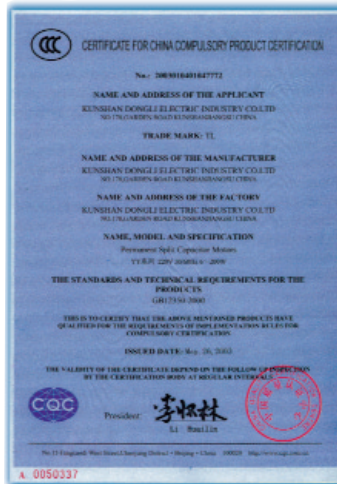


# 公司簡介 The History of Tung Lee

ISO 9001 : 2000 認證通過



CCC 認證通過



CE (EMC)測試通過



## 公司概要

公司商號：東力電機股份有限公司

所在地址：台北縣五股工業區五權三路50號

電話：(02) 2299-2655-9 (02) 2299-2149-50

傳真：(02) 2299-0146

資本額：玖仟萬圓整（授權資本一億八仟萬元整）

董事長：高勝雄

從業人員：120名

年營業額：肆億伍仟萬元 出口比例：65%內銷

年生產量：貳拾伍萬台 35%外銷

主要營業項目：齒輪減速馬達，小型AC . DC . 馬達，AC . DC . 馬達電子控速器，變頻器，線性馬達，渦輪減速馬達，伺服減速馬達，傳動軸用扭力限制器等專業生產。

主要銷售對象：停車機械設備，CNC 工具機械設備，電子機械設備，輸送機械設備，油壓機械設備，自動化機械設備。

內銷客戶：友嘉實業、台塑企業、中國鋼鐵、南亞塑膠、楊鐵機械、台灣松下、台灣麗偉、正隆紙業、振榮油機…等。

外銷地區：日本、泰國、新加坡、馬來西亞、澳洲、美國、德國、香港、中國大陸…等。

## 沿革

東力電機有限公司創業於民國65年（西元1976年），由早期的服務業逐步邁向生產製造與銷售到進出口貿易，（西元1990年）代理日本小型馬達與齒輪減速機販賣，

（西元1992年）並引進國外技術開始生產小型齒輪馬達減速機，開拓了台灣最早期的小型齒輪減速馬達專業製造廠。

## 成長史

■（西元1976年）- 創立東力公司，資本額20萬元，廠地佔地30坪，專營買賣與修理服務。

■（西元1982年）- 建廠於三重市光復路一段12巷26號，廠房約300坪，員工30人，同年開始製造馬達。

■（西元1983年）- 因實際業務之需要公司改組為東力電機股份有限公司，並增加營業項目有齒輪減速機，小型AC . DC . 馬達及馬達電子控速器、變頻器、傳動軸用扭力限制器等專業生產。

■（西元1984年）- 建立全省經銷網與成立貿易體制，使生產品順利外銷，其當時員工約40人。

■（西元1990年）- 因當時業績及實際生產量逐年突增，為應付其實際需求，再度於台北縣五股工業區五權三路50號，投資建設新廠房1200坪，員工有80餘人之多。

■（西元1995年）- 國際事業一致好評及擴大，遂於中國上海市成立分公司。

■（西元2000年）- 因考慮台灣廠商轉移大陸投資生產頗多，公司為求台商大陸交貨方便及降低成本，始於大陸廈門及蘇州設廠製造，以供大陸廠商之需。

## THE HISTORY OF TUNG LEE

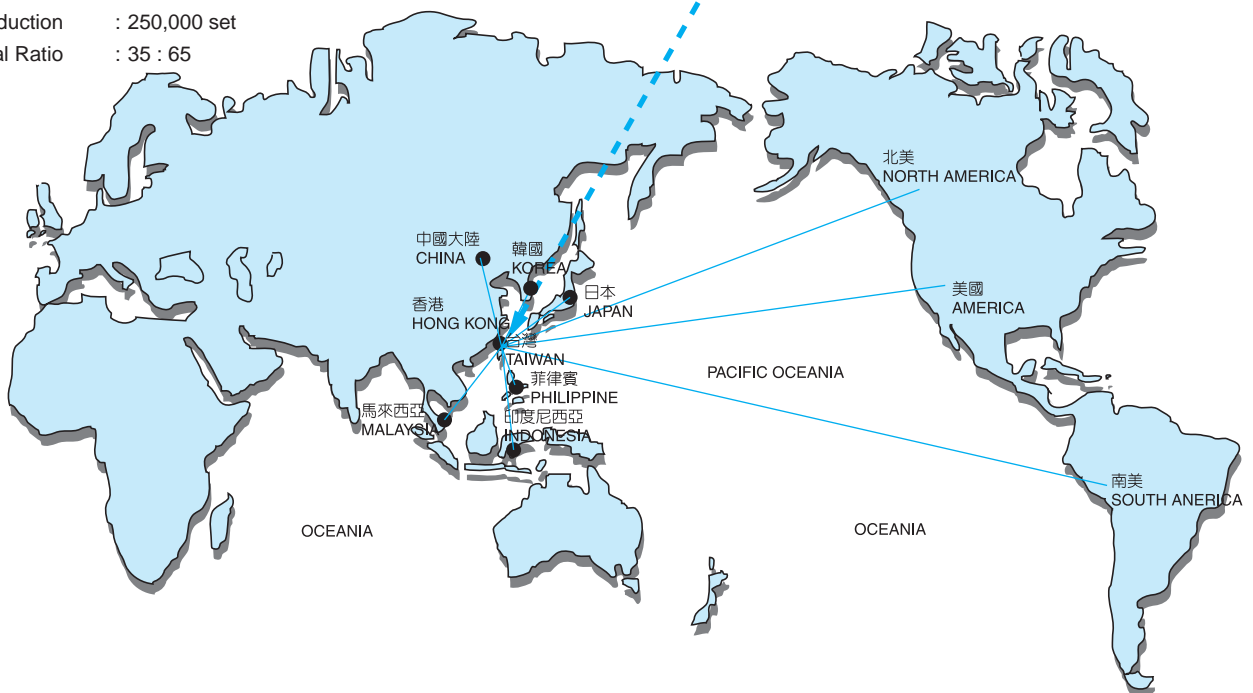
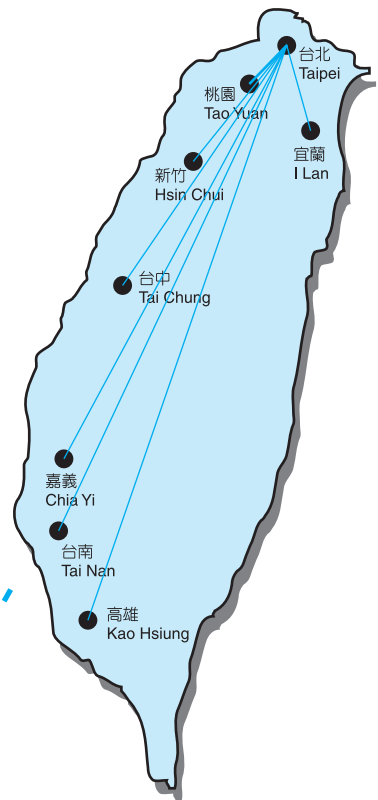
Established in 1976, the Company has evolved from its service oriented core business at the beginning through manufacturing and sales to export/import trade business. In 1990, it acquired distributorship of Japanese small motors and gear reducer. In 1992, it introduced foreign technology and know-how of small gear motor reducer manufacturing plant in Taiwan.

- 1976 Tung Lee Company was founded with capitalization of NT \$200,000 on a plant site with 100 m<sup>2</sup>, specializing in resale and repairing.
- 1982 New plant constructed at No. 26, Lane 12, Guang-fu Road, Sec. 1, San-chung City. Capitalization increased to NT \$2 million with 30 employees. In the same year, motor manufacturing began.
- 1983 Under demand of business expansion, the Company was reorganized as Tung Lee Electronical Co., Ltd. and new products, such as gear reducers, small AC/DC motor speed controllers, inverters, torque limiter, were added to product lines.
- 1984 Established nationwide distribution networks and opened up overseas markets. 40 employees.
- 1990 Because gradual increase in sales and production volumes, increased capitalization to NT \$20 million, invested and built a new plant with 4000 m<sup>2</sup> at the Industrial Park in Wu-gu, Taipei Country. 80 employees were working with Company.
- 1995 Winning international recognition. Established branch office in Shanghai, China.
- 2000 In order to providing the better service to the big demand in China. Tung Lee established manufactories in Xia-men and Su-Zhou to offer the efficient serve and lower the cost for many clients which expend their business from Taiwan to China market.

## COMPANY PROFILE

- Registered Name : Tung Lee Electrical Co., Ltd.
- Business Place : 1Fl., No. 50, Wu Chuan 3 Road, Wu-ku Hsiang, Taipei Hsien, Taiwan, R.O.C.
- Telephone : 886-2-2299-2655~59 886-2-2299-2149~50
- Facsimile : 886-2-2299-0146
- Capitalization : NT \$90 million
- CEO : Sheng-Hsiung Kao
- Employee No. : 120
- Annual Sales Revenue : NT \$450 million
- Annual Production : 250,000 set
- Export/Local Ratio : 35 : 65

- Major Products : Gear Reducers, Small AC/DC Motors, AC/DC Motor Electronic Speed Controllers, Inverters, Linear Motors, Turbine Reducers, Transmission Axis Torque Limiter.
- Major Clients : CNC Equipment, Electronic Machinery Equipment, Conveying Belt Equipment, Oil Pressure Machinery Equipment, Automatic Machinery Equipment.
- Domestic Clients : Nan Ya Plastics Corp., China Steel, Matsushita Electric (TAIwan) Co., Ltd., Lead Well CNC Machines Mfg. Co., Chang Hua Chen Ying Oil Machinery Co., Ltd., Cheng Loong Co.
- Overseas Markets : Japan, Thailand, Singapore, Malaysia, Australia, The US, Germany, Hong Kong, Mainland China.





