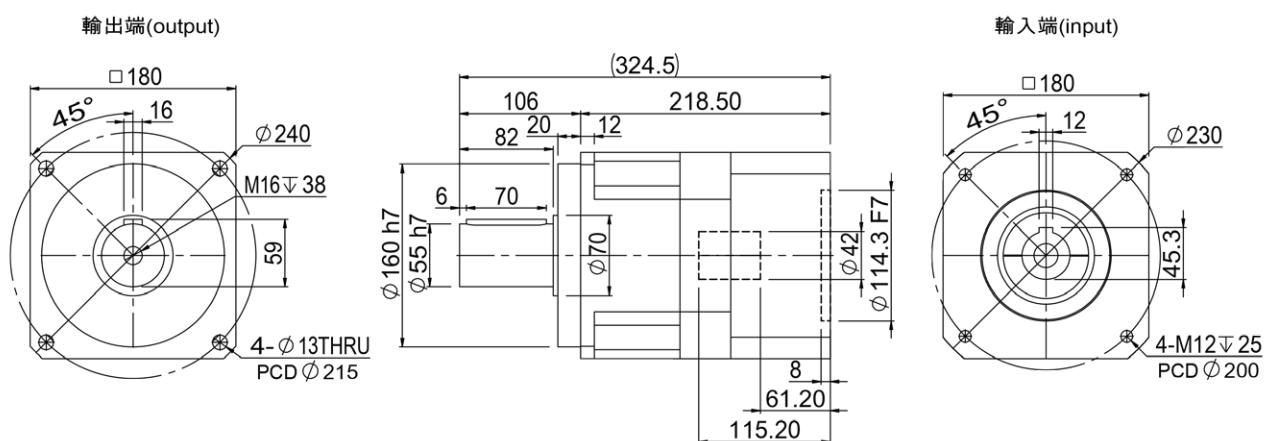
■ GPB142-L1



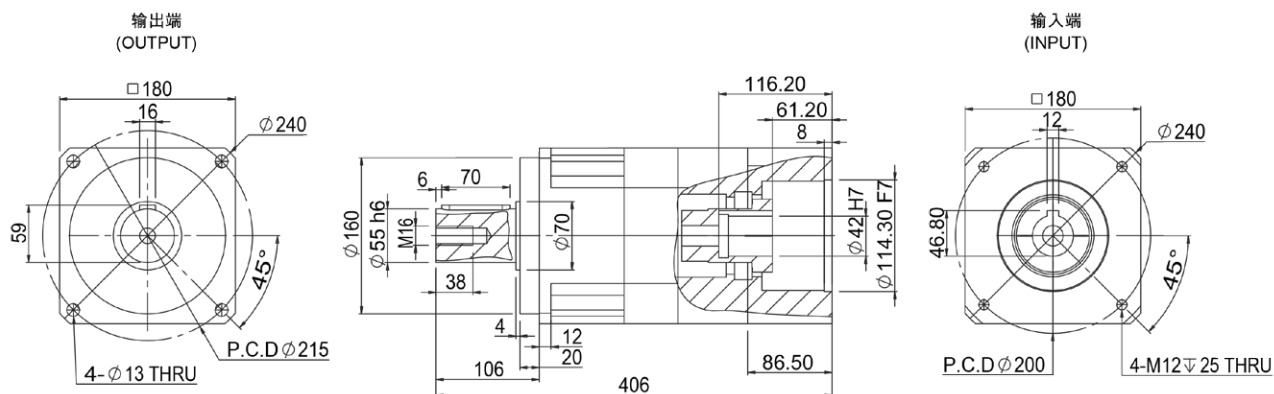
■ GPB142-L2



■ GPB180-L1

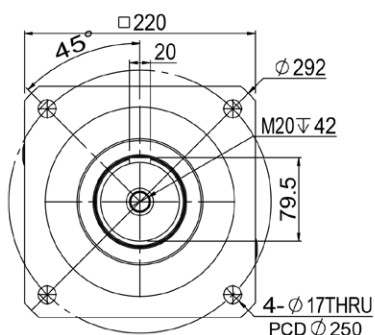


■ GPB180-L2

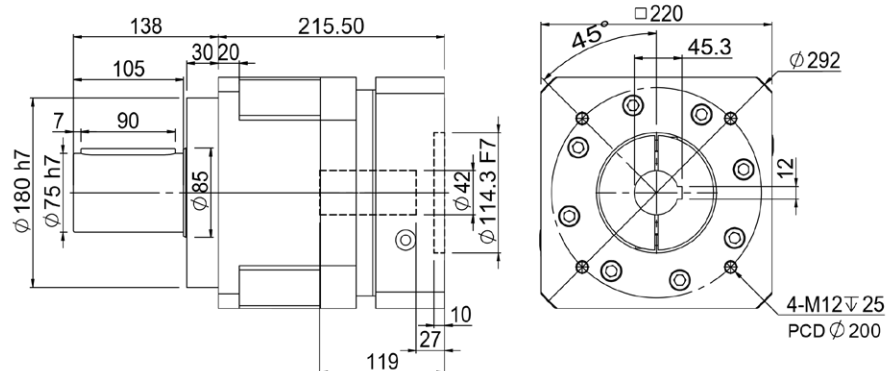


■ GPB220-L1

輸出端(output)

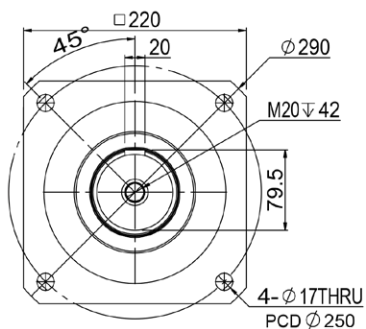


輸入端(input)

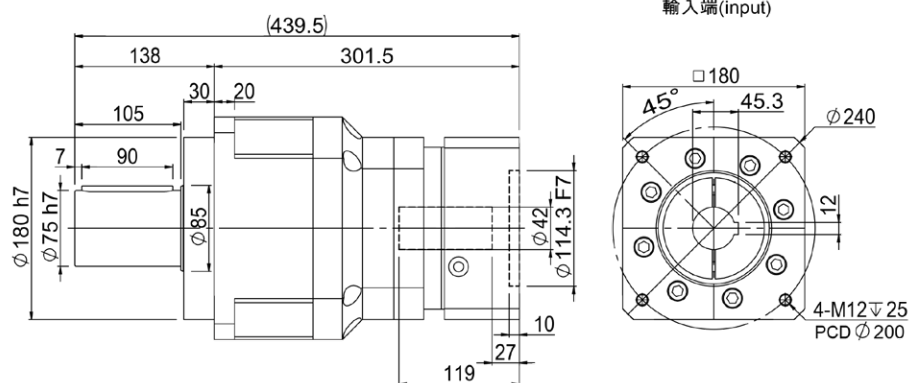


■ GPB220-L2

輸出端(output)



輸入端(input)





GPD Series



型號說明 / MODEL

GPD		090		10K		(a - b - c - d)		□	
系列代碼 Series		規格 Size		減速比 Ratio		輸入端安裝尺寸 Input mounting size		非標定製 Customization	
047		單級		20K		馬達輸出軸直徑		依據尺寸圖確認 According to the drawing 空白：標準品 Blank：Standard	
064		Single		25K		馬達止口直徑			
090		(L1)		35K		馬達安裝孔 PCD			
110		4K		40K		馬達安裝螺紋孔			
140		5K		50K		馬達安裝螺紋孔			
200		7K		70K		馬達安裝螺紋孔			
255		10K		100K		馬達安裝螺紋孔			

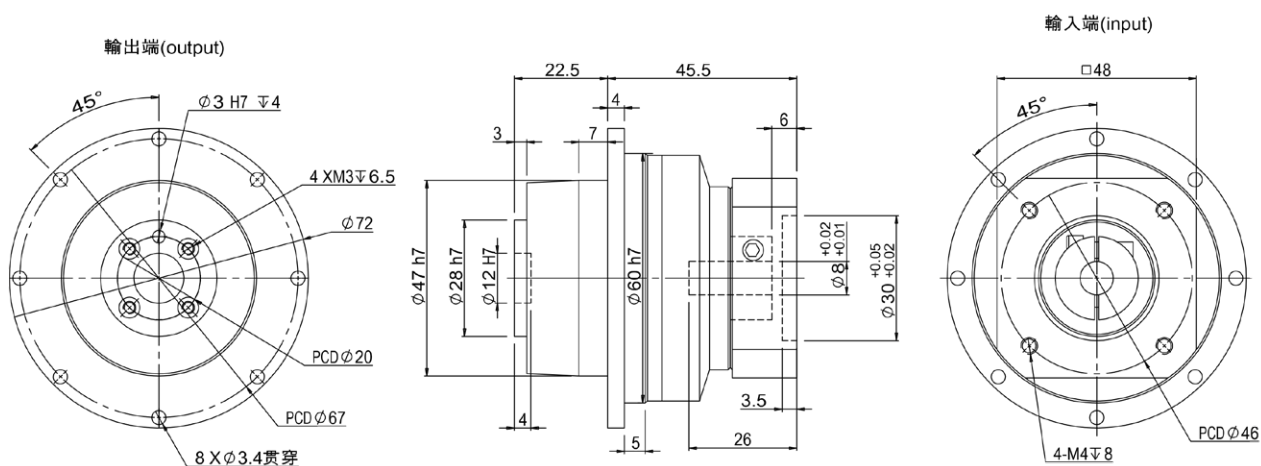
轉動慣量總表 / MOMENT OF INERTIA

規格 specification		級數 stage	減速比 Ratio	GPD047	GPD064	GPD090	GPD110	GPD140	GPD200	GPD255
轉動慣量 J1 Moment of inertia J1	kg·cm ²	1	4K	0.03	0.14	0.51	2.84	7.54	25.03	58.31
			5K	0.03	0.13	0.47	2.71	7.42	23.29	53.27
			7K	0.03	0.13	0.45	2.67	7.14	22.48	50.97
			10K	0.03	0.13	0.44	2.57	7.03	22.51	5056
		2	20K	0.03	0.03	0.13	0.47	2.71	7.42	23.29
			25K	0.03	0.03	0.13	0.47	2.71	7.42	23.29
			35K	0.03	0.03	0.13	0.47	2.71	7.42	23.29
			40K	0.03	0.03	0.13	0.44	2.57	7.03	22.51
			50K	0.03	0.03	0.13	0.44	2.57	7.03	22.51
			70K	0.03	0.03	0.13	0.44	2.57	7.03	22.51
100K	0.03	0.03	0.13	0.44	2.57	7.03	22.51			

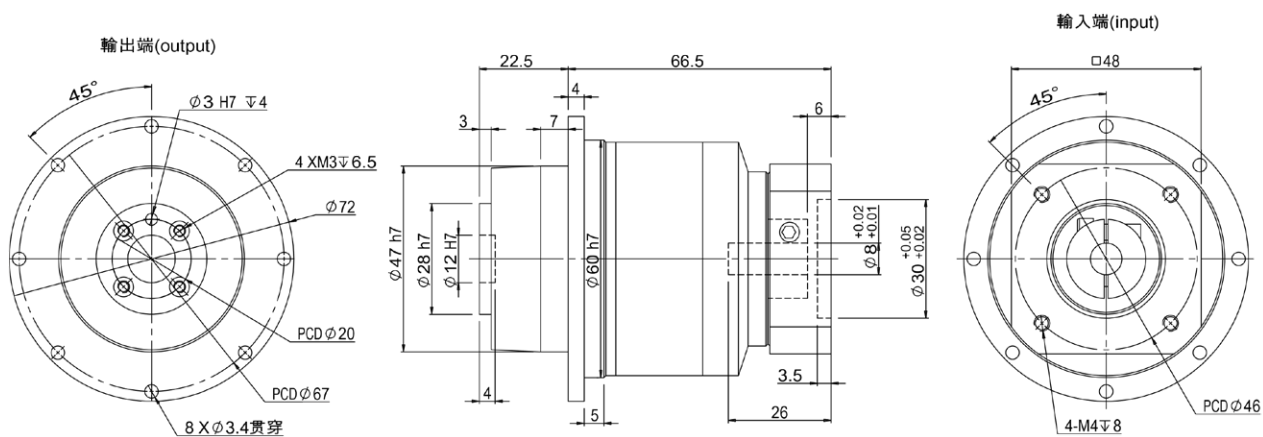
減速機性能資料 / PERFORMANCE

規格 specification		節數 stage	減速比 ratio	GPD047	GPD064	GPD090	GPD110	GPD140	GPD200	GPD255
額定輸出力矩 Rated output torque T_{2N}	Nm	1	4K	19	48	130	270	560	1100	1700
			5K	22	60	160	330	650	1200	2000
			7K	19	50	140	300	550	1100	1800
			10K	14	40	100	230	450	900	1500
		2	20K	19	48	130	270	560	1100	1700
			25K	22	60	160	330	650	1200	2000
			35K	19	50	140	300	550	1100	1800
			40K	19	48	130	270	560	1000	1700
			50K	22	60	160	330	650	1200	2000
			70K	19	50	140	300	550	1100	1800
			100K	14	40	100	230	450	900	1500
急停扭矩 T_{2NOT} Emergency stop torque T_{2NOT}	Nm	1 & 2	4 ~ 100K	3 倍額定輸出力矩 / Triple rated output torque						
額定輸入轉速 n_{1N} Rated input speed n_{1N}	rpm	1 & 2	4 ~ 100K	5000	5000	4000	4000	3000	3000	2000
最大輸入轉速 n_{1B} Max input speed n_{1B}		1 & 2	4 ~ 100K	10000	10000	8000	8000	6000	6000	4000
精密背隙 P1 Precision backlash P1	arcmin	1	4 ~ 10K	-	≤ 3	≤ 3	≤ 3	≤ 3	≤ 3	≤ 3
		2	20 ~ 100K	-	≤ 5	≤ 5	≤ 5	≤ 5	≤ 5	≤ 5
標準背隙 P2 Standard backlash P2	arcmin	1	4 ~ 10K	≤ 5	≤ 5	≤ 5	≤ 5	≤ 5	≤ 5	≤ 5
		2	20 ~ 100K	≤ 8	≤ 8	≤ 8	≤ 8	≤ 8	≤ 8	≤ 8
扭轉剛性 Torsional rigidity	Nm/arcmin	1 & 2	4 ~ 100K	7	13	31	82	151	440	1006
最大彎曲力矩 Max bending torque	N	1 & 2	4 ~ 100K	42.5	125	325	430	1300	3064	5900
容許軸向力 F_{2aB} Allowable axial force F_{2aB}	N	1 & 2	4 ~ 100K	990	1050	2850	2990	10590	16660	29430
使用壽命 Lifespan	Hr	1 & 2	4 ~ 100K	20000						
效率 Efficiency	%	1	4 ~ 10K	≥ 97%						
		2	20 ~ 100K	≥ 94%						
重量 Weight	kg	1	4 ~ 10K	0.7	1.2	3	5.6	11.9	31.6	56.1
		2	20 ~ 100K	1	1.6	3.7	7.3	15.9	36.9	70.4
使用溫度 Working temperature	°C	1 & 2	4 ~ 100K	-10°C ~ 90°C						
潤滑 Grease		1 & 2	4 ~ 100K	合成潤滑油脂 / Synthetic lubricating grease						
防護等級 IP Grade		1 & 2	4 ~ 100K	IP65						
安裝方向 Installation direction		1 & 2	4 ~ 100K	任意方向 / Any direction						
噪音值 ($n_1=3000\text{rpm}$, 無負載) Noise Value ($n_1=3000\text{rpm}$, off load)	Db	1 & 2	4 ~ 100K	≤ 56	≤ 58	≤ 60	≤ 63	≤ 65	≤ 67	≤ 70

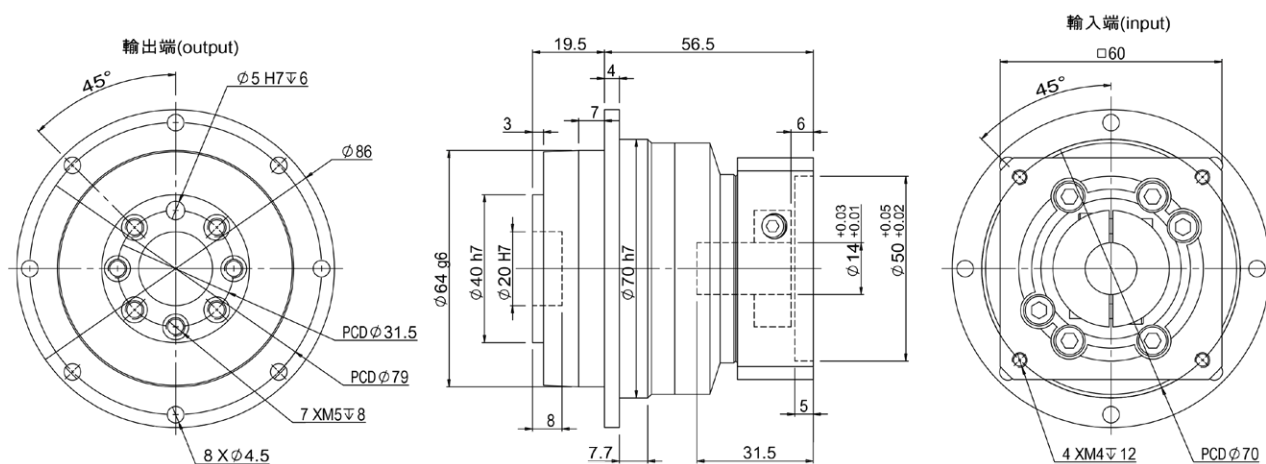
■ GPD047-L1



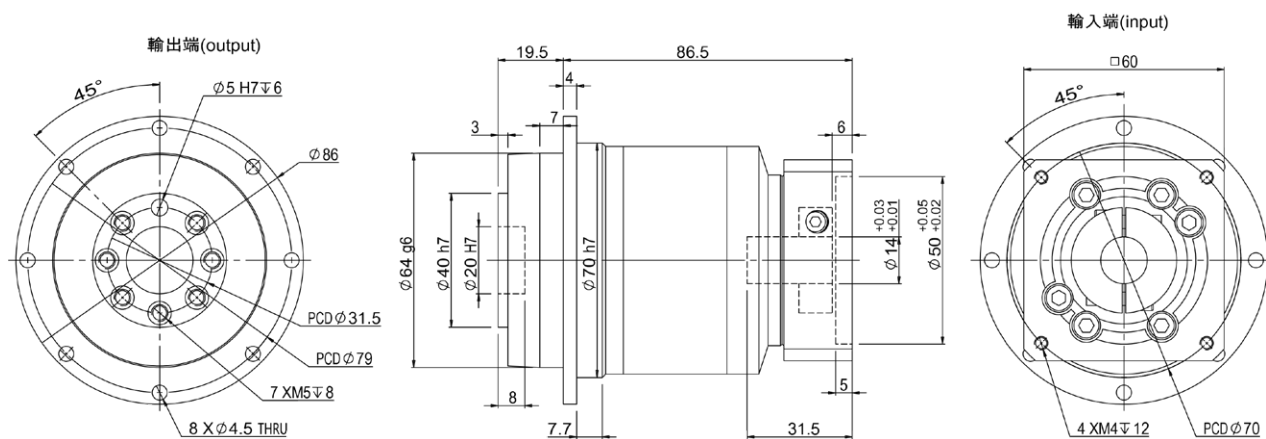
■ GPD047-L2



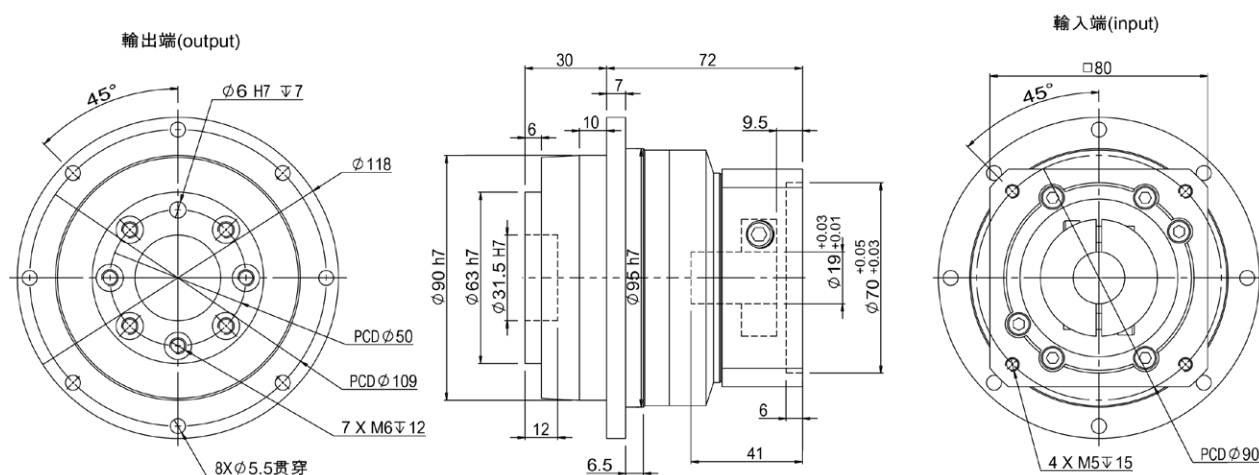
■ GPD064-L1



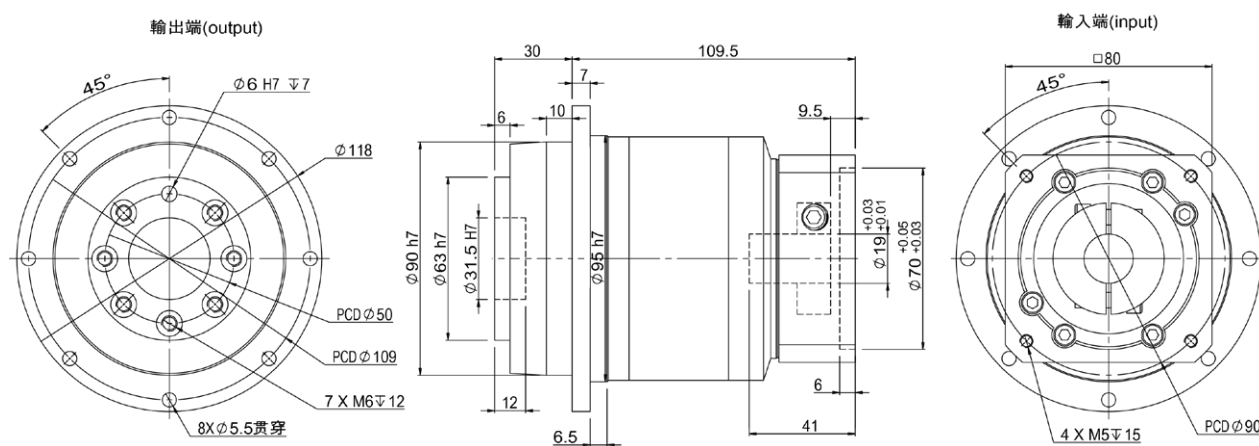
■ GPD064-L2



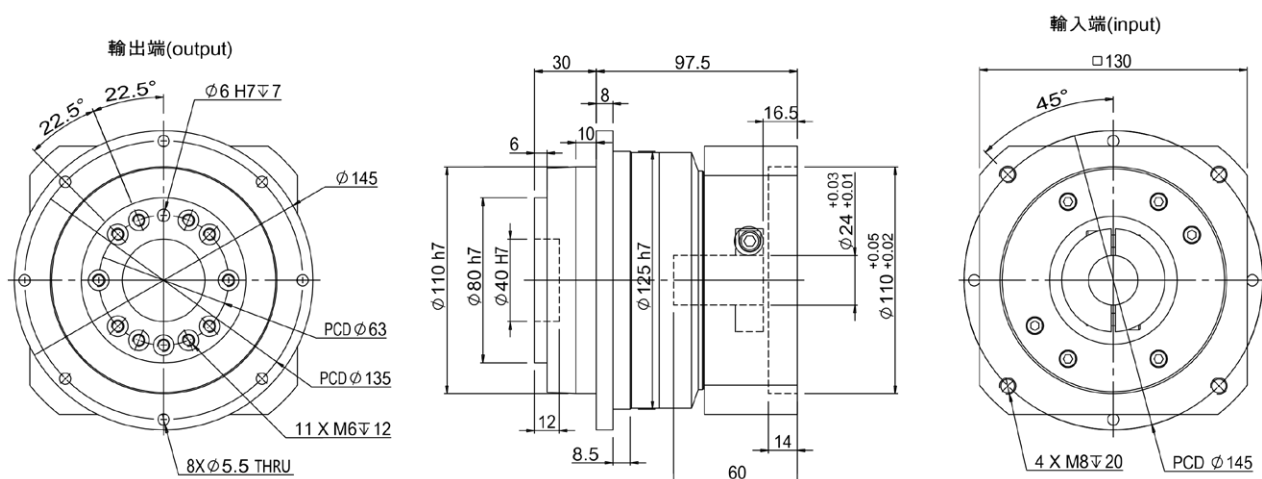
■ GPD090-L1



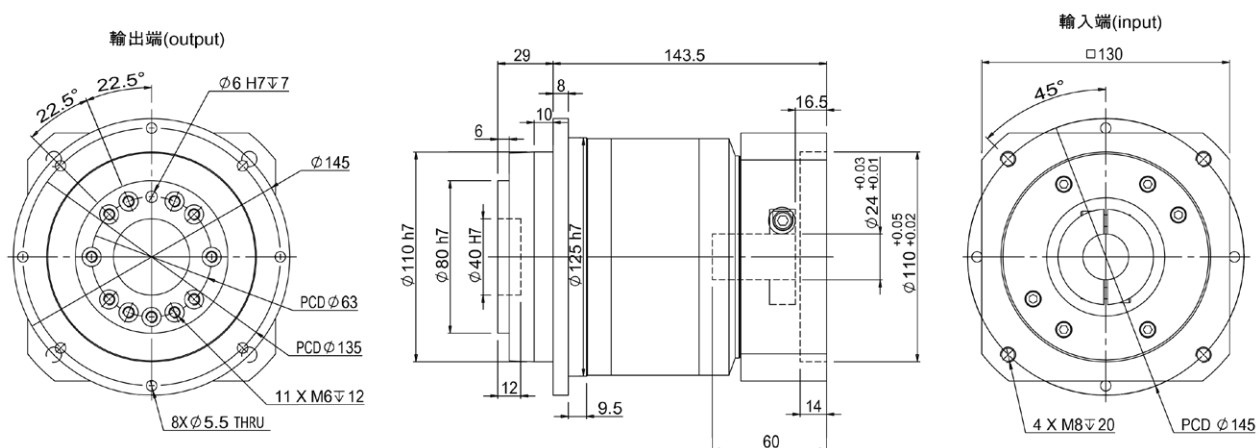
■ GPD090-L2



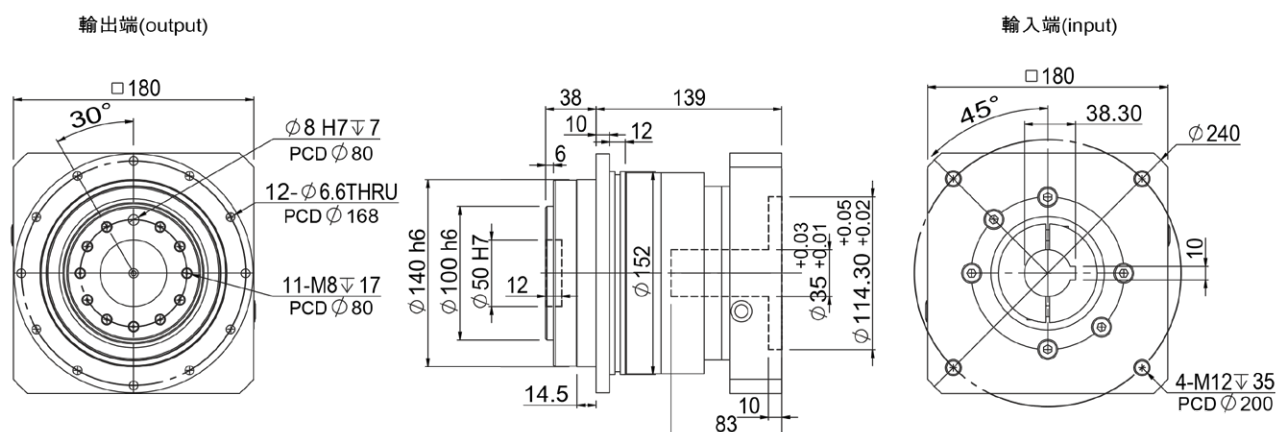
■ GPD110-L1



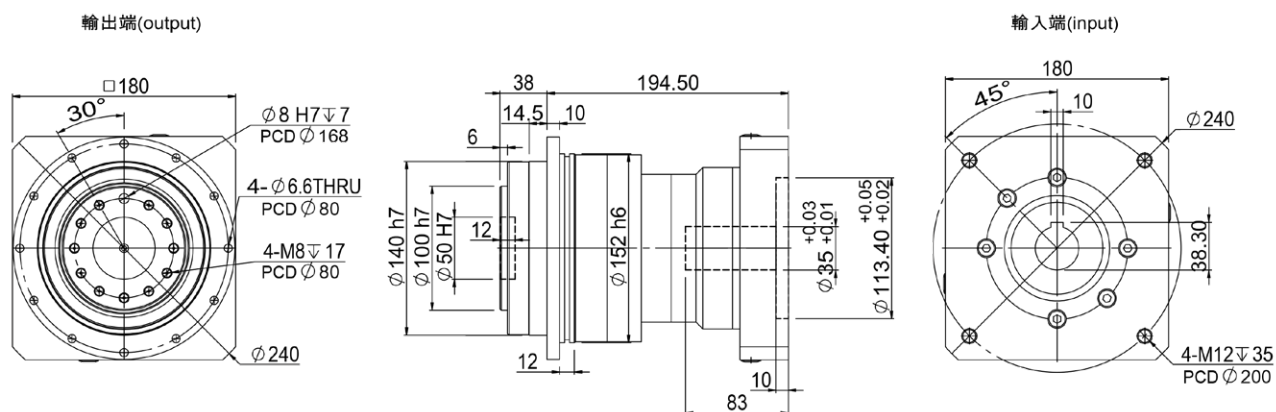
■ GPD110-L2



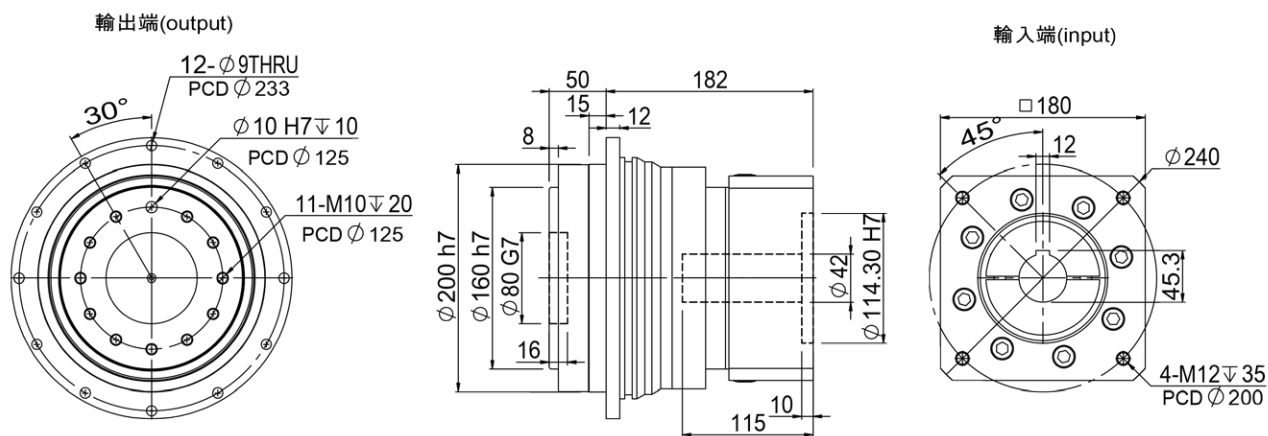
■ GPD140-L1



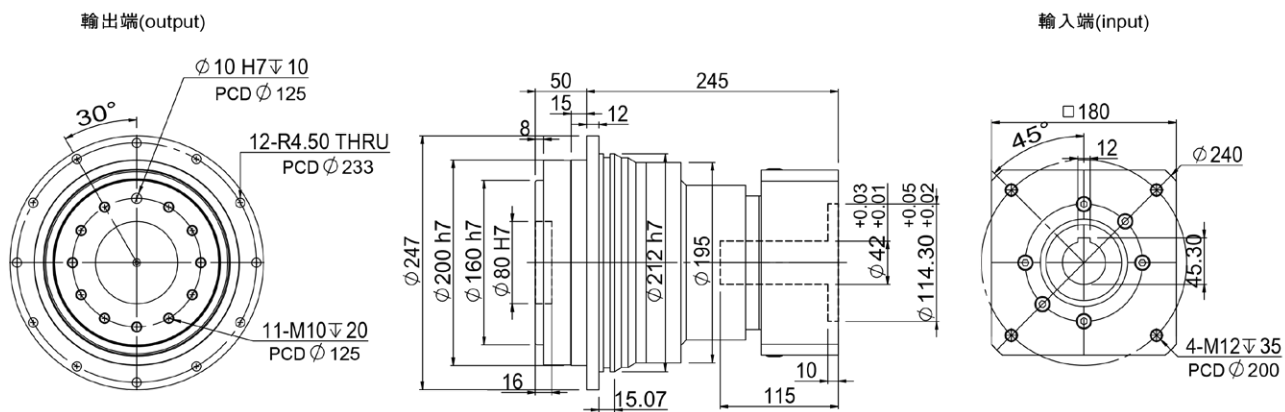
■ GPD140-L2



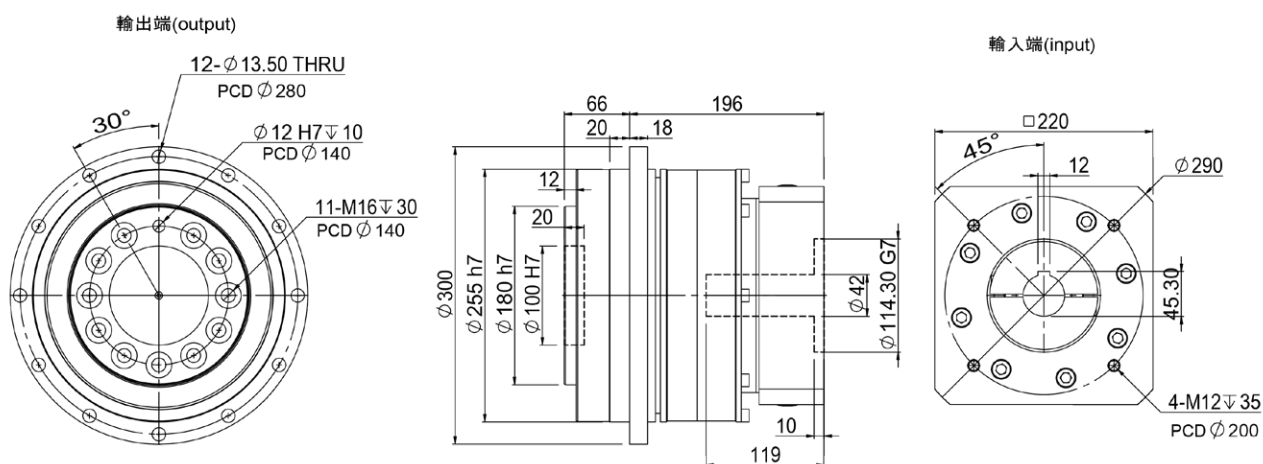
■ GPD200-L1



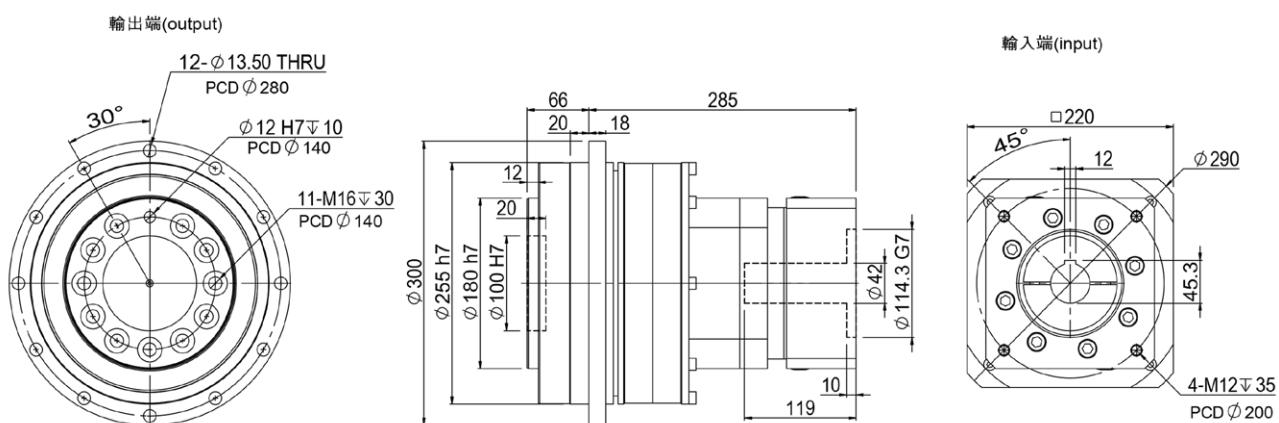
■ GPD200-L2



■ GPD255-L1



■ GPD255-L2





GPV Series



型號說明 / MODEL

GPV	090	-	10K	-	(- - -)	-	
系列代碼 Series	規格 Size		減速比 Ratio		輸入端安裝尺寸 Input mounting size		非標定製 Customization
			雙級 Double (L2)				
			12K				
			15K				
			16K				
			20K				
		單級 Single (L1)	25K		依據馬達連接尺寸確認 According to the motor connection size		
			28K		a 馬達輸出軸直徑 Motor Shaft diameter		
			30K		b 馬達止口直徑 Motor Spigot diameter		
			35K		c 馬達安裝孔 PCD Motor Mounting Hole PCD		
			40K		d 馬達安裝螺紋孔 Motor mounting threaded hole		
060	3K		100K		例 Example : (19-70-90-M5)		依據尺寸圖確認 According to the drawing 空白 : 標準品 Blank : Standard
090	4K						
115	5K						
140	7K						
180	10K						

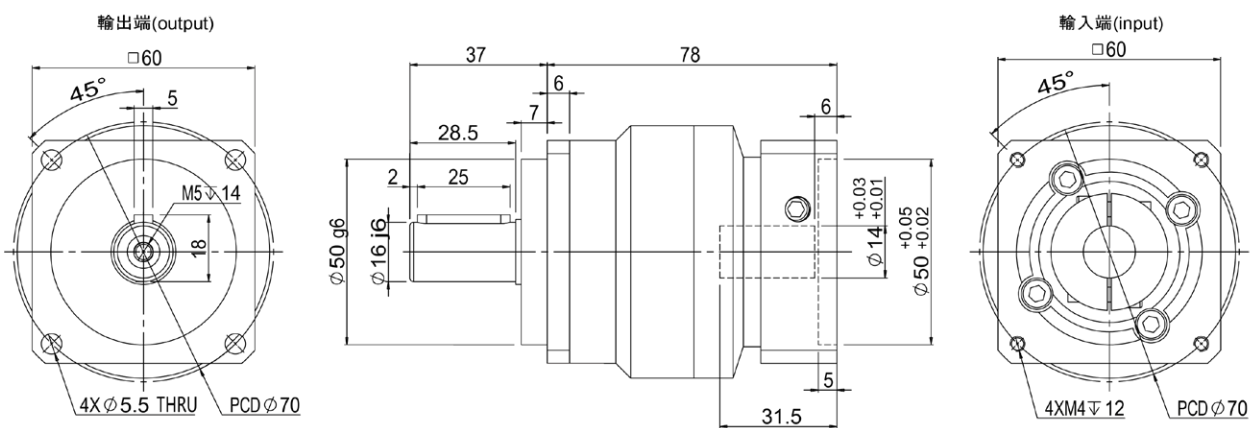
轉動慣量總表 / MOMENT OF INERTIA

規格 specification	級數 stage	減速比 Ratio	GPV060	GPV090	GPV115	GPV140	GPV180
轉動慣量 J1 Moment of inertia J1	1	3K	0.22	1.2	5.3	20	44
		4K	0.17	0.95	4.1	15	28
		5K	0.16	0.86	3.6	14	22
		7K	0.14	0.79	3.2	12	16
		10K	0.14	0.75	3	11	14
	2	12K	0.14	0.72	2.8	11	12
		15K	0.14	0.72	2.8	11	12
		16K	0.13	0.72	2.8	11	12
		20K	0.13	0.72	2.8	11	12
		25K	0.13	0.71	2.8	11	12
		28K	0.13	0.7	2.7	10	11
		30K	0.13	0.7	2.7	10	11
		35K	0.13	0.7	2.7	11	12
		40K	0.13	0.7	2.7	10	11
		50K	0.13	0.69	2.7	10	11
		70K	0.13	0.69	2.7	10	11
		100K	0.13	0.69	2.7	10	11

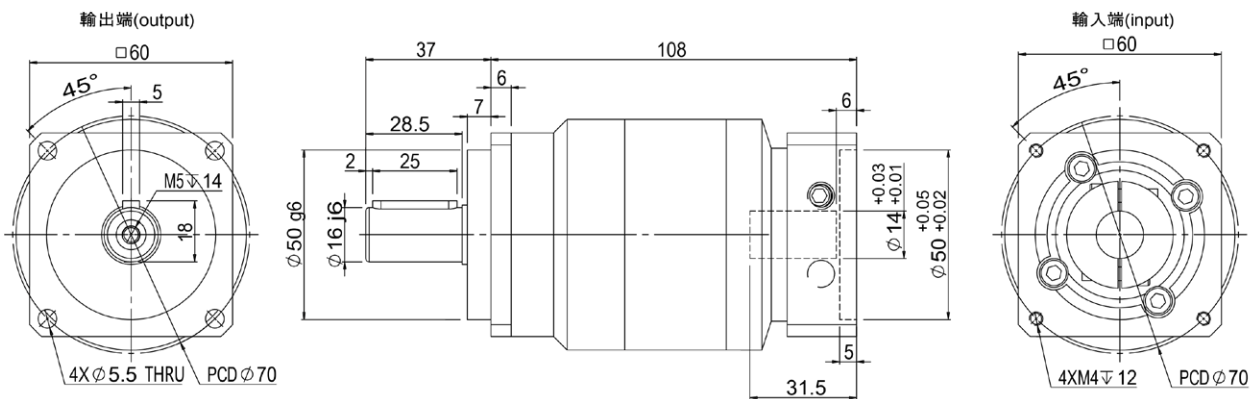
減速機性能資料 / PERFORMANCE

規格 specification		節數 stage	減速比 ratio	GPV060	GPV090	GPV115	GPV140	GPV180
額定輸出力矩 T_{2N} Rated output torque T_{2N}	Nm	1	3K	55	130	208	342	588
			4K	50	140	290	543	1050
			5K	60	160	330	650	1200
			7K	50	140	300	550	1100
			10K	40	100	230	450	900
		2	12K	55	130	208	342	588
			15K	55	130	208	342	588
			16K	50	140	290	543	1050
			20K	50	140	290	542	1050
			25K	60	160	330	650	1200
			28K	50	140	290	543	1050
			30K	55	150	310	600	1100
			35K	50	140	300	550	1100
			40K	45	120	260	500	1000
			50K	60	160	330	650	1200
			70K	50	140	300	550	1100
			100K	40	100	230	450	900
急停扭矩 T_{2NOT} Emergency stop torque T_{2NOT}	Nm	1 & 2	3 ~ 100K	3 倍額定輸出力矩 / Triple rated output torque				
額定輸入轉速 n_{1N} Rated input speed n_{1N}	rpm	1 & 2	3 ~ 100K	5000	4000	4000	3000	3000
最大輸入轉速 n_{1B} Max input speed n_{1B}		1 & 2	3 ~ 100K	10000	8000	8000	6000	6000
精密背隙 P1 Precision backlash P1	arcmin	1	3 ~ 10K	≤ 3	≤ 3	≤ 3	≤ 3	≤ 3
		2	12 ~ 100K	≤ 5	≤ 5	≤ 5	≤ 5	≤ 5
標準背隙 P2 Standard backlash P2	arcmin	1	3 ~ 10K	≤ 5	≤ 5	≤ 5	≤ 5	≤ 5
		2	12 ~ 100K	≤ 8	≤ 8	≤ 8	≤ 8	≤ 8
扭轉剛性 Torsional rigidity	Nm/arcmin	1 & 2	3 ~ 100K	7	14	25	50	145
容許徑向力 F_{2rB} Allowable radial force F_{2rB}	N	1 & 2	3 ~ 100K	1530	3250	6700	9400	14500
容許軸向力 F_{2aB} Allowable axial force F_{2aB}	N	1 & 2	3 ~ 100K	765	1625	3350	4700	7250
使用壽命 Lifespan	Hr	1 & 2	3 ~ 100K	20000				
效率 Efficiency	%	1	3 ~ 10K	≥ 97%				
		2	12 ~ 100K	≥ 94%				
重量 Weight	kg	1	3 ~ 10K	1.4	3.7	8	16	36
		2	12 ~ 100K	1.6	4.2	8.9	17	37
使用溫度 Working temperature	°C	1 & 2	3 ~ 100K	-10°C ~ 90°C				
潤滑 Grease		1 & 2	3 ~ 100K	合成潤滑油脂 / Synthetic lubricating grease				
防護等級 IP Grade		1 & 2	3 ~ 100K	IP65				
安裝方向 Installation direction		1 & 2	3 ~ 100K	任意方向 / Any direction				
噪音值 ($n_1=3000\text{rpm}$, 無負載) Noise Value ($n_1=3000\text{rpm}$, off load)	Db	1 & 2	3 ~ 100K	≤ 58	≤ 60	≤ 63	≤ 65	≤ 67

