



Spur Gearbox & Gear Motor

RA series - Center Output Shaft
RB series - Eccentric Output Shaft

PG

IG

Right Angle

RA

RB

WG

SD

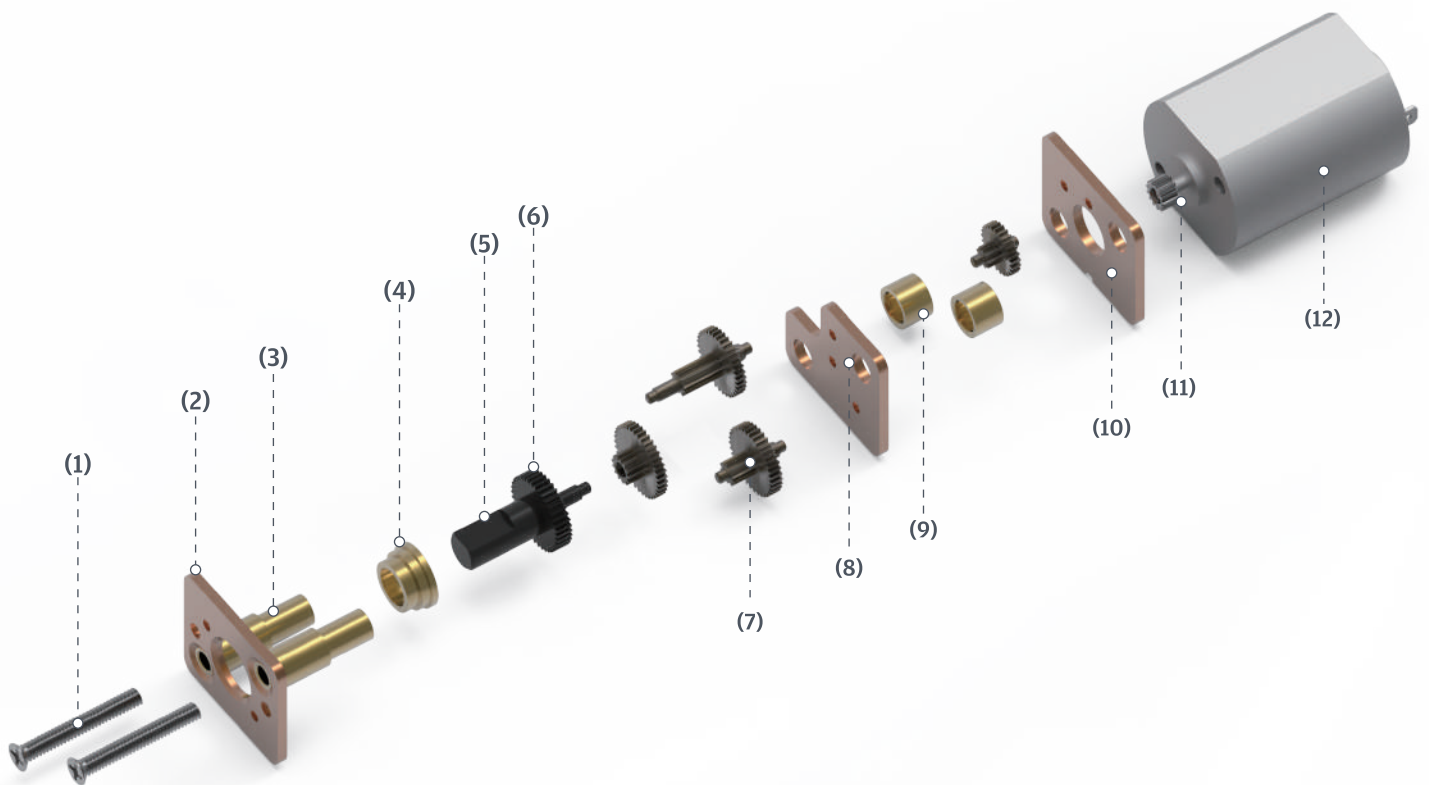
BLDC

Encoder

Driver

正齒齒輪箱 (中心出軸)

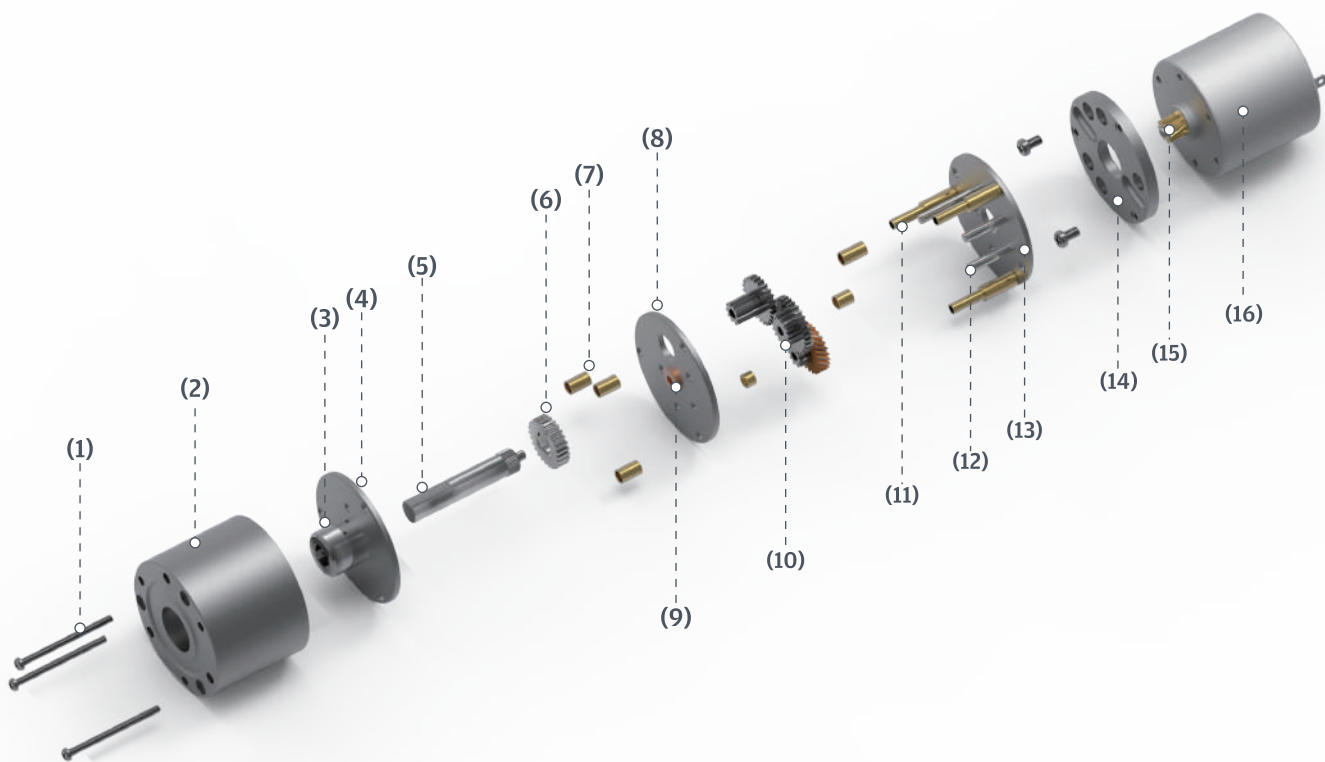
RA series (Center Output Shaft)



1	螺絲	Screw	7	塔輪	Gear wheel
2	上機板	Front plate	8	中間機板	Intermediate plate
3	支撐套	Support	9	間隔套	Spacer sleeve
4	襯套	Bushing	10	下機板	End plate
5	主軸	Output shaft	11	馬達齒	Pinion
6	傳動齒輪	Output gear	12	馬達	Motor

正齒齒輪箱 (中心出軸)

RA series (Center Output Shaft)



1	螺絲	Screw	9	襯套	Bushing
2	外殼	Housing	10	塔輪	Gear wheel
3	軸承	Bearing	11	支撐套	Support
4	上機板	Front plate	12	梢	Pin
5	主軸	Output shaft	13	下機板	End plate
6	傳動齒輪	Output gear	14	下蓋	Motor flange
7	間隔套	Spacer sleeve	15	馬達齒	Pinion
8	中間機板	Intermediate plate	16	馬達	Motor

PG

RA-10W

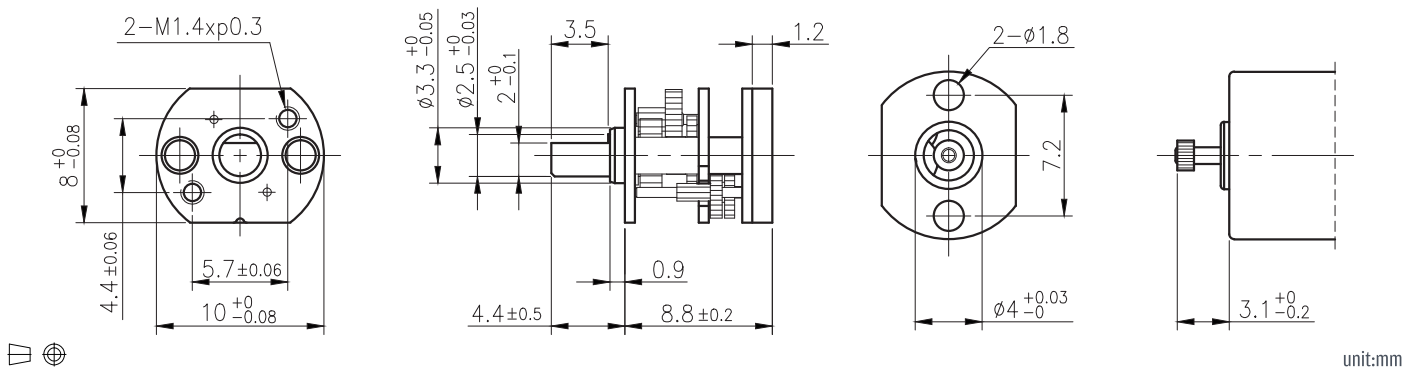
IG



Right Angle

RA

外形尺寸 & 馬達齒鉚合尺寸 / Appearance Size & Pinion Assembly Dimension



產品規格 / Product Specifications

外殼材質 Housing material	輸出軸承型式 Output shaft bearing	徑向負荷 Radial load (5mm 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
---	滑動軸承 Sleeve bearing	≤0.2kgf	≤0.1kgf	≤1kgf	≤0.06mm	≤0.2mm	≤1.5°

馬達齒輪型式 / Pinion Specifications

模數 Module	齒數 No. of teeth	壓力角 Pressure angle	孔徑 (mm) Hole diameter	減速比 Reduction ratio
0.11	17	20°	Ø0.99	1/30
0.11	15	20°	Ø0.99	1/53,1/98,1/152, 1/207,1/242

標準減速比型式 / Gearboxes Specifications

減速比 Reduction ratio	1/30	1/53	1/98	1/152	1/207	1/242							
定格容許扭力 (kgf-cm max.) Rated tolerance torque	0.05	0.1	0.2	0.2	0.25	0.25							
瞬間容許扭力 (kgf-cm) Max momentary tolerance torque	0.15	0.3	0.6	0.6	0.75	0.75							
效率 Efficiency	66%	59%	59%	59%	59%	59%							
重量 Weight (g)	2	2	2	2	2	2							

- 使用相對溼度：20%~85%RH
Operating relative humidity
- 使用溫度範圍：-10°C~+60°C
Operating temperature range

Encoder

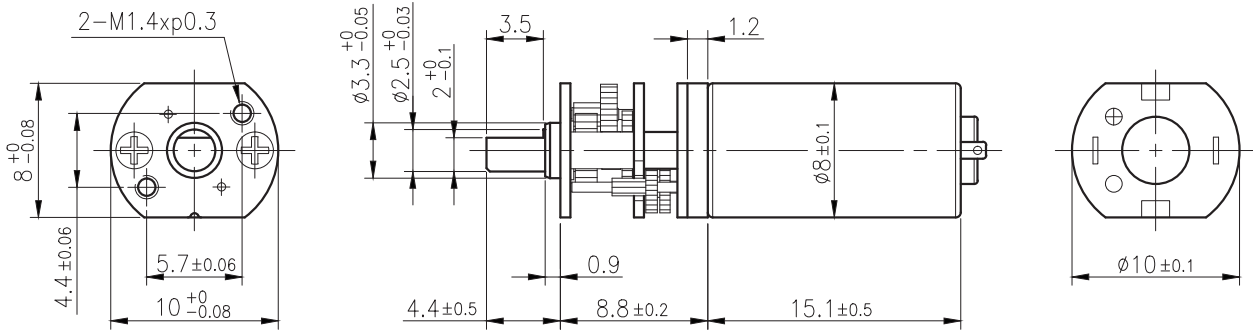
Driver

RA-10WGM

01 & 02 TYPE



外形尺寸 / Appearance Size



unit:mm

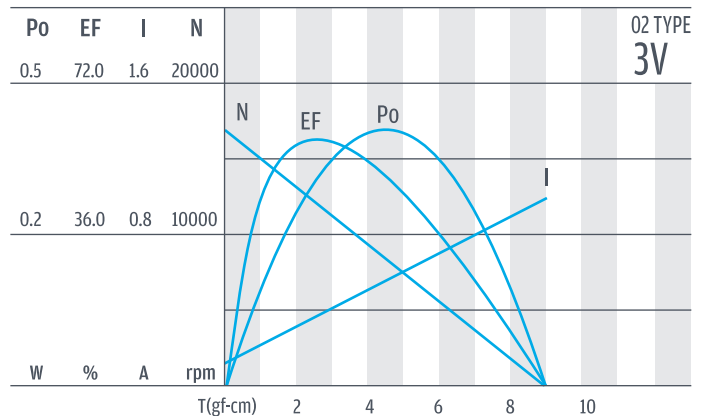
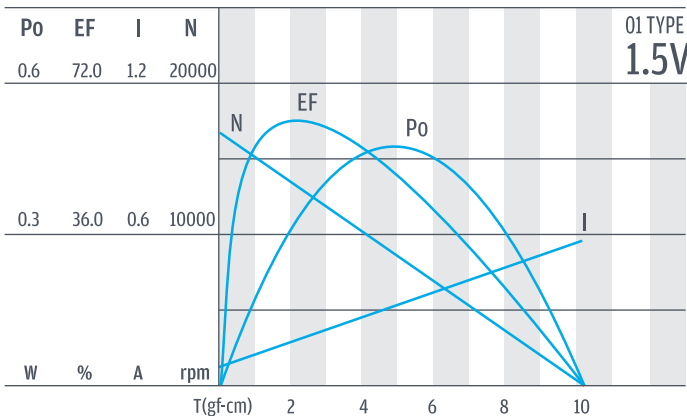
齒輪箱馬達轉矩 & 速度 / Gear Motor Torque & Speed