IK型

Page 9~12

## 單相感應式馬達

Single phase induction motor

馬力 HP : 6W~150W

電壓 V : 100V~110V  
200V~220V

## 三相感應式馬達

3-phase induction motor

馬力 HP : 25W~150W

電壓 V : 200V · 220V  
380V · 440V

- 額定運轉為連續運轉
- 採用 E 級絕緣
- 單相馬達使用電容器式感應馬達，故高功率、低噪音。
- 三相馬達使用三相電源200V...的感應馬達。
- \* Rated continuous operation
- \* E class insulation
- \* Capacitive induction motor shall be used for high power output and low noise single phase motor.
- \* Using the 220V, 3 phase AC Induction motor.



RK型

Page 13~14

## 單相可逆式馬達

Single phase reversible motor

馬力 HP : 6W~150W

電壓 V : 100V~110V  
200V~220V

## 三相可逆式馬達

3-phase reversible motor

馬力 HP : 25W~150W

電壓 V : 200V · 220V  
380V · 440V

- 具有瞬時轉換正轉、逆轉功能。因採用平衡繞線方式，並內裝簡易制動機構能夠瞬時地轉換正轉、反轉，其正反旋轉特性同樣均勻且穩定。
- 運轉額定式30分鐘額定。感應馬達和可逆式馬達的不同點：可逆式是能夠瞬時轉換正、反轉，但感應馬達將接線轉換到反轉，會發生旋轉磁場和逆方向的轉矩，故不能旋轉負載時轉換逆方向。
- \* Instantaneous alternate between normal and reversible for motors equipped with balanced windings and built-in simple brake mechanism.
- \* Thirty minutes of rated operation. Difference between the induction motor and reversible motor: the later one can instantaneously be reversible, however rotating magnetic field & reversible momentum for induction motor occurs in reversible direction. In case no reversible shall be made in loading condition.



IK+B型

Page 15~18

## 單相附電磁剎車馬達

Single phase motor with electromagnetic brake

馬力 HP : 6W~150W

電壓 V : 100V~110V  
200V~220V

## 三相附電磁剎車馬達

3-phase motor with electromagnetic brake

馬力 HP : 25W~150W

電壓 V : 200V · 220V  
380V · 440V

- 確實地保持負載：既為無激磁動作式電磁制動器，剛關掉電源時，立即產生制動力而確實地保持負載。
- 短時間內制動：電動機單機時，超程是2~4旋轉。
- 可能控制較複雜的瞬時正、反轉：每分鐘可以停止6次（停止時間必須保持3秒以上）。如須1分鐘停止7~100次時，應採用C&B馬達。
- \* Always maintain the load properly: For a non-exciting type electrical magnetic brake, loading can be kept normally by the brake whenever the power source is "Off".
- \* Instantaneous brake: Over-travel in 2 - 4 cycles only for a single motor.
- \* More complex, controllable, instantaneous Normal / Reversible time: Allowable "Stop" for 6 times per minute. (3 second or more have to be kept for each "Stop"), C&B type of motor is applicable on 100 times of "stop" per minute if necessary.



US型

Page 19~20

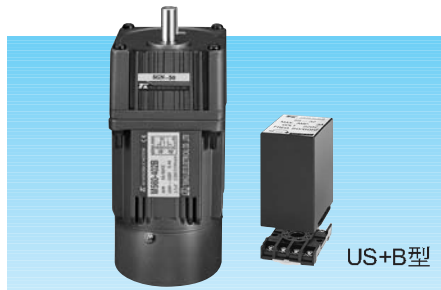
## 無段變速馬達

Stepless variable speed control motor

馬力 HP : 6W~150W

電壓 V : 單相 Single phase  
100V~110V  
200V~220V

- 因配用速度控制器，可以調整廣範圍的變速（50Hz.....90~1400轉/分；60Hz.....90~1700轉/分）。
- 可按需選擇變速、制動、轉換正、反轉、慢速起動、慢速減速等多種複雜的運轉程序。
- 內部備有轉速傳感器，實行回授控制，因此電源頻率有變化，其規定轉數絕無變化。
- \* Wide range of variable speed is adjustable by using the speed controller. (50Hz .....90 - 1400 rpm; 60Hz .....90 - 1700 rpm).
- \* More operational procedure shall be available, such as: variable speed selection, normal / reversible, slower starting, slower speed reduction, etc.
- \* Built - in rpm sensors, feed - back control, a constant rpm can be obtained even if there is any frequency variation.



US+B型

Page 21~22

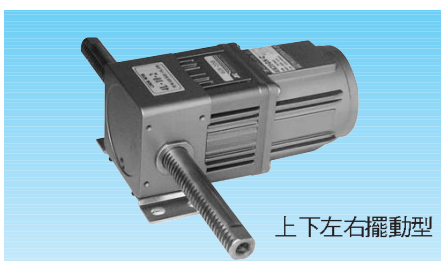
## 無段變速附電磁剎車馬達

Variable speed control motor with electromagnetic Brake

馬力 HP : 6W~150W

電壓 V : 單相 Single phase  
100V~110V  
200V~220V

- 因配用速度控制器，可以調整廣範圍的變速（50Hz.....90~1400轉/分；60Hz.....90~1700轉/分）。
- 可按需選擇變速、制動、轉換正、反轉、慢速起動、慢速減速等多種複雜的運轉程序。
- 內部備有轉速傳感器，實行回授控制，因此電源頻率有變化，其規定轉數絕無變化。
- \* Wide range of variable speed is adjustable by using the speed controller. (50Hz .....90 - 1400 rpm; 60Hz .....90 - 1700 rpm).
- \* More operational procedures are available, such as: variable speed selection, normal / reversible, slower starting, slower speed reduction etc.
- \* Built - in rpm sensors, feed - back type of control, a constant rpm can be obtained even if there is any frequency variation .



上下左右擺動型

Page 23~24

## 直線型減變速馬達

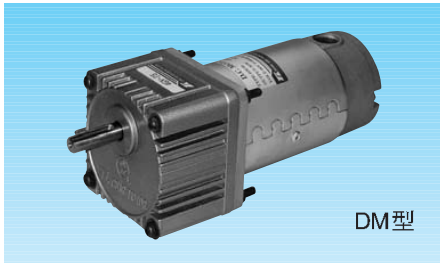
Linear type gear head and variable speed motor

馬力 HP : 6W~150W

電壓 V : 單相 Single phase  
100V~110V  
三相 3-phase  
200V~220V  
380V~440V

- 自動化機械推動物料簡易法。
- 可任意選擇帶動馬達型號。(IK、RK、US、DM等.....)
- 動作齊全可左右擺動。  
上下擺動。
- \* Simple method for the automatic mechanical materials lifting operation.
- \* Selectable in any type of driving motor. (IK, RK, US, DM.....etc.)
- \* Offering all kind of operation such as; Swing left and right  
Swing up and down





DM型

Page 25

永磁性直流馬達  
Permanent magnet DC motor  
馬力HP：30W~120W  
電壓V：12V・24V・90V  
回轉數 rpm：1800RPM  
3000RPM

- 在無交流電地點用電池即可使用。
- 簡易控制箱，調整電壓：可做變速用。
- 變速範圍大，扭力強。
- 回轉數如需要可定做。
- \* Battery can be used as a power source if AC power is not available.
- \* Simple control box, adjustable voltage, for speed alternating purpose
- \* Wider range for variable speed, larger torque operation.

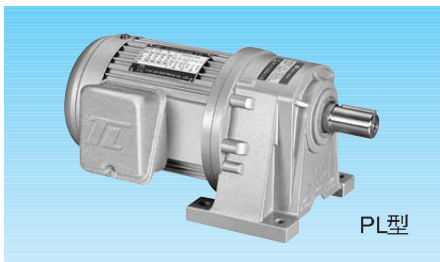


GA型

Page 26

渦輪減速馬達  
Worm gear reduction motor  
馬力HP：40W~200W  
電壓V：單相 Single Phase  
100V~110V  
200V~220V  
三相 3-Phase  
200V~220V  
380V~440V

- 90°出力軸方向可減省空間。
- 具有相當停止保持力。
- 可任選調配任何馬達。
- (IK・RK・US・DM)等....。
- \* To reduce the space requirements for installation the 90 degree output power shaft can be used.
- \* Certain durability in stoppage.
- \* Any kind of motor can be used.
- \* (IK. RK. US. DM)etc.



