



Precision Planetary gearbox

PG series

PG

IG

Right Angle

RA

RB

WG

SD

BLDC

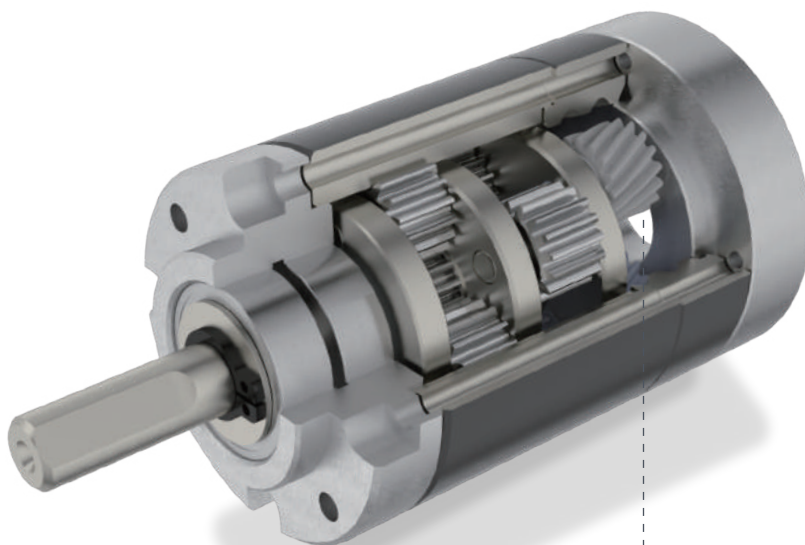
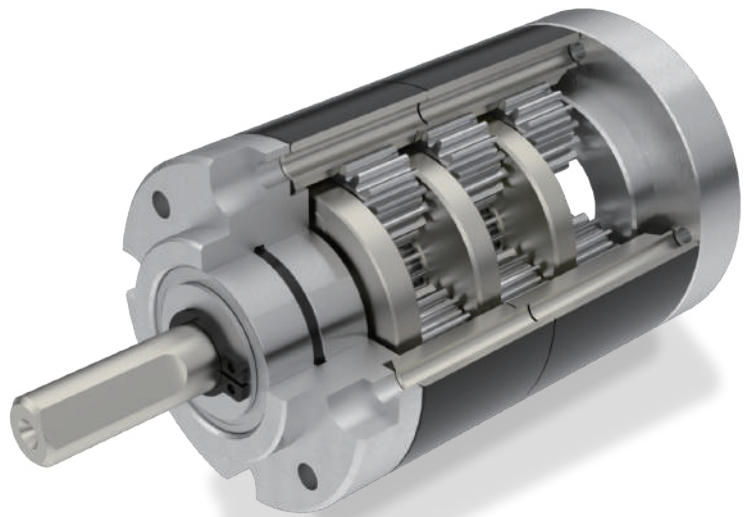
Encoder

Driver

精密型行星式齒輪箱 Precision Planetary Gearbox

標準精密型行星式齒輪箱 Standard Precision Planetary Gearbox

- 可承受扭力大
High Torque
- 效率高
High Efficiency
- 背隙小
Low Backlash



低噪音精密型行星式齒輪箱 Low Noise Precision Planetary Gearbox

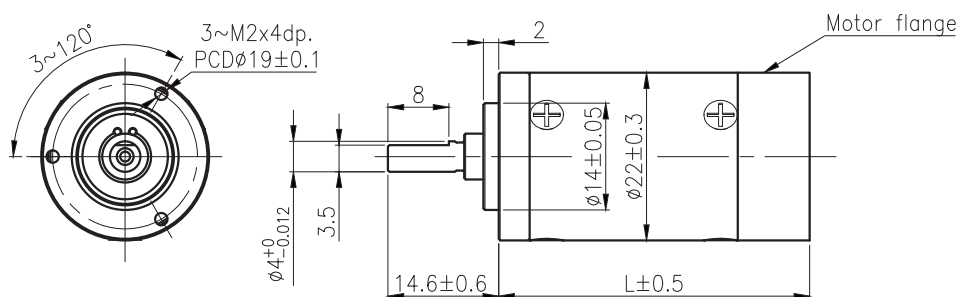
- 低噪音
Low Noise
- 可承受扭力大
High Torque
- 效率高
High Efficiency
- 背隙小
Low Backlash

○ 塑膠斜齒輪可降低噪音
Plastic helical gear for low noise

PG-22



外形尺寸/ Appearance Size



unit:mm

產品規格/ Product Specifications

版本 Version	級數 Number of stages	外殼材質 Housing material	輸出軸承型式 Bearing at output	徑向負荷 Radial load (10mm from flange)	軸向負荷 Shaft axial load	主軸承受壓力 Shaft press fit force	徑向間隙 Radial play of shaft	軸向間隙 Thrust play of shaft	背隙(無負荷時) Backlash, at no-load
PG-22 標準版/Standard	1	金屬 Metal	滾珠軸承 Ball bearings	≤ 2.5 kgf	≤ 1 kgf	≤ 5 kgf	≤ 0.05 mm	≤ 0.2 mm	≤ 1.5 °
	2	金屬 Metal	滾珠軸承 Ball bearings	≤ 3.5 kgf	≤ 1.5 kgf	≤ 5 kgf	≤ 0.05 mm	≤ 0.2 mm	≤ 2.0 °
	3	金屬 Metal	滾珠軸承 Ball bearings	≤ 5 kgf	≤ 1.5 kgf	≤ 5 kgf	≤ 0.05 mm	≤ 0.2 mm	≤ 2.5 °