		減速比 Reduction ratio	1/30	1/53	1/98	1/152	1/207	1/242				
1.5V	定格扭力 Rated torque (gf-cm)	39	63	116	179	244	250					
	定格轉速 Rated speed (rpm)	423	239	128	83	61	52					
3V	定格扭力 Rated torque (gf-cm)	39	63	116	179	244	250					
	定格轉速 Rated speed (rpm)	453	256	137	89	65	55					
軸心迴轉方向 Rotation direction		CW	CCW									

馬達單體型式 / Motor Data

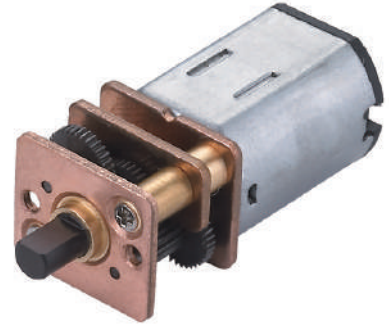
定格電壓 Rated volt (V)	定格扭力 Rated torque (gf-cm)	定格轉速 Rated speed (rpm)	定格電流 Rated current (A)	無負荷轉速 No load speed (rpm)	無負荷電流 No load current (A)	定格出力 Rated output (W)	重量 Weight (g)
1.5V	2	12000	≤0.35	17000	≤0.15	0.28	4
3V	2	13000	≤0.16	17000	≤0.05	0.29	4

馬達單體特性 / Motor Characteristics

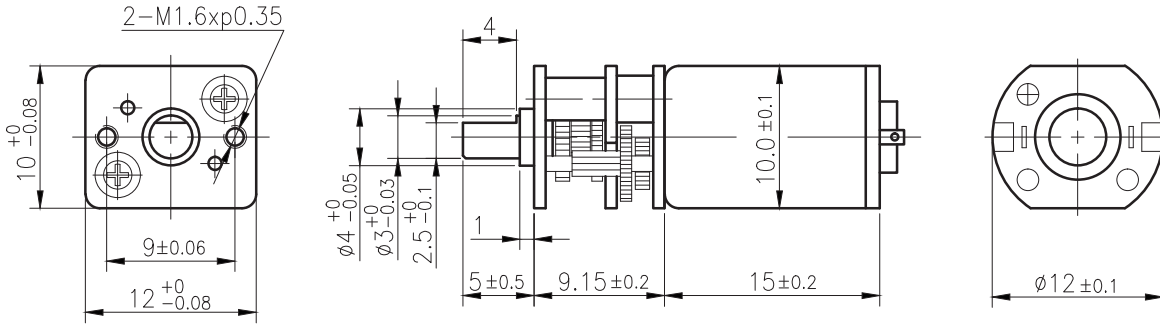


RA-12WGM

01 & 02 TYPE



外形尺寸 / Appearance Size



unit:mm

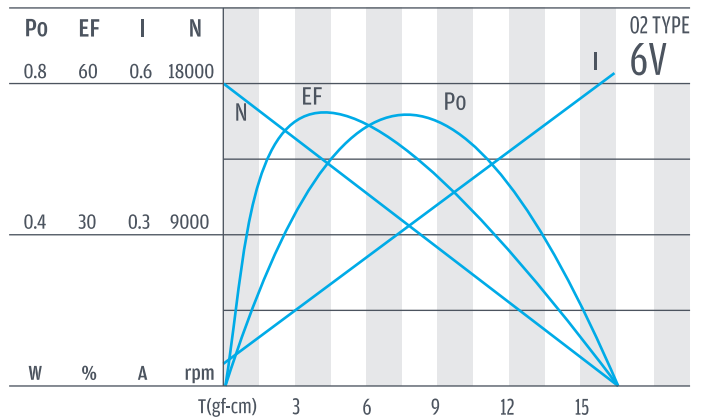
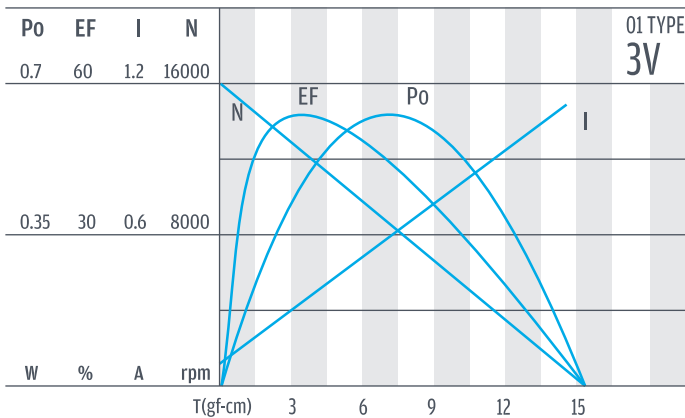
齒輪箱馬達轉矩 & 速度 / Gear Motor Torque & Speed

	減速比 Reduction ratio	1/10	1/19	1/29	1/60	1/76	1/102	1/134	1/197	1/235	1/298				
3V	定格扭力 Rated torque (gf-cm)	15	25	40	75	100	120	155	230	275	350				
	定格轉速 Rated speed (rpm)	1400	720	480	230	180	135	100	70	59	46				
6V	定格扭力 Rated torque (gf-cm)	24	40	60	115	150	200	235	345	410	520				
	定格轉速 Rated speed (rpm)	1450	770	510	245	195	145	110	75	63	50				
	軸心迴轉方向 Rotation direction	CW		CCW		CW		CCW							

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)	重量 Weight (g)
3	2	14000	≤0.25	16000	≤0.08	0.287	5.5
6	3	14900	≤0.17	18000	≤0.05	0.46	5.5

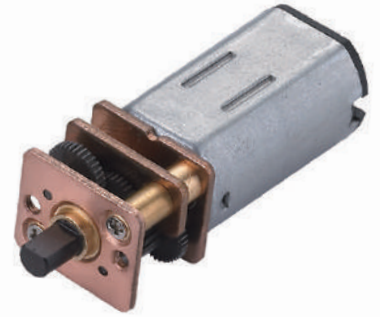
馬達單體特性 / Motor Characteristics



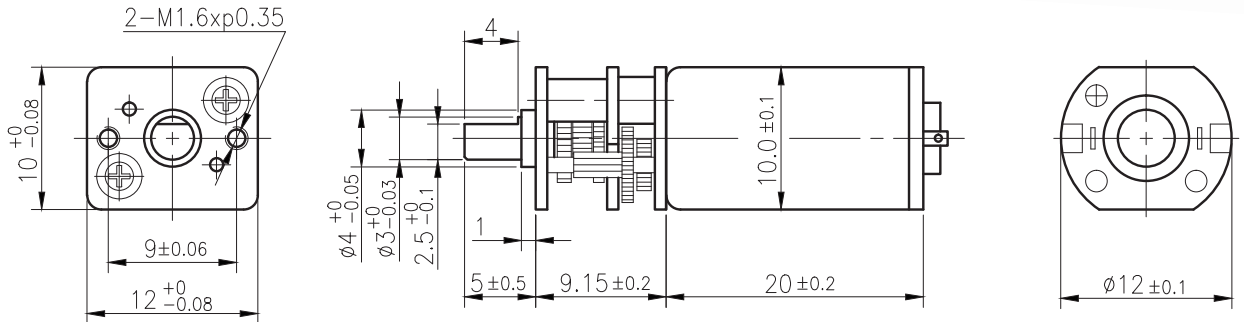
PG
IG
Right Angle
RA
RB
WG
SD
BLDC
Encoder
Driver

RA-12WGM

03 & 04 TYPE



外形尺寸/ Appearance Size



unit:mm

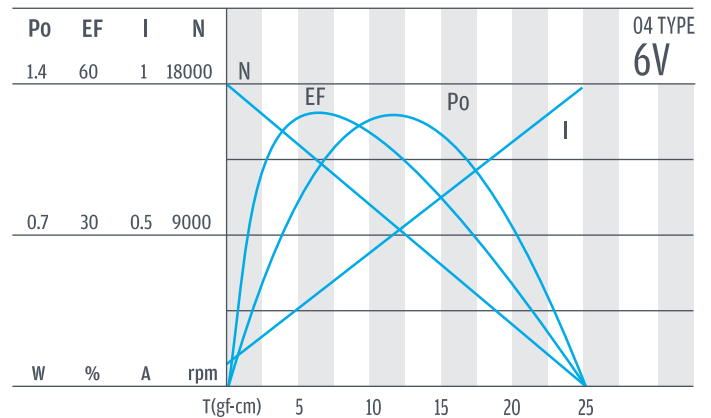
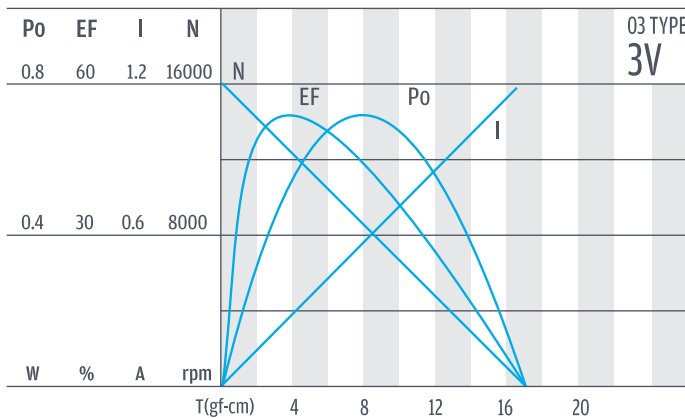
齒輪箱馬達轉矩 & 速度/ Gear Motor Torque & Speed

	減速比 Reduction ratio	1/10	1/19	1/29	1/60	1/76	1/102	1/134	1/197	1/235	1/298		
		3V	定格扭力 Rated torque (gf-cm)	24	40	60	115	150	200	235	345	415	525
	定格轉速 Rated speed (rpm)	1300	700	460	225	175	132	100	68	57	45		
6V	定格扭力 Rated torque (gf-cm)	30	55	80	155	200	270	300	460	530	700		
	定格轉速 Rated speed (rpm)	1500	780	510	250	195	145	112	76	64	50		
	軸心迴轉方向 Rotation direction	CW		CCW		CW		CCW					

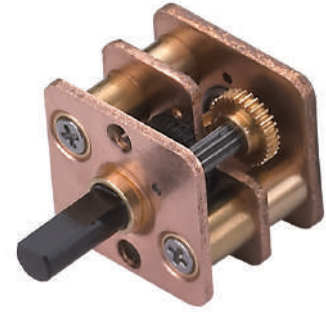
馬達單體型式/ Motor Data

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)	重量 Weight (g)
3	3	13500	≤ 0.31	16000	≤ 0.09	0.41	7.5
6	4	15000	≤ 0.25	18000	≤ 0.065	0.61	7.5

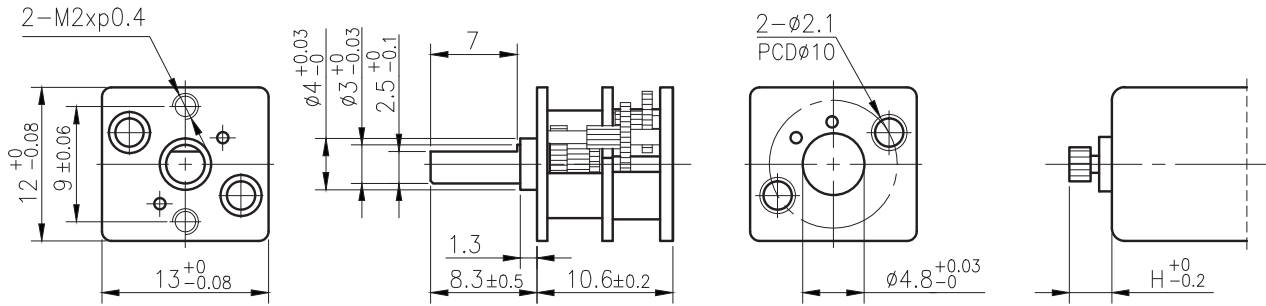
馬達單體特性/ Motor Characteristics



RA-13W



外形尺寸 & 馬達齒鉚合尺寸 / Appearance Size & Pinion Assembly Dimension



unit:mm

產品規格 / Product Specifications

外殼材質 Housing material	輸出軸承型式 Output shaft bearing	徑向負荷 Radial load (5mm 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
---	滑動軸承 Sleeve bearing	≤ 0.4 kgf	≤ 0.2 kgf	≤ 2 kgf	≤ 0.06 mm	≤ 0.2 mm	≤ 1.5°

馬達齒輪型式 / Pinion Specifications

模數 Module	齒數 No. of teeth	壓力角 Pressure angle	孔徑 (mm) Hole diameter	減速比 Reduction ratio
0.15	14	20°	ø 1.49	1/10, 1/34, 1/105, 1/360
0.15	16	20°	ø 1.49	1/21, 1/59, 1/75, 1/203, 1/257, 1/294
0.15	18	20°	ø 1.49	1/146

標準減速比型式 / Gearboxes Specifications

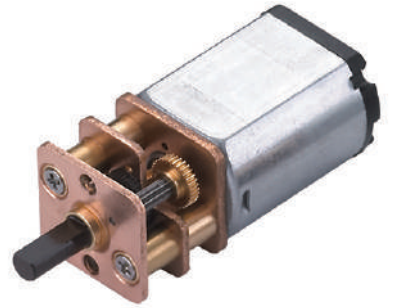
減速比 Reduction ratio	1/10	1/21	1/34	1/59	1/75	1/105	1/146	1/203	1/257	1/294	1/360
定格容許扭力 (kgf-cm max.) Rated tolerance torque	0.2	0.3	0.3	0.5	0.5	0.8	0.8	1	1	1	1
瞬間容許扭力 (kgf-cm) Max momentary tolerance torque	0.6	0.9	0.9	1.5	1.5	2.4	2.4	3	3	3	3
效率 Efficiency	81%	73%	73%	66%	66%	66%	59%	59%	59%	59%	59%
高度 Height (H)	3.4	2.4	2.4	3.4	3.4	3.4	2.4	2.4	2.4	2.4	2.4
重量 Weight (g)	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3

- 使用相對溼度：20%~85%RH
Operating relative humidity
- 使用溫度範圍：-10°C~+60°C
Operating temperature range

PG

RA-13WGM

01 & 02 TYPE

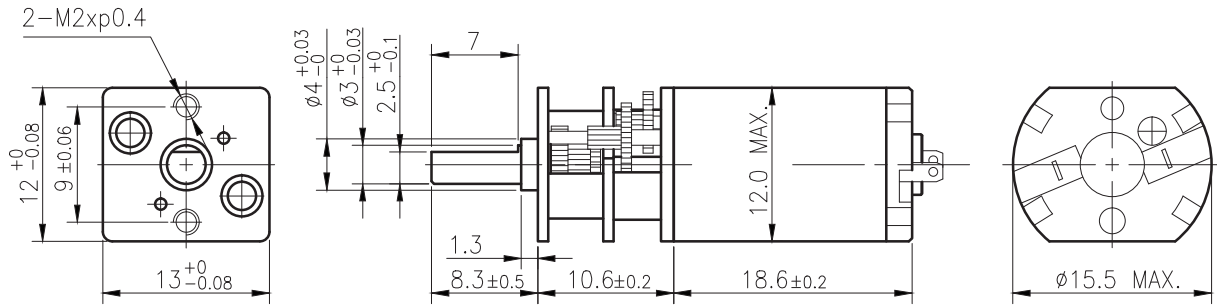


IG

外形尺寸 / Appearance Size

Right Angle

RA



unit:mm

RB

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

		減速比 Reduction ratio	1/10	1/21	1/34	1/59	1/75	1/105	1/146	1/203	1/257	1/294	1/360
6V	定格扭力 Rated torque (gf-cm)	30	60	100	155	200	270	340	470	600	690	840	
	定格轉速 Rated speed (rpm)	950	445	270	160	125	91	65	47	37	32	26	
12V	定格扭力 Rated torque (gf-cm)	35	70	110	175	220	310	380	530	680	780	950	
	定格轉速 Rated speed (rpm)	870	400	255	145	116	83	59	43	34	29	24	
軸心迴轉方向 Rotation direction		CW	CCW			CW				CCW			