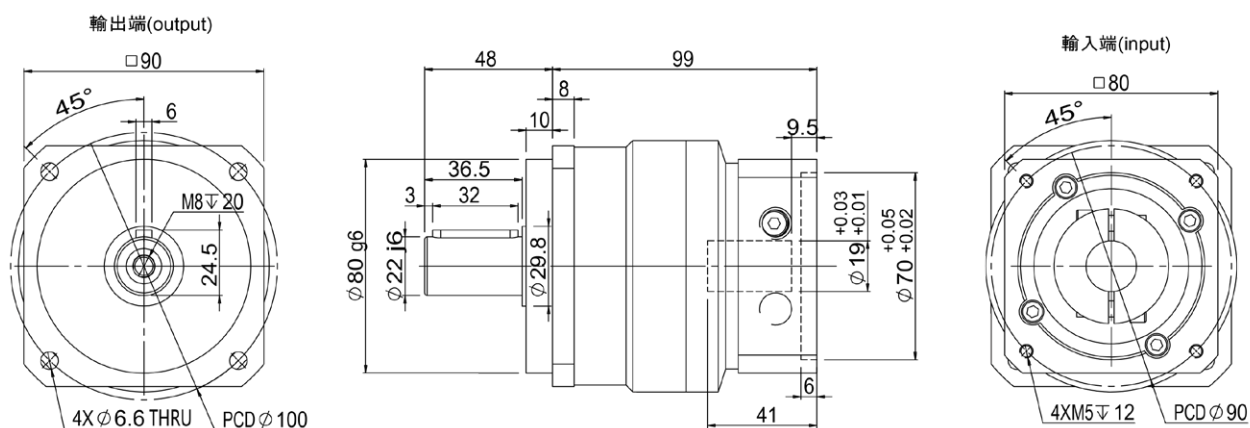
■ **GPV060-L1**



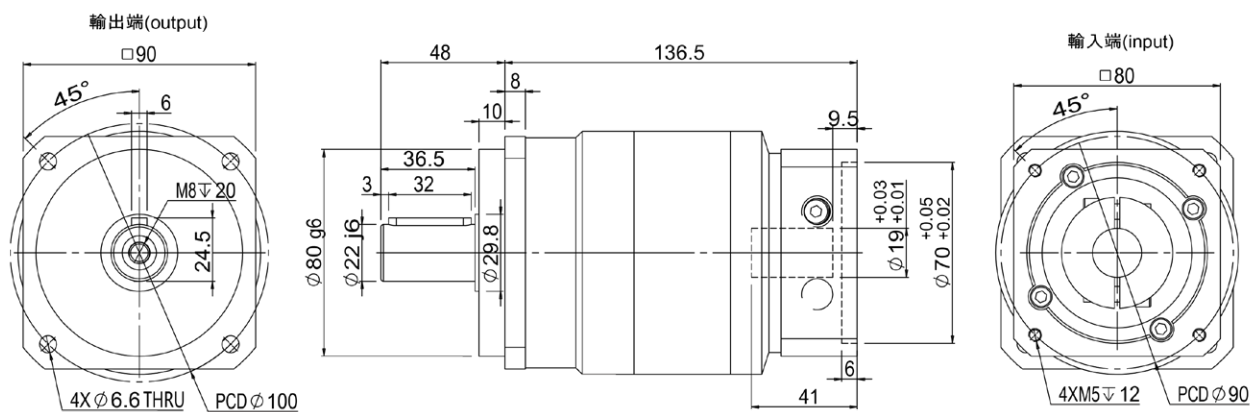
■ **GPV060-L2**



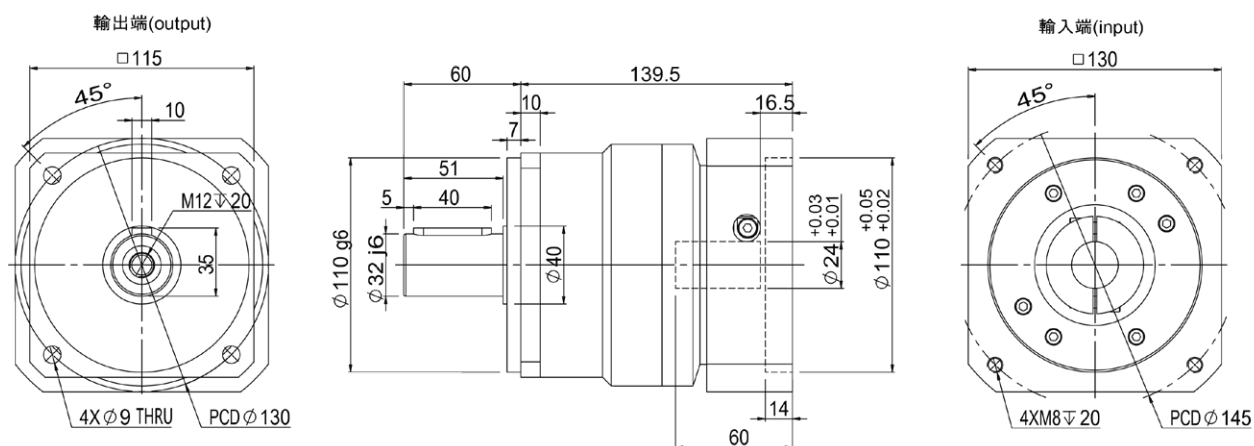
■ GPV090-L1



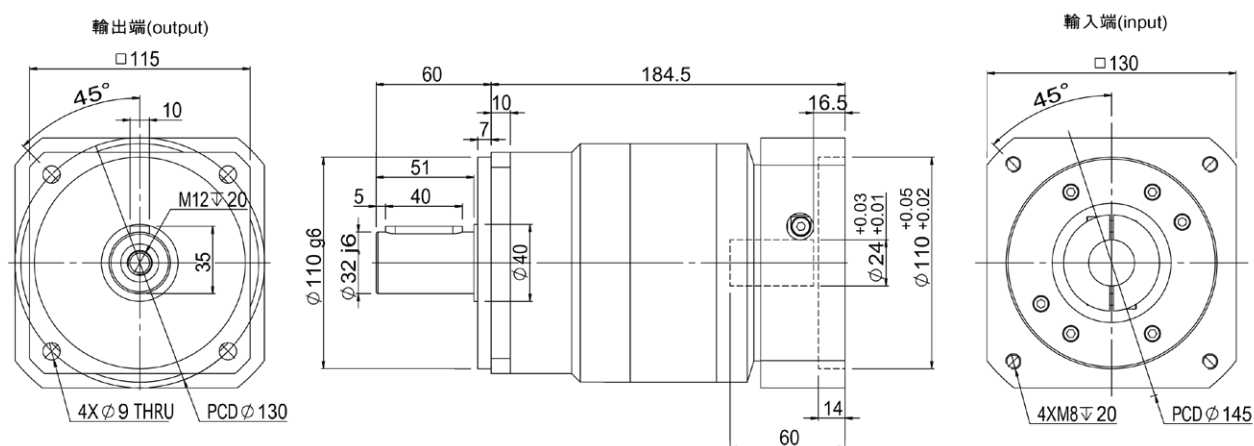
■ GPV090-L2



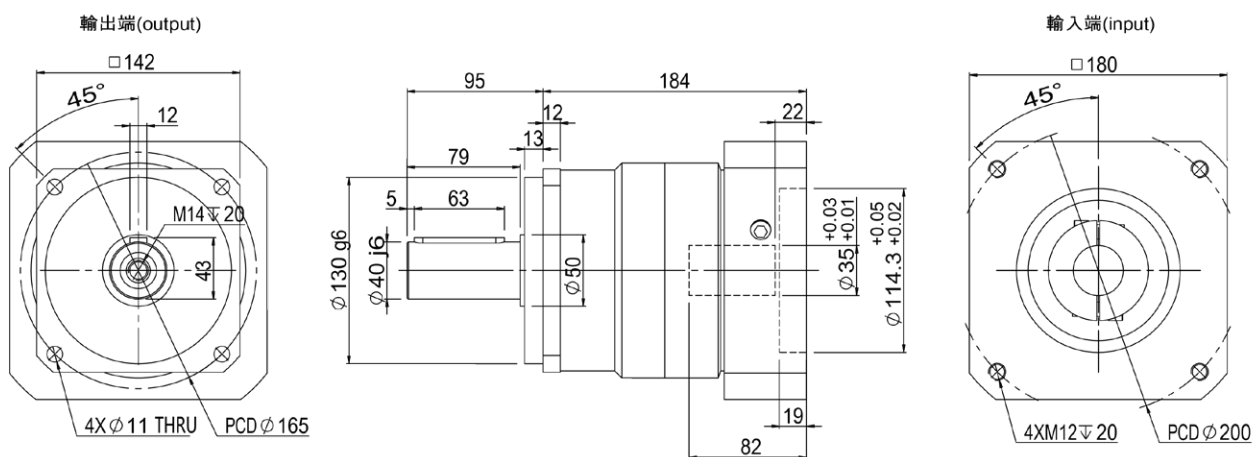
■ GPV115-L1



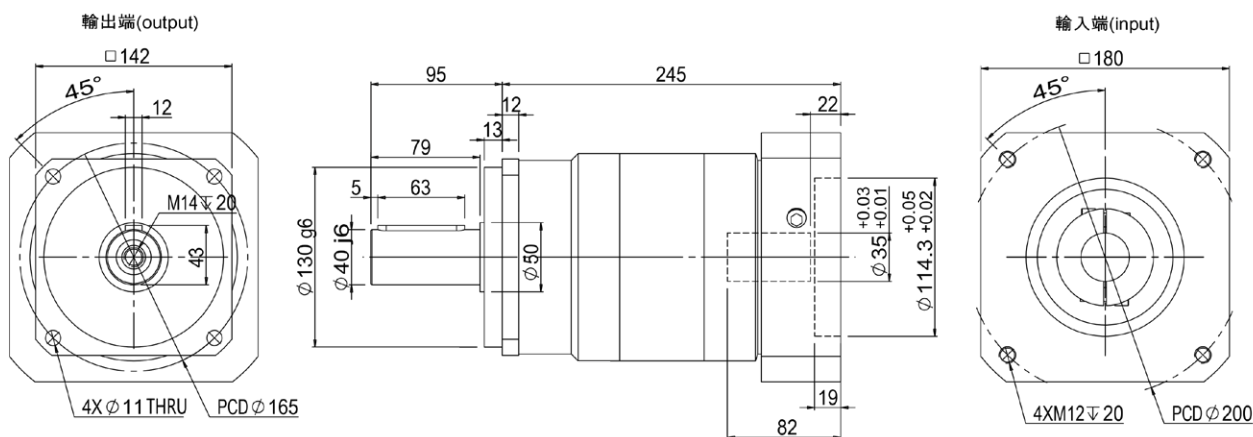
■ GPV115-L2



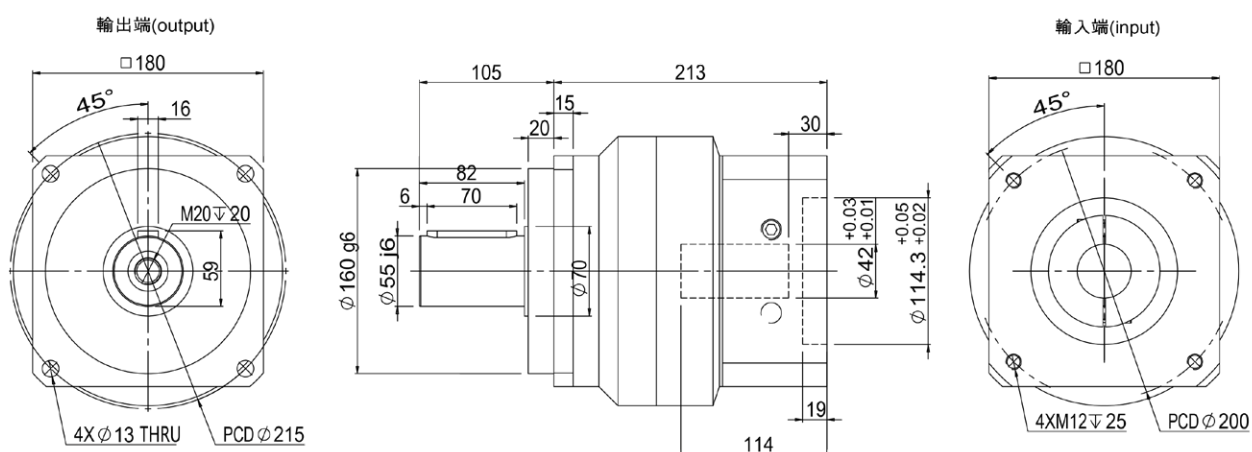
■ GPV140-L1



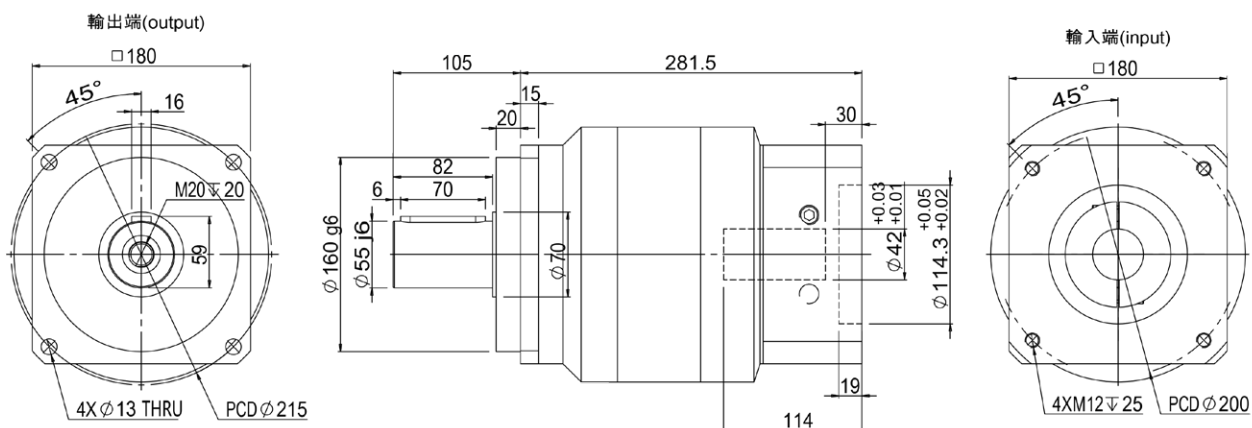
■ GPV140-L2



■ GPV180-L1



■ GPV180-L2





GPE Series



型號說明 / MODEL

GPE	090	-	10K	-	(- - -)	-	
系列代碼 Series	規格 Size		減速比 Ratio		輸入端安裝尺寸 Input mounting size		非標定製 Customization
070	090		單級 Single (L1)	雙級 Double (L2)	依據馬達連接尺寸確認 According to the motor connection size		依據尺寸圖確認 According to the drawing 空白：標準品 Blank：Standard
120	155		3K	12K	a 馬達輸出軸直徑 Motor Shaft diameter		
205			4K	15K	b 馬達止口直徑 Motor Spigot diameter		
			5K	16K	c 馬達安裝孔 PCD Motor Mounting Hole PCD		
			7K	20K	d 馬達安裝螺紋孔 Motor mounting threaded hole		
			10K	25K	例 Example：(19-70-90-M5)		
				28K			
				30K			
				35K			
				40K			
				50K			
				70K			
				100K			

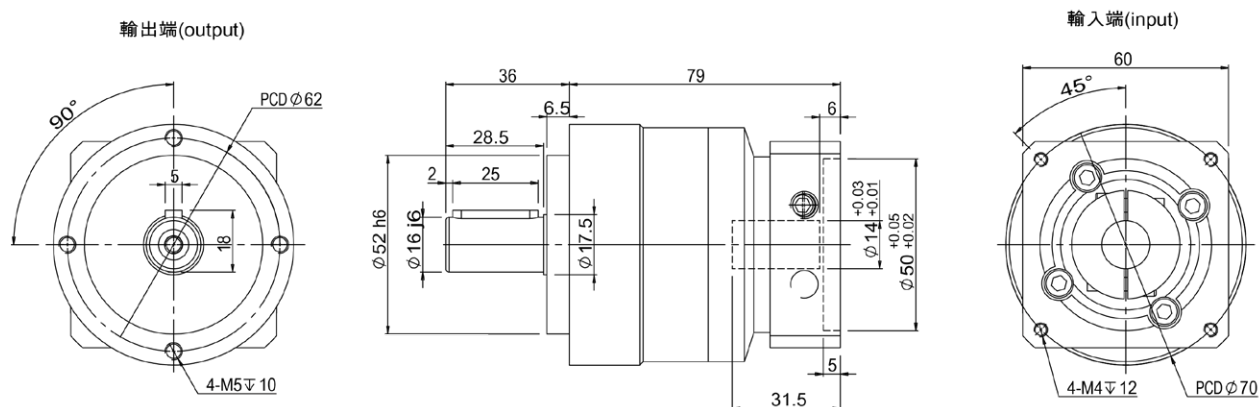
轉動慣量總表 / MOMENT OF INERTIA

規格 specification	級數 stage	減速比 Ratio	GPE070	GPE090	GPE120	GPE155	GPE205
轉動慣量 J1 Moment of inertia J1	1	3K	0.16	0.61	3.25	9.21	28.98
		4K	0.14	0.48	2.74	7.54	23.67
		5K	0.13	0.47	2.71	7.42	23.29
		7K	0.13	0.45	2.62	7.14	22.48
		10K	0.13	0.44	2.57	7.03	22.51
	2	12K	0.03	0.13	0.47	2.71	7.42
		15K	0.03	0.13	0.47	2.71	7.42
		16K	0.03	0.13	0.47	2.71	7.42
		20K	0.03	0.13	0.47	2.71	7.42
		25K	0.03	0.13	0.47	2.71	7.42
		28K	0.03	0.13	0.47	2.71	7.42
		30K	0.03	0.13	0.47	2.71	7.42
		35K	0.03	0.13	0.47	2.71	7.42
		40K	0.03	0.13	0.47	2.71	7.42
		50K	0.13	0.13	0.44	2.57	7.03
		70K	0.13	0.13	0.44	2.57	7.03
		100K	0.13	0.13	0.44	2.57	7.03

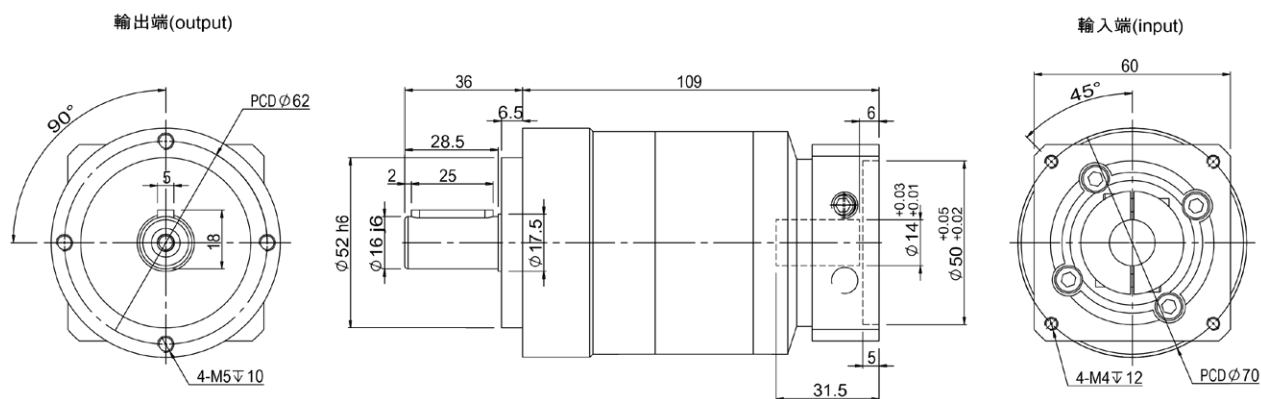
減速機性能資料 / PERFORMANCE

規格 specification		節數 stage	減速比 ratio	GPE070	GPE090	GPE120	GPE155	GPE205
額定輸出力矩 T_{2N} Rated output torque T_{2N}	Nm	1	3K	55	130	208	342	588
			4K	50	140	290	543	1050
			5K	60	160	330	650	1200
			7K	50	140	300	550	1100
			10K	40	100	230	450	900
		2	12K	55	130	208	342	588
			15K	55	130	208	342	588
			16K	50	140	290	543	1050
			20K	50	140	290	542	1050
			25K	60	160	330	650	1200
			28K	50	140	290	543	1050
			30K	55	150	310	600	1100
			35K	50	140	300	550	1100
			40K	45	120	260	500	1000
			50K	60	160	330	650	1200
			70K	50	140	300	550	1100
			100K	40	100	230	450	900
急停扭矩 T_{2NOT} Emergency stop torque T_{2NOT}	Nm	1 & 2	3 ~ 100K	3 倍額定輸出力矩 / Triple rated output torque				
額定輸入轉速 n_{1N} Rated input speed n_{1N}	rpm	1 & 2	3 ~ 100K	5000	4000	4000	3000	3000
最大輸入轉速 n_{1B} Max input speed n_{1B}		1 & 2	3 ~ 100K	10000	8000	8000	6000	6000
精密背隙 P1 Precision backlash P1	arcmin	1	3 ~ 10K	≤ 3	≤ 3	≤ 3	≤ 3	≤ 3
		2	12 ~ 100K	≤ 5	≤ 5	≤ 5	≤ 5	≤ 5
標準背隙 P2 Standard backlash P2	arcmin	1	3 ~ 10K	≤ 5	≤ 5	≤ 5	≤ 5	≤ 5
		2	12 ~ 100K	≤ 8	≤ 8	≤ 8	≤ 8	≤ 8
扭轉剛性 Torsional rigidity	Nm/arcmin	1 & 2	3 ~ 100K	7	14	25	50	145
容許徑向力 F_{2rB} Allowable radial force F_{2rB}	N	1 & 2	3 ~ 100K	1530	3250	6700	9400	14500
容許軸向力 F_{2aB} Allowable axial force F_{2aB}	N	1 & 2	3 ~ 100K	765	1625	3350	4700	7250
使用壽命 Lifespan	Hr	1 & 2	3 ~ 100K	20000				
效率 Efficiency	%	1	3 ~ 10K	≥ 97%				
		2	12 ~ 100K	≥ 94%				
重量 Weight	kg	1	3 ~ 10K	1.4	3.7	8	16	36
		2	12 ~ 100K	1.6	4.2	8.9	17	37
使用溫度 Working temperature	°C	1 & 2	3 ~ 100K	-10°C ~ 90°C				
潤滑 Grease		1 & 2	3 ~ 100K	合成潤滑油脂 / Synthetic lubricating grease				
防護等級 IP Grade		1 & 2	3 ~ 100K	IP65				
安裝方向 Installation direction		1 & 2	3 ~ 100K	任意方向 / Any direction				
噪音值 ($n_1=3000\text{rpm}$, 無負載) Noise Value ($n_1=3000\text{rpm}$, off load)	Db	1 & 2	3 ~ 100K	≤ 58	≤ 60	≤ 63	≤ 65	≤ 67

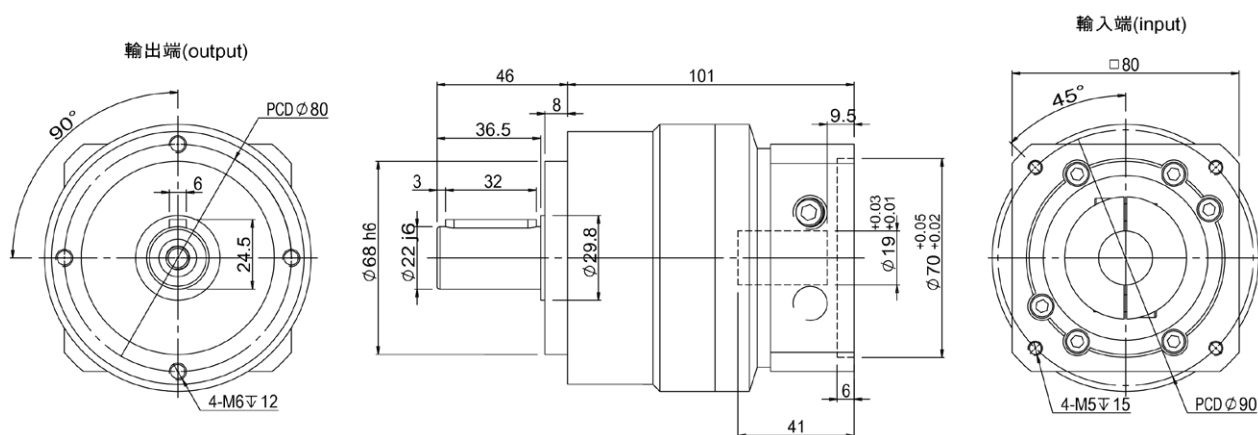
■ GPE070-L1



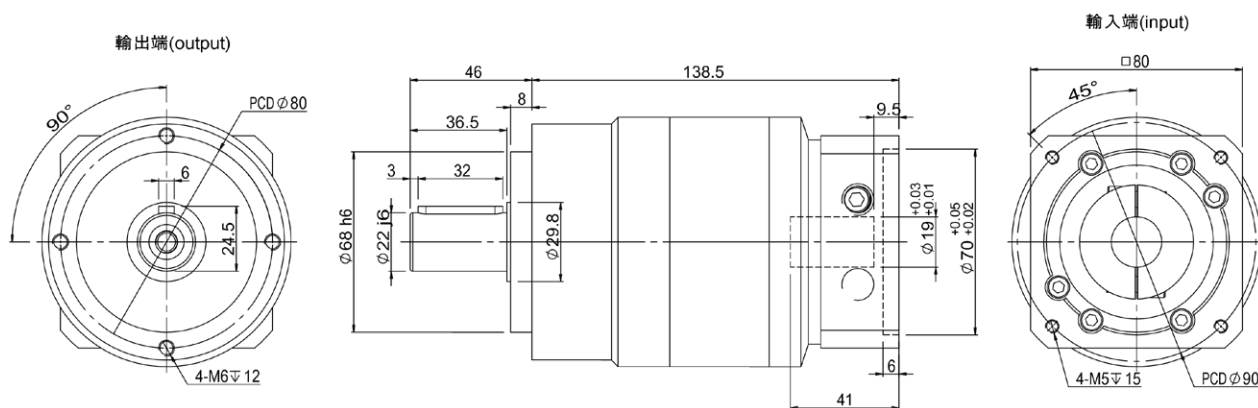
■ GPE070-L2



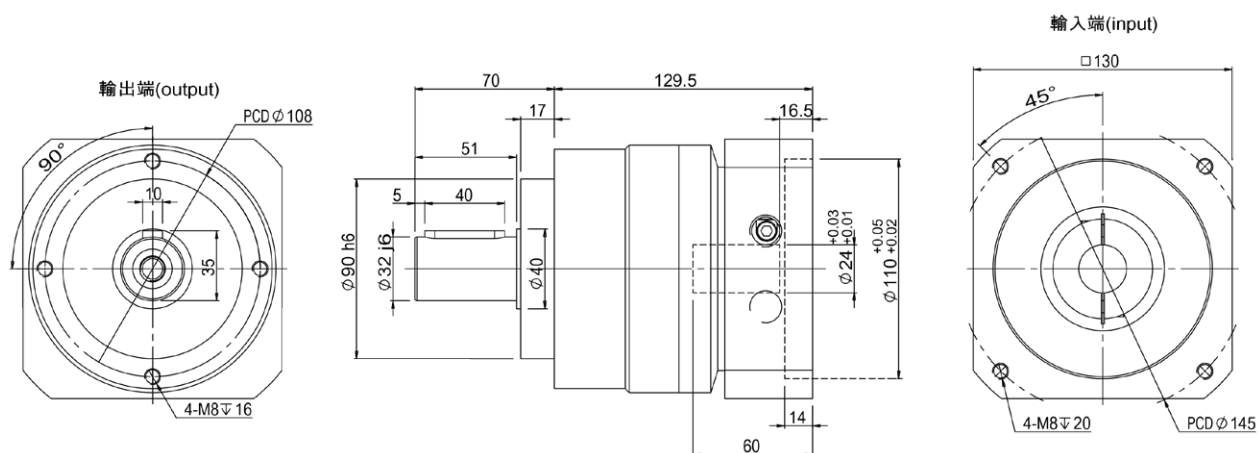
■ GPE090-L1



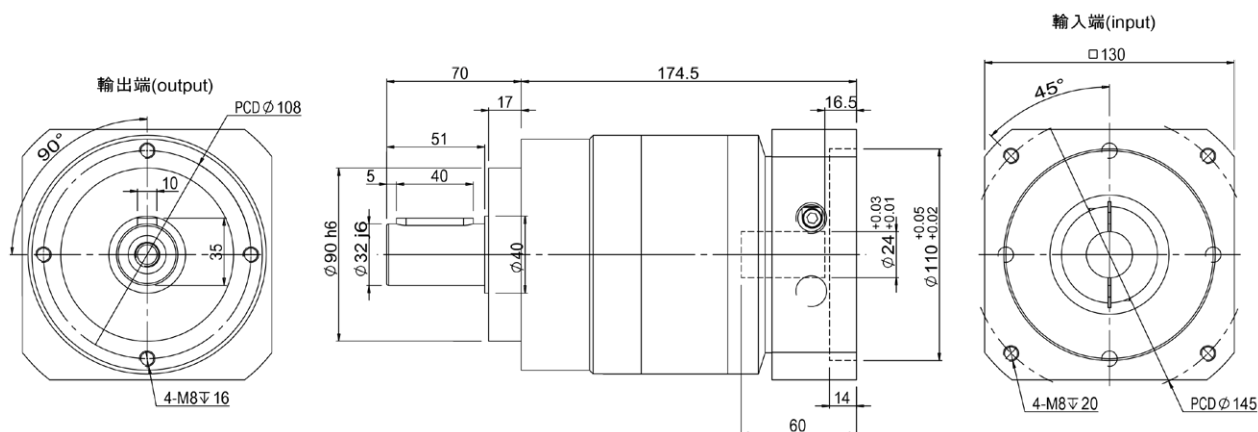
■ GPE090-L2



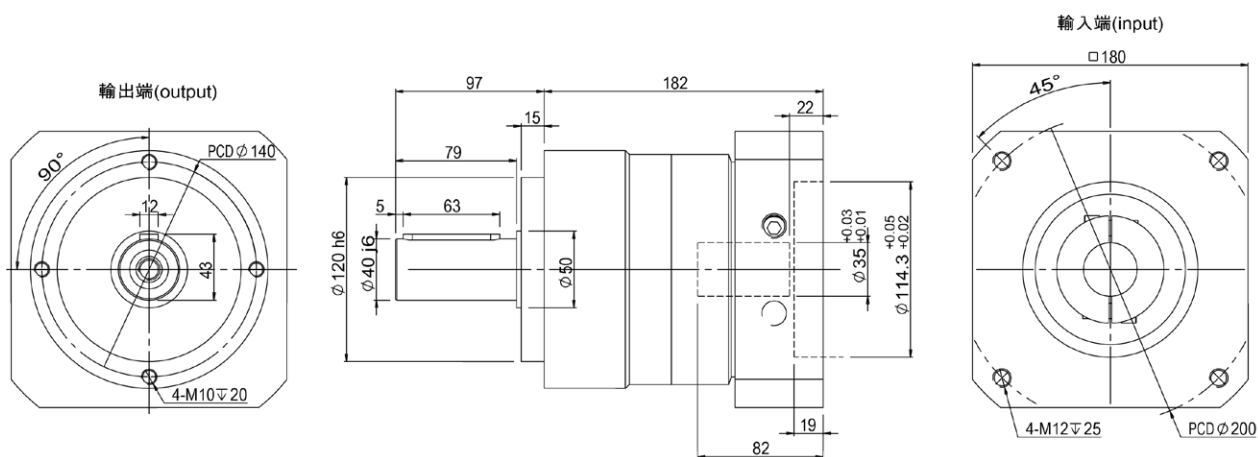
■ GPE120-L1



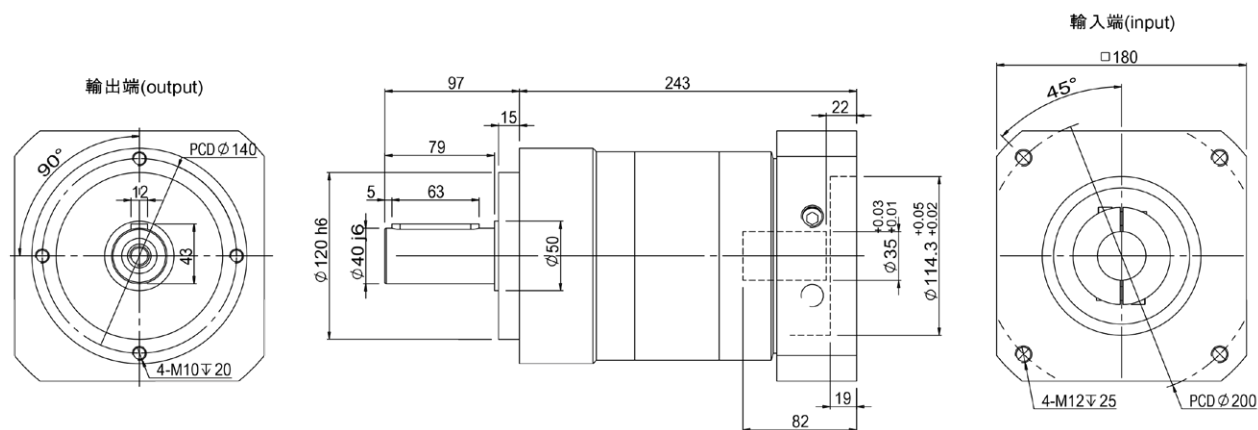
■ GPE120-L2



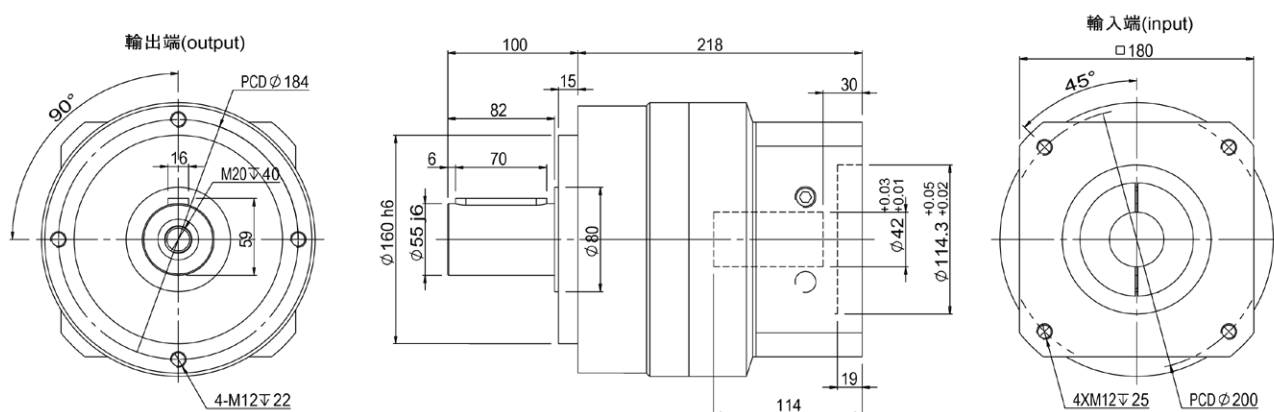
■ GPE155-L1



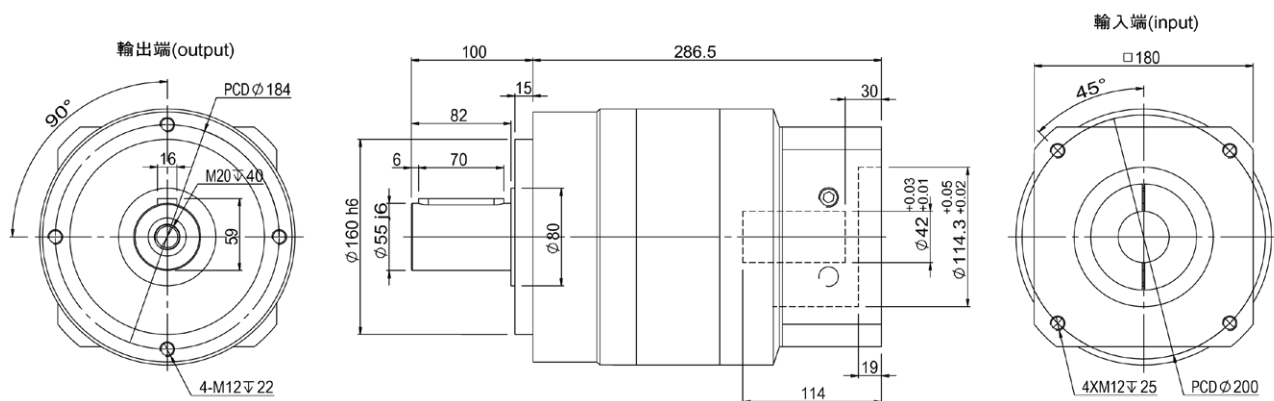
■ GPE155-L2



■ GPE205-L1

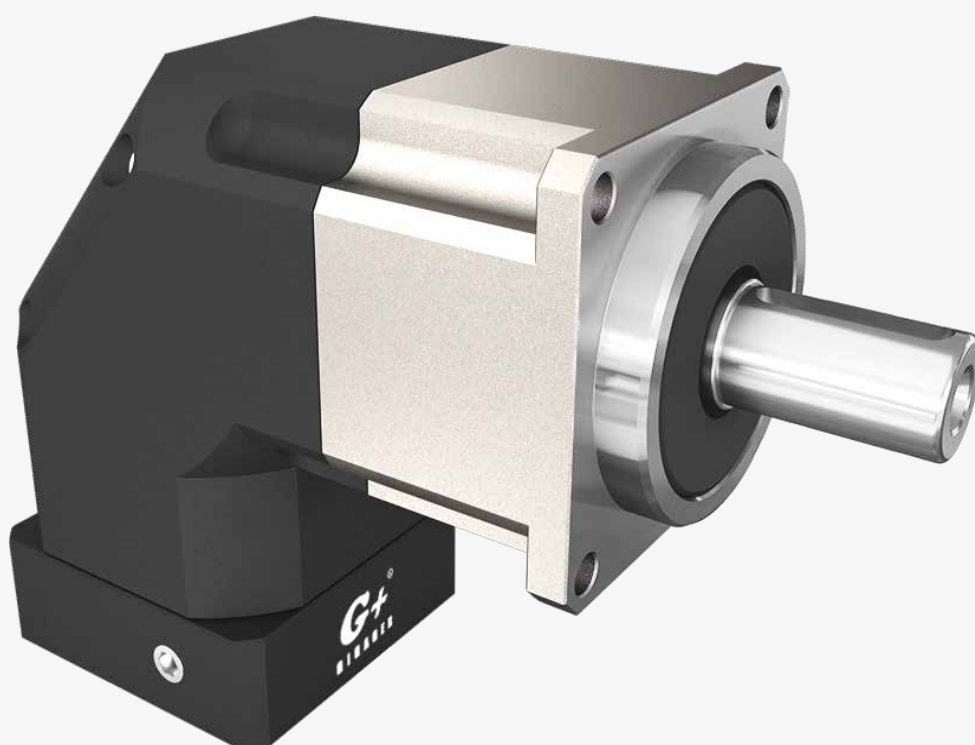


■ GPE205-L2





GPBR Series



型號說明 / MODEL

GPBR	090	-	10K	-	(- - -)	-	
系列代碼 Series	規格 Size		減速比 Ratio		輸入端安裝尺寸 Input mounting size		非標定製 Customization
			雙級 Double (L2)				
			單級 Single (L1)				
042			3K				
060			4K				
090			5K				
115			7K				
142			10K				
180			14K				
			20K				
			15K				
			25K				
			30K				
			35K				
			40K				
			50K				
			70K				
			80K				
			100K				
			140K				
			200K				
					依據馬達連接尺寸確認 According to the motor connection size		
					a 馬達輸出軸直徑 Motor Shaft diameter		
					b 馬達止口直徑 Motor Spigot diameter		
					c 馬達安裝孔 PCD Motor Mounting Hole PCD		
					d 馬達安裝螺紋孔 Motor mounting threaded hole		
					例 Example : (19-70-90-M5)		
							依據尺寸圖確認 According to the drawing 空白 : 標準品 Blank : Standard

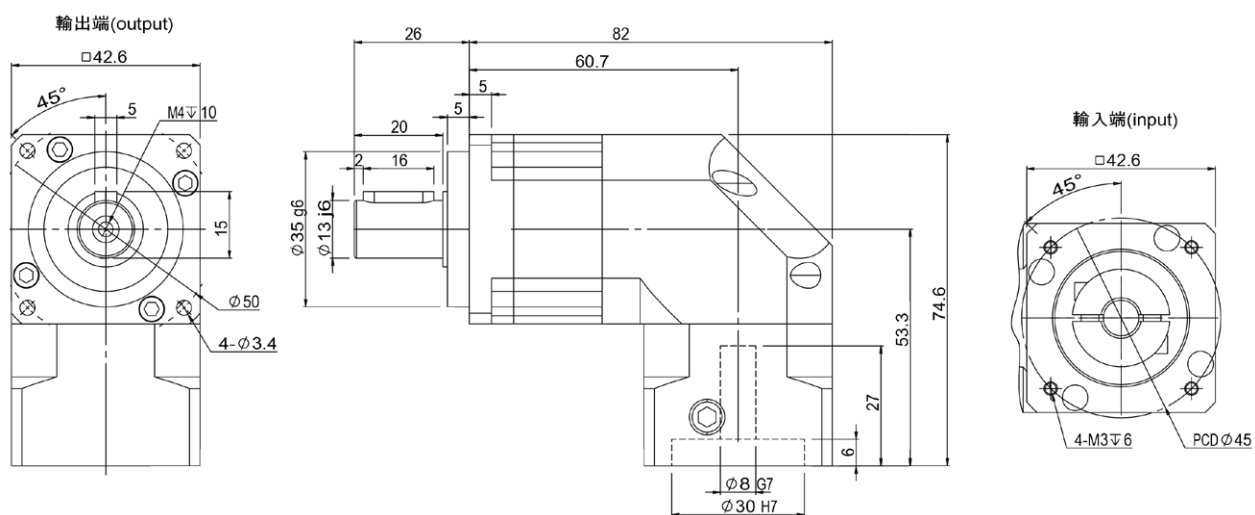
轉動慣量總表 / MOMENT OF INERTIA

規格 specification	級數 stage	減速比 Ratio	GPBR042	GPBR060	GPBR090	GPBR115	GPBR142	GPBR180
轉動慣量 J1 Moment of inertia J1	1	3K	0.04	0.35	2.25	6.84	23.4	68.9
		4K	0.04	0.35	2.25	6.84	23.4	68.9
		5K	0.04	0.35	2.25	6.84	23.4	68.9
		7K	0.04	0.35	2.25	6.84	23.4	68.9
		10K	0.04	0.35	2.25	6.84	23.4	68.9
		14K	-	0.07	1.87	6.25	21.8	65.6
		20K	-	0.07	1.87	6.25	21.8	65.6
	2	15K	0.04	0.35	2.25	6.84	23.4	68.9
		25K	0.04	0.09	0.35	2.25	6.84	23.4
		30K	0.04	0.09	0.35	2.25	6.84	23.4
		35K	0.04	0.09	0.35	2.25	6.84	23.4
		40K	0.04	0.09	0.35	2.25	6.84	23.4
		50K	0.04	0.09	0.35	2.25	6.84	23.4
		70K	0.04	0.09	0.35	2.25	6.84	23.4
		80K	0.04	0.09	0.35	2.25	6.84	23.4
		100K	0.04	0.09	0.35	2.25	6.84	23.4
		140K	0.04	0.01	0.31	1.87	6.25	21.8
		200K	0.04	0.01	0.31	1.87	6.25	21.8

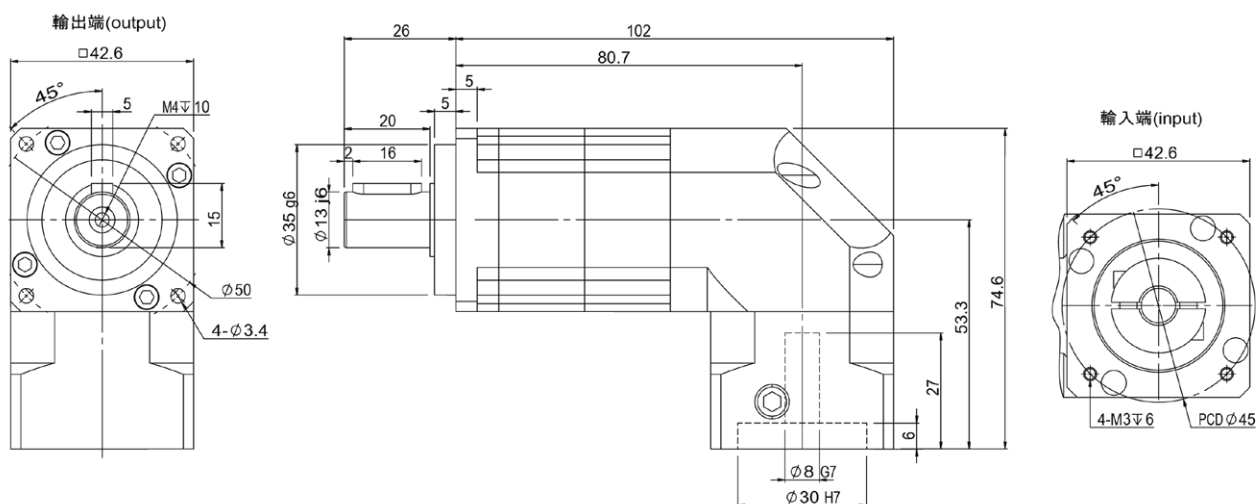
減速機性能資料 / PERFORMANCE

規格 specification		節數 stage	減速比 ratio	GPBR042	GPBR060	GPBR090	GPBR115	GPBR142	GPBR180
額定輸出力矩 T_{2N} Rated output torque T_{2N}	Nm	1	3K	19	36	90	195	342	588
			4K	20	48	120	260	520	1040
			5K	20	60	150	325	650	1200
			7K	19	50	140	300	550	1100
			10K	14	40	100	230	450	900
			14K	-	50	140	300	550	1100
			20K	-	40	100	230	450	900
		2	15K	19	60	150	325	650	1200
			25K	20	60	150	325	650	1200
			30K	19	55	150	310	600	1100
			35K	20	50	140	300	550	1100
			40K	20	45	120	260	500	1000
			50K	20	60	100	230	650	1200
			70K	19	50	140	300	550	1100
			80K	-	45	120	260	500	1000
			100K	14	40	100	230	450	900
			140K	-	50	140	300	550	1100
			200K	-	40	100	230	450	900
急停扭矩 T_{2NOT} Emergency stop torque T_{2NOT}	Nm	1 & 2	3 ~ 200K	3 倍額定輸出力矩 / Triple rated output torque					
額定輸入轉速 n_{1N} Rated input speed n_{1N}	rpm	1 & 2	3 ~ 200K	3000	5000	4000	4000	3000	3000
最大輸入轉速 n_{1B} Max input speed n_{1B}		1 & 2	3 ~ 200K	6000	10000	8000	8000	6000	6000
精密背隙 P1 Precision backlash P1	arcmin	1	3 ~ 20K	-	≤ 4	≤ 4	≤ 4	≤ 4	≤ 4
		2	15 ~ 200K	-	≤ 7	≤ 7	≤ 7	≤ 7	≤ 7
標準背隙 P2 Standard backlash P2	arcmin	1	3 ~ 20K	≤ 6	≤ 6	≤ 6	≤ 6	≤ 6	≤ 6
		2	15 ~ 200K	≤ 9	≤ 9	≤ 9	≤ 9	≤ 9	≤ 9
扭轉剛性 Torsional rigidity	Nm/arcmin	1 & 2	3 ~ 200K	3	7	14	25	50	145
容許徑向力 F_{2rB} Allowable radial force F_{2rB}	N	1 & 2	3 ~ 200K	700	1530	3250	6700	9400	14500
容許軸向力 F_{2aB} Allowable axial force F_{2aB}	N	1 & 2	3 ~ 200K	610	765	1625	3350	4700	7250
使用壽命 Lifespan	Hr	1 & 2	3 ~ 200K	20000					
效率 Efficiency	%	1	3 ~ 20K	≥ 95%					
		2	15 ~ 200K	≥ 92%					
重量 Weight	kg	1	3 ~ 20K	0.9	1.5	6.4	13	24.5	51
		2	15 ~ 200K	1.1	2.1	7.8	14.2	27.5	54
使用溫度 Working temperature	°C	1 & 2	3 ~ 200K	-10°C ~ 90°C					
潤滑 Grease		1 & 2	3 ~ 200K	合成潤滑油脂 / Synthetic lubricating grease					
防護等級 IP Grade		1 & 2	3 ~ 200K	IP65					
安裝方向 Installation direction		1 & 2	3 ~ 200K	任意方向 / Any direction					
噪音值 ($n_1=3000\text{rpm}$, 無負載) Noise Value ($n_1=3000\text{rpm}$, off load)	Db	1 & 2	3 ~ 200K	≤ 60	≤ 63	≤ 65	≤ 68	≤ 70	≤ 72