標準減速比型式/ Gearboxes Specifications

級數 Number of stages	1	2	3
減速比 Reduction ratio	1/4 (3.71), 1/4 (4.29), 1/5, 1/7	1/14, 1/16, 1/18, 1/19, 1/22, 1/25, 1/27, 1/29, 1/35, 1/46	1/51, 1/59, 1/68, 1/71, 1/79, 1/93, 1/95, 1/100, 1/107, 1/115, 1/124, 1/130, 1/139, 1/150, 1/169, 1/181, 1/195, 1/236, 1/308
定格容許扭力 (kgf-cm max.) Rated tolerance torque	5.4	6.3	7.2
瞬間容許扭力 (kgf-cm max.) Momentary tolerance torque	8.1	9.4	10.8
效率 (%) Efficiency	90	80	70
長度 (mm) *1 Length (L)	24.2	32.4	40.5
重量 *2 Weight (g)	43	58	75

- 使用相對溼度：20%~85%RH ● 使用溫度範圍：-30°C~+100°C
Operating relative humidity Operating temperature range

*1 參考值，我們會依選用的馬達而進行下蓋尺寸的優化設計
Reference. The flange size will be optimized according to the selected motor.

*2 參考值，重量會因部分零件的材質與尺寸不同而有所差異
Reference. The weight will vary due to the material and size of some parts.

PG

PG-32

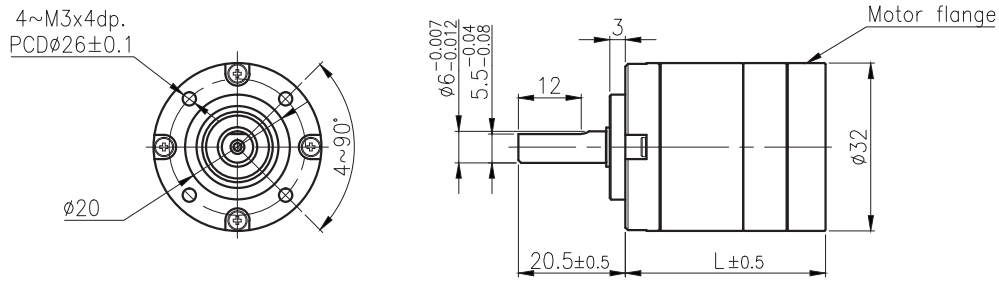


IG

外形尺寸 / Appearance Size

Right Angle

RA



unit:mm

RB

產品規格 / Product Specifications

版本 Version	級數 Number of stages	外殼材質 Housing material	輸出軸承型式 Bearing at output	徑向負荷 Radial load (10mm from flange)	軸向負荷 Shaft axial load	主軸承受壓入力 Shaft press fit force	徑向間隙 Radial play of shaft	軸向間隙 Thrust play of shaft	背隙(無負荷時) Backlash, at no-load
PG-32 標準版/Standard	1	金屬 Metal	滾珠軸承 Ball bearings	≤ 4 kgf	≤ 1 kgf	≤ 10 kgf	≤ 0.05 mm	≤ 0.3 mm	≤ 1.45°
	2	金屬 Metal	滾珠軸承 Ball bearings	≤ 7 kgf	≤ 2 kgf	≤ 10 kgf	≤ 0.05 mm	≤ 0.3 mm	≤ 1.50°
	3	金屬 Metal	滾珠軸承 Ball bearings	≤ 10 kgf	≤ 3 kgf	≤ 10 kgf	≤ 0.05 mm	≤ 0.3 mm	≤ 1.55°

WG

標準減速比型式 / Gearboxes Specifications

級數 Number of stages	1	2	3
減速比 Reduction ratio	1/4 (3.71), 1/4 (4.29), 1/5, 1/7	1/14, 1/16, 1/18, 1/19, 1/22, 1/25, 1/27, 1/29, 1/35, 1/46	1/51, 1/59, 1/68, 1/71, 1/79, 1/93, 1/95, 1/100, 1/107, 1/115, 1/124, 1/130, 1/139, 1/150, 1/169, 1/181, 1/195, 1/236, 1/308
定格容許扭力 (kgf-cm max.) Rated tolerance torque	6.75	20	40
瞬間容許扭力 (kgf-cm max.) Momentary tolerance torque	10	30	60
效率 (%) Efficiency	80	75	70
長度 (mm) *1 Length (L)	26	35.8	45.5
重量 *2 Weight (g)	150	200	250

- 使用相對溼度：20%~85%RH ● 使用溫度範圍：-30°C~+100°C
Operating relative humidity Operating temperature range

*1 參考值，我們會依選用的馬達而進行下蓋尺寸的優化設計
Reference. The flange size will be optimized according to the selected motor.

*2 參考值，重量會因部分零件的材質與尺寸不同而有所差異
Reference. The weight will vary due to the material and size of some parts.

