恒铭智能

专注研发、国造品牌

恒铭智能

专注研发、国造品牌

Product Reducers

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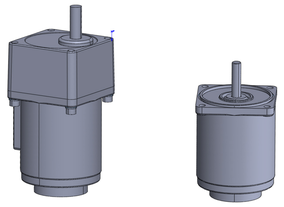

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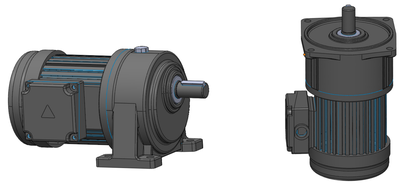

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GV All cinemas with single-phase three-phase, vertical aluminum shell(brake)grar reducer motors
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GH horizontal high-speed opponent single-phase three-phase, aluminum shell(brake)gear reducer motors
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GV All cinemas vertical high-speed opponent single-phase three-phase, aluminum shell(brake)gear reducer motors
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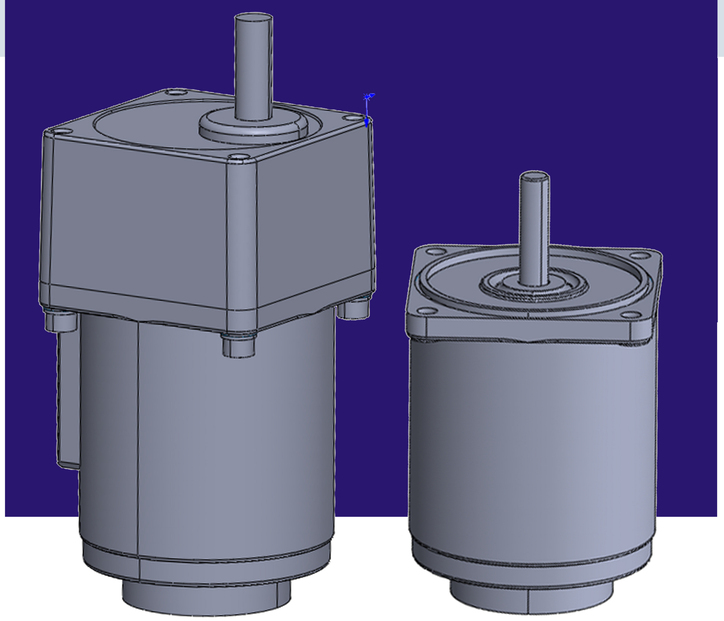


訂購方式
DESIGNATION

微型交流電機 MINIATURE AC MOTOR

■ 微型交流電機命名 AC MOTOR MODEL NAME

60YS06WG/DV22□
1 2 3 4 5 6

1 機座號 Stand Code
60、70、80、90、100

2 名稱代號 Name Code
YS: 標準電機 STANDARD MOTOR
YT: 調速電機 VARIABLE SPEED MOTOR
YB: 電磁制動電機 ELECTROMAGNETIC BRAKE MOTOR
YF: 調速電磁制動電機 VARIABLE SPEED ELECTROMAGNETIC BRAKE MOTOR
YR: 阻尼電機DAMPING MOTOR

3 功效代號 Efficacy Code
06W、15W、25W、40W、60W 、90W、120W、140W、200W

4 轉子軸形式代號 Rotor shaft form Code
G: 齒軸 GEAR SHAFT
D: 圓軸 ROUND SHAFT

5 電壓代號 Voltage Code
V11: 單相SINGLE PHASE 110V
V22: 單相SINGLE PHASE 220V
Y22: 三相THREE PHASE 220V
Y38: 三相THREE PHASE 380V

6 派生代號 Derived Code
X: 引綫式(綫長300MM) LEAD (LINE LENGTH 300 MM)
T: 帶熱保護器 WITH THERMAL PROTECTOR
H: 帶接綫盒 WITH TERMINAL BLOCK

■ 減速箱型號命名 GEARBOX MODEL NAME

60GK100H□
1 2 3 4 5

1 機座號 Stand Code
60、70、80、90、100、L80、L90、L100

2 機型代號 Model Code
GK: 6–25W減速箱GEARBOX
GF: 40–200W減速箱GEARBOX

3 減速比代號 Reduction ratio Code
3、3.6… 200

4 結構代號 Structure Code
H：標準 STANDARD
HE：帶耳型 EARED
RT：直角中實 RIGHT ANGLE SOLID
RC：直角中空 RIGHT ANGLE HOLLOW

5 派生代號 Derived Code
K：通孔 HOLE

■ 微型交流電機通用技術標準 MINIATURE AC MOTOR COMMON TECHNICAL STANDARDS

絕緣電阻	在常温，常濕下電機額定運轉後，以DC500V兆歐表測量組與外殼的絶緣電阻應爲100MΩ以上。
絕緣耐壓	在常温，常濕下電機額定運轉後，在繞組與外殼間施加50Hz或60Hz，1.5KV電機一分鐘，無异常。
溫升	在裝上減速箱或同等散熱板進行額定運轉時，以電阻法測定其繞組温度上升值爲75K以下。
絕緣等級	E級（120℃）
過熱保護裝置	可内藏過熱保護裝置（自動復位型）動作温度 120℃±5℃復位温度 82℃±15℃(此功能需定）
使用環境溫度	–10℃~+40℃(無凍結)
使用環境溫度	85%以下(無結露)

INSULATION RESISTANCE: After running at rated settings under normal temperature and humidity, the insulation resistance between the winding and the shell of the motor measured with a DC500V megger should be more than 100MΩ.

INSULATION VOLTAGE: After running at rated settings under normal temperature and humidity, apply 50Hz or 60Hz, 1.5KV between the winding and the shell for one minute, and the motor is normal.

TEMPERATURE RISE: When running at rated settings with gearbox or equivalent heat radiating plate installed, the temperature rise of the winding measured in resistance method is 75K or less.

INSULATION CLASS: E (120℃)

OVERHEATING PROTECTION DEVICE: With built–in thermal protection device (automatic reset type); operating temperature: 120±5℃; reset temperature: 82±15℃ (this feature should be customized)

OPERATING TEMPERATURE: –10~40℃ (no freezing)

OPERATING HUMIDITY: <85% (no condensation)

微型直流電機 MINIATURE DC MOTOR

■ 微型直流電機命名 DC MOTOR MODEL NAME

60DC20GV24R16□

1 2 3 4 5 6 7

1 機座號
Stand Code
60、70、80、90、100

2 DC直流電機系列
DC motor series
DC

3 功效代號
Efficacy Code
10W、15W、20W、30W、40W、60W、65W、70W、100W、120W、200W、300W

4 轉子軸形式代號
Rotor shaft form Code
G: 齒軸 GEAR SHAFT
D: 圓軸 ROUND SHAFT

5 電壓代號
Voltage Code
V12、V24、V90、V180

6 轉速
Speed
R16: 1600r/min
R18: 1800r/min

7 派生代號
Derived Code
X: 引綫式(綫長300MM) LEAD (LINE LENGTH 300 MM)

■ 微型直流電機通用技術標準 MINIATURE DC MOTOR COMMON TECHNICAL STANDARDS

絕緣電阻 在常温常濕下，運轉電機後，以DC500V的絶緣電阻來測量的金屬綫圈和電機外殼之間的絶緣電阻時，不超過100兆歐。

絕緣電壓 在常温，常濕下，運轉電機後，在電機的金屬綫圈和電機之間，以1500V、50/60Hz，輸于1分鐘時没有任何問題。

温度上升 運轉電機後，用電阻法來測量時，綫圈組温度的上升數值在80℃以下。

絕緣等級 B級（130℃)

使用温度 –10℃~+40℃(冰凍)

使用濕度 85%以下(没有結露的場所)

INSULATION RESISTANCE: After running under normal temperature and humidity, the insulation resistance between the metal coil and the shell of the motor measured with a DC500V megger should be more than 100MΩ.

INSULATION VOLTAGE: After running under normal temperature and humidity, apply 1500V, 50/60Hz between the metal coil and the shell for one minute, and the motor is normal.

TEMPERATURE RISE: After running the motor, the temperature rise of the coil winding measured in resistance method is 80℃ or less.

INSULATION CLASS: B (130℃)

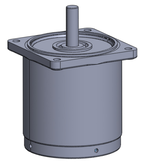
OPERATING TEMPERATURE: –10~40℃ (no freezing)

OPERATING HUMIDITY: <85% (no condensation)

通用參數
GENERAL PARAMETERS

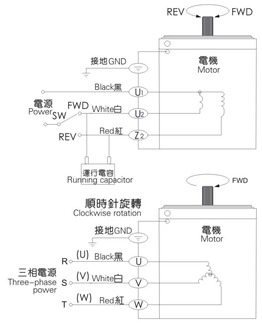
■ 微型交流電機接綫圖及運行電容外形尺寸 MINIATURE AC MOTOR WIRING DIAGRAM DIMENSIONS AND RUNNING CAPACITOR DIMENSIONS

齒輪軸
GEAR SHAFT



圓軸
ROUND SHAFT

接綫圖
Wiring diagram dimensions



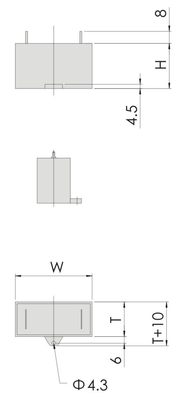
●順時針旋轉 CLOCKWISE ROTATION
將開關(SW)切換至FWD側，則電機做順時針旋轉。
Turn the switch (SW) to FWD and the motor rotates clockwise.

