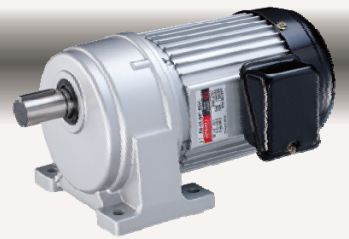
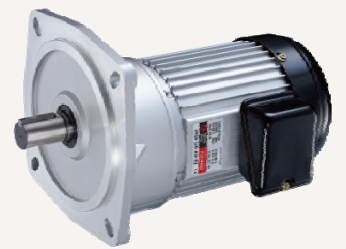




Defining the future in motion

轉動小齒輪 帶動大世界

小型齒輪減速馬達
GEAR MOTOR



使用說明書 OPERATION MANUAL OF GEAR MOTOR

小型齒輪減速馬達 GEAR MOTOR

前言

請由有適當資格的人使用本產品。使用前，請仔細閱讀此「使用說明書」，以便正確使用。

如需要對本產品之內部進行檢查或修理時，請與本公司聯繫。

本產品是作為一般的產業機器所使用之馬達。請勿將其用於其他的用途。

注意事項

以下提示的注意事項，其目的是為了使您能安全、正確地使用本產品，以免造成危害及損傷。

請您對其內容充分理解以後再使用本產品。

I. 安裝前準備

- 安裝前請先確認使用之電壓。
- 檢查機種、型號、馬力、軸方向、減速比、回轉方向是否符合。
- 請勿施壓於出口線上。
- 請指定特定人員或技術人員安裝此馬達。並且，請在對於注意事項充分理解之後，再使用此馬達。

II. 安裝環境的限制

馬達必須依照下列條件及限制之下安裝。如不符合以下之安裝環境將會損害到此馬達。

- 安裝於在室內的機器內。
- 使用環境溼度 85%以下 (以防凝結)。
- 不可超過海平面 1000 公尺的環境
- 使用環境溫度 0°C – 40°C (無凍結)。
- 避免置放於易爆、易燃之場所。
- 避免陽光直射、沾染水或油及其他液體。
- 避免連續性震動或撞擊。
- 鹽份較少之環境。
- 電磁干擾少
- 無放射性物質、磁場，且非真空環境。
- 使用於乾燥且良好通風場所。

Introduction

Please read this operation manual before using this motor to avoid any damage.

Installation should be proceeding by trained technicians only.

Please contact us before restructure the motors.

This product was designed to be installed on the facilities.

Attention

In order to use this product safe and correct, please refer to attention below.

I. Installation Preparation

- Ensure correct voltage can be apply to motor before installation.
- Check the model, model number, output, shaft direction, ratio, revolution direction are in standard.
- Do not bend the lead wires.
- Installation should be proceeding by trained technicians only.

II. Environment Limitation

The conditions below must be fulfilled to avoid any damage caused on the motor.

- Should be installed in indoor area.
- Humidity below 85%(freeze prevent).
- Below the altitude of 1000m.
- Ambient temperature 0°C~ 40°C(no freeze).
- Do not be closed to easy-explosive and flammable place.
- Avoid illumination, water, oil or other liquids.
- Avoid continuous vibration or hit.
- Less salty environment.
- Avoid electromagnetic interference.
- Not being in the radiate, magnetic or vacuum area.
- Use in dry and well ventilated environment.