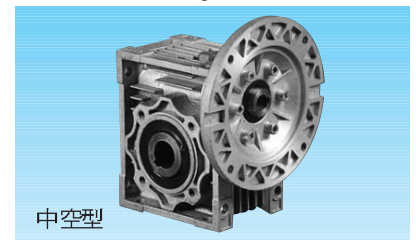
PL型

Page 27~29, 31

臥式減速馬達  
Horizontal type gear reduction motor  
馬力HP：100W~3700W  
電壓V：單相 Single Phase  
100V~110V・200V~220V  
三相 3-Phase  
200V~220V・380V~440V

可附電磁剎車  
Optional: electric magnetic brake  
減速比齊全 Full range of reduction ratio

中空系列渦輪減速機  
Hollow shaft worm gear reducer



中空型

Page 39~40



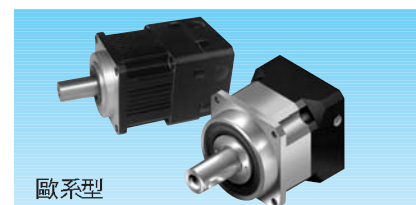
PF型

Page 27~28, 30, 32

立式減速馬達  
Vertical type gear reduction motor  
馬力HP：100W~3700W  
電壓V：單相 Single Phase  
100V~110V・200~220V  
三相 3-Phase  
200V~220V・380~440V

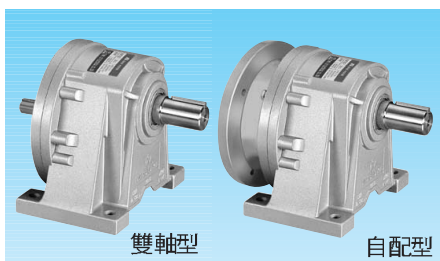
可附電磁剎車  
Optional: electric magnetic brake  
減速比齊全 Full range of reduction ratio

TRS伺服專用減速機(歐系規格)  
Servo Reducer



歐系型

Page 41~42



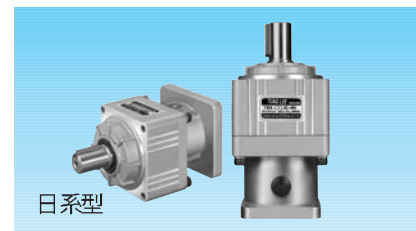
雙軸型

自配型

Page 33, 34, 35, 36

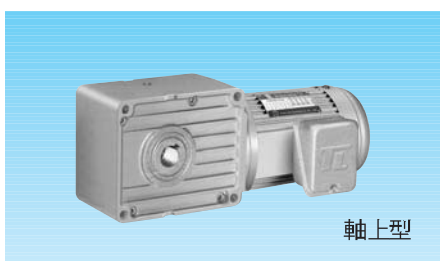
臥式立式雙軸型減速機  
Horizontal / Vertical dual - shaft type gear reducer  
臥式立式自配馬達減速機  
Horizontal / Vertical, self contained motor gear reducer  
帶動馬力Driving HP：100W~3700W  
減速比齊全 Full range of reduction ratio

TRK伺服專用減速機(日系規格)  
Servo Reducer



日系型

Page 43~44



軸上型

Page 37~38

軸上型減速機  
Shaft-Mounted Reducer  
Model: TL-4070  
減速比 (Ratio)：1/30~1/300  
Model: TL-5080  
減速比 (Ratio)：1/30~1/300  
馬力：100W~1500W

無段變速機  
Variable Speed Control Motor



轉速可調型

Page 45~46

# 馬達用詞概要

## 1. 定格

馬達在使用上從溫度上升分為連續定格及短時間定格兩種，通常被決定為定格有電壓，周波數，定格回轉數等；這些分別被稱為定格出力，定格電壓，定格周波數，定格回轉數等。

## 2. 連續定格、短時間定格

已定格出力在無異常情況下連續運轉稱為連續定格按規定時間內定格出力運轉稱為短時間定格。

## 3. 出力

馬達在單位時間內所能做的扭力之表示由馬達的回轉數及轉矩決定，在馬達已定格出力之表示，在日本瓦特 (W) 表示，而歐美以 HP 表示出力

$$(W) = 1.027 \times 10^{-5} \times T \times N$$

1.027 x 10<sup>-5</sup>: 常數 T (gcm): 轉矩 N(rpm): 回轉數

## 4. 定格出力

指馬達在定格電壓周波數條件下能發揮其最佳特性出力為定格出力，回轉數轉矩，通常簡稱為定格出力。

## 5. 起動轉矩

馬達在起動瞬間所發出轉矩稱為起動轉矩，比這轉矩大的負荷一加之在馬達上，馬達就無法回轉。

## 6. 停動轉矩

馬達在一定電壓，一定周波數產生最大轉矩，在此轉矩標準內負荷再加上去，馬達便會停止。

## 7. 定格轉矩

馬達在定格電壓，定格周波數，定格出歷時所連續發出的轉矩稱為定格轉矩，定格回轉數的轉矩。

## 8. 定格回轉數

馬達在定格出力時之回轉為使用上最理想之回轉數。

## 9. 同步回轉數

因馬達的極數及電源周波數之決定已被固定，所以可由以下公式來表示，通常以每分鐘回轉表示。

Ns=同步回轉數 (rpm) Ns=120f/p (rpm) f=周波數(Hz) P=極數 120=常數

例如: 4極的馬達電源周波數60Hz Ns=120x60/4=1800(rpm)

## 10. 轉差率

回轉表現方法之一種，可由以下公式表示：

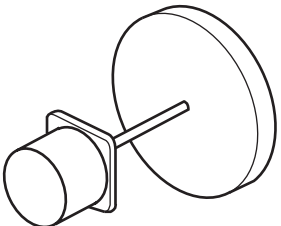
S=Ns-N/Ns 又 N=Ns(1-S) Ns: 同步回轉數(rpm)

N: 任意負荷時之回轉數值(rpm)在此，4極60Hz的感應馬達轉差率

S=0.1時之回轉

N=120-60/4 (1-0.1)=1800(1-0.1)=1620(rpm)

## 驅動慣性力矩時Driving Moment of Inertia

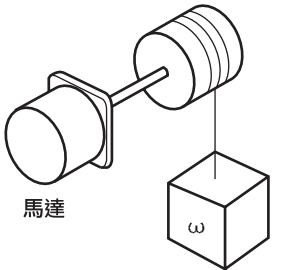


馬達  
CD<sup>2</sup> (包括轉子的飛輪效率)

$$Pg = 1.027 NT (W)$$

$$T = \frac{GD^2}{375} \cdot \frac{N}{t} (kg/m)$$

N: 轉數 (rpm)  
T: 轉矩 (kg/m<sup>2</sup>)  
GD<sup>2</sup>: 飛輪效率 (kg/m<sup>2</sup>)  
t: 時間  
Pg: 所需動力 (W)



馬達

$$Pg = \frac{\omega u}{6 \cdot 12} \cdot \frac{100}{\eta} (W)$$

ω: 負載 (kg)  
u: 速度 (m/mm)  
η: 效率 (%)  
Pg: 所需動力 (W)

# Terminology for the motors

## 1. Ratings

There are two kinds of rating for motors: continuous duty rating and short time rating classified by the temperature rise of motors. Usually they are defined by power output, voltage, cycles in frequency, and rpm

etc.; so-called rated power output, rated voltage, rated cycles in frequency, and rated rpm.

## 2. continuous duty rating and short time rating

continuous operation at the rated output power under normal condition is called a continuous duty rating,

while operation at the rated output power in a specific time is so called short time rating.

## 3. Output power

The twist force produced by motors in a unit time shall be expressed by rpm and the torque of motors. The rated output power of a motor is expressed by Watt in Japan and H.P. in Europe.

(W) = 1.027 x 0.00001 x T x N, where

1.027 x 0.00001: a constant T (gcm): Torque N (rpm): number of revolutions per minute

## 4. Rated output power

Rated power output means to develop a best characteristic output power under the rated voltage and rated frequency of motors. The rpm torque is simply called rated output power.

## 5. starting torque

Torque produced at any instant of a starting motor is called starting torque. Motor is not rotating in case of a larger load than the torque.

## 6. Stop torque

The maximum torque is produced by any motor under a specific voltage and specific frequency. Any loading is applied on a Motor within this range of torque, motor is stopped.

## 7. Rated torque

The speed reduction gearing under rated voltage, rated frequency, rated power output is defined as continuous torque, as well as the rated torque, torque for rated rpm.

## 8. Rated rpm

The most favorable rpm of the motor shall be a rpm under a rated output power.

## 9. Rpm in synchronism

Suppose the number of poles of a motor and the frequency of power source are given, It can be shown in the following equation which is usually expressed by revolution per minute.

Ns = 120f / p (rpm)

Where Ns = Number of rpm in synchronism

f = number of frequency in Hertz. P = number of poles of the motor 120 = constant

For example:

A four-pole motor and frequency of the power source is 60Hz.

Ns = 120 x 60 / 4 = 1800 (rpm)

## 10. Slide slip rate

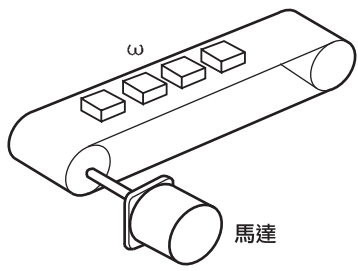
Another kind of indication for rpm can be shown in the following formula:

S = Ns - N / Ns or N = Ns(1-S) Ns:

Where Ns: rpm in synchronous (rpm)

Where N: rpm under any loading (rpm), The slide slip rate for a 4 pole 60Hz induction motor is,

Revolution per S = 0.1 N = 120-60/4 (1-0.1) = 1800(1-0.1) = 1620 (rpm)



馬達

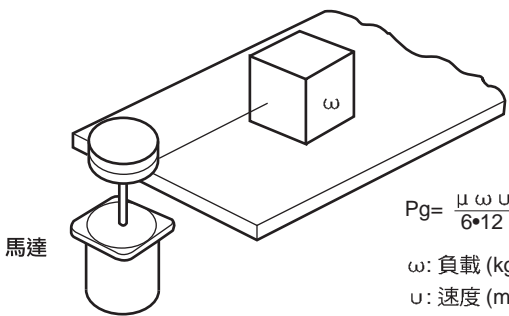
$$Pg = (P_1 + P_2 + P_3) \frac{100}{\eta} (W)$$

空轉動力 P<sub>1</sub> = 9.8 μ ω u ℓ (W)

$$\text{水平動力 } P_2 = \frac{\mu Q \ell}{367} (W)$$

$$\text{垂直動力 } P_3 = \frac{QH}{367} (W)$$

ℓ: 運輸機長 (m) Q: 運輸量 (kg/h)  
W: 皮帶單位長重量 (kg/m) η: 效率 (%)  
μ: 摩擦係數 H: 傾斜運輸機兩端高低差 (m)  
u: 皮帶速度 (sec) Pg: 所需動力 (W)



馬達

$$Pg = \frac{\mu \omega u}{6 \cdot 12} (W)$$

ω: 負載 (kg)  
u: 速度 (m/mm)  
μ: 摩擦係數  
Pg: 所需動力 (W)

# 減速機用詞概要

## 1. 減速機選擇方法

減速機為配合馬達機型及瓦特數依負荷狀況做下列之分類：  
GN型→配合6W, 25W, 40W, 60W使用→(輕負荷請選含油軸承；重負荷請選滾珠軸承)。

GU型→配合60W, 90W, 120W, 150W使用(GU型全部使用滾珠軸承)。

### 1. Selections of the speed reduction gearing (mechanism)

To coordinate between the type of motor and wattage of power used, the following classification is made according to the loading conditions:  
Model GN - for 6W, 25W, 40W - (Oil bearing for applications in light loading, ball bearing shall be used for those heavier loading)  
Model GU - for 60W, 90W, 120W, 150W - ( using ball bearing for all GU type motor).