●逆時針旋轉 COUNTERCLOCKWISE ROTATION
將開關(SW)切換至REV側，則電機做逆時針旋轉；
若兑換U、V、W中任意兩條，則電機做逆時針旋轉。
Turn the switch (SW) to REV and the motor rotates counterclockwise; If any two of U, V and W are exchanged, the motor will rotate counterclockwise.

⚠注意NOTE

- 旋轉方向是指面對電機輸出端，順時針旋轉爲FWD，逆時針旋轉爲REV。
- 單相電機旋轉方向的切換作業應在電機停止後進行。
- 切換旋轉方向時，須等電機完全停止後進行，否則將可能無法切換旋轉方向或是須花較長時間方可切換。
- Rotation direction is facing the motor output terminal. The clockwise direction is FWD, and the counterclockwise direction is REV.
- The rotation direction of single phase motor should be switched when the motor is stopped.
- Switch the rotation direction only when the motor has stopped, or else it may be impossible to change or take longer time.

運行電容(單相電機附件)外形尺寸
Running capacitor (single phase motor accessories)dimensions



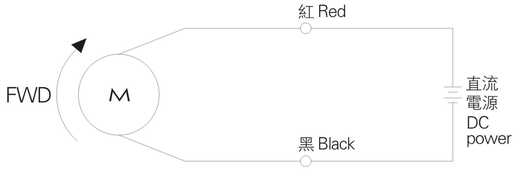
型號 MODEL	電容/電壓 CAPACITANCE VOLTAGE	外形尺寸 DIMENSIONS W	T	H
6W	0.8 μ f/450V	37	11	25
	2.5 μ f/250V	37	16	30
15W	1.5 μ f/450V	37	11	25
	4 μ f/250V	47	18	35
25W	2 μ f/450V	37	16	30
	6 μ f/250V	47	20	37
40W	3 μ f/450V	48	20	31
	10 μ f/250V	59	27	38
60W	4 μ f/450V	48	20	32
	14 μ f/250V	58	28	50
90W	5 μ f/450V	47	20	37
	20 μ f/250V	59	30	50
120W	6 μ f/450V	47	20	37
	24 μ f/250V	59	30	50
140W	8 μ f/450V	47	23	41
	28 μ f/250V	60	30	50
200W	10 μ f/450V	59	27	38
	32 μ f/250V	70	40	55

■ 微型直流電機接綫圖 MINIATURE DC MOTOR WIRING DIAGRAM DIMENSIONS

齒輪軸
GEAR SHAFT

圓軸
ROUND SHAFT

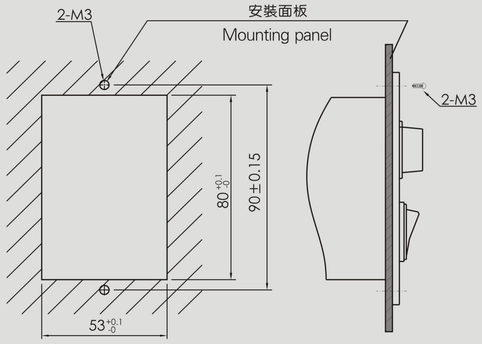
接綫圖 Wiring diagram dimensions



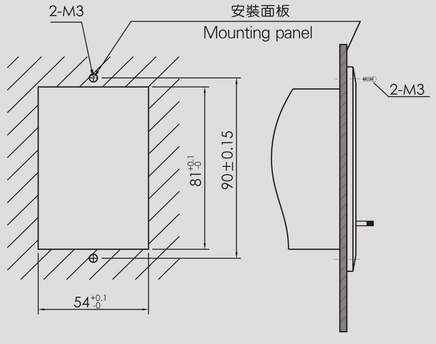
- 電機給引綫長度爲300mm
- FWD爲正轉
- The length of motor lead is about 300mm
- FWD indicates forward rotation

■ 面板式調速器的安裝 INSTALLATION OF PANEL SPEED GOVERNOR

WS–P控制面板開孔尺寸
Hole size of WS–P control panel



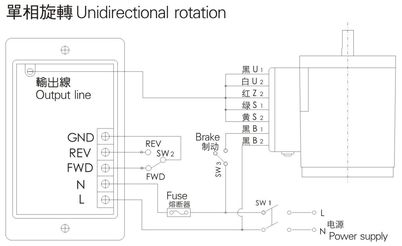
WS–L控制面板開孔尺寸
Hole size of WS–L control panel



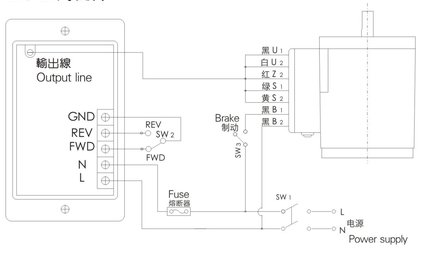
將調速器按圖示方向放入開孔，緊定螺釘。Put the governor into the hole in the direction shown, and tighten the screws.

■ 接綫方法 WIRING METHOD

單相旋轉 Unidirectional rotation



正、反向旋轉 Forward and reverse rotation



■ 旋轉方向 DIRECTION OF ROTATION

調速器出廠時，旋轉方向選擇軟綫連接于L與FWD端，電機順時針旋轉，若需使電機逆時針旋轉，僅需將軟綫連接于REV端。若需正、反向旋轉，則在FWD、REV連接旋轉方向選擇開關SW2。

When the governor is delivered, the cord of rotation direction selection has been connected to the L and FWD terminal, and the motor rotates clockwise; to make the motor rotate counterclockwise, just connect the cord to the REV terminal. For forward and reverse rotation, connect FWD and REV terminals to the rotation direction selector switch Sw2.

注：型號WS–L可選擇面板按鍵控制正反轉，或是手動接後面板接綫控制。

Note: Model WS–L allows controlling forward and reverse rotation with the panel button, or manually connect rear panel wiring.

■ 電機制動停止 MOTOR BRAKE STOPS

當電機停止運轉時，斷開SW3，電機內失電電磁制動器剎車，電機電磁制動，保持負載。在電機正常運轉中，不允許斷開SW3，否則電機及電機內的失電電磁制動器將燒壞。

When the motor stops running, disconnect SW3, the de–energized electromagnetic brake in the motor brakes, and the motor brakes and maintains the load. In the normal operation of the motor, it is not allowed to disconnect SW3, or else the motor and the de–energized electromagnetic brake in the motor will burn.

●特別注意 Special Note

B1、B2通電，失電電磁制動器不剎車；B1、B2斷電，失電電磁制動器剎車。剎車電源開關必須與電機調速開關同步。

When B1 and B2 are energized, the de–energized electromagnetic brake won't brake; when B1 and B2 are de–energized, the de–energized electromagnetic brake brakes. Brake power switch must be synchronized with the motor speed control switch.

■ 運轉操作 RUNNING OPERATION

將調速器與電機按圖連接，然後打開AC電源。閉合SW3，電機內失電電磁制動器通電，電磁制動失效，此時將面板上的開關切換到RUN，電機開始旋轉。

Connect the speed governor to the motor as shown in the figure, and then turn on the AC power. Close SW3, the de–energized electromagnetic brake in the motor is energized, and the electromagnetic brake fails; the switch on the panel turns to RUN, and the motor starts to rotate.

■ 轉速調整 SPEED ADJUSTMENT

順時針旋轉面板上的調速器旋鈕，電機轉速增加，電機調整範圍： 50Hz:90~1300r/min
60Hz:90~1600r/min

Rotate the speed control knob clockwise on the panel, and the motor speed increases; the range of adjustment: 50Hz: 90 ~ 1300r/min; 60Hz: 90~1600r/min

●特別注意 Special Note

嚴禁使用SW1電源開關作爲運行/制動開關開/停産調速器，并使用電機停止制動保持負載，否則易造成調速器損壞。現時由于調速器每次開電源時其內部電路有充電時間，故無法立即起動電機，動作亦會不正常。

Do not use SW1 power switch as the start/stop speed governor of running/brake switch and stop braking with the motor and hold the load, or else it will damage the speed governor easily. At present, internal circuit needs time to charge when the speed governor is turned on every time, the motor won't be started immediately, and the action will be abnormal.

■ 停止 STOP

將調速器面板上的開關切換到STOP，電機停止。

Turn the switch on the governor panel to STOP, and the motor stops.

注：此開關并非電源開關，若電機長期停止運轉，則請另設電源開關。

NOTE: This switch is not a power switch. If the motor stops running for a long time, please equip a separate power switch.