III. 操作準備

- 馬達使用前，請確認電源。
- 配線請參照接線圖。
- 使用前請先確認電容器規格。
- 請保持電容的連接性。
- 電容安裝位置要離馬達外殼 10cm 以上以避免電容受熱而縮短使用壽命。
- 高溫會損害線圈及培林之壽命。

IV. 使用的注意事項

- 安裝時請勿以任何工具敲擊，以避免損壞馬達。
- 請勿在通電狀態下進行移動、安裝、連接和檢查作業。請切斷電源之後再進行作業，以避免觸電。
- 安裝馬達時，請採取措施避免手觸及馬達，或加以接地，否則有可能會引起觸電。
- 出現異常時，請立即切斷電源，否則有可能會引起觸電、火災或致傷。
- 停電時，請切斷電源。避免恢復供電後，馬達突然起動，而可能致傷或造成裝置損害。
- 在切斷電源後，短時間內(30 秒鐘之內)請勿觸摸電容器的連接端子，避免殘留之電壓造成觸電。
- 使用馬達時，請勿過載，否則有可能引起觸電、致傷或造成裝置毀損。
- 接線錯誤會導致馬達燒毀。
- 電源電壓變動大於 10%時，馬達會有燒毀的危險或扭力會下降異常。
- 馬達運轉中，請勿碰觸旋轉部(輸出軸、散熱風扇等)，以避免傷害。
- 馬達運轉時表面溫度會超過 40°C，可能會導致燙傷。任何產品維護或移動須等待馬達溫度降於室溫後動作。
- 搬運時，請勿利用馬達輸出軸和馬達電線移動，否則有可能致傷。
- 搭配變頻器使用時，如常使用於低頻時請使用變頻專用馬達。
- 濕氣過重的環境會導致剎車馬達之剎車器鏽蝕而失去剎車功能。

III. Preparation Of Operation

- Please check the power supply before starting motors.
- Please refer to wire drawing when you equip motors.
- Confirm the specification of capacitor before installation. Otherwise, confirm the connection of capacitor is well.
- Install capacitor at least 10cm away from motor to prevent heat damage of capacitor.
- High temperature might cause the coil and bearing failed earlier.

IV. Operation Tips

- Do not knock motor by any tool during installation.
- Installation, movement, and motor-check are prohibited while motor is electrified.
- Do not touch motor directly while motor is operating, or staff may get electric shock.
- Cut the power off immediately while abnormal situation happened, or it is possible to get electric shock or hurt, even the fire may happen.
- Cut the power off while power failure, otherwise after power is back on, human or device could be hurt if the motor start abruptly.
- After power off, do not touch capacitor terminal within 30 seconds, or it is possible to get electric shock due to remaining current.
- Do not overload, otherwise electric shock, human hurt or device damage could be happened.
- Wrong wire connections will cause motor to burn out.
- The voltage variation over than 10% might cause motor to burn out or reduce the torque of output.
- Do not touch rotating parts (output shaft, heat sink fan.etc.) while the motor is operating.
- Housing parts could heat up above 40°C, which is a danger of burns. Before any remove, please wait until motor cool down to ambient temperature.
- Do not move motor by holding shaft or lead wire.
- An appropriate motor shall be applied with the frequency converter while the low frequency is required in usual condition.
- High moisture environment could get the brake rusted and disabled.

V. 聯接方式

- 當連接器用於聯接入力軸或出力軸時，須先確實固定本體並務必使兩軸平行，底座也須以適當螺栓鎖緊固定。
- 配備應輕裝於軸上，請勿用鐵鎚敲擊，並避免裝配過緊而導致軸承損壞。
- 滑輪、鏈輪、齒輪等在裝配時須靠近軸承以減少彎曲應力而導致變形。
- 出力軸端的鏈輪不宜過大，一般為 3 至 5 倍。
- 內部齒輪採用高級潤滑油脂，不需更換。

V. Link Method

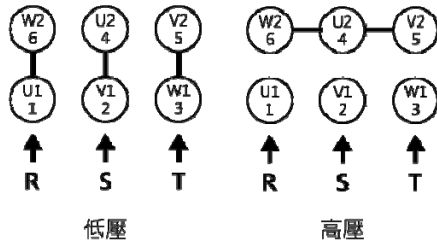
- If coupler is used to link input / output shaft, made sure both of them are firmly fixed and paralleled. The base seat shall be anchored with proper bolts.
- All components need to be properly assembled to the shaft. Hammering and over tight assembly could damage bearing.
- Pulley, chain pulley and gear shall be assembled as close as possible to the gearing in order to reduce curving stress to the minimum.
- Chain pulley on top of output shaft shall not shaft 3 to 5 time.
- Grease is made with high quality, and do not need to replace.