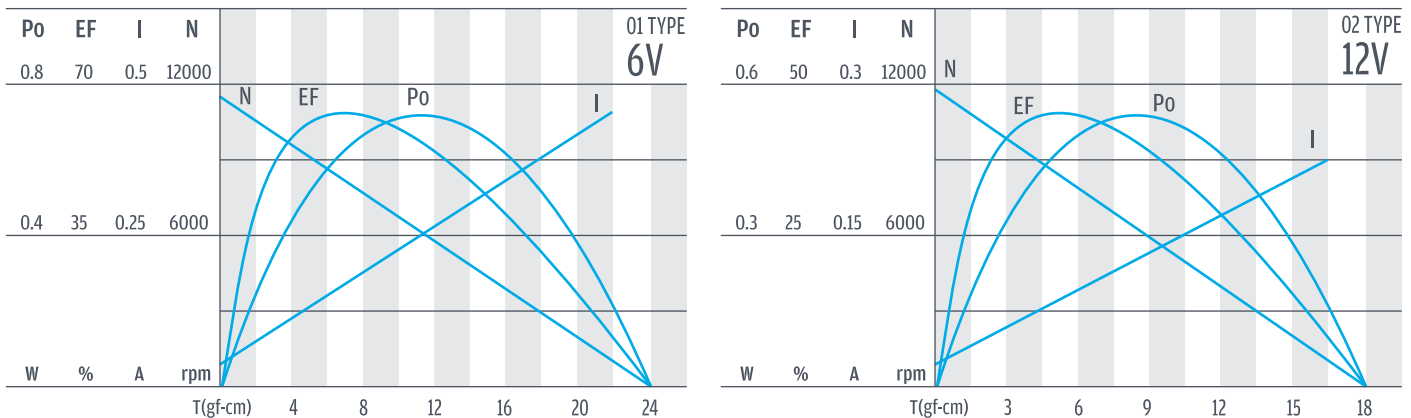
WG

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)	重量 Weight (g)
6	4	9600	≤0.14	11500	≤0.05	0.39	10
12	4.5	8750	≤0.1	11700	≤0.03	0.4	10

SD

馬達單體特性 / Motor Characteristics



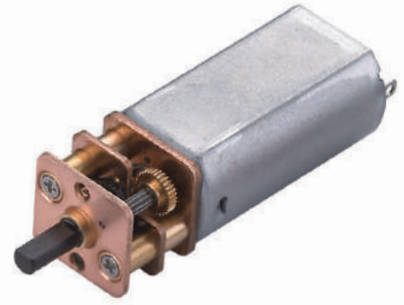
BLDC

Encoder

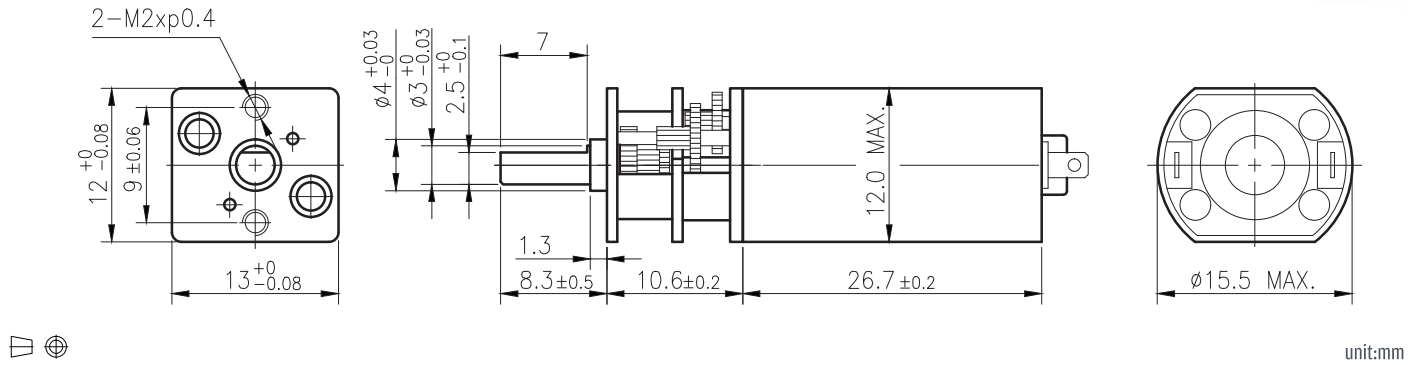
Driver

RA-13WGM

03 & 04 TYPE



外形尺寸 / Appearance Size



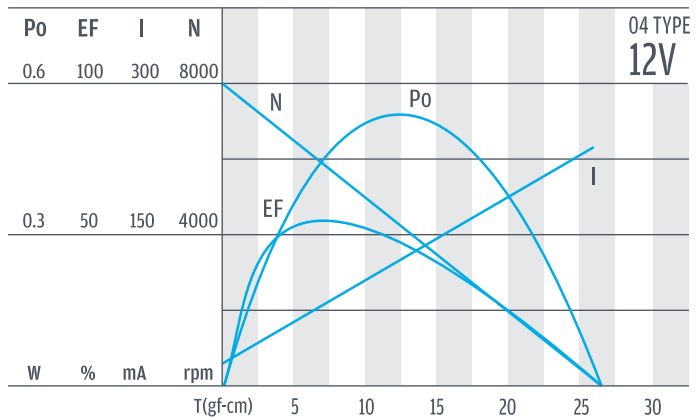
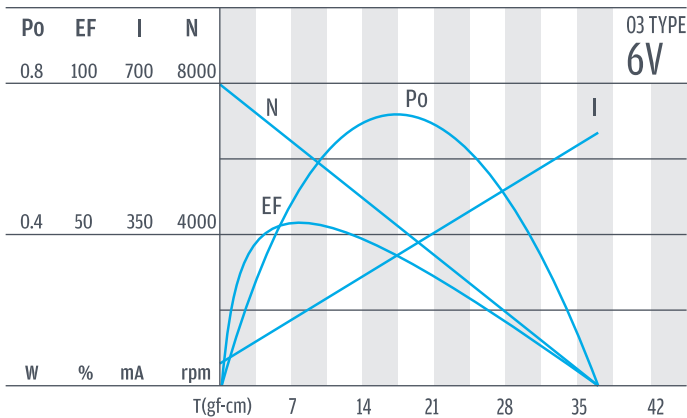
齒輪箱馬達轉矩 & 速度 / Gear Motor Torque & Speed

	減速比 Reduction ratio	1/10	1/21	1/34	1/59	1/75	1/105	1/146	1/203	1/257	1/294	1/360					
6V	定格扭力 Rated torque (gf-cm)	55	110	180	285	365	510	635	880	1000	1000	1000					
	定格轉速 Rated speed (rpm)	650	300	190	110	86	62	44	32	25	23	19					
12V	定格扭力 Rated torque (gf-cm)	45	90	150	235	300	420	520	730	920	1000	1000					
	定格轉速 Rated speed (rpm)	620	290	180	100	82	59	42	30	24	21	18					
	軸心迴轉方向 Rotation direction	CW	CCW			CW				CCW							

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)	重量 Weight (g)
6	7.4	6550	≤ 0.16	8000	≤ 0.065	0.5	18
12	6.1	6200	≤ 0.085	8000	≤ 0.05	0.394	18

馬達單體特性 / Motor Characteristics

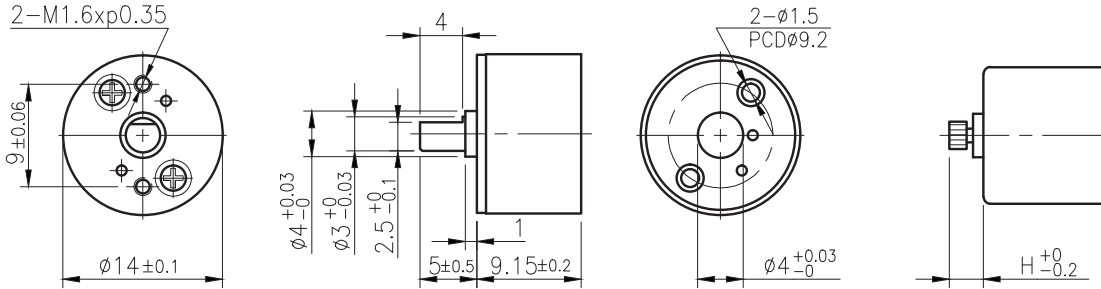


PG
IG
Right Angle
RA
RB
WG
SD
BLDC
Encoder
Driver

RA-14



外形尺寸 & 馬達齒鉚合尺寸 / Appearance Size & Pinion Assembly Dimension



unit:mm

產品規格 / Product Specifications

外殼材質 Housing material	輸出軸承型式 Output shaft bearing	徑向負荷 Radial load (5mm 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
塑膠 Plastic	滑動軸承 Sleeve bearing	≤ 0.4 kgf	≤ 0.2 kgf	≤ 2 kgf	≤ 0.06 mm	≤ 0.2 mm	$\leq 15^\circ$

馬達齒輪型式 / Pinion Specifications

模數 Module	齒數 No. of teeth	壓力角 Pressure angle	孔徑 (mm) Hole diameter	減速比 Reduction ratio
0.15	12	20°	$\phi 0.99$	1/29, 1/235, 1/298
0.15	13	20°	$\phi 0.99$	1/10, 1/102
0.15	16	20°	$\phi 0.99$	1/19, 1/60, 1/76, 1/134, 1/197

標準減速比型式 / Gearboxes Specifications

減速比 Reduction ratio	1/10	1/19	1/29	1/60	1/76	1/102	1/134	1/197	1/235	1/298
定格容許扭力 (kgf-cm max.) Rated tolerance torque	0.2	0.3	0.3	0.5	0.5	0.8	0.8	1	1	1
瞬間容許扭力 (kgf-cm) Max momentary tolerance torque	0.6	0.9	0.9	1.5	1.5	2.4	2.4	3	3	3
效率 Efficiency	81%	73%	73%	66%	66%	66%	59%	59%	59%	59%
高度 Height (H)	2.5	2.1	2.1	2.5	2.5	2.5	2.1	2.1	2.1	2.1
重量 Weight (g)	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7

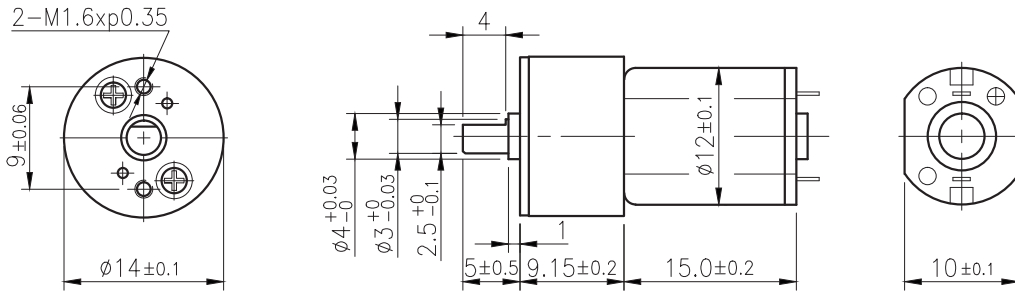
- 使用相對溼度 : 20%~85%RH
Operating relative humidity
- 使用溫度範圍 : $-10^\circ\text{C} \sim +60^\circ\text{C}$
Operating temperature range

RA-14GM

01 & 02 TYPE



外形尺寸/ Appearance Size



unit:mm

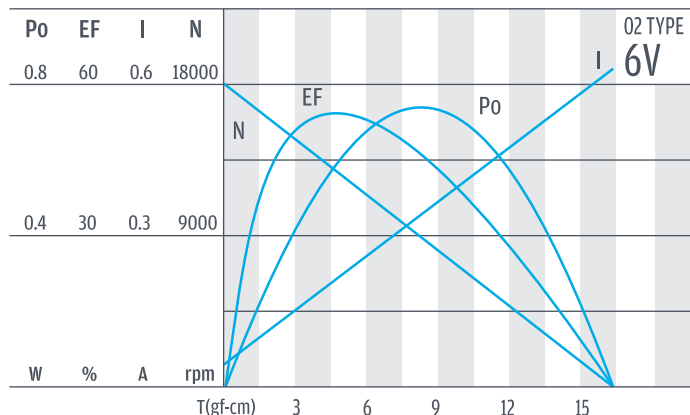
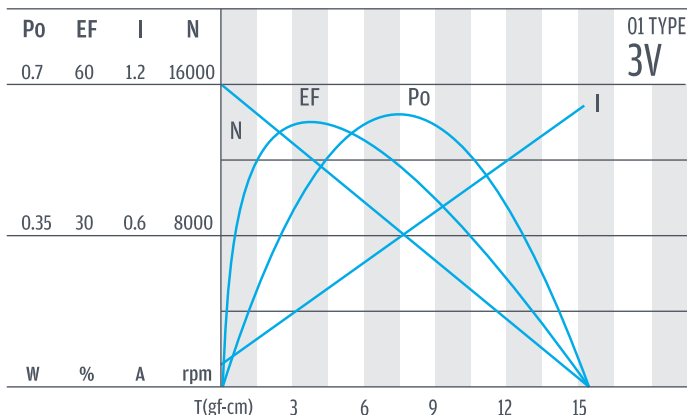
齒輪箱馬達轉矩 & 速度/ Gear Motor Torque & Speed

		1/10	1/19	1/29	1/60	1/76	1/102	1/134	1/197	1/235	1/298		
3V	減速比 Reduction ratio	1/10	1/19	1/29	1/60	1/76	1/102	1/134	1/197	1/235	1/298		
	定格扭力 Rated torque (gf-cm)	15	25	40	75	100	120	155	230	275	350		
6V	定格轉速 Rated speed (rpm)	1400	720	480	230	180	135	100	70	59	46		
	定格扭力 Rated torque (gf-cm)	24	40	60	115	150	200	235	345	410	520		
軸心迴轉方向 Rotation direction		CW	CCW			CW			CCW				

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)	重量 Weight (g)
3	2	14000	≤ 0.25	16000	≤ 0.08	0.287	5.5
6	3	14900	≤ 0.17	18000	≤ 0.05	0.46	5.5