微型直流電機

MINIATURE DC MOTOR

60DC

10W/15W/20W

各型號電機性能 MOTOR PERFORMANCE

機座號 MODEL	電壓V VOLTAGE	功率W POWER	負載參數 LOAD PARAMETERS 轉速SPEED r/min	力矩TORQUE kg•cm	電流A≤ CURRENT	電刷壽命h BRUSH LIFE	電機重量kg MOTOR WEIGHT
60DC10GV12R16	12	10	1600	0.62	1.24	2000	0.7
60DC10GV24R16	24	10	1600	0.62	0.62	2000	0.7
60DC15GV12R16	12	15	1600	0.93	1.87	2000	0.9
60DC15GV24R16	24	15	1600	0.93	0.93	2000	0.9
60DC20GV12R16	12	20	1600	1.24	2.49	2000	0.9
60DC20GV24R16	24	20	1600	1.24	1.24	2000	0.9

減速箱減速比性能對照表 REDUCTION RATIO PERFORMANCE CHART

轉速 r/min SPEED	減速比 REDUCTION RATIO	3	3.6	5	6	7.5	10	12.5	15	18	20	25	30
1600	出力軸轉速r/min OUTPUT BEARING SPEED	533	444	320	267	213	160	128	107	89	80	64	53
	額定轉矩N・m RATED TORQUE	0.129	0.154	0.215	0.259	0.324	0.43	0.53	0.64	0.769	0.77	0.97	1.16
轉速 r/min SPEED	減速比 REDUCTION RATIO	36	40	50	60	75	90	100	120	150	180	200	
1600	出力軸轉速r/min OUTPUT BEARING SPEED	44	40	32	27	21	18	16	13	11	9	8	
	額定轉矩N・m RATED TORQUE	1.39	1.55	1.93	2.32	3	3	3	3	3	3	3	

標準減速箱
STANDARD GEARBOX
60GK □H

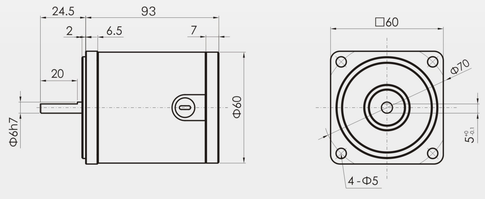
減速箱型號中的□爲減速比的數值
速比：1:3~200
□ in gearbox model indicates the reduction ratio (1:3~200)

外形尺寸(CAD) DIMENSIONS

60DC(10W/15W)

圓軸電機

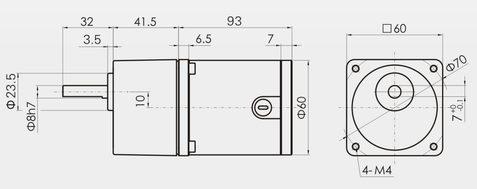
Round–axis motor



60DC(10W/15W)

組合：電機+標準減速箱（減速比：1:3~200）

Portfolio: motor + standard gearbox (reduction ratio: 1:3~200)



70DC

20W/30W

各型號電機性能 MOTOR PERFORMANCE

機座號 MODEL	電壓V VOLTAGE	功率W POWER	負載參數 LOAD PARAMETERS 轉速SPEED r/min	力矩TORQUE kg•cm	電流A≤ CURRENT	電刷壽命h BRUSH LIFE	電機重量kg MOTOR WEIGHT
70DC20GV12R16	12	20	1600	1.24	2.49	2000	1.0
70DC20GV24R16	24	20	1600	1.24	1.24	2000	1.0
70DC20GV90R16	90	20	1600	1.24	0.33	2000	1.0
70DC30GV12R16	12	30	1600	1.86	3.73	2000	1.1
70DC30GV24R16	24	30	1600	1.86	1.87	2000	1.1
70DC30GV90R16	90	30	1600	1.86	0.50	2000	1.1

減速箱減速比性能對照表 REDUCTION RATIO PERFORMANCE CHART

轉速 r/min SPEED	減速比 REDUCTION RATIO	3	3.6	5	6	7.5	10	12.5	15	18	20	25	30
1600	出力軸轉速r/min OUTPUT BEARING SPEED	533	444	320	267	213	160	128	107	89	80	64	53
	額定轉矩N・m RATED TORQUE	0.26	0.31	0.43	0.52	0.86	0.86	1.08	1.29	1.39	1.55	1.93	2.32
轉速 r/min SPEED	減速比 REDUCTION RATIO	36	40	50	60	75	90	100	120	150	180	200	
1600	出力軸轉速r/min OUTPUT BEARING SPEED	44	40	32	27	21	18	16	13	11	9	8	
	額定轉矩N・m RATED TORQUE	2.78	3.09	3.86	4.46	5	5	5	5	5	5	5	

標準減速箱
STANDARD GEARBOX
70GK □H

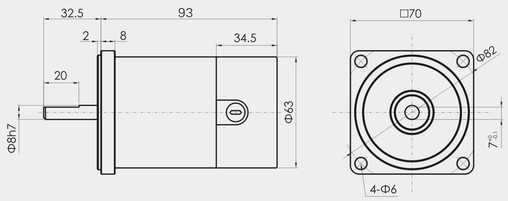
減速箱型號中的□爲減速比的數值
速比：1:3~200
□ in gearbox model indicates the reduction ratio (1:3~200)

外形尺寸(CAD) DIMENSIONS

70DC(20W/36W)

圓軸電機

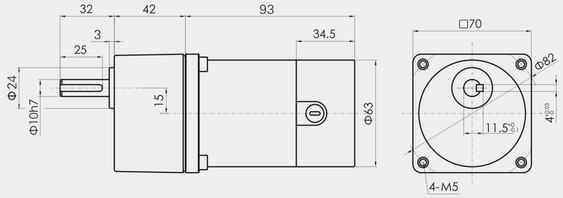
Round-axis motor



70DC(20W/36W)

組合：電機+標準減速箱（減速比：1:3~200）

Portfolio: motor + standard gearbox (reduction ratio: 1:3~200)



80DC

30W/60W

各型號電機性能 MOTOR PERFORMANCE

機座號 MODEL	電壓V VOLTAGE	功率W POWER	負載參數 LOAD PARAMETERS 轉速SPEED r/min	力矩TORQUE kg•cm	電流A≤ CURRENT	電刷壽命h BRUSH LIFE	電機重量kg MOTOR WEIGHT
80DC30GV12R16	12	30	1600	1.86	3.73	2000	1.8
80DC30GV24R16	24	30	1600	1.86	1.87	2000	1.8
80DC30GV90R16	90	30	1600	1.86	0.50	2000	1.8
80DC60GV12R16	12	60	1600	3.73	7.46	2000	1.9
80DC60GV24R16	24	60	1600	3.73	3.73	2000	1.9
80DC60GV90R16	90	60	1600	3.73	1.00	2000	1.9

減速箱減速比性能對照表 REDUCTION RATIO PERFORMANCE CHART

轉速 r/min SPEED	減速比 REDUCTION RATIO	3	3.6	5	6	7.5	10	12.5	15	18	20	25	30
1600	出力軸轉速r/min OUTPUT BEARING SPEED	533	444	320	267	213	160	128	107	89	80	64	53
	額定轉矩N・m RATED TORQUE	0.386	0.464	0.644	0.773	0.966	1.288	1.61	1.932	2.318	2.576	3.22	3.477
轉速 r/min SPEED	減速比 REDUCTION RATIO	36	40	50	60	75	90	100	120	150	180	200	
1600	出力軸轉速r/min OUTPUT BEARING SPEED	44	40	32	27	21	18	16	13	11	9	8	
	額定轉矩N・m RATED TORQUE	4.173	4.63	5.796	6.995	8	8	8	8	8	8	8	

標準減速箱
STANDARD GEARBOX
80GK □H

直角中空減速箱
RIGHT ANGLE HOLLOW GEARBOX
L80GK □RC

直角中實減速箱
RIGHT ANGLE SOLID GEARBOX
L80GK □RT

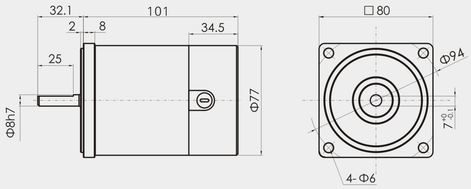
減速箱型號中的□爲減速比的數值
速比：1:3~200
□ in gearbox model indicates the reduction ratio (1:3~200)

外形尺寸(CAD) DIMENSIONS

80DC(30W/60W)

圓軸電機

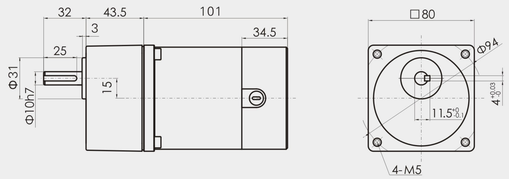
Round-axis motor



80DC(30W/60W)

組合：電機+標準減速箱（減速比：1:3~200）

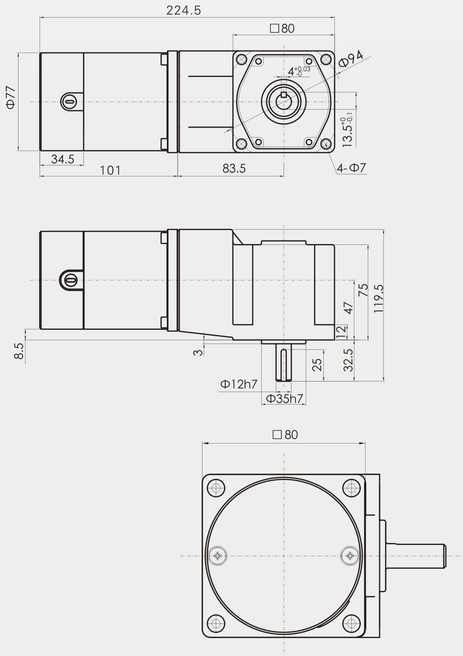
Portfolio: motor + standard gearbox (reduction ratio: 1:3~200)