BLDC

Encoder

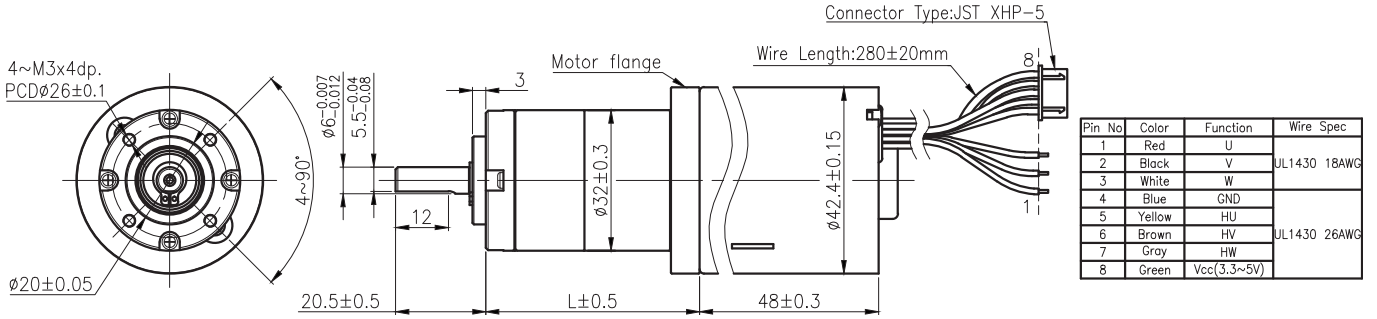
Driver

PG-32GM

62 & 63 TYPE



外形尺寸 / Appearance Size



unit:mm

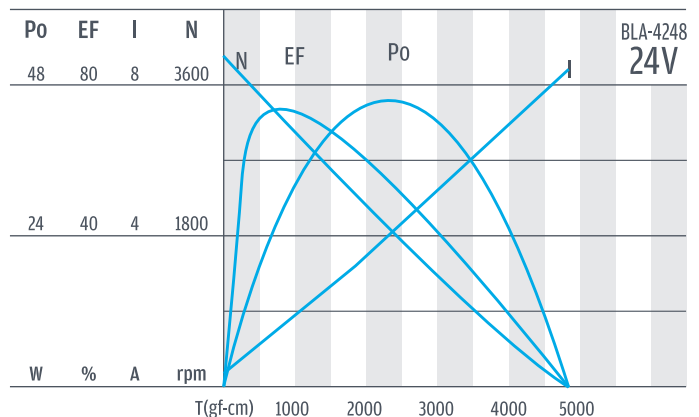
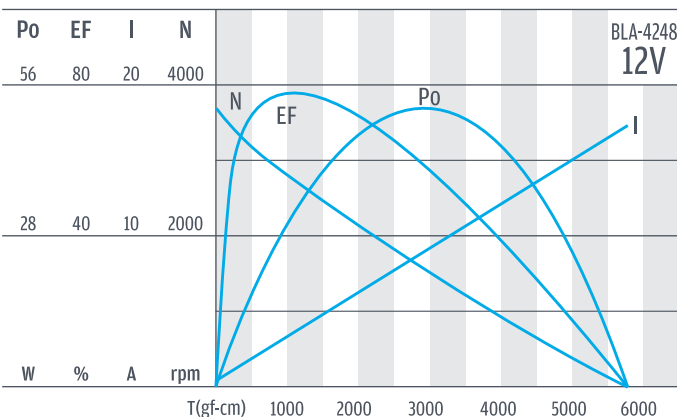
齒輪箱馬達轉矩 & 速度 / Gear Motor Torque & Speed

輸出扭力&轉矩 Output torque and speed	減速比	定格扭力	定格轉速	減速比	定格扭力	定格轉速	減速比	定格扭力	定格轉速
	Reduction ratio	Rated torque (kgf-cm)	Rated speed (rpm)	Reduction ratio	Rated torque (kgf-cm)	Rated speed (rpm)	Reduction ratio	Rated torque (kgf-cm)	Rated speed (rpm)
	1/4 (3.71)	2.4	809	1/14 (13.73)	8.2	218	1/51 (50.90)	28.5	58.9
	1/4 (4.29)	2.7	700	1/16 (15.88)	9.5	189	1/59 (58.87)	33.0	51.0
	1/5 (5.18)	3.3	579	1/18 (18.37)	11.0	163	1/68 (68.08)	38.1	44.1
	1/7 (6.75)	4.3	444	1/19 (19.20)	11.5	156	1/71 (71.17)	39.9	42.2
				1/22 (22.21)	13.3	135	1/79 (78.73)	40.0	38.7
				1/25 (25.02)	15.0	120	1/93 (92.71)	40.0	34.1
				1/27 (26.85)	16.1	112	1/95 (95.19)	40.0	33.3
				1/29 (28.93)	17.4	104	1/107 (107.22)	40.0	30.2
				1/35 (34.98)	20.0	86	1/115 (115.09)	40.0	28.5
				1/46 (45.56)	20.0	70	1/130 (129.63)	40.0	25.7
							1/139 (139.15)	40.0	24.2
							1/150 (149.92)	40.0	22.6
							1/169 (168.85)	40.0	20.3
							1/181 (181.26)	40.0	19.1
							1/195 (195.28)	40.0	17.8
							1/236 (236.10)	40.0	14.9
							1/308 (307.55)	40.0	11.7
長度 (mm) Length (L), max		38			48			58	
齒輪箱馬達重量 Weight (g), approx.		420			460			515	