馬達單體特性/ Motor Characteristics



PG

RA-14GM

03 & 04 TYPE

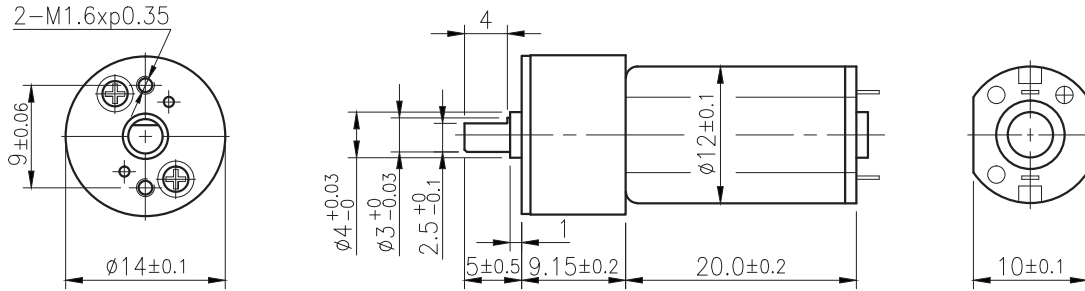


IG

外形尺寸 / Appearance Size

Right Angle

RA



unit:mm

RB

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

	減速比 Reduction ratio	1/10	1/19	1/29	1/60	1/76	1/102	1/134	1/197	1/235	1/298			
3V	定格扭力 Rated torque (gf-cm)	24	40	60	115	150	200	235	345	415	525			
	定格轉速 Rated speed (rpm)	1300	700	460	225	175	132	100	68	57	45			
6V	定格扭力 Rated torque (gf-cm)	30	55	80	155	200	270	300	460	530	700			
	定格轉速 Rated speed (rpm)	1500	780	510	250	195	145	112	76	64	50			
	軸心迴轉方向 Rotation direction	CW	CCW			CW				CCW				

WG

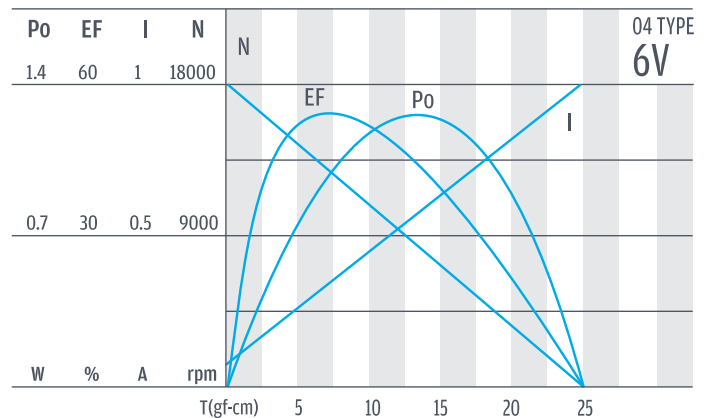
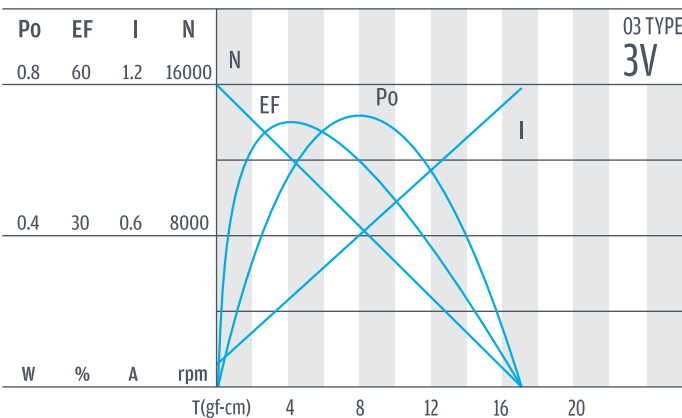
SD

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)	重量 Weight (g)
3	3	13500	≤ 0.31	16000	≤ 0.09	0.41	7.5
6	4	15000	≤ 0.25	18000	≤ 0.065	0.61	7.5

BLDC

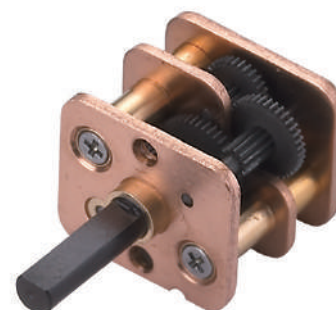
馬達單體特性 / Motor Characteristics



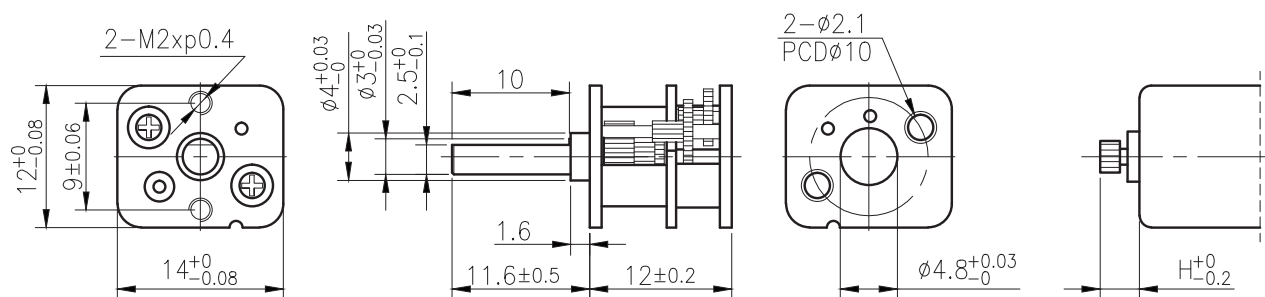
Encoder

Driver

RA-14W



外形尺寸 & 馬達齒鉤合尺寸 / Appearance Size & Pinion Assembly Dimension



unit:mm

產品規格 / Product Specifications

外殼材質 Housing material	輸出軸承型式 Output shaft bearing	徑向負荷 Radial load (5mm 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
---	滑動軸承 Sleeve bearing	≤ 0.4 kgf	≤ 0.2 kgf	≤ 2 kgf	≤ 0.06 mm	≤ 0.2 mm	$\leq 15^\circ$

馬達齒輪型式 / Pinion Specifications

模數 Module	齒數 No. of teeth	壓力角 Pressure angle	孔徑 (mm) Hole diameter	減速比 Reduction ratio
0.15	15	20°	$\phi 1.49$	1/123, 1/209
0.15	17	20°	$\phi 1.49$	1/6, 1/36, 1/62

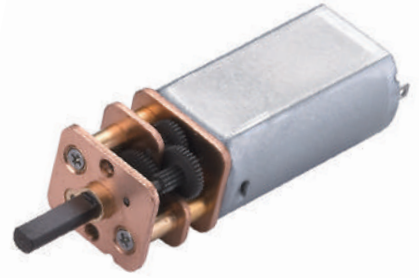
標準減速比型式 / Gearboxes Specifications

減速比 Reduction ratio	1/6	1/36	1/62	1/123	1/209									
定格容許扭力 (kgf-cm max.) Rated tolerance torque	0.2	0.3	0.5	0.8	1									
瞬間容許扭力 (kgf-cm) Max momentary tolerance torque	0.6	0.9	1.5	2.4	3									
效率 Efficiency	81%	66%	66%	59%	59%									
高度 Height (H)	4.1	4.1	4.1	2.9	2.9									
重量 Weight (g)	6.2	6.2	6.2	6.2	6.2									

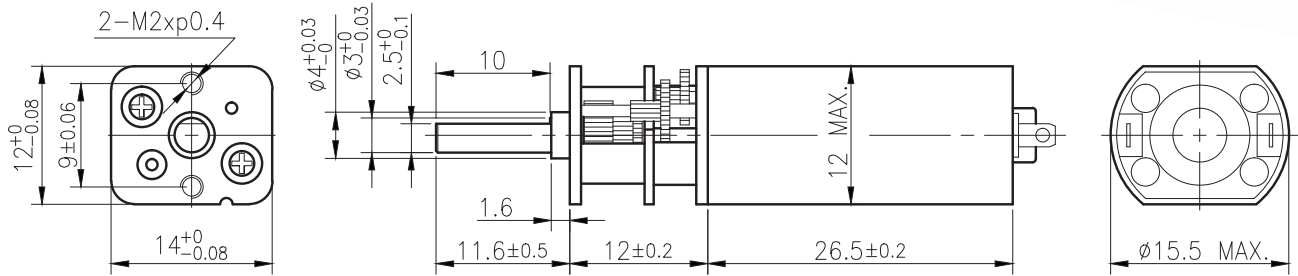
- 使用相對溼度：20%~85%RH
Operating relative humidity
- 使用溫度範圍：-10°C~+60°C
Operating temperature range

RA-14WGM

03 & 04 TYPE



外形尺寸/ Appearance Size



unit:mm

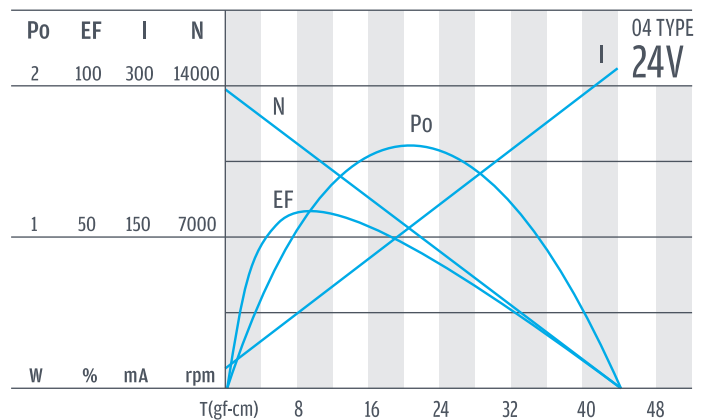
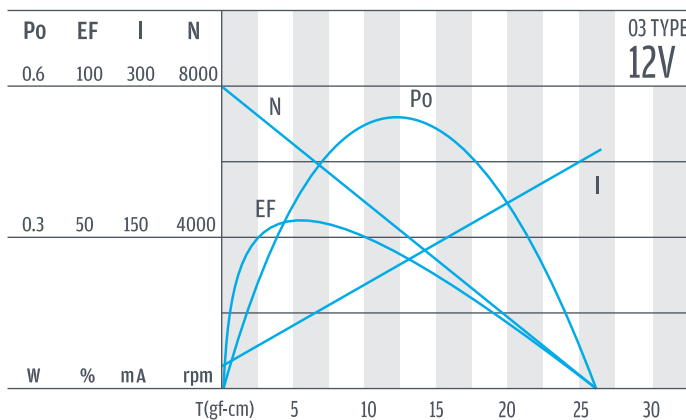
齒輪箱馬達轉矩 & 速度/ Gear Motor Torque & Speed

	減速比 Reduction ratio	1/6	1/36	1/62	1/123	1/209							
		12V	30	140	240	440	750						
	定額轉速 Rated speed (rpm)	1000	170	100	50	29							
24V	定額轉速 Rated speed (rpm)	1800	300	175	89	53							
	軸心迴轉方向 Rotation direction	CW		CCW									

馬達單體型式/ Motor Data

定額電壓 Rated volt (V)	定額轉矩 Rated torque (gf-cm)	定額轉速 Rated speed (rpm)	定額電流 Rated current (A)	無負荷轉速 No load speed (rpm)	無負荷電流 No load current (A)	定額出力 Rated output (W)	重量 Weight (g)
12	6.1	6200	≤0.085	8000	≤0.05	0.394	18
24	9	11000	≤0.09	13500	≤0.05	1.026	18

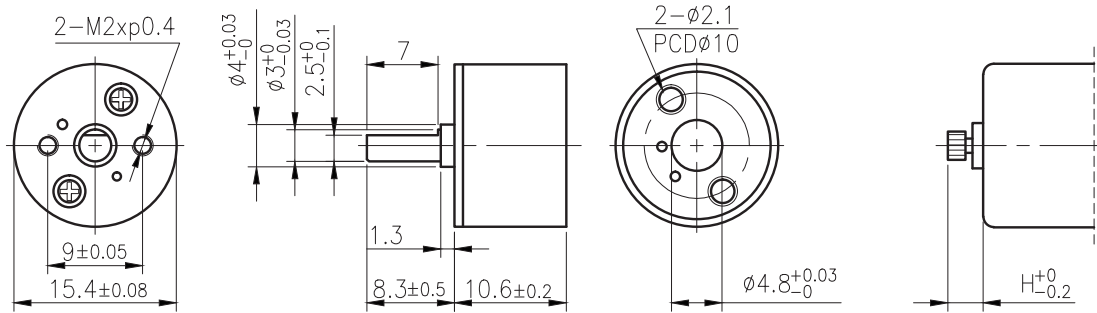
馬達單體特性/ Motor Characteristics



RA-15



外形尺寸 & 馬達齒鉚合尺寸 / Appearance Size & Pinion Assembly Dimension



unit:mm

產品規格 / Product Specifications

外殼材質 Housing material	輸出軸承型式 Output shaft bearing	徑向負荷 Radial load (5mm 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
塑膠 Plastic	滑動軸承 Sleeve bearing	≤ 0.4 kgf	≤ 0.2 kgf	≤ 2 kgf	≤ 0.06 mm	≤ 0.2 mm	≤ 1.5°

馬達齒輪型式 / Pinion Specifications

模數 Module	齒數 No. of teeth	壓力角 Pressure angle	孔徑 (mm) Hole diameter	減速比 Reduction ratio
0.15	14	20°	ø 1.49	1/10, 1/34, 1/105, 1/360
0.15	16	20°	ø 1.49	1/21, 1/59, 1/75, 1/203, 1/257, 1/294
0.15	18	20°	ø 1.49	1/146

標準減速比型式 / Gearboxes Specifications

減速比 Reduction ratio	1/10	1/21	1/34	1/59	1/75	1/105	1/146	1/203	1/257	1/294	1/360
定格容許扭力 (kgf-cm max.) Rated tolerance torque	0.2	0.3	0.3	0.5	0.5	0.8	0.8	1	1	1	1
瞬間容許扭力 (kgf-cm) Max momentary tolerance torque	0.6	0.9	0.9	1.5	1.5	2.4	2.4	3	3	3	3
效率 Efficiency	81%	73%	73%	66%	66%	66%	59%	59%	59%	59%	59%
高度 Height (H)	3.4	2.4	2.4	3.4	3.4	3.4	2.4	2.4	2.4	2.4	2.4
重量 Weight (g)	6	6	6	6	6	6	6	6	6	6	6