80DC(30W/60W)

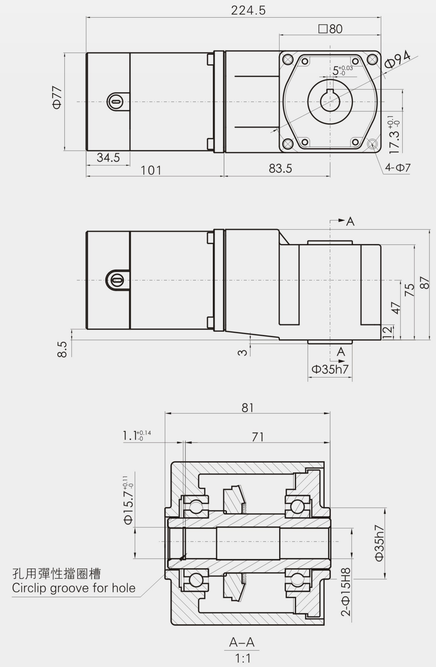
組合：電機+直角中實減速箱
減速比：1:3~200

Portfolio: motor + right-angle solid gearbox
Reduction ratio: 1:3~200



組合：電機+直角中空減速箱
減速比：1:3~200

Portfolio: motor + right angle hollow gearbox
Reduction ratio: 1:3~200



各型號電機性能

機座號 MODEL	電壓V VOLTAGE	功率W POWER	負載參數 LOAD PARAMETERS 轉速SPEED r/min	力矩TORQUE kg•cm	電流A≤ CURRENT	電刷壽命h BRUSH LIFE	電機重量kg MOTOR WEIGHT
90DC40GV12R16	12	40	1600	2.48	4.98	2000	1.9
90DC40GV24R16	24	40	1600	2.48	2.49	2000	1.9
90DC40GV90R16	90	40	1600	2.48	0.66	2000	1.9
90DC70GV12R16	12	70	1600	4.35	8.71	2000	2.0
90DC70GV24R16	24	70	1600	4.35	4.35	2000	2.0
90DC70GV90R16	90	70	1600	4.35	1.16	2000	2.0
90DC65GV12R16	12	65	1600	4.04	8.08	2000	2.0
90DC65GV24R16	24	65	1600	4.04	4.04	2000	2.0
90DC65GV90R16	90	65	1600	4.04	1.08	2000	2.0
90DC65GV180R16	180	65	1600	4.04	0.54	2000	2.0
90DC120GV12R16	12	120	1600	7.45	14.93	2000	2.2
90DC120GV24R16	24	120	1600	7.45	7.46	2000	2.2
90DC120GV90R16	90	120	1600	7.45	1.99	2000	2.2
90DC120GV180R16	180	120	1600	7.45	1.00	2000	2.2
90DC100GV12R16	12	100	1600	6.21	12.44	2000	2.1
90DC100GV24R16	24	100	1600	6.21	6.22	2000	2.1
90DC100GV90R16	90	100	1600	6.21	1.66	2000	2.1
90DC100GV180R16	180	100	1600	6.21	0.83	2000	2.1
90DC200GV12R16	12	200	1600	12.42	24.88	2000	2.3
90DC200GV24R16	24	200	1600	12.42	12.44	2000	2.3
90DC200GV90R16	90	200	1600	12.42	3.32	2000	2.3
90DC200GV180R16	180	200	1600	12.42	1.66	2000	2.3

90DC

40W/70W
65W/120W
100W/200W

減速箱減速比性能對照表 REDUCTION RATIO PERFORMANCE CHART

■ 40W/70W

轉速 r/min SPEED	減速比 REDUCTION RATIO	3	3.6	5	6	7.5	10	12.5	15	18	20	25	30
1600	出力軸轉速r/min OUTPUT BEARING SPEED	533	444	320	267	213	160	128	107	89	80	64	53
	額定轉矩N・m RATED TORQUE	0.52	0.62	0.86	0.86	1.29	1.72	1.93	2.32	2.78	3.09	3.87	4.64
轉速 r/min SPEED	減速比 REDUCTION RATIO	36	40	50	60	75	90	100	120	150	180	200	
1600	出力軸轉速r/min OUTPUT BEARING SPEED	44	40	32	27	21	18	16	13	11	9	8	
	額定轉矩N・m RATED TORQUE	5.57	6.19	6.96	8.35	10.44	12.53	13.92	16.7	20	20	20	

■ 65W/120W

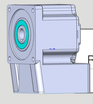
轉速 r/min SPEED	減速比 REDUCTION RATIO	3	3.6	5	6	7.5	10	12.5	15	18	20	25	30
1600	出力軸轉速r/min OUTPUT BEARING SPEED	533	444	320	267	213	160	128	107	89	80	64	53
	額定轉矩N・m	0.838	1.0	1.397	1.677	2.096	2.975	3.144	3.773	4.527	5.03	6.288	7.545
轉速 r/min SPEED	減速比 REDUCTION RATIO	36	40	50	60	75	90	100	120	150	180	200	
1600	出力軸轉速r/min OUTPUT BEARING SPEED	44	40	32	27	21	18	16	13	11	9	8	
	額定轉矩N・m RATED TORQUE	9.054	10.06	11.32	13.58	16.977	20	20	20	20	20	20	

■ 100W/200W

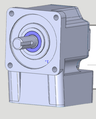
轉速 r/min SPEED	減速比 REDUCTION RATIO	3	3.6	5	6	7.5	10	12.5	15	18	20	25	30
1600	出力軸轉速r/min OUTPUT BEARING SPEED	533	444	320	267	213	160	128	107	89	80	64	53
	額定轉矩N・m RATED TORQUE	1.29	1.55	2.15	2.58	3.22	4.3	4.83	5.8	6.96	7.74	9.67	11.6
轉速 r/min SPEED	減速比 REDUCTION RATIO	36	40	50	60	75	90	100	120	150	180	200	
1600	出力軸轉速r/min OUTPUT BEARING SPEED	44	40	32	27	21	18	16	13	11	9	8	
	額定轉矩N・m	13.92	15.47	17.41	20	20	20	20	20	20	20	20	

標準減速箱
STANDARD GEARBOX
90GF □H

帶耳減速箱
EARED GEARBOX
90GF □HE



直角中空減速箱
RIGHT ANGLE HOLLOW GEARBOX
L90GF □RC



直角中實減速箱
RIGHT ANGLE SOLID GEARBOX
L90GF □RT

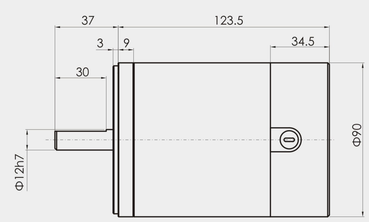
減速箱型號中的□爲減速比的數值
速比：1:3~200
□ in gearbox model indicates the reduction ratio (1:3~200)

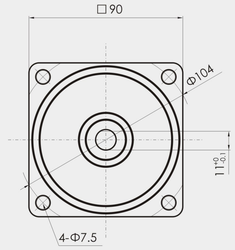
外形尺寸(CAD) DIMENSIONS

90DC(40W/70W)

圓軸電機

Round-axis motor

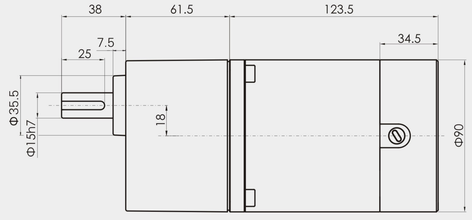


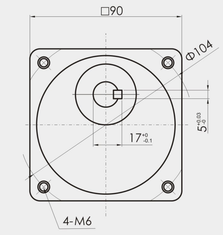


90DC(40W/70W)

組合：電機+標準減速箱（減速比：1:3~200）

Portfolio: motor + standard gearbox (reduction ratio: 1:3~200)

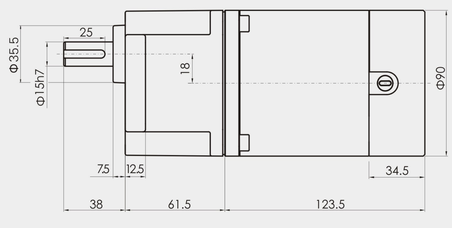


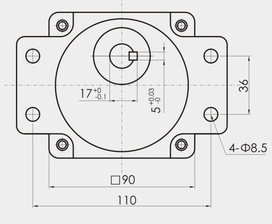


90DC(40W/70W)

組合：電機+帶耳減速箱（減速比：1:3~200）

Portfolio: motor + eared gear (reduction ratio: 1:3~200)