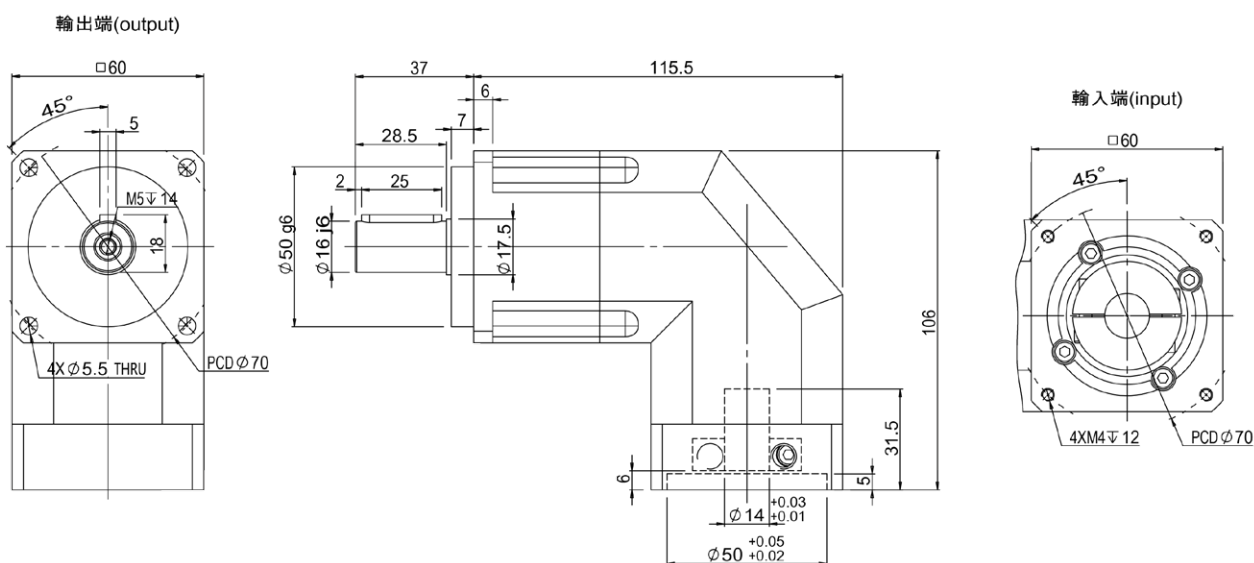
■ GPBR042-L1



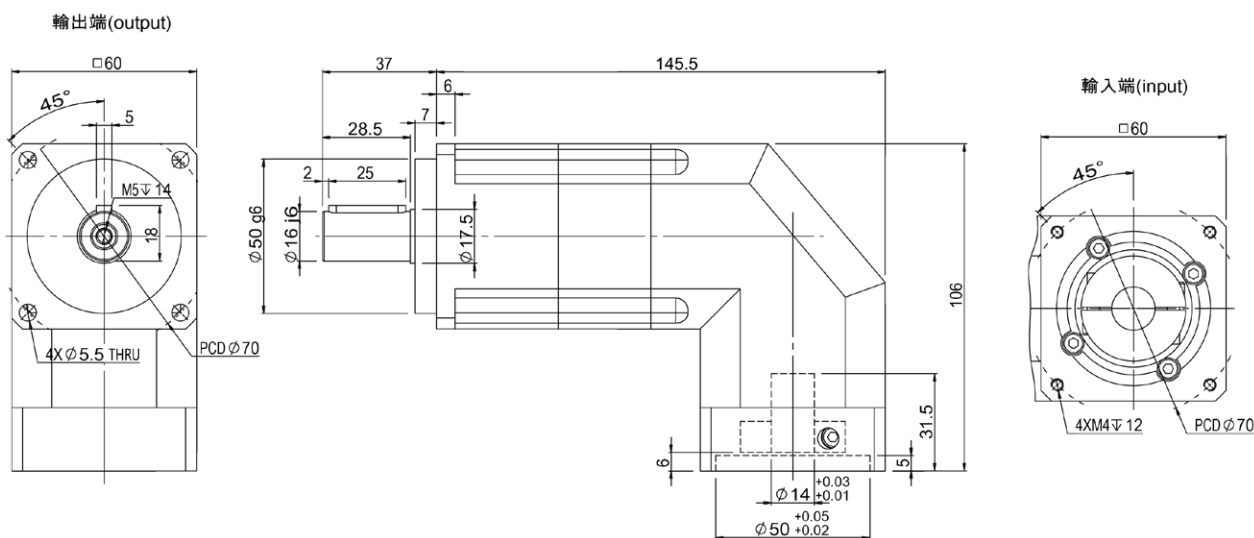
■ GPBR042-L2



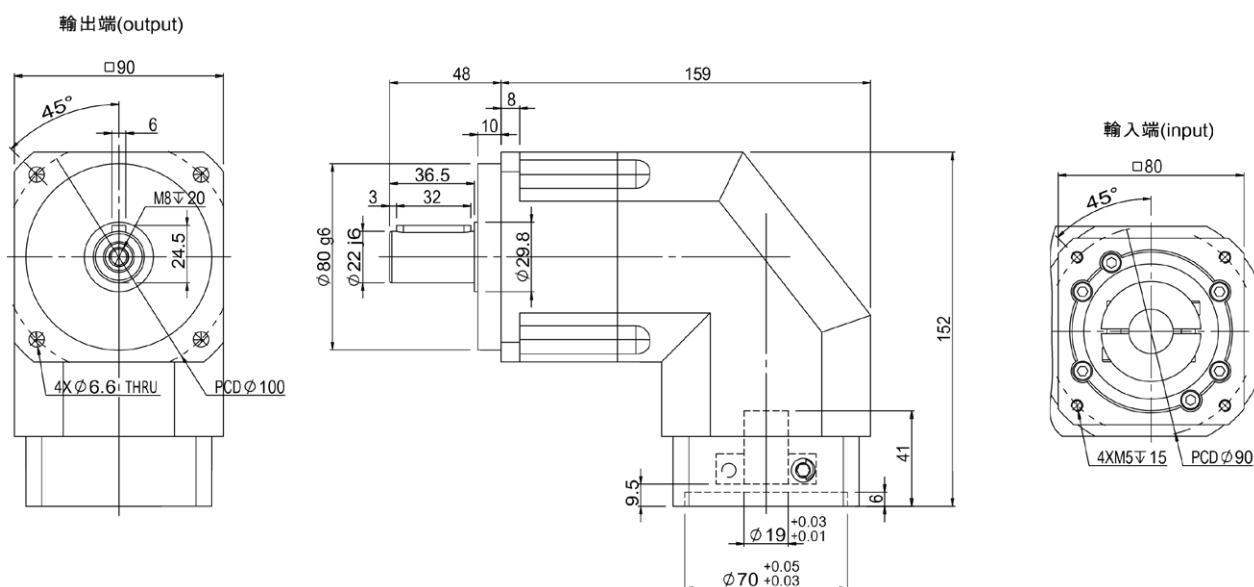
■ GPBR060-L1



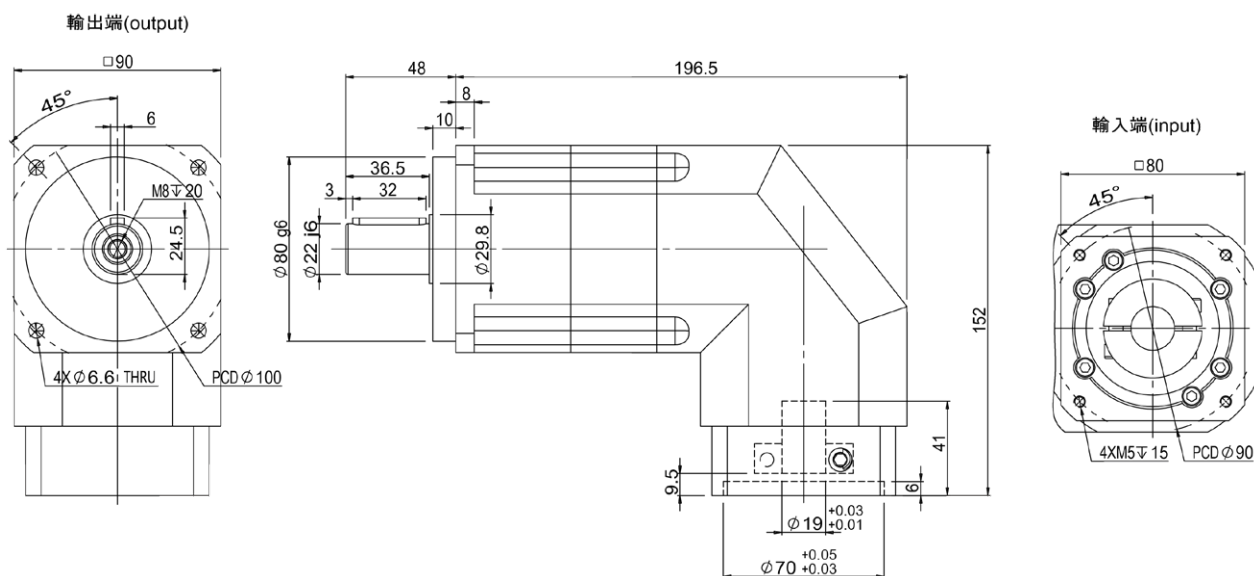
■ GPBR060-L2



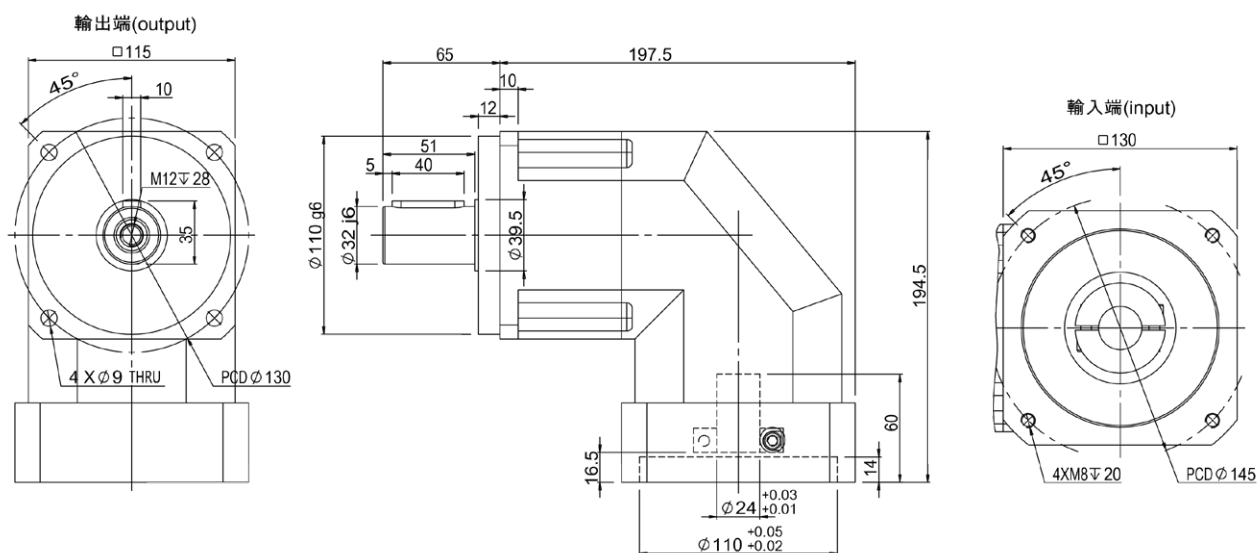
■ GPBR090-L1



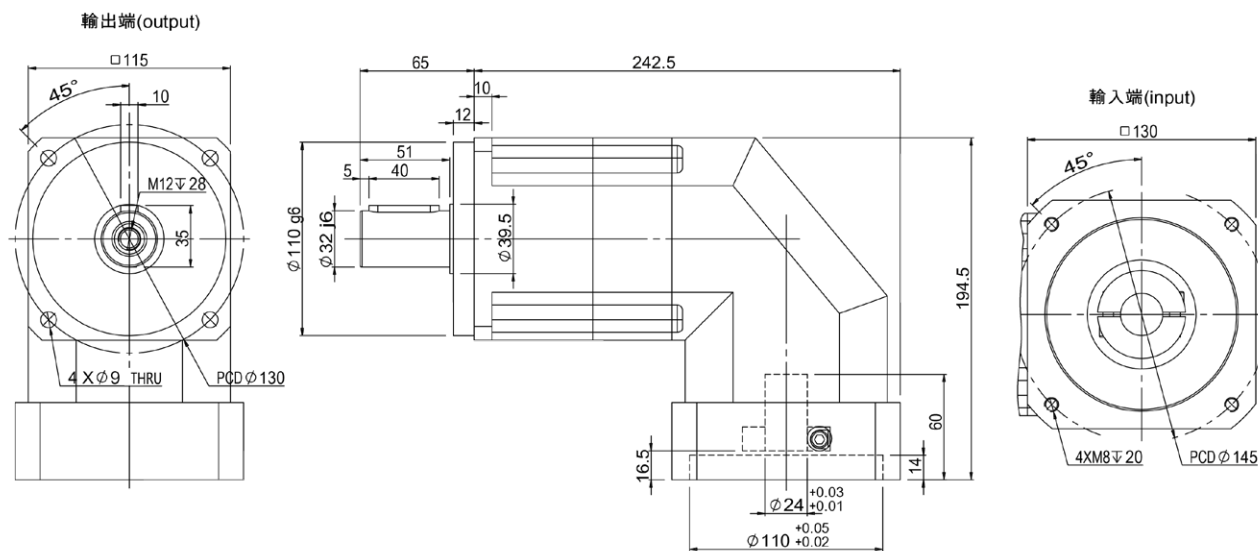
■ GPBR090-L2



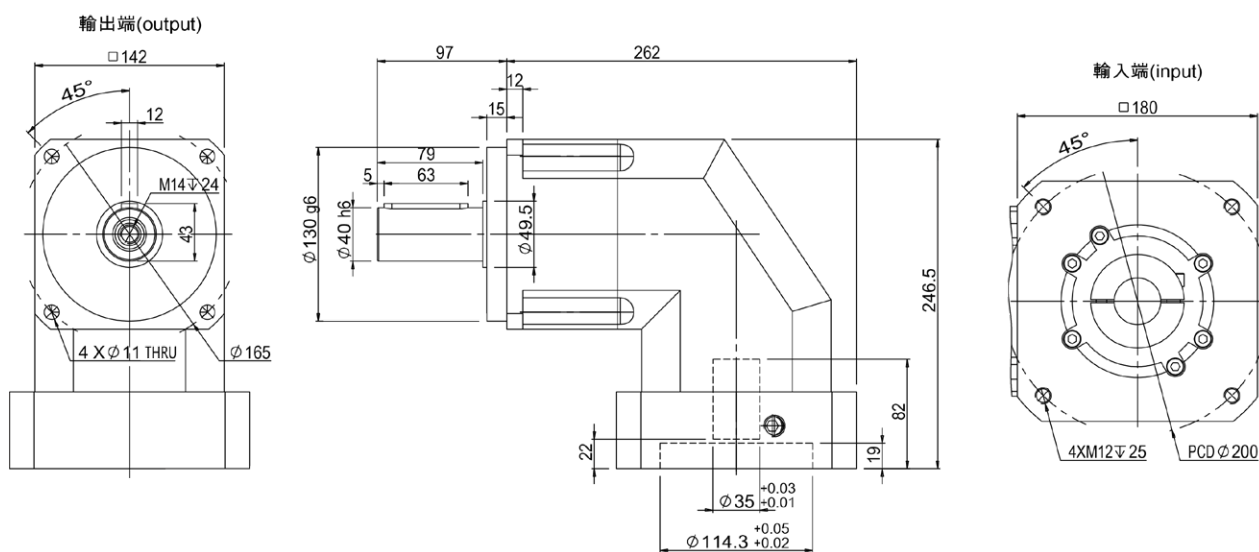
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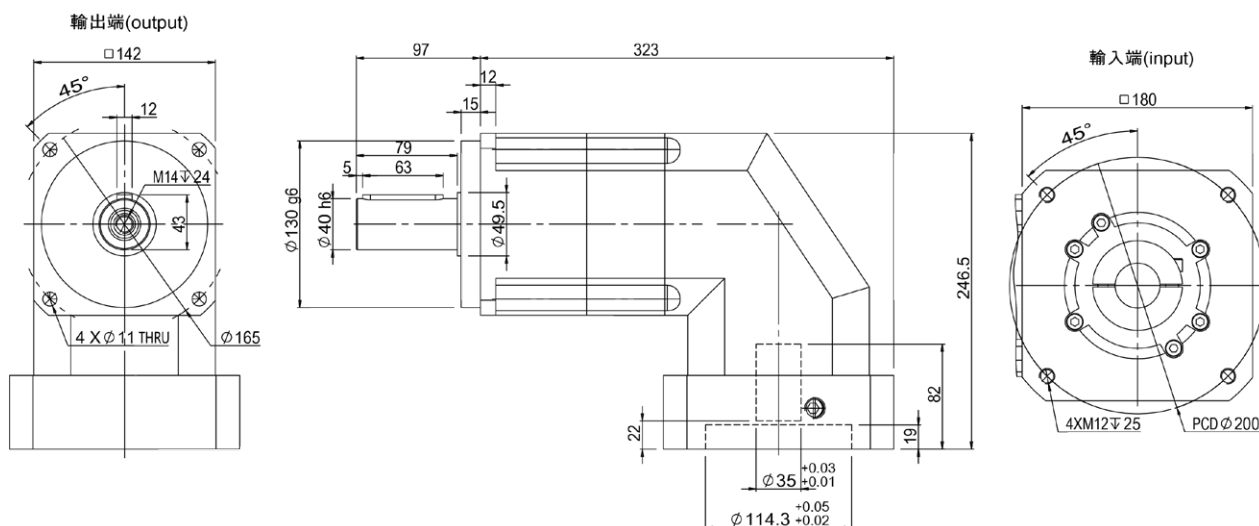
GPBR115-L2



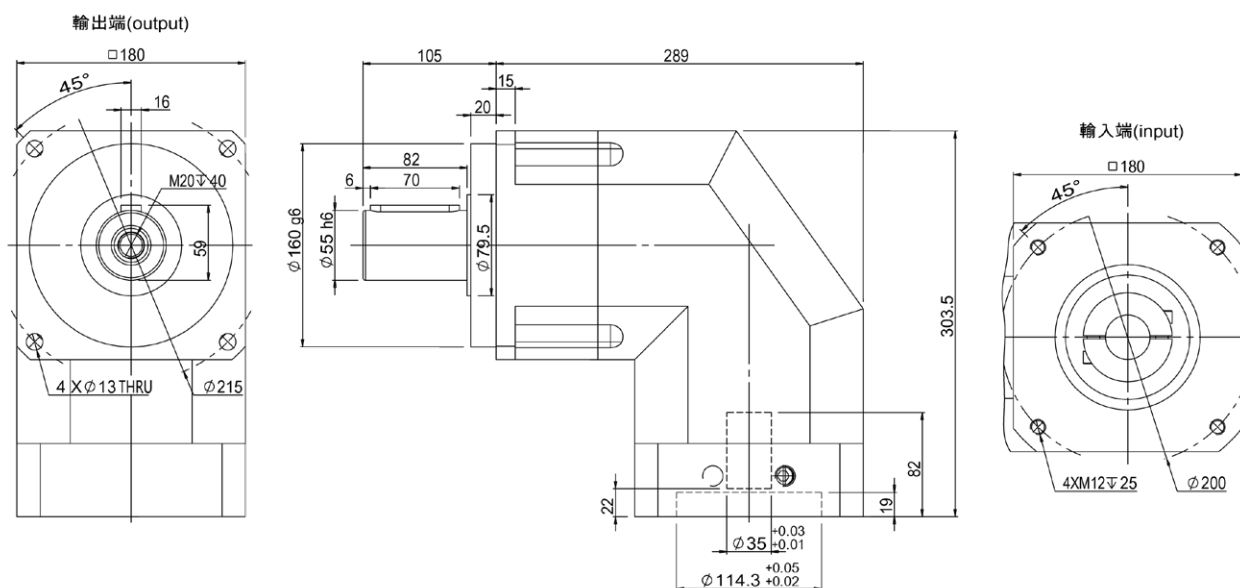
■ GPBR142-L1



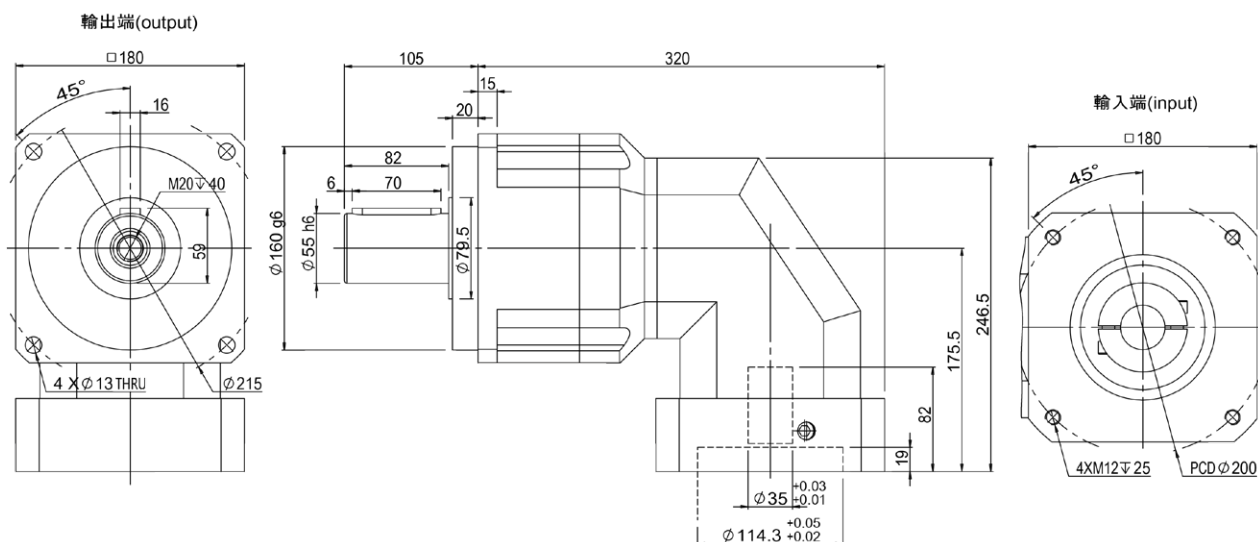
■ GPBR142-L2

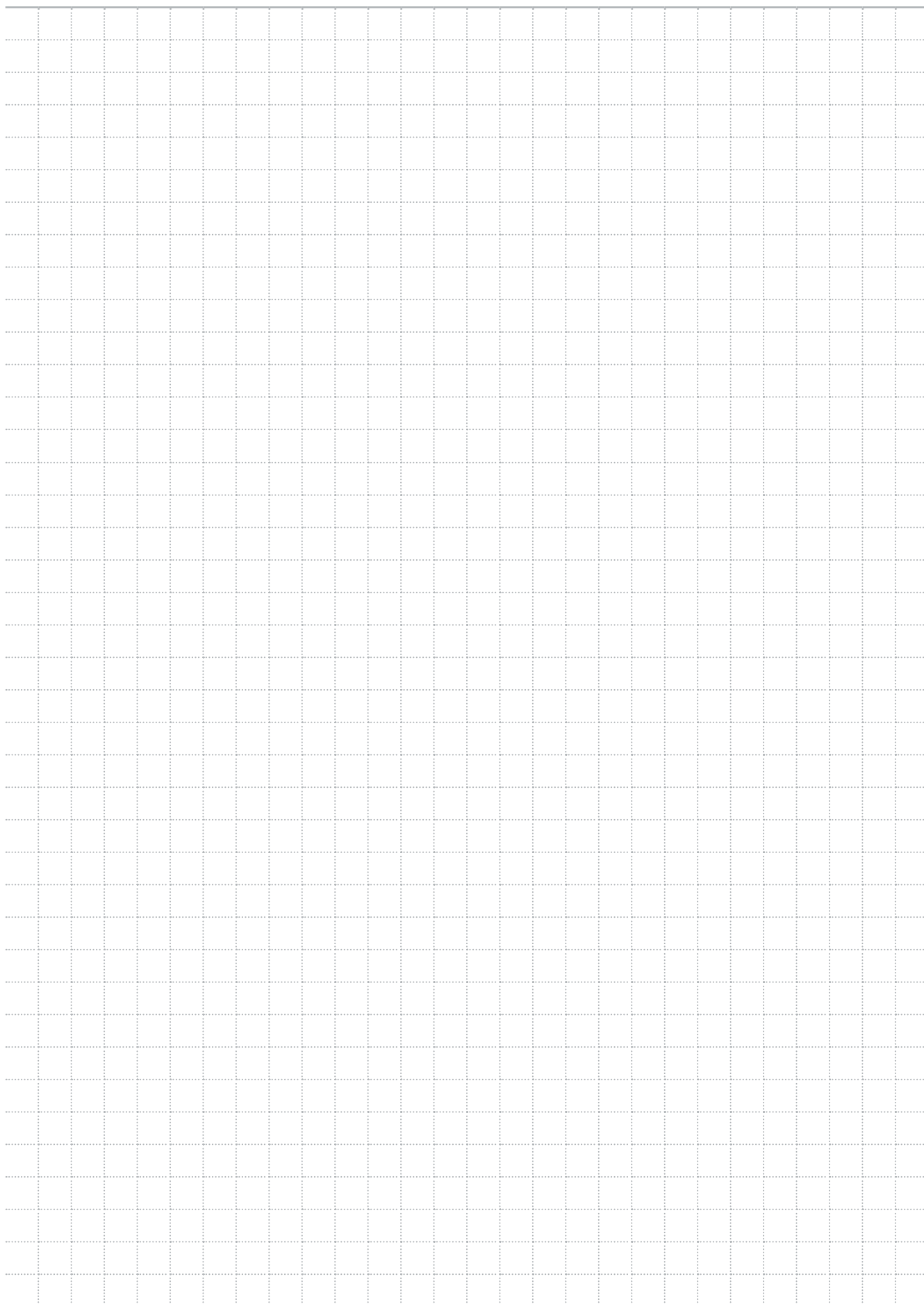


■ GPBR180-L1



■ GPBR180-L2







GPDR Series



型號說明 / MODEL

GPDR	090	-	10K	-	($\square$ - $\square$ - $\square$ - $\square$)	-	$\square$
系列代碼 Series	規格 Size		減速比 Ratio		輸入端安裝尺寸 Input mounting size		非標定製 Customization
047 064 090 110 140			單級 Single (L1)	雙級 Double (L2)	依據馬達連接尺寸確認 According to the motor connection size a 馬達輸出軸直徑 Motor Shaft diameter b 馬達止口直徑 Motor Spigot diameter c 馬達安裝孔 PCD Motor Mounting Hole PCD d 馬達安裝螺紋孔 Motor mounting threaded hole 例 Example : (19-70-90-M5)		依據尺寸圖確認 According to the drawing 空白 : 標準品 Blank : Standard
			4K	25K			
			5K	35K			
			7K	40K			
			10K	50K			
			14K	70K			
			20K	100K			
				140K			
				200K			

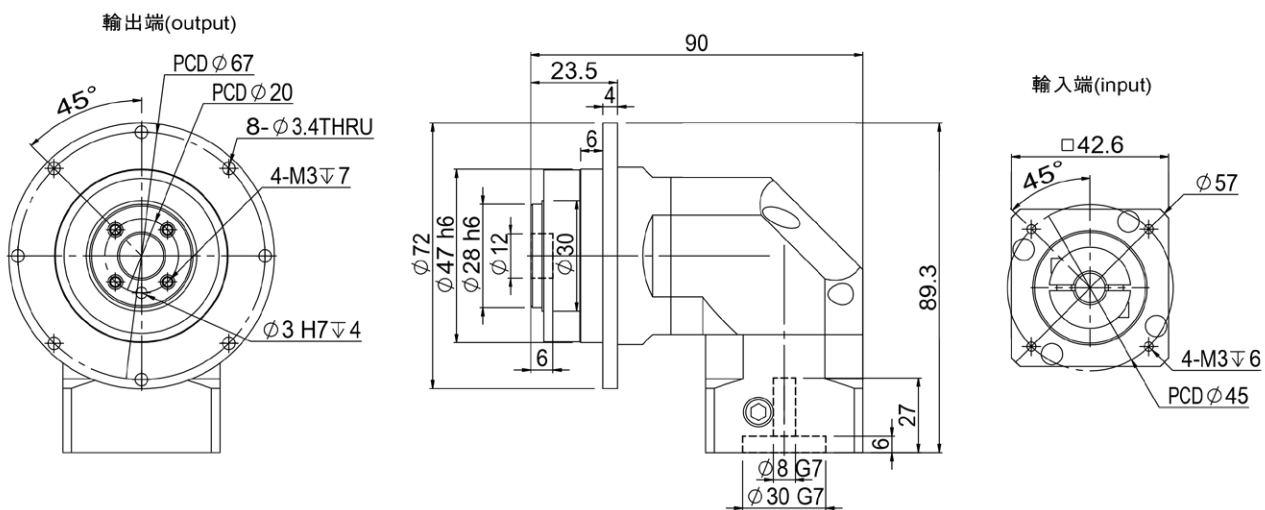
轉動慣量總表 / MOMENT OF INERTIA

規格 specification		級數 stage	減速比 Ratio	GPDR047	GPDR064	GPDR090	GPDR110	GPDR140
轉動慣量 J1 Moment of inertia J1	kg·cm ²	1	4K	0.04	0.35	2.25	6.84	23.4
			5K	0.04	0.35	2.25	6.84	23.4
			7K	0.04	0.35	2.25	6.84	23.4
			10K	0.04	0.35	2.25	6.84	23.4
			14K	-	0.07	1.87	6.25	21.8
			20K	-	0.07	1.87	6.25	21.8
		2	25K	0.04	0.09	0.35	2.25	6.84
			35K	0.04	0.09	0.35	2.25	6.84
			40K	0.04	0.09	0.35	2.25	6.84
			50K	0.04	0.09	0.35	2.25	6.84
			70K	0.04	0.09	0.35	2.25	6.84
			100K	0.04	0.09	0.35	2.25	6.84
			140K	0.04	0.09	0.31	1.87	6.25
			200K	0.04	0.09	0.31	1.87	6.25

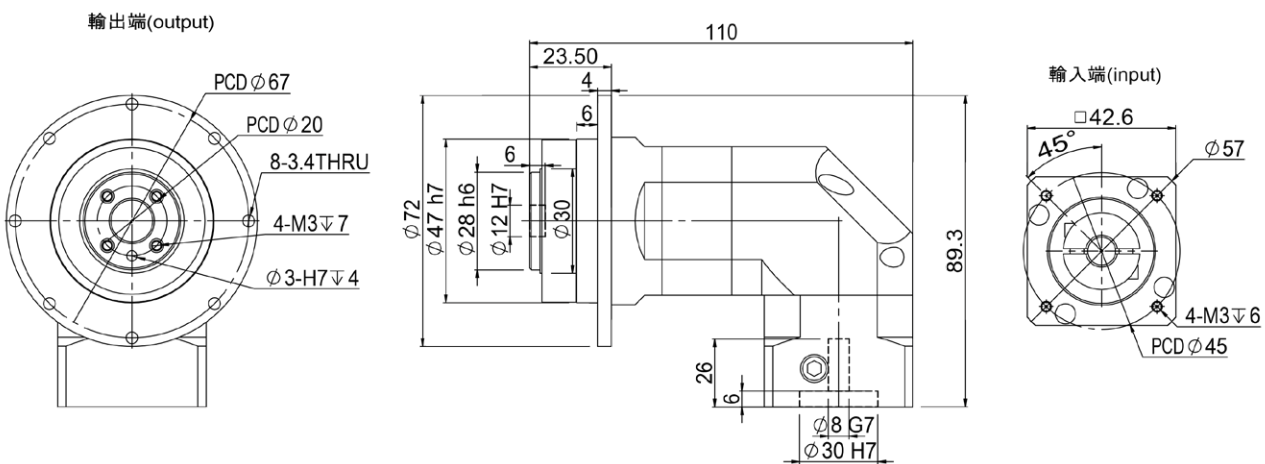
減速機性能資料 / PERFORMANCE

規格 specification		節數 stage	減速比 ratio	GPDR047	GPDR064	GPDR090	GPDR110	GPDR140
額定輸出力矩 Rated output torque T_{2N}	Nm	1	4K	20	48	130	270	560
			5K	20	60	160	330	650
			7K	19	50	140	300	550
			10K	14	40	100	230	450
			14K	-	42	140	300	550
			20K	-	40	100	230	450
		2	25K	20	60	160	330	650
			35K	20	50	140	300	550
			40K	20	48	130	270	560
			50K	20	60	160	330	650
			70K	19	50	140	300	550
			100K	14	40	100	230	450
			140K	-	50	140	300	550
			200K	-	40	100	230	450
急停扭矩 T_{2NOT} Emergency stop torque T_{2NOT}	Nm	1 & 2	4 ~ 200K	3 倍額定輸出力矩 / Triple rated output torque				
額定輸入轉速 n_{1N} Rated input speed n_{1N}	rpm	1 & 2	4 ~ 200K	3000	5000	4000	4000	3000
最大輸入轉速 n_{1B} Max input speed n_{1B}		1 & 2	4 ~ 200K	6000	10000	8000	8000	6000
精密背隙 P1 Precision backlash P1	arcmin	1	4 ~ 20K	-	≤ 4	≤ 4	≤ 4	≤ 4
		2	25 ~ 200K	-	≤ 7	≤ 7	≤ 7	≤ 7
標準背隙 P2 Standard backlash P2	arcmin	1	4 ~ 20K	≤ 9	≤ 6	≤ 6	≤ 6	≤ 6
		2	25 ~ 200K	≤ 9	≤ 9	≤ 9	≤ 9	≤ 9
扭轉剛性 Torsional rigidity	Nm/arcmin	1 & 2	4 ~ 200K	7	13	31	82	151
最大彎曲力矩 Max bending torque	N	1 & 2	4 ~ 200K	42.5	125	325	430	1300
容許軸向力 F_{2aB} Allowable axial force F_{2aB}	N	1 & 2	4 ~ 200K	750	1050	2850	2990	10590
使用壽命 Lifespan	Hr	1 & 2	4 ~ 200K	20000				
效率 Efficiency	%	1	4 ~ 20K	≥ 95%				
		2	25 ~ 200K	≥ 92%				
重量 Weight	kg	1	4 ~ 20K	1.0	1.9	4.5	9.8	20.1
		2	25 ~ 200K	1.3	2.1	5.9	10.5	21.9
使用溫度 Working temperature	°C	1 & 2	4 ~ 200K	-10°C ~ 90°C				
潤滑 Grease		1 & 2	4 ~ 200K	合成潤滑油脂 / Synthetic lubricating grease				
防護等級 IP Grade		1 & 2	4 ~ 200K	IP65				
安裝方向 Installation direction		1 & 2	4 ~ 200K	任意方向 / Any direction				
噪音值 ($n_1=3000\text{rpm}$, 無負載) Noise Value ($n_1=3000\text{rpm}$, off load)	Db	1 & 2	4 ~ 200K	≤ 60	≤ 63	≤ 65	≤ 68	≤ 70

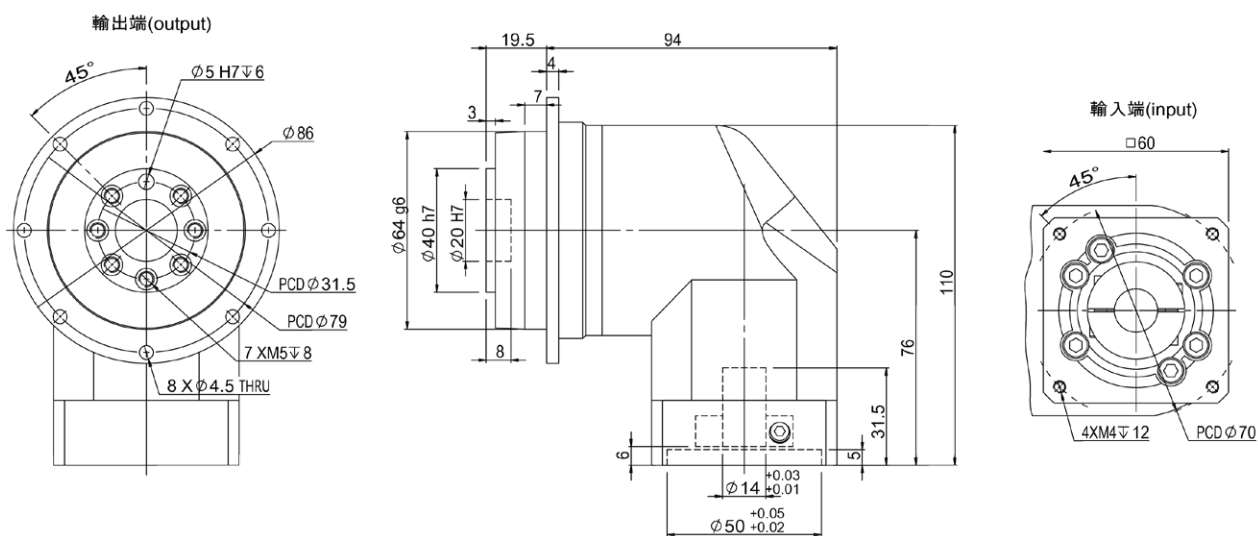
■ **GPDR047-L1**



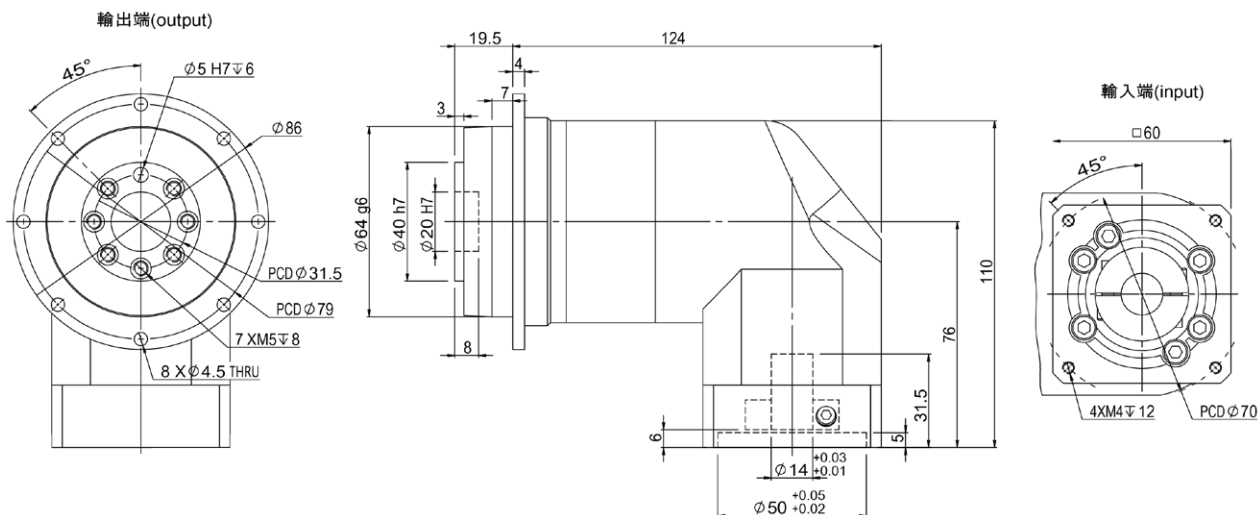
■ **GPDR047-L2**



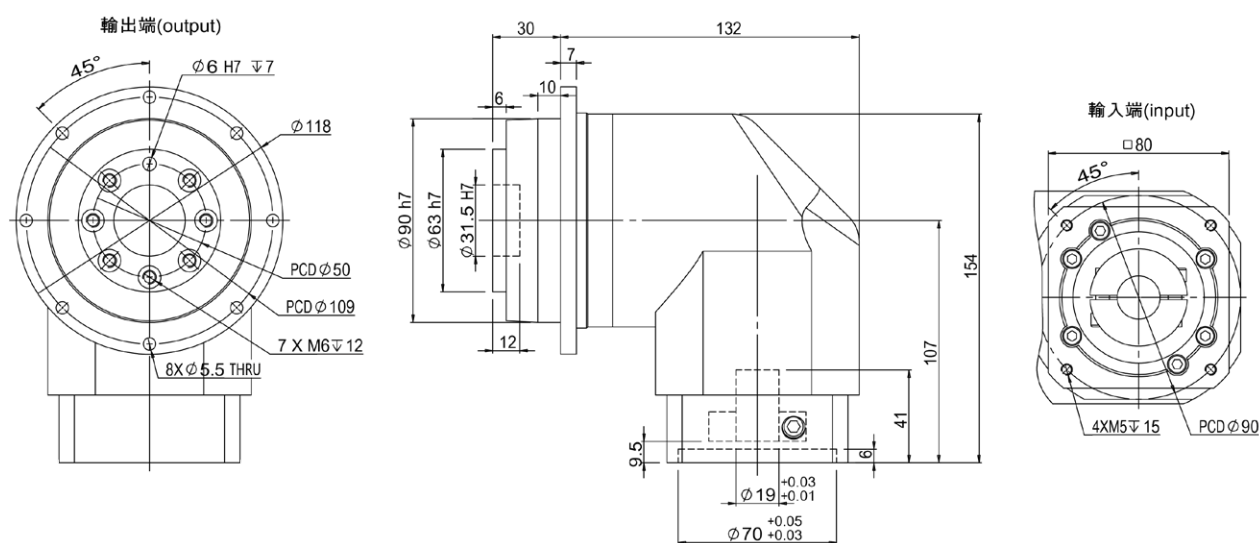
■ GPDR064-L1



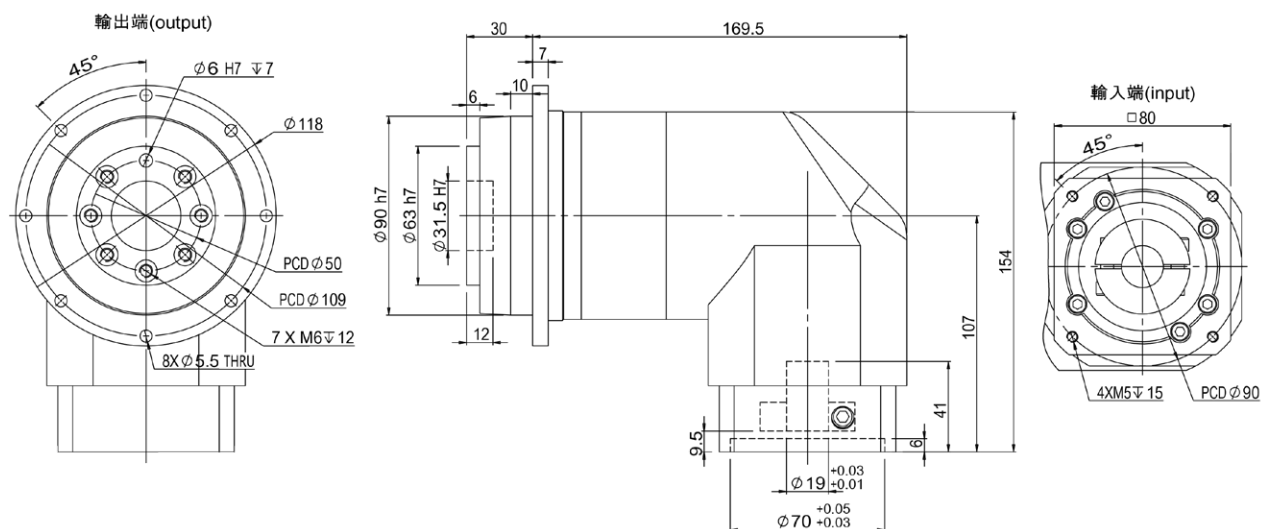
■ GPDR064-L2



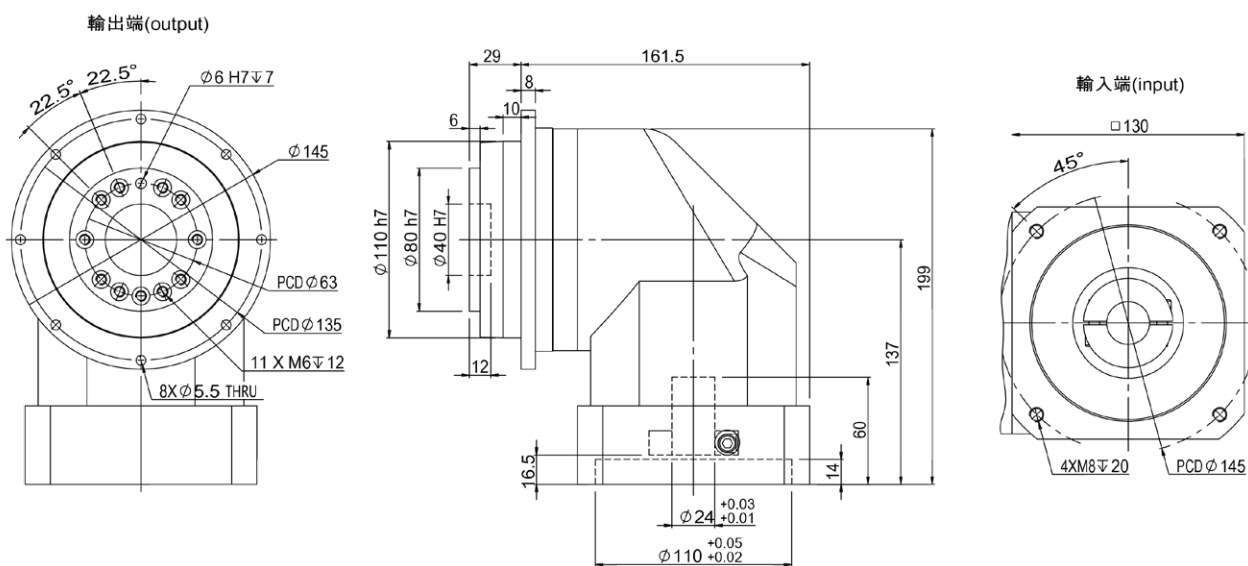
■ GPDR090-L1



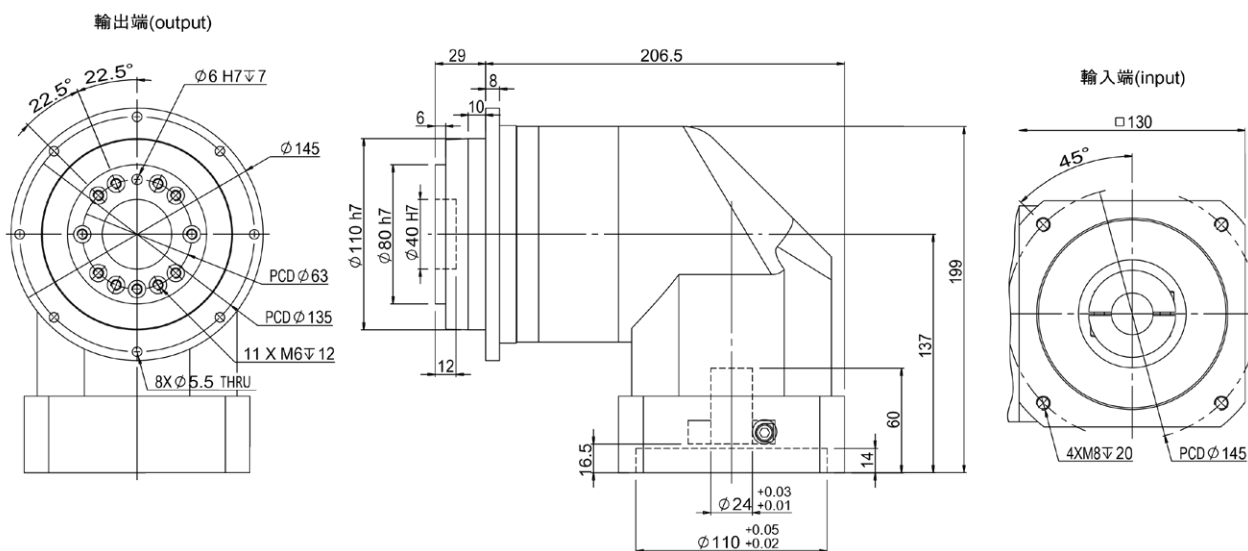
■ GPDR090-L2

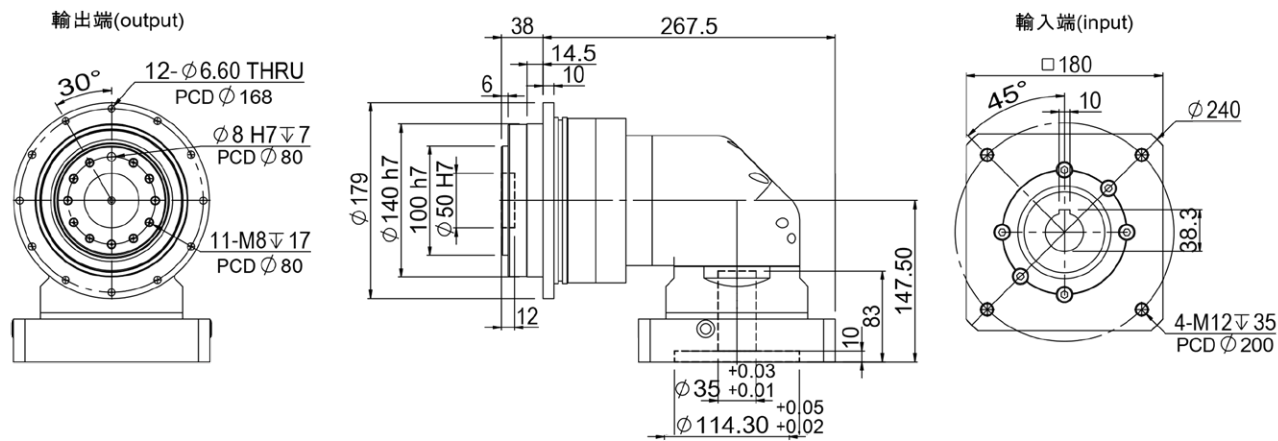
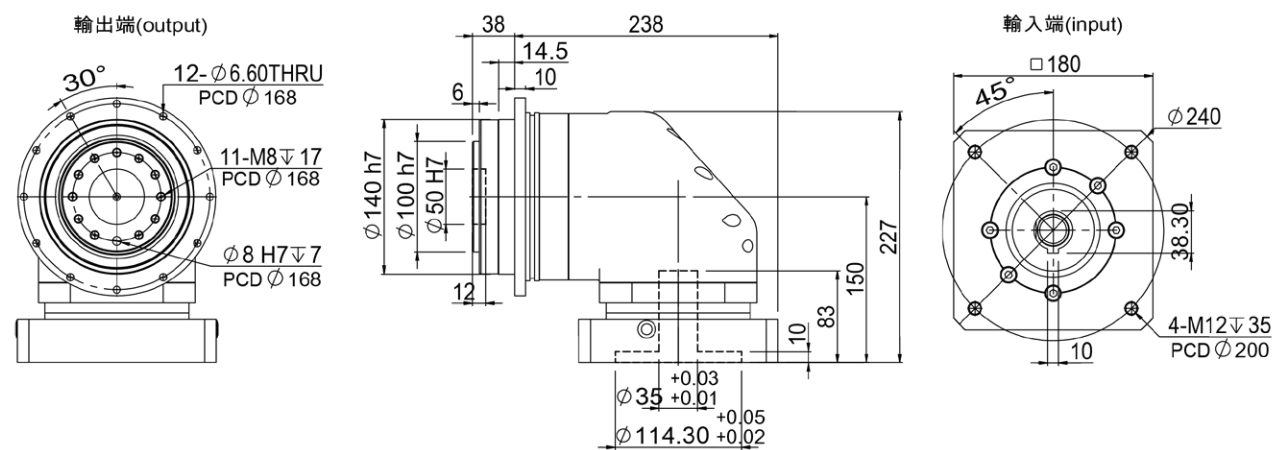


