

# TROY

TROY ENTERPRISE COMPANY LTD.

*Striving For  
Superior Precision*



## Planetary Gearbox

低背隙行星式 **減速機** 型錄

Ver.  
**2.2**

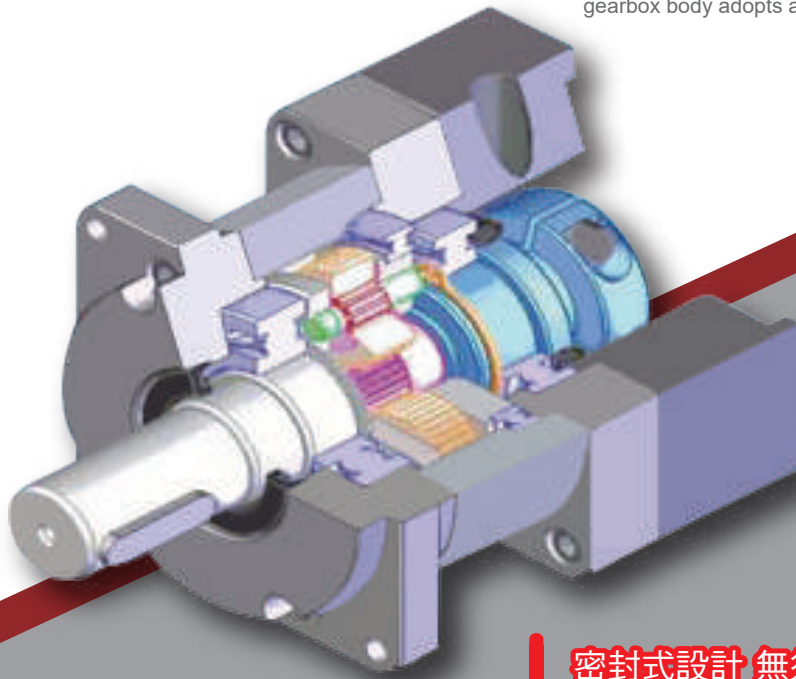
# 減速機結構特色

## Gearbox Structure Features

### 一體化設計 提升結構強度

#### Integrated Design to Enhance the Structural Strength

- ◆ 精密型/標準型，皆採直接在減速機本體內部進行內環齒的滾製，提高齒輪系嚙合精度與結構強度  
Both of the precision type / standard type have been conducted rolled for its inner ring tooth to enhance the precision engagement and structural strength to the gearbox.
- ◆ 出力軸與行星齒輪架一體加工成型，提升減速機的最大容許轉矩  
Integral processing and molding for output shaft and planetary gearbox wheel frame to enhance the maximum permissible torque of the gearbox.



### 合金鋼材質SKIVING製程

#### Alloy Steel Material SKIVING Process

- ◆ 全系齒輪採用高韌性、高強度的SCM系合金鋼材質  
Full gear series adopts high toughness and high strength SCM series alloy steel material.
- ◆ 齒輪採SKIVING滾齒製程，提高齒輪系嚙合精度  
Gear adopts SKIVING hobbling process, improve the mesh accuracy for the gear train.

### 雙螺絲鎖付軸心固定方式

#### Fixing Method Of Double Screws For Locking Output Shaft

- ◆ 馬達軸心與減速機連結方式採對邊雙螺絲鎖付方式，提升締結的鎖緊力  
Link method for motor output shaft and gearbox adopts opposite double screw locking way to enhance the locking force to the linkage.

### 耐環境性表面特殊處理

#### Special Surface Processing For Environmental Resistance

- ◆ 本體合金鋼材部分採無電解鍍表面光亮處理  
Alloy steel material part of the gearbox body adopts no electrolytic nickel surface bright processing.
- ◆ 前後蓋鋁合金材部分採陽極電著皮膜處理  
Front and rear cover aluminum alloy material part of the gearbox body adopts anode electricity film processing.

### 密封式設計 無須更換潤滑油

#### Sealed Design Without Replacing Lubricating Oil

- ◆ 配置前後二段油封，潤滑油不會洩漏  
With before and after two oil seals, the lubricating oil will not leak out.  
採用耐極壓性合成潤滑油脂，無須換油保養
- ◆ Use extreme pressure resistance synthetic lubricants, there is no need to replace lubricating oil for maintenance.

### 模組化多樣式馬達安裝

#### Modular Multi-Style Motor Mounting Surface

- ◆ 多樣式馬達安裝面選用，可搭配各廠牌伺服、無刷、步進馬達安裝  
Multi-style motor mounting surface choice for matching with all brands of servo, brushless, stepper motor.

**高精度 · 高機械剛性**  
High Precision · High Mechanical Rigidity

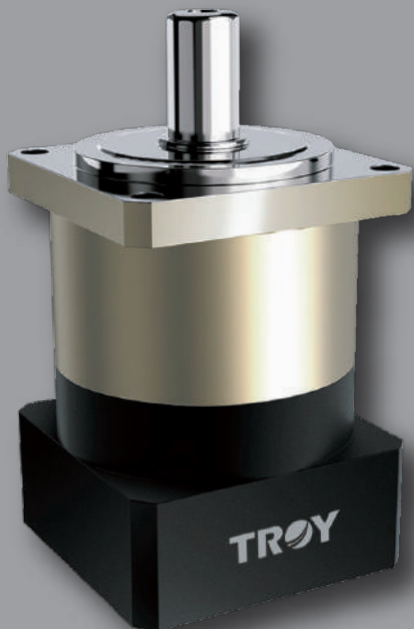


**減速比：3-100**

Gearbox Ratio

**搭配馬達容量：0.1KW-5KW**

Available Motor Capacity



# CONTENTS

---

品名看法 Product Number Code	01		
馬達尺寸規格表 Motor Dimension Specifications	02-03		
產品介紹 Products Profile	04		
減速機性能參數 Gearbox Performance Information	05		
外形尺寸圖 Dimensions	06-19		
4PNL1	06	4PNL2	07
6PNL1	08	6PNL2	09
9PNL1	10	9PNL2	11
11PNL1	12	11PNL2	13
14PNL1	14	14PNL2	15
18PNL1	16	18PNL2	17
22PNL1	18	22PNL2	19
減速機與馬達安裝順序 Gearbox and Motor Installation Sequence	20		
保固內容 Warranty Content	21		

「提供好的產品與服務給客戶，協助客戶提升競爭力」  
是 **TROY** 對您的承諾！

"Providing good products and services to customers and assisting customers to enhance their competitiveness" is TROY's commitment to you!

# Planetary Gearbox

## ■ 品名看法 Product Number Code

9	PN		5	G	6	F1								
減速機 Gearbox				馬達 Motor										
安裝面尺寸 Frame Size		產品系列 Product Series		減速比 Gearbox Ratio		型式 Type	安裝面尺寸 Frame size		編碼 Coding					
4	□42mm ○47mm	行星式 減速機 Planetary Gearbox	-	3	1/3	25	1/25	H	精密型	4	□42mm	詳見 頁碼 P.2-3 Please refer to page P.2-3	F1	詳見 頁碼 P.2-3 Please refer to page P.2-3
6	□60mm ○60mm		R	4	1/4	28	1/28	G	標準型	6	□60mm		F2	
9	□90mm ○90mm		B	5	1/5	30	1/30			9	□90mm		F3	
11	○110mm □115mm		BR	7	1/7	35	1/35			12	□120mm		F4	
12	□120mm		T	10	1/10	40	1/40			14	□140mm		F5	
14	□140mm ○140mm		TR	12	1/12	50	1/50			18	□180mm		F6	
18	□180mm			15	1/15	70	1/70			22	□220mm		F7	
20	○200mm			16	1/16	100	1/100						F8	
22	□220mm			20	1/20								F9	
										S			訂製品(詳如下述) Customized Products (Details as follows)	

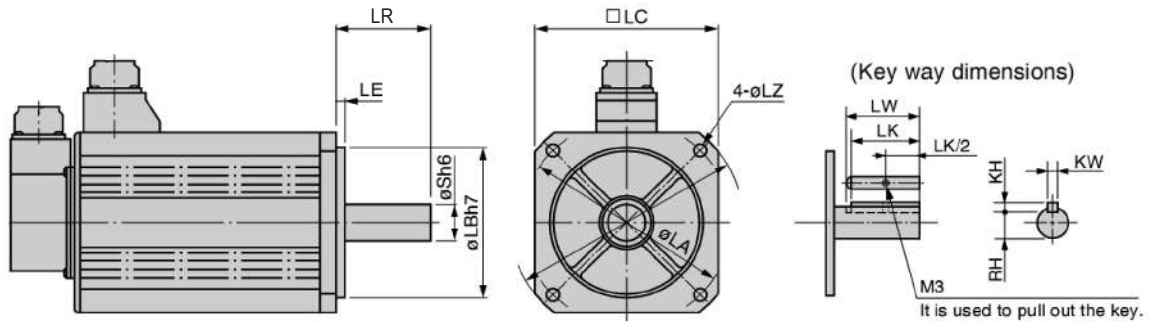
## 訂製品名

### Customized Products Number Code

9PN5G	-	S	6	F1	LA	LB	S	LZ				
減速機 Gearbox		馬達 Motor			減速機變更部位 Gearbox Modification Parts							
品名 Model	訂製品 Customized Products	安裝面尺寸 Frame Size		編碼 Coding	LA	需求尺寸 Required Dimensions	LB	需求尺寸 Required Dimensions	S	需求尺寸 Required Dimensions	LZ	需求尺寸 Required Dimensions
承接上面所 選出的品名 Undertake the product name selected above		4	□42mm	詳見 頁碼 P.2-3 Please refer to page P.2-3	F1	馬達安裝面 PCD尺寸∅ Motor Installation Dimension∅	馬達凸緣 尺寸∅ Motor Flange Dimensions∅	馬達軸徑 尺寸∅ Motor Shaft Diameter Size∅	馬達螺絲 孔徑尺寸∅ Motor Screw Hole Diameter Size∅			
		6	□60mm		F2							
		9	□90mm		F3							
		12	□120mm		F4							
		14	□140mm		F5							
		18	□180mm		F6							
		22	□220mm		F7							
					F8							
					F9							
					*毋需變更之部位，則不必列出。 *To no need for changing part will not be listed.							