馬達單體型式 / Motor Data

定格電壓 Rated volt (V)	定格扭力 Rated torque (gf-cm)	定格轉速 Rated speed (rpm)	定格電流 Rated current (A)	無負荷轉速 No load speed (rpm)	無負荷電流 No load current (A)	定格出力 Rated output (W)
12	800	3000	≤ 3.15	3800	≤ 0.5	24.6
24	800	3000	≤ 1.7	3800	≤ 0.32	24.6

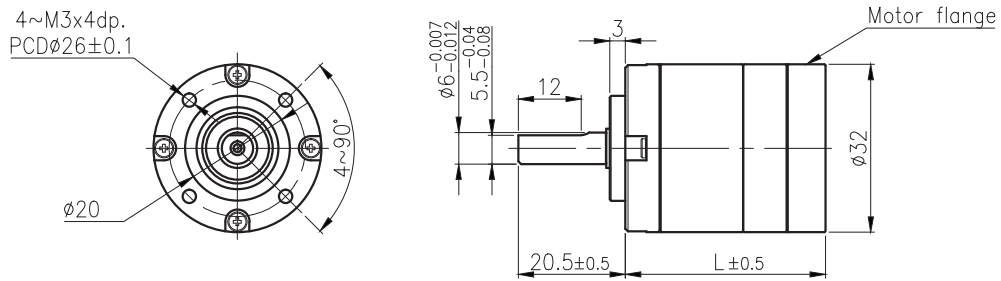
馬達單體特性 / Motor Characteristics



PG-32LN



外形尺寸 / Appearance Size



unit:mm

產品規格 / Product Specifications

版本 Version	級數 Number of stages	外殼材質 Housing material	輸出軸承型式 Bearing at output	徑向負荷 Radial load (10mm from flange)	軸向負荷 Shaft axial load	主軸承受壓力 Shaft press fit force	徑向間隙 Radial play of shaft	軸向間隙 Thrust play of shaft	背隙(無負荷時) Backlash, at no-load
PG-32LN	2	金屬 Metal	滾珠軸承 Ball bearings	≤ 7 kgf	≤ 2 kgf	≤ 10 kgf	≤ 0.05 mm	≤ 0.3 mm	≤ 1.50°
低噪版/Noise Reduced	3	金屬 Metal	滾珠軸承 Ball bearings	≤ 10 kgf	≤ 3 kgf	≤ 10 kgf	≤ 0.05 mm	≤ 0.3 mm	≤ 1.55°

標準減速比型式 / Gearboxes Specifications

級數 Number of stages	2	3
減速比 Reduction ratio	1/14, 1/16, 1/18, 1/19, 1/22, 1/25, 1/27, 1/29, 1/35, 1/46	1/51, 1/59, 1/68, 1/71, 1/79, 1/93, 1/95, 1/100, 1/107, 1/115, 1/124, 1/130, 1/139, 1/150, 1/169, 1/181, 1/195, 1/236, 1/308
定格容許扭力 (kgf-cm max.) Rated tolerance torque	20	40
瞬間容許扭力 (kgf-cm max.) Momentary tolerance torque	30	60
效率 (%) Efficiency	75	70
長度 (mm) *1 Length (L)	35.8	45.5
重量 *2 Weight (g)	200	250

- 使用相對溼度：20%~85%RH ● 使用溫度範圍：-30°C~+100°C
Operating relative humidity Operating temperature range

*1 參考值，我們會依選用的馬達而進行下蓋尺寸的優化設計
Reference. The flange size will be optimized according to the selected motor.

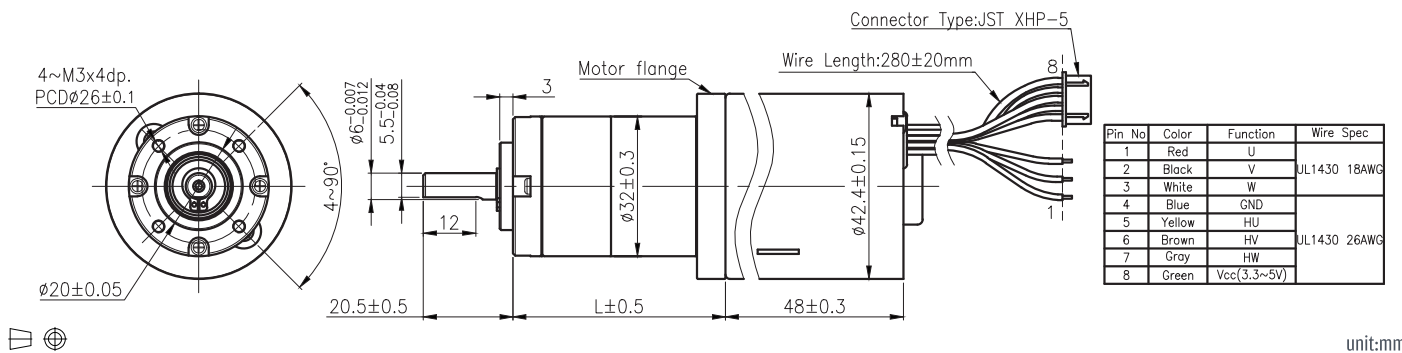
*2 參考值，重量會因部分零件的材質與尺寸不同而有所差異
Reference. The weight will vary due to the material and size of some parts.