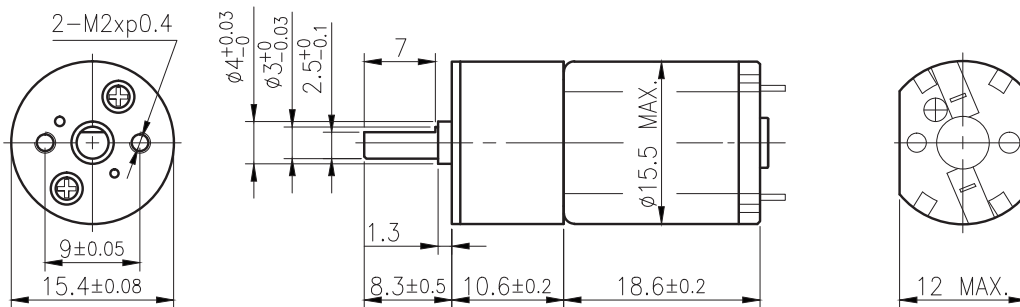
- 使用相對溼度：20%~85%RH
Operating relative humidity
- 使用溫度範圍：-10°C~+60°C
Operating temperature range

RA-15GM

01 & 02 TYPE



外形尺寸/ Appearance Size



unit:mm

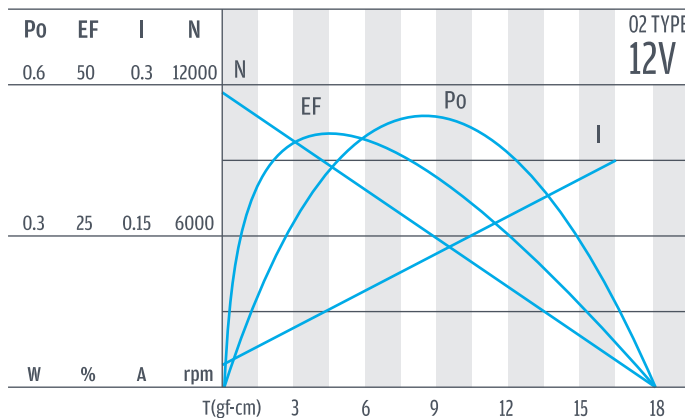
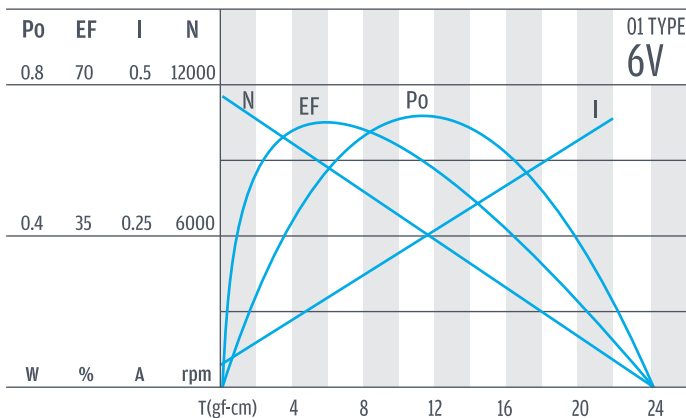
齒輪箱馬達轉矩 & 速度/ Gear Motor Torque & Speed

減速比 Reduction ratio	1/10	1/21	1/34	1/59	1/75	1/105	1/146	1/203	1/257	1/294	1/360			
6V 定格扭力 Rated torque (gf-cm)	30	60	100	155	200	270	340	470	600	690	840			
6V 定格轉速 Rated speed (rpm)	950	445	270	160	125	91	65	47	37	32	26			
12V 定格扭力 Rated torque (gf-cm)	35	70	110	175	220	310	380	530	680	780	950			
12V 定格轉速 Rated speed (rpm)	870	400	255	145	116	83	59	43	34	29	24			
軸心迴轉方向 Rotation direction	CW	CCW			CW				CCW					

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)	重量 Weight (g)
6	4	9600	≤ 0.14	11500	≤ 0.05	0.39	10
12	4.5	8750	≤ 0.1	11700	≤ 0.03	0.4	10

馬達單體特性/ Motor Characteristics

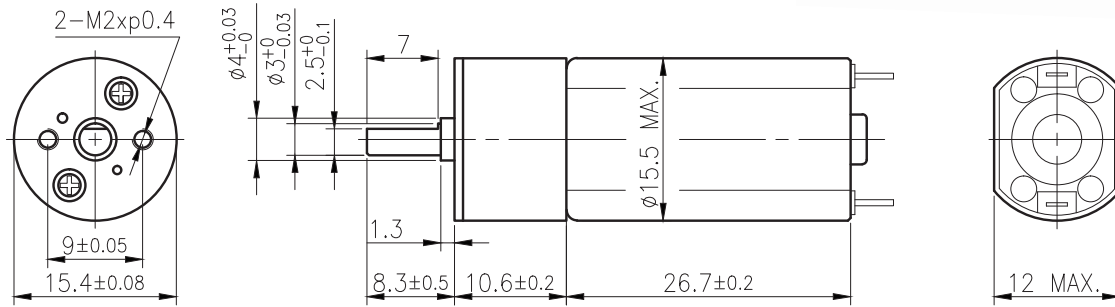


RA-15GM

03 & 04 TYPE



外形尺寸 / Appearance Size



unit:mm

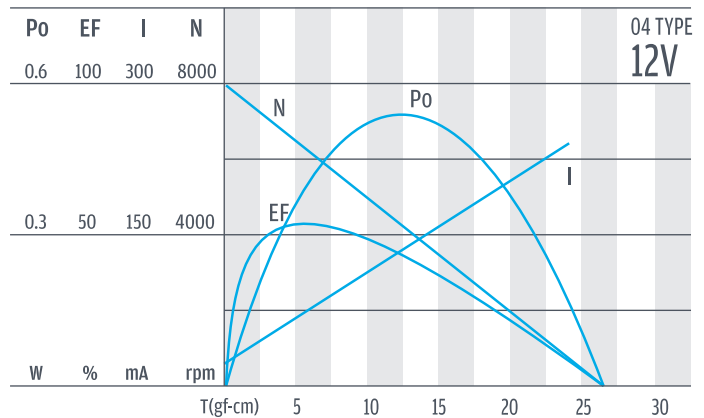
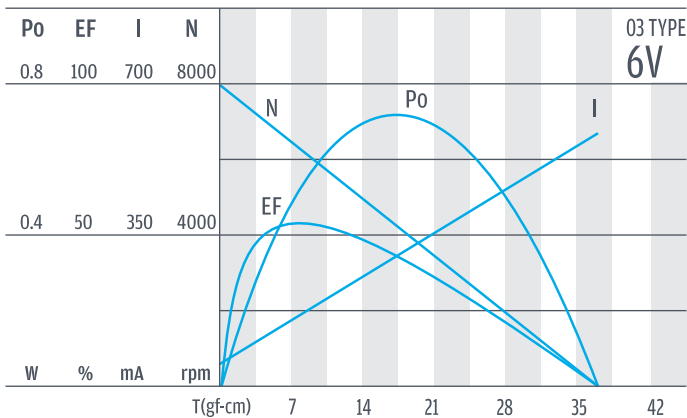
齒輪箱馬達轉矩 & 速度 / Gear Motor Torque & Speed

	減速比 Reduction ratio	1/10	1/21	1/34	1/59	1/75	1/105	1/146	1/203	1/257	1/294	1/360					
6V	定格扭力 Rated torque (gf-cm)	55	110	180	285	365	510	635	880	1000	1000	1000					
	定格轉速 Rated speed (rpm)	650	300	190	110	86	62	44	32	25	23	19					
12V	定格扭力 Rated torque (gf-cm)	45	90	150	235	300	420	520	730	920	1000	1000					
	定格轉速 Rated speed (rpm)	620	290	180	100	82	59	42	30	24	21	18					
	軸心迴轉方向 Rotation direction	CW		CCW		CW		CCW									

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)	重量 Weight (g)
6	7.4	6550	≤ 0.16	8000	≤ 0.065	0.5	18
12	6.1	6200	≤ 0.085	8000	≤ 0.05	0.394	18

馬達單體特性 / Motor Characteristics



PG

RA-18

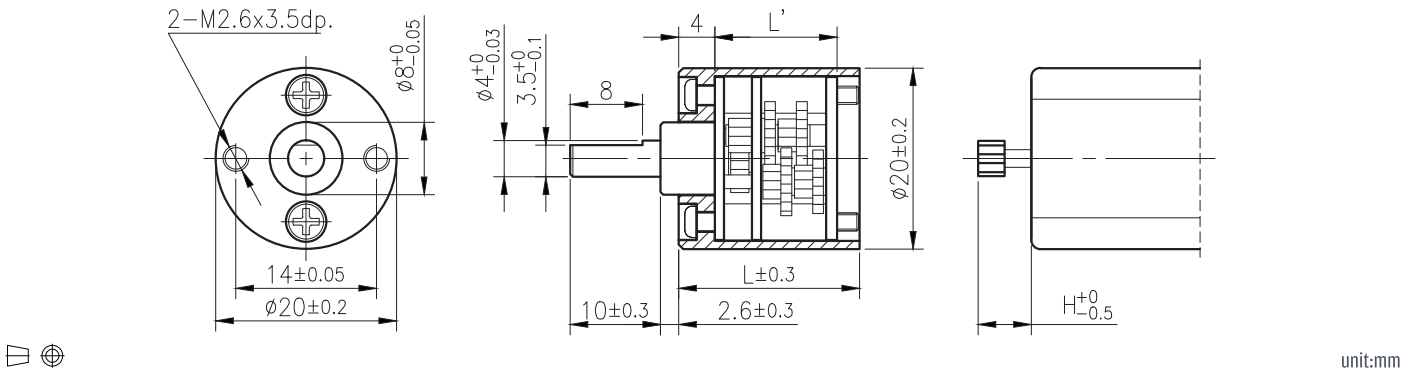
IG



Right Angle

RA

外形尺寸 & 馬達齒鉋合尺寸 / Appearance Size & Pinion Assembly Dimension



產品規格 / Product Specifications

外殼材質 Housing material	輸出軸承型式 Output shaft bearing	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
金屬 Metal	含油軸承 Sleeve bearing	≤ 0.4 kgf	≤ 0.2 kgf	≤ 2 kgf	≤ 0.05 mm	≤ 0.3 mm	$\leq 1.5^\circ$

馬達齒輪型式 / Pinion Specifications

模數 Module	齒數 No. of teeth	壓力角 Pressure angle	孔徑 (mm) Hole diameter	減速比 Reduction ratio
0.25	12	20°	$\phi 1.98$	1/10, 1/13, 1/29, 1/67, 1/80, 1/99, 1/150, 1/225 1/350, 1/430, 1/549, 1/689, 1/794, 1/866
0.25	14	20°	$\phi 1.98$	1/18, 1/42, 1/52, 1/120, 1/179, 1/275

標準減速比型式 / Gearboxes Specifications

減速比 Reduction ratio	1/10	1/13	1/18	1/29	1/42	1/52	1/67	1/80	1/99	1/120	1/150	1/179	1/225	1/275	1/350	1/430	1/549	1/689	1/794	1/866
定格容許扭力 (kgf-cm max.) Rated tolerance torque	0.4	0.4	0.6	0.6	1	1	1	1.2	1.2	1.5	1.5	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
瞬間容許扭力 (kgf-cm) Max momentary tolerance torque	1.2	1.2	1.8	1.8	3	3	3	3.6	3.6	4.5	4.5	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
效率 Efficiency	73%	73%	65%	65%	55%	55%	55%	50%	50%	50%	50%	45%	45%	45%	45%	40%	40%	40%	40%	40%
長度 Length (L')	10	10	13.5	13.5	13.5	13.5	15.3	15.3	15.3	15.3	18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8
長度 Length (L)	16.5	16.5	20	20	20	20	21.8	21.8	21.8	21.8	25.3	25.3	25.3	25.3	25.3	25.3	25.3	25.3	25.3	25.3
高度 Height (H)	5.2	5.2	7.4	7.4	5.2	5.2	5.2	5.2	5.2	5.2	7.4	7.4	7.4	7.4	5.2	5.2	5.2	5.2	5.2	5.2
重量 Weight (g)	24	24	27.5	27.5	27.5	27.5	29	29	29	29	32	32	32	32	32	32	32	32	32	32

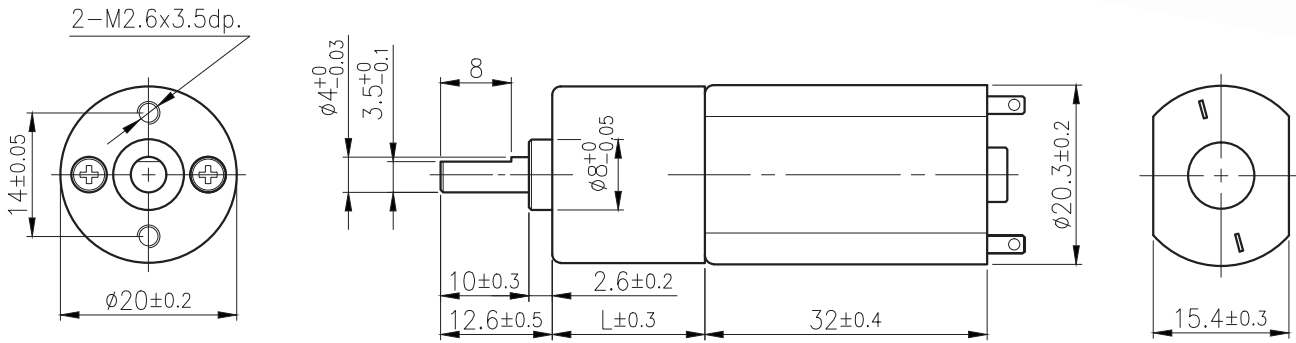
- 使用相對溼度：20%~85%RH
Operating relative humidity
- 使用溫度範圍：-10°C~+60°C
Operating temperature range

RA-20GM

03 & 04 TYPE



外形尺寸/ Appearance Size



unit:mm

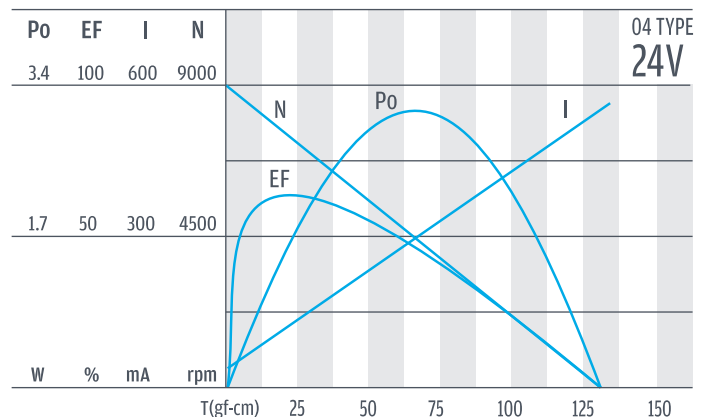
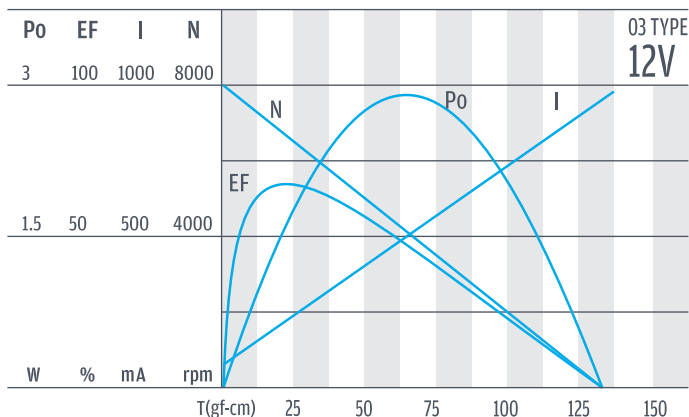
齒輪箱馬達轉矩 & 速度/ Gear Motor Torque & Speed