■ GPDR110-L1



■ GPDR110-L2







GPVR Series



型號說明 / MODEL

GPVR	090	-	10K	-	(^a - ^b - ^c - ^d)	-	□
系列代碼 Series	規格 Size		減速比 Ratio		輸入端安裝尺寸 Input mounting size		非標定製 Customization
			雙級 Double (L2)				
			單級 Single (L1)				
			3K	15K			
			4K	25K			
			5K	30K			
			7K	35K			
			10K	40K			
			14K	50K			
			20K	70K			
				80K			
				100K			
				140K			
				200K			
060							
090							
115							
142							

依據馬達連接尺寸確認
According to the motor connection size

a	馬達輸出軸直徑 Motor Shaft diameter
b	馬達止口直徑 Motor Spigot diameter
c	馬達安裝孔 PCD Motor Mounting Hole PCD
d	馬達安裝螺紋孔 Motor mounting threaded hole

例 Example : (19-70-90-M5)

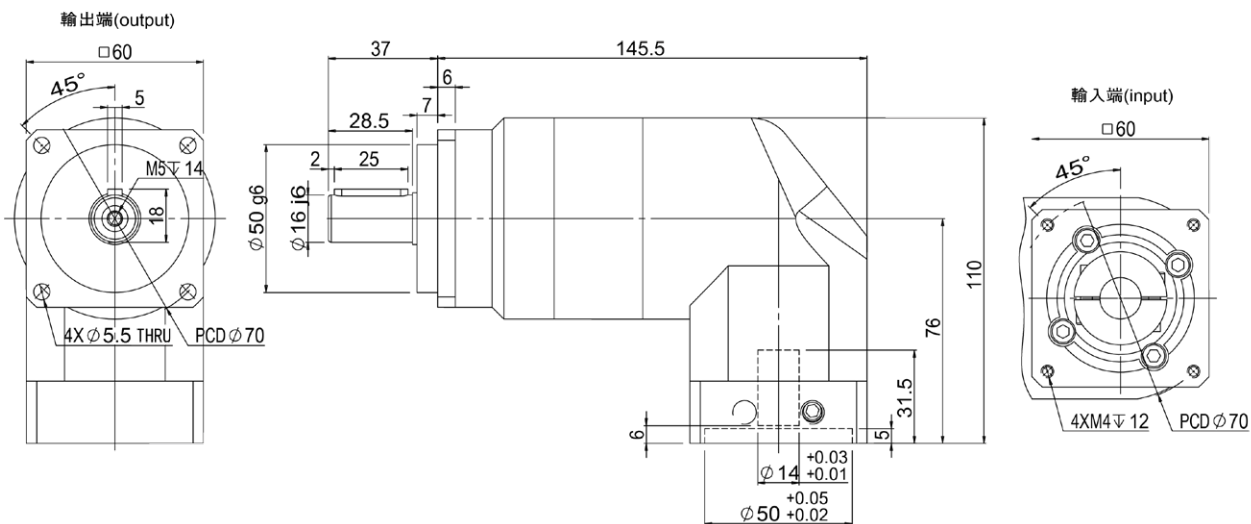
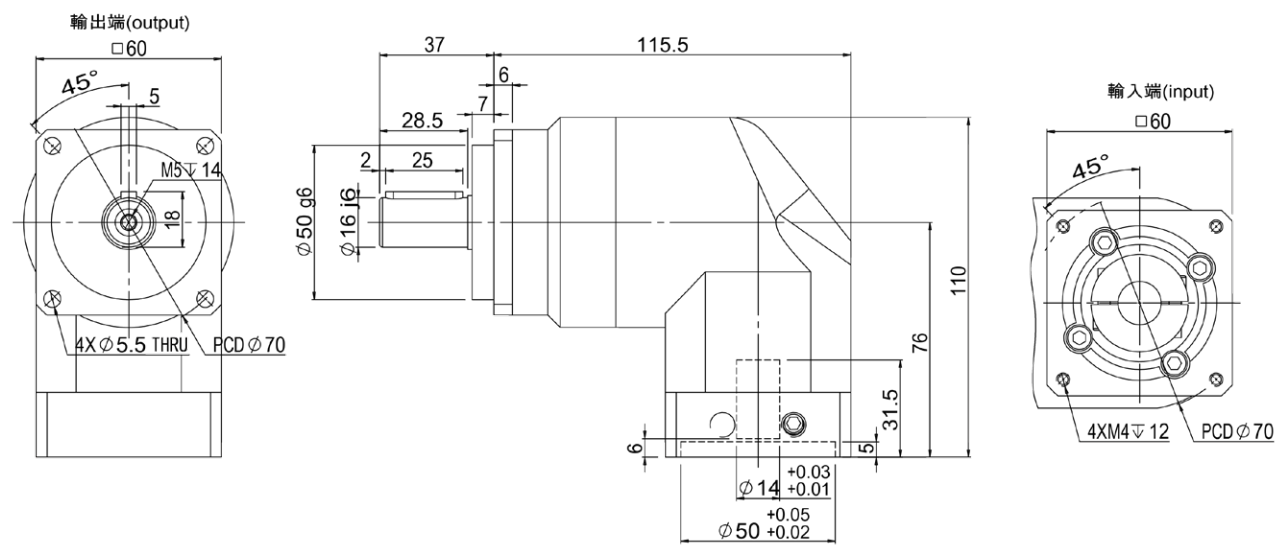
依據尺寸圖確認
According to the drawing
空白 : 標準品
Blank : Standard

轉動慣量總表 / MOMENT OF INERTIA

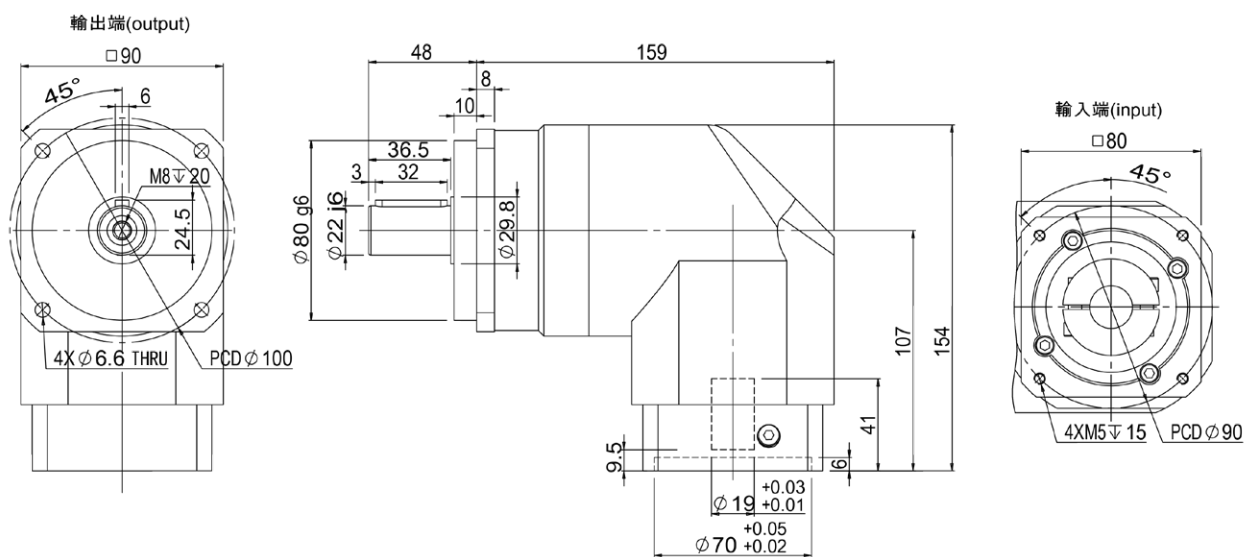
規格 specification	級數 stage	減速比 Ratio	GPVR060	GPVR090	GPVR115	GPVR142
轉動慣量 J1 Moment of inertia J1	1	3K	0.35	2.25	6.84	23.4
		4K	0.35	2.25	6.84	23.4
		5K	0.35	2.25	6.84	23.4
		7K	0.35	2.25	6.84	23.4
		10K	0.35	2.25	6.84	23.4
		14K	0.07	1.87	6.25	21.8
		20K	0.07	1.87	6.25	21.8
	2	15K	0.35	2.25	6.84	23.4
		25K	0.09	0.35	2.25	6.84
		30K	0.09	0.35	2.25	6.84
		35K	0.09	0.35	2.25	6.84
		40K	0.09	0.35	2.25	6.84
		50K	0.09	0.35	2.25	6.84
		70K	0.09	0.35	2.25	6.84
		80K	0.09	0.35	2.25	6.84
		100K	0.09	0.35	2.25	6.84
		140K	0.01	0.31	1.87	6.25
		200K	0.01	0.31	1.87	6.25

減速機性能資料 / PERFORMANCE

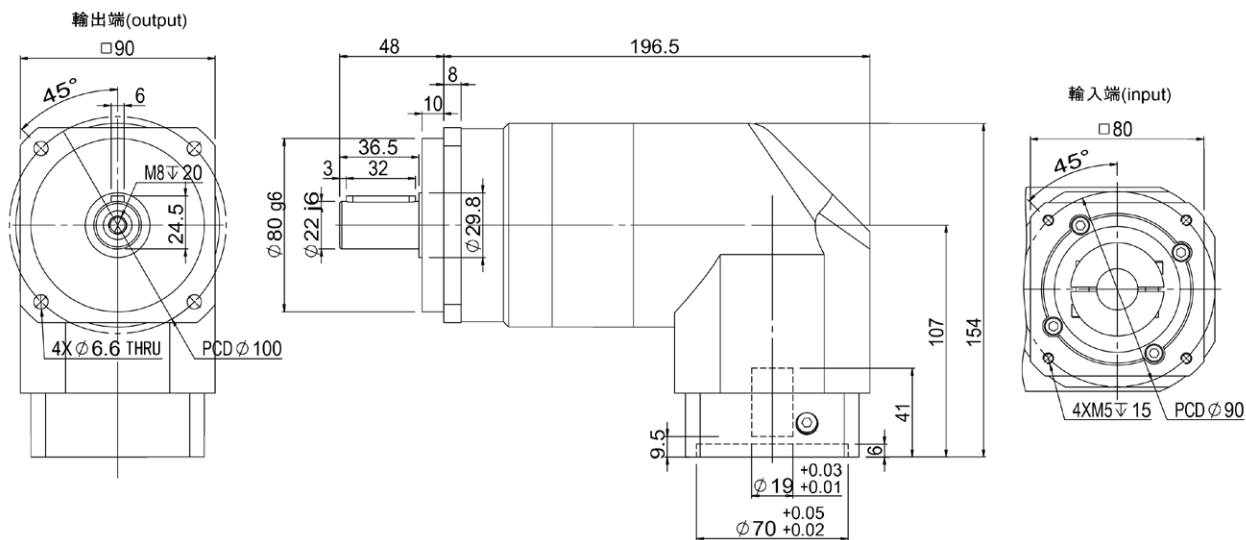
規格 specification		節數 stage	減速比 ratio	GPVR060	GPVR090	GPVR115	GPVR142
額定輸出力矩 T_{2N} Rated output torque T_{2N}	Nm	1	3K	36	90	195	342
			4K	48	120	260	520
			5K	60	150	325	650
			7K	50	140	300	550
			10K	40	100	230	450
			14K	50	140	300	550
			20K	40	100	230	450
		2	15K	60	150	325	650
			25K	60	150	325	650
			30K	55	150	310	600
			35K	50	140	300	550
			40K	45	120	260	500
			50K	60	100	230	650
			70K	50	140	300	550
			80K	45	120	260	500
			100K	40	100	230	450
			140K	50	140	300	550
			200K	40	100	230	450
急停扭矩 T_{2NOT} Emergency stop torque T_{2NOT}	Nm	1 & 2	3 ~ 200K	3 倍額定輸出力矩 / Triple rated output torque			
額定輸入轉速 n_{1N} Rated input speed n_{1N}	rpm	1 & 2	3 ~ 200K	5000	4000	4000	3000
最大輸入轉速 n_{1B} Max input speed n_{1B}		1 & 2	3 ~ 200K	10000	8000	8000	6000
精密背隙 P1 Precision backlash P1	arcmin	1	3 ~ 20K	≤ 4	≤ 4	≤ 4	≤ 4
		2	15 ~ 200K	≤ 7	≤ 7	≤ 7	≤ 7
標準背隙 P2 Standard backlash P2	arcmin	1	3 ~ 20K	≤ 6	≤ 6	≤ 6	≤ 6
		2	15 ~ 200K	≤ 9	≤ 9	≤ 9	≤ 9
扭轉剛性 Torsional rigidity	Nm/arcmin	1 & 2	3 ~ 200K	7	14	25	50
容許徑向力 F_{2rB} Allowable radial force F_{2rB}	N	1 & 2	3 ~ 200K	1530	3250	6700	9400
容許軸向力 F_{2aB} Allowable axial force F_{2aB}	N	1 & 2	3 ~ 200K	765	1625	3350	4700
使用壽命 Lifespan	Hr	1 & 2	3 ~ 200K	20000			
效率 Efficiency	%	1	3 ~ 20K	≥ 95%			
		2	15 ~ 200K	≥ 92%			
重量 Weight	kg	1	3 ~ 20K	2.1	6.4	13	24.5
		2	15 ~ 200K	1.5	7.8	14.2	27.5
使用溫度 Working temperature	°C	1 & 2	3 ~ 200K	-10°C ~ 90°C			
潤滑 Grease		1 & 2	3 ~ 200K	合成潤滑油脂 / Synthetic lubricating grease			
防護等級 IP Grade		1 & 2	3 ~ 200K	IP65			
安裝方向 Installation direction		1 & 2	3 ~ 200K	任意方向 / Any direction			
噪音值 ($n_1=3000\text{rpm}$, 無負載) Noise Value ($n_1=3000\text{rpm}$, off load)	Db	1 & 2	3 ~ 200K	≤ 63	≤ 65	≤ 68	≤ 70



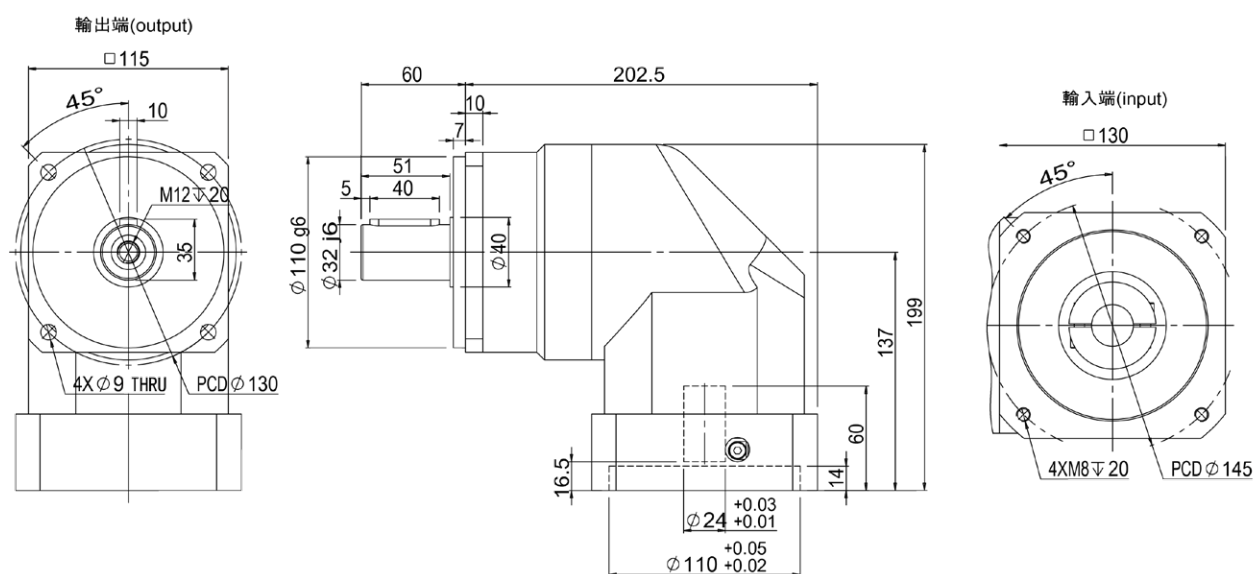
■ GPVR090-L1



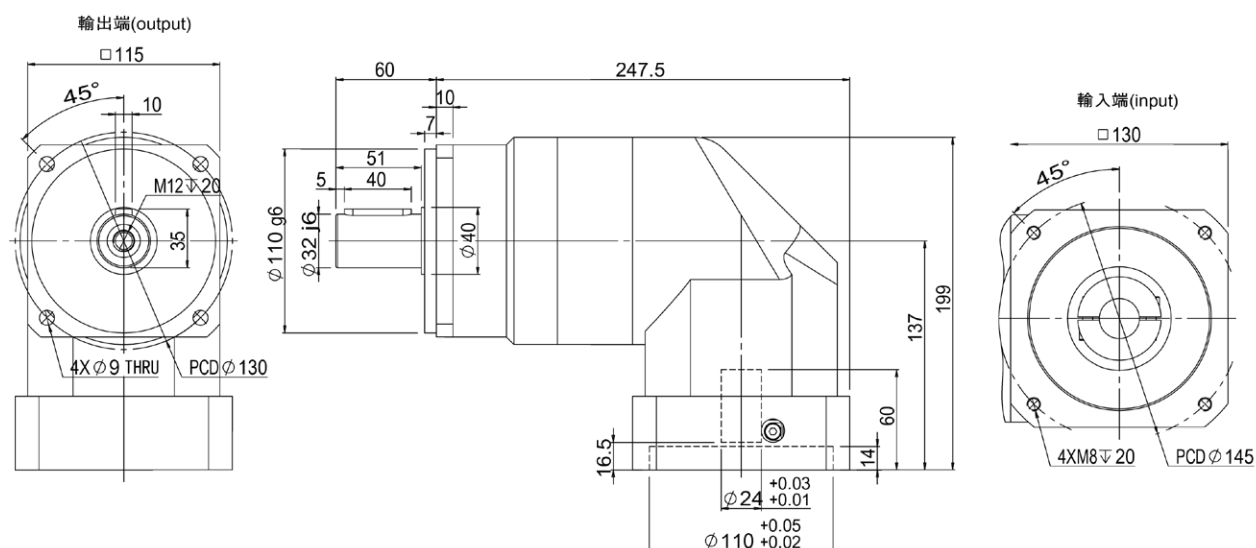
■ GPVR090-L2



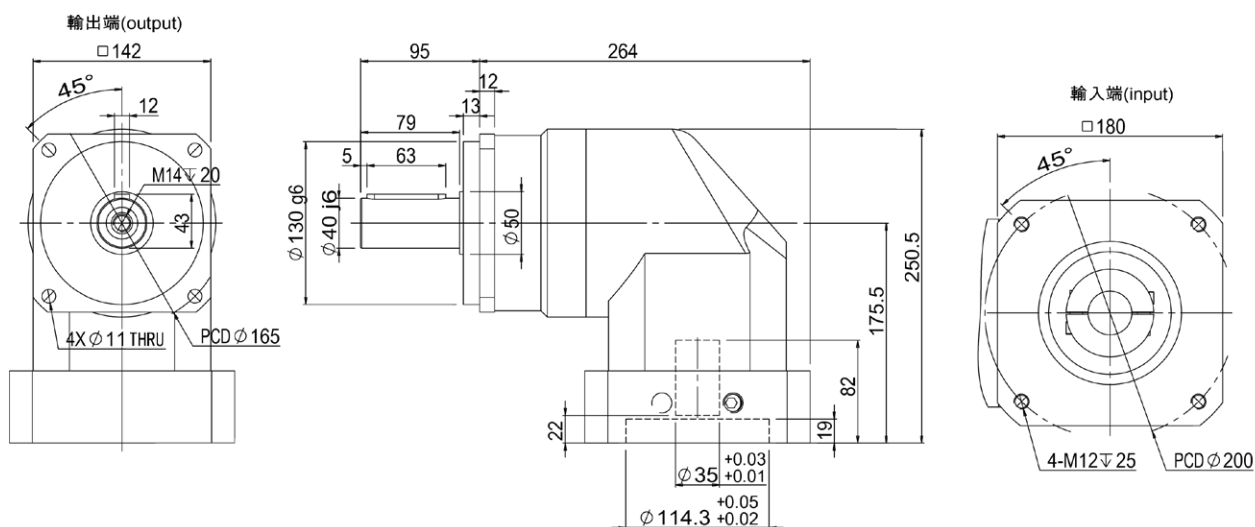
■ GPVR115-L1



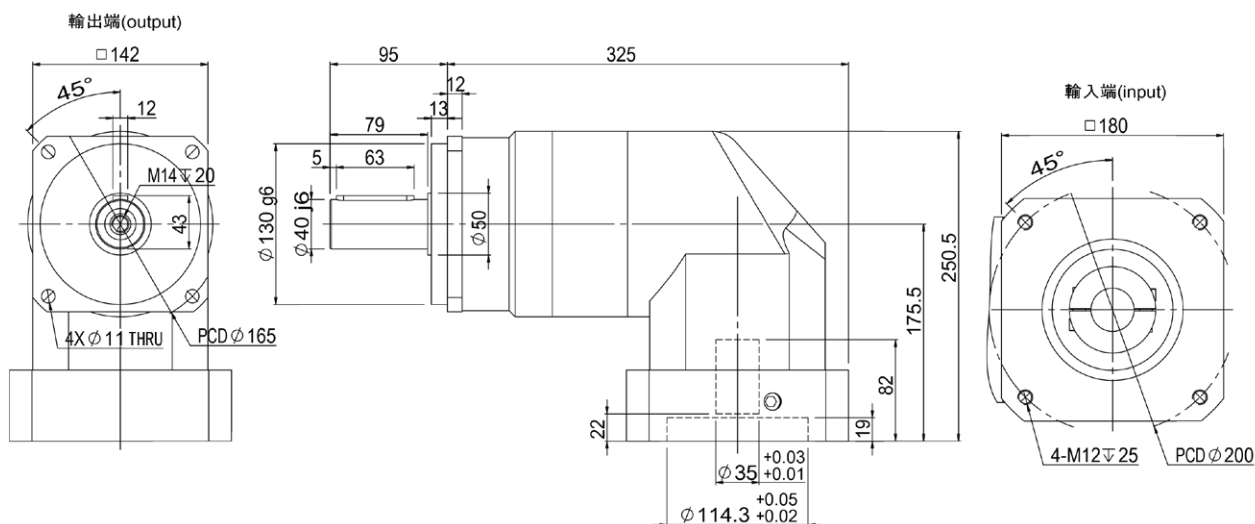
■ GPVR115-L2

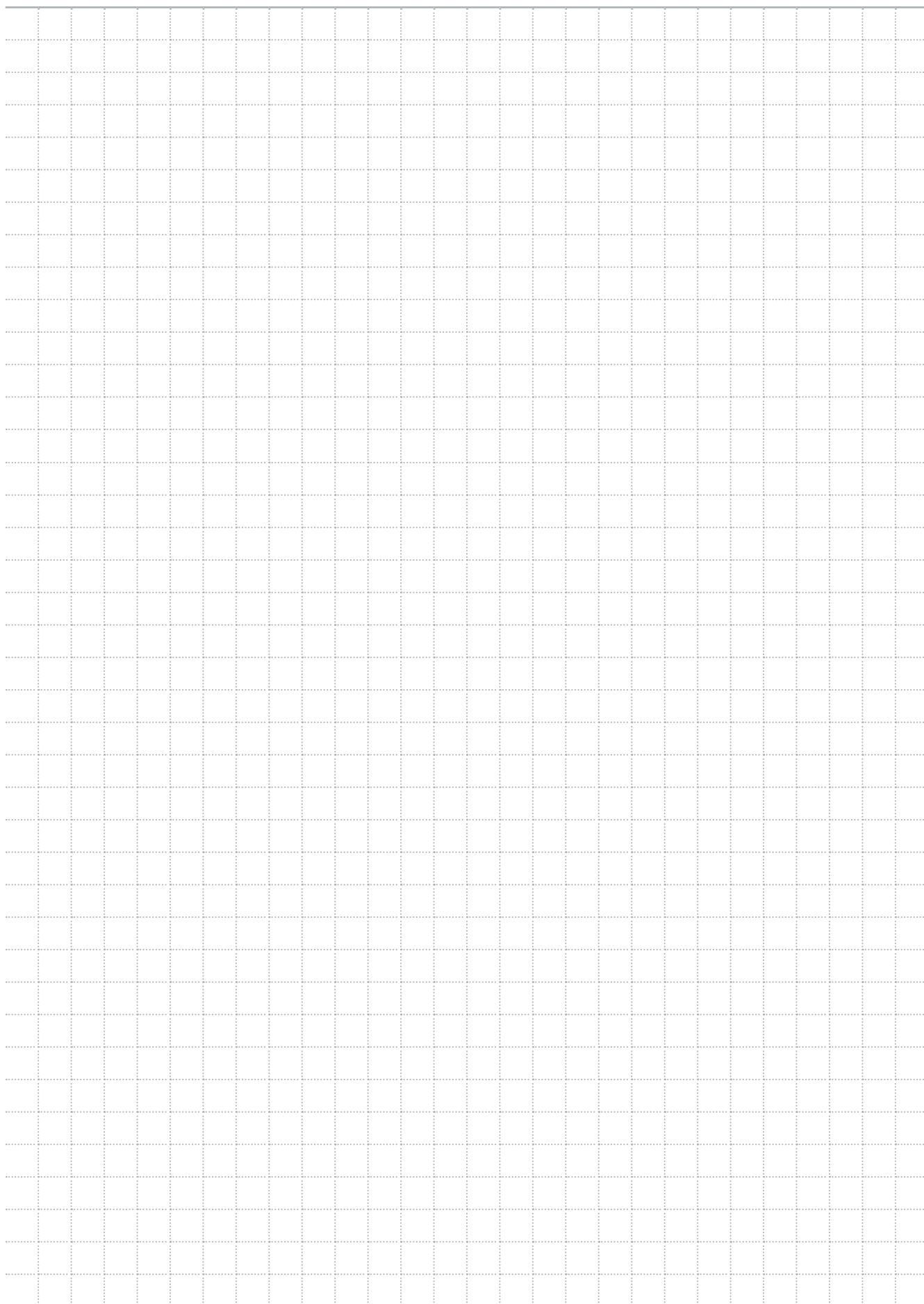


■ GPVR140-L1



■ GPVR140-L2







GPER Series



型號說明 / MODEL

GP ER	090	-	10K	-	($\square$ - $\square$ - $\square$ - $\square$)	-	$\square$
系列代碼 Series	規格 Size		減速比 Ratio		輸入端安裝尺寸 Input mounting size		非標定製 Customization
070			單級 Single (L1)	雙級 Double (L2)	依據馬達連接尺寸確認 According to the motor connection size		依據尺寸圖確認 According to the drawing 空白：標準品 Blank：Standard
090			3K	15K	a 馬達輸出軸直徑 Motor Shaft diameter		
120			4K	25K	b 馬達止口直徑 Motor Spigot diameter		
155			5K	30K	c 馬達安裝孔 PCD Motor Mounting Hole PCD		
			7K	35K	d 馬達安裝螺紋孔 Motor mounting threaded hole		
			10K	40K			
			14K	50K			
			20K	70K			
				80K			
				100K			
				140K			
				200K			

例 Example：(19-70-90-M5)

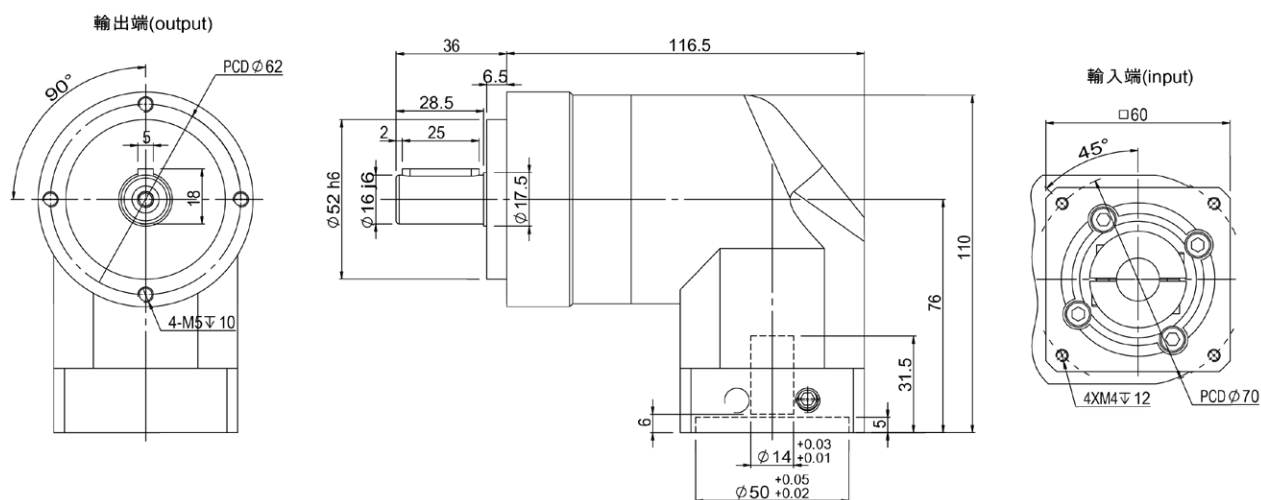
轉動慣量總表 / MOMENT OF INERTIA

規格 specification	級數 stage	減速比 Ratio	GP ER 070	GP ER 090	GP ER 120	GP ER 155
轉動慣量 J1 Moment of inertia J1	1	3K	0.35	2.25	6.84	23.4
		4K	0.35	2.25	6.84	23.4
		5K	0.35	2.25	6.84	23.4
		7K	0.35	2.25	6.84	23.4
		10K	0.35	2.25	6.84	23.4
		14K	0.07	1.87	6.25	21.8
		20K	0.07	1.87	6.25	21.8
	2	15K	0.35	2.25	6.84	23.4
		25K	0.09	0.35	2.25	6.84
		30K	0.09	0.35	2.25	6.84
		35K	0.09	0.35	2.25	6.84
		40K	0.09	0.35	2.25	6.84
		50K	0.09	0.35	2.25	6.84
		70K	0.09	0.35	2.25	6.84
		80K	0.09	0.35	2.25	6.84
		100K	0.09	0.35	2.25	6.84
		140K	0.01	0.31	1.87	6.25
		200K	0.01	0.31	1.87	6.25

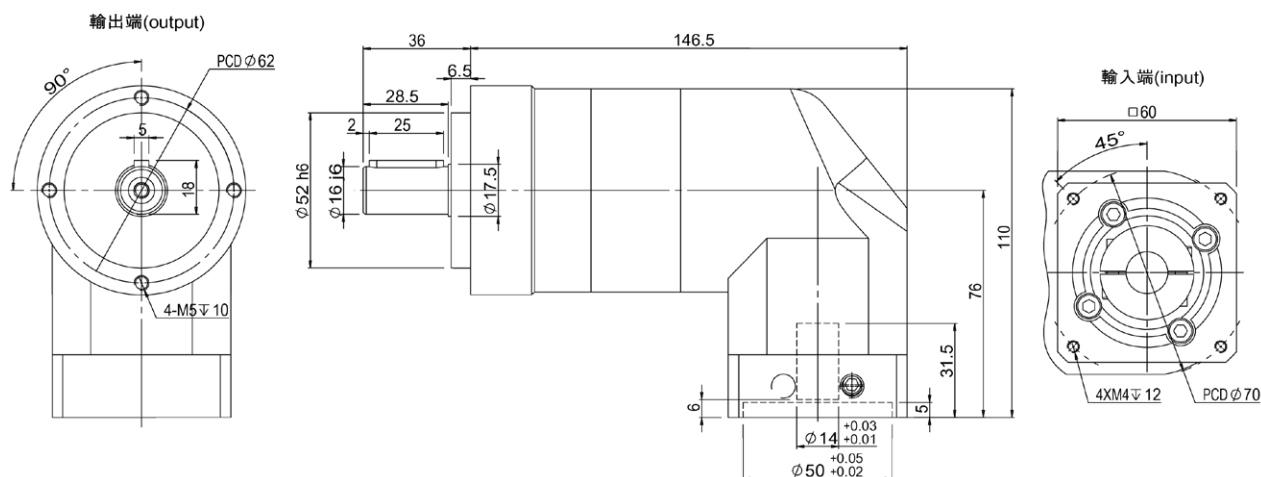
減速機性能資料 / PERFORMANCE

規格 specification		節數 stage	減速比 ratio	GP070	GP090	GP120	GP155
額定輸出力矩 T_{2N} Rated output torque T_{2N}	Nm	1	3K	36	90	195	342
			4K	48	120	260	520
			5K	60	150	325	650
			7K	50	140	300	550
			10K	40	100	230	450
			14K	50	140	300	550
			20K	40	100	230	450
		2	15K	60	150	325	650
			25K	60	150	325	650
			30K	55	150	310	600
			35K	50	140	300	550
			40K	45	120	260	500
			50K	60	100	230	650
			70K	50	140	300	550
			80K	45	120	260	500
			100K	40	100	230	450
			140K	50	140	300	550
			200K	40	100	230	450
急停扭矩 T_{2NOT} Emergency stop torque T_{2NOT}	Nm	1 & 2	3 ~ 200K	3 倍額定輸出力矩 / Triple rated output torque			
額定輸入轉速 n_{1N} Rated input speed n_{1N}	rpm	1 & 2	3 ~ 200K	5000	4000	4000	3000
最大輸入轉速 n_{1B} Max input speed n_{1B}		1 & 2	3 ~ 200K	10000	8000	8000	6000
精密背隙 P1 Precision backlash P1	arcmin	1	3 ~ 20K	≤ 4	≤ 4	≤ 4	≤ 4
		2	15 ~ 200K	≤ 7	≤ 7	≤ 7	≤ 7
標準背隙 P2 Standard backlash P2	arcmin	1	3 ~ 20K	≤ 6	≤ 6	≤ 6	≤ 6
		2	15 ~ 200K	≤ 9	≤ 9	≤ 9	≤ 9
扭轉剛性 Torsional rigidity	Nm/arcmin	1 & 2	3 ~ 200K	7	14	25	50
容許徑向力 F_{2rB} Allowable radial force F_{2rB}	N	1 & 2	3 ~ 200K	1530	3250	6700	9400
容許軸向力 F_{2aB} Allowable axial force F_{2aB}	N	1 & 2	3 ~ 200K	765	1625	3350	4700
使用壽命 Lifespan	Hr	1 & 2	3 ~ 200K	20000			
效率 Efficiency	%	1	3 ~ 20K	≥ 95%			
		2	15 ~ 200K	≥ 92%			
重量 Weight	kg	1	3 ~ 20K	2.1	6.4	13	24.5
		2	15 ~ 200K	1.5	7.8	14.2	27.5
使用溫度 Working temperature	°C	1 & 2	3 ~ 200K	-10°C ~ 90°C			
潤滑 Grease		1 & 2	3 ~ 200K	合成潤滑油脂 / Synthetic lubricating grease			
防護等級 IP Grade		1 & 2	3 ~ 200K	IP65			
安裝方向 Installation direction		1 & 2	3 ~ 200K	任意方向 / Any direction			
噪音值 ($n_1=3000\text{rpm}$, 無負載) Noise Value ($n_1=3000\text{rpm}$, off load)	Db	1 & 2	3 ~ 200K	≤ 63	≤ 65	≤ 68	≤ 70

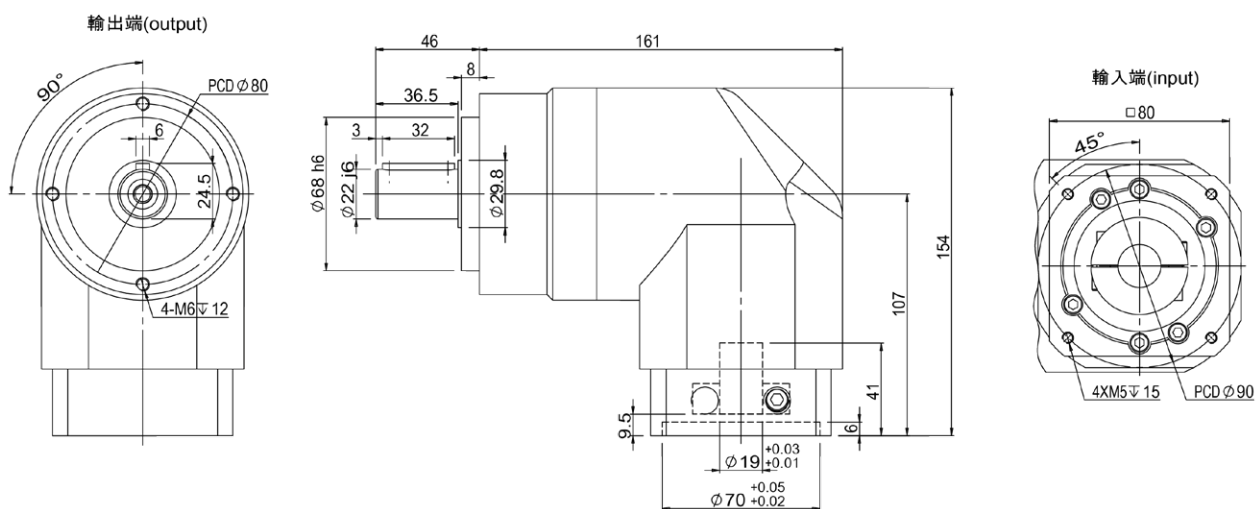
■ GPER070-L1



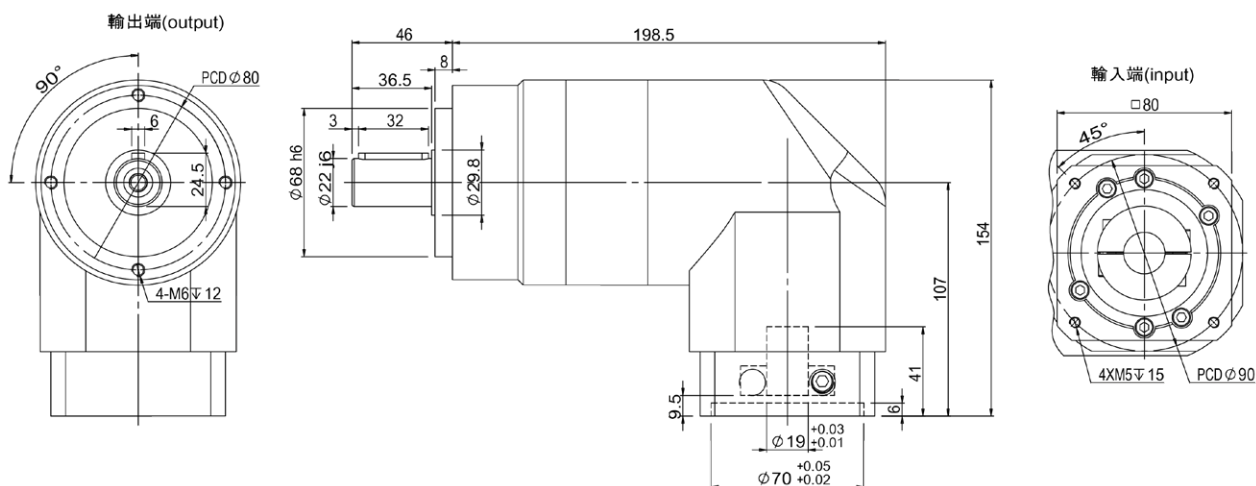
■ GPER070-L2

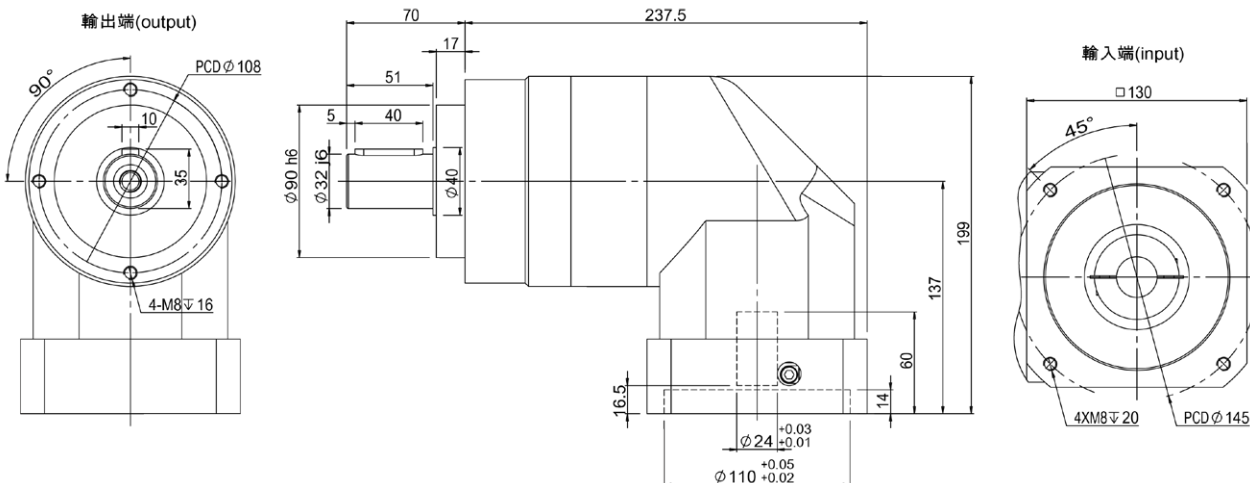
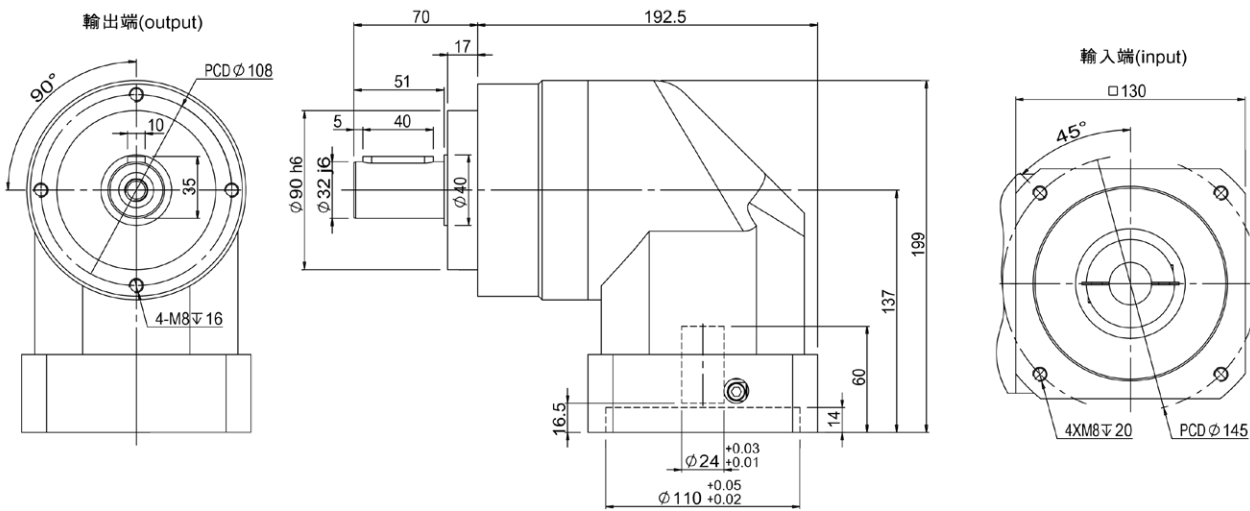