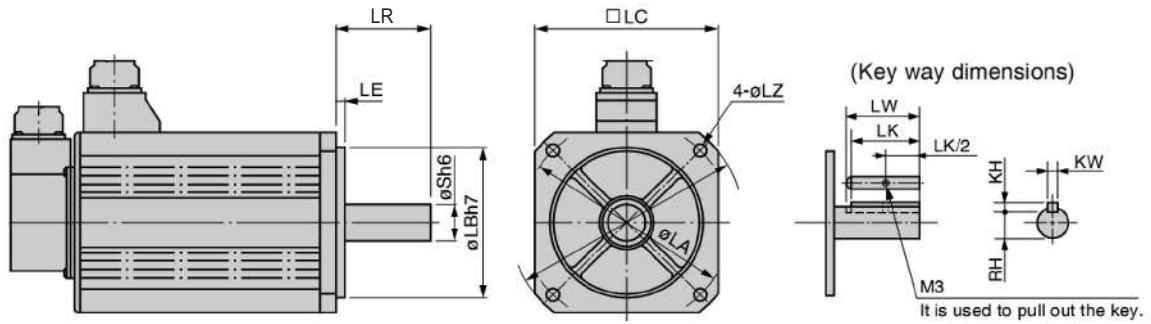
# Planetary Gearbox

## ■ 馬達尺寸規格表 Motor Dimension Specifications



安裝面 Mounting Surface	編碼 Coding	S	LR	LB	LE	LA	LZ	LC	備註 Note
4	□42mm	F1	8	25	30	2.5	46	4.5	40
		F2	8	24	22	2	48	3.4	42
		F3	8	25	30	3	45	3.4	38
		F4	6	20	37.6	1.5	48	3.5	42
		F5	5	22	25	3	36	M4	42
		F6	5	20	22	2	43.8	M3	42
		F7	8	25	30	3	45	3.4	38
		F8	6	20	22	2	43.8	M3	42
		F9	8	20	35	2	50	M3	42
		F10	8	20	22	2	43.8	M3	42
6	□60mm	F1	14	30	50	3	70	5.8	60
		F2	14	30	50	3	70	4.5	60
		F3	6	20	40	2	63	4.5	60
		F4	8	24	54	2	70	4.5	60
		F5	6.35	20	38.1	1.6	66.67	5	57
		F6	8	20	38.1	1.6	66.67	5	57
		F7	10	22	38.1	1.6	66.67	5	57
		F8	8	20	36	1.5	70.7	4.5	60
		F9	10	20	36	1.5	70.7	4.5	60
		F10	11	30	50	3	70	4.5	60
9	□90mm	F1	19	40	70	3	90	6.6	80
		F2	14	30	70	3	90	7	80
		F3	16	35	80	3	100	6.6	86
		F4	19	40	80	3	100	6.6	90
		F5	19	40	95	3	115	9	100
		F6	19	40	95	3	130	9	100
		F7	12	37	83	2.5	104	8.5	90
		F8	14	37	73	1.6	98.45	6.5	85
		F9	14	37	73.03	2	98.45	6.5	85
		F10	14	37	60	2	98.9	6.5	85
		F11	14	31.75	73.03	2	98.9	5.5	85

# Planetary Gearbox



安裝面 Mounting Surface	編碼 Coding	S	LR	LB	LE	LA	LZ	LC	備註 Note
9	□90 mm	F12	14	33	80	3	100	6.6	90
		F13	16	40	70	3	90	5.5	80
		F14	16	35	80	3	100	5.5	86
		F15	16	30	70	3	90	6.6	80
		F16	19	40	70	3	90	5.5	80
		F17	14	37	83	2.5	104	8.5	90
		F18	16	35	80	3	100	6.6	86
12	□120mm	F1	24	65	110	3	145	9	130
		F2	22	58	110	6	145	9	130
		F3	22	45	95	5	115	9	100
		F4	19	37	94	2	120	8.5	104
		F5	19	55	55.52	1.52	125.8	8.5	110
		F6	19	55	95	3	115	9	100
		F7	24	55	95	3	130	9	100
		F8	24	55	110	3	130	9	130
		F9	19	55	110	3	145	9	130
14	□140mm	F1	24	65	110	3	145	9	130
		F2	22	70	110	6	145	9	130
		F3	28	63	110	6	145	9	130
		F4	28	65	130	3.2	165	11	150
		F5	32	58	130	3.2	165	11	150
		F6	32	58	110	6	145	11	130
		F7	28	60	130	3.2		12	150
18	□180mm	F1	35	79	114.3	3	200	13.5	176
		F2	42	113	114.3	3	200	13.5	176
		F3	28	79	114.3	3	200	13.5	176
		F4	38	81	95	3	200	13.5	176
22	□220mm	F1	42	116	220	4	235	13.5	220
		F2	55	116	220	4	235	13.5	220
		F3	38	80	180	4	215	15	208
		F4	55	110	230	4	265	15	264

# Planetary Gearbox

產品介紹 Product Profile

## PN 系列 / PN Series

- 4PNL1
- 6PNL1
- 9PNL1
- 11PNL1
- 14PNL1
- 18PNL1
- 22PNL1
- 4PNL2
- 6PNL2
- 9PNL2
- 11PNL2
- 14PNL2
- 18PNL2
- 22PNL2





# Planetary Gearbox

## 減速機性能參數 / Gearbox performance information

規格 Specification	單位 Units	節數 Stage Level	速比 Speed ratio	4PN	6PN	9PN	11PN	14PN	18PN	22PN
額定輸出扭矩 Rated output torque	NM	L1	3	20	36	130	208	342	588	1140
			4	19	48	140	290	542	1050	1700
			5	22	60	160	330	650	1200	2000
			6		58	120	240	410	1100	1900
			7	19	50	140	300	550	1100	1800
			8		45	130	230	450	1000	1600
		L2	10	14	40	100	230	450	900	1500
			15	19	36	130	208	342	588	1140
			20	20	48	140	290	542	1050	1700
			25	20	60	160	330	650	1200	2000
			30	19	55	150	310	600	1100	1480
			35	20	50	140	300	550	1100	1800
			40	20	45	120	230	500	1000	1580
			50	20	60	160	330	650	1200	1750
60		55	150	310	600	1100	1650			
70	19	50	140	300	550	1100	1600			
80		45	110	230	410	1000	1600			
100	14	40	100	230	450	900	1500			
急停扭矩 Scram torque	NM	L1*L2	3~100	2.5倍額定輸出扭矩 2.5 times rated output torque						
額定輸入轉速 Rated input speed	RPM	L1*L2	3~100	5000	5000	4000	4000	3000	3000	2000
最大輸入轉速 Maximum input speed		L1*L2	3~100	10000	10000	8000	8000	6000	6000	4200
回程高精度間隙H Return high precision clearance	Arc/Min	L1	3~10	≤3	≤3	≤3	≤3	≤3	≤3	≤3
回程標準間隙G Return standard clearance		L2	15~100	≤5	≤5	≤5	≤5	≤5	≤5	≤5
扭轉剛性 Torsional rigidity	NM/arcmin	L1*L2	3~100	3	7	14	25	50	145	225
最大徑向力 Maximum radial force	N	L1*L2	3~100	780	1200	2450	4000	9000	15000	15000
最大軸向力 Maximum axial force	N	L1*L2	3~100	350	1050	2200	4000	8300	14000	14000
工作效率 Work efficiency	%	L1	3~10	≥97	≥97	≥97	≥97	≥97	≥97	≥97
		L2	15~100	≥94	≥94	≥94	≥94	≥94	≥94	≥94
工作壽命 Working life	h	L1*L2	3~100	≥20000						
環境溫度 Ambient temperature	°C	L1*L2	3~100	-10°C~+45°C						
潤滑方式 Lubrication mode		L1*L2	3~100	終身潤滑 Lifetime lubrication						
防護等級 Class of protection		L1*L2	3~100	IP65						
安裝方向 Mounting direction		L1*L2	3~100	任何方向 Any direction						
噪音 Noise	db	L1*L2	3~100	≤58	≤60	≤64	≤67	≤72	≤75	≤78
轉動慣量 Moment of inertia part	kg.cm <sup>2</sup>	L1	3	0.03	0.16	0.61	3.25	9.21	44	90
			4	0.03	0.14	0.48	2.74	7.54	28	62
			5	0.03	0.13	0.47	2.71	7.42	22	52
			6	0.03	0.13	0.45	2.67	7.34	18	47
			7	0.03	0.13	0.45	2.62	7.25	16	42
			8	0.03	0.13	0.45	2.61	7.19	15	40
		L2	10	0.03	0.13	0.45	2.57	7.14	14	38
			15	0.03	0.03	0.13	0.47	7.03	12	36
			20	0.03	0.03	0.13	0.47	2.71	12	35
			25	0.03	0.03	0.13	0.47	2.71	13	35
			30	0.03	0.03	0.13	0.47	2.71	11	34
			35	0.03	0.03	0.13	0.47	2.71	12	35
			40	0.03	0.03	0.13	0.47	2.71	11	33
			50	0.03	0.03	0.13	0.47	2.71	11	33
			60	0.03	0.03	0.13	0.47	2.71	11	33
			70	0.03	0.03	0.13	0.44	2.57	11	33
			80	0.03	0.03	0.13	0.44	2.57	11	33
			100	0.03	0.03	0.13	0.44	2.57	11	33