減速比 Reduction ratio		1/10	1/13	1/18	1/29	1/42	1/52	1/67	1/80	1/99	1/120	1/150	1/179	1/225	1/275	1/350	1/430	1/549	1/689	1/794	1/866	
12V	定格扭力 Rated torque (kgf-cm)	0.16	0.20	0.25	0.41	0.51	0.62	0.81	0.86	1.10	1.30	1.50	1.77	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	
	定格轉速 Rated speed (rpm)	655	525	364	226	159	129	100	84	67	56	45	37	31	25.5	20.5	16.6	13.1	10.5	9.3	8.6	
24V	定格扭力 Rated torque (kgf-cm)	0.16	0.20	0.25	0.41	0.51	0.62	0.81	0.86	1.10	1.30	1.50	1.77	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	
	定格轉速 Rated speed (rpm)	720	580	403	250	176	142	110	93	74	62	49.5	41	34	28.5	23	18.5	15	12	10.5	9.2	
軸心迴轉方向 Rotation direction		CW			CCW			CW			CCW			CW			CCW					
長度 Length (L)		16.5			20			21.8			25.3											

馬達單體型式/ Motor Data

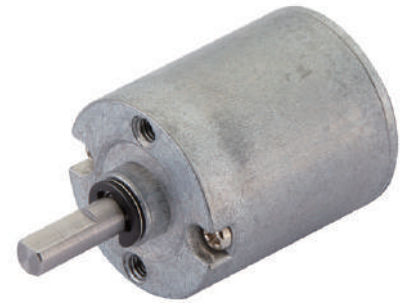
定格電壓 Rated volt (V)	定格扭力 Rated torque (gf-cm)	定格轉速 Rated speed (rpm)	定格電流 Rated current (A)	無負荷轉速 No load speed (rpm)	無負荷電流 No load current (A)	定格出力 Rated output (W)	重量 Weight (g)
12	22	6700	≤0.2	8000	≤0.05	1.5	32
24	22	7400	≤0.11	9000	≤0.03	1.7	32

馬達單體特性/ Motor Characteristics



PG

RA-22

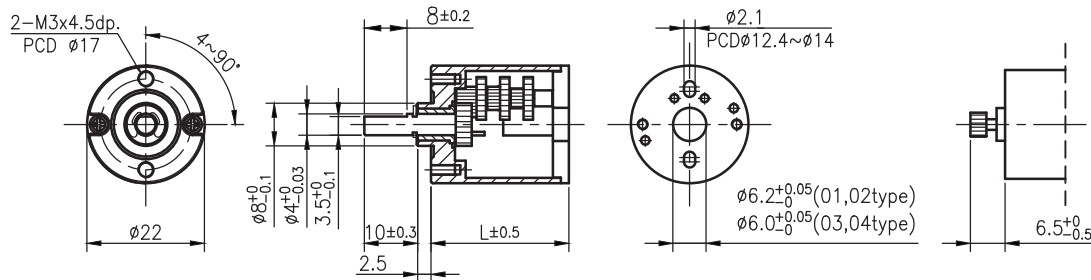


IG

外形尺寸 & 馬達齒鉤合尺寸 / Appearance Size & Pinion Assembly Dimension

Right Angle

RA



unit:mm

RB

產品規格 / Product Specifications

外殼材質 Housing material	輸出軸承型式 Output shaft bearing	徑向負荷 Radial load (5mm 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
金屬 Metal	含油軸承 Sleeve bearing	≤ 0.4 kgf	≤ 0.2 kgf	≤ 2 kgf	≤ 0.05 mm	≤ 0.3 mm	$\leq 1.5^\circ$

WG

馬達齒輪型式 / Pinion Specifications

模數 Module	齒數 No. of teeth	壓力角 Pressure angle	孔徑 (mm) Hole diameter	減速比 Reduction ratio
0.3	12	20°	$\phi 1.98$	全種通用 Practicable

SD

標準減速比型式 / Gearboxes Specifications

減速比 Reduction ratio	1/9	1/19	1/24	1/39	1/51	1/70	1/82	1/106	1/112	1/137	1/145	1/180	1/233	1/286	1/392	1/507
定格容許扭力 (kgf-cm max.) Rated tolerance torque	0.4	0.6	0.6	1	1	1	1.2	1.2	1.2	1.5	1.5	1.8	1.8	1.8	1.8	1.8
瞬間容許扭力 (kgf-cm) Max momentary tolerance torque	1.2	1.8	1.8	3	3	3	3.6	3.6	3.6	4.5	4.5	5.4	5.4	5.4	5.4	5.4
效率 Efficiency	73%	65%	65%	55%	55%	55%	50%	50%	50%	50%	50%	45%	45%	45%	45%	45%
長度 Length (L)	17	19.2	19.2	21.4	21.4	21.4	23.6	23.6	23.6	23.6	23.6	25.8	25.8	25.8	25.8	25.8
重量 Weight (g)	24.6	25.4	25.4	26.2	26.2	26.2	27	27	27	27	27	27.7	27.7	27.7	27.7	27.7

BLDC

Encoder

Driver

- 使用相對溼度：20%~85%RH
Operating relative humidity
- 使用溫度範圍：-10°C~+60°C
Operating temperature range

PG

RA-22GM

03 & 04 TYPE

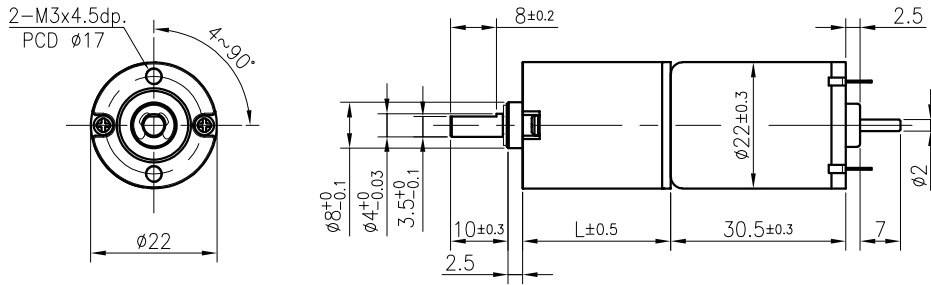


IG

外形尺寸 / Appearance Size

Right Angle

RA



unit:mm

RB

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

減速比 Reduction ratio	1/9	1/19	1/24	1/39	1/51	1/70	1/82	1/106	1/112	1/137	1/145	1/180	1/233	1/286	1/392	1/507			
12V 定格扭力 Rated torque (gf-cm)	200	375	490	665	865	1000	1200	1200	1200	1500	1800	1800	1800	1800	1800	1800			
12V 定格轉速 Rated speed (rpm)	530	255	195	120	95	69	58	44	42	34	32	25	19	15	11	8			
24V 定格扭力 Rated torque (gf-cm)	240	450	585	795	1000	1000	1200	1200	1200	1500	1500	1800	1800	1800	1800	1800			
24V 定格轉速 Rated speed (rpm)	520	250	190	120	92	68	56	43	41	33	31	25	19	15	11	8			
軸心迴轉方向 Rotation direction	ccw	cw			ccw				cw					ccw					
長度 Length (L)	17	19.2			21.4				23.6					25.8					

WG

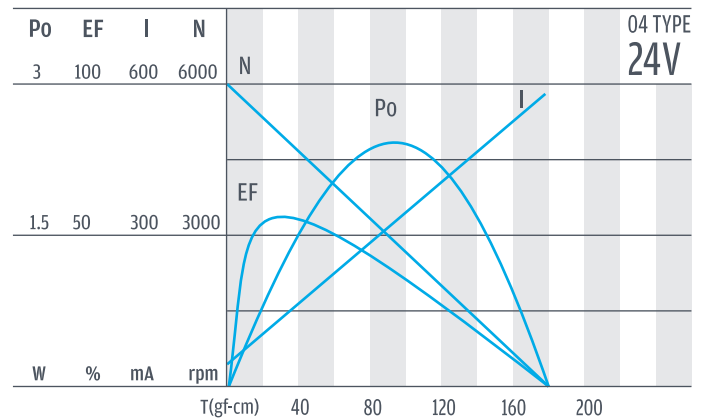
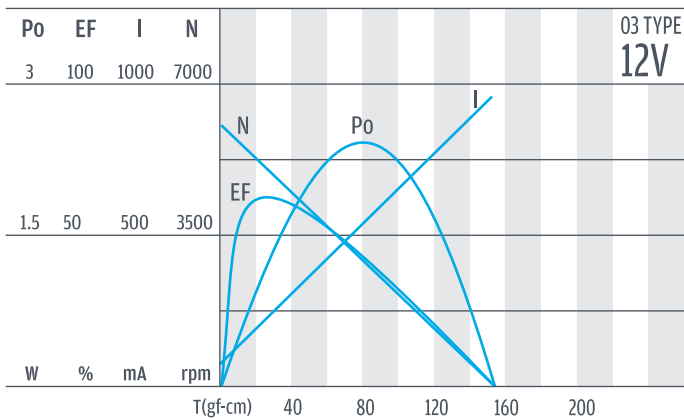
SD

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 (mA)	無負荷轉速 No load speed (rpm)	無負荷電流 No load current (mA)	定格出力 Rated output (W)	重量 Weight (g)
12	31	4790	≤ 240	6000	≤ 80	1.52	43
24	37	4710	< 145	6000	< 55	1.79	43

BLDC

馬達單體特性 / Motor Characteristics



Encoder

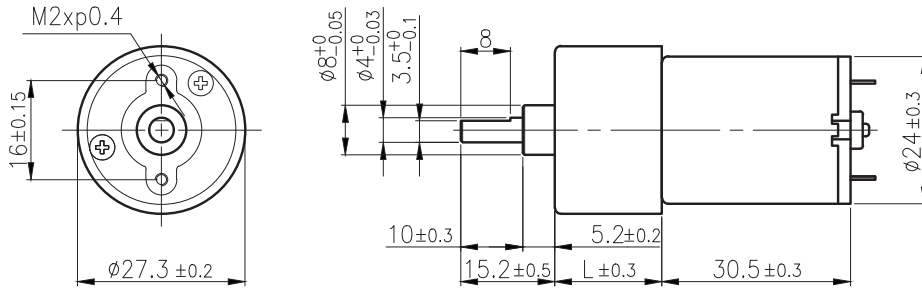
Driver

RA-27GM

02 & 03 TYPE



外形尺寸/ Appearance Size



unit:mm

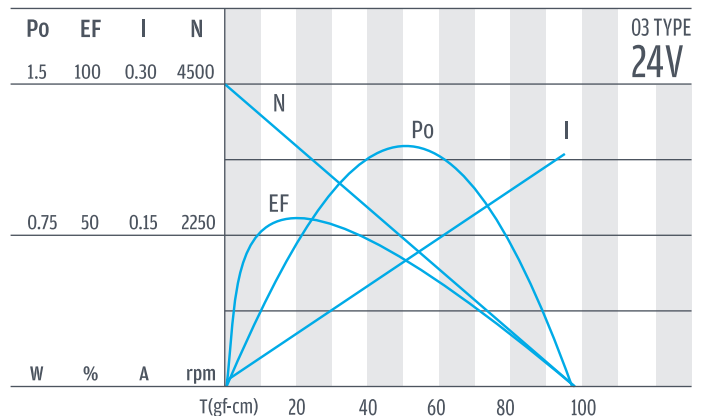
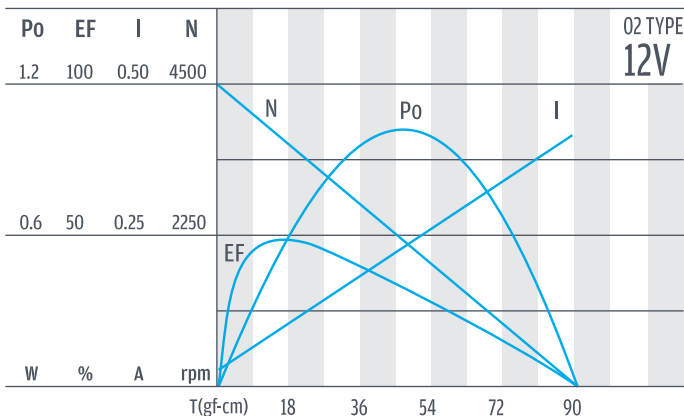
齒輪箱馬達轉矩 & 速度/ Gear Motor Torque & Speed

減速比 Reduction ratio		1/10	1/15	1/21	1/30	1/44	1/60	1/77	1/100	1/112	1/150	1/170	1/200	1/250	1/320	1/360	1/500	1/700	1/800	1/900	1/1153
12V	定格扭力 Rated torque (kgf-cm)	0.16	0.22	0.32	0.40	0.55	0.78	0.8	1.0	1.0	1.2	1.2	1.2	1.2	1.2	1.2	1.5	1.5	1.5	1.5	1.5
	定格轉速 Rated speed (rpm)	340	230	160	110	80	59	46	36	33	21.5	20	18	14.5	12	10.5	7.5	5.7	5.1	4.5	3.7
24V	定格扭力 Rated torque (kgf-cm)	0.16	0.21	0.30	0.38	0.52	0.73	0.8	1.0	1.0	1.2	1.2	1.2	1.2	1.2	1.2	1.5	1.5	1.5	1.5	1.5
	定格轉速 Rated speed (rpm)	325	220	153	105	77	56	44	34	33	22	20	18	14.5	11.5	10.5	7.5	5.6	5.0	4.5	3.6
軸心迴轉方向 Rotation direction		CW		CCW		CW					CCW					CW					
長度 Length (L)		17.3															19.3				

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)	重量 Weight (g)
12	20.5	3560	≤0.15	4500	≤0.05	0.75	42
24	19.5	3400	≤0.065	4500	≤0.03	0.68	42