■ GPER090-L1

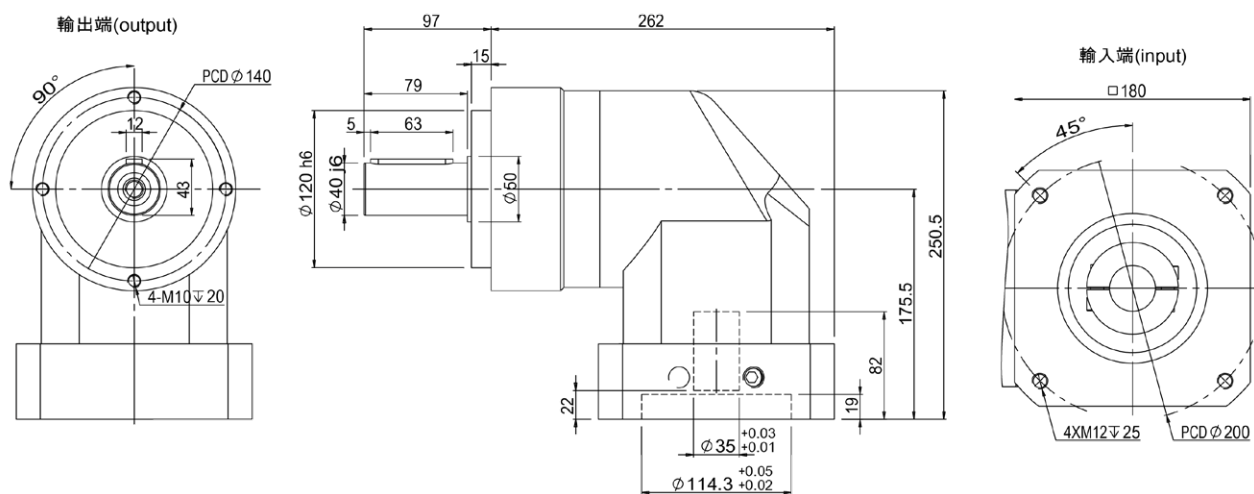


■ GPER090-L2

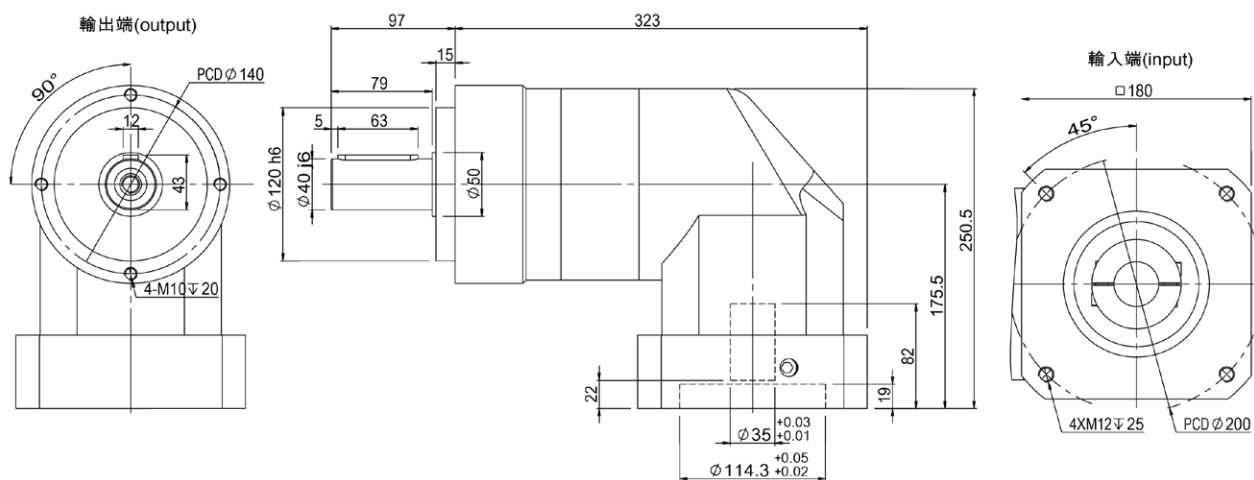


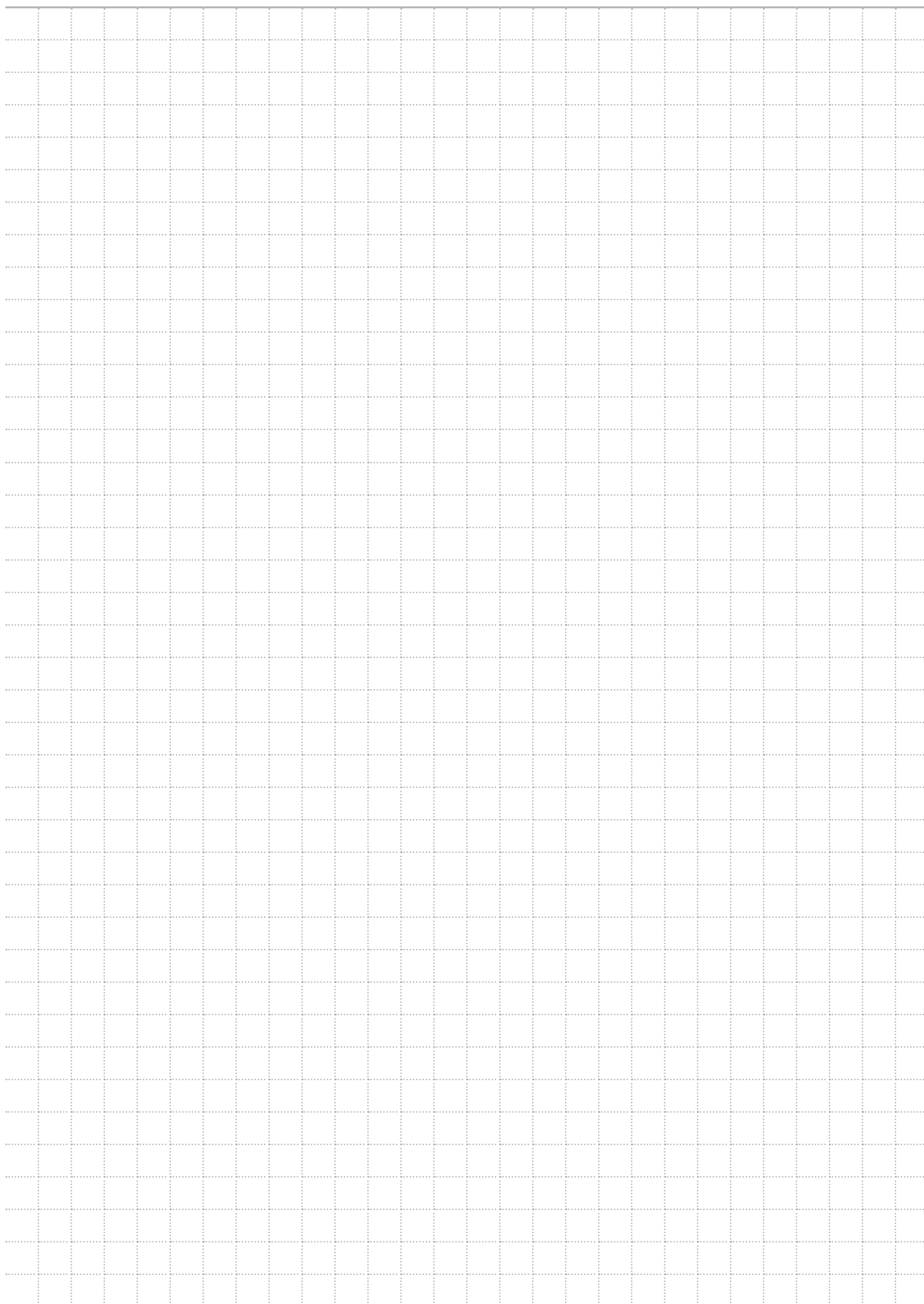


■ GPER155-L1



■ GPER155-L2







GPF Series



型號說明 / MODEL

GPF	090	-	10K	-	(- - -)	-	
系列代碼 Series	規格 Size		減速比 Ratio		輸入端安裝尺寸 Input mounting size		非標定製 Customization
			雙級 Double (L2) 12K 15K 16K 20K 25K 28K 30K 35K 40K 50K 70K 100K		依據馬達連接尺寸確認 According to the motor connection size		依據尺寸圖確認 According to the drawing 空白：標準品 Blank：Standard
	042 060 080 090 120 160	單級 Single (L1) 3K 4K 5K 7K 10K			a 馬達輸出軸直徑 Motor Shaft diameter b 馬達止口直徑 Motor Spigot diameter c 馬達安裝孔 PCD Motor Mounting Hole PCD d 馬達安裝螺紋孔 Motor mounting threaded hole		

例 Example : (19-70-90-M5)

轉動慣量總表 / MOMENT OF INERTIA

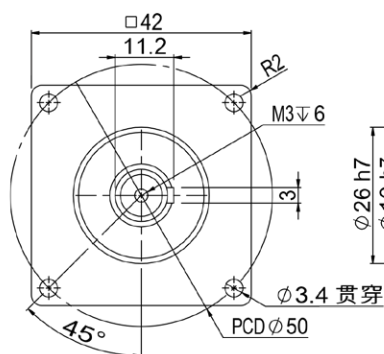
規格 specification	級數 stage	減速比 Ratio	GPF042	GPF060	GPF080	GPF090	GPF120	GPF160
轉動慣量 J1 Moment of inertia J1	1	3K	0.03	0.16	0.61	0.61	3.25	9.21
		4K	0.03	0.14	0.48	0.48	2.74	7.54
		5K	0.03	0.13	0.47	0.47	2.71	7.42
		7K	0.03	0.13	0.45	0.45	2.62	-
		10K	0.03	0.13	0.44	0.44	2.57	-
	2	12K	-	0.03	0.13	0.13	0.47	2.71
		15K	-	0.03	0.13	0.13	0.47	2.71
		16K	-	0.03	0.13	0.13	0.47	2.71
		20K	0.03	0.03	0.13	0.13	0.47	2.71
		25K	0.03	0.03	0.13	0.13	0.47	2.71
		28K	-	0.03	0.13	0.13	0.47	-
		30K	-	0.03	0.13	0.13	0.47	-
		35K	0.03	0.03	0.13	0.13	0.47	-
		40K	0.03	0.03	0.13	0.13	0.47	2.71
		50K	0.03	0.03	0.13	0.13	0.44	-
		70K	0.03	0.03	0.13	0.13	0.44	-
		100K	-	0.03	0.13	0.13	0.44	-

減速機性能資料 / PERFORMANCE

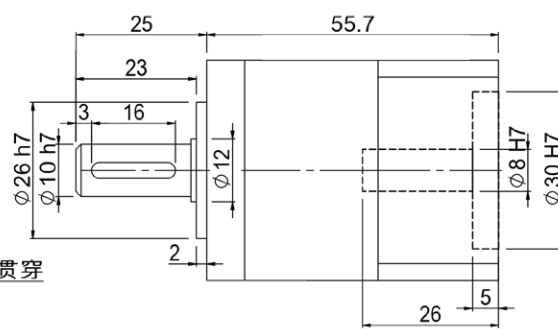
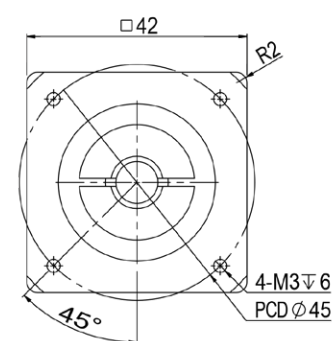
規格 specification		節數 stage	減速比 ratio	GPF042	GPF060	GPF080	GPF090	GPF120	GPF160
額定輸出力矩 T_{2N} Rated output torque T_{2N}	Nm	1	3K	12	15.8	56	60	150	310
			4K	12	25.5	80	88	225	605
			5K	11.2	27.5	85	95	240	420
			7K	9	19.2	60	66	160	-
			10K	7.5	12	36	40	90	-
		2	12K	-	28	36	98	250	680
			15K	-	15.8	56	60	150	460
			16K	-	29.5	88	98	250	680
			20K	12	29.5	88	98	250	680
			25K	11.2	31.5	95	105	270	460
			28K	-	29.5	88	98	250	-
			30K	-	15.8	56	60	150	-
			35K	9	31.5	95	105	270	-
			40K	12	29.5	88	98	250	460
			50K	11.2	31.5	95	105	270	-
			70K	7.5	22.5	68	75	180	-
			100K	-	12	36	40	90	-
最大輸出力矩 Maximum output torque	Nm	1 & 2	3 ~ 100K	2 倍額定輸出力矩 / Double rated output torque					
額定輸入轉速 n_{1N} Rated input speed n_{1N}	rpm	1 & 2	3 ~ 100K	4000	4000	3500	3500	3500	2500
背隙 Backlash	arcmin	1	3 ~ 10K	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10
		2	12 ~ 100K	≤ 12	≤ 12	≤ 12	≤ 12	≤ 12	≤ 12
扭轉剛性 Torsional rigidity	Nm/arcmin	1 & 2	3 ~ 100K	0.7	1.8	4.7	4.85	11	55
容許徑向力 F_{2rB} Allowable radial force F_{2rB}	N	1 & 2	3 ~ 100K	150	220	400	430	1000	4500
容許軸向力 F_{2aB} Allowable axial force F_{2aB}	N	1 & 2	3 ~ 100K	185	240	420	450	1240	4800
使用壽命 Lifespan	Hr	1 & 2	3 ~ 100K	20000					
效率 Efficiency	%	1	3 ~ 10K	≥ 96%					
		2	12 ~ 100K	≥ 94%					
重量 Weight	kg	1	3 ~ 10K	0.5	0.93	2.35	2.35	6	19
		2	12 ~ 100K	0.8	1.15	2.7	2.7	8	24
使用溫度 Working temperature	°C	1 & 2	3 ~ 100K	-10°C ~ 80°C					
潤滑 Grease		1 & 2	3 ~ 100K	合成潤滑油脂 / Synthetic lubricating grease					
防護等級 IP Grade		1 & 2	3 ~ 100K	IP65					
安裝方向 Installation direction		1 & 2	3 ~ 100K	任意方向 / Any direction					
噪音值 ($n_1=3000\text{rpm}$, 無負載) Noise Value ($n_1=3000\text{rpm}$, off load)	Db	1 & 2	3 ~ 100K	≤ 58	≤ 61	≤ 63	≤ 63	≤ 68	≤ 75

■ GPF042-L1

輸出端(output)

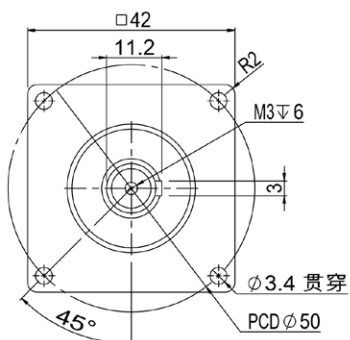


輸入端(input)

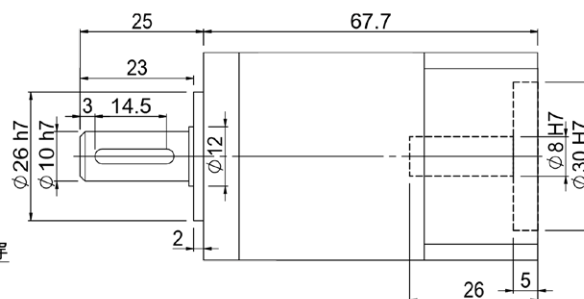
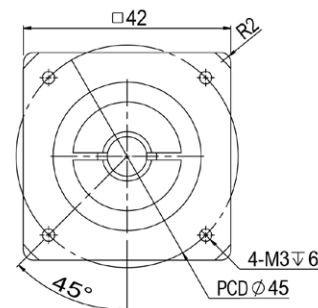


■ GPF042-L2

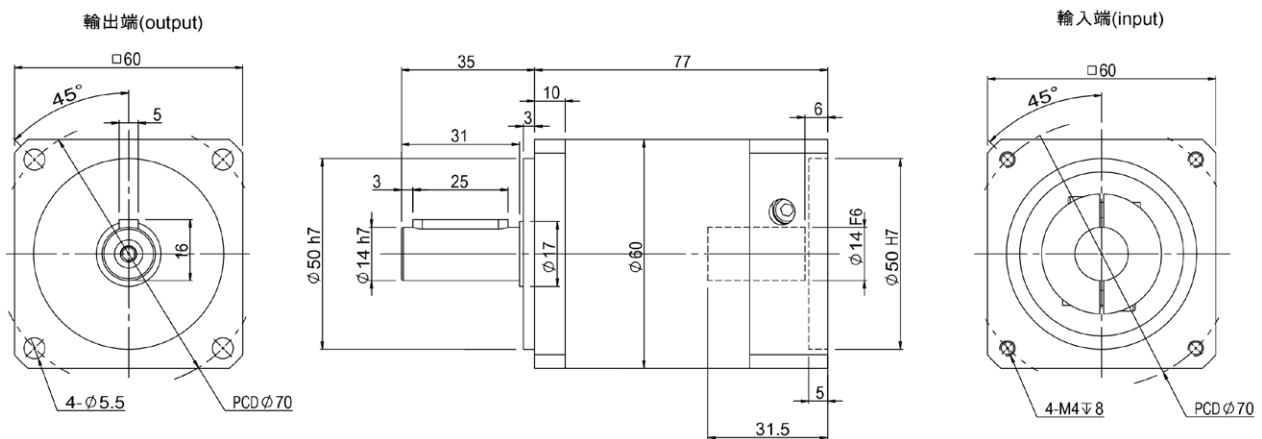
輸出端(output)



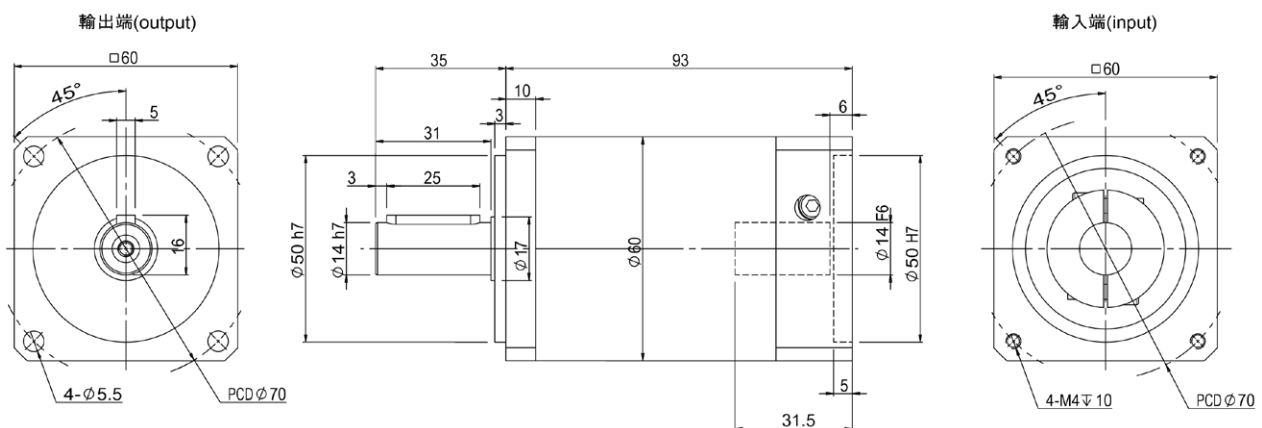
輸入端(input)



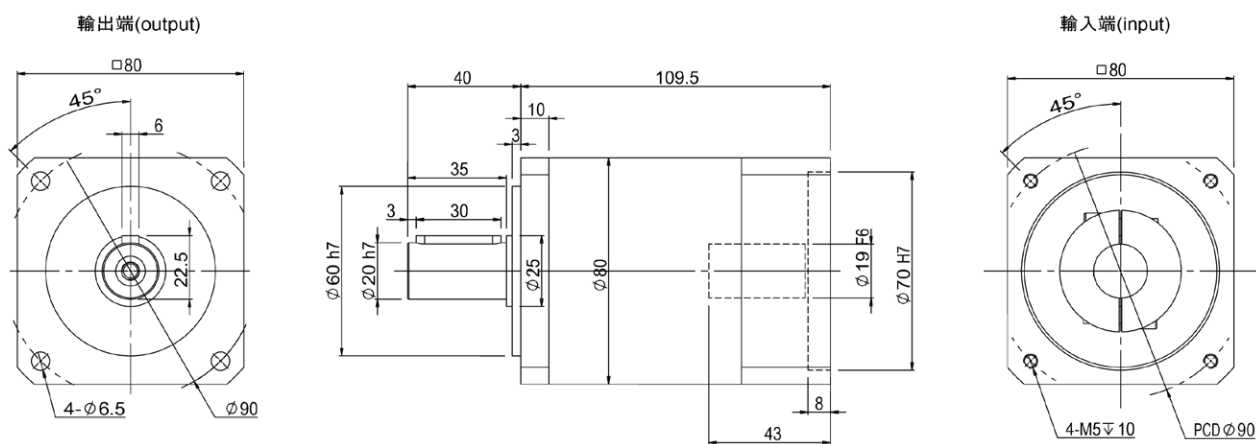
■ GPF060-L1



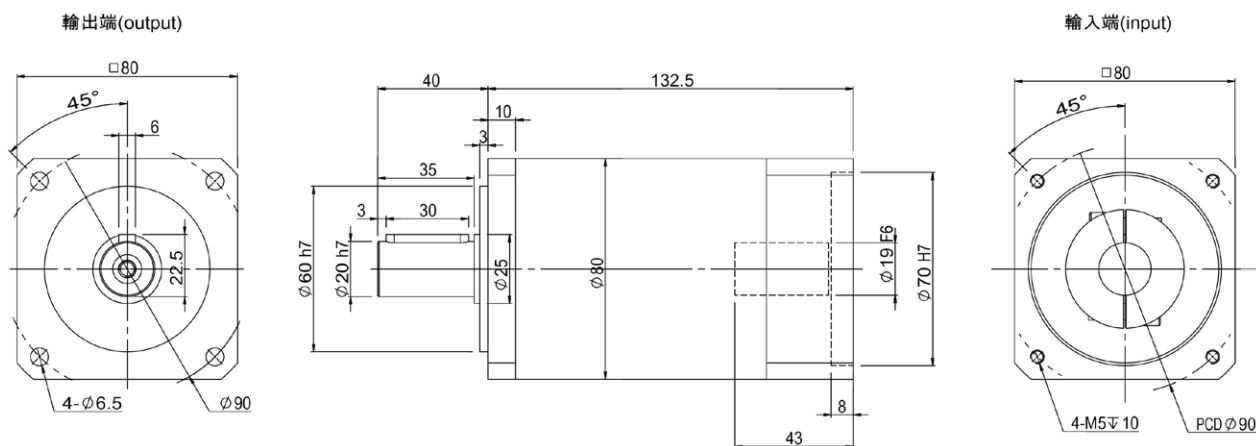
■ GPF060-L2



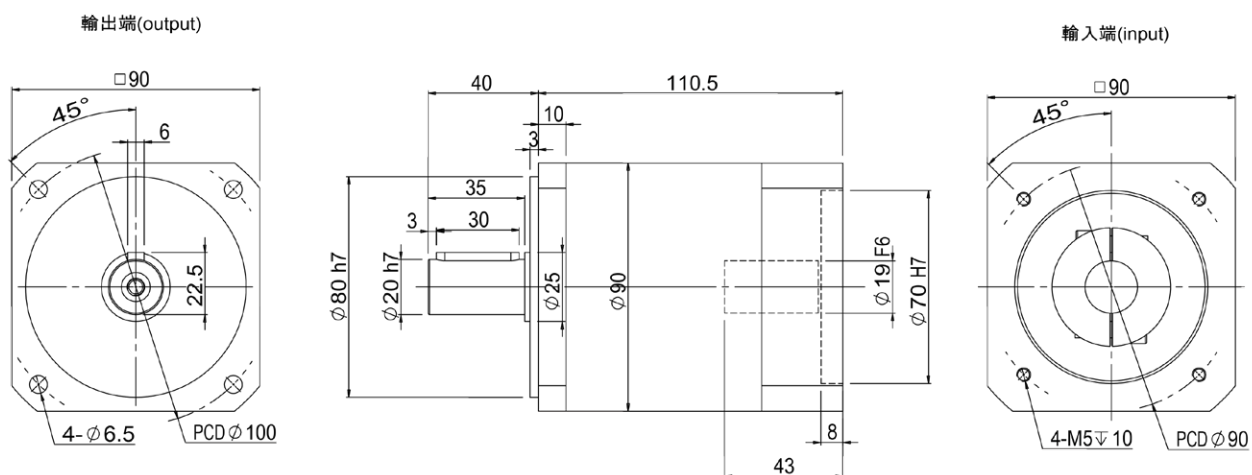
■ GPF080-L1



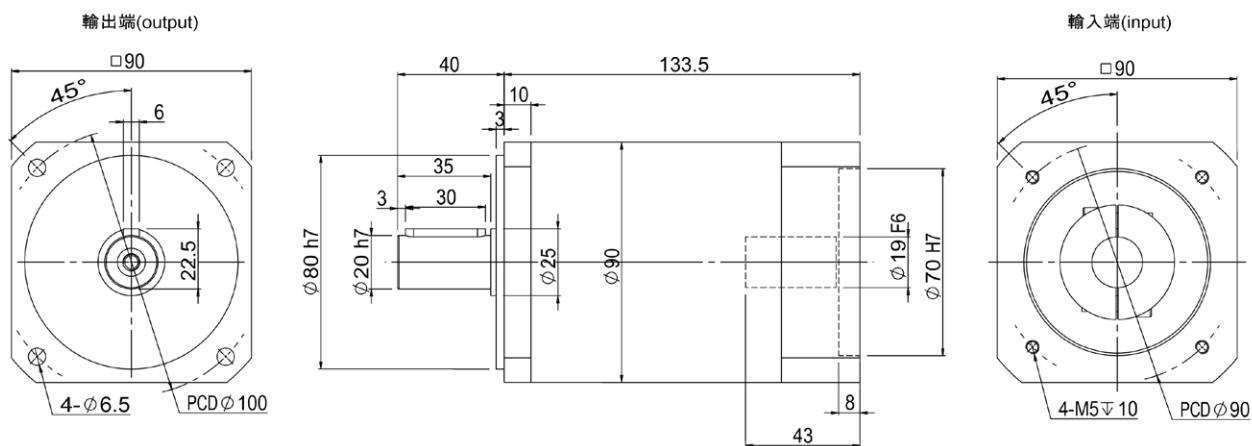
■ GPF080-L2



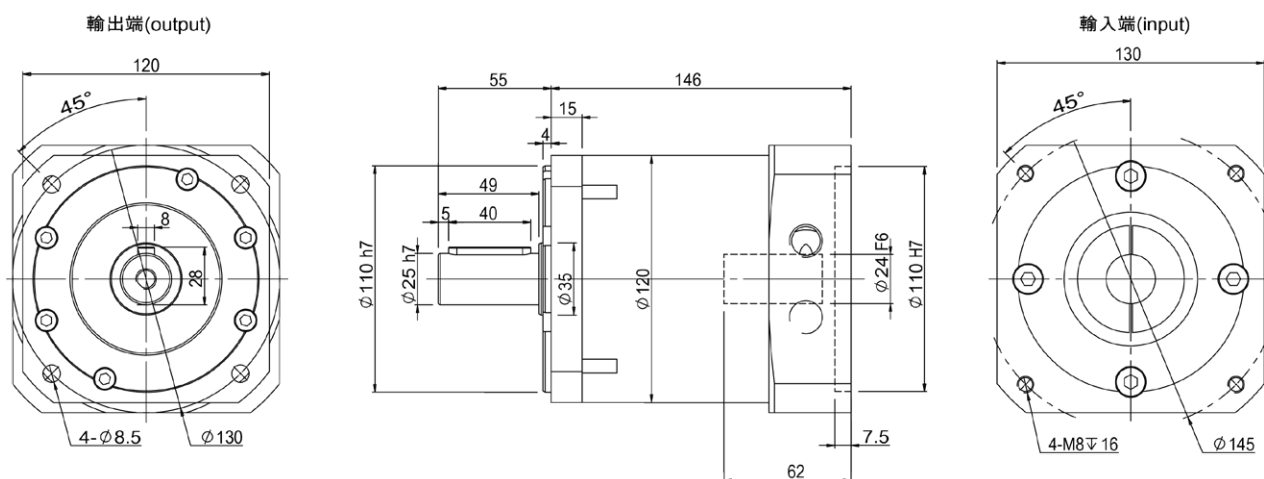
■ GPF090-L1



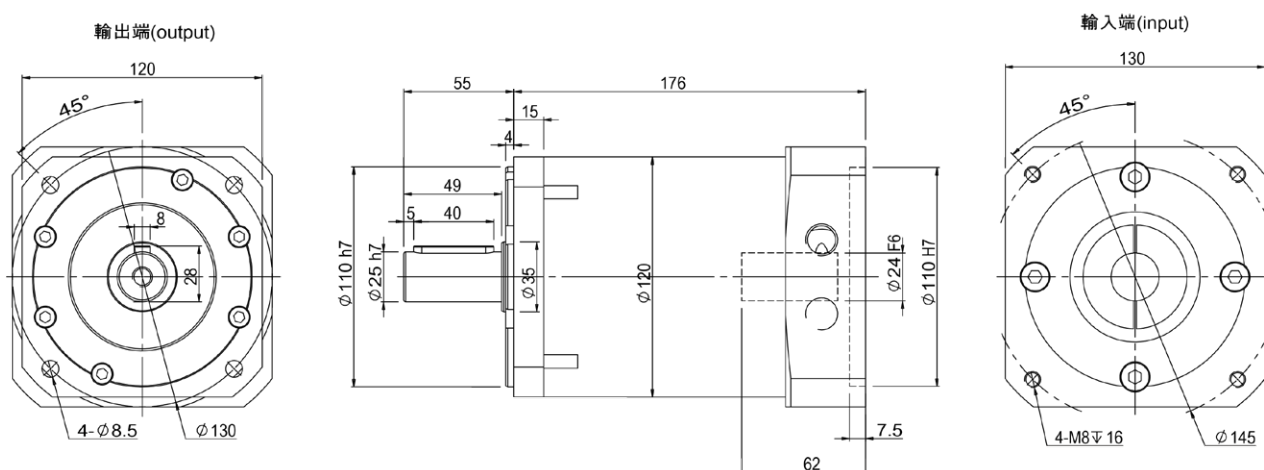
■ GPF090-L2



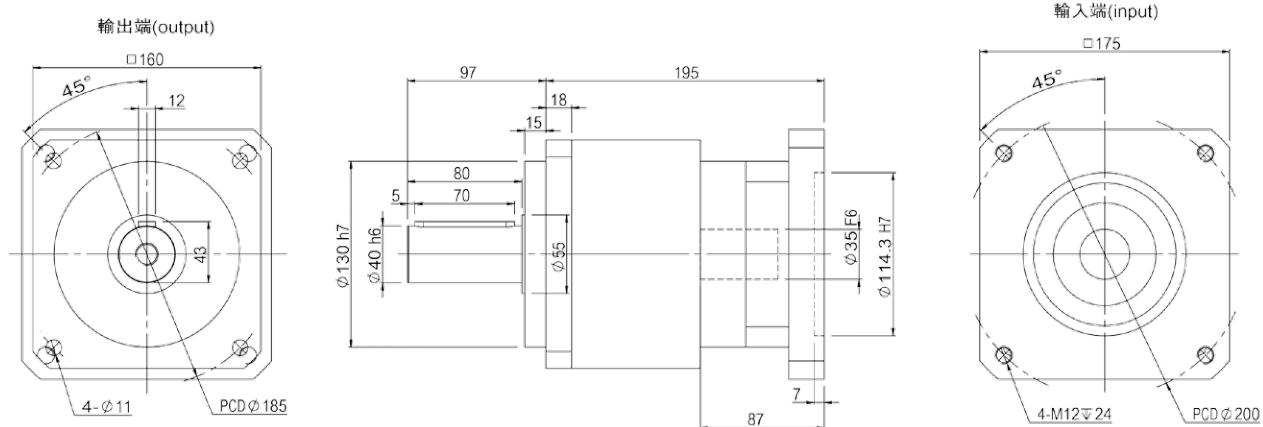
■ GPF120-L1



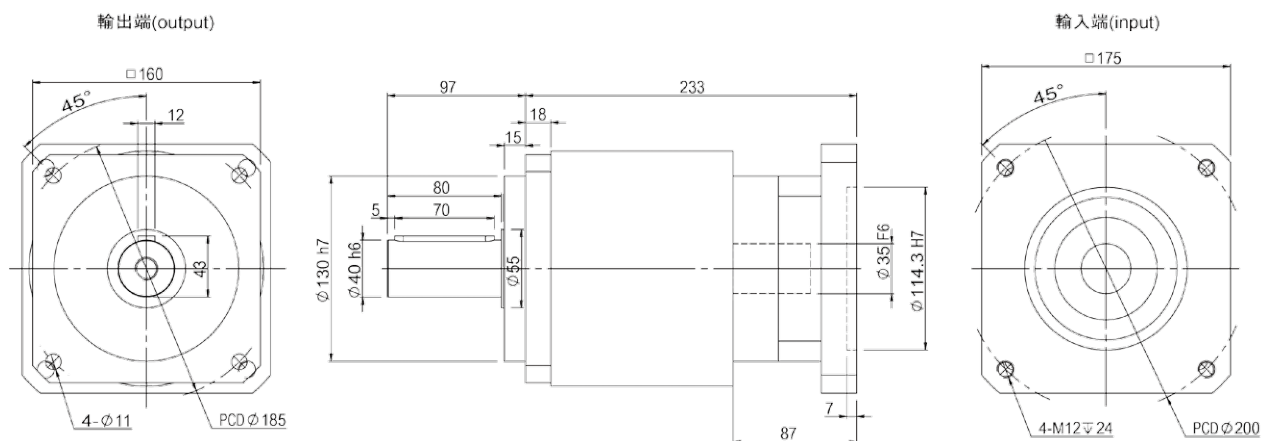
■ GPF120-L2

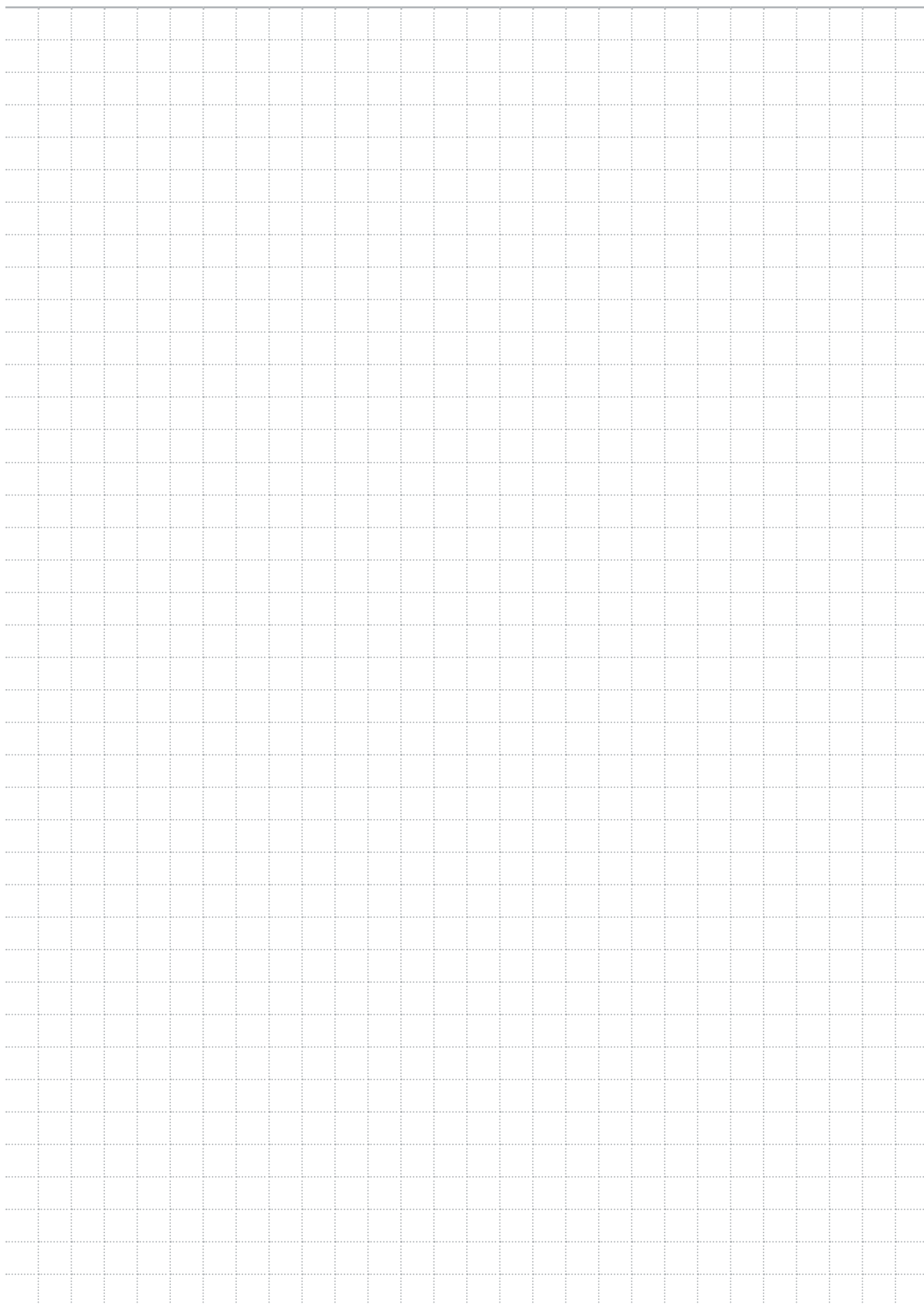


■ GPF160-L1



■ GPF160-L2







GPL Series



型號說明 / MODEL

GPL	090	-	10K	-	(- - -)	-	
系列代碼 Series	規格 Size		減速比 Ratio		輸入端安裝尺寸 Input mounting size		非標定製 Customization
			雙級 Double (L2) 12K 15K 16K 20K 25K 28K 30K 35K 40K 50K 70K 100K				
			單級 Single (L1) 3K 4K 5K 7K 10K				
	042 060 080 090 120 160						
					依據馬達連接尺寸確認 According to the motor connection size		
					a 馬達輸出軸直徑 Motor Shaft diameter		
					b 馬達止口直徑 Motor Spigot diameter		
					c 馬達安裝孔 PCD Motor Mounting Hole PCD		
					d 馬達安裝螺紋孔 Motor mounting threaded hole		
					例 Example : (19-70-90-M5)		
							依據尺寸圖確認 According to the drawing 空白 : 標準品 Blank : Standard

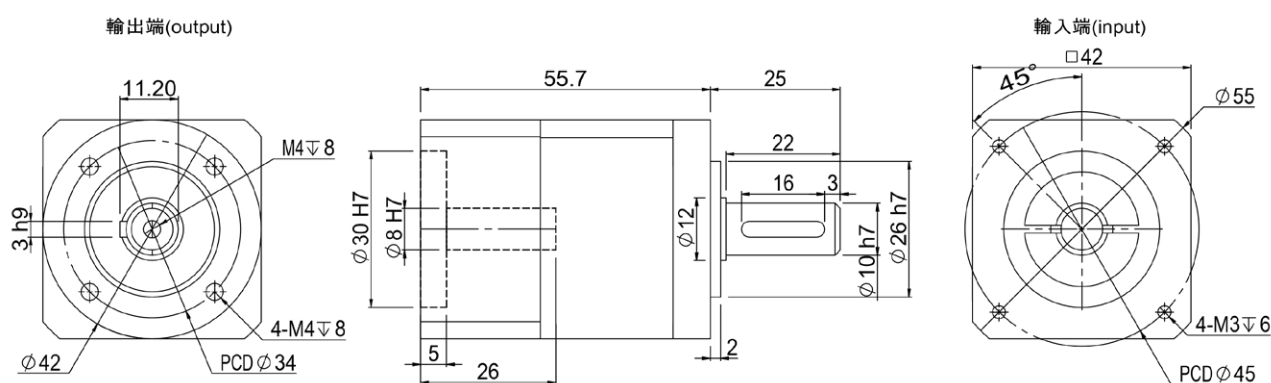
轉動慣量總表 / MOMENT OF INERTIA

規格 specification	級數 stage	減速比 Ratio	GPL042	GPL060	GPL080	GPL090	GPL120	GPL160
轉動慣量 J1 Moment of inertia J1	1	3K	0.03	0.16	0.61	0.61	3.25	9.21
		4K	0.03	0.14	0.48	0.48	2.74	7.54
		5K	0.03	0.13	0.47	0.47	2.71	7.42
		7K	0.03	0.13	0.45	0.45	2.62	7.14
		10K	0.03	0.13	0.44	0.44	2.57	7.03
	2	12K	-	0.03	0.13	0.13	0.47	2.71
		15K	-	0.03	0.13	0.13	0.47	2.71
		16K	-	0.03	0.13	0.13	0.47	2.71
		20K	0.03	0.03	0.13	0.13	0.47	2.71
		25K	0.03	0.03	0.13	0.13	0.47	2.71
		28K	-	0.03	0.13	0.13	0.47	2.71
		30K	-	0.03	0.13	0.13	0.47	2.71
		35K	0.03	0.03	0.13	0.13	0.47	2.71
		40K	0.03	0.03	0.13	0.13	0.47	2.71
		50K	0.03	0.03	0.13	0.13	0.44	2.57
		70K	0.03	0.03	0.13	0.13	0.44	2.57
		100K	-	0.03	0.13	0.13	0.44	2.57

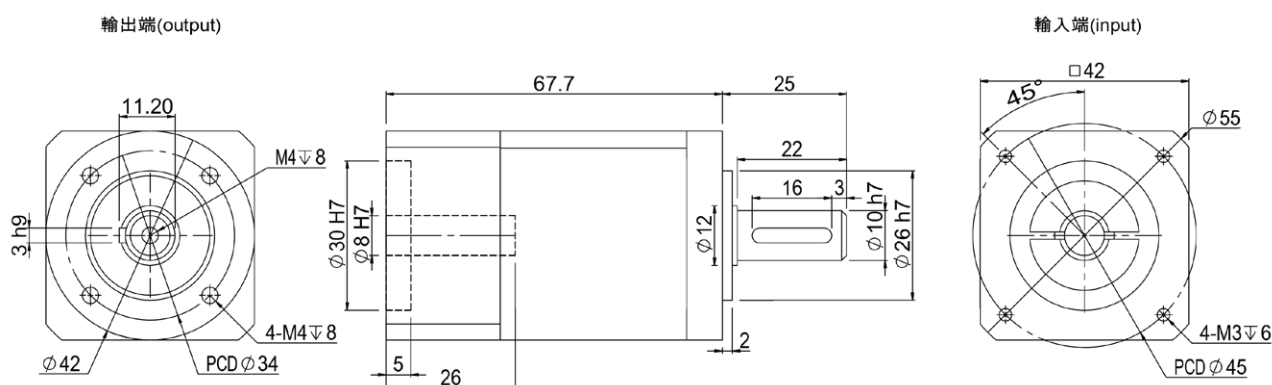
減速機性能資料 / PERFORMANCE

規格 specification		節數 stage	減速比 ratio	GPL042	GPL060	GPL080	GPL090	GPL120	GPL160
額定輸出力矩 T_{2N} Rated output torque T_{2N}	Nm	1	3K	12	15.8	56	60	150	290
			4K	12	25.5	80	88	225	460
			5K	11.2	27.5	85	95	240	550
			7K	9	19.2	60	66	160	340
			10K	7.5	12	36	40	90	210
		2	12K	-	28	36	98	250	230
			15K	-	15.8	56	60	150	550
			16K	-	29.5	88	98	250	460
			20K	12	29.5	88	98	250	550
			25K	11.2	31.5	95	105	270	550
			28K	-	29.5	88	98	250	460
			30K	-	15.8	56	60	150	290
			35K	9	31.5	95	105	270	550
			40K	12	29.5	88	98	250	460
			50K	11.2	31.5	95	105	270	550
			70K	7.5	22.5	68	75	180	340
			100K	-	12	36	40	90	210
最大輸出力矩 Maximum output torque	Nm	1 & 2	3 ~ 100K	2 倍額定輸出力矩 / Double rated output torque					
額定輸入轉速 n_{1N} Rated input speed n_{1N}	rpm	1 & 2	3 ~ 100K	4000	4000	3500	3500	3500	2500
背隙 Backlash	arcmin	1	3 ~ 10K	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10
		2	12 ~ 100K	≤ 12	≤ 12	≤ 12	≤ 12	≤ 12	≤ 12
扭轉剛性 Torsional rigidity	Nm/arcmin	1 & 2	3 ~ 100K	0.7	1.8	4.7	4.85	11	55
容許徑向力 F_{2rB} Allowable radial force F_{2rB}	N	1 & 2	3 ~ 100K	150	220	400	430	1000	4500
容許軸向力 F_{2aB} Allowable axial force F_{2aB}	N	1 & 2	3 ~ 100K	185	240	420	450	1240	4800
使用壽命 Lifespan	Hr	1 & 2	3 ~ 100K	20000					
效率 Efficiency	%	1	3 ~ 10K	≥ 96%					
		2	12 ~ 100K	≥ 94%					
重量 Weight	kg	1	3 ~ 10K	0.5	0.93	2.35	2.35	6	19
		2	12 ~ 100K	0.8	1.15	2.7	2.7	8	24
使用溫度 Working temperature	°C	1 & 2	3 ~ 100K	-10°C ~ 80°C					
潤滑 Grease		1 & 2	3 ~ 100K	合成潤滑油脂 / Synthetic lubricating grease					
防護等級 IP Grade		1 & 2	3 ~ 100K	IP65					
安裝方向 Installation direction		1 & 2	3 ~ 100K	任意方向 / Any direction					
噪音值 ($n_1=3000\text{rpm}$, 無負載) Noise Value ($n_1=3000\text{rpm}$, off load)	Db	1 & 2	3 ~ 100K	≤ 58	≤ 61	≤ 63	≤ 63	≤ 68	≤ 75