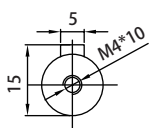
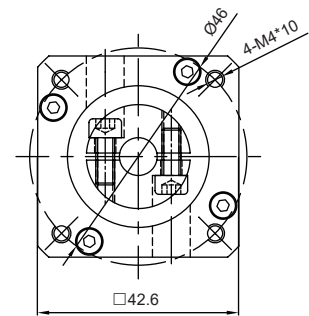
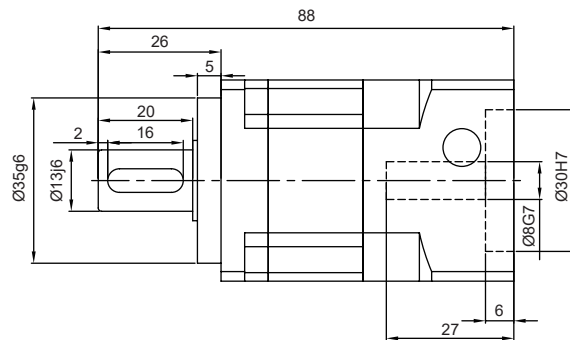
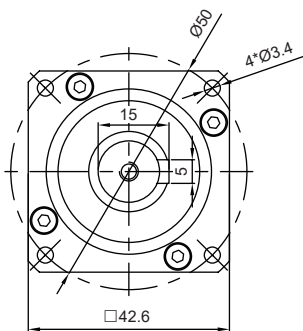
# Planetary Gearbox

## 外形尺寸圖 / Dimensions

### 4PNL1

#### 輸出端 / OUTPUT

#### 輸入端 / INPUT



帶鍵軸心  
keyed shaft

- ※1. 減速機輸入端尺寸會因搭配馬達的不同而有所差異。  
The input dimensions of the gearbox may vary depending on the motor used.
- ※2. 減速機輸入端軸徑與馬達輸出軸徑不同時，可安裝軸套。  
When the input shaft diameter of the gearbox differs from the motor output shaft diameter, a shaft sleeve can be installed.
- ※3. 其餘尺寸需求，請洽各地營業所。  
For other dimensional requirements, please contact your local sales office.

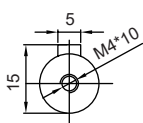
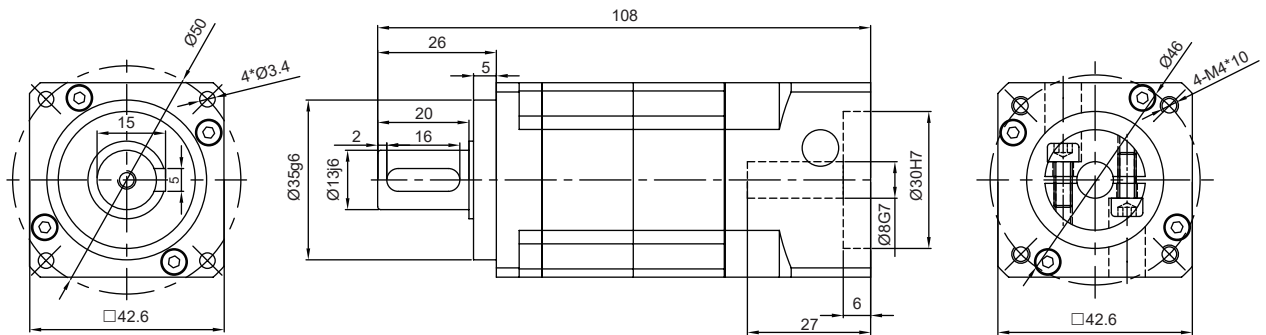
# Planetary Gearbox

## 外形尺寸圖 / Dimensions

### 4PNL2

#### 輸出端 / OUTPUT

#### 輸入端 / INPUT



帶鍵軸心  
keyed shaft

- ※1. 減速機輸入端尺寸會因搭配馬達的不同而有所差異。  
The input dimensions of the gearbox may vary depending on the motor used.
- ※2. 減速機輸入端軸徑與馬達輸出軸徑不同時，可安裝軸套。  
When the input shaft diameter of the gearbox differs from the motor output shaft diameter, a shaft sleeve can be installed.
- ※3. 其餘尺寸需求，請洽各地營業所。  
For other dimensional requirements, please contact your local sales office.

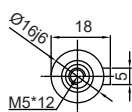
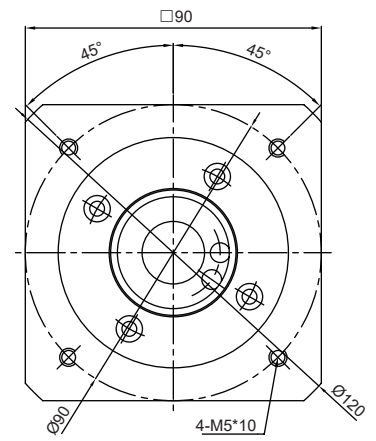
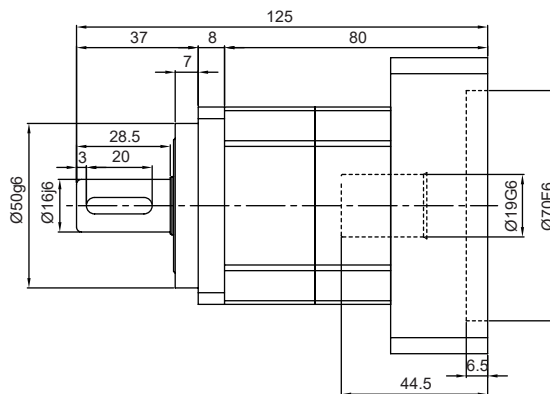
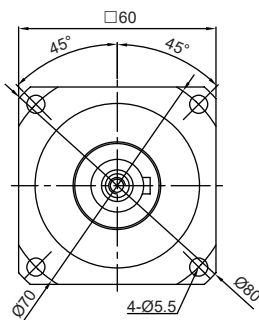
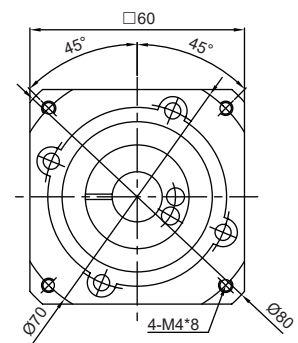
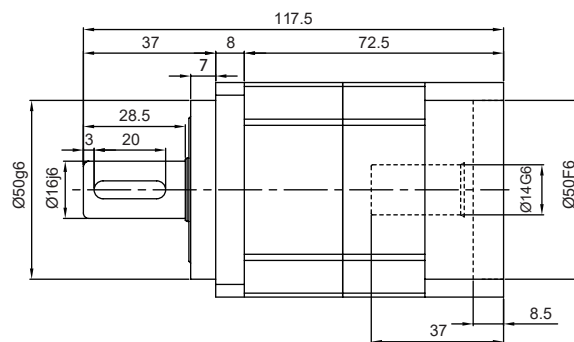
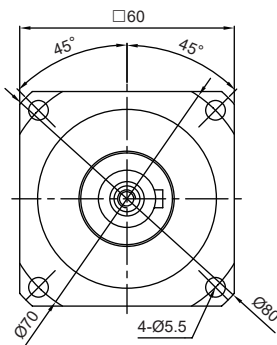
# Planetary Gearbox

## 外形尺寸圖 / Dimensions

### 6PNL1

#### 輸出端 / OUTPUT

#### 輸入端 / INPUT



帶鍵軸心  
keyed shaft

- ※1. 減速機輸入端尺寸會因搭配馬達的不同而有所差異。  
The input dimensions of the gearbox may vary depending on the motor used.
- ※2. 減速機輸入端軸徑與馬達輸出軸徑不同時，可安裝軸套。  
When the input shaft diameter of the gearbox differs from the motor output shaft diameter, a shaft sleeve can be installed.
- ※3. 其餘尺寸需求，請洽各地營業所。  
For other dimensional requirements, please contact your local sales office.