馬達 / 煞車接線方式 WIRE DRAWING OF MOTOR / BRAKE

請於安裝產品配線前，詳照以下接線圖。Please refer to wire drawing when you equip motors.

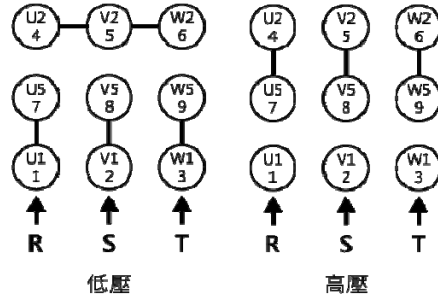
三相六條馬達電源線

3 phase with 6 wires



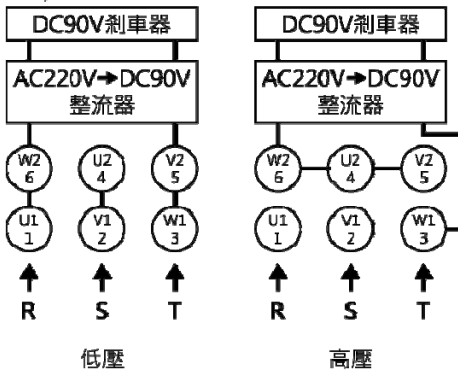
三相九條馬達電源線

3 phase with 9 wires



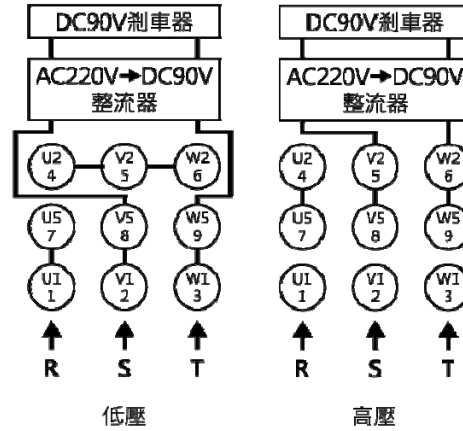
三相六條馬達電源線附直流剎車器

3 phase with 6 wires with brake

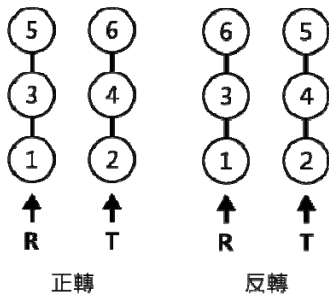


三相九條馬達電源線附直流剎車器

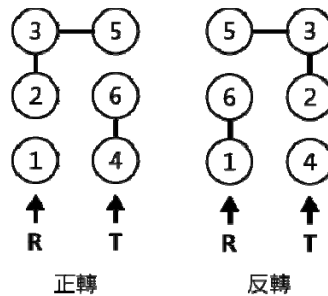
3 phase with 9 wires with brake



單相低壓 1 phase 110V with 6 wires

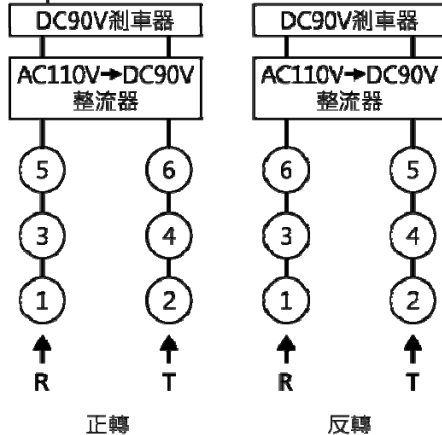