PG-32LNGM

62 & 63 TYPE



外形尺寸 / Appearance Size



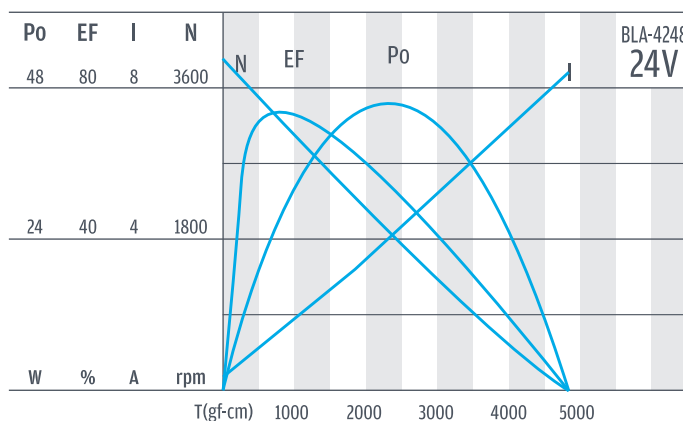
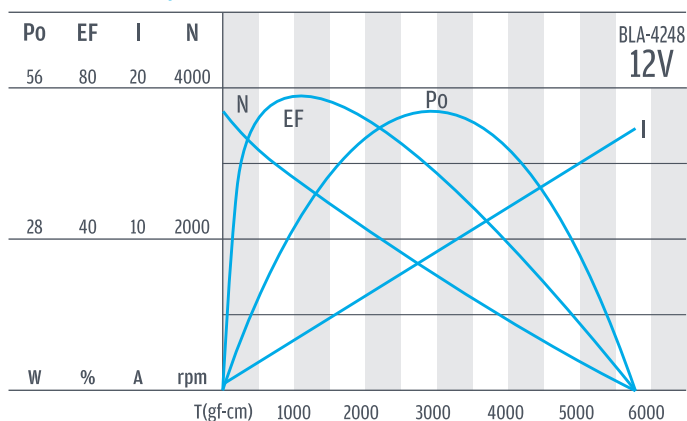
齒輪箱馬達轉矩 & 速度 / Gear Motor Torque & Speed

	減速比	定格扭力	定格轉速	減速比	定格扭力	定格轉速
	Reduction ratio	Rated torque (kgf-cm)	Rated speed (rpm)	Reduction ratio	Rated torque (kgf-cm)	Rated speed (rpm)
輸出扭力&轉矩 Output torque and speed	1/14 (13.73)	8.2	218	1/51 (50.90)	28.5	58.9
	1/16 (15.88)	9.5	189	1/59 (58.87)	33.0	51.0
	1/18 (18.37)	11.0	163	1/68 (68.08)	38.1	44.1
	1/19 (19.20)	11.5	156	1/71 (71.17)	39.9	42.2
	1/22 (22.21)	13.3	135	1/79 (78.73)	40.0	38.7
	1/25 (25.02)	15.0	120	1/93 (92.71)	40.0	34.1
	1/27 (26.85)	16.1	112	1/95 (95.19)	40.0	33.3
	1/29 (28.93)	17.4	104	1/107 (107.22)	40.0	30.2
	1/35 (34.98)	20.0	86	1/115 (115.09)	40.0	28.5
	1/46 (45.56)	20.0	70	1/130 (129.63)	40.0	25.7
				1/139 (139.15)	40.0	24.2
				1/150 (149.92)	40.0	22.6
				1/169 (168.85)	40.0	20.3
				1/181 (181.26)	40.0	19.1
			1/195 (195.28)	40.0	17.8	
			1/236 (236.10)	40.0	14.9	
			1/308 (307.55)	40.0	11.7	
長度 (mm) Length (L), max		48			58	
齒輪箱馬達重量 Weight (g), approx.		460			515	

馬達單體型式 / Motor Data

定格電壓 Rated volt (V)	定格扭力 Rated torque (gf-cm)	定格轉速 Rated speed (rpm)	定格電流 Rated current (A)	無負荷轉速 No load speed (rpm)	無負荷電流 No load current (A)	定格出力 Rated output (W)
12	800	3000	≤ 3.15	3800	≤ 0.5	24.6
24	800	3000	≤ 1.7	3800	≤ 0.32	24.6