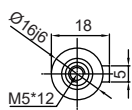
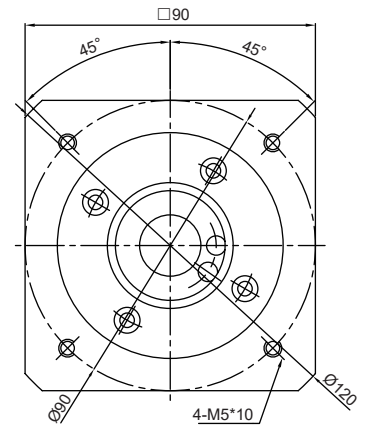
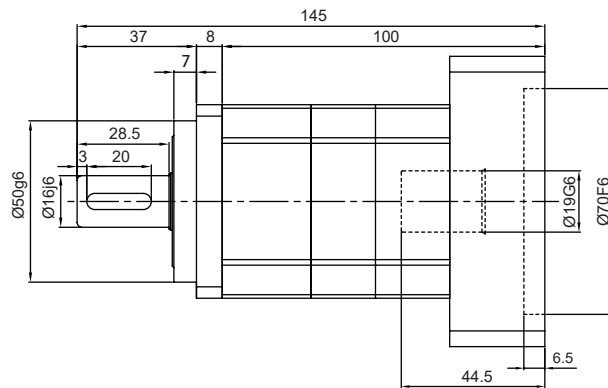
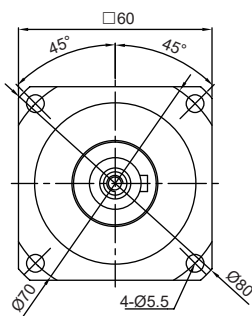
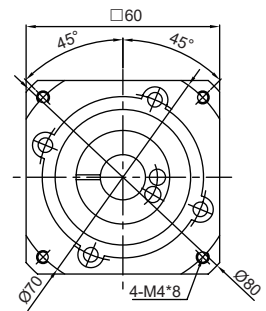
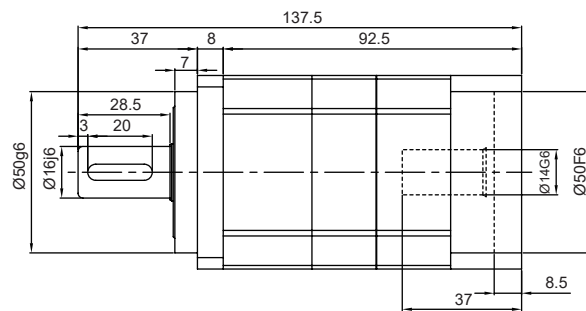
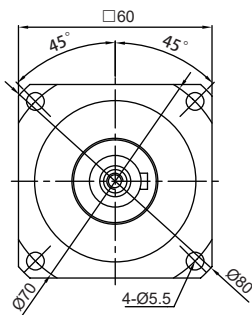
# Planetary Gearbox

## 外形尺寸圖 / Dimensions

### 6PNL2

#### 輸出端 / OUTPUT

#### 輸入端 / INPUT



帶鍵軸心  
keyed shaft

- ※1. 減速機輸入端尺寸會因搭配馬達的不同而有所差異。  
The input dimensions of the gearbox may vary depending on the motor used.
- ※2. 減速機輸入端軸徑與馬達輸出軸徑不同時，可安裝軸套。  
When the input shaft diameter of the gearbox differs from the motor output shaft diameter, a shaft sleeve can be installed.
- ※3. 其餘尺寸需求，請洽各地營業所。  
For other dimensional requirements, please contact your local sales office.

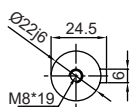
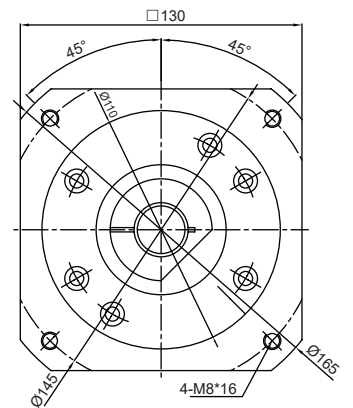
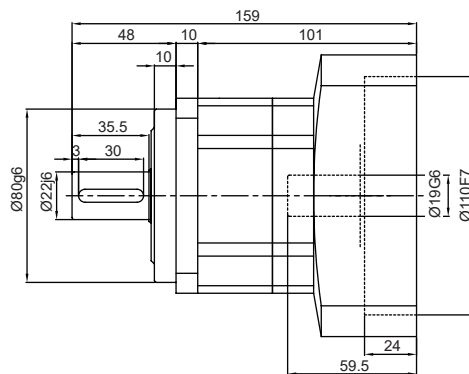
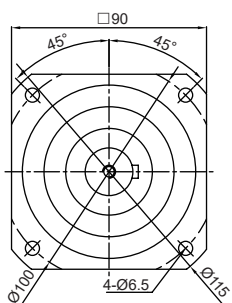
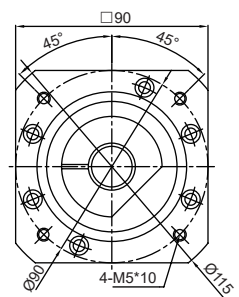
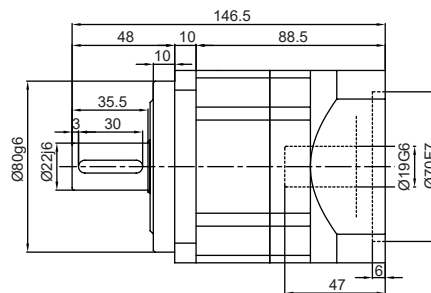
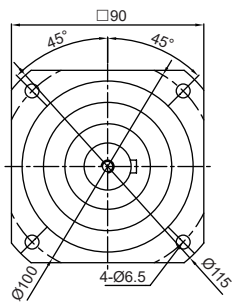
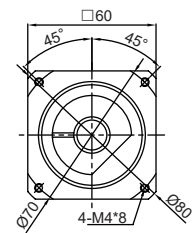
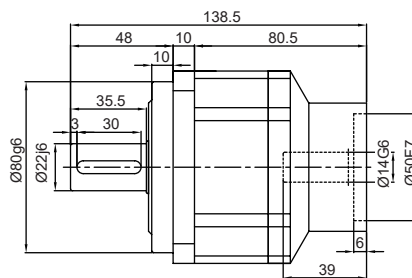
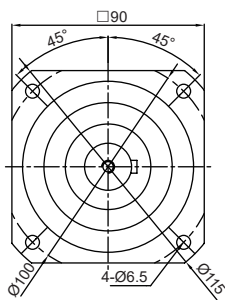
# Planetary Gearbox

## 外形尺寸圖 / Dimensions

### 9PNL1

#### 輸出端 / OUTPUT

#### 輸入端 / INPUT



帶鍵軸心  
keyed shaft

- ※1. 減速機輸入端尺寸會因搭配馬達的不同而有所差異。  
The input dimensions of the gearbox may vary depending on the motor used.
- ※2. 減速機輸入端軸徑與馬達輸出軸徑不同時，可安裝軸套。  
When the input shaft diameter of the gearbox differs from the motor output shaft diameter, a shaft sleeve can be installed.
- ※3. 其餘尺寸需求，請洽各地營業所。  
For other dimensional requirements, please contact your local sales office.

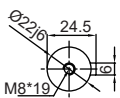
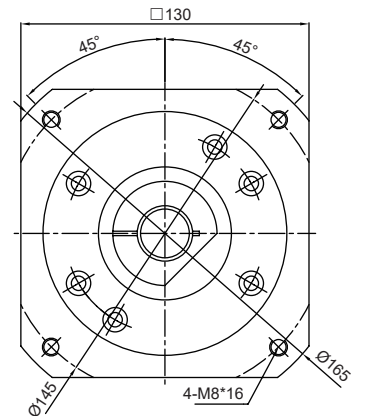
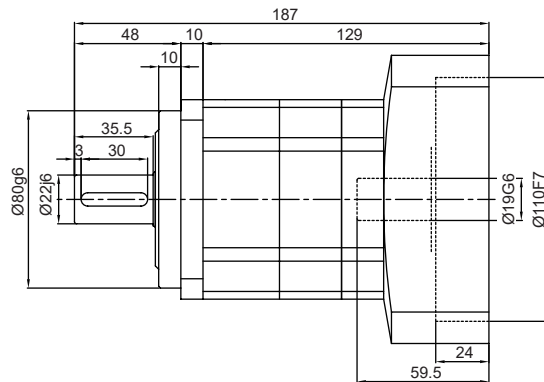
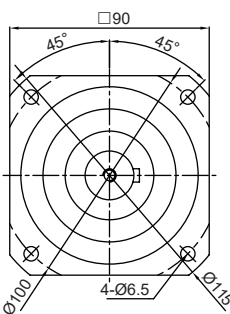
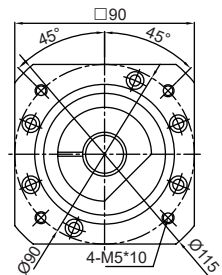
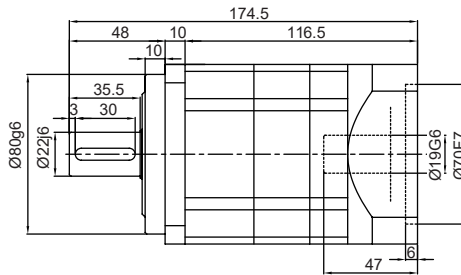
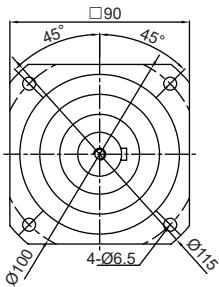
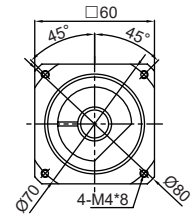
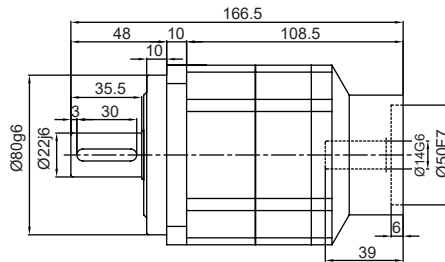
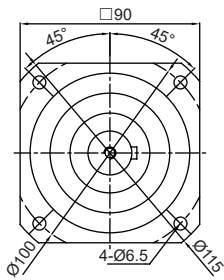
# Planetary Gearbox

## 外形尺寸圖 / Dimensions

### 9PNL2

#### 輸出端 / OUTPUT

#### 輸入端 / INPUT



帶鍵軸心  
keyed shaft

- ※1. 減速機輸入端尺寸會因搭配馬達的不同而有所差異。  
The input dimensions of the gearbox may vary depending on the motor used.
- ※2. 減速機輸入端軸徑與馬達輸出軸徑不同時，可安裝軸套。  
When the input shaft diameter of the gearbox differs from the motor output shaft diameter, a shaft sleeve can be installed.
- ※3. 其餘尺寸需求，請洽各地營業所。  
For other dimensional requirements, please contact your local sales office.