## 3. 最大容許轉矩 (右圖)

減速機之出力轉矩因減速機比大而增大，但因受了齒輪之材質及其他條件之影響，限制實際所能承受之負荷轉矩，而減速機之最大容許轉矩之大小是視減速機種類與減速機之出力轉矩。

$$TG = TM \times i \times n = 1.9 \times 100 \times 0.66 = 125.4 \text{ kg-cm}$$

如右圖所示 A4GN100K 最大容許轉矩 80Kg-cm，但計算所得之減速機出力轉矩為 125kg-cm，但是實際上減速機所能承受之負荷不可超過 80kg-cm。

### 3. Maximum allowable torque (Figure to the right)

The torque for a motor output power can be increased in accordance with the bigger reduction ratio of the speed reduction gearing. however, the practical limitation of the loading torque shall be effected by the material of the gear and some other conditions. The Maximum allowable torque for a speed reduction gearing is also depending on the kind of speed reduction gearing and the output power torque of the speed reduction gearing.

$$TG = TM \times i \times n = 1.9 \times 100 \times 0.66 = 125.4 \text{ Kg-cm}$$

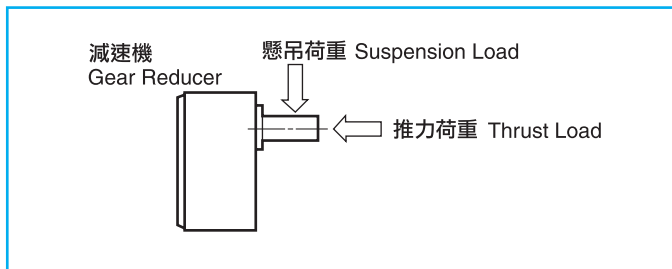
The maximum allowable torque 80 Kg-cm for the A4GN 100K is shown in the figure to the right, in comparing to the output power torque of the speed reduction gearing, 125 Kg-cm, by calculation, In practical, however, under no way the loading of a speed reduction gearing exceed 80 Kg-cm.

## 4. 容許懸吊荷重及容許推力荷重 (右圖)

減速機之出力軸使用在鏈條，齒輪或皮帶等傳動機構上，在一定出力軸處，增加懸吊荷重(同軸呈直角重)軸承的壽命會受到懸吊荷重與出力軸間作用關係，產生直接影響。

### 4. Allowable suspension load and allowable thrust load (see figure to the right):

Transmission mechanism such as chain, gears, or belt can be used as an output shaft for the speed reduction gearing. Suppose the suspension load is increased (vertically to the shaft) at the output shaft which should be effected directly against the applicable life regarding to relations between suspension load and thrust load.



# Terminology for the gear reducers

## 2. 減速機配合馬達之出力轉矩計算方式：

轉矩.....TG=TM x i x n

TG: 減速機之轉矩(kg-cm)      TM: 馬達之轉矩(kg-cm)

i: 減速機之減速比                      n: 減速機之傳動效率

## 2. Calculations of a speed reduction gear in relating to the torque of the motor output power.

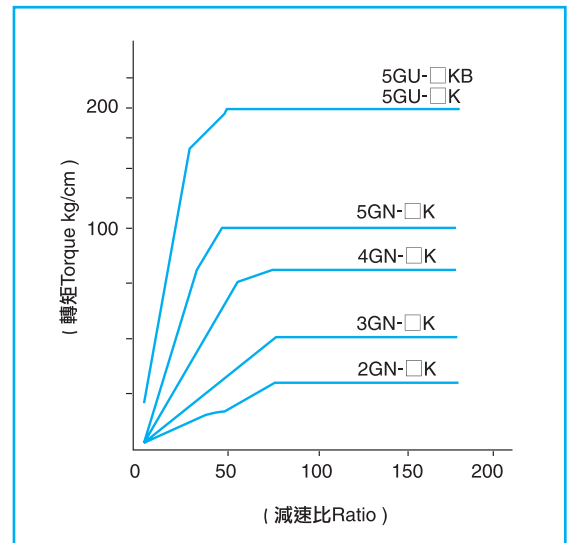
Torque: TG = TM x i x n

TG = torque of the speed reduction gearing (Kg -cm)

TM: Torque of a motor (Kg-cm)

i = Reduction ratio of the speed reduction gearing

n = transmission efficiency of the speed reduction gearing

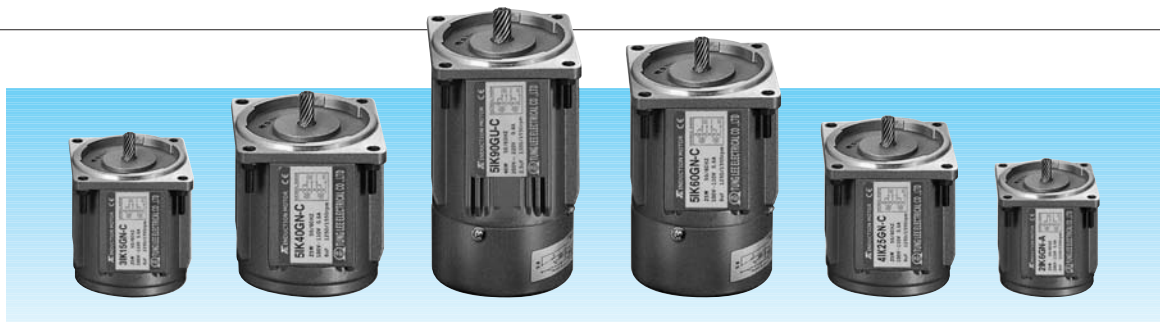


品名 Gear Model No.	減速比 Ratio	最大容許 轉矩 (kg-cm)	容許懸吊荷重(kg)		容許推力 荷重 (kg)
			在軸前端 10mm處	在軸前端 20mm處	
2GN-□	3~18	25	5	8	3
2GN-□ K	20~180		12	18	
3GN-□	3~18	50	8	12	4
3GN-□ K	20~180		15	25	
4GN-□	3~18	80	10	15	5
4GN-□ K	20~180		20	30	
5GN-□	3~18	100	25	35	10
5GN-□ K	20~180		30	45	
5GU-□ KB	3~10	200	40	50	15
5GU-□ K	12.5~18		45	60	
	20~180		50	70	

## 5. 減速機傳動效率 Transmission efficiency of the gear reducers

品名 Gear Model No.	減數比 Ratio	3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	45	50	60	75	90	100	120	150	180
2GN-□ K		81%											73%						66%						
3GN-□ K		81%											73%						66%						
4GN-□ K		81%											73%						66%						
5GN-□ K		81%											73%						66%						
5GU-□ K		81%					73%					66%					59%								

## 馬達型號解說 (IK, RK 規格) General information of motors, for IK•RK type



裝置尺寸

Dimension of device

- 2: □ 60mm
- 3: □ 70mm
- 4: □ 80mm
- 5: □ 90mm

**4 IK 25 GN - C - □**

IK: 連續運轉

Continuous operation

RK: 可正逆轉

Bi-Directional Operation

馬力: 6W  
(HP) 15W  
25W  
40W  
60W  
90W  
120W  
150W

A: 圓形軸 Cylindrical Shaft  
GA: 渦輪軸 for Worm Gear  
GK: 直齒軸 (40, 60W) Spur  
GS: 直齒軸 (60, 90W) Spur  
GN: 斜齒軸 Pinion cut shaft (6, 15, 25, 40, 60W)  
GU: 斜齒軸 Pinion cut shaft (60, 90, 120, 150W)  
NA: 中空軸 for Hollow Shaft Gear

A: 單相 Single Phase 110V  
C: 單相 Single Phase 220V  
S<sub>2</sub>: 三相 3-Phase 220V  
S<sub>3</sub>: 三相 3-Phase 220/380V  
S<sub>4</sub>: 三相 3-Phase 220/440V

T: 附端子箱

W/ Terminal-Box

B: 附電磁剎車

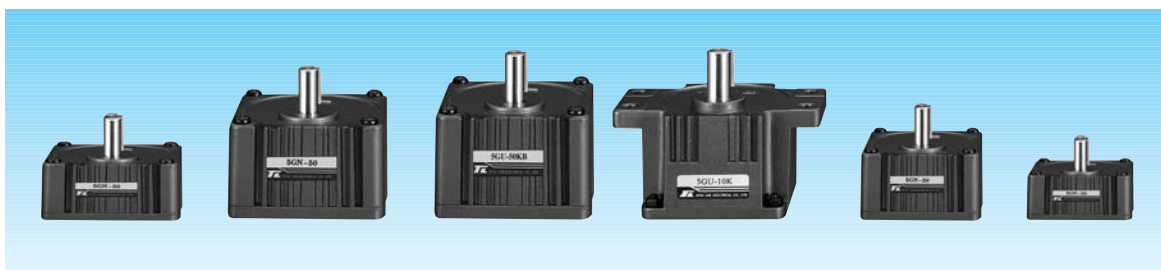
W/Electromagnetic Brake

P: 溫控 Thermal Switch

F: 強制風扇

Ventilator Fan

## 減速機型號解說 (GN, GU規格) General information of reducers, for GN•GU type



**4 GN - 100 □**

裝置尺寸

Dimension of device

- 2: □ 60mm
- 3: □ 70mm
- 4: □ 80mm
- 5: □ 90mm

GN: 斜齒軸 Pinion cut shaft (6, 15, 25, 40, 60W)  
GU: 斜齒軸 Pinion cut shaft (60, 90, 120, 150W)