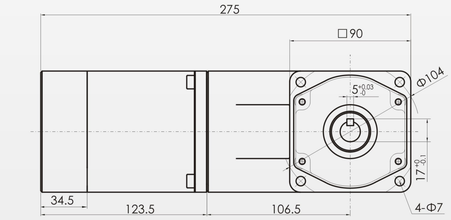


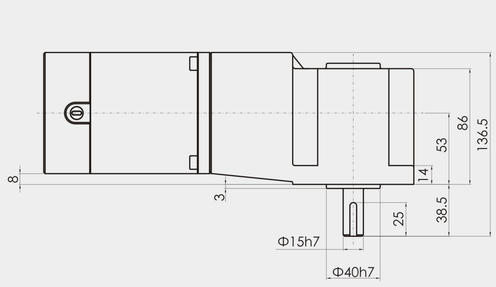
外形尺寸(CAD) DIMENSIONS

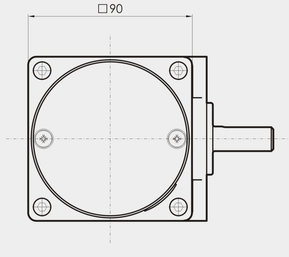
90DC(40W/70W)

組合：電機+直角中實減速箱（減速比：1:3~200）

Portfolio: motor + right–angle solid gearbox
Reduction ratio: 1:3~200



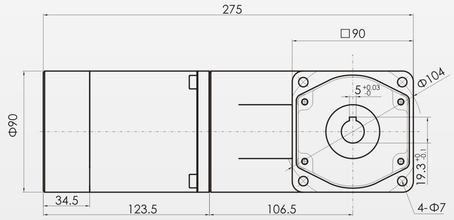


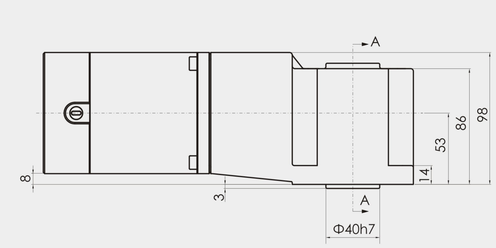


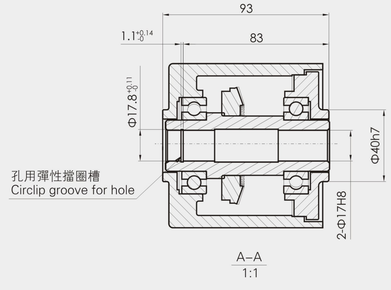
90DC(40W/70W)

組合：電機+直角中空減速箱（減速比：1:3~200）

Portfolio: motor + right angle hollow gearbox
Reduction ratio: 1:3~200



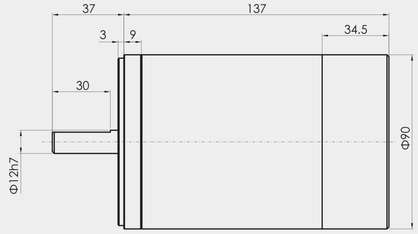


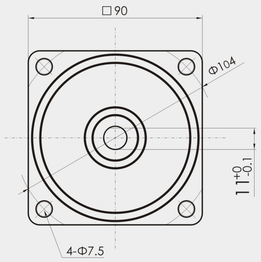


90DC(65W/120W)

圓軸電機

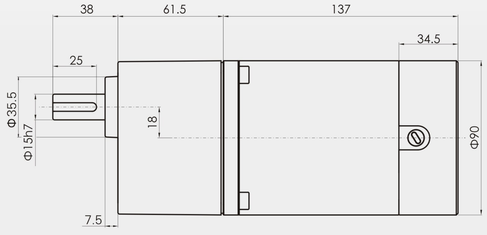
Round–axis motor

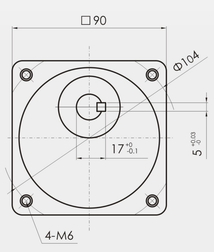




組合：電機+標準減速箱（減速比：1:3~200）

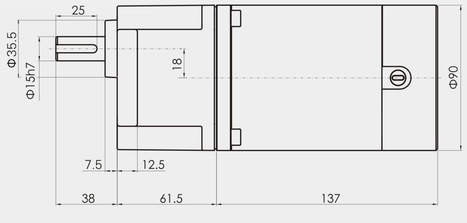
Portfolio: motor + standard gearbox (reduction ratio: 1:3~200)

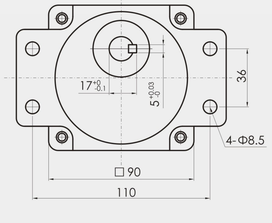




組合：電機+帶耳減速箱（減速比：1:3~200）

Portfolio: motor + eared gear (reduction ratio: 1:3~200)



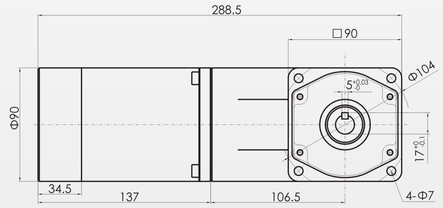


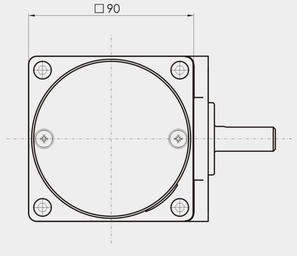
外形尺寸(CAD) DIMENSIONS

90DC(65W/120W)

組合：電機+直角中實減速箱（減速比：1:3~200）

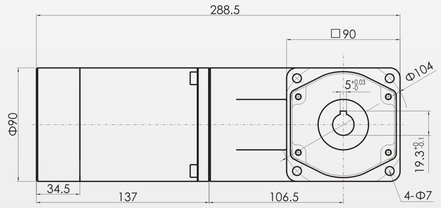
Portfolio: motor + right–angle solid gearbox
Reduction ratio: 1:3~200

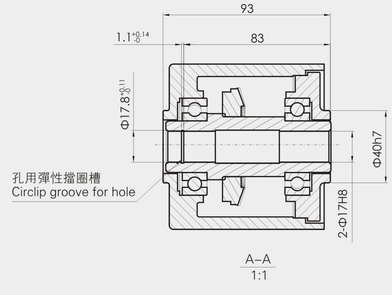




組合：電機+直角中空減速箱（減速比：1:3~200）

Portfolio: motor + right angle hollow gearbox
Reduction ratio: 1:3~200

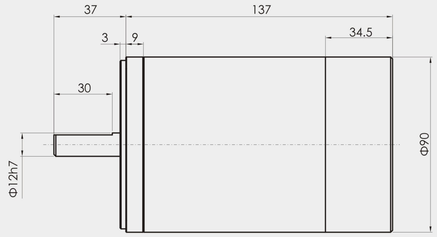


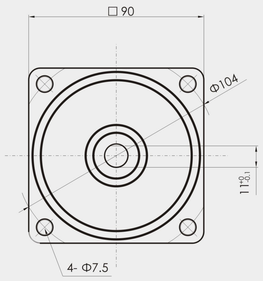


90DC(100W/200W)

圓軸電機

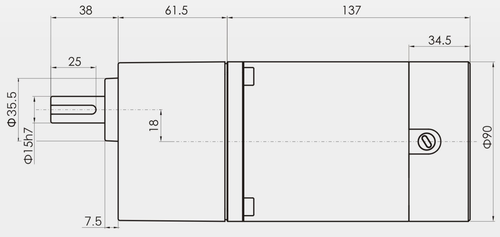
Round–axis motor

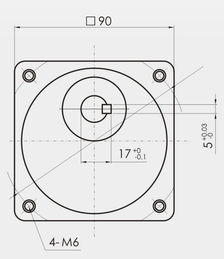




組合：電機+標準減速箱（減速比：1:3~200）

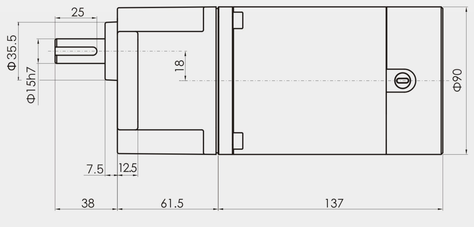
Portfolio: motor + standard gearbox (reduction ratio: 1:3~200)

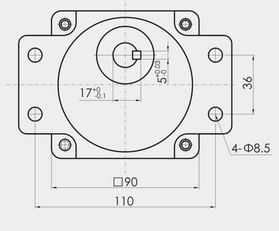




組合：電機+帶耳減速箱（減速比：1:3~200）

Portfolio: motor + eared gear (reduction ratio: 1:3~200)



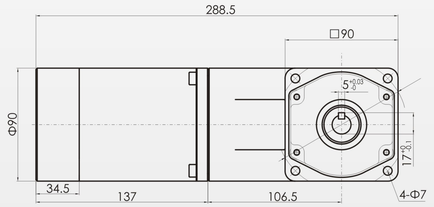


外形尺寸(CAD) DIMENSIONS

90DC(100W/200W)

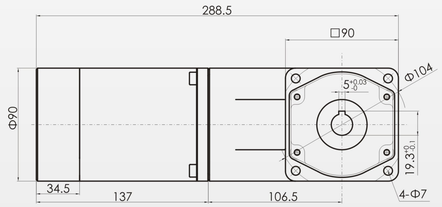
組合：電機+直角中實減速箱（減速比：1:3~200）

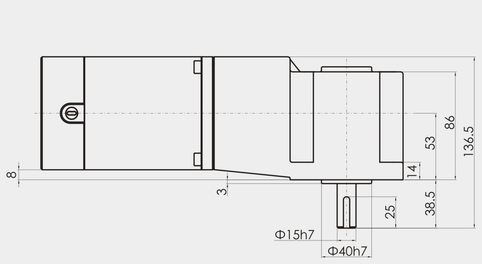
Portfolio: motor + right-angle solid gearbox
Reduction ratio: 1:3~200