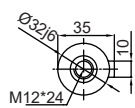
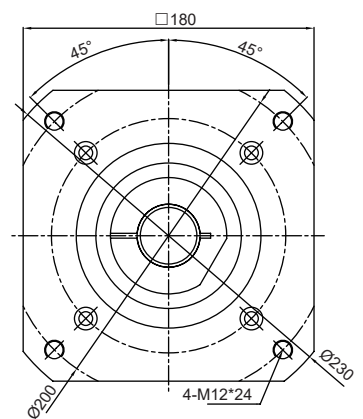
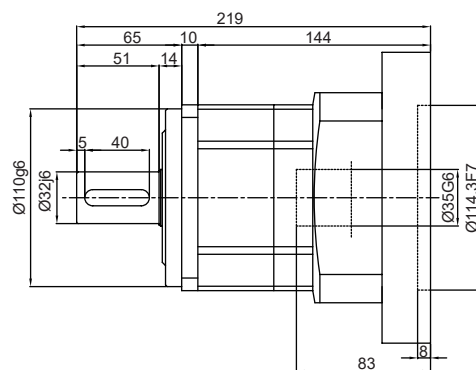
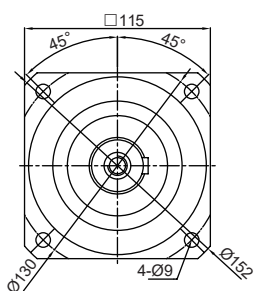
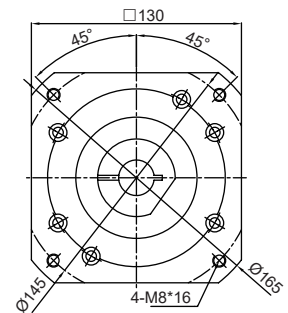
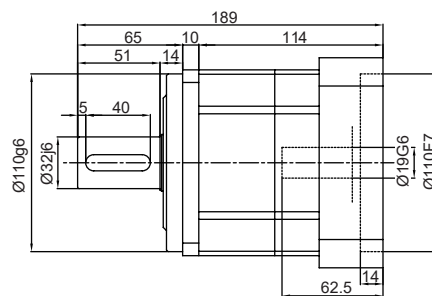
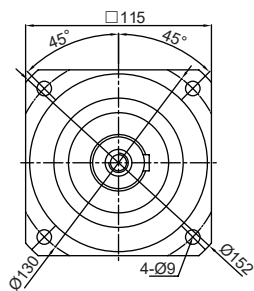
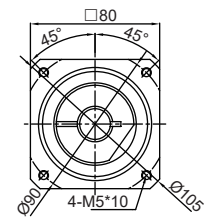
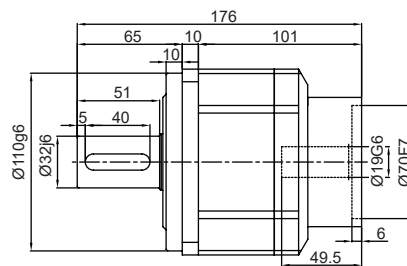
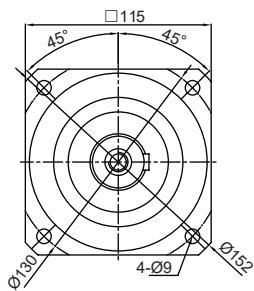
# Planetary Gearbox

## ▶ 外形尺寸圖 / Dimensions

### 11PNL1

#### 輸出端 / OUTPUT

#### 輸入端 / INPUT



帶鍵軸心  
keyed shaft

- ※1. 減速機輸入端尺寸會因搭配馬達的不同而有所差異。  
The input dimensions of the gearbox may vary depending on the motor used.
- ※2. 減速機輸入端軸徑與馬達輸出軸徑不同時，可安裝軸套。  
When the input shaft diameter of the gearbox differs from the motor output shaft diameter, a shaft sleeve can be installed.
- ※3. 其餘尺寸需求，請洽各地營業所。  
For other dimensional requirements, please contact your local sales office.



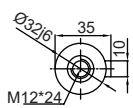
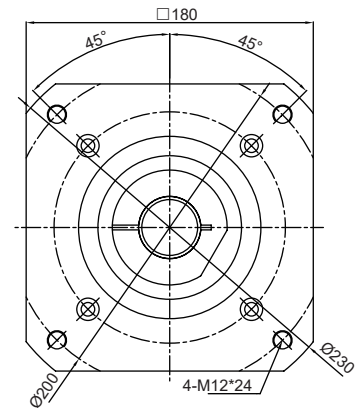
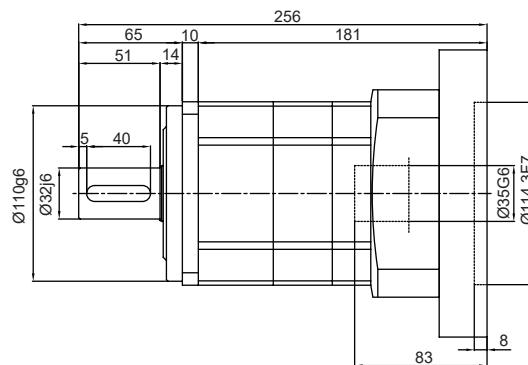
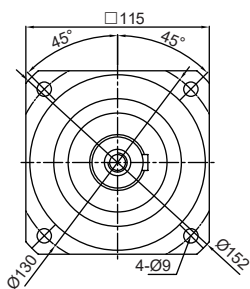
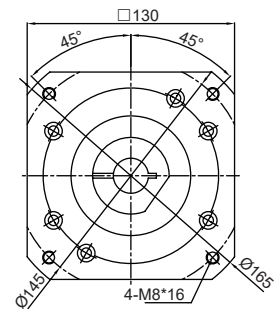
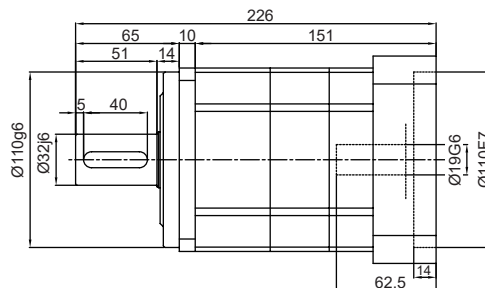
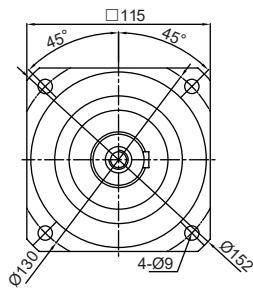
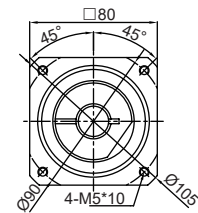
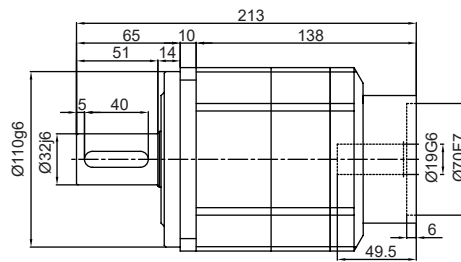
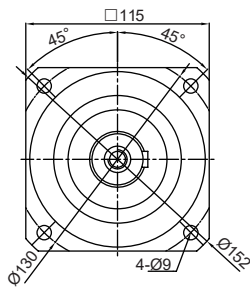
# Planetary Gearbox

## 外形尺寸圖 / Dimensions

### 11PNL2

#### 輸出端 / OUTPUT

#### 輸入端 / INPUT



帶鍵軸心  
keyed shaft

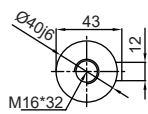
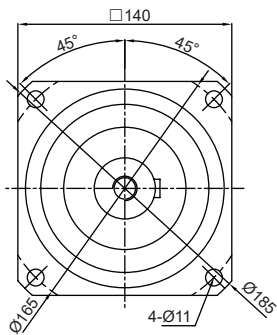
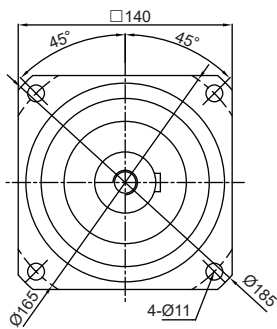
- ※1. 減速機輸入端尺寸會因搭配馬達的不同而有所差異。  
The input dimensions of the gearbox may vary depending on the motor used.
- ※2. 減速機輸入端軸徑與馬達輸出軸徑不同時，可安裝軸套。  
When the input shaft diameter of the gearbox differs from the motor output shaft diameter, a shaft sleeve can be installed.
- ※3. 其餘尺寸需求，請洽各地營業所。  
For other dimensional requirements, please contact your local sales office.