減速比 Ratio: 1:100

K: 滾珠軸承

Ball bearing

L: 直線型用

For linear gear

## 馬達型號解說 (US 規格) General information of motors, for US type



M: 無段變速馬達  
Stepless variable speed  
Motor

**M 4 25 - 4 0 2** □

B: 附電磁剎車  
With  
Electromagnetic  
Brake

裝置尺寸  
Dimension of  
device  
2: □ 60mm  
3: □ 70mm  
4: □ 80mm  
5: □ 90mm

馬力: 6W  
(HP) 15W  
25W  
40W  
60W  
90W  
120W  
150W

0: 圓形軸 Cylindrical Shaft  
1: 渦輪軸 for Worm Gear  
2: 直齒軸 (40, 60W) Spur  
3: 直齒軸 (60, 90W) Spur  
4: 斜齒軸 Pinion cut shaft  
(6, 15, 25, 40, 60W)  
5: 斜齒軸 Pinion cut shaft  
(60, 90, 120, 150W)  
6: 中空軸 for Hollow Shaft Gear

1: 單相 Single Phase  
100~110V  
2: 單相 Single Phase  
200~220V

0: 連續運轉  
Continuous operation  
1: 頻繁起動正逆轉  
Frequent Stop & Bi-Directional  
Operation

## 速度控制器型號解說 (US規格) General information of speed controller, for US type



UX: 無段變速數字形控制箱  
Stepless variable speed  
controller with digital  
speed indicator

US: 無段變速控速箱  
Stepless variable speed  
controller

**US 4 25 - 02**

**SS 31** □

裝置尺寸  
Dimension of  
device  
2: □ 60mm  
3: □ 70mm  
4: □ 80mm  
5: □ 90mm

馬力: 6W  
(HP) 15W  
25W  
40W  
60W  
90W  
120W  
150W

01: 單相 Single Phase  
100~110V  
02: 單相 Single Phase  
200~220V

SS: 無段變速分離控制箱  
Stepless variable speed  
separate controller

31: 單相 100~110V  
(Single Phase)  
32: 單相 200~220V  
(Single Phase)

R: 附電子剎車  
With  
electronic  
brake





# 單相IK型感應馬達 Induction Motor (Single Phase)

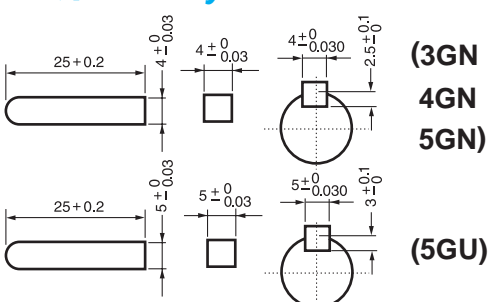
## IK型連續運轉馬達特性表 Specifications of continuous operating motor

馬達型號 Motor Model No.		出力 Force W	周波數 Peripheral Wave No. Hz	電壓 Voltage V	電流 Current A	起動轉矩 Start Turning Moment gcm	定格 Rating		起動電容 Start Condenser		齒輪型號 Gear Model No.		
圓柱形出力軸 Cylindrical Output Shaft	小齒切出力軸 Pinion Cut Output Shaft						轉矩 Turning Moment gcm	回轉數 Revolving No. rpm	容量 Capacity μF	耐電壓 Resistance Voltage VV	培林軸承 Pairing Bearing	含油軸承與 培林共用型 Oil Bearing and Pairing Bearing Combined	中間齒輪 Middle Gear
2IK6A - A	2IK6GN - A	6	50 60	100 110	0.25	420	420	1200 1450	2.5	250	2GN-□K	2GN-□	2GN-10X
2IK6A - C	2IK6GN - C	6	50 60	200 220	0.13	420	420	1200 1450	0.8	400			
3IK15A - A	3IK15GN - A	15	50 60	100 110	0.35	800	1100	1250 1550	4.0	250	3GN-□K	3GN-□	3GN-10X
3IK15A - C	3IK15GN - C	15	50 60	200 220	0.18	800	1100	1250 1550	1	400			
4IK25A - A	4IK25GN - A	25	50 60	100 110	0.6	1300	1800	1250 1550	6.0	250	4GN-□K	4GN-□	4GN-10X
4IK25A - C	4IK25GN - C	25	50 60	200 220	0.3	1300	1800	1250 1550	1.5	400			
5IK40A - A	5IK40GN - A	40	50 60	100 110	0.8	2300	3200	1300 1550	10.0	250	5GN-□K	5GN-□	5GN-10X
5IK40A - C	5IK40GN - C	40	50 60	200 220	0.4	2300	3200	1300 1550	2.5	400			
5IK60A - A	5IK60GN - A	60	50 60	100 110	1.4	3300	4500	1300 1550	14.0	250	5GN-□K 5GU-□K	5GN-□	5GN-10X 5GU-10XK
5IK60A - C	5IK60GN - C	60	50 60	200 220	0.7	3300	4500	1300 1550	3.5	400			
5IK90A - A	5IK90GU - A	90	50 60	100 110	2.0	5200	6500	1300 1550	20.0	250	5GU-□K 5GU-□KB		5GU-10XK
5IK90A - C	5IK90GU - C	90	50 60	200 220	1.0	5200	6500	1300 1550	5.0	400			

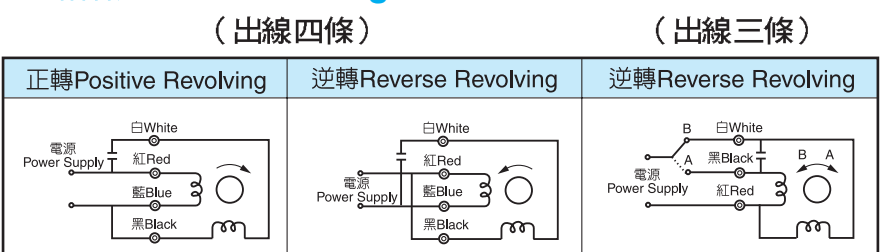
## 扭矩表 Gear Head-Torque Table (Kg-cm)

輸出回轉數 rpm	500	300	200	120	100	60	50	30	20	15	10	6	5	3	2	1.5	1
50Hz 減速比 60Hz Reduction Ratio	3	5 6	7.5 9	12.5 15	15 18	25 30	30 36	50 60	75 90	100 120	150 180	250 300	300 360	500 600	750 900	1000 1200	1500 1800
6W	1.0	1.6	2.5	4.1	5	8.1	9.7	16	23	25	25	25	25	25	25	25	25
15W	2.4	4.0	6.0	10	12	19	23	39	50	50	50	50	50	50	50	50	50
25W	4	6.7	10	16	20	32	39	65	80	80	80	80	80	80	80	80	80
40W	6.7	11	16	28	33	54	65	100	100	100	100	100	100	100	100	100	100
60W	10	16	24	40	48	77	93	155	200	200	200	200	200	200	200	200	200
90W	14	23	35	58	69	110	133	200	200	200	200	200	200	200	200	200	200

## 鍵尺寸 Key Dimensions

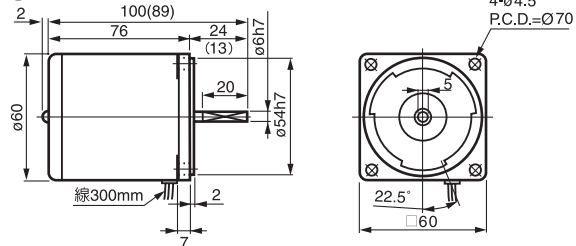


## 結線圖 Line Knotting Chart

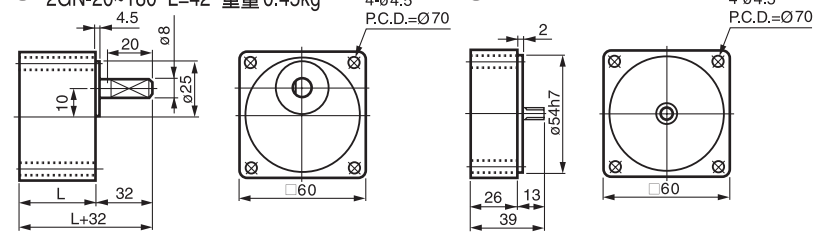


\*以上數值若有變動，恕不另行通知\* We reserve the right to change without further notice.