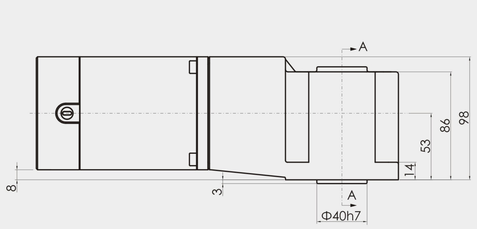


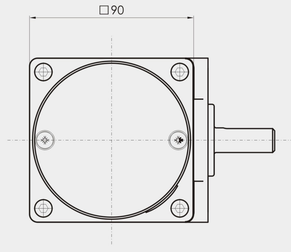
組合：電機+直角中空減速箱（減速比：1:3~200）

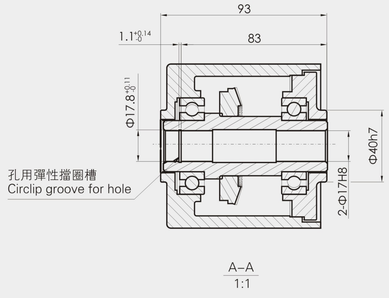
Portfolio: motor + right angle hollow gearbox
Reduction ratio: 1:3~200











各型號電機性能 MOTOR PERFORMANCE

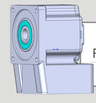
機座號 MODEL	電壓V VOLTAGE	功率W POWER	負載參數 LOAD PARAMETERS 轉速SPEED r/min	力矩TORQUE kg•cm	電流A≤ CURRENT	電刷壽命h BRUSH LIFE	電機重量kg MOTOR WEIGHT
100DC200GV24R18	24	200	1800	11.04	12.44	2000	2.4
100DC200GV90R18	90	200	1800	11.04	3.32	2000	2.4
100DC200GV180R18	180	200	1800	11.04	1.66	2000	2.4
100DC300GV24R18	24	300	1800	16.56	18.66	2000	2.5
100DC300GV90R18	90	300	1800	16.56	4.98	2000	2.5
100DC300GV180R18	180	300	1800	16.56	2.49	2000	2.5

減速箱減速比性能對照表 REDUCTION RATIO PERFORMANCE CHART

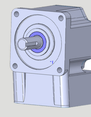
轉速 r/min SPEED	減速比 REDUCTION RATIO	3	3.6	5	6	7.5	10	12.5	15	18	20	25	30
1800	出力軸轉速r/min OUTPUT BEARING SPEED	600	500	360	300	240	180	144	120	100	90	72	60
	額定轉矩N・m RATED TORQUE	2.578	3.094	4.297	5.156	6.446	8.594	10.74	11.6	13.92	15.47	19.34	23.21

轉速 r/min SPEED	減速比 REDUCTION RATIO	36	40	50	60	75	90	100	120	150	180	200
1800	出力軸轉速r/min OUTPUT BEARING SPEED	50	45	36	30	24	20	18	15	12	10	9
	額定轉矩N・m RATED TORQUE	27.85	30.94	38.68	41.77	44	44	44	44	44	44	44

標準減速箱
STANDARD GEARBOX
100GF □H



直角中空減速箱
RIGHT ANGLE HOLLOW GEARBOX
L100GF □RC



直角中實減速箱
RIGHT ANGLE SOLID GEARBOX
L100GF □RT

減速箱型號中的□爲減速比的數值
速比：1:3~200
□ in gearbox model indicates the reduction ratio (1:3~200)

100DC

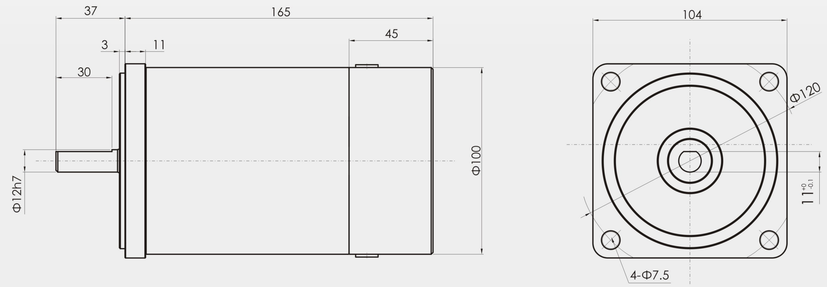
200W/300W

外形尺寸(CAD) DIMENSIONS

100DC(200W/300W)

圓軸電機

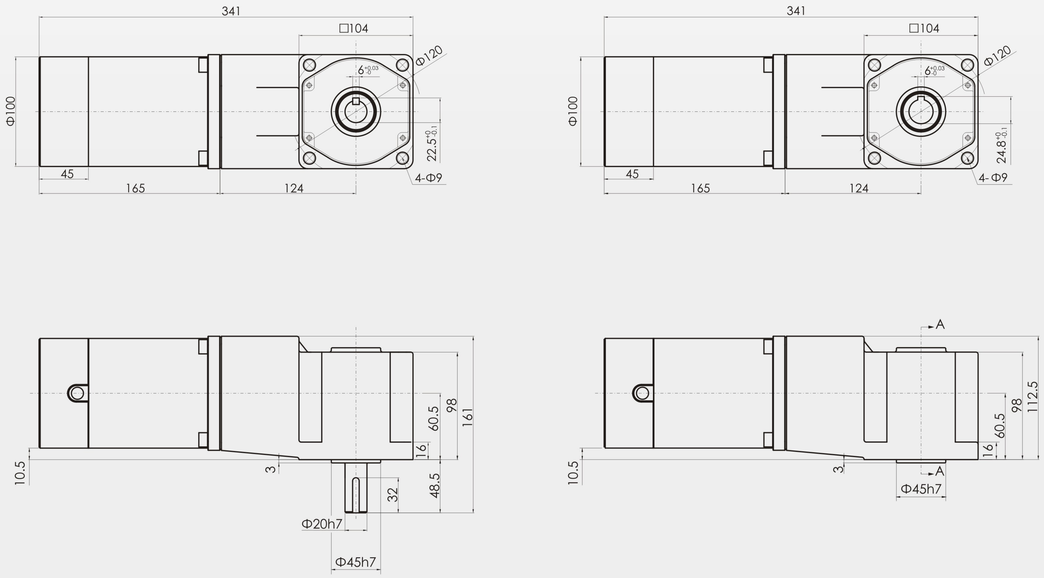
Round-axis motor



100DC(200W/300W)

組合：電機+直角中實減速箱（減速比：1:3~200）

Portfolio: motor + right-angle solid gearbox
Reduction ratio: 1:3~200



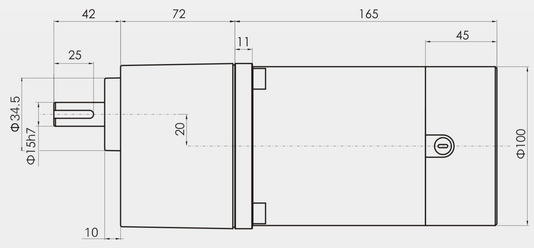
組合：電機+直角中空減速箱（減速比：1:3~200）

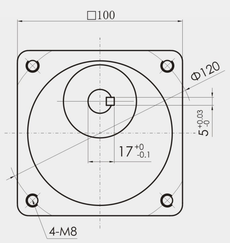
Portfolio: motor + right angle hollow gearbox
Reduction ratio: 1:3~200

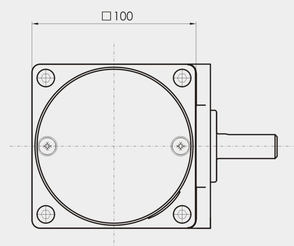
100DC(200W/300W)

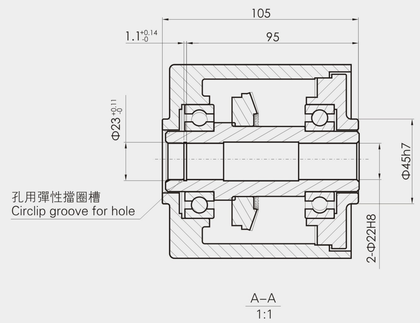
組合：電機+標準減速箱（減速比：1:3~200）

Portfolio: motor + standard gearbox (reduction ratio: 1:3~200)









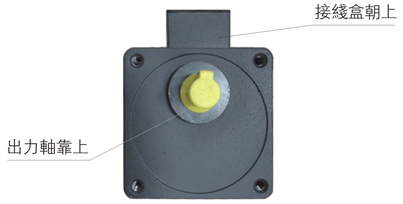
帶接綫盒減速電機選購指南

TECHNICAL APPLICATION (Description and installation)

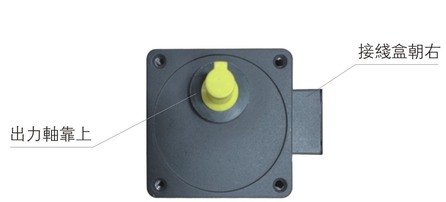
1、萬鑫標配產品不帶接綫盒，如需訂帶接綫盒的減速電機，需特別説明，且參考附圖注明接綫盒方向；
2、萬鑫可根據客户需求將接綫盒上、下、左、右4個方向調整，如客户無特殊要求，則出廠的接綫盒方向統一朝上，具體如下：