# Planetary Gearbox

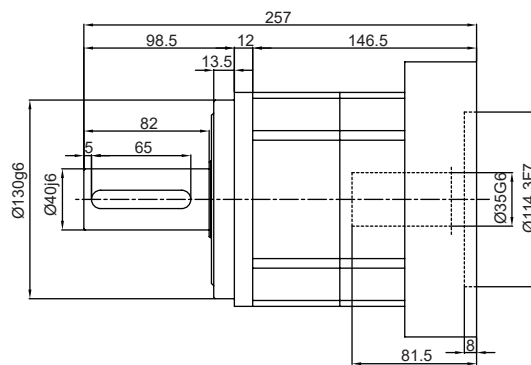
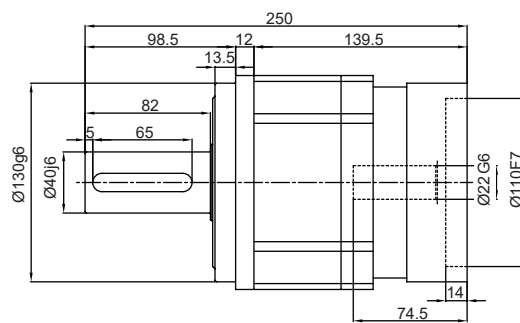
## 外形尺寸圖 / Dimensions

### 14PNL1

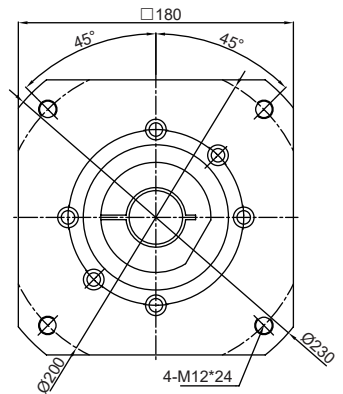
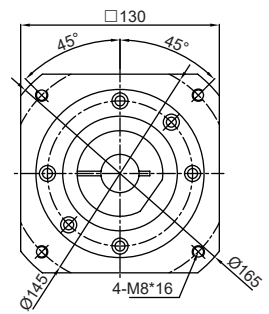
#### 輸出端 / OUTPUT



帶鍵軸心  
keyed shaft



#### 輸入端 / INPUT



- ※1. 減速機輸入端尺寸會因搭配馬達的不同而有所差異。  
The input dimensions of the gearbox may vary depending on the motor used.
- ※2. 減速機輸入端軸徑與馬達輸出軸徑不同時，可安裝軸套。  
When the input shaft diameter of the gearbox differs from the motor output shaft diameter, a shaft sleeve can be installed.
- ※3. 其餘尺寸需求，請洽各地營業所。  
For other dimensional requirements, please contact your local sales office.

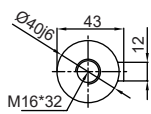
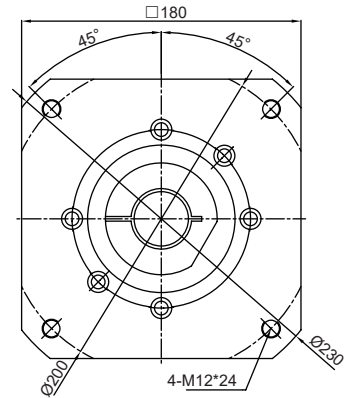
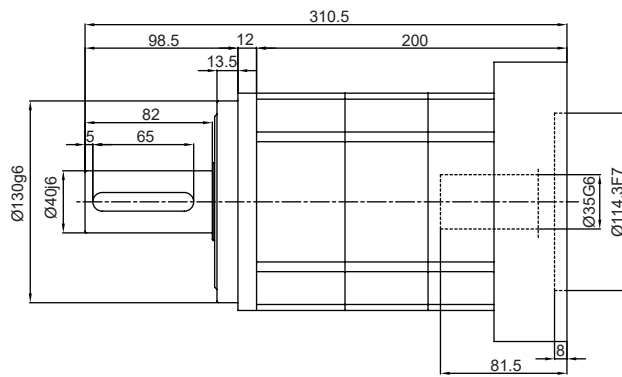
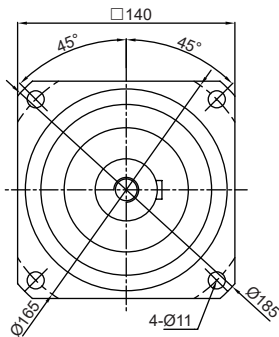
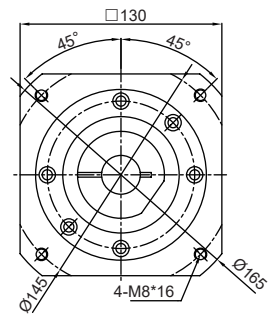
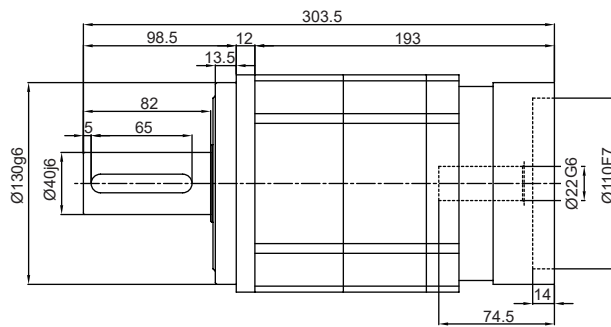
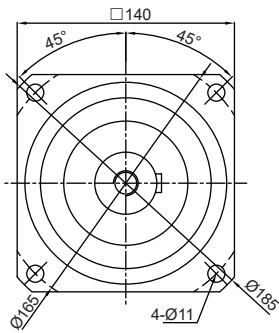
# Planetary Gearbox

## 外形尺寸圖 / Dimensions

### 14PNL2

#### 輸出端 / OUTPUT

#### 輸入端 / INPUT



帶鍵軸心  
keyed shaft

- ※1. 減速機輸入端尺寸會因搭配馬達的不同而有所差異。  
The input dimensions of the gearbox may vary depending on the motor used.
- ※2. 減速機輸入端軸徑與馬達輸出軸徑不同時，可安裝軸套。  
When the input shaft diameter of the gearbox differs from the motor output shaft diameter, a shaft sleeve can be installed.
- ※3. 其餘尺寸需求，請洽各地營業所。  
For other dimensional requirements, please contact your local sales office.

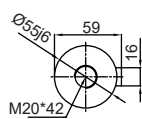
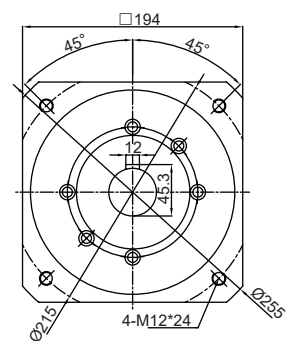
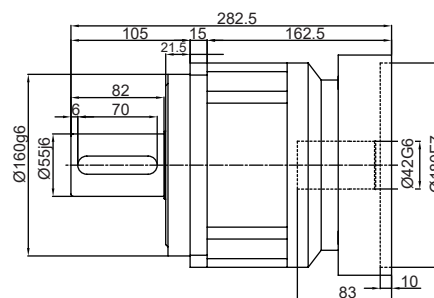
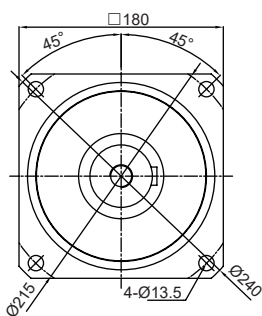
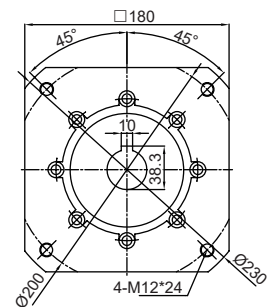
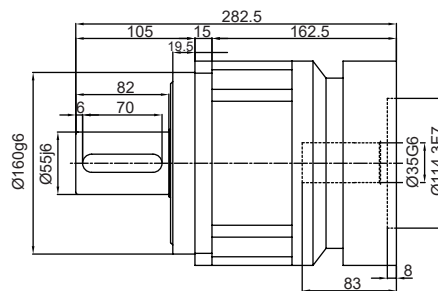
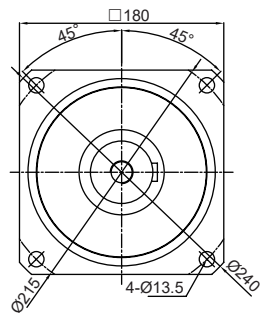
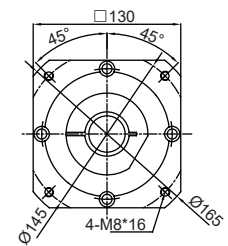
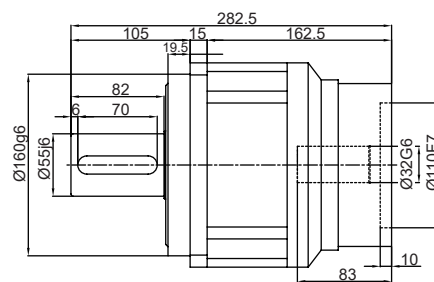
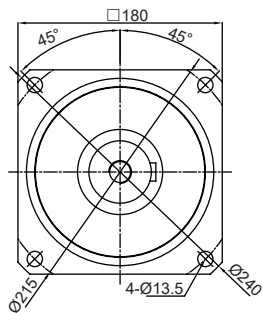
# Planetary Gearbox

## 外形尺寸圖 / Dimensions

### 18PNL1

#### 輸出端 / OUTPUT

#### 輸入端 / INPUT



帶鍵軸心  
keyed shaft

- ※1. 減速機輸入端尺寸會因搭配馬達的不同而有所差異。  
The input dimensions of the gearbox may vary depending on the motor used.
- ※2. 減速機輸入端軸徑與馬達輸出軸徑不同時，可安裝軸套。  
When the input shaft diameter of the gearbox differs from the motor output shaft diameter, a shaft sleeve can be installed.
- ※3. 其餘尺寸需求，請洽各地營業所。  
For other dimensional requirements, please contact your local sales office.