馬達單體特性 / Motor Characteristics

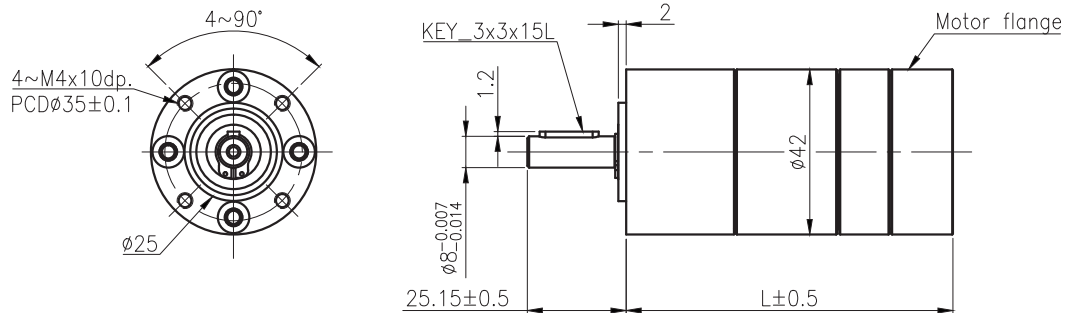


- PG
- IG
- Right Angle
- RA
- RB
- WG
- SD
- BLDC
- Encoder
- Driver

PG-42



外形尺寸 / Appearance Size



unit:mm



產品規格/ Product Specifications

版本 Version	級數 Number of stages	外殼材質 Housing material	輸出軸承型式 Bearing at output	徑向負荷 Radial load (10mm from flange)	軸向負荷 Shaft axial load	主軸承受壓入力 Shaft press fit force	徑向間隙 Radial play of shaft	軸向間隙 Thrust play of shaft	背隙(無負荷時) Backlash, at no-load
PG-42 標準版/Standard	1	金屬 Metal	滾珠軸承 Ball bearings	≤ 16 kgf	≤ 5 kgf	≤ 32 kgf	≤ 0.05 mm	≤ 0.3 mm	≤ 0.90°
	2	金屬 Metal	滾珠軸承 Ball bearings	≤ 24 kgf	≤ 8 kgf	≤ 32 kgf	≤ 0.05 mm	≤ 0.3 mm	≤ 1°
	3	金屬 Metal	滾珠軸承 Ball bearings	≤ 30 kgf	≤ 11 kgf	≤ 32 kgf	≤ 0.05 mm	≤ 0.3 mm	≤ 1.1°

標準減速比型式/ Gearboxes Specifications

級數 Number of stages	1	2	3
減速比 Reduction ratio	1/4 (3.71), 1/4 (4.29), 1/5, 1/7	1/14, 1/16, 1/18, 1/19, 1/22, 1/25, 1/27, 1/29, 1/35, 1/46	1/51, 1/59, 1/68, 1/71, 1/79, 1/93, 1/95, 1/100, 1/107, 1/115, 1/124, 1/130, 1/139, 1/150, 1/169, 1/181, 1/195, 1/236, 1/308
定格容許扭力 (kgf-cm max.) Rated tolerance torque	27	68	135
瞬間容許扭力 (kgf-cm max.) Momentary tolerance torque	41	102	203
效率 (%) Efficiency	80	75	70
長度 (mm) *1 Length (L)	49.7	62.7	76
重量 *2 Weight (g)	280	390	500

- 使用相對溼度：20%~85%RH ● 使用溫度範圍：-30°C~+100°C
Operating relative humidity Operating temperature range

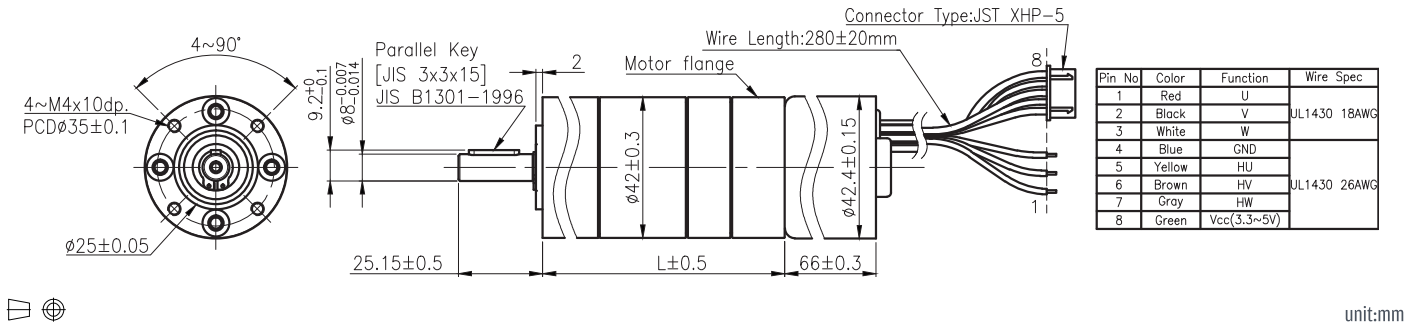
- 1 參考值，我們會依選用的馬達而進行下蓋尺寸的優化設計
Reference. The flange size will be optimized according to the selected motor.
- 2 參考值，重量會因部分零件的材質與尺寸不同而有所差異
Reference. The weight will vary due to the material and size of some parts.

PG-42GM

67 & 68 TYPE



外形尺寸 / Appearance Size



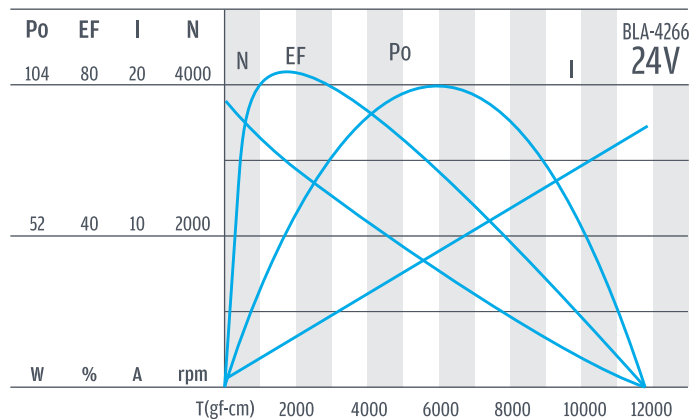
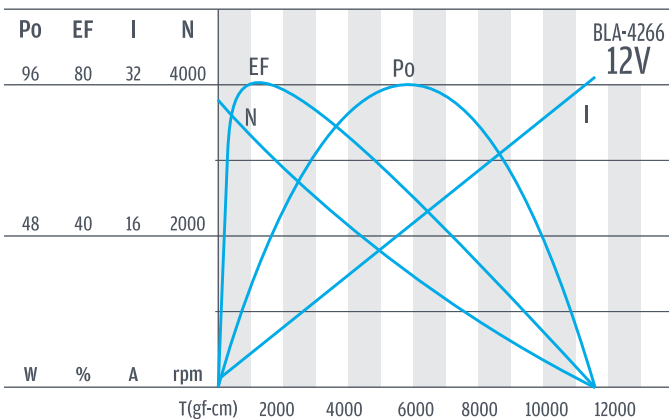
齒輪箱馬達轉矩 & 速度 / Gear Motor Torque & Speed