單相高壓 1 phase 220V with 6 wires



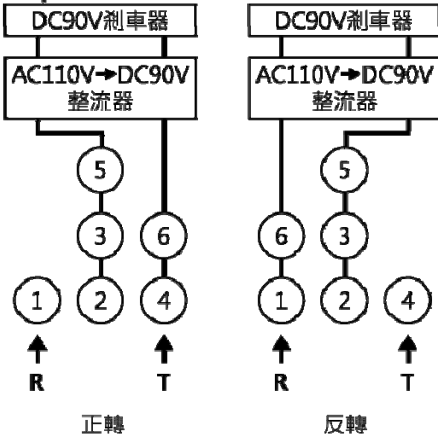
單相低壓 110V 附直流剎車器

1 phase 110V with 6 wires with brake



單相高壓 220V 附直流剎車器

1 phase 220V with 6 wires with brake

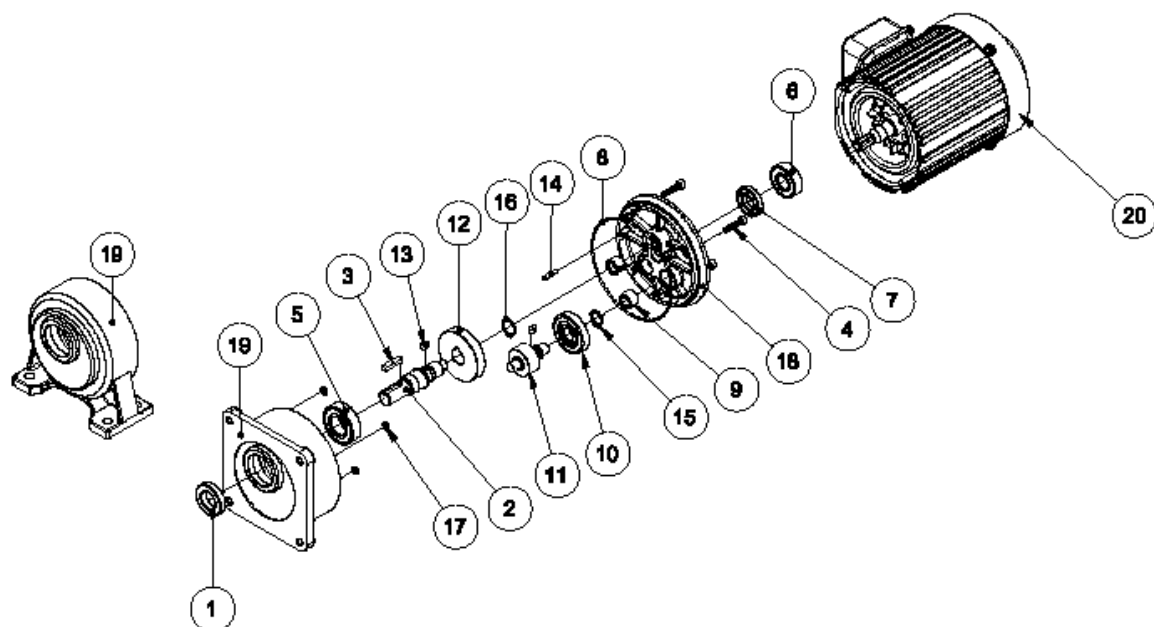


二段式-齒輪減速馬達系統分解圖

2 STAGE - SYSTEM DRAWING OF GEAR MOTOR

型號: 立式 / 臥式

MODEL: LV / LH



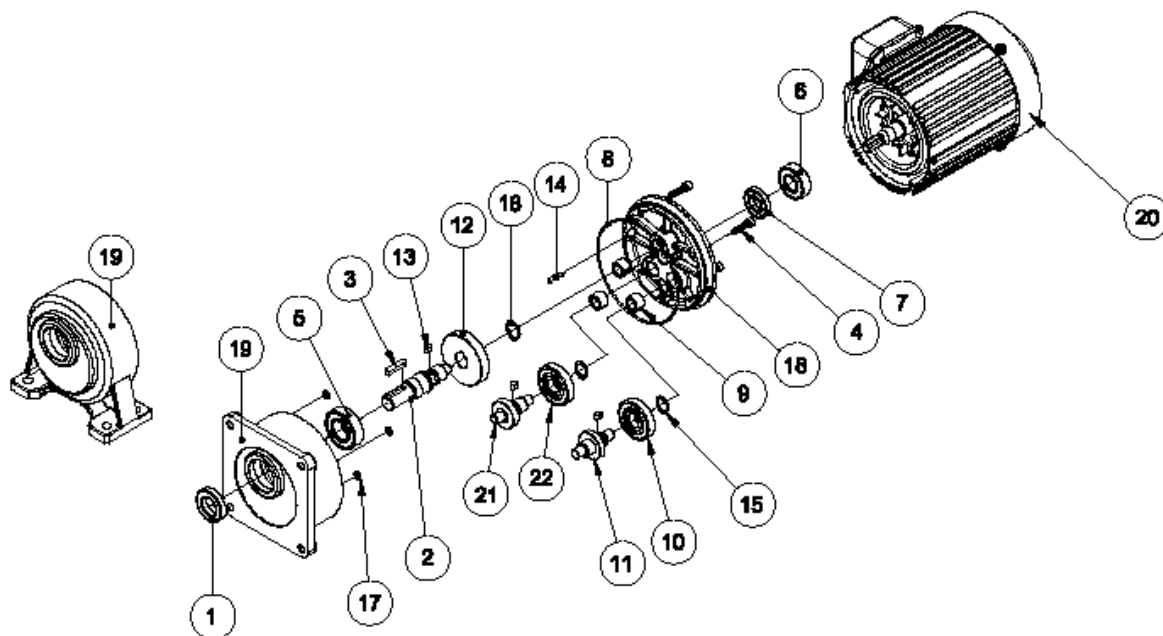
編號	名稱	Name Of Parts	編號	名稱	Name Of Parts
1	油封	Oil Seal	11	A 齒軸	Gear A
2	出力軸	Output Shaft	12	B 齒輪	Gear B
3	鍵	Key	13	鍵	Key
4	固定螺絲	Fixing Screw	14	定位銷	Pin
5	軸承	Bearing	15	C 型扣環	Rings C Type
6	軸承	Bearing	16	C 型扣環	Rings C Type
7	油封	Oil Seal	17	O 型環	O-ring
8	O 型環	O-ring	18	後蓋	Rear Cover
9	軸承	Bearing	19	前蓋	Body
10	1B 齒輪	Gear 1B	20	馬達	Motor

三段式-齒輪減速馬達系統分解圖

3 STAGE - SYSTEM DRAWING OF GEAR MOTOR

型號: 立式 / 臥式

MODEL: LV / LH



編號	名稱	Name Of Parts	編號	名稱	Name Of Parts
1	油封	Oil Seal	12	B 齒輪	Gear B
2	出力軸	Output Shaft	13	鍵	Key
3	鍵	Key	14	定位銷	Pin
4	固定螺絲	Fixing Screw	15	扣環	Rings C Type
5	軸承	Bearing	16	扣環	Rings C Type
6	軸承	Bearing	17	O 型環	O-ring
7	油封	Oil Seal	18	後蓋	Rear Cover
8	O 型環	O-ring	19	前蓋	Body
9	軸承	Bearing	20	馬達	Motor
10	1B 齒輪	Gear 1B	21	A 齒軸	Gear 2A
11	A 齒軸	Gear A	22	B 齒輪	Gear 2B