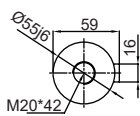
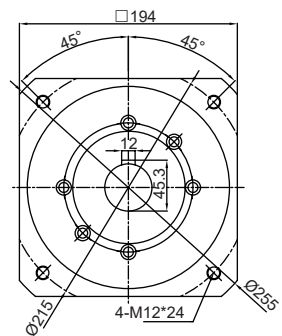
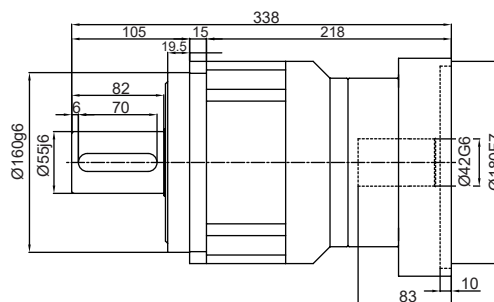
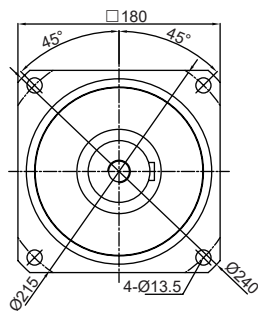
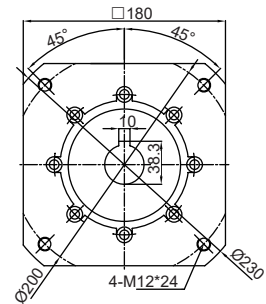
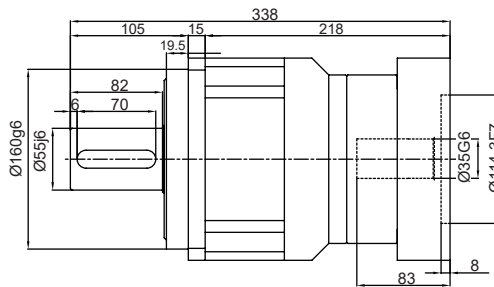
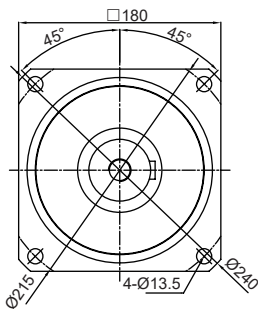
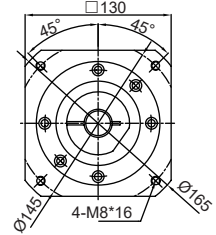
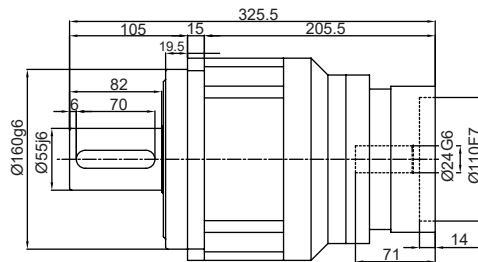
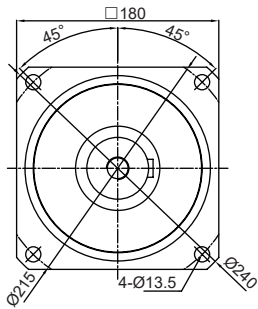
# Planetary Gearbox

## 外形尺寸圖 / Dimensions

### 18PNL2

#### 輸出端 / OUTPUT

#### 輸入端 / INPUT



帶鍵軸心  
keyed shaft

- ※1. 減速機輸入端尺寸會因搭配馬達的不同而有所差異。  
The input dimensions of the gearbox may vary depending on the motor used.
- ※2. 減速機輸入端軸徑與馬達輸出軸徑不同時，可安裝軸套。  
When the input shaft diameter of the gearbox differs from the motor output shaft diameter, a shaft sleeve can be installed.
- ※3. 其餘尺寸需求，請洽各地營業所。  
For other dimensional requirements, please contact your local sales office.

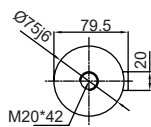
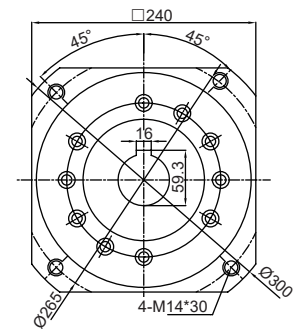
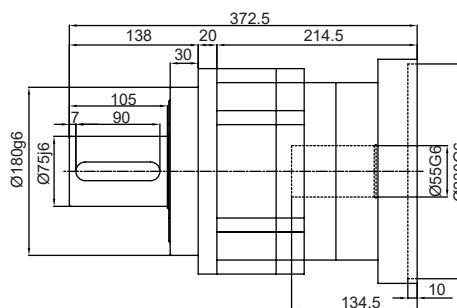
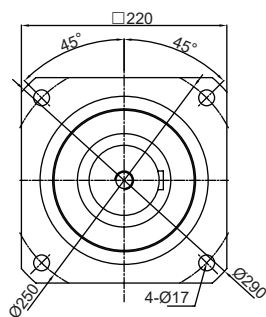
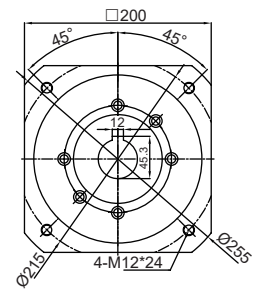
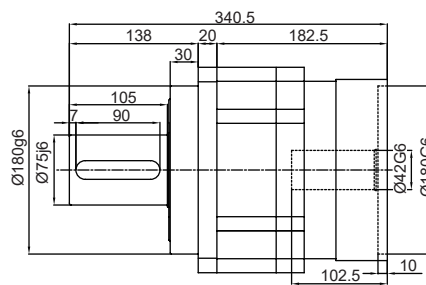
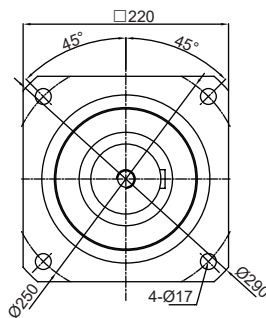
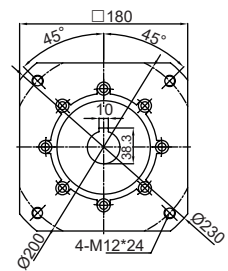
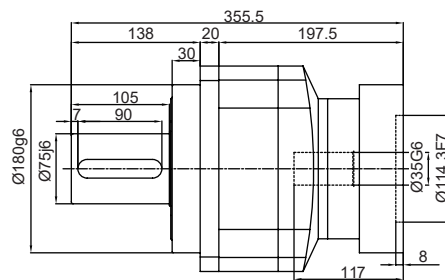
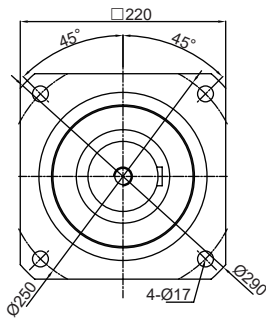
# Planetary Gearbox

## 外形尺寸圖 / Dimensions

### 22PNL1

#### 輸出端 / OUTPUT

#### 輸入端 / INPUT



帶鍵軸心  
keyed shaft

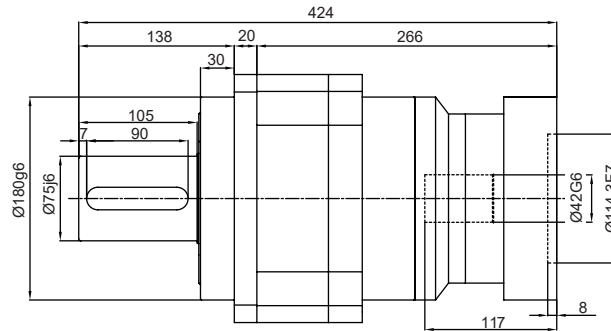
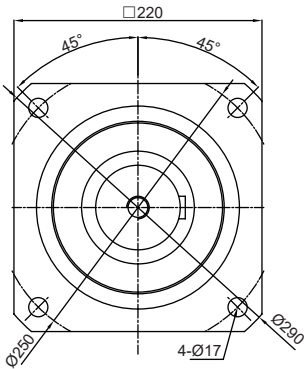
- ※1. 減速機輸入端尺寸會因搭配馬達的不同而有所差異。  
The input dimensions of the gearbox may vary depending on the motor used.
- ※2. 減速機輸入端軸徑與馬達輸出軸徑不同時，可安裝軸套。  
When the input shaft diameter of the gearbox differs from the motor output shaft diameter, a shaft sleeve can be installed.
- ※3. 其餘尺寸需求，請洽各地營業所。  
For other dimensional requirements, please contact your local sales office.