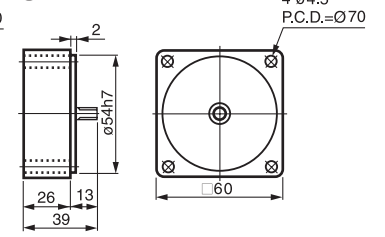
① 2IK6A(GN)-□ 重量 0.7kg



② 2GN-3~18 L=32 重量 0.35kg  
2GN-20~180 L=42 重量 0.45kg

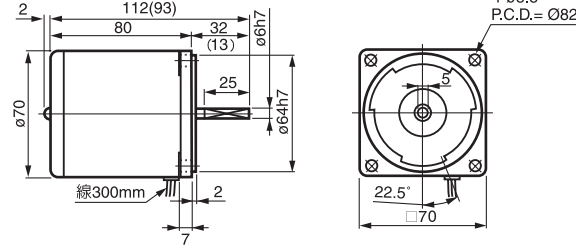


③ 2GN-10X 重量 0.3kg

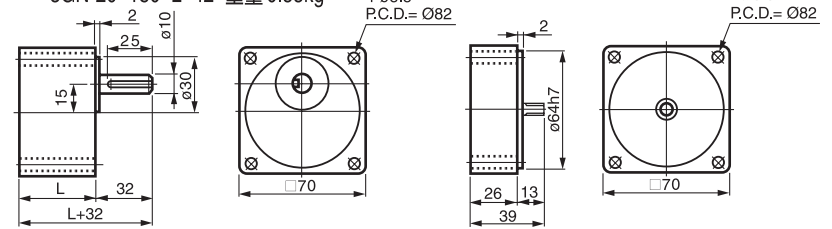


( )内數字係小齒輪軸馬達的數值 ( ) Numbers shown the dimension of the pinion shaft.

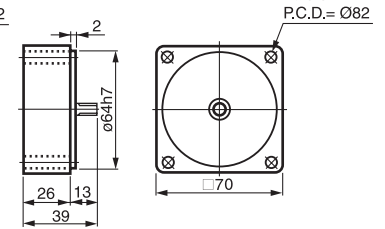
④ 3IK15A(GN)-□ 重量 1.1kg



⑤ 3GN-3~18 L=32 重量 0.45kg  
3GN-20~180 L=42 重量 0.55kg

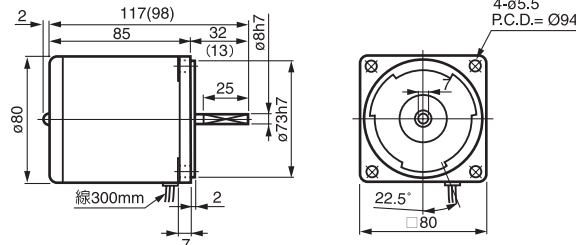


⑥ 3GN-10X 重量 0.35kg

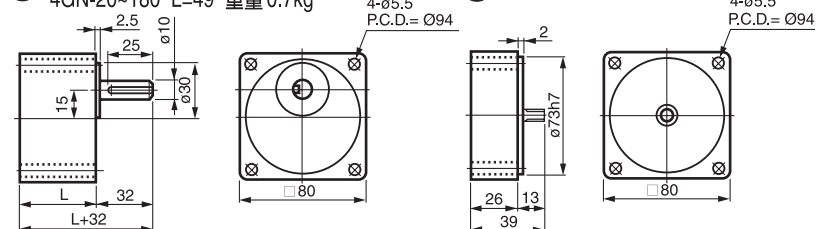


( )内數字係小齒輪軸馬達的數值 ( ) Numbers shown the dimension of the pinion shaft.

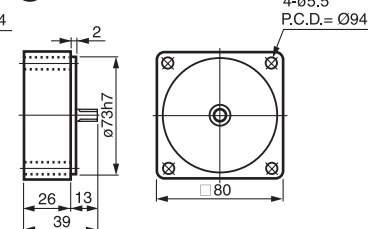
⑦ 4IK25A(GN)-□ 重量 1.6kg



⑧ 4GN-3~18 L=35.5 重量 0.5kg  
4GN-20~180 L=49 重量 0.7kg

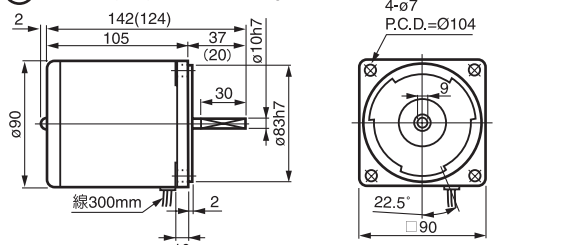


⑨ 4GN-10X 重量 0.45kg

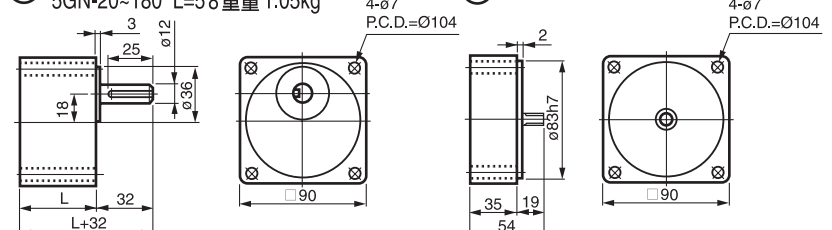


( )内數字係小齒輪軸馬達的數值 ( ) Numbers shown the dimension of the pinion shaft.

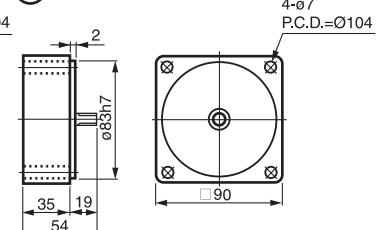
⑩ 5IK40A(GN)-□ 重量 2.5kg



⑪ 5GN-3~18 L=42 重量 0.7kg  
5GN-20~180 L=58 重量 1.05kg

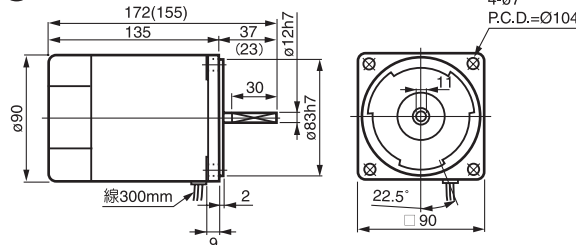


⑫ 5GN-10X 重量 0.6kg

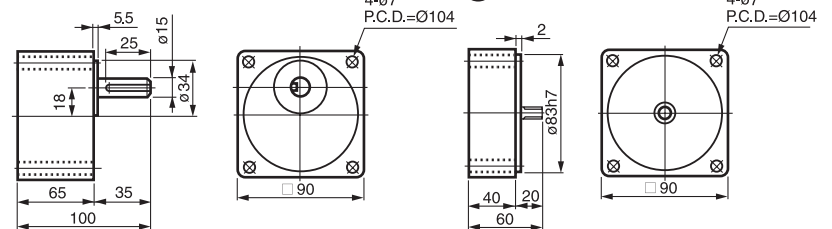


( )内數字係小齒輪軸馬達的數值 ( ) Numbers shown the dimension of the pinion shaft.

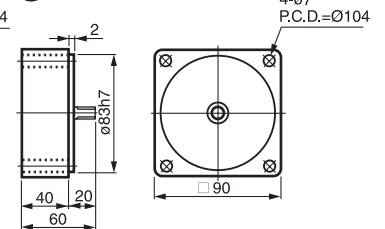
⑬ 5IK60A(GU)-□ 重量 2.6kg



⑭ 5GU-3~180KB 重量 1.3kg (60W, 90W共用)

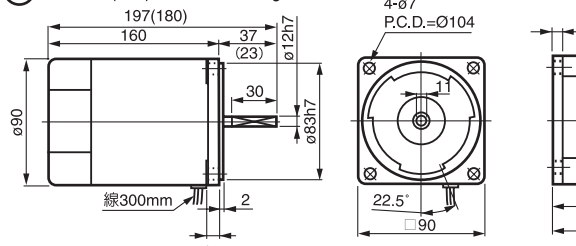


⑮ 5GU-10XK 重量 0.65kg

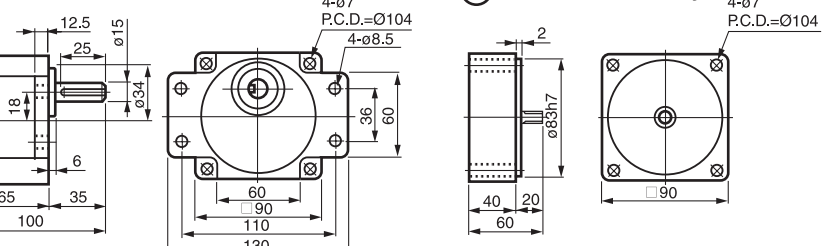


( )内數字係小齒輪軸馬達的數值 ( ) Numbers shown the dimension of the pinion shaft.

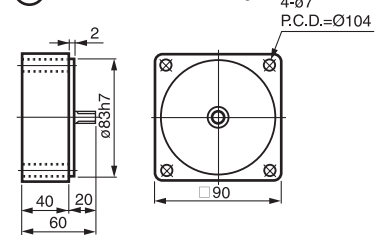
⑯ 5IK90A(GU)-□ 重量 3.4kg



⑰ 5GU-3~180K 重量 1.3kg (60W, 90W共用)



⑱ 5GU-10XK 重量 0.65kg



( )内數字係小齒輪軸馬達的數值 ( ) Numbers shown the dimension of the pinion shaft.

\*120W, 150W - 尺寸圖請參照90W Dimensions of 120W and 150W are same as 90W.

\*以上數值若有變動, 恕不另行通知\* We reserve the right to change without further notice.