輸出扭力&轉矩 Output torque and speed	減速比	定格扭力	定格轉速	減速比	定格扭力	定格轉速	減速比	定格扭力	定格轉速
	Reduction ratio	Rated torque (kgf-cm)	Rated speed (rpm)	Reduction ratio	Rated torque (kgf-cm)	Rated speed (rpm)	Reduction ratio	Rated torque (kgf-cm)	Rated speed (rpm)
	1/4 (3.71)	4.7	809	1/14 (13.73)	16.5	218	1/51 (50.90)	57.0	58.9
	1/4 (4.29)	5.5	700	1/16 (15.88)	19.1	189	1/59 (58.87)	65.9	51.0
	1/5 (5.18)	6.6	579	1/18 (18.37)	22.0	163	1/68 (68.08)	76.2	44.1
	1/7 (6.75)	8.6	444	1/19 (19.20)	23.0	156	1/71 (71.17)	79.7	42.2
				1/22 (22.21)	26.7	135	1/79 (78.73)	88.2	38.1
				1/25 (25.02)	30.0	120	1/93 (92.71)	103.8	32.4
				1/27 (26.85)	32.2	112	1/95 (95.19)	106.6	31.5
				1/29 (28.93)	34.7	104	1/107 (107.22)	120.1	28.0
				1/35 (34.98)	42.0	86	1/115 (115.09)	128.9	26.1
				1/46 (45.56)	54.7	66	1/130 (129.63)	135.0	23.5
							1/139 (139.15)	135.0	22.2
							1/150 (149.92)	135.0	21.0
							1/169 (168.85)	135.0	19.0
							1/181 (181.26)	135.0	18.0
							1/195 (195.28)	135.0	16.9
							1/236 (236.10)	135.0	14.3
							1/308 (307.55)	135.0	11.3
長度 (mm) Length (L), max		57.5			70.4			83.8	
齒輪箱馬達重量 Weight (g), approx.		718			830			940	

馬達單體型式 / Motor Data

定格電壓 Rated volt (V)	定格扭力 Rated torque (kgf-cm)	定格轉速 Rated speed (rpm)	定格電流 Rated current (A)	無負荷轉速 No load speed (rpm)	無負荷電流 No load current (A)	定格出力 Rated output (W)
12	1.6	3000	≤ 5.8	3800	≤ 0.7	49.2
24	1.6	3000	≤ 3	3800	≤ 0.44	49.2

馬達單體特性 / Motor Characteristics



PG

PG-42LN



IG

Right Angle

RA

RB

WG

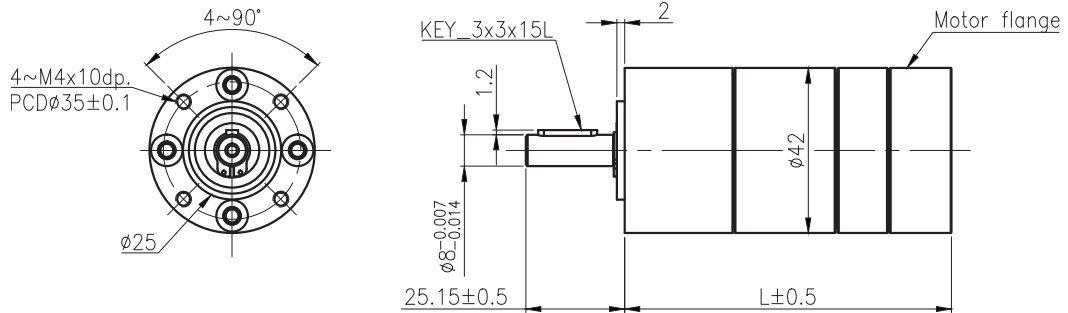
SD

BLDC

Encoder

Driver

外形尺寸 / Appearance Size



unit:mm

產品規格 / Product Specifications

版本 Version	級數 Number of stages	外殼材質 Housing material	輸出軸承型式 Bearing at output	徑向負荷 Radial load (10mm from flange)	軸向負荷 Shaft axial load	主軸承受壓入力 Shaft press fit force	徑向間隙 Radial play of shaft	軸向間隙 Thrust play of shaft	背隙(無負荷時) Backlash, at no-load
PG-42LN 低噪版/Noise Reduced	1	金屬 Metal	滾珠軸承 Ball bearings	≤ 16 kgf	≤ 5 kgf	≤ 32 kgf	≤ 0.05 mm	≤ 0.3 mm	≤ 0.90°
	2	金屬 Metal	滾珠軸承 Ball bearings	≤ 24 kgf	≤ 8 kgf	≤ 32 kgf	≤ 0.05 mm	≤ 0.3 mm	≤ 1°
	3	金屬 Metal	滾珠軸承 Ball bearings	≤ 30 kgf	≤ 11 kgf	≤ 32 kgf	≤ 0.05 mm	≤ 0.3 mm	≤ 1.1°