# Planetary Gearbox

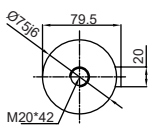
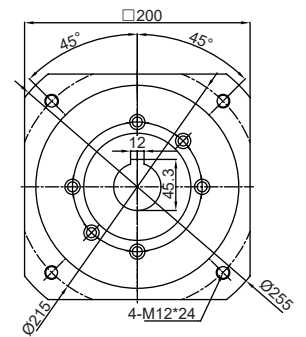
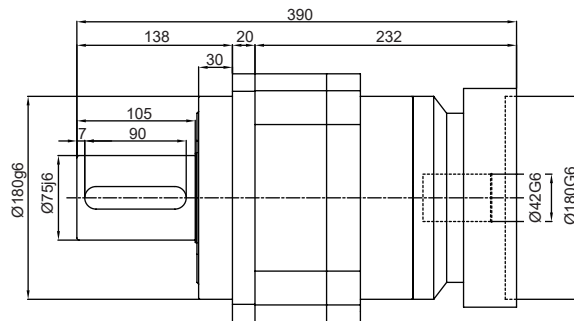
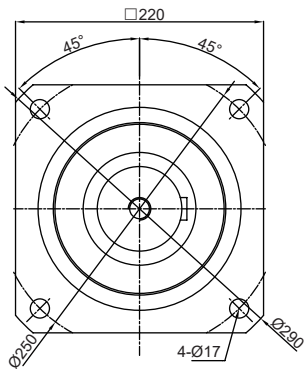
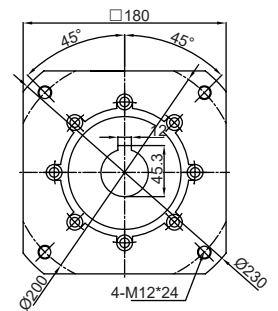
## 外形尺寸圖 / Dimensions

### 22PNL2

#### 輸出端 / OUTPUT



#### 輸入端 / INPUT



帶鍵軸心  
keyed shaft

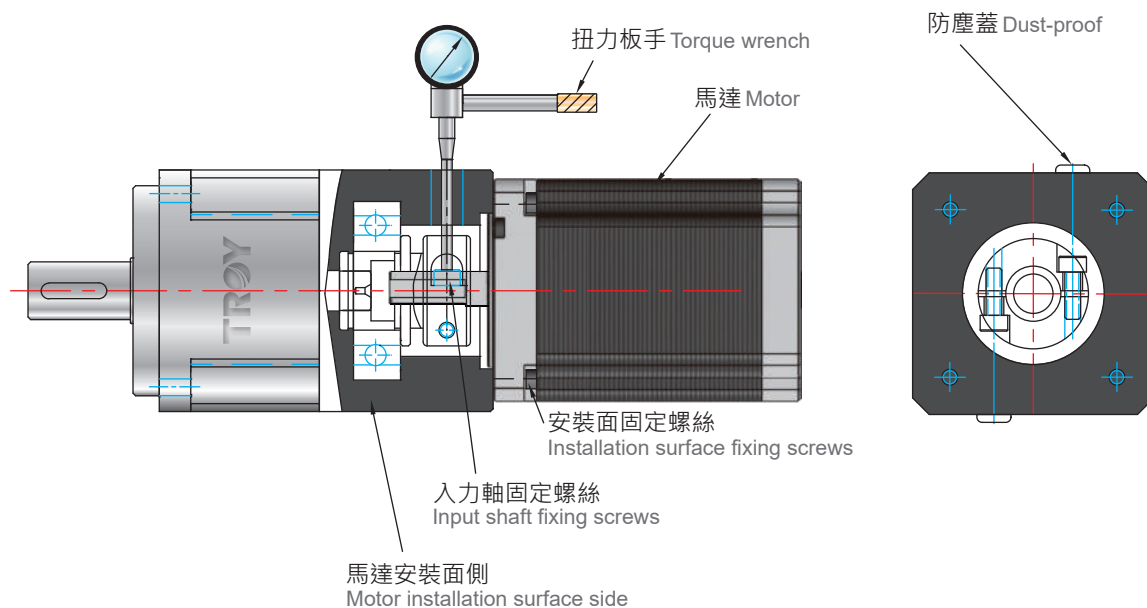
- ※1. 減速機輸入端尺寸會因搭配馬達的不同而有所差異。  
The input dimensions of the gearbox may vary depending on the motor used.
- ※2. 減速機輸入端軸徑與馬達輸出軸徑不同時，可安裝軸套。  
When the input shaft diameter of the gearbox differs from the motor output shaft diameter, a shaft sleeve can be installed.
- ※3. 其餘尺寸需求，請洽各地營業所。  
For other dimensional requirements, please contact your local sales office.

## ■ 減速機與馬達安裝順序 Gearbox and Motor Installation Sequence

1. 將馬達出力軸擦拭乾淨  
Wipe the motor output shaft clearly.
- ↓
2. 將馬達裝入減速機內並鎖緊螺絲  
Install the motor into the gearbox and lock the screws.
- ↓
3. 將減速機入力軸套的兩顆螺絲鎖緊(螺絲鎖緊的扭力請參考下表)  
Lock the two screws of the gearbox input shaft sleeve. (Please refer to the following table for screw locking torque)
- ↓
4. 將防塵蓋裝入減速機  
Put dust-proof cover into the gearbox.

## ■ 螺絲鎖緊的扭力 Screw Locking Torque

螺絲規格 Screw Specification		M3	M4	M5	M6	M8	M10	M12
鎖緊扭力 Locking Torque	Nm	0.2	0.45	0.9	1.53	3.0	7.35	12.8
	kgcm	2.0	4.5	9.0	15.3	30.0	73.5	128.0





# Planetary Gearbox

## ■ 保固內容 Warranty Content

### 1. 保固期間 Warranty period

本公司的產品保固期間為購買產品後抑或是將產品交貨至指定地方後一年內。  
Our company's products warranty period is after purchasing or after delivering products to the designated place within one year.

### 2. 保固範圍 Warranty range

保固期間內，若產品因非人為因素而發生故障，客戶將產品寄回，本公司免費更換受損零件。但因下列故障原因不在保固範圍內：

During the warranty period, if the product have malfunction condition due to non-human factors, customers need to ship the product back for us our freely replace damaged parts . But the following reasons does not be covered in the warranty range:

- a) 不在本目錄或規格書內所規定的條件、環境的使用下所造成的故障。  
The faults caused by not the prescribed condition and the using environment to the contents of this catalog or specification.
- b) 非產品本身原因所造成的故障。  
The faults caused by non-product itself reason.
- c) 未依照原本設計之使用方式所造成的故障。  
The faults caused by not in accordance with the original design of using way.
- d) 非經由本公司所進行的改裝或維修所造成的故障。  
The faults caused by non-via modification or maintenance from our company.
- e) 其他天然、自然災害等不可抗拒力所造成的故障。  
The faults caused by other force majeure factor like natural disasters.

此外，上述保固僅限於本公司產品本身，因產品故障所導致之相關損失並不包含在本保固範圍內。  
Besides, above warranty is only limited to our company's products. If the related losses due to products' malfunction does not be included within the scope of warranty.

## ■ 責任限制 Limitation of Liability

關於因本公司產品所引發之一切特別損害、間接損害、消極損害(應得利益之喪失)，本公司不負任何責任。

About the all special damages, indirect damages and negative damages (loss of deserve benefits) caused by our company's products, we will assume no responsibility.

## ■ 選購時，應符合用途條件

### Compliance using application conditions while purchasing

將本公司產品與其他產品搭配使用時，請確認是否符合客戶所需之規格、法規或限制等。此外，請客戶自行確認目前所使用的系統、機械或是裝置是否適用於本公司產品。如未確認是否符合或適用時，本公司無須對本公司產品的適用性負責。

When use our company's products with other products, make sure it meets customer's required specification, regulation and restriction or not. Besides, let customers confirm their own using systems, mechanical parts and device is suitable for our present company's product or not. If not confirming the compliance or suitability, our company will not be responsible for the suitability of our company's products.

## ■ 潤滑 Lubrication

減速機為密封式設計，不需換油。

Gearbox belongs to sealed design , it has no need to replace lubricating oil.

油品採用耐極壓型合成油脂。

Lubricating oil adopts the extreme pressure resistance synthetic lubricants.

周圍使用溫度0~+40°C。

Ambient temperature 0 ~ + 40°C

減速機本體最高容許溫度85°C以下。

The max. permissible ambient temperature to the gearbox body : below 85°C

※：工作場合溫度0°C以下，訂購前需註明清楚。

Under workplace temperature below 0°C, please indicate it clearly before ordering.

# TROY

南京  
Nanjing

蘇州  
Suzhou

上海  
Shanghai

東莞  
Dongguan

廈門  
Xiamen

台北總公司  
Taipei Head Quarter

中壢營業所  
Chungli Branch

台中營業所  
Taichung Branch

高雄營業所  
Kaohsiung Branch

-  客服中心  
Customer Service Center
-  物流中心  
Distribution Center
-  維修中心  
Repair Center
-  經銷商  
Distributor



台灣區  
Taiwan Area  
中國區  
China Area  
總代理  
General Agent

厚利貿易股份有限公司  
SUNHOLY Trading Co., Ltd.

[www.sunholy.com.tw](http://www.sunholy.com.tw)  
[sales@sunholy.com.tw](mailto:sales@sunholy.com.tw)

厚利官網  
Sunholy Website



台北總公司  
Taipei Head Quarter

☎ : 886-2-2516-6060  
☎ : 886-2-2508-0323

中壢營業所  
Chungli Branch

☎ : 886-3-435-2330  
☎ : 886-3-435-4106

台中營業所  
Taichung Branch

☎ : 886-4-2355-0318  
☎ : 886-4-2355-0319

高雄營業所  
Kaohsiung Branch

☎ : 886-7-342-5099  
☎ : 886-7-342-0019

中國地區-廈門客服中心  
China Area-Xiamen Customer Service Center

✉ : sales@sunholy.com.cn  
☎ : 86-17759208482