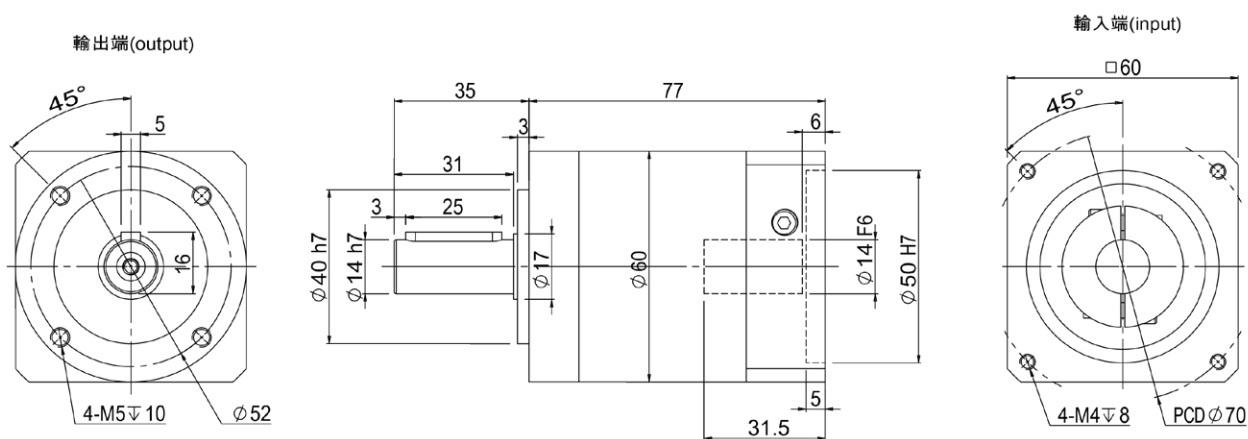
■ GPL042-L1



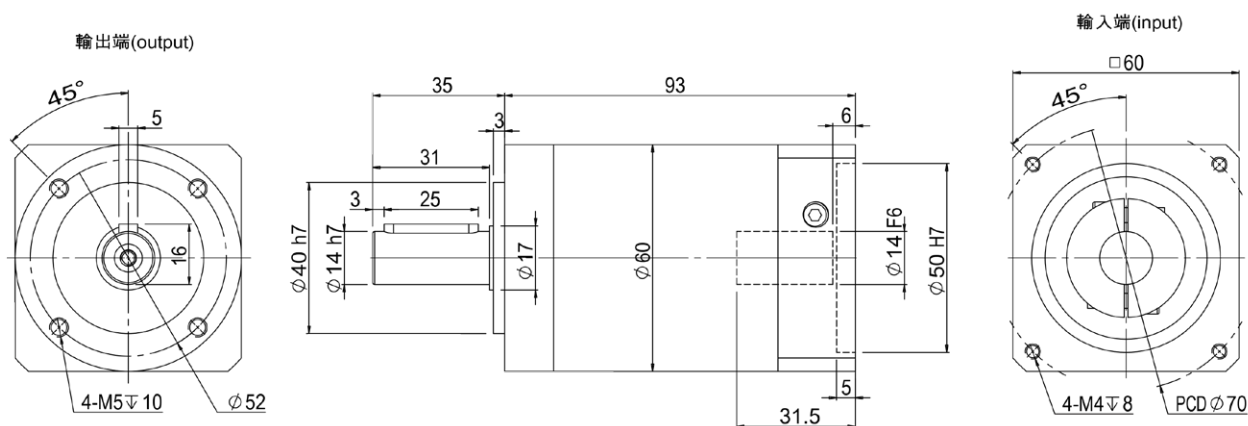
■ GPL042-L2



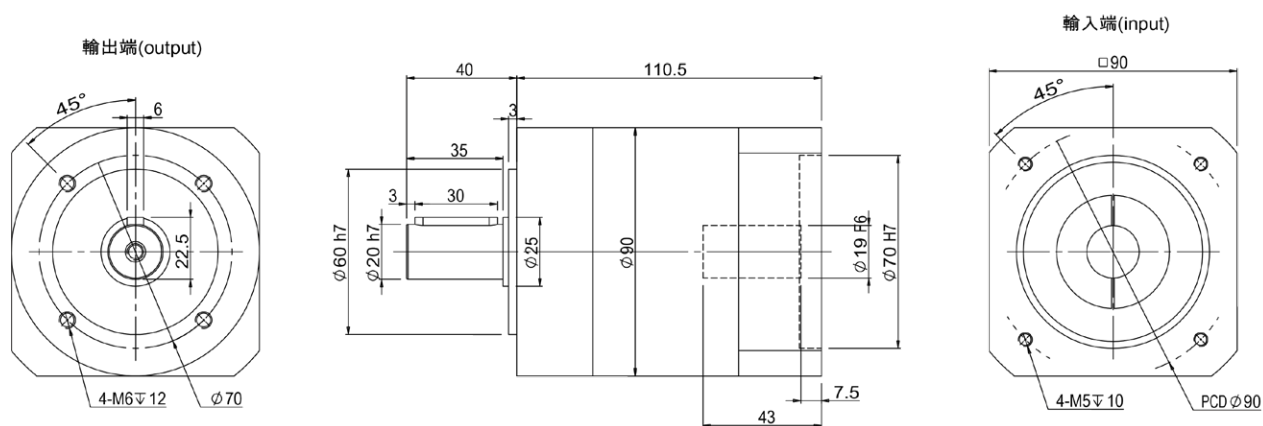
■ GPL060-L1



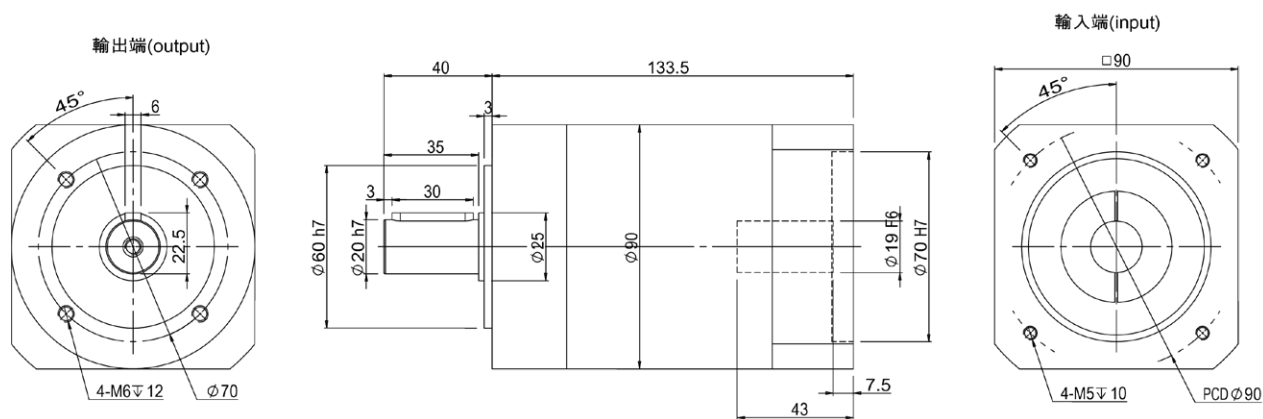
■ GPL060-L2



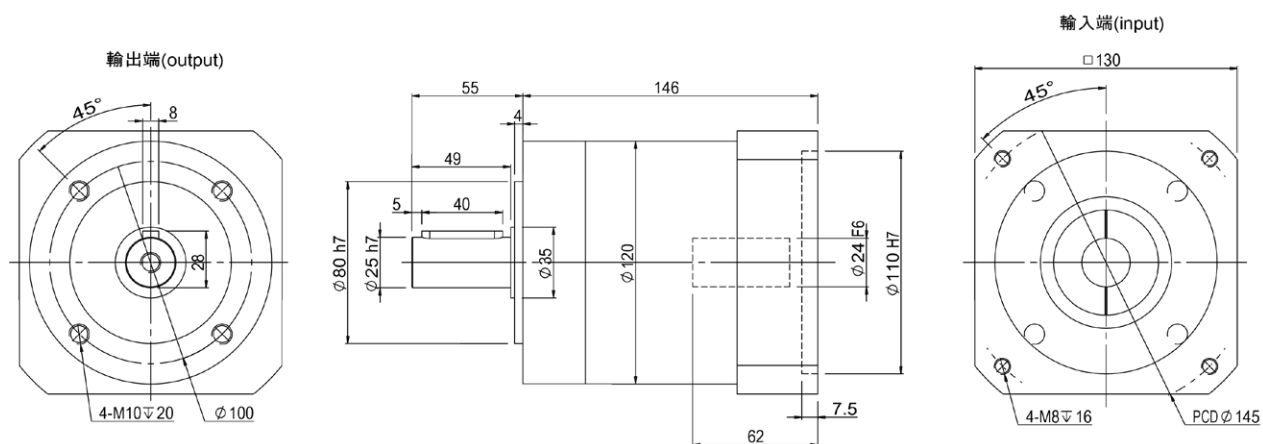
■ GPL090-L1



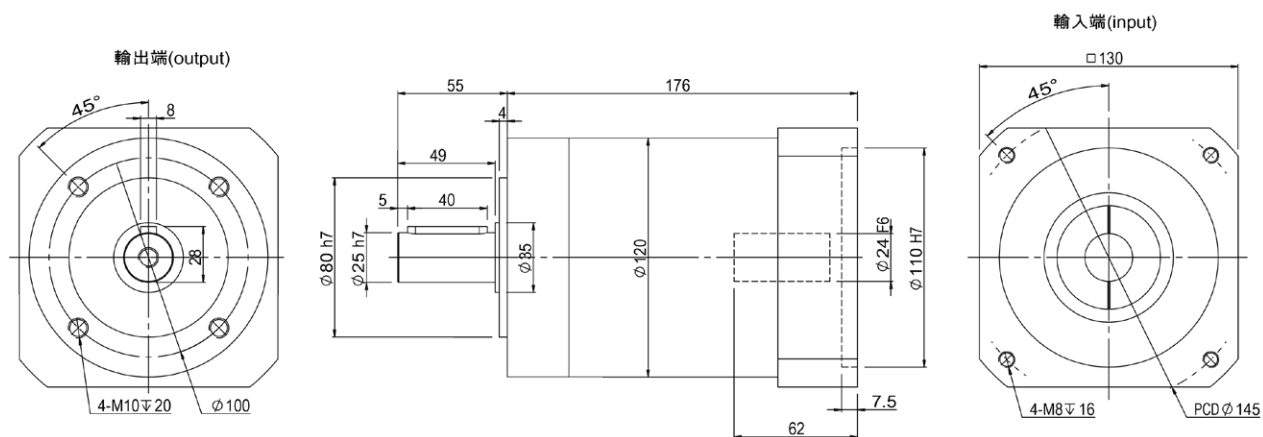
■ GPL090-L2



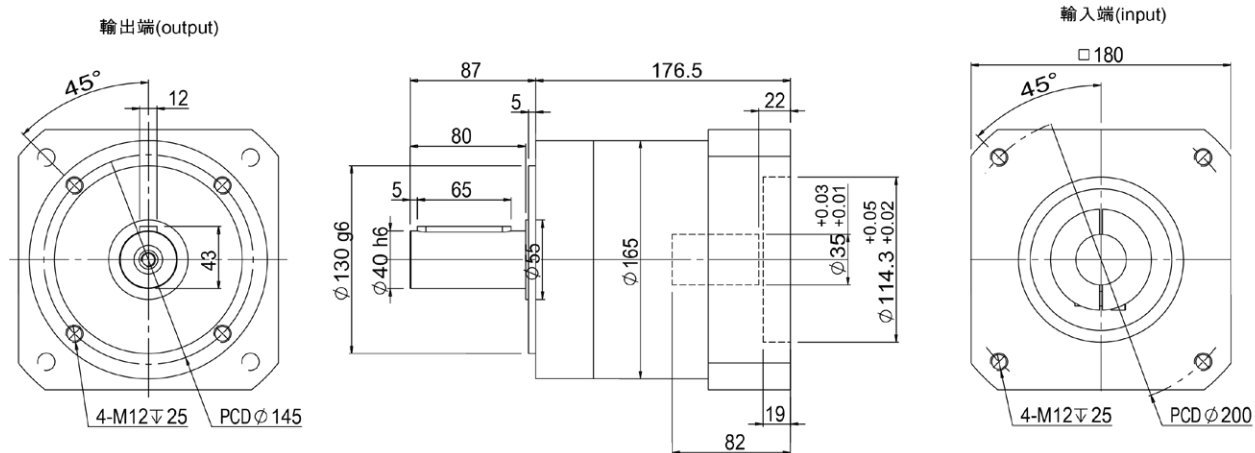
■ GPL120-L1



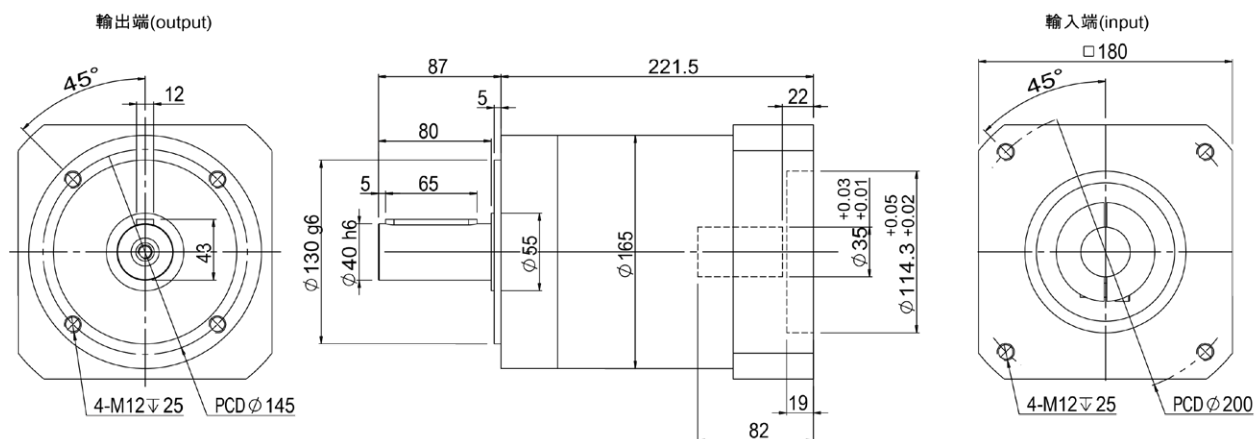
■ GPL120-L2

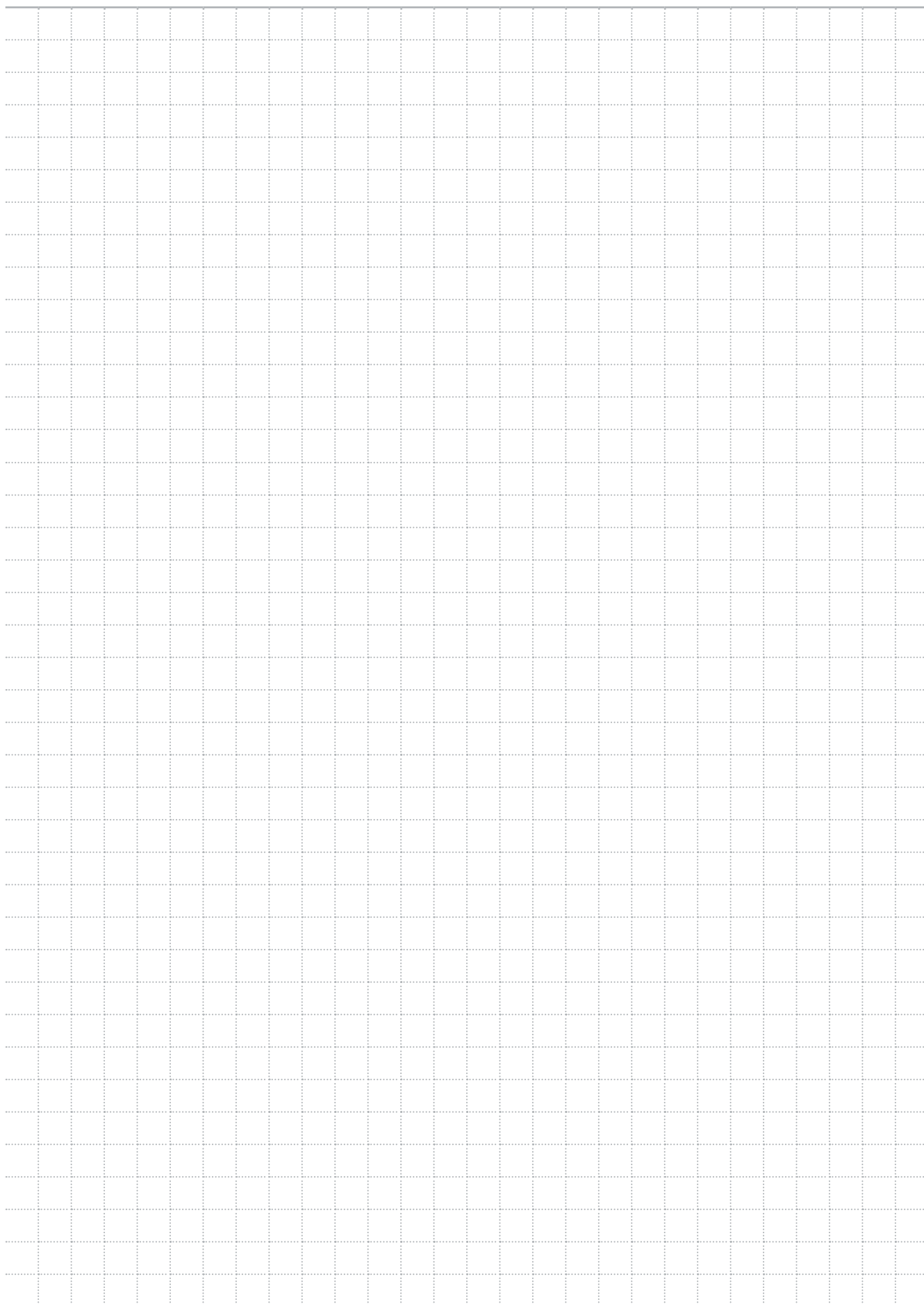


■ GPL160-L1



■ GPL160-L2







GPFR Series



型號說明 / MODEL

GPFR	090	-	10K	-	(- - -)	-	
系列代碼 Series	規格 Size		減速比 Ratio		輸入端安裝尺寸 Input mounting size		非標定製 Customization
			雙級 Double (L2)				
			單級 Single (L1)				
			3K	40K			
			4K	50K			
			5K	70K			
			7K	80K			
			10K	100K			
			14K	140K			
			20K	200K			
060							
090							
120							
160							

依據馬達連接尺寸確認
According to the motor connection size

a	馬達輸出軸直徑 Motor Shaft diameter
b	馬達止口直徑 Motor Spigot diameter
c	馬達安裝孔 PCD Motor Mounting Hole PCD
d	馬達安裝螺紋孔 Motor mounting threaded hole

例 Example : (19-70-90-M5)

依據尺寸圖確認
According to the drawing
空白 : 標準品
Blank : Standard

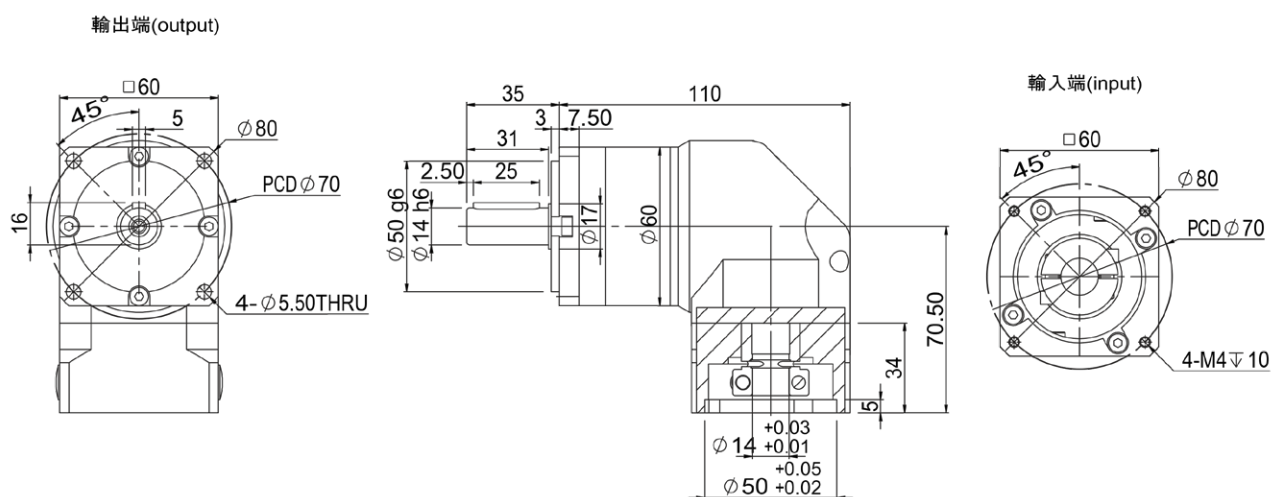
轉動慣量總表 / MOMENT OF INERTIA

規格 specification	級數 stage	減速比 Ratio	GPFR060	GPFR090	GPFR120	GPFR160
轉動慣量 J1 Moment of inertia J1	1	3K	0.135	0.75	2.5	5.8
		4K	0.135	0.75	2.5	5.8
		5K	0.135	0.75	2.5	5.8
		7K	0.135	0.75	2.5	5.8
		10K	0.135	0.75	2.5	5.8
		14K	0.09	0.45	1.3	1.9
		20K	0.09	0.39	1.2	2.73
	2	15K	0.09	0.45	2.4	3.3
		25K	0.035	0.2	1.4	2.3
		30K	0.035	0.2	1.4	2.3
		35K	0.035	0.2	1.4	2.3
		40K	0.035	0.2	1.4	2.3
		50K	0.035	0.2	1.4	2.3
		70K	0.035	0.2	1.4	2.3
		80K	0.035	0.2	1.4	2.3
		100K	0.035	0.2	1.4	2.3
		140K	0.035	0.18	1.3	2.1
		200K	0.035	0.18	1.3	2.1

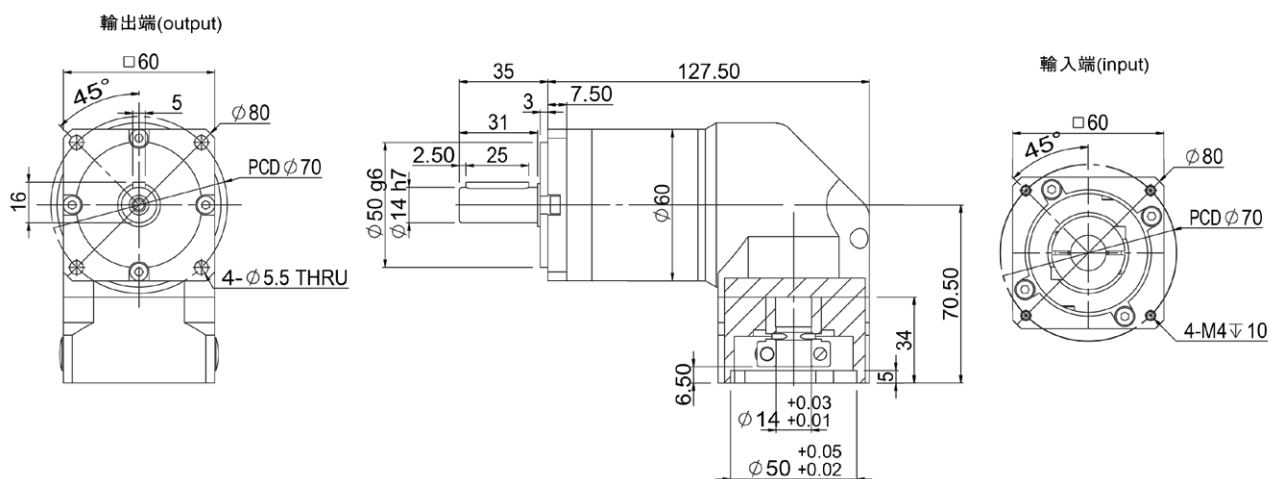
減速機性能資料 / PERFORMANCE

規格 specification		節數 stage	減速比 ratio	GPFR060	GPFR090	GPFR120	GPFR160
額定輸出力矩 T_{2N} Rated output torque T_{2N}	Nm	1	3K	18	40	125	290
			4K	36	90	230	460
			5K	40	110	260	550
			7K	20	40	90	340
			10K	12	22	70	210
			14K	20	40	90	340
			20K	12	22	70	210
		2	15K	36	90	125	550
			25K	36	90	260	550
			30K	36	90	125	290
			35K	36	90	260	550
			40K	36	90	230	460
			50K	36	90	260	550
			70K	36	90	230	340
			80K	36	90	230	460
			100K	36	90	230	550
			140K	22	55	125	340
			200K	12	22	70	210
最大輸出力矩 Maximum output torque	Nm	1 & 2	3 ~ 200K	2 倍額定輸出力矩 / Double rated output torque			
額定輸入轉速 n_{1N} Rated input speed n_{1N}	rpm	1 & 2	3 ~ 200K	4000	3500	3500	2500
背隙 Backlash	arcmin	1	3 ~ 20K	≤ 10	≤ 10	≤ 10	≤ 10
		2	15 ~ 200K	≤ 12	≤ 12	≤ 12	≤ 12
扭轉剛性 Torsional rigidity	Nm/arcmin	1 & 2	3 ~ 200K	1.8	4.7	11	55
容許徑向力 F_{2rB} Allowable radial force F_{2rB}	N	1 & 2	3 ~ 200K	220	400	1000	4500
容許軸向力 F_{2aB} Allowable axial force F_{2aB}	N	1 & 2	3 ~ 200K	240	420	1240	4800
使用壽命 Lifespan	Hr	1 & 2	3 ~ 200K	10000			
效率 Efficiency	%	1	3 ~ 20K	≥ 96%			
		2	15 ~ 200K	≥ 93%			
重量 Weight	kg	1	3 ~ 20K	1.7	4.4	12	26.5
		2	15 ~ 200K	1.9	5	14	29.6
使用溫度 Working temperature	°C	1 & 2	3 ~ 200K	-10°C ~ 80°C			
潤滑 Grease		1 & 2	3 ~ 200K	合成潤滑油脂 / Synthetic lubricating grease			
防護等級 IP Grade		1 & 2	3 ~ 200K	IP65			
安裝方向 Installation direction		1 & 2	3 ~ 200K	任意方向 Any direction			
噪音值 ($n_1=3000\text{rpm}$, 無負載) Noise Value ($n_1=3000\text{rpm}$, off load)	Db	1 & 2	3 ~ 200K	≤ 61	≤ 63	≤ 68	≤ 75

■ GPFR060-L1

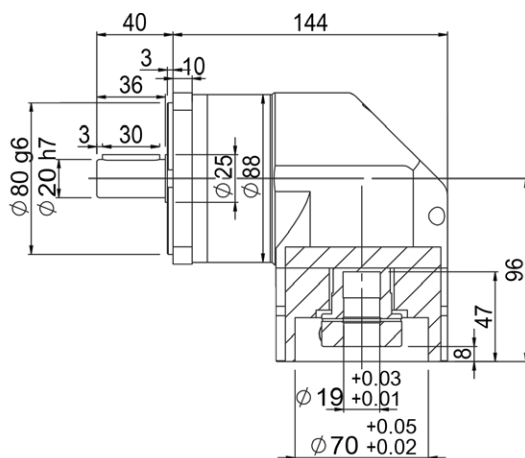
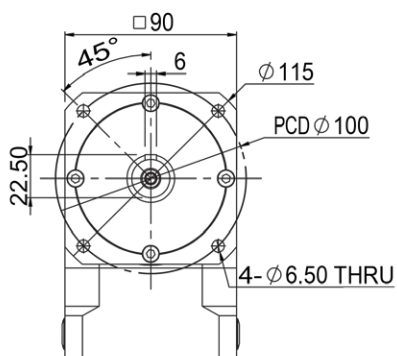


■ GPFR060-L2

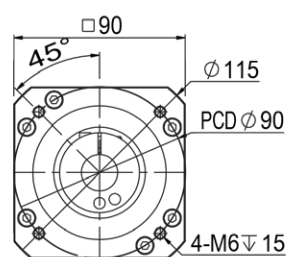


■ GPFR090-L1

輸出端(output)

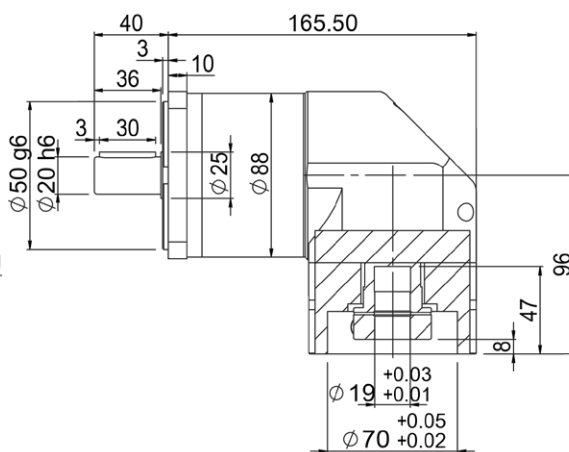
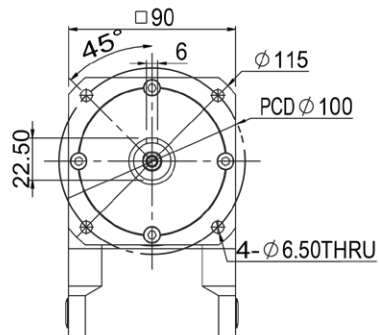


輸入端(input)

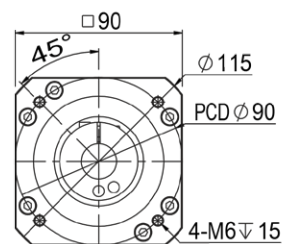


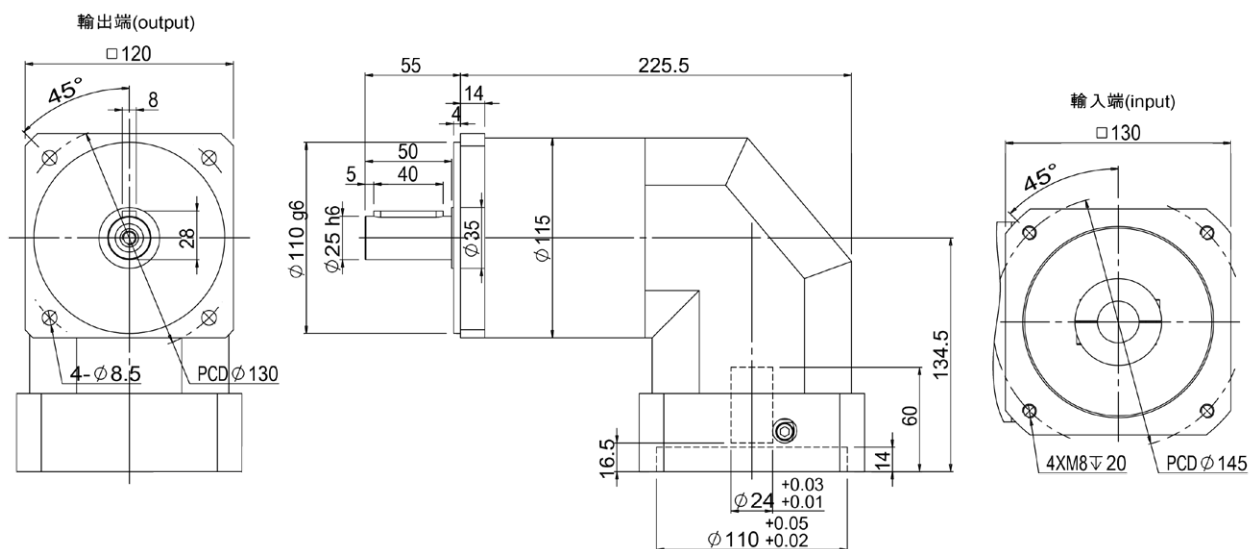
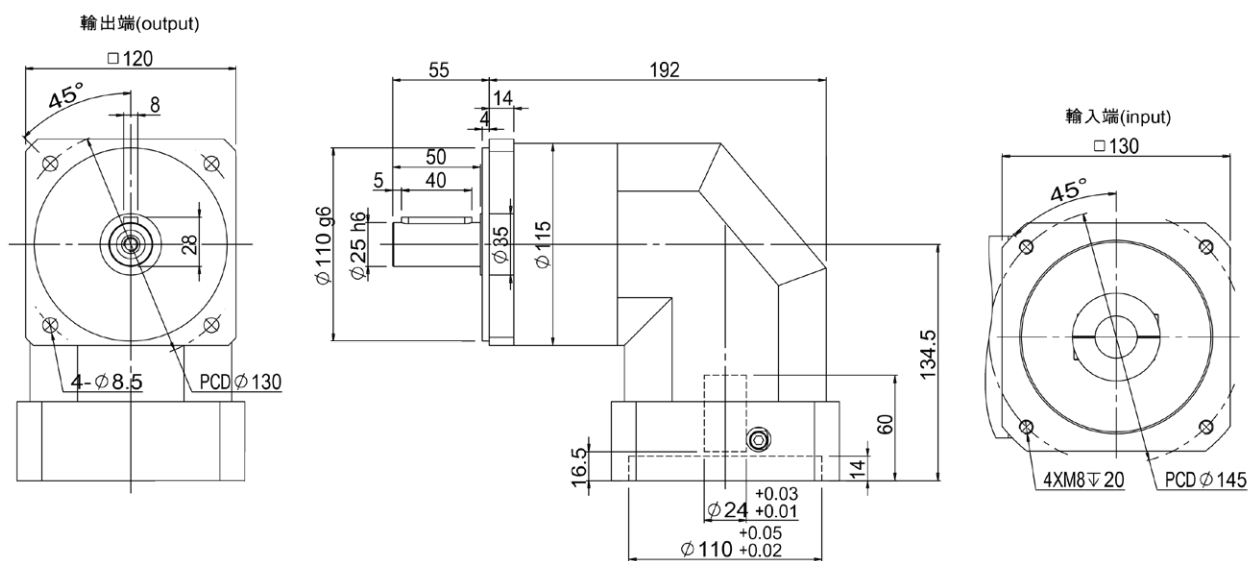
■ GPFR090-L2

輸出端(output)

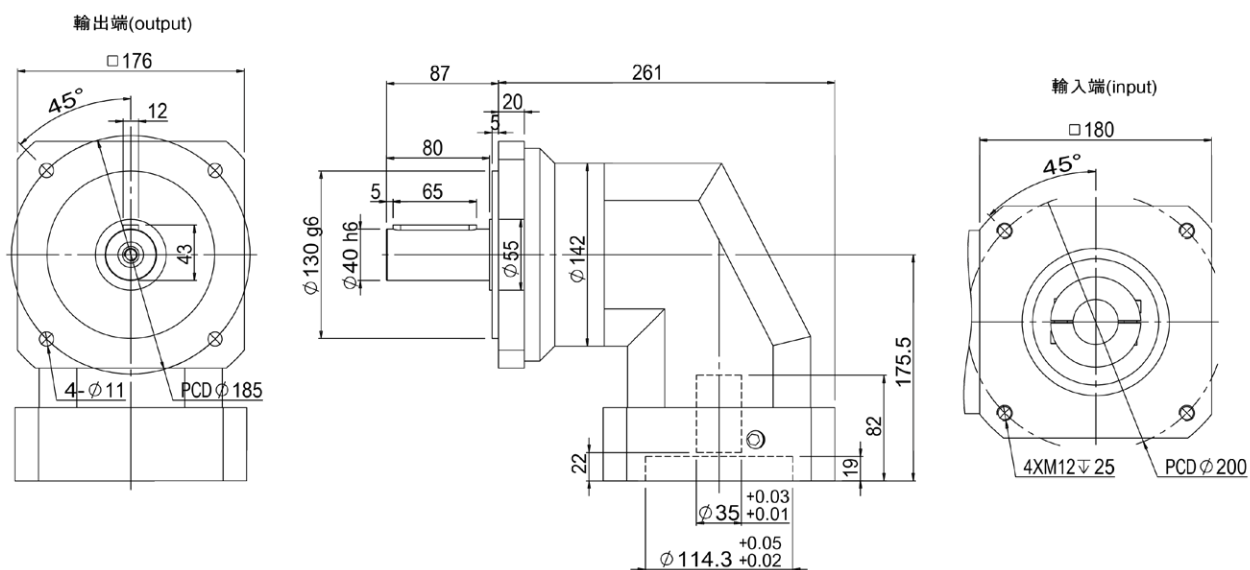


輸入端(input)

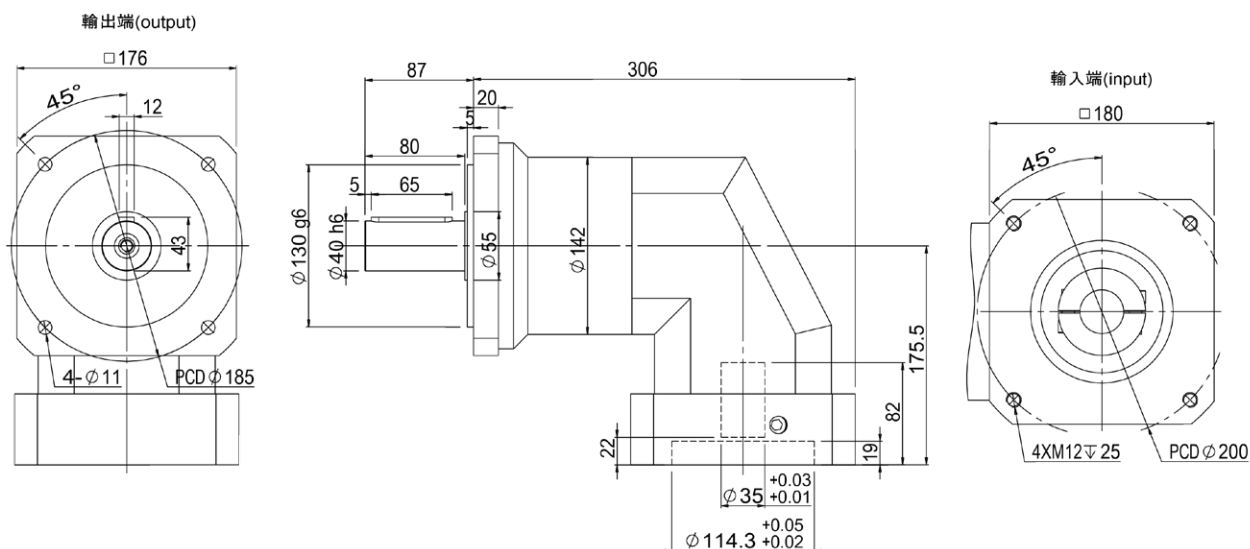


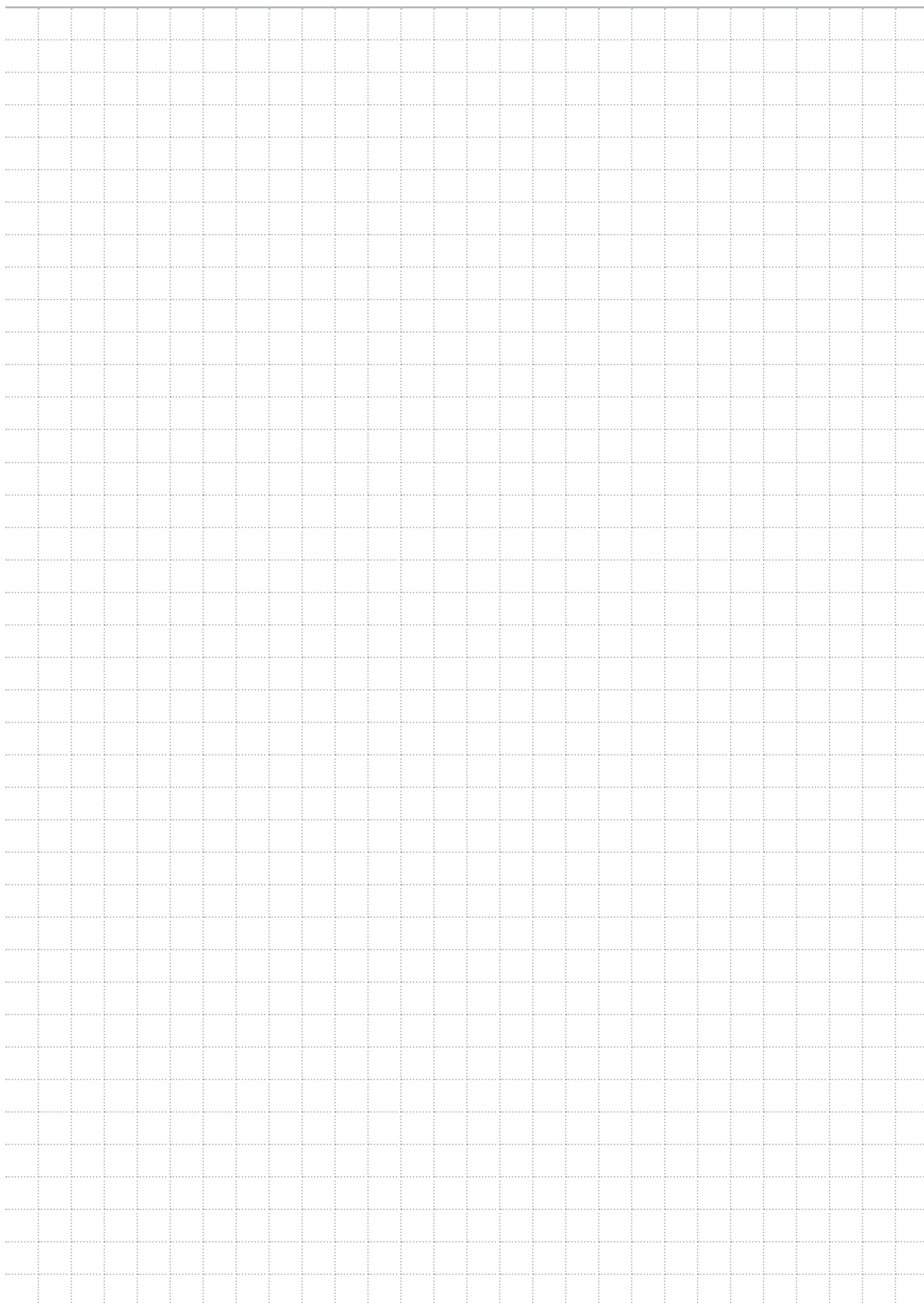


■ GPFR160-L1



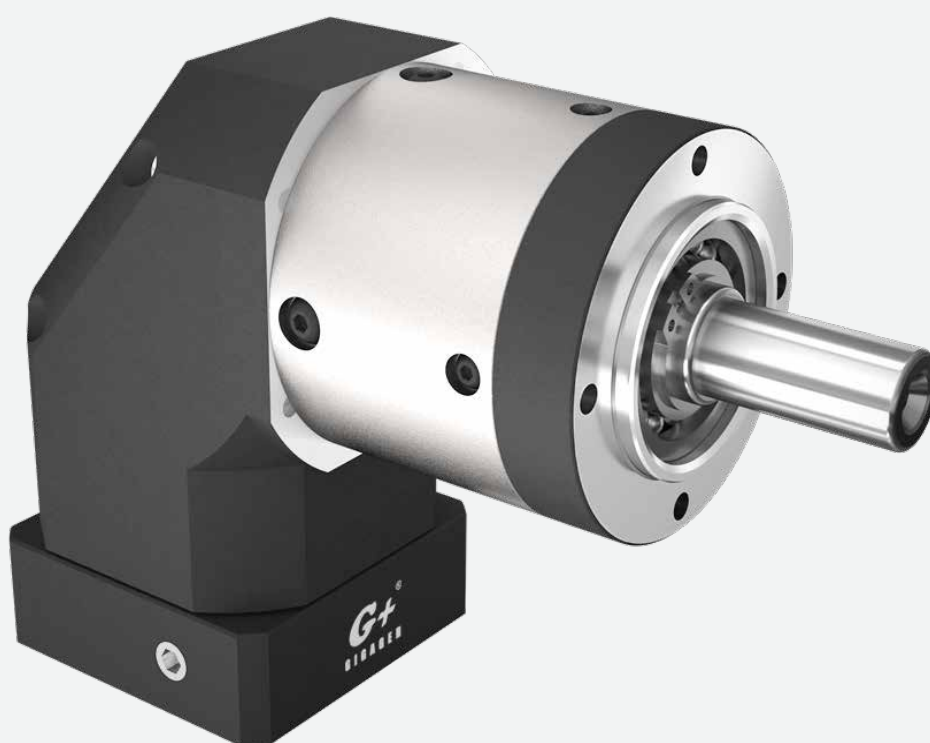
■ GPFR160-L2







GPLR Series



型號說明 / MODEL

GPLR	090	-	10K	-	(- - -)	-	
系列代碼 Series	規格 Size		減速比 Ratio		輸入端安裝尺寸 Input mounting size		非標定製 Customization
			雙級 Double (L2)				
			單級 Single (L1)				
			3K	15K			
			4K	25K			
			5K	30K			
			7K	35K			
			10K	40K			
			14K	50K			
			20K	70K			
				80K			
				100K			
				140K			
				200K			
060							
090							
120							
160							

依據馬達連接尺寸確認
According to the motor connection size

a	馬達輸出軸直徑 Motor Shaft diameter
b	馬達止口直徑 Motor Spigot diameter
c	馬達安裝孔 PCD Motor Mounting Hole PCD
d	馬達安裝螺紋孔 Motor mounting threaded hole

例 Example : (19-70-90-M5)

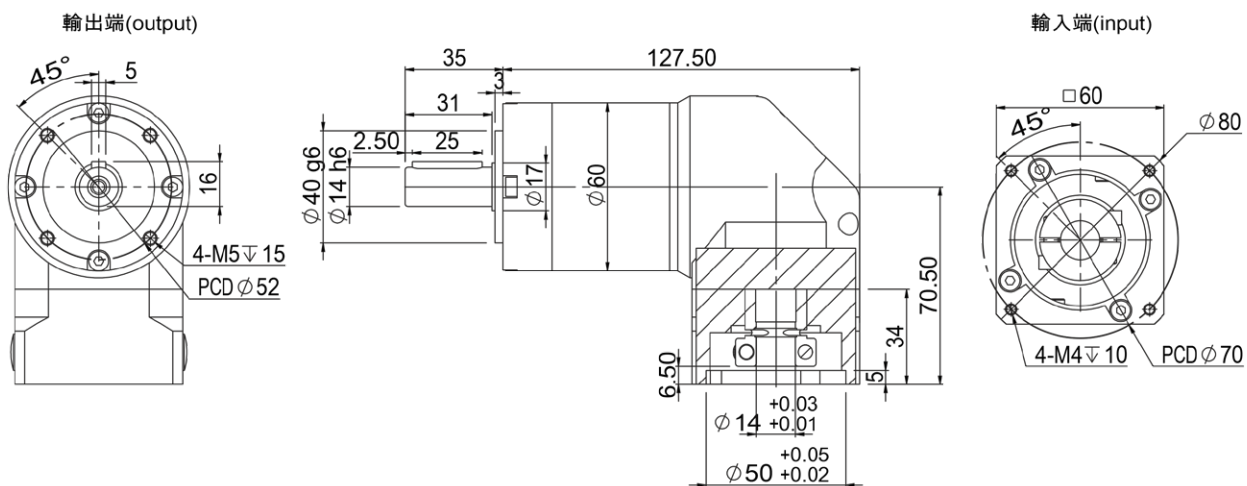
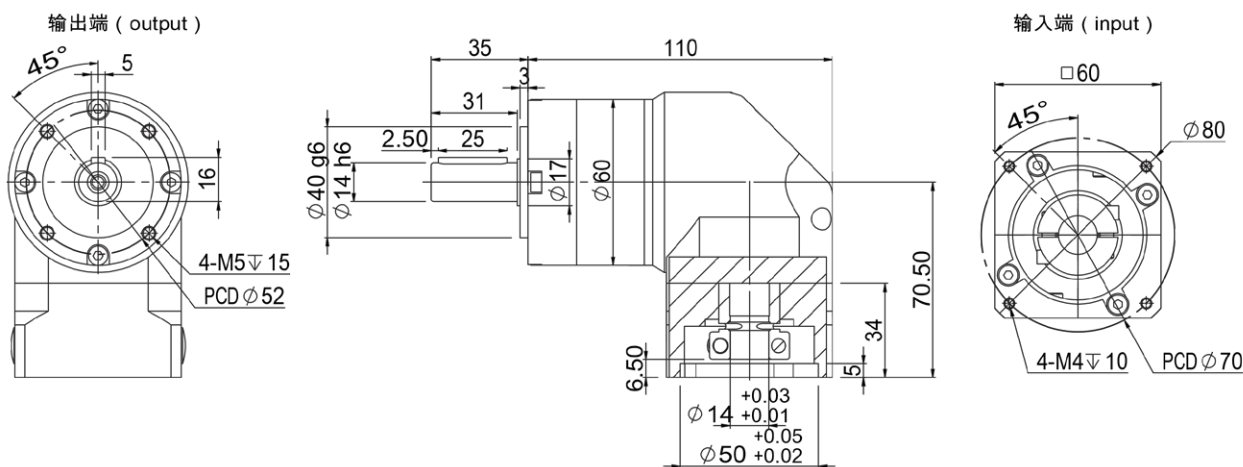
依據尺寸圖確認
According to the drawing
空白 : 標準品
Blank : standard