普通減速箱接綫盒方向

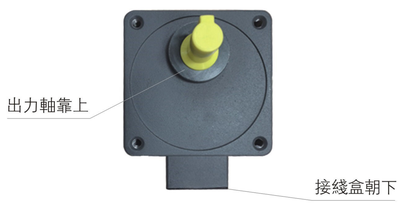
■ 接綫盒朝上



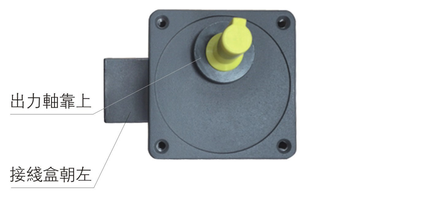
■ 接綫盒朝右



■ 接綫盒朝下

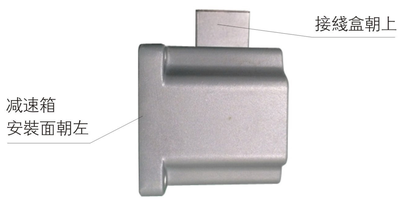


■ 接綫盒朝左

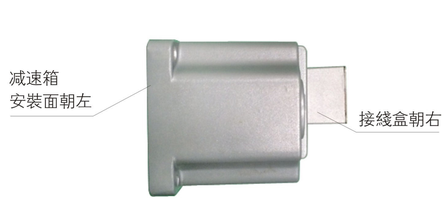


直角減速箱接綫盒方向

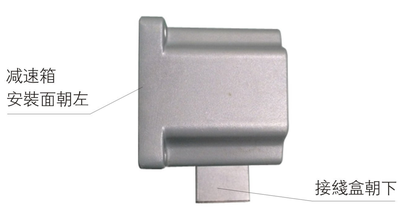
■ 接綫盒朝上



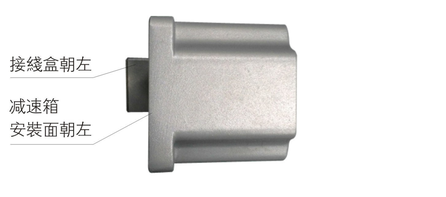
■ 接綫盒朝右



■ 接綫盒朝下

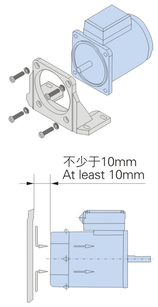


■ 接綫盒朝左



技術應用（説明及安裝）

TECHNICAL APPLICATION (Description and installation)



電機 MOTOR

1 特點 Features

電機作爲本産品系列相對獨立的一部分，共有六個品種，十個系列供用户選擇。按品種分：標準電機、阻尼電機、調速電機、電磁制動電機、調速電磁制動電機、直流電機。按功率分：6W、15W、25W、40W、60W、90W、120W、140W、200W、250W。按使用電壓分：單相110V/220V、三相220V/380V。該電機可配獨立的接綫端子盒，以方便電氣連接。由于該産品系列爲精密小型動力機械，外觀精巧、尺寸精準。在裝配使用中嚴禁過度敲擊以防造成内部結構損壞，同時在選型過程中注意對輸出軸的軸向、徑向載荷也有要求，爲保證使用壽命，請謹慎選型，合理使用。

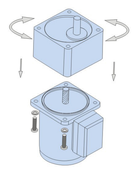
As a relatively independent part of this product series, the motor has six varieties and ten series for your option: by varieties: standard, damping, variable speed, electromagnetic brake, variable speed electromagnetic brake and DC motors; by power: 6W, 15W, 25W, 40W, 60W, 90W, 120W, 140W, 200W, and 250W; by operating voltage: single phase 110V/220V, and three phase 220V/380V. The motor can match the terminal box of independence for easy electrical connection. Since the product line is precision small power machine and has sophisticated appearance and accurate size, it is strictly prohibited to impact excessively in the assembly to avoid causing damage to the internal structure; in the selection process, also pay attention to the axial and radial load of the output bearing. To ensure the life, please select carefully and use reasonably.

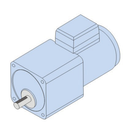
2 安裝 Installation

對于輸出軸爲圓軸的獨立電機，其軸端零件安裝聯接孔尺寸公差因型號不同分别爲6H7，8H7，10H7，12H7。轉配中除因設計結構外，推薦使用相對應規格的彈性聯軸器。在端面安裝有困難的場合，推薦使用相對應規格的直角安裝脚，另外，對有冷却風扇的電機在安裝時注意不要堵塞電機後部的吸風口，建議留出不少于10mm的空間。

For an independent motor with circular output bearing, the tolerance of connecting hole size for bearing component installation are 6H7, 8H7, 10H7 and 12H7 respectively depending on the models. Except for the reason of design structure, it is recommended to use flexible coupler of corresponding specifications for assembly. If it is difficult to install the end face, it is recommended to use right–angle mounting feet of corresponding specifications. In addition, do not to clog the suction opening in the rear side for the motors with cooling fans. It is recommended to leave a space not less than 10mm.

標准減速箱與電機的組合 Combination of standard gearbox and motor





帶中間減速箱
With intermediate gearbox

1 特點 Features

電機通過端面定位環與標準減速箱精密定位，可提供標減速比1/3~1/200組合形式；在這系列減速比換變的前提下，若在選擇不同功能的電機，即可實現變化更爲豐富的實用組合。例如：調速、電磁制動等形式。

The motor positions accurately through end face retaining ring and standard gearbox, and can provide standard reduction ratio of 1/3~1/200; when this series of reduction ratio change, you can select motors of different functions to achieve practical combinations with richer changes. For example: variable speed, electromagnetic brake, and so on.

2 安裝 Installation

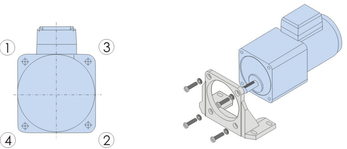
標準減速箱、電機，同爲精密機械。在設計選型後的安裝過程，就成爲決定使用壽命的關系因素之一。

Standard gearbox and motor are precision machinery. During installation after design and selection, it is one of the factors that determine the life.

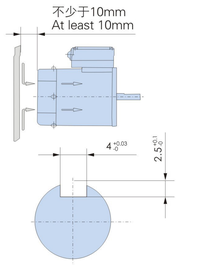
3 電機與標準減速箱的連接
Connection of the motor and standard gearbox

作爲精密機械的裝配，與減速箱配套的電機，在其連接端面均有凸緣止口。而減速箱的連結端面有與之配合的沉臺止口。用户可跟據自己的實際情況調整減速箱與電機的裝配相位，也就是説，可按圖示任意旋轉電機或減速箱。調速到理想位置後，在緊固電機法蘭上的四個螺釘。注意緊固螺釘的順序，通過對角依次逐漸緊固，方可使電機與減速箱體緊密貼合。

For the assembly of precision machinery, the motor used together with the gearbox has flange spigot in its connecting end. The connecting end of gearbox has a mating spigot. The user can adjust the assembly position of the gearbox and motor according to the actual situation, that is, the motor and gearbox can be rotated freely as shown. Adjust to the desired position, and then secure the four screws on the motor flange. Note the order of the fastening screws, tighten diagonally in turn and then fit the motor and gearbox closely.



與直角安裝脚組合
Combination with right–angle mounting feet



安裝預留空間
Reserved space for installation

4 與設備的連接 Connection with the equipment

減速箱輸出軸端的連接面爲平面，其上的連接孔爲螺紋孔，該面是經過精加工的平面，可與設備已加工的連接面直接連接。注意在緊定時仍應按對角依次逐漸緊固的方式。或設備連接受限，或設計結構差异，推薦使用專門配置的直角安裝脚進行安裝，這樣更便于可靠連結，方便調速，同時也有與此配套的高精度彈性聯軸器可供選擇。

同樣，對有冷却風扇的電機在安裝時注意不要堵塞電機後部的吸風口，建議留出不少于10mm的空間。

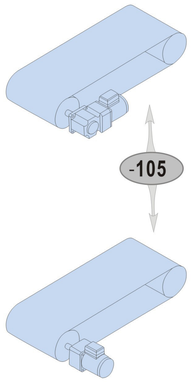
本産品系列的電機、減速箱、中間減速箱均爲緊密傳動部件，在與負載連接時應格外注意，嚴禁猛烈敲擊、扳扭。爲便于裝配在産品的設計生涯中已兼顧此類問題，下面是鍵槽寬度爲4mm時的尺寸，軸外徑公差等級均爲h7。

The connecting surface of gearbox output bearing is flat, and the connecting holes on the surface are threaded. The surface is fine finished and can be directly connected to the processed connecting surface of the equipment. Note that it also should be tightened diagonally in turn. If limited by equipment connection or design structure difference, it is recommended to install with specially configured right angle mounting feet, which is more reliable and easy to connect, easy to regulate speed, and high precision flexible couplers are available.

Similarly, do not to clog the suction opening in the rear side for the motors with cooling fans. It is recommended to leave a space not less than 10mm.

The motor, gearbox and intermediate gearbox of this product series are close transmission components, and it is prohibited to impact or twist violently when connecting to the load. To facilitate assembly, these problems have been considered in product design. The keyway width is 4mm, and the outer diameter tolerance of the bearings is h7.