小型齒輪減速馬達 故障原因及改善方法

SOLUTION GUIDES FOR THE GENERAL FAULTS OF GEAR MOTORS

故障情形	故障原因	排除方法	Trouble	Reasons	Solutions
馬達不轉或 低速運轉	<ol style="list-style-type: none"> 1. 電壓錯誤 2. 接線錯誤 3. 電容規格錯誤 4. 端子或線端鬆脫 5. 超負荷運轉 6. 有頻繁啟動或停止的使用 7. 軸承損壞 8. 異物入侵 9. 齒輪磨損 10. 馬達損壞 11. 機型不適用 	<ol style="list-style-type: none"> 1. 確認正確電壓 2. 依指示配線 3. 使用正確規格電容 4. 檢查端子/線端 5. 調整適當負荷 6. 避免頻繁啟動或停止 7. 更換軸承 8. 取出異物 9. 更換齒輪 10. 維修馬達 11. 更換較大型號之減速馬達 	Motor do not work or speed can not be raised.	<ol style="list-style-type: none"> 1. Wrong voltage. 2. Incorrect wiring. 3. Incorrect capacitor. 4. Wires are not well connected. 5. Overloading. 6. Star or stop frequently. 7. Bearing damaged. 8. Invasion by foreign objects. 9. Gear is worn. 10. Motor damage. 11. Unsuitable model. 	<ol style="list-style-type: none"> 1. Ensure correct voltage. 2. Follow correct wiring. 3. Use correct capacitor. 4. Well connected for wires. 5. Adjust to proper loading. 6. Avoid to star or stop frequently. 7. Replace bearing. 8. Take out foreign objects. 9. Replace gear. 10. Repair motor. 11. Change to suitable motor.
馬達過熱	<ol style="list-style-type: none"> 1. 電壓是否符合規格 2. 環境溫度過高 3. 電容規格錯誤 4. 超負荷運轉 5. 油封過度摩擦 6. 出力軸與傳動裝置聯結不當 7. 衝擊荷重大 	<ol style="list-style-type: none"> 1. 使用適當電壓 2. 降低環境溫度 3. 用正確規格電容 4. 調整至適當負荷 5. 在油封處滴入少許潤滑油 6. 調整至適當聯結位置 7. 更換較大型號之減速馬達 	Overheating of motor.	<ol style="list-style-type: none"> 1. Wrong voltage. 2. Environment temperature over than 40°C. 3. Incorrect capacitor. 4. Overloading. 5. Over friction of oil seal. 6. Improper connection between shaft and the transmission device. 7. Over impact loading. 	<ol style="list-style-type: none"> 1. Ensure correct voltage. 2. Environment temperature is under 40°C. 3. Use correct capacitor. 4. Adjust to proper loading. 5. Lubricate at oil seal. 6. Adjust to proper position. 7. Change to suitable motor.

發出異音	<ol style="list-style-type: none"> 1. 異物卡住 2. 風扇葉脫落 3. 超負荷運轉 4. 軸承損傷 5. 遭受撞擊 6. 出力軸與傳動裝置聯結不當 7. 螺栓鬆脫 8. 裝置固定不良 	<ol style="list-style-type: none"> 1. 取出異物 2. 檢查風扇葉 3. 調整至適當負荷 4. 更換軸承 5. 檢修馬達 6. 調整至適當聯結位置 7. 鎖好螺栓 8. 固定傳動裝置 	Noise	<ol style="list-style-type: none"> 1. Motor is blocked 2. Fan loosens 3. Overloading 4. Bearing damaged 5. Motor was hit hard 6. Improper connection between shaft and the transmission device. 7. Screw loose. 8. Improper installation of transmission device. 	<ol style="list-style-type: none"> 1. Take out foreign objects. 2. Fasten the fan. 3. Adjust to proper loading 4. Replace bearing. 5. Repair motors. 6. Adjust to proper position. 7. Fasten screws. 8. Fix transmission device properly/
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* 上述為一般故障原因，若經以上檢查仍無法查出故障原因，請勿自行拆解，請先與我們聯絡以取得最佳的技術協助。

Above are general fault descriptions. If the problem could not be solved, please DO NOT dismantle the motor. Please contact us for technical support.

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