## 三相IK型感應馬達 Induction Motor (3-Phase)

### IK型連續運轉馬達特性表 Specifications of continuous operating motor

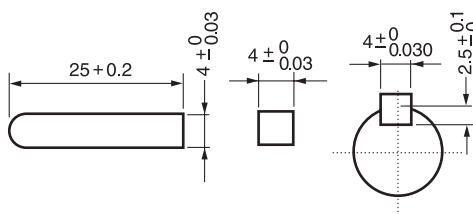
馬達型號 Motor Model No.		出力 Force W	周波數 Peripheral Wave No. Hz	電壓 Voltage V	電流 Current A	起動轉矩 Start Turning Moment gcm	定格Rating		齒輪型號 Gear Model No.		
圓柱形出力軸 Cylindrical Output Shaft	小齒切出力軸 Pinion Cut Output Shaft						轉矩 Turning Moment gcm	回轉數 Revolving No. rpm	培林軸承 Pairing Bearing	含油軸承與 培林共用型 Oil Bearing and Pairing Bearing Combined	中間齒輪 Middle Gear
4IK25A - S <sub>2</sub>	4IK25GN - S <sub>2</sub>	25	50 60	200 220	0.25	2400 1600	1900 1600	1300 1550	4GN-□K	4GN-□	4GN-10X
4IK25A - S <sub>3</sub> S <sub>4</sub>	4IK25GN - S <sub>3</sub> S <sub>4</sub>	25	50 60	380 440	0.16	2400 1600	1900 1600	1300 1500			
5IK40A - S <sub>2</sub>	5IK40GN - S <sub>2</sub>	40	50 60	200 220	0.4	3000 2600	3000 2600	1300 1550	5GN-□K	5GN-□	5GN-10X
5IK40A - S <sub>3</sub> S <sub>4</sub>	5IK40GN - S <sub>3</sub> S <sub>4</sub>	40	50 60	380 440	0.2	4000 2600	3000 2600	1300 1550			
5IK60A - S <sub>2</sub>	5IK60GN - S <sub>2</sub>	60	50 60	200 220	0.6	6000 5000	4500 3800	1300 1550	5GN-□K 5GU-□K	5GN-□	5GN-10X 5GU-10XK
5IK60A - S <sub>3</sub> S <sub>4</sub>	5IK60GN - S <sub>3</sub> S <sub>4</sub>	60	50 60	380 440	0.3	6000 5000	4500 3800	1300 1550			
5IK90A - S <sub>2</sub>	5IK90GU - S <sub>2</sub>	90	50 60	200 220	0.8	8500 7000	6800 5700	1300 1550	5GU-□K		5GU-10XK
5IK90A - S <sub>3</sub> S <sub>4</sub>	5IK90GU - S <sub>3</sub> S <sub>4</sub>	90	50 60	380 440	0.4	8500 7000	6800 5700	1300 1550			

### 扭矩表 Gear Head-Torque Table (Kg-cm)

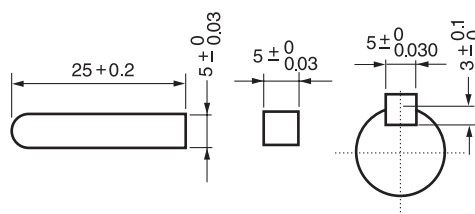
輸出回轉數 rpm	500	300	200	120	100	60	50	30	20	15	10	6	5	3	2	1.5	1
50Hz 減速比 60Hz Reduction Ratio	3	5 6	7.5 9	12.5 15	15 18	25 30	30 36	50 60	75 90	100 120	150 180	250 300	300 360	500 600	750 900	1000 1200	1500 1800
25W	4	6.7	10	16	20	32	39	65	80	80	80	80	80	80	80	80	80
40W	6.7	11	16	28	33	54	65	100	100	100	100	100	100	100	100	100	100
60W	10	16	24	40	48	77	93	155	200	200	200	200	200	200	200	200	200
90W	14	23	35	58	69	110	133	200	200	200	200	200	200	200	200	200	200

### 鍵尺寸 Key Dimensions

(3GN · 4GN · 5GN)

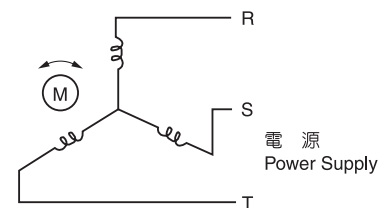


(5GU)



### 結線圖

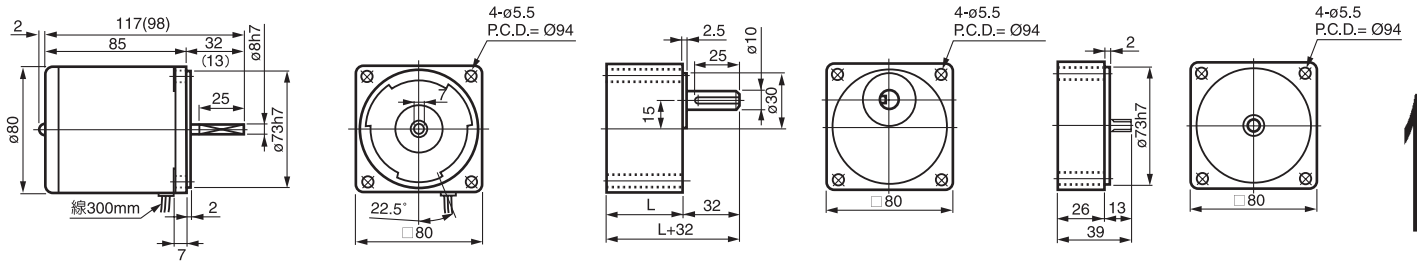
Line Knotting Chart



① 4IK25A(GN)-□ 重量 1.6kg

② 4GN-3~18 L=35.5 重量 0.5kg  
4GN-20~180 L=49 重量 0.7kg

③ 4GN-10X 重量 0.45kg

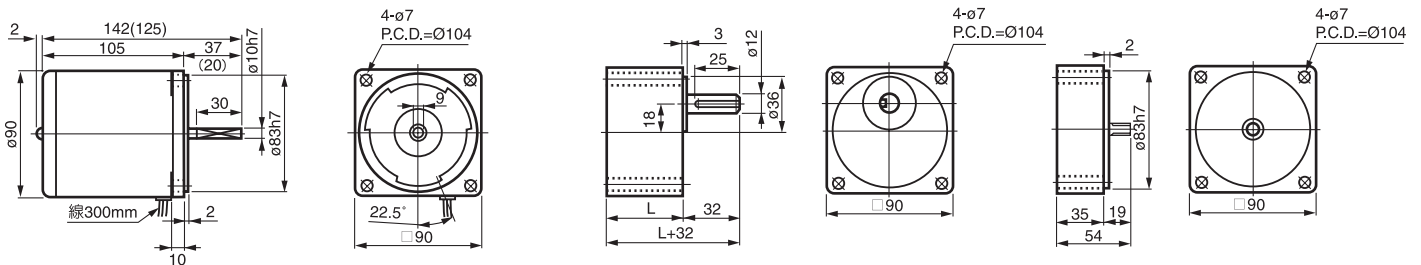


( )内數字係小齒輪軸馬達的數值 ( ) Numbers shown the dimension of the pinion shaft.

④ 5IK40A(GN)-□ 重量 2.5kg

⑤ 5GN-3~18 L=42 重量 0.7kg  
5GN-20~180 L=58 重量 1.05kg

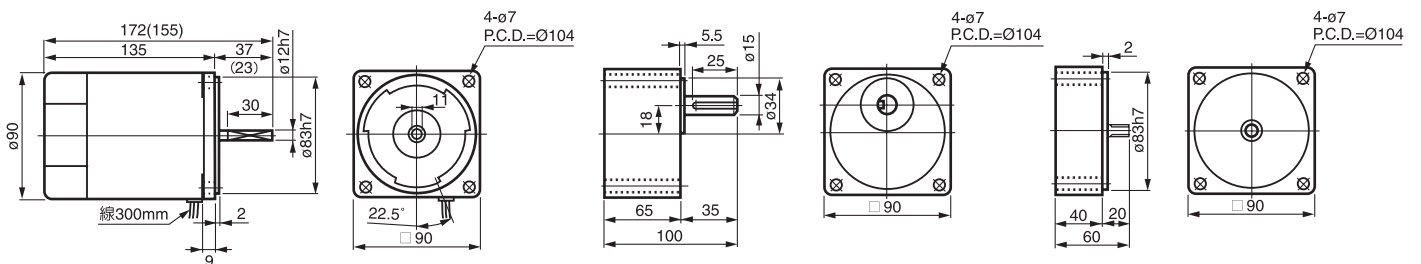
⑥ 5GN-10X 重量 0.6kg



( )内數字係小齒輪軸馬達的數值 ( ) Numbers shown the dimension of the pinion shaft.

⑦ 5IK60A(GU)-□ 重量 2.6kg

⑧ 5GU-3~180 KB 重量 1.3kg (60W, 90W共用) ⑨ 5GU-10XK 重量 0.65kg

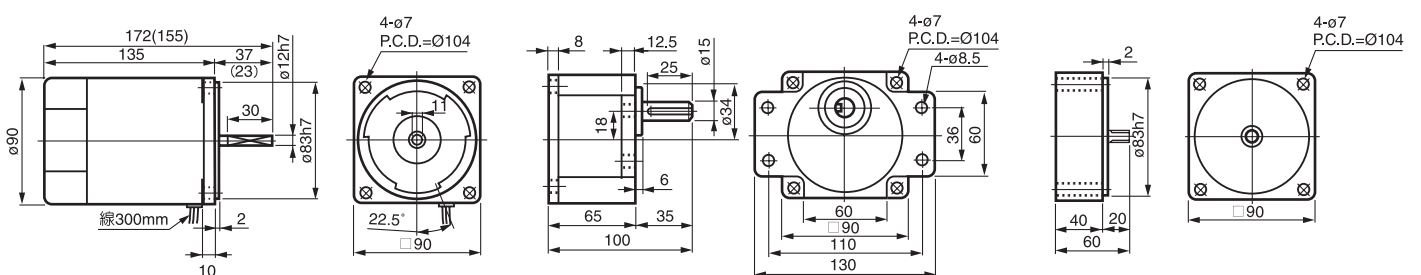


( )内數字係小齒輪軸馬達的數值 ( ) Numbers shown the dimension of the pinion shaft.