轉動慣量總表 / MOMENT OF INERTIA

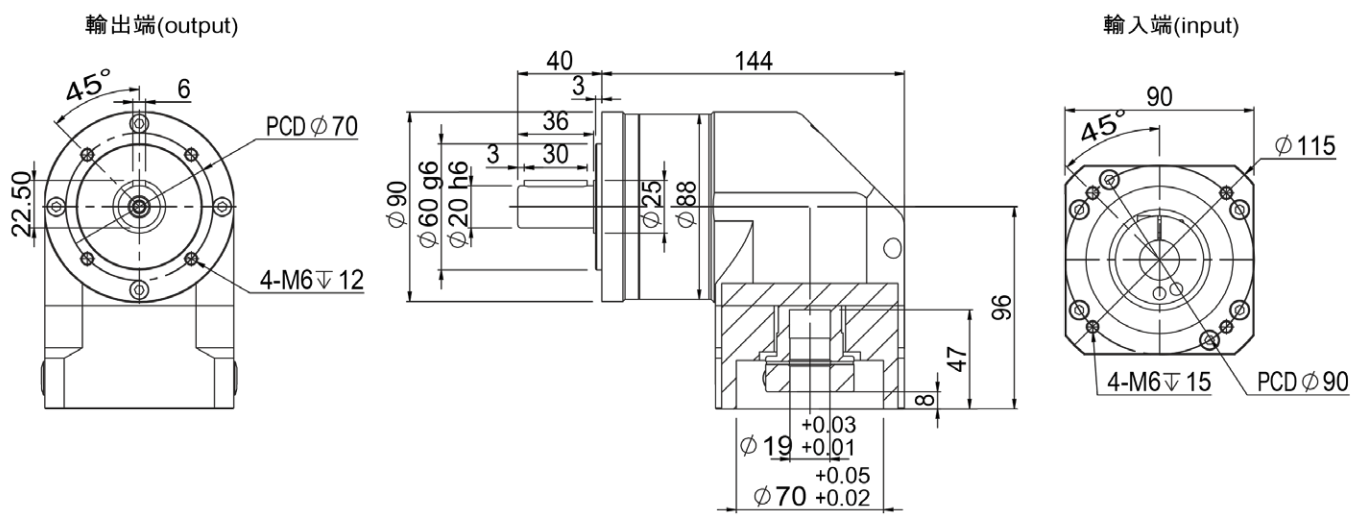
規格 specification	級數 stage	減速比 Ratio	GPLR060	GPLR090	GPLR120	GPLR160
轉動慣量 J1 Moment of inertia J1	1	3K	0.135	0.75	2.5	5.8
		4K	0.135	0.75	2.5	5.8
		5K	0.135	0.75	2.5	5.8
		7K	0.135	0.75	2.5	5.8
		10K	0.135	0.75	2.5	5.8
		14K	0.09	0.45	1.3	1.9
		20K	0.09	0.39	1.2	2.73
	2	15K	0.09	0.45	2.4	3.3
		25K	0.035	0.2	1.4	2.3
		30K	0.035	0.2	1.4	2.3
		35K	0.035	0.2	1.4	2.3
		40K	0.035	0.2	1.4	2.3
		50K	0.035	0.2	1.4	2.3
		70K	0.035	0.2	1.4	2.3
		80K	0.035	0.2	1.4	2.3
		100K	0.035	0.2	1.4	2.3
		140K	0.035	0.18	1.3	2.1
		200K	0.035	0.18	1.3	2.1

減速機性能資料 / PERFORMANCE

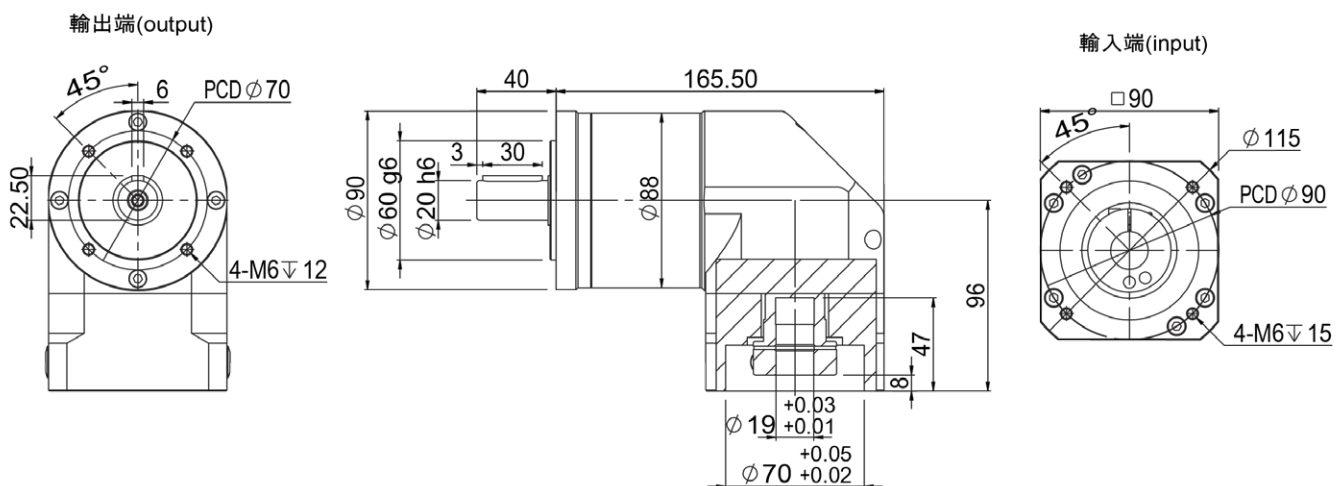
規格 specification		節數 stage	減速比 ratio	GPLR060	GPLR090	GPLR120	GPLR160
額定輸出力矩 T_{2N} Rated output torque T_{2N}	Nm	1	3K	18	40	125	290
			4K	36	90	230	460
			5K	40	110	260	550
			7K	20	40	90	340
			10K	12	22	70	210
			14K	20	40	90	340
			20K	12	22	70	210
		2	15K	36	90	125	550
			25K	36	90	260	550
			30K	36	90	125	290
			35K	36	90	260	550
			40K	36	90	230	460
			50K	36	90	260	550
			70K	36	90	230	340
			80K	36	90	230	460
			100K	36	90	230	550
			140K	22	55	125	340
			200K	12	22	70	210
最大輸出力矩 Maximum output torque	Nm	1 & 2	3 ~ 200K	2 倍額定輸出力矩 / Double rated output torque			
額定輸入轉速 n_{1N} Rated input speed n_{1N}	rpm	1 & 2	3 ~ 200K	4000	3500	3500	2500
背隙 Backlash	arcmin	1	3 ~ 20K	≤ 10	≤ 10	≤ 10	≤ 10
		2	15 ~ 200K	≤ 12	≤ 12	≤ 12	≤ 12
扭轉剛性 Torsional rigidity	Nm/arcmin	1 & 2	3 ~ 200K	1.8	4.7	11	55
容許徑向力 F_{2rB} Allowable radial force F_{2rB}	N	1 & 2	3 ~ 200K	220	400	1000	4500
容許軸向力 F_{2aB} Allowable axial force F_{2aB}	N	1 & 2	3 ~ 200K	240	420	1240	4800
使用壽命 Lifespan	Hr	1 & 2	3 ~ 200K	10000			
效率 Efficiency	%	1	3 ~ 20K	≥ 96%			
		2	15 ~ 200K	≥ 93%			
重量 Weight	kg	1	3 ~ 20K	1.7	4.4	12	26.5
		2	15 ~ 200K	1.9	5	14	29.6
使用溫度 Working temperature	°C	1 & 2	3 ~ 200K	-10°C ~ 80°C			
潤滑 Grease		1 & 2	3 ~ 200K	合成潤滑油脂 / Synthetic lubricating grease			
防護等級 IP Grade		1 & 2	3 ~ 200K	IP65			
安裝方向 Installation direction		1 & 2	3 ~ 200K	任意方向 / Any direction			
噪音值 ($n_1=3000\text{rpm}$, 無負載) Noise Value ($n_1=3000\text{rpm}$, off load)	Db	1 & 2	3 ~ 200K	≤ 61	≤ 63	≤ 68	≤ 75



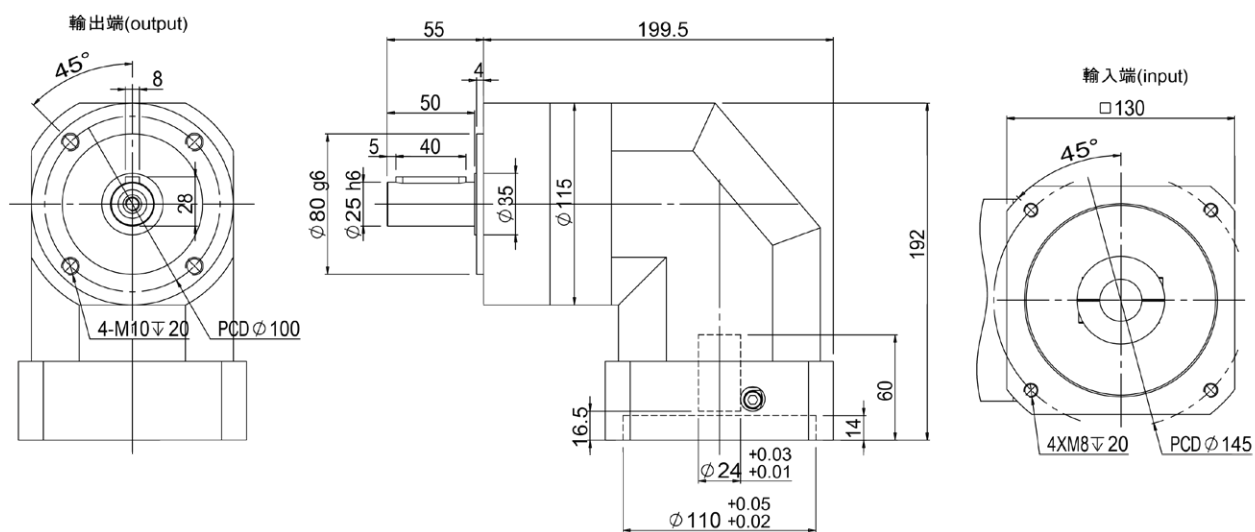
■ GPLR090-L1



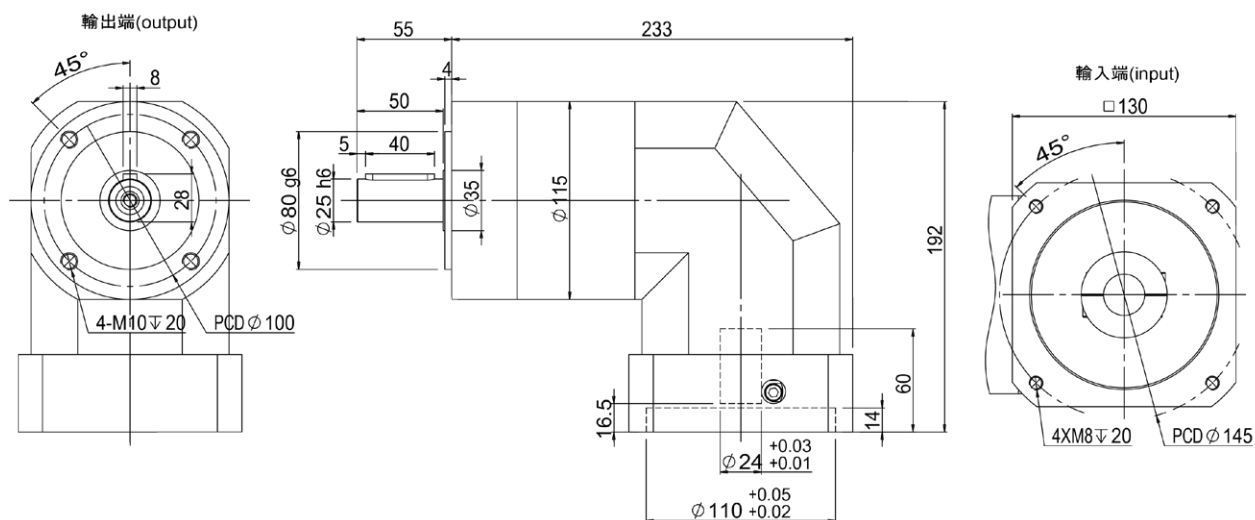
■ GPLR090-L2



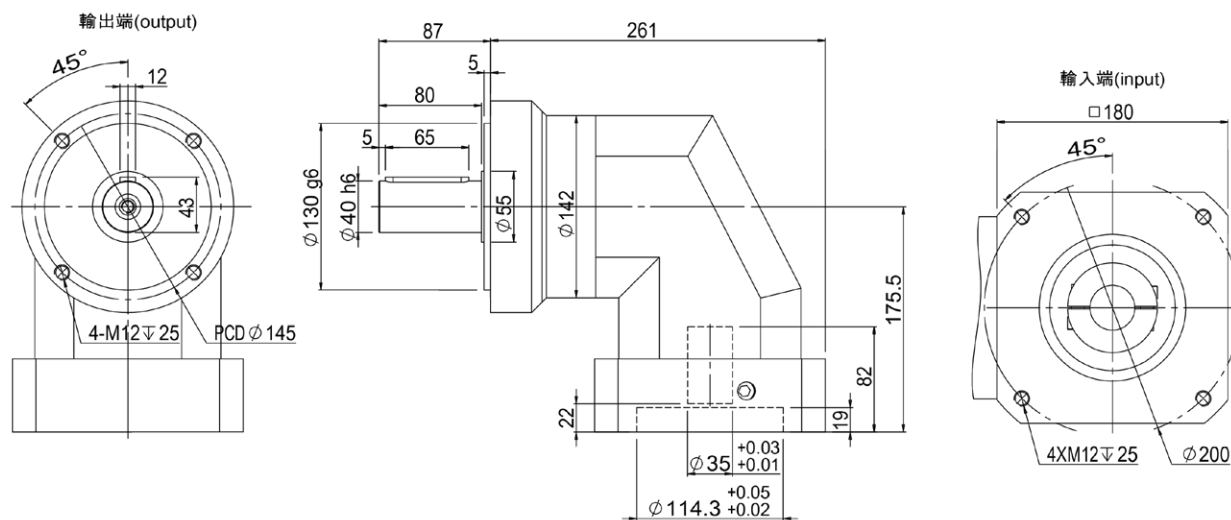
■ GPLR120-L1



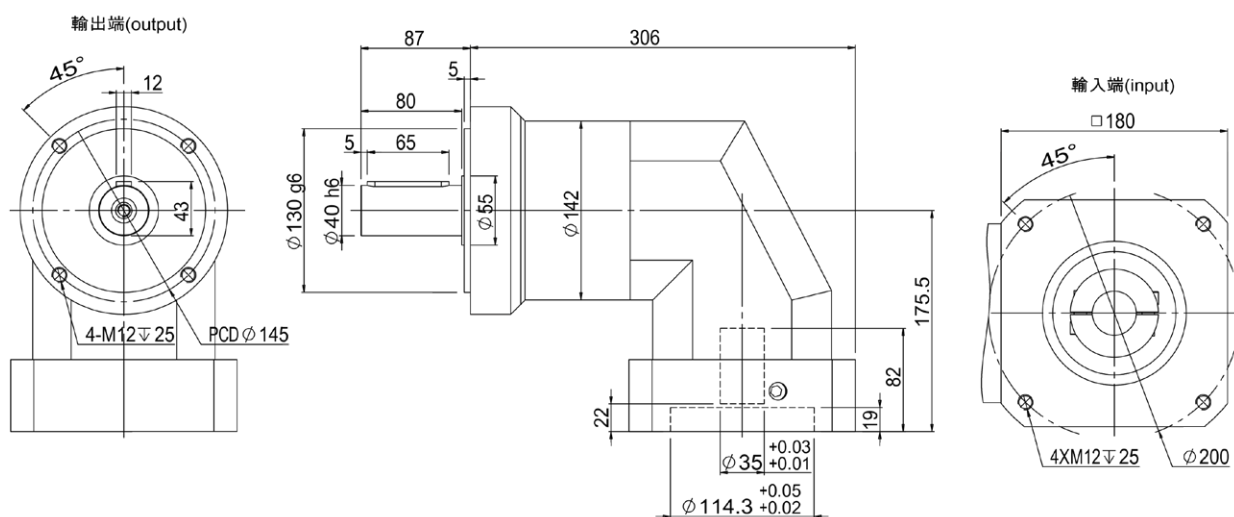
■ GPLR120-L2

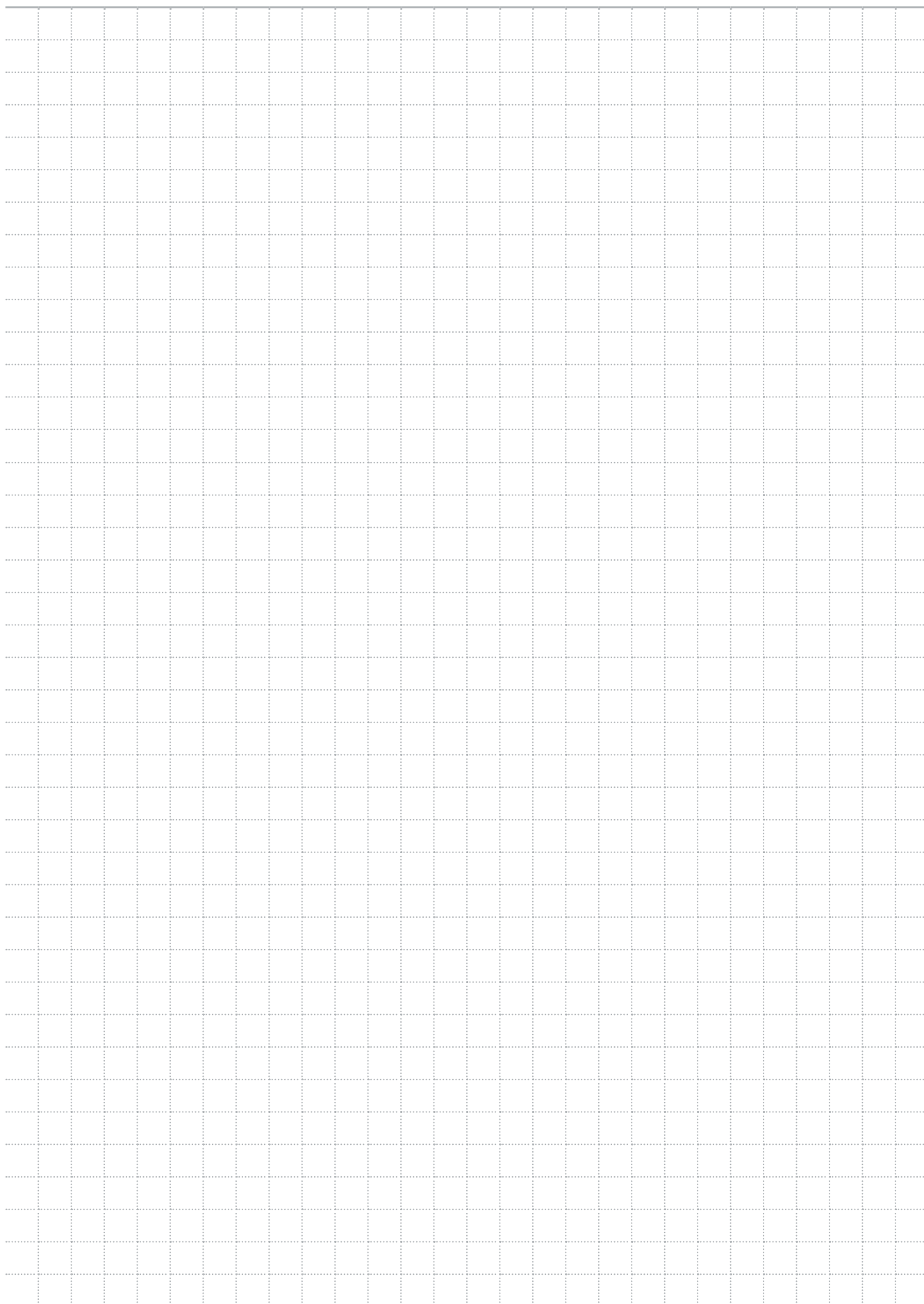


■ GPLR160-L1



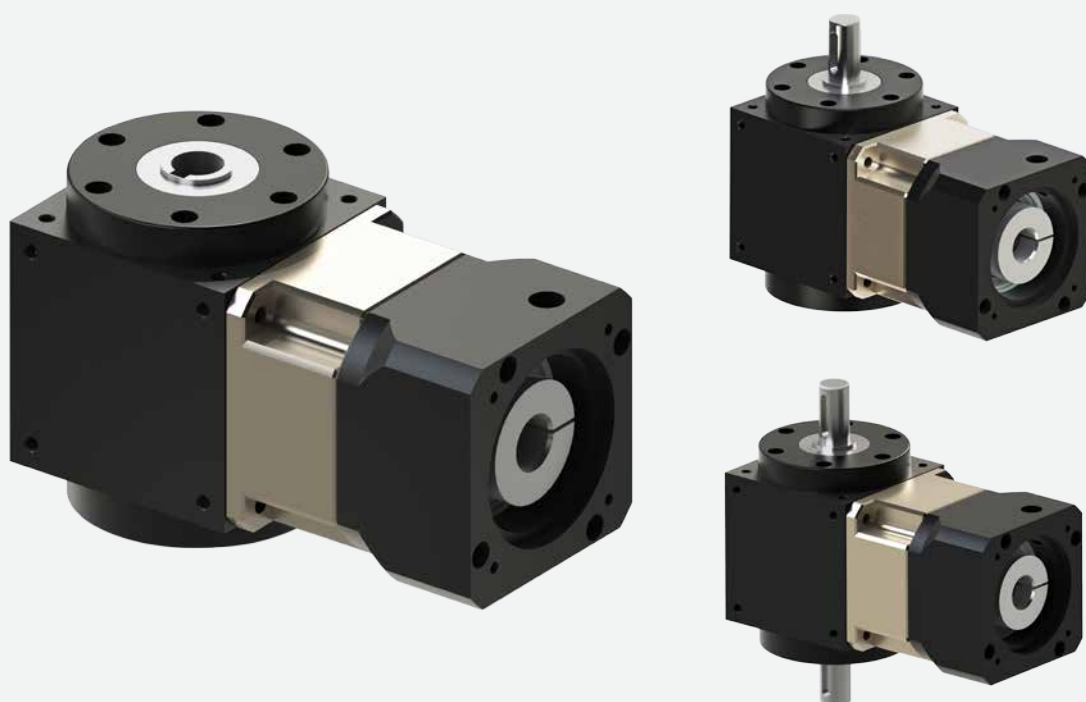
■ GPLR160-L2







GPW Series



型號說明 / MODEL

例 Example : GPW110H- 20K- (19- 80- 100 -M6)

GPW	70	S	-	10K	-	($\square$ - $\square$ - $\square$ - $\square$)
系列代碼 Series	規格 Size	結構形式 Type		減速比 Gear Ratio		輸入端安裝尺寸 Input mounting size

D	單軸 Single Shaft
S	雙軸 Dual Shafts
H	中空 Hollow

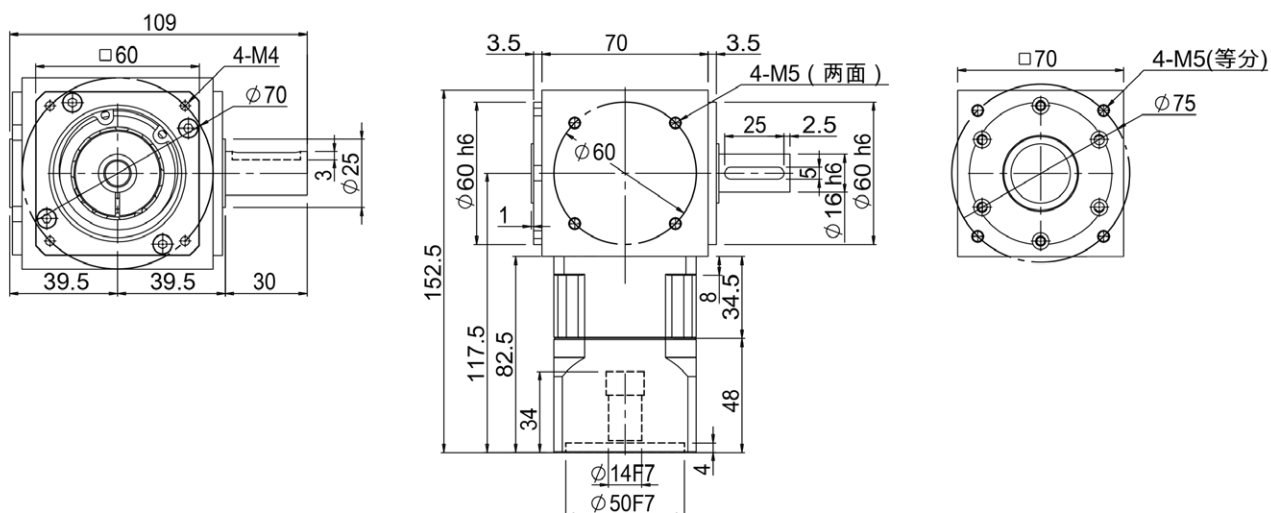
依據馬達連接尺寸確認
According to the motor connection size

a	馬達輸出軸直徑 Motor Shaft diameter
b	馬達止口直徑 Motor Spigot diameter
c	馬達安裝孔 PCD Motor Mounting Hole PCD
d	馬達安裝螺紋孔 Motor mounting threaded hole

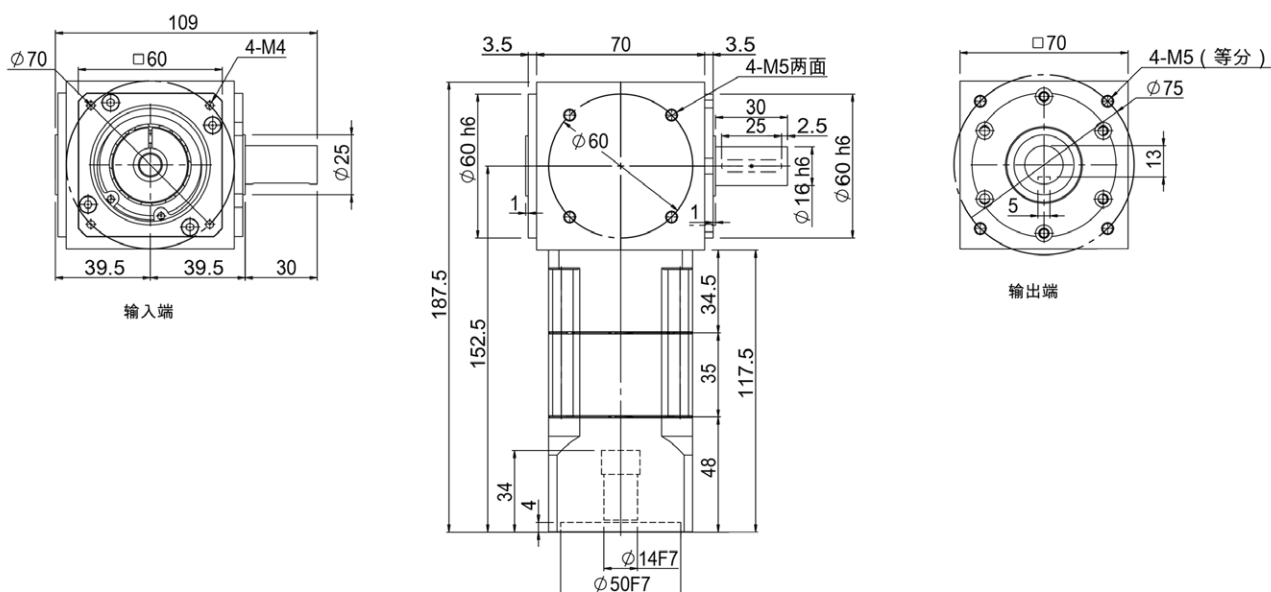
性能資料 / PERFORMANCE

規格 specification	減速比 Gear Ratio	額定扭矩 Rated Torque	最大扭矩 Maximum Torque	容許輸入轉數 Allowable Input Revolution	回程間隙 Backlash	傳遞效率 Transfer Efficiency	噪音 Noise	環境溫度 Operation Temperature
	i	Nm	Nm	r/min	arcmin	%	dB	°C
GPW70-L1	3-10	18.5-46	37-92	3000	12-18	90	62	-20-+90
GPW70-L2	9-100	18.5-46	37-92	3000	20-26	85	62	-20-+90
GPW90-L1	3-10	95-145	190-290	3000	12-18	90	65	-20-+90
GPW90-L2	15-100	95-145	190-290	3000	20-26	85	65	-20-+90
GPW110-L1	3-10	95-145	190-290	3000	12-18	90	68	-20-+90
GPW110-L2	9-100	95-145	190-290	3000	20-26	85	68	-20-+90
GPW140-L1	3-10	220-300	440-600	3000	12-18	90	68	-20-+90
GPW140-L2	15-100	220-300	440-600	3000	20-26	85	68	-20-+90
GPW170-L1	3-10	360-550	720-1100	2500	12-18	90	68	-20-+90
GPW170-L2	15-100	360-550	720-1100	2500	20-26	85	68	-20-+90
GPW210-L1	3-10	800-1050	1600-2100	2500	12-18	90	72	-20-+90
GPW210-L2	9-100	800-1050	1600-2100	2500	20-26	85	72	-20-+90

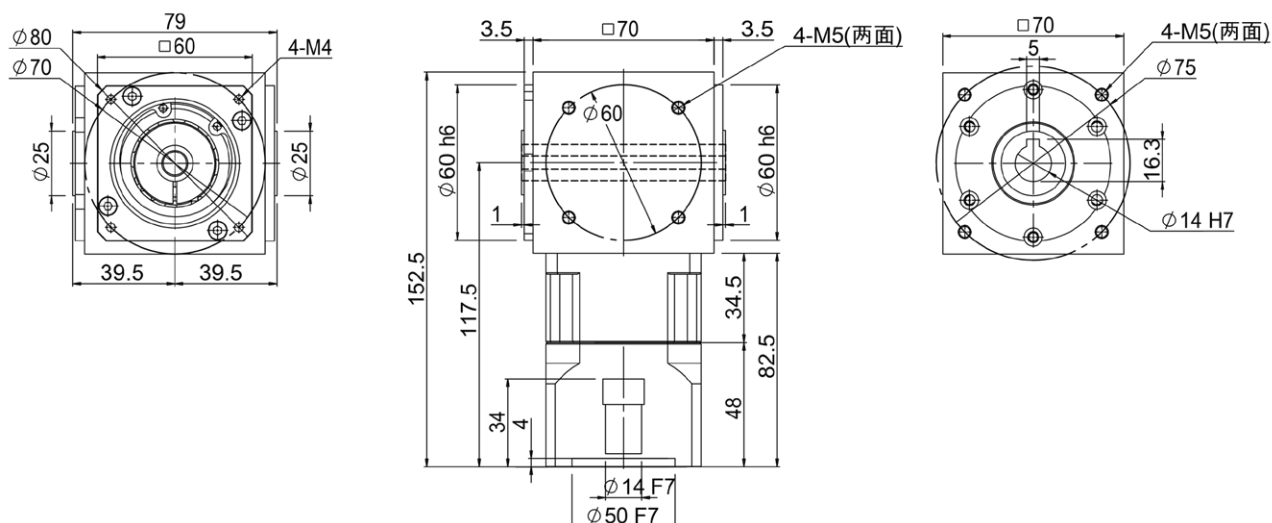
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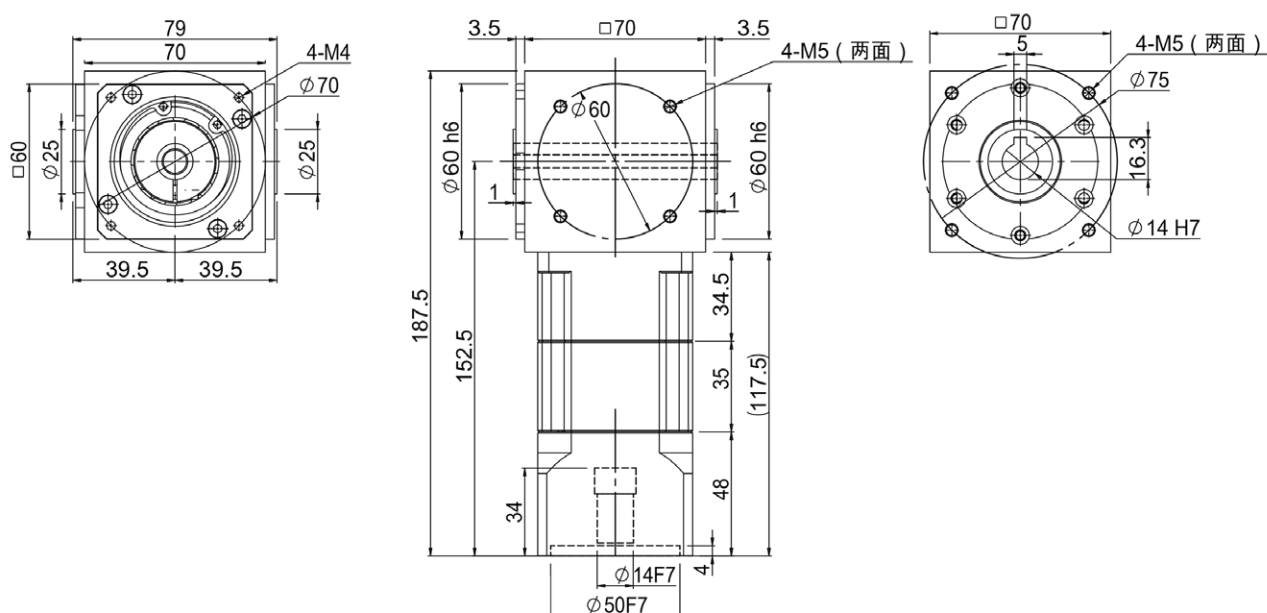
■ GPW70D-L2



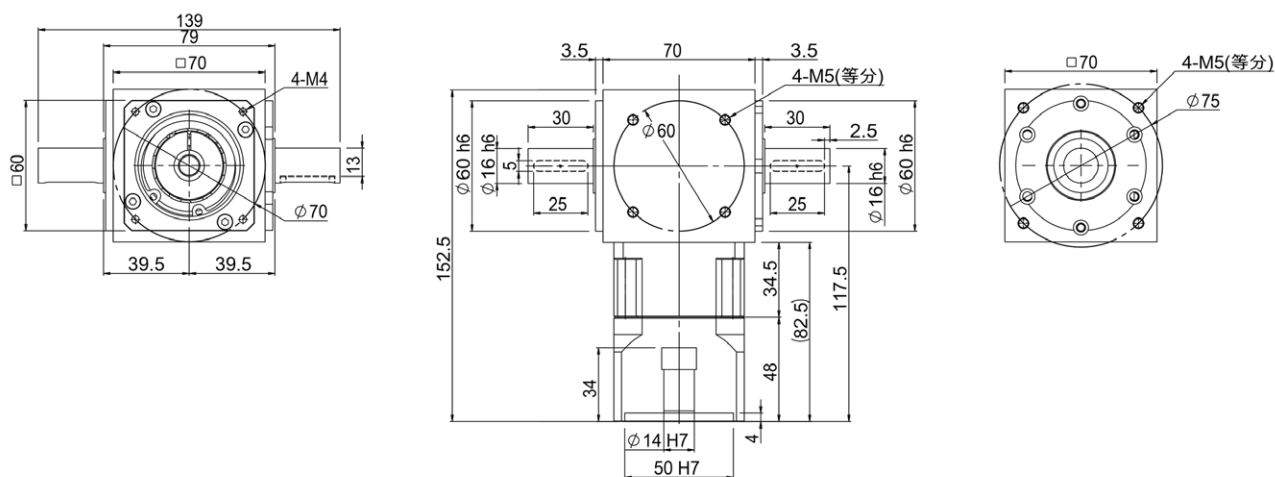
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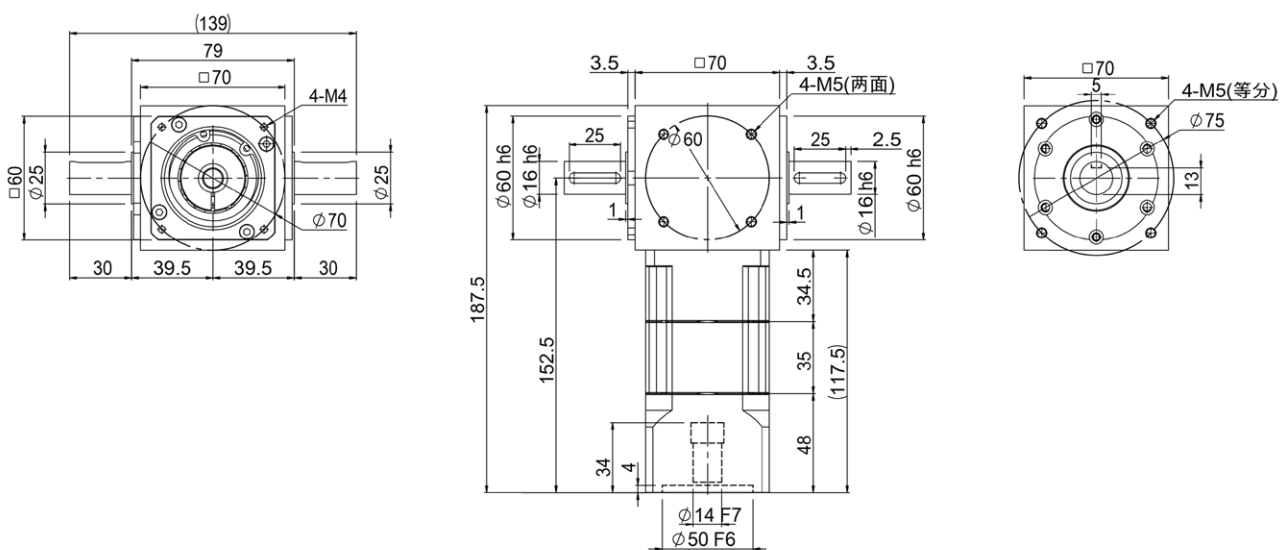
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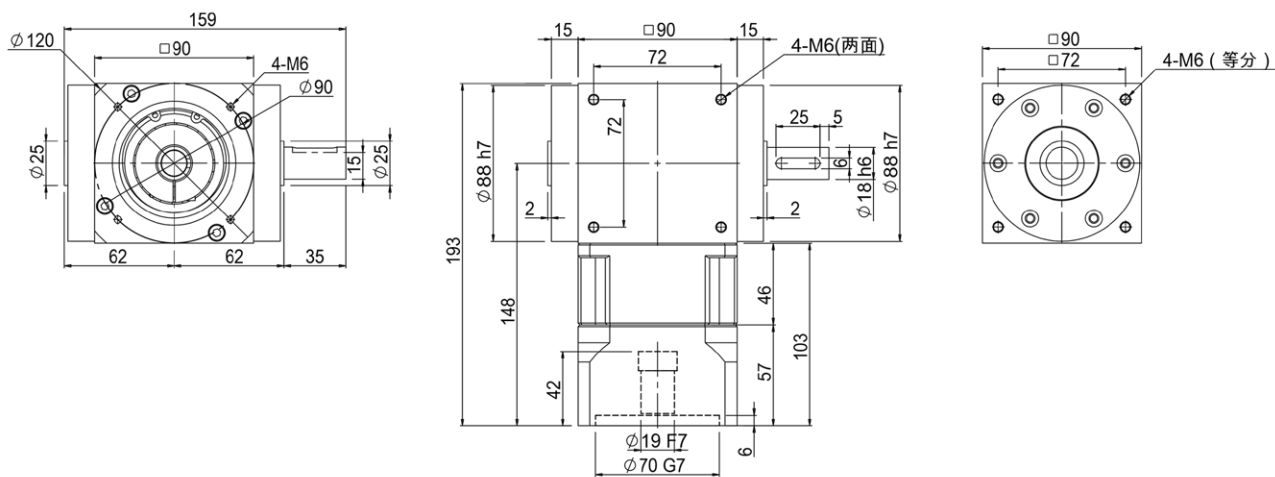
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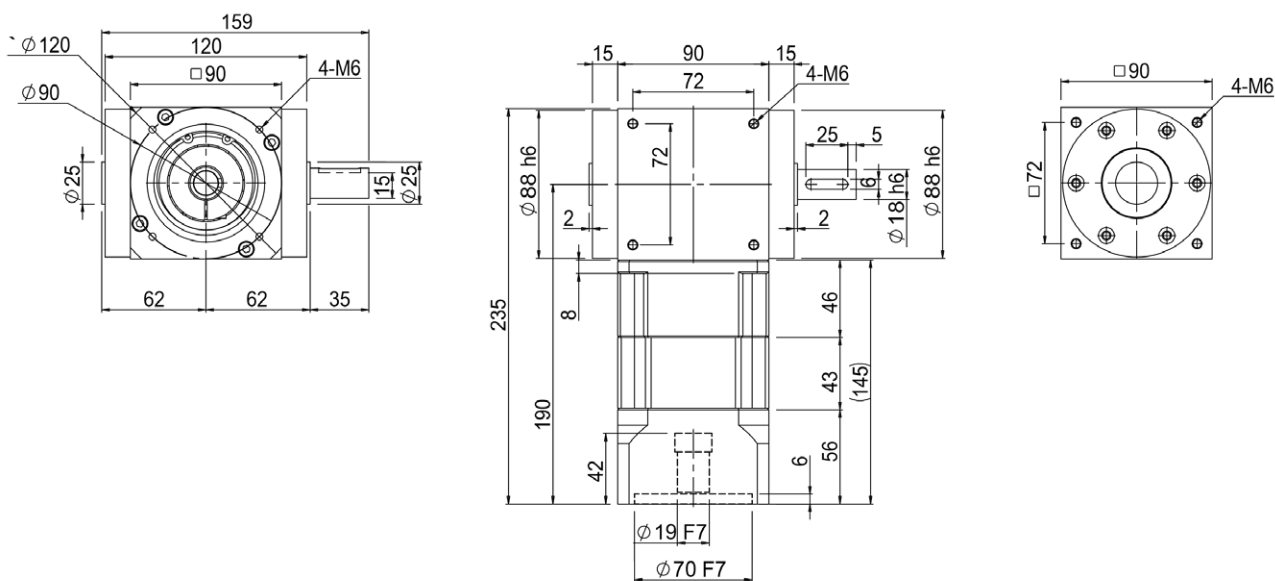
■ GPW70S-L2