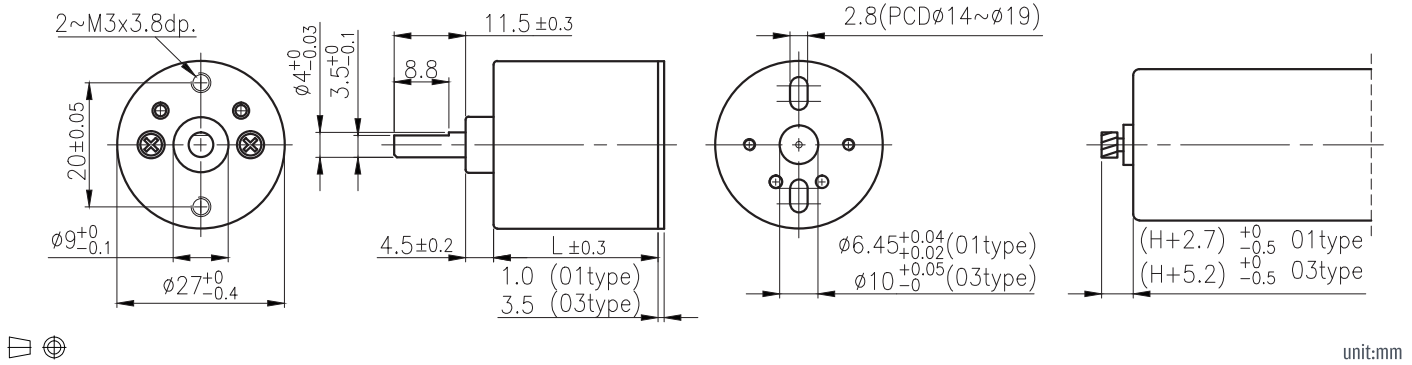
馬達單體特性/ Motor Characteristics



RA-27C



外形尺寸 & 馬達齒鉤合尺寸 / Appearance Size & Pinion Assembly Dimension



產品規格 / Product Specifications

外殼材質 Housing material	輸出軸承型式 Output shaft bearing	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
金屬 Metal	含油軸承 Sleeve bearing	≤ 0.5 kgf	≤ 0.4 kgf	≤ 4 kgf	≤ 0.05 mm	≤ 0.3 mm	≤ 2°

馬達齒輪型式 / Pinion Specifications

模數 Module	齒數 No. of teeth	壓力角 Pressure angle	螺旋角 Helix angle	孔径 (mm) Hole diameter	減速比 Reduction ratio
0.4	10	20°	18° (左, left)	$\phi 1.98 \phi 2.28$	全種通用 Practicable

標準減速比型式 / Gearboxes Specifications

減速比 Reduction ratio	1/10	1/20	1/42	1/54	1/87	1/112	1/181	1/232	1/376	1/484	1/784	1/1009
定格容許扭力 (kgf-cm max.) Rated tolerance torque	0.5	0.6	1	1	1.2	1.2	1.6	1.6	2	2	2.5	2.5
瞬間容許扭力 (kgf-cm) Max momentary tolerance torque	1.5	1.8	3	3	3.6	3.6	4.8	4.8	6	6	7.5	7.5
效率 Efficiency	73%	66%	59%	59%	53%	53%	48%	48%	43%	43%	39%	39%
長度 Length (L)	14.65	14.65	19.4	19.4	19.4	19.4	24.15	24.15	24.15	24.15	26.6	26.6
高度 Height (H)	4.65	2.27	4.65	4.65	2.27	2.27	4.65	4.65	2.27	2.27	4.65	4.65
重量 Weight (g)	33	34	35	35	35	35	36	36	36	36	36	36

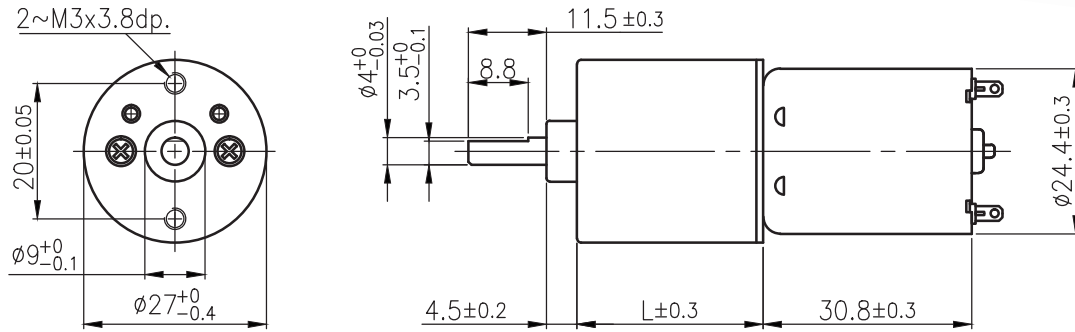
- 使用相對溼度：20%~85%RH
Operating relative humidity
- 使用溫度範圍：-10°C~+60°C
Operating temperature range

RA-27CGM

01 & 02 TYPE



外形尺寸/ Appearance Size



unit:mm

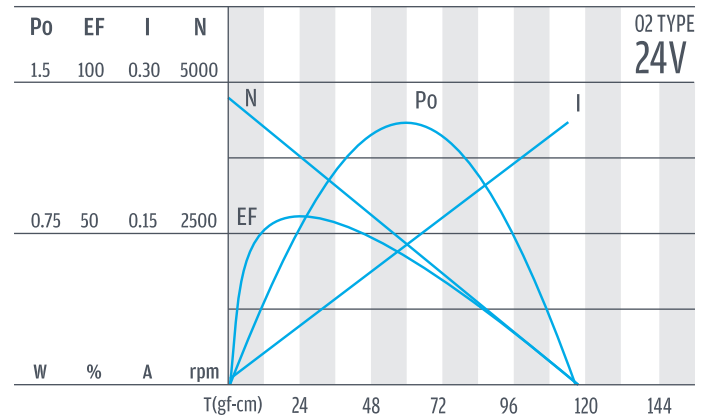
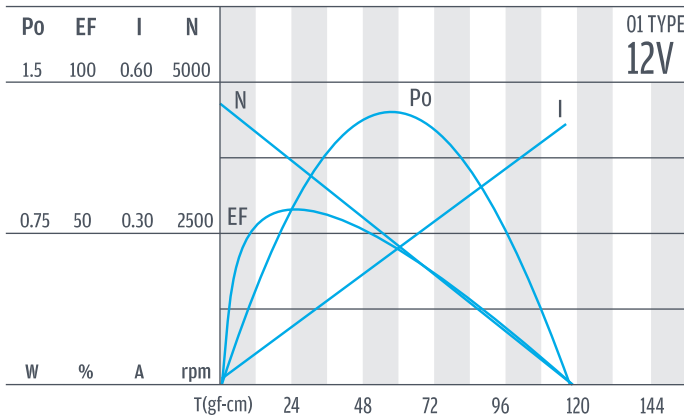
齒輪箱馬達轉矩 & 速度/ Gear Motor Torque & Speed

	減速比 Reduction ratio	1/10	1/20	1/42	1/54	1/87	1/112	1/181	1/232	1/376	1/484	1/784	1/1009				
12V	定格扭力 Rated torque (kgf-cm)	0.15	0.28	0.54	0.69	1	1.2	1.6	1.6	2	2	2.5	2.5				
	定格轉速 Rated speed (rpm)	375	180	86	67	41	32	20.2	16.5	10.5	8	5.2	4.1				
24V	定格扭力 Rated torque (kgf-cm)	0.16	0.31	0.59	0.75	1.1	1.2	1.6	1.6	2	2	2.5	2.5				
	定格轉速 Rated speed (rpm)	365	175	84	65	40	32	21	16.8	10.6	8.5	5.3	4.1				
	軸心迴轉方向 Rotation direction	CW	CCW	CW		CCW		CW		CCW		CW					
	長度 Length (L)	15.65		20.40			25.15			27.6							

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)	重量 Weight (g)
12	22	3600	≤0.13	4500	≤0.05	0.81	50
24	24	3500	≤0.07	4500	≤0.035	0.86	50

馬達單體特性/ Motor Characteristics

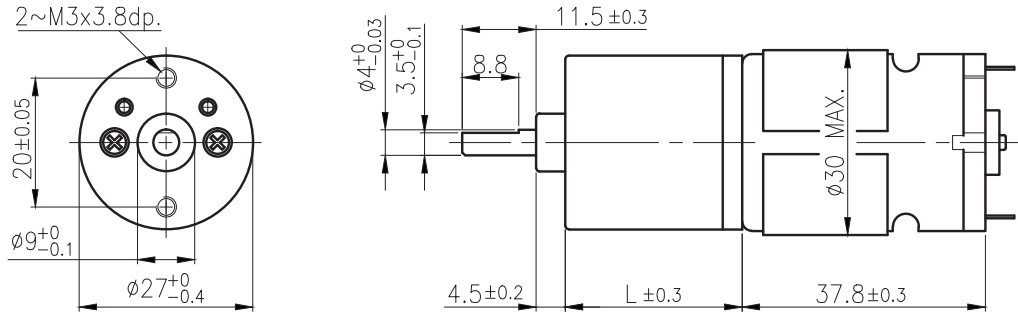


RA-27CGM

03 & 04 TYPE



外形尺寸/ Appearance Size



unit:mm

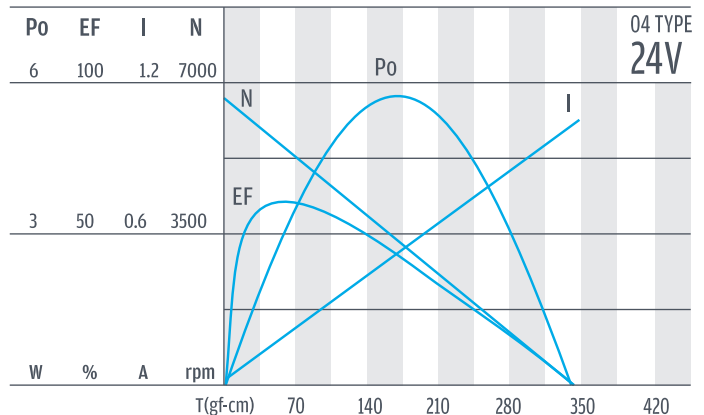
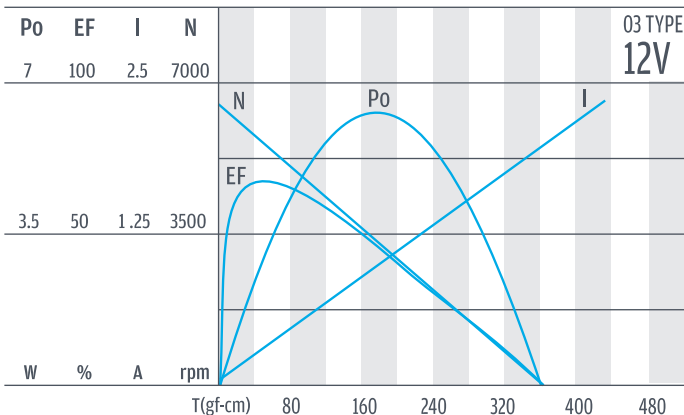
齒輪箱馬達轉矩 & 速度/ Gear Motor Torque & Speed

減速比 Reduction ratio	1/10	1/20	1/42	1/54	1/87	1/112	1/181	1/232	1/376	1/484	1/784	1/1009				
12V 定格扭力 Rated torque (kgf-cm)	0.38	0.6	1	1	1.2	1.2	1.6	1.6	2	2	2.5	2.5				
12V 定格轉速 Rated speed (rpm)	546	284	139	110.5	69.7	55.4	34.1	27	16.8	13	8.2	6.2				
24V 定格扭力 Rated torque (kgf-cm)	0.41	0.6	1	1	1.2	1.2	1.6	1.6	2	2	2.5	2.5				
24V 定格轉速 Rated speed (rpm)	558	280	137	109	68.7	54.7	33.7	26.7	16.6	12.9	8.1	6.2				
軸心迴轉方向 Rotation direction	CW	CCW	CW		CCW		CW		CCW		CW					
長度 Length (L)	18.15		22.90			27.65			30.10							

馬達單體型式/ Motor Data

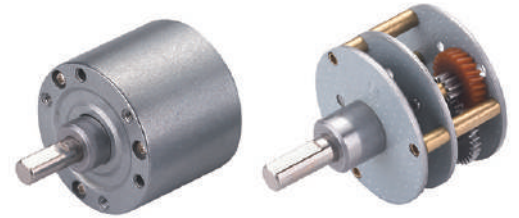
定格電壓 Rated volt (V)	定格扭力 Rated torque (gf-cm)	定格轉速 Rated speed (rpm)	定格電流 Rated current (A)	無負荷轉速 No load speed (rpm)	無負荷電流 No load current (A)	定格出力 Rated output (W)	重量 Weight (g)
12	78	5290	≤0.53	6500	≤0.15	4.22	73
24	74	5250	≤0.25	6500	≤0.085	3.97	73

馬達單體特性/ Motor Characteristics



PG

RA-35C

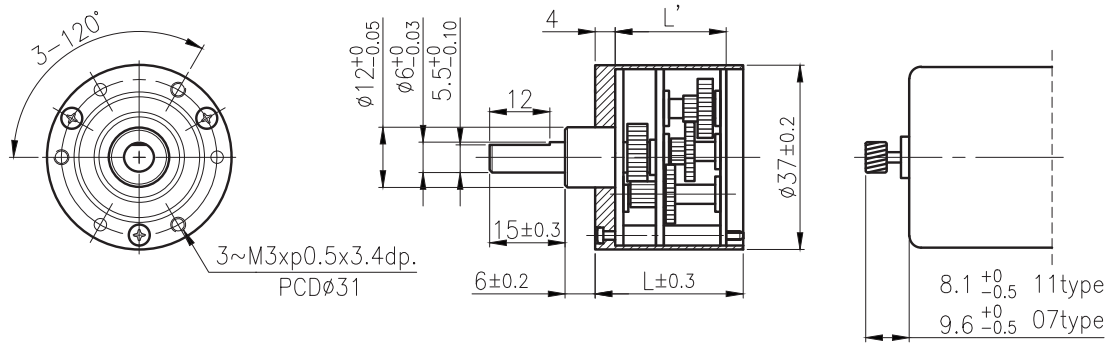


IG

外形尺寸 & 馬達齒鉤合尺寸 / Appearance Size & Pinion Assembly Dimension

Right Angle

RA



unit:mm

RB

產品規格/ Product Specifications

外殼材質 Housing material	輸出軸承型式 Output shaft bearing	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
金屬 Metal	含油軸承 Sleeve bearing	≤ 1 kgf	≤ 0.7 kgf	≤ 5 kgf	≤ 0.05 mm	≤ 0.35 mm	≤ 2°

WG

馬達齒輪型式/ Pinion Specifications

模數 Module	齒數 No. of teeth	壓力角 Pressure angle	螺旋角 Helix angle	孔徑 (mm) Hole diameter	減速比 Reduction ratio
0.5	10	20°	— 18° (左, left)	∅ 1.98 ∅ 2.28 ∅ 2.48 ∅ 2.98 ∅ 3.16	全種通用 Practicable

SD

標準減速比型式/ Gearboxes Specifications

減速比 Reduction ratio	1/6	1/16 1/19 1/21	1/31 1/38 1/47	1/56 1/63 1/69	1/75 1/94 1/104 1/113	1/125 1/156 1/169 1/187	1/219 1/234 1/250	1/281 1/312 1/375	1/422 1/469 1/563 1/625	1/750 1/938 1/1250 1/1875	1/2813 1/3750 1/5625							
定格容許扭力 (kgf-cm max.) Rated tolerance torque	1	2	3	4	5	6	6	6	6	6	6							
瞬間容許扭力 (kgf-cm) Max momentary tolerance torque	3	6	9	12	15	18	18	18	18	18	18							
效率 Efficiency	81%	73%	66%	66%	59%	59%	53%	53%	53%	48%	43%							
長度 Length (L)	14.8	17.6	20.1	20.1	22.5	22.5	25	25	25	27.5	30							
長度 Length (L)	21.8	24.6	27.1	27.1	29.5	29.5	32	32	32	34.5	37							
重量 Weight (g)	97	103	109	109	117	117	121	121	121	128	131							