直角減速箱與電機的組合 Combination of right-angle gearbox and motor



安裝空間比較
Comparison of installation space

1 特點 Features

與傳統的標準減速箱（或稱平行軸減速箱）不同，爲了給設計者提供更大的選擇空間，使設備整體更加緊凑，本公司還提供了直角減速箱的傳動形式。直角減速箱除具有標準減速箱的所有功能外，也就是寬範圍的速比選擇性(i=3~600),優异的傳遞性能，還具有高强度的殼體，以及緊凑的安裝形式，這是標準減速箱所不有及的。

同樣，在前述條件下，通過選擇不同功能的電機，能實現不同的功能組合。

例如: 調速、電磁制動、可逆等等。

Different from traditional standard gearboxes (or parallel shaft gearboxes), in order to give designers greater choice and make the equipment more compact, we also offer right angle gearboxes. In addition to all the features of standard gearboxes, i.e. wide range of speed ratio selectivity (i=3~600)and excellent transfer properties, the right–angle gearboxes also have high strength casing and compact installation, which the standard gearboxes do not have.

Similarly, under the aforementioned conditions, you can achieve different combinations of features by selecting motors of different functions.

For example: variable speed, electromagnetic brake, reversible, and so on.

4 與設備的連接 Connection with the equipment

直角減速箱輸出軸的端面爲精加工平面，其上四角分布地四個通孔，可與設備已加工的連接面直接貼合連接，在直角減速箱的輸出方式分爲中實軸與中空軸兩種形式工，用户可根據負載的形式選擇，緊固螺栓時，同樣應采用對角依次逐漸緊固地方式。

The end surface of right angle gearbox output bearing is finished plane. The four through holes distributed in the four corners can fit the processed connection surface of the equipment directly. The output of right angle gearbox includes solid axis and hollow axis forms. The user can select according to the load form. The bolts also should be fastened diagonally in turn.

2 安裝 Installation

直角減速箱、中間減速箱和電機屬緊密機槍。在設計選型後的裝配質量將會直接影響其使用壽命以及性能。

Right angle gearbox, intermediate gearbox and motor are precision machinery. The assembly quality after design and selection will directly affect the service life and performance.

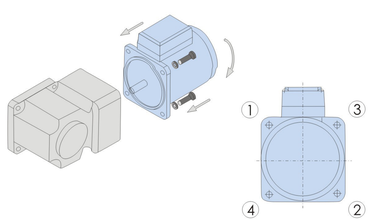
3 電機與直角減速箱的連接 Connection of the motor and the right angle gearbox

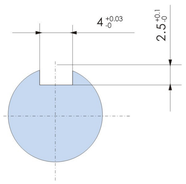
作爲緊密機的裝配，與直角減速箱配套的電機除有獨立的連线端子盒外，在其連接端面均有凸緣止口。而直角減速箱輸入端面有與之配合的沉孔臺止口。用户可根據實際情況，適當地旋轉電機與直角減速箱的相對旋向。調整到位後，在堅定電機到連接法蘭上的四個螺釘。

注意緊固螺釘的順序：對角依次逐漸緊固。

For the assembly of precision machinery, in addition to independent connection terminal box, the motor used together with the right angle gearbox has flange spigot in its connecting end. The connecting end of the right angle gearbox has a mating spigot. The user can rotate the relative rotation of the motor and the right angle gearbox appropriately according to the actual situation. Adjust to the desired position, and then secure the four screws on the motor flange.

Note the order of screw tightening: tighten diagonally in turn.





5 直角減速箱中實軸輸出的連接 Connection with solid axis output of right angle gearbox

直角減速箱中實軸輸出爲鍵槽結構形式，對應不同規格，與其輸出軸裝配孔的尺寸分别爲; 12H7， 15H7，20H7三種。在與負載的連接中，嚴禁猛烈敲擊、扳扭，在確保裝配質量的前提下，該産品在設計生産中也兼顧了有關裝配的因素。如圖所示爲鍵寬4mm尺寸公差。

The solid axis output of right angle gearbox is in keyway structure. Corresponding to different specifications, the sizes of the output bearing mounting holes are 12H7, 15H7 and 20H7 respectively. In connection with the load, do not knock or twist violently. Under the premise of ensuring the assembly quality, other assembly factors are also considered in product design and production. The figure shows 4mm key width dimensional tolerance.

7 電機、減速箱的轉配注意事項 Precautions for motor and gearbox assembly

電機、減速箱以及中間減速箱同爲緊密機械。在實際應用中，因裝配不當而造成損失或報廢的情況尤爲突出，所以裝配環節也是影響正常使用的因素之一。

Motor, gearbox and intermediate gearbox are precision machinery. In practice, damage and scrapping are often caused by improper assembly, so that the assembly is also one of the factors affecting the normal use.

●軸、鍵公差 Shaft and key tolerance

爲便于轉配，同時保證可靠的連接，以及轉矩傳遞。産品對所涉及到的鍵槽公差在現有的規格中，均有一般通用設備略大（具體公差詳見樣本），輸出軸類公差爲H7,孔類H8。

To facilitate the assembly and ensure reliable connection and torque transmission, the related keyway tolerances are generally slightly larger than generic devices (see sample for specific tolerance), the tolerance of output bearings is H7, and the tolerance of holes is H8.

●敲擊問題 Percussion problem

轉配中嚴禁對負載軸、套進行壓力轉配，這將容易導致電機或減速箱體中軸承或齒輪的損壞，也會三十齒輪的齒合印痕。同時也要避免猛烈敲擊，以及扳扭。嚴格控制負載軸、套的尺寸公差，必要時可用軟質材料襯墊，輕微敲擊。

It is prohibited to transfer the pressure of load axis and sleeve in the assembly process, or else it will easily lead to damage to the bearings or gears in the motor or gearbox and ratcheting prints on the gear teeth. Also avoid violent knock and twist. Control the dimensional tolerance of the load axis and sleeve strictly; if necessary, pad soft liner material and knock softly.

●同心度問題 Concentricity problem

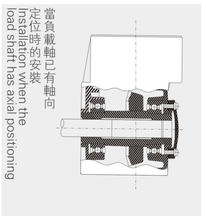
由于輸出均爲回轉形式，在調速，重載工況下，同心度尤爲重要。推薦選用本公司配套生産的彈性聯軸器，它不僅回轉慣量小，結構緊凑，而且具備同心度補償和傳遞轉矩。

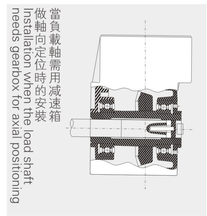
Since the output is in rotating form, concentricity is particularly important in variable speed and heavy–duty condition. It is recommended to use the flexible couplers of our company, which not only have small rotary inertia and compact structure, but also compensate concentricity and transmit torque.

6 直角減速箱中空軸輸出的連接 Connection with hollow axis output of right angle gearbox

在中空系列的直角減速箱裝配中，同樣注意嚴禁猛烈敲擊，扳扭。與中空軸連接的軸尺寸差爲h8,分别有：15h8, 17h8, 22h8三種。爲使與負載連接時有可靠合理的軸向定位，在直角減速箱中空系列中還設置了軸向固定結構。推薦的安裝方式如圖所示：

In the assembly of hollow series right angle gearboxes, it is also prohibited to knock or twist violently. The dimensional tolerance of the axis connected to the hollow axis is h8, including 15h8, 17h8 and 22h8. To ensure reasonable and reliable axial positioning in load connection, the hollow series right angle gearboxes also integrate axially fixed structure. The recommended installation is shown in the figure:





●特別注意 Special Note

1、用直角中空減速箱做軸向定位時，不允許負載軸有過定位的現象，否則將易損壞減速箱。
2、直角中空減速箱配軸長度技術要求：
- 若此軸是完全利用中空軸支撐固定，則軸長應與中空軸等長或略短一點。
- 若無支撐作用, 僅傳遞轉矩，則軸僅需插入中空軸1/3深即可。

1、For axial positioning with the right angle hollow gearbox, over–positioning isn’t allowed for the load axis, or else it will easily damage the gearbox.
2、Technical requirements on axis length of rightangle hollow gearbox:
- If this axis is fully supported and fixed by hollow axis, the axial length should be equal to or slightly shorter than the hollow axis.
- If there is no supporting effect and only the torque is transferred, the axis only needs to be inserted to 1/3 depth of the hollow axis.

●軸向固定步驟 Steps of axial fixation

1、取下直角減速箱中空軸另一側的防塵蓋；
2、如圖所示，對不同結構的負載軸按圖示方法固定：
3、安裝後部防塵蓋（注意：螺栓高度不得超過後端蓋面2mm）；
4、若無法安裝防塵蓋，則必須用M4×5螺釘將原防塵蓋螺釘孔堵住，否則會漏油，同時螺釘勿超長，否則將頂壞内部軸承。

1、Remove the dust cover on the other side of the hollow axis of the right angle gearbox;
2、As shown in the figure, fix the load axis of different structures in the method shown:
3、Install the rear dust cover (Note: Bolt height shall not exceed 2mm of the rear cap);
4、If the dust cover can’t be installed, you must block the screw holes of the dust cover with M4×5 screws, or else it will leak oil; the screws shouldn’t be too long, or else it will damage the internal bearings.