⑩ 5IK90A(GU)-□ 重量 3.4kg

⑪ 5GU-3~180K 重量 1.3kg (60W, 90W共用)

⑫ 5GU-10XK 重量 0.65kg



( )内數字係小齒輪軸馬達的數值 ( ) Numbers shown the dimension of the pinion shaft.

\*120W, 150W - 尺寸圖請參照90W Dimensions of 120W and 150W are same as 90W.

\*以上數值若有變動, 恕不另行通知\* We reserve the right to change without further notice.





# 單相RK型頻繁起動及正逆轉定格馬達 Reversible Motor (Single Phase)

(for Bi-Directional Operation or Instantaneous Reversal of Direction)

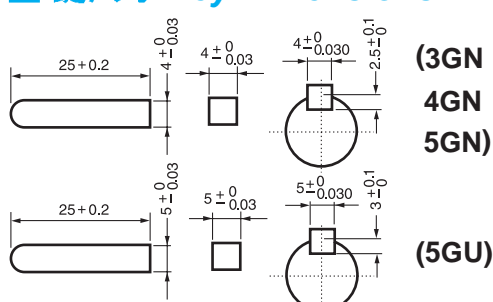
## RK型30分定格馬達特性表 Specifications of RK Type 30-minutes rated motor

馬達型號 Motor Model No.		出力 Force W	周波數 Peripheral Wave No. Hz	電壓 Voltage V	電流 Current A	起動轉矩 Start Turning Moment gcm	定格 Rating		起動電容 Start Condenser		齒輪型號 Gear Model No.		
圓柱形出力軸 Cylindrical Output Shaft	小齒切出力軸 Pinion Cut Output Shaft						轉矩 Turning Moment gcm	回轉數 Revolving No. rpm	容量 Capacity μF	耐電壓 Resistance Voltage VV	培林軸承 Pairing Bearing	含油軸承與 培林共用型 Oil Bearing and Pairing Bearing Combined	中間齒輪 Middle Gear
2RK6A - A	2RK6GN - A	6	50 60	100 110	0.3	500 450	500 400	1200 1550	3	250	2GN-□ K	2GN-□	2GN-10X
2RK6A - C	2RK6GN - C	6	50 60	200 220	0.15	500 450	500 400	1200 1500	1.0	400			
3RK15A - A	3RK15GN - A	15	50 60	100 110	0.45	900 800	1250 1000	1200 1500	6.0	250	3GN-□ K	3GN-□	3GN-10X
3RK15A - C	3RK15GN - C	15	50 60	200 220	0.22	900 800	1200 1000	1200 1500	1.5	400			
4RK25A - A	4RK25GN - A	25	50 60	100 110	0.70	1600 1400	2000 1700	1250 1500	8.0	250	4GN-□ K	4GN-□	4GN-10X
4RK25A - C	4RK25GN - C	25	50 60	200 220	0.35	1600 1400	2000 1600	1250 1550	2.0	400			
5RK40A - A	5RK40GN - A	40	50 60	100 110	1.0	3000 2600	3000 2600	1300 1550	12.0	250	5GN-□ K	5GN-□	5GN-10X
5RK40A - C	5RK40GN - C	40	50 60	200 220	0.5	3000 2600	3000 2600	1300 1550	3.0	400			
5RK60A - A	5RK60 <sup>GN</sup> <sub>GU</sub> - A	60	50 60	100 110	1.9	4700 3800	4700 3800	1250 1550	16.0	250	5GN-□ K 5GU-□ K	5GN-□	5GN-10X 5GU-10XK
5RK60A - C	5RK60 <sup>GN</sup> <sub>GU</sub> - C	60	50 60	200 220	0.75	4700 3800	4700 3800	1250 1550	4.0	400			
5RK90A - A	5RK90GU - A	90	50 60	100 110	2.1	6300 5900	7300 5900	1200 1550	25.0	250	5GU-□ K	5GU-□ KB	5GU-10XK
5RK90A - C	5RK90GU - C	90	50 60	200 220	1.1	6300 5900	7300 5900	1200 1500	6.0	400			

## 扭矩表 Gear Head-Torque Table (Kg-cm)

輸出回轉數 rpm	500	300	200	120	100	60	50	30	20	15	10	6	5	3	2	1.5	1
50Hz 減速比 60Hz Reduction Ratio	3	5 6	7.5 9	12.5 15	15 18	25 30	30 36	50 60	75 90	100 120	150 180	250 300	300 360	500 600	750 900	1000 1200	1500 1800
6W	1.0	1.6	2.5	4.1	5	8.1	9.7	16	23	25	25	25	25	25	25	25	25
15W	2.4	4.0	6.0	10	12	19	23	39	50	50	50	50	50	50	50	50	50
25W	4	6.7	10	16	20	32	39	65	80	80	80	80	80	80	80	80	80
40W	6.7	11	16	28	33	54	65	100	100	100	100	100	100	100	100	100	100
60W	10	16	24	40	48	77	93	155	200	200	200	200	200	200	200	200	200
90W	14	23	35	58	69	110	133	200	200	200	200	200	200	200	200	200	200

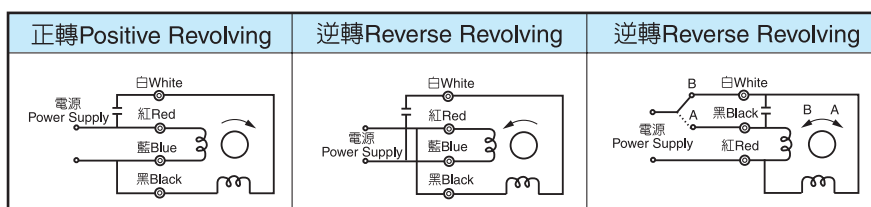
## 鍵尺寸 Key Dimensions



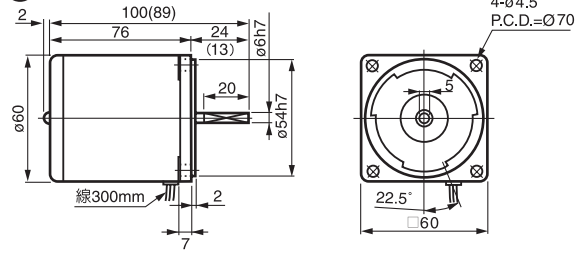
## 結線圖 Line Knotting Chart

(出線四條)

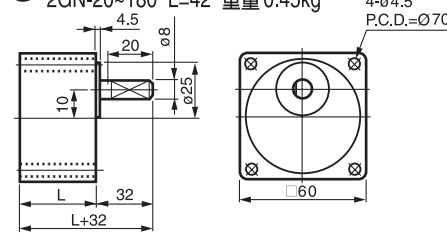
(出線三條)



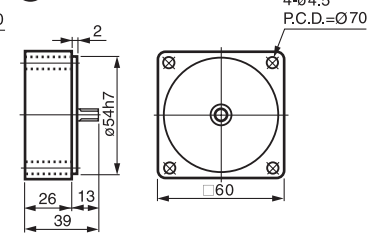
① 2RK6A(GN)-□ 重量 0.8kg



② 2GN-3~18 L=32 重量 0.35kg  
2GN-20~180 L=42 重量 0.45kg

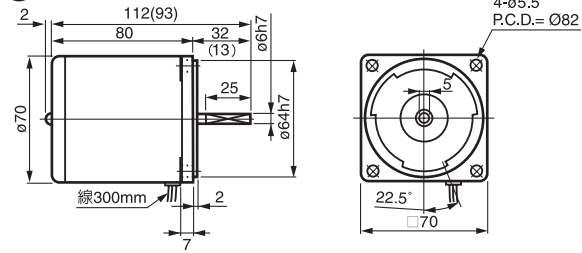


③ 2GN-10X 重量 0.3kg

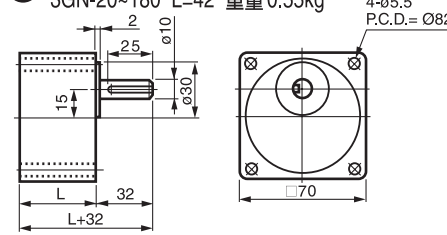


( )内數字係小齒輪軸馬達的數值 ( ) Numbers shown the dimension of the pinion shaft.

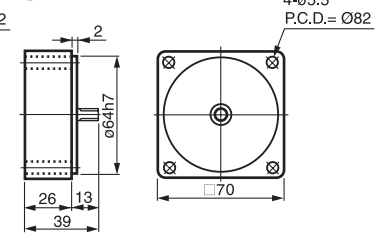
④ 3RK15A(GN)-□ 重量 1.2kg



⑤ 3GN-3~18 L=32 重量 0.45kg  
3GN-20~180 L=42 重量 0.55kg

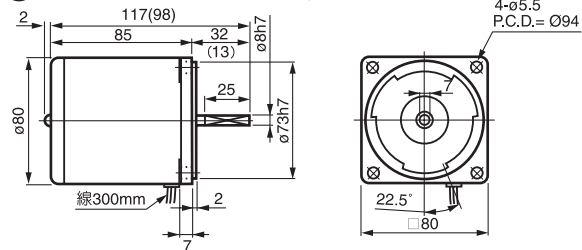


⑥ 3GN-10X 重量 0.35kg

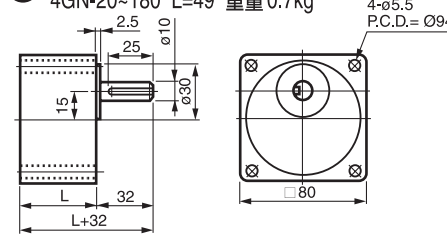


( )内數字係小齒輪軸馬達的數值 ( ) Numbers shown the dimension of the pinion shaft.