BLDC

Encoder

Driver

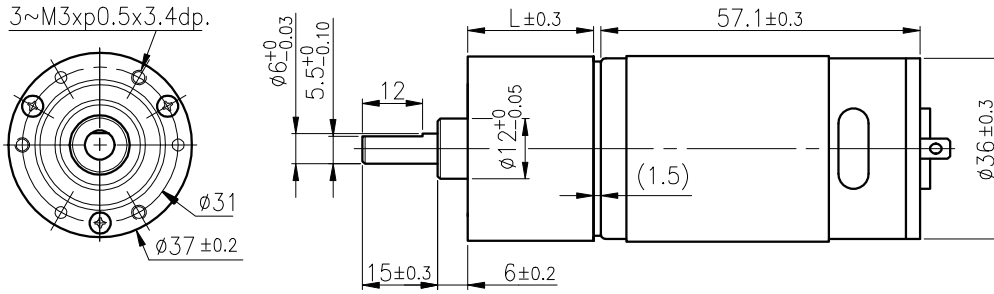
- 使用相對溼度：20%~85%RH
Operating relative humidity
- 使用溫度範圍：-10°C~+60°C
Operating temperature range

RA-37GM

07 & 09 TYPE



外形尺寸 / Appearance Size



unit:mm

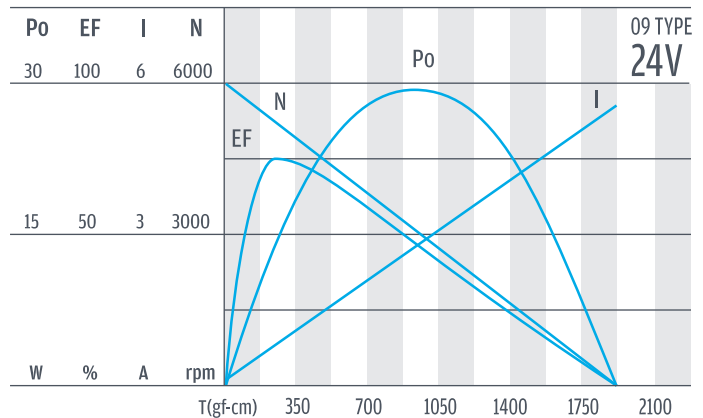
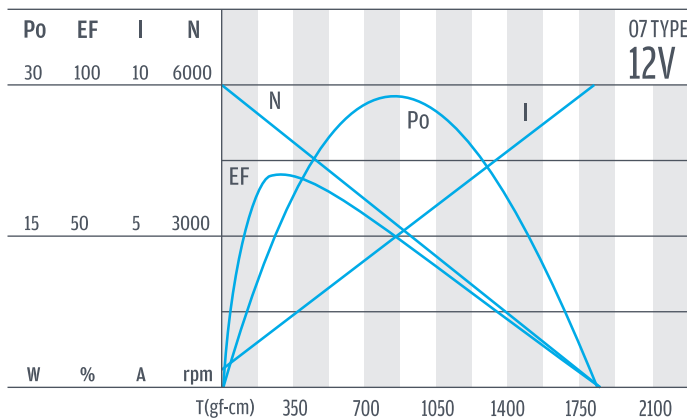
齒輪箱馬達轉矩 & 速度 / Gear Motor Torque & Speed

	減速比 Reduction ratio	1/6	1/16	1/21	1/31	1/56	1/75	1/104	1/125	1/156	1/187	1/219	1/250	1/312	1/469	1/625	1/750	1/938	1/1875	1/3750	1/5625
12V	定格扭力 Rated torque (kgf-cm)	1	2	2	3	4	5	5	6	6	6	6	6	6	6	6	6	6	6	6	6
	定格轉速 Rated speed (rpm)	795	330	250	172	95	72	54	45	37	31	26	23	18.7	12.5	9.3	7.8	6.2	3.2	1.5	1
24V	定格扭力 Rated torque (kgf-cm)	1	2	2	3	4	5	5	6	6	6	6	6	6	6	6	6	6	6	6	6
	定格轉速 Rated speed (rpm)	805	338	260	175	97	73	55	46	38	32	26.8	23.4	18.8	12.5	9.5	7.8	6.3	3.2	1.6	1
	軸心迴轉方向 Rotation direction	CCW	CW	CCW					CW					CCW				CW			CCW
	長度 Length (L)	21.8	24.6	27.1					29.5					32				34.5			37

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)	重量 Weight (g)
12	250	4930	≤1.6	6000	≤0.25	12.80	220
24	240	5150	≤0.75	6000	≤0.13	12.70	220

馬達單體特性 / Motor Characteristics

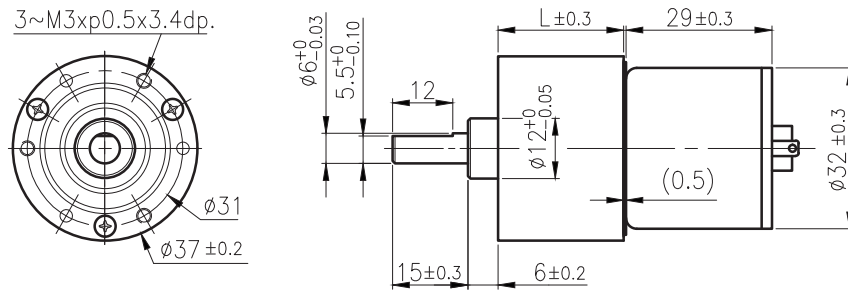


RA-37GM

11 & 12 TYPE



外形尺寸/ Appearance Size



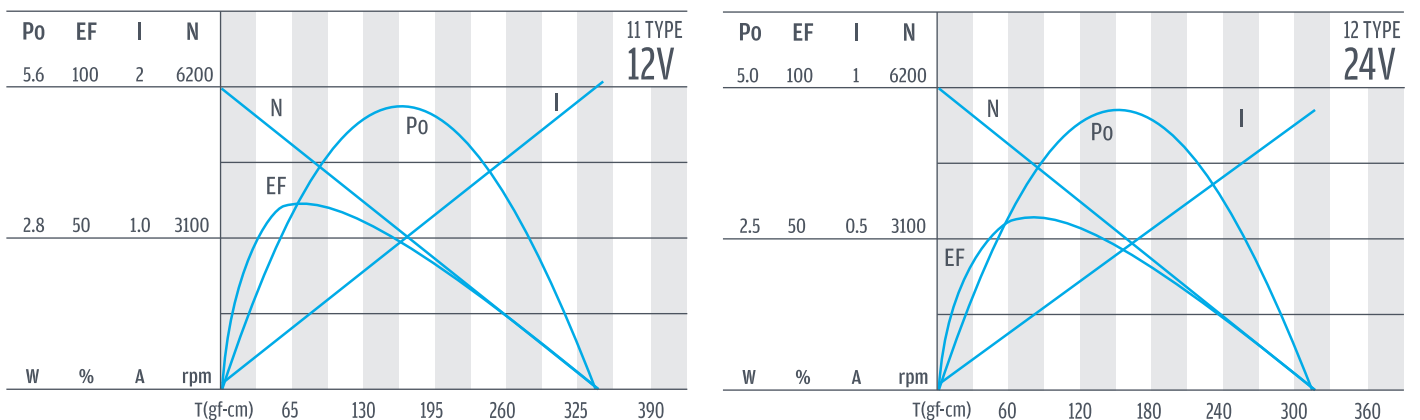
齒輪箱馬達轉矩 & 速度/ Gear Motor Torque & Speed

減速比 Reduction ratio	1/6	1/16	1/21	1/31	1/56	1/75	1/104	1/125	1/156	1/187	1/219	1/250	1/312	1/469	1/625	1/750	1/938	1/1875	1/3750	1/5625
12V 定格扭力 Rated torque (kgf-cm)	0.3	0.68	0.9	1.25	2.2	2.6	3.6	4.4	5.5	6	6	6	6	6	6	6	6	6	6	6
12V 定格轉速 Rated speed (rpm)	800	310	245	155	90	67	49	41	33	28	24	21.5	17.6	12.3	9.1	7.8	6.3	3.2	1.6	1
24V 定格扭力 Rated torque (kgf-cm)	0.3	0.7	0.9	1.25	2.3	2.7	3.8	4.5	5.7	6	6	6	6	6	6	6	6	6	6	6
24V 定格轉速 Rated speed (rpm)	780	308	240	150	87	65	48	40	32	27	23.5	21.5	17.5	12	9	7.8	6.2	3.2	1.6	1
軸心迴轉方向 Rotation direction	CW		CCW		CW		CCW				CW			CCW			CW			
長度 Length (L)	21.8		24.6		27.1		29.5				32			34.5			37			

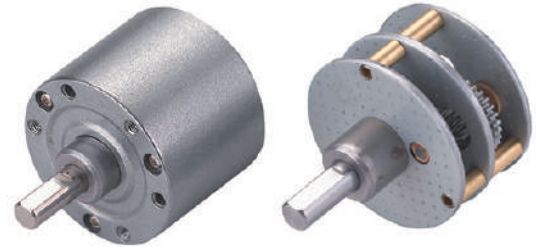
馬達單體型式/ Motor Data

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)	重量 Weight (g)
12	60	5100	≤0.47	6200	≤0.12	3.14	75
24	62	5000	≤0.21	6200	≤0.06	3.17	75

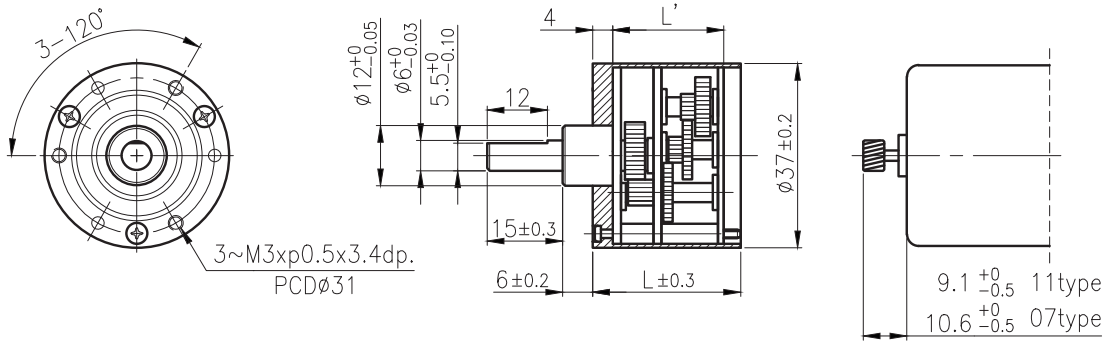
馬達單體特性/ Motor Characteristics



RA-35A



外形尺寸 & 馬達齒鉚合尺寸 / Appearance Size & Pinion Assembly Dimension



產品規格 / Product Specifications

外殼材質 Housing material	輸出軸承型式 Output shaft bearing	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
金屬 Metal	含油軸承 Sleeve bearing	≤ 1 kgf	≤ 0.7 kgf	≤ 5 kgf	≤ 0.05 mm	≤ 0.35 mm	$\leq 2^\circ$

馬達齒輪型式 / Pinion Specifications

模數 Module	齒數 No. of teeth	壓力角 Pressure angle	螺旋角 Helix angle	孔徑 (mm) Hole diameter	減速比 Reduction ratio
0.5	10	20°	— 18° (左, left)	$\phi 1.98 \ \phi 2.28 \ \phi 2.48 \ \phi 2.98 \ \phi 3.16$	全種通用 Practicable

標準減速比型式 / Gearboxes Specifications

減速比 Reduction ratio	1/16	1/31	1/56	1/75	1/125	1/219	1/281	1/422										
1/19	1/38	1/63	1/94	1/156	1/234	1/312	1/469											
1/21	1/47	1/69	1/104	1/169	1/250	1/375	1/563	1/625										
定額容許扭力 (kgf-cm max.) Rated tolerance torque	2	3	4	5	6	6	6	6										
瞬間容許扭力 (kgf-cm) Max momentary tolerance torque	6	9	12	15	18	18	18	18										
效率 Efficiency	73%	66%	66%	59%	59%	53%	53%	53%										
長度 Length (L)	20.6	23.1	23.1	25.5	25.5	28	28	28										
長度 Length (L)	27.1	29.5	29.5	32	32	34.5	34.5	34.5										
重量 Weight (g)	108	114	114	122	122	126	126	126										

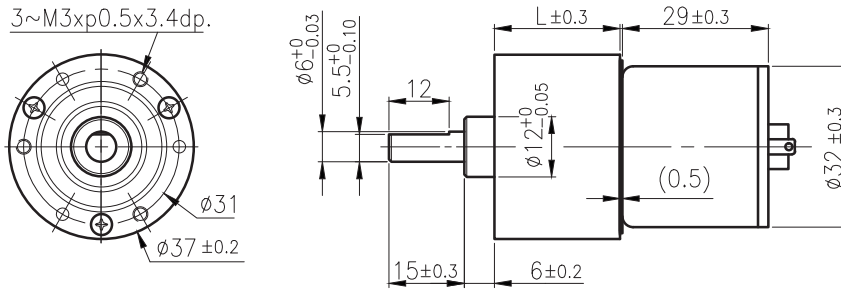
- 使用相對溼度：20%~85%RH
Operating relative humidity
- 使用溫度範圍：-10°C~+60°C
Operating temperature range

RA-37AGM

11 & 12 TYPE



外形尺寸/ Appearance Size



unit:mm

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

	減速比 Reduction ratio	1/16	1/21	1/31	1/56	1/75	1/104	1/125	1/156	1/187	1/219	1/250	1/281	1/312	1/375	1/422	1/469	1/563	1/625
12V	定格扭力 Rated torque (kgf-cm)	0.68	0.9	1.25	2.2	2.6	3.6	4.4	5.5	6	6	6	6	6	6	6	6	6	6
	定格轉速 Rated speed (rpm)	310	245	155	90	67	49	41	33	28	24	21.5	19	17.6	14.5	13.2	12.3	10.1	9.1
24V	定格扭力 Rated torque (kgf-cm)	0.7	0.9	1.25	2.3	2.7	3.8	4.5	5.7	6	6	6	6	6	6	6	6	6	6
	定格轉速 Rated speed (rpm)	308	240	150	87	65	48	40	32	27	23.5	21.5	18.5	17.5	14.7	13.2	12	10.2	9
	軸心迴轉方向 Rotation direction	CCW		CW		CCW						CW							
	長度 Length (L)	27.1		29.5		32						34.5							

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)	重量 Weight (g)
12	60	5100	≤ 0.47	6200	≤ 0.12	3.14	75
24	62	5000	≤ 0.21	6200	≤ 0.06	3.17	75

馬達單體特性/ Motor Characteristics