標準減速比型式 / Gearboxes Specifications

級數 Number of stages	1	2	3
減速比 Reduction ratio	1/4, 1/5 (4.59), 1/5(5.36), 1/7, 1/9	1/14, 1/16, 1/17, 1/19, 1/23, 1/25, 1/28 (27.76), 1/28 (28.05), 1/34, 1/45, 1/58	1/50, 1/58, 1/67, 1/70, 1/81, 1/84, 1/91, 1/98, 1/102, 1/106, 1/115, 1/123, 1/128, 1/137, 1/145, 1/166, 1/176, 1/192, 1/232, 1/302, 1/393
定格容許扭力 (kgf-cm max.) Rated tolerance torque	27	68	135
瞬間容許扭力 (kgf-cm max.) Momentary tolerance torque	41	102	203
效率 (%) Efficiency	80	75	70
長度 (mm) *1 Length (L)	49.7	62.7	76
重量 *2 Weight (g)	280	390	500

- 使用相對溼度：20%~85%RH ● 使用溫度範圍：-30°C~+100°C
Operating relative humidity Operating temperature range

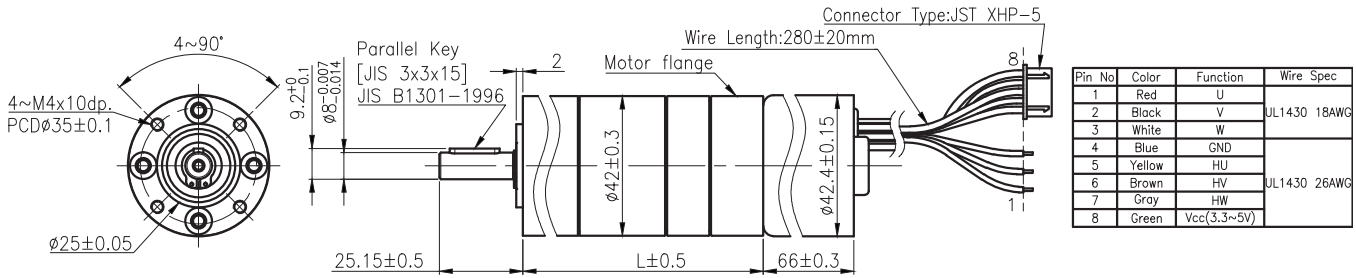
- *1 參考值，我們會依選用的馬達而進行下蓋尺寸的優化設計
Reference. The flange size will be optimized according to the selected motor.
- *2 參考值，重量會因部分零件的材質與尺寸不同而有所差異
Reference. The weight will vary due to the material and size of some parts.

PG-42LNGM

67 & 68 TYPE



外形尺寸 / Appearance Size



unit:mm

齒輪箱馬達轉矩 & 速度 / Gear Motor Torque & Speed

輸出扭力&轉矩 Output torque and speed	減速比	定格扭力	定格轉速	減速比	定格扭力	定格轉速	減速比	定格扭力	定格轉速
	Reduction ratio	Rated torque (kgf-cm)	Rated speed (rpm)	Reduction ratio	Rated torque (kgf-cm)	Rated speed (rpm)	Reduction ratio	Rated torque (kgf-cm)	Rated speed (rpm)
	1/4 (3.65)	4.7	821	1/14 (13.53)	16.2	222	1/50 (50.16)	56.2	59.8
	1/5 (4.59)	5.9	654	1/16 (15.65)	18.8	192	1/58 (58.01)	65.0	51.7
	1/5 (5.36)	6.9	560	1/17 (17.00)	20.4	176	1/67 (67.09)	75.1	44.7
	1/7 (6.55)	8.4	458	1/19 (18.92)	22.7	159	1/70 (70.13)	78.6	42.8
	1/9 (8.63)	11.0	348	1/23 (22.96)	27.6	131	1/81 (81.11)	90.8	37.0
				1/25 (24.65)	29.6	122	1/91 (91.36)	102.3	32.8
				1/28 (27.76)	33.3	108	1/98 (98.07)	109.8	30.6
				1/28 (28.05)	33.7	107	1/106 (105.65)	118.3	28.4
				1/34 (33.92)	40.7	88	1/115 (114.77)	128.5	26.1
				1/45 (44.69)	53.6	67	1/128 (127.74)	135.0	24.0
				1/58 (58.22)	69.9	52	1/137 (137.00)	135.0	22.8
							1/145 (145.36)	135.0	21.7
							1/166 (166.39)	135.0	19.4
							1/176 (175.75)	135.0	18.6
							1/192 (191.56)	135.0	17.3
							1/232 (231.61)	135.0	14.6
							1/302 (301.69)	135.0	11.5
長度 (mm) Length (L), max		58.4			72.1			85.3	
齒輪箱馬達重量 Weight (g), approx.		718			830			940	

馬達單體型式 / Motor Data

定格電壓 Rated volt (V)	定格扭力 Rated torque (kgf-cm)	定格轉速 Rated speed (rpm)	定格電流 Rated current (A)	無負荷轉速 No load speed (rpm)	無負荷電流 No load current (A)	定格出力 Rated output (W)
12	1.6	3000	≤ 5.8	3800	≤ 0.7	49.2
24	1.6	3000	≤ 3	3800	≤ 0.44	49.2

馬達單體特性 / Motor Characteristics