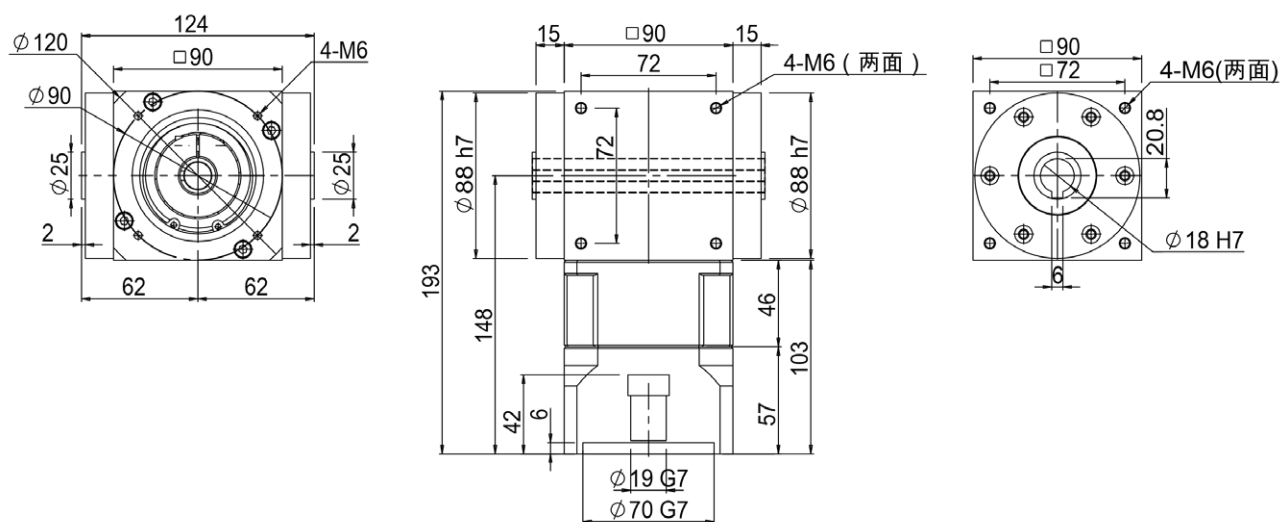
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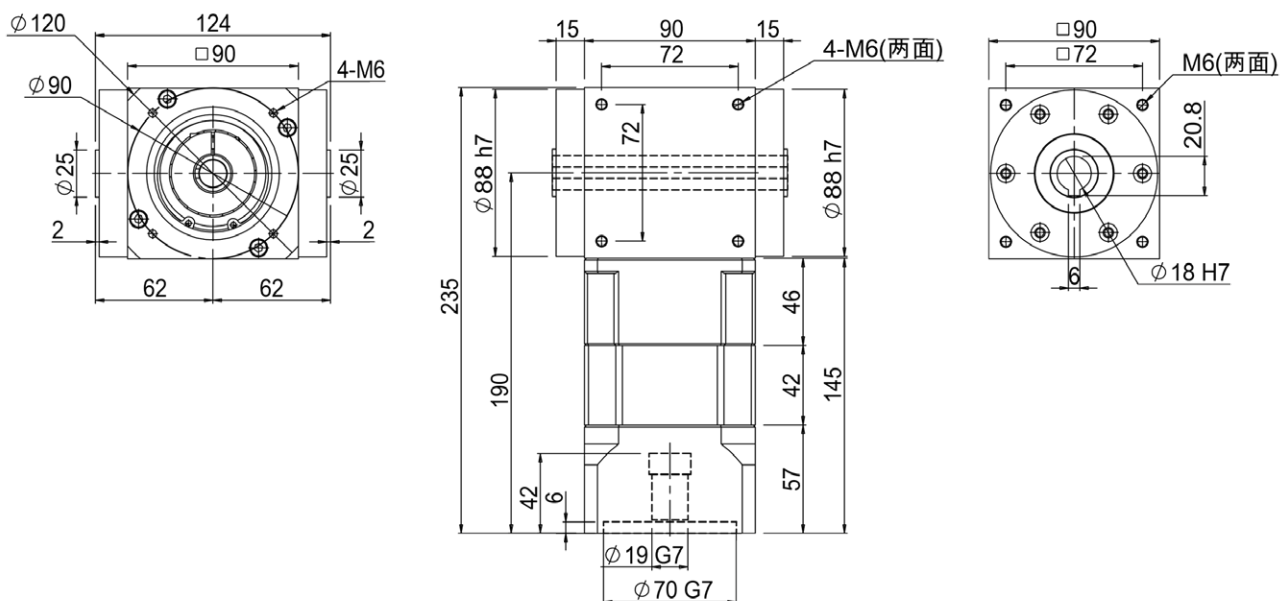
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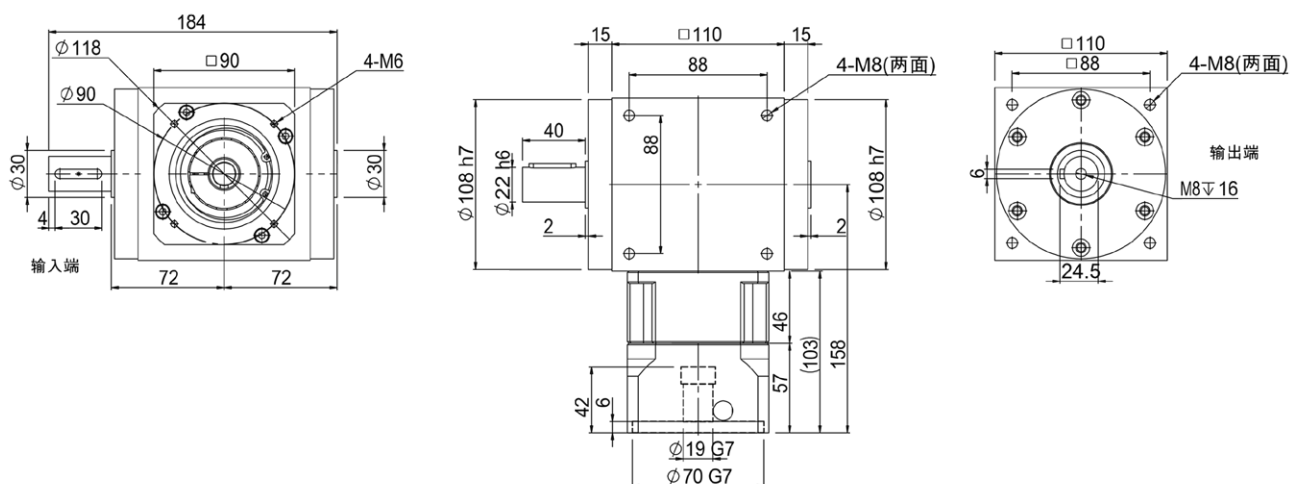
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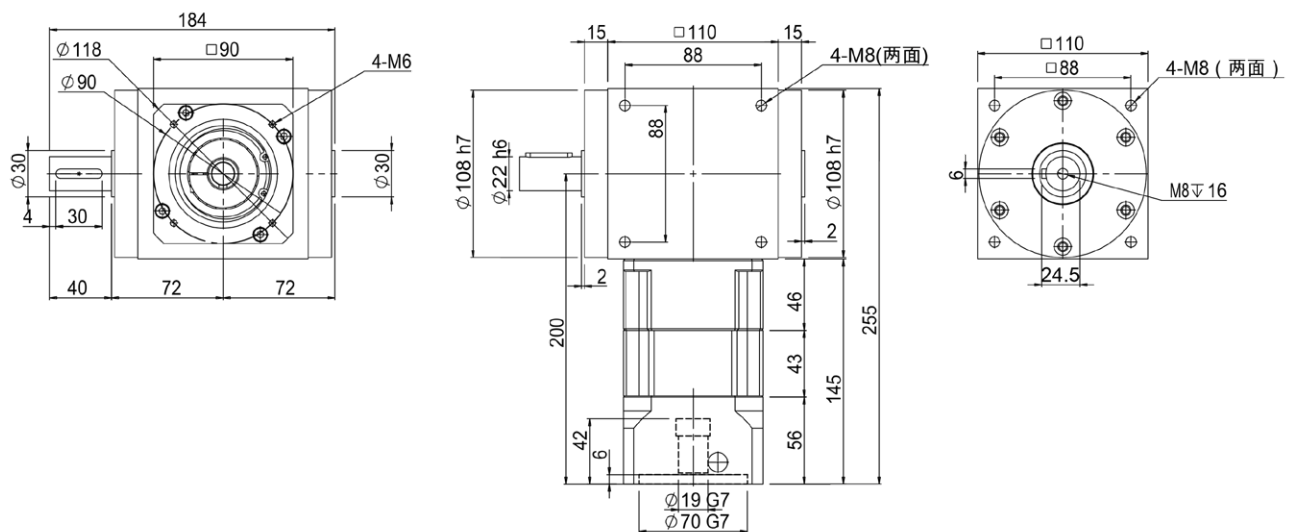
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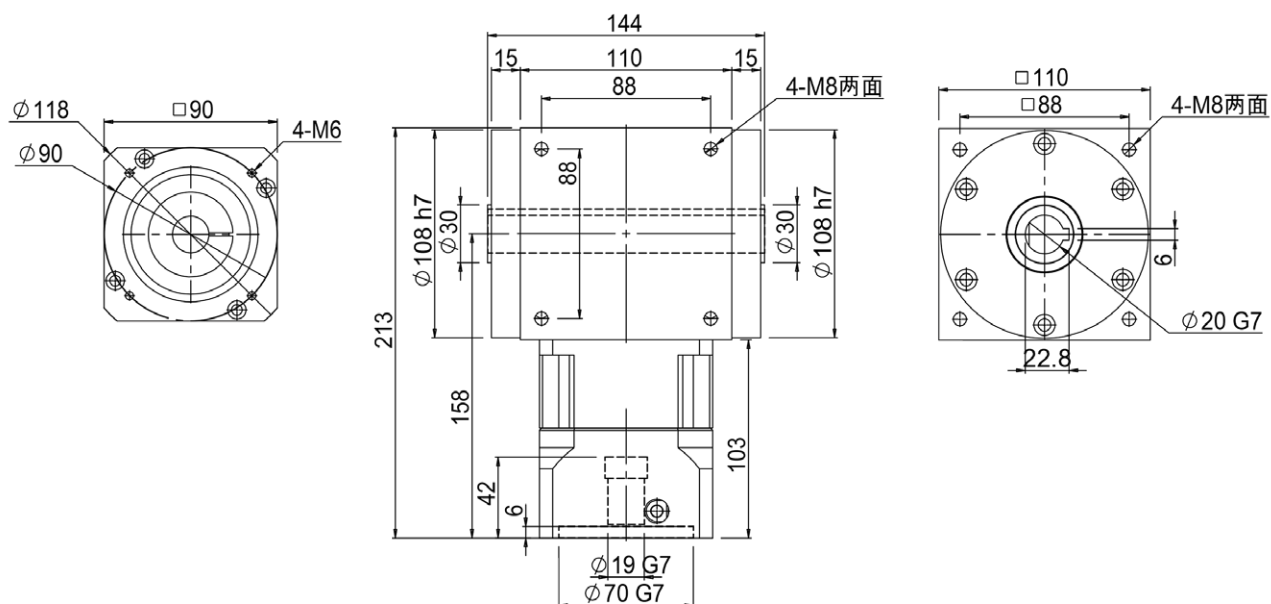
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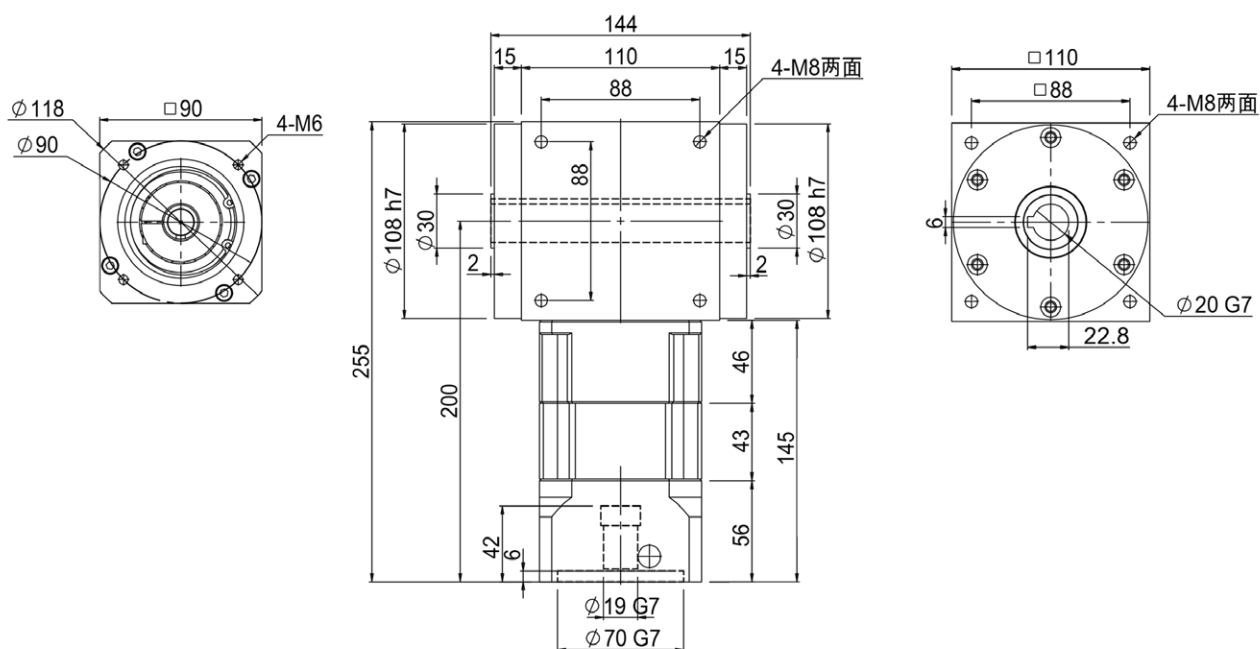
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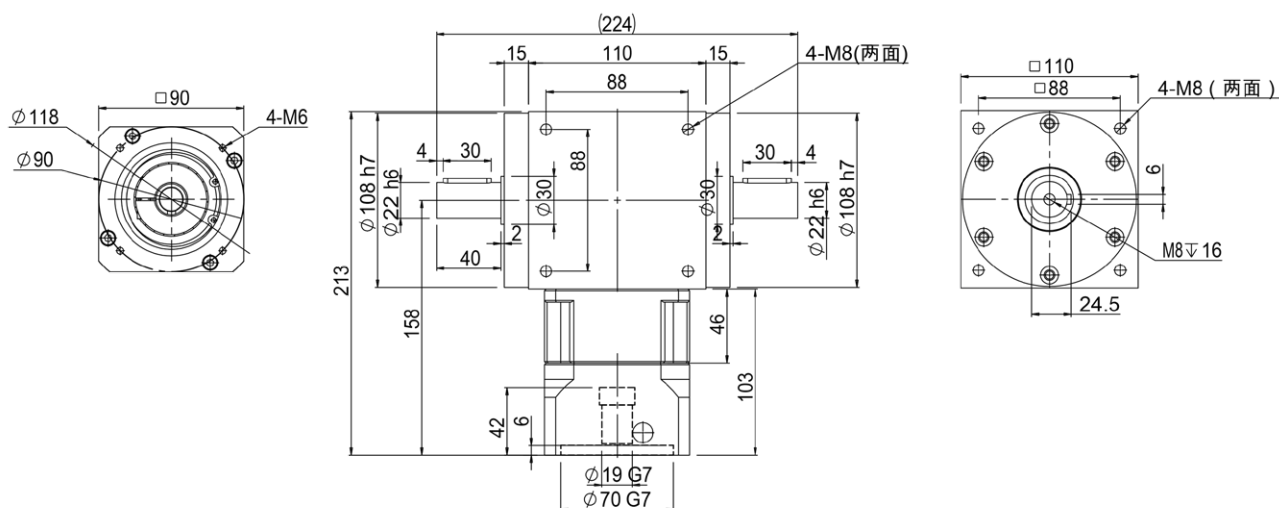
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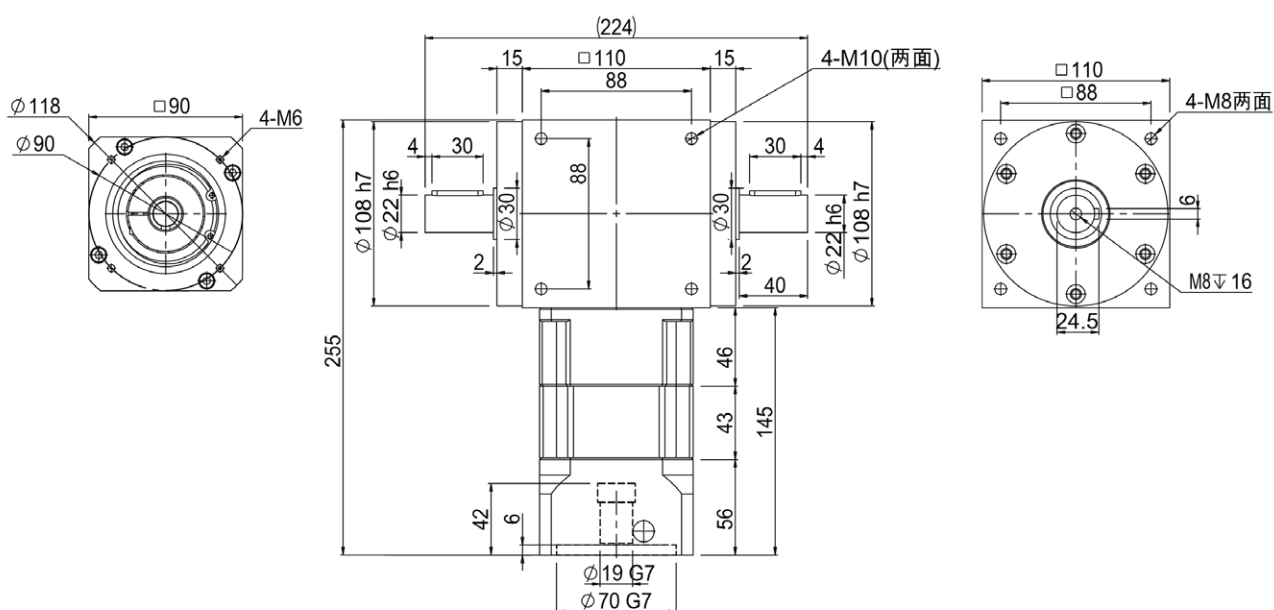
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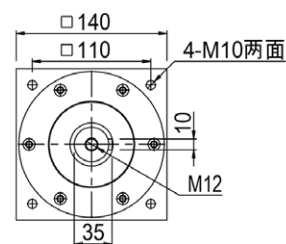
■ **GPW110S-L1**



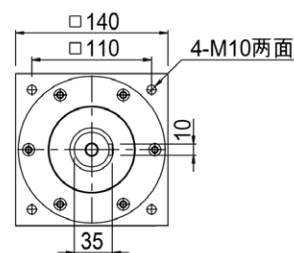
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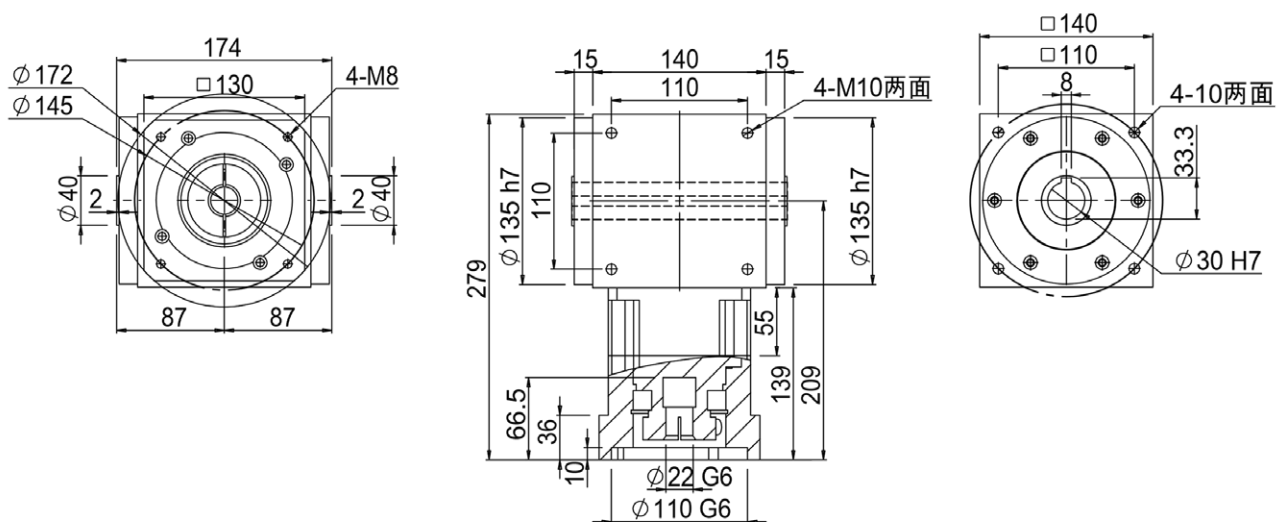
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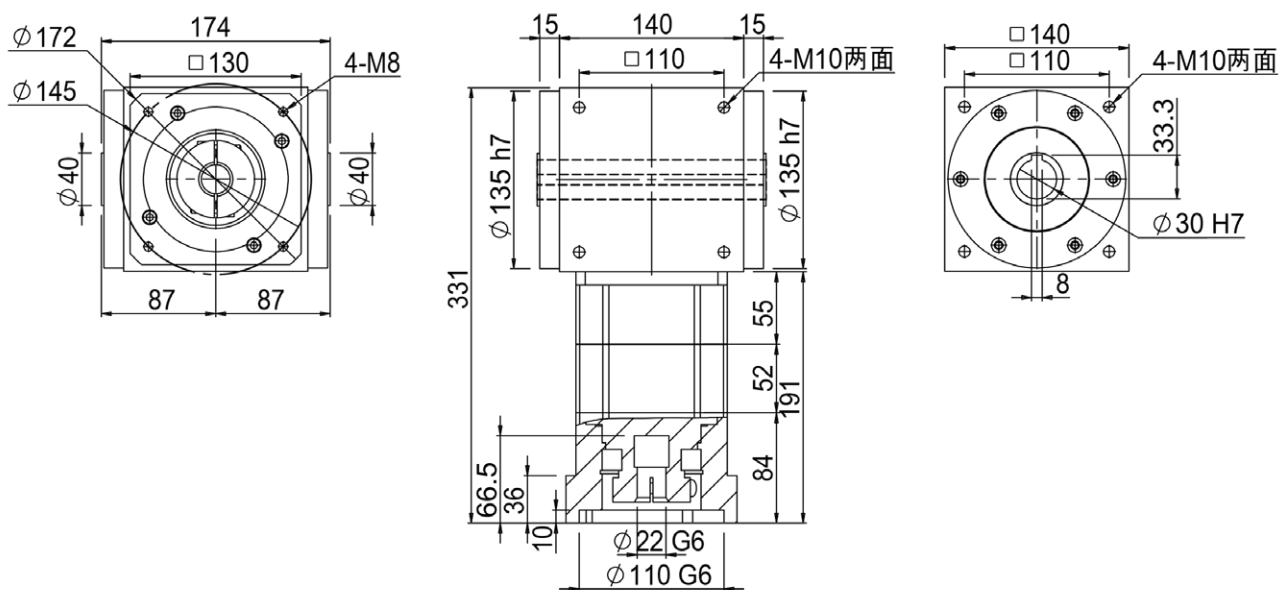
■ **GPW140D-L2**



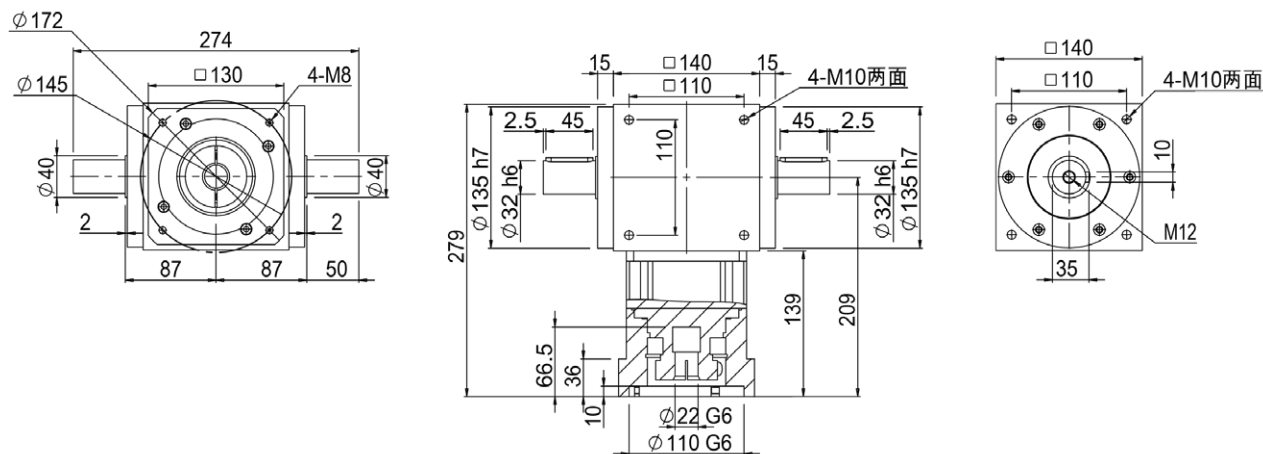
■ **GPW140H-L1**



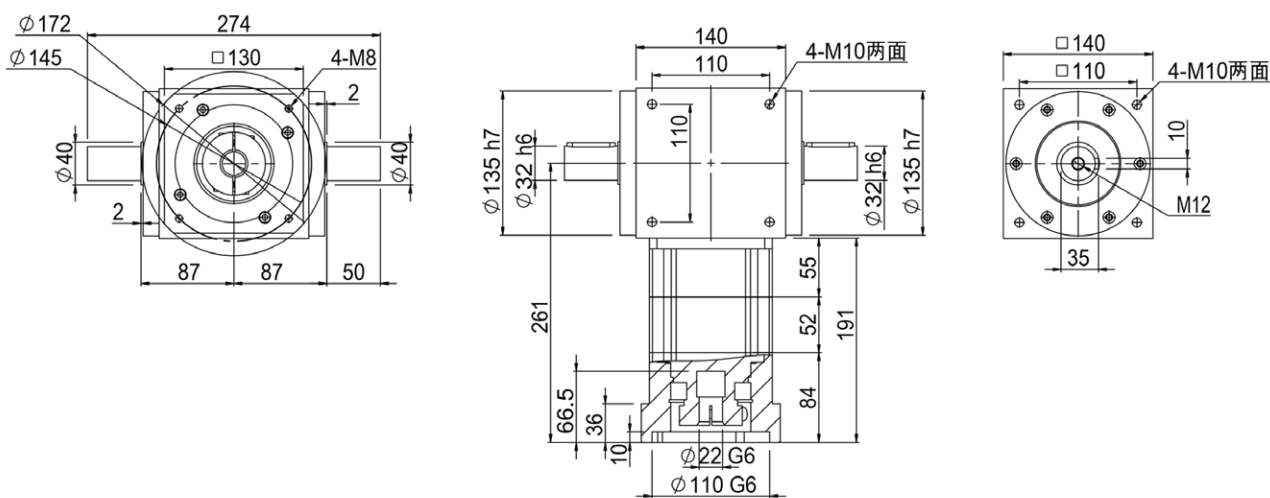
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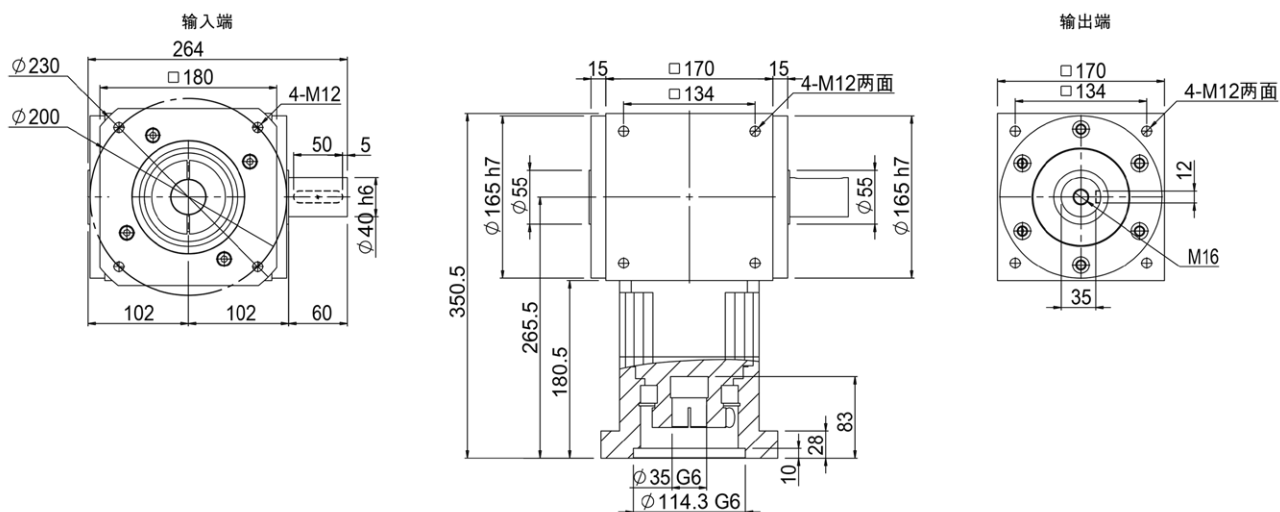
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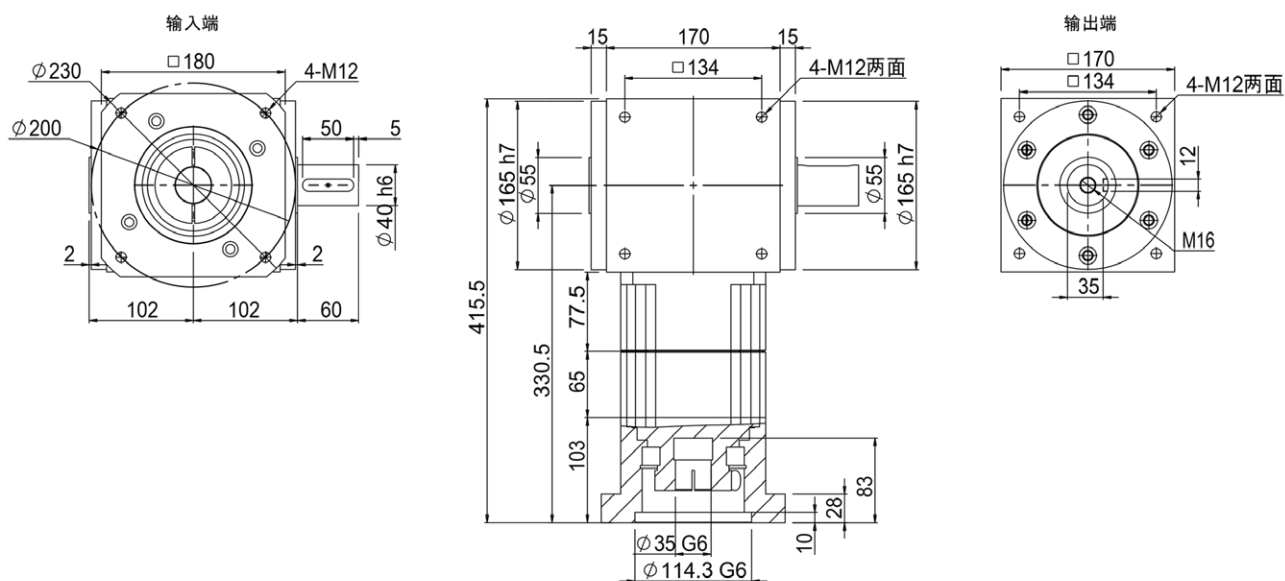
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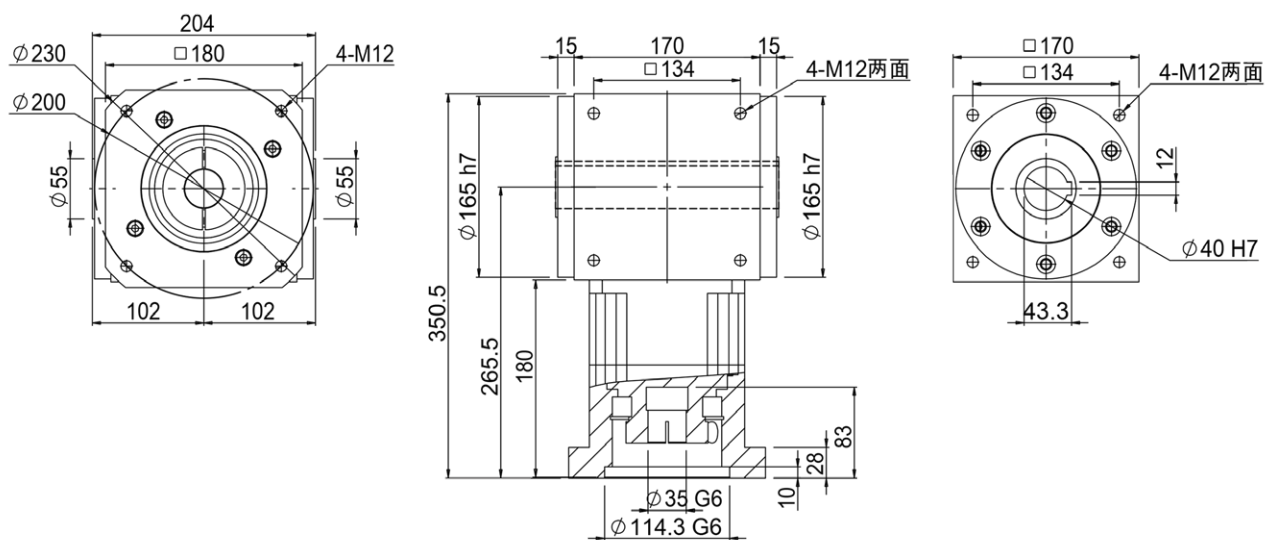
■ GPW170D-L1



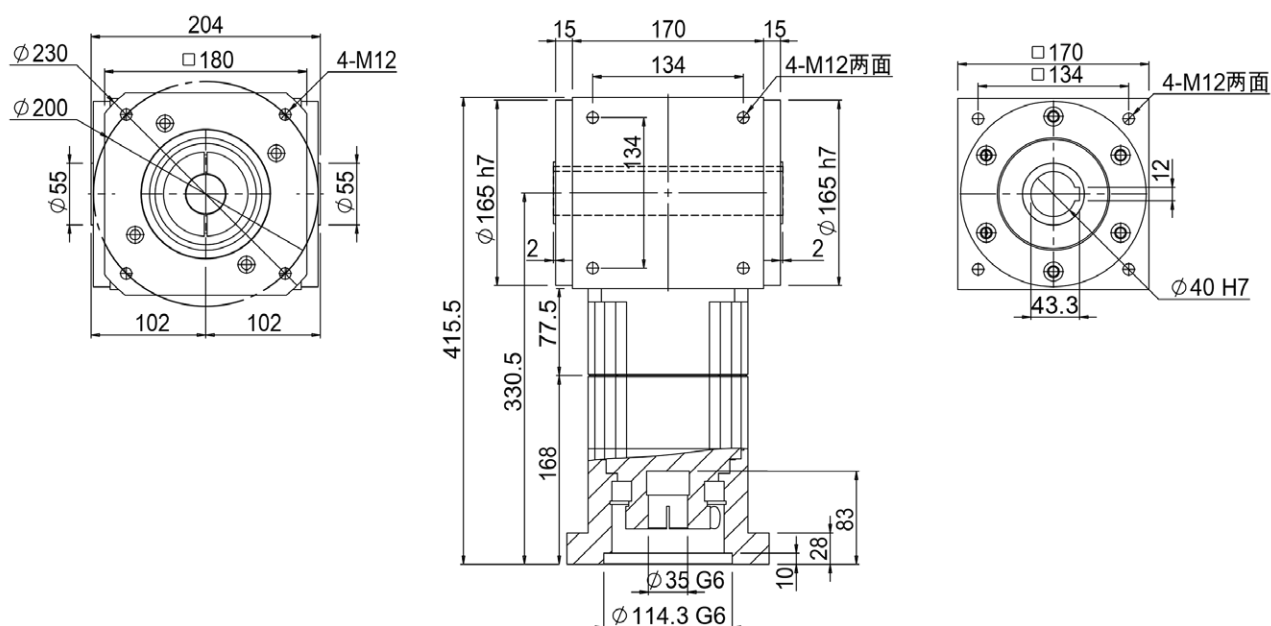
■ **GPW170D-L2**



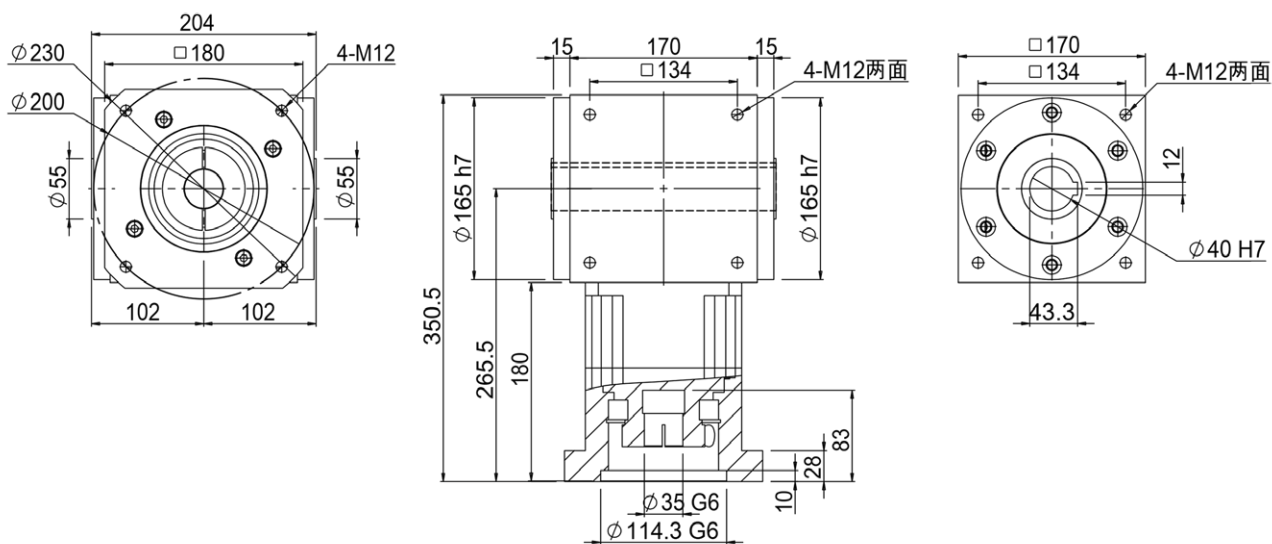
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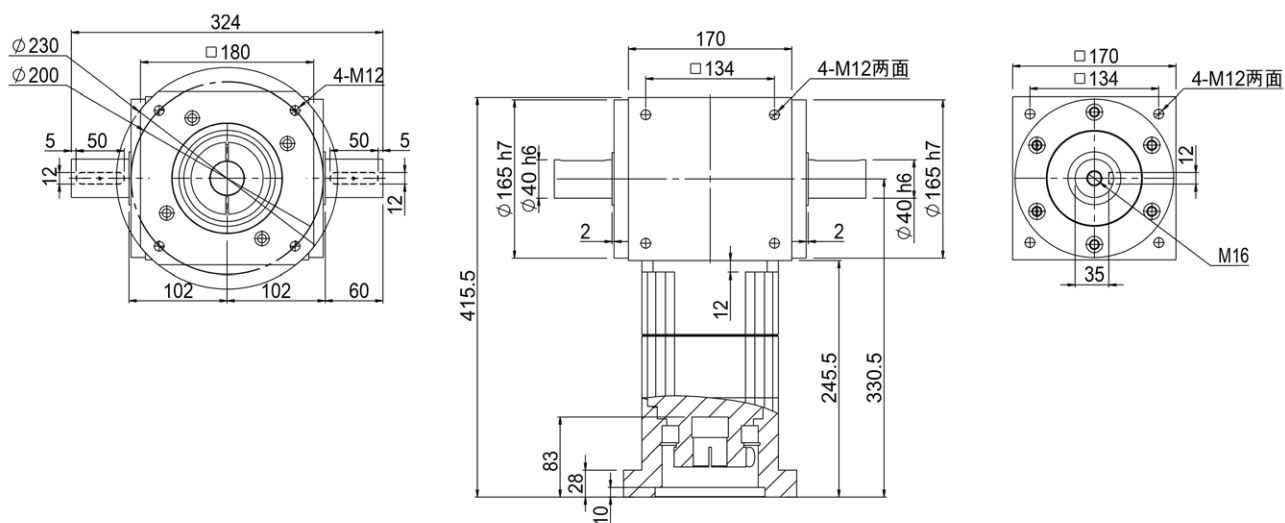
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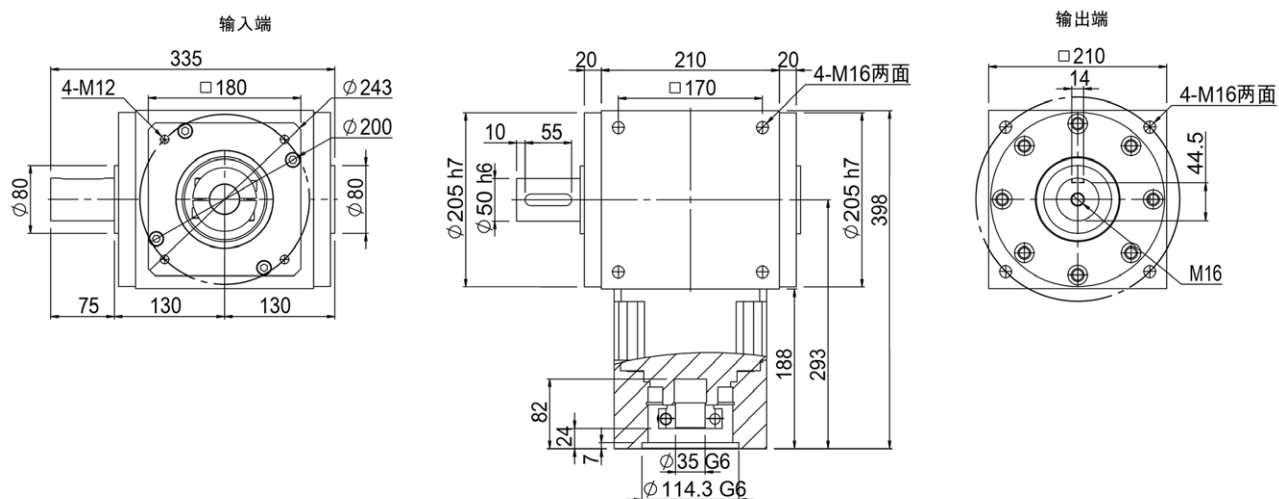
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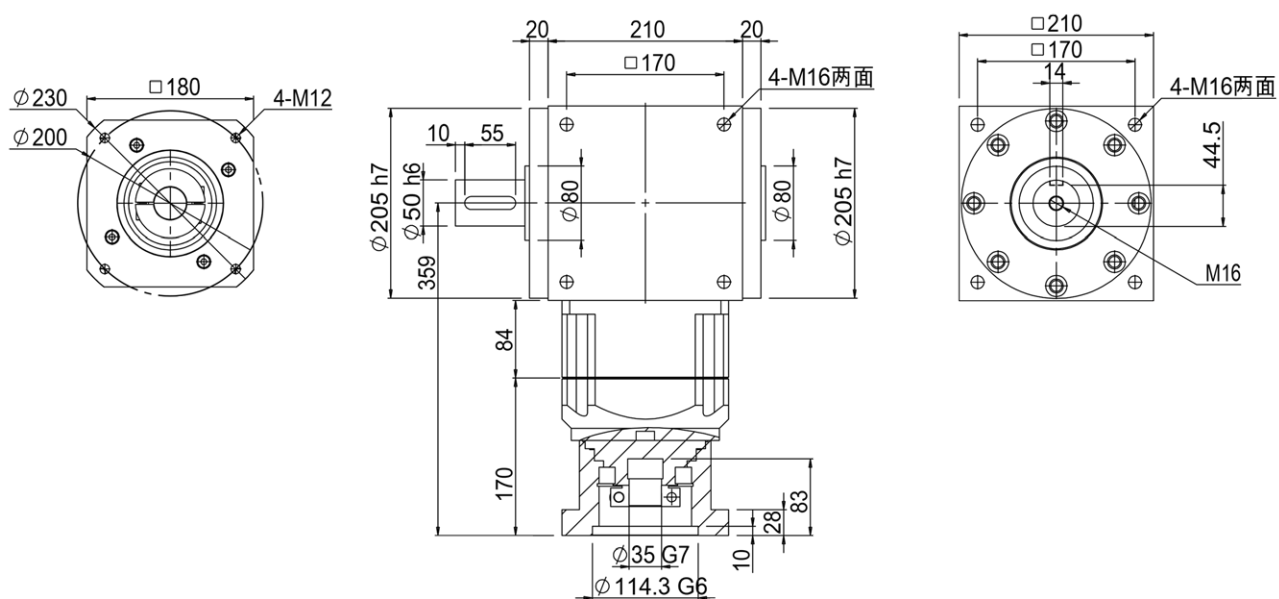
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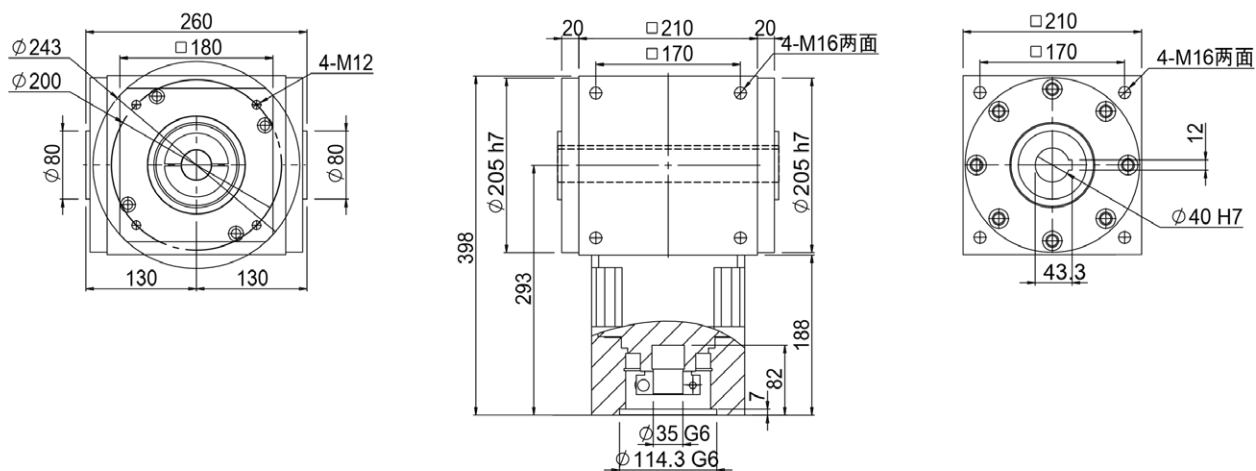
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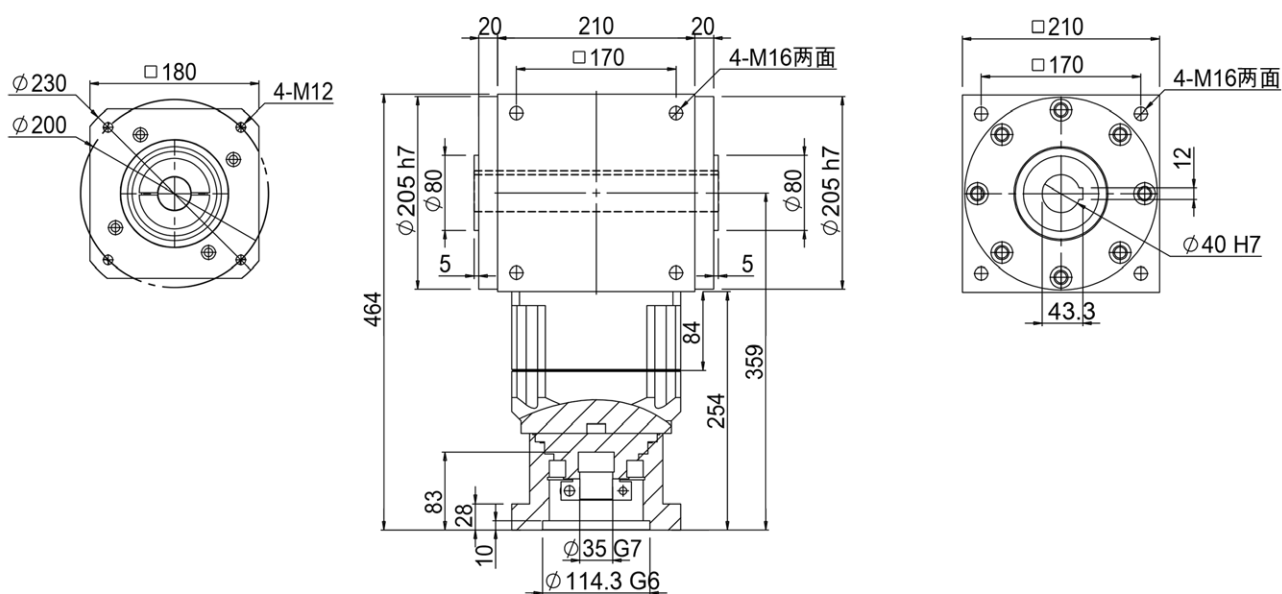
■ GPW210D-L2



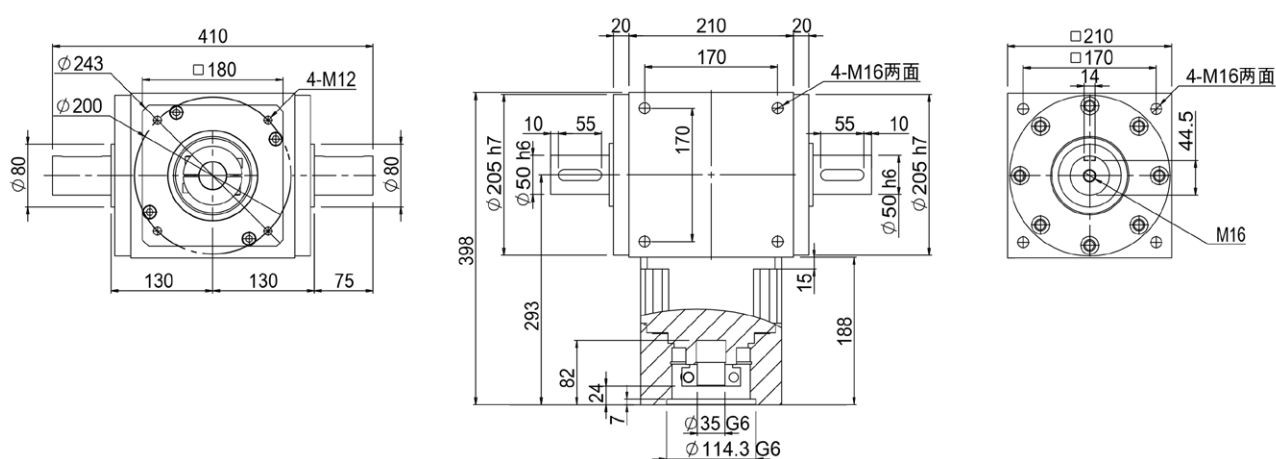
■ GPW210H-L1



■ GPW210H-L2



■ GPW210S-L1



■ GPW210S-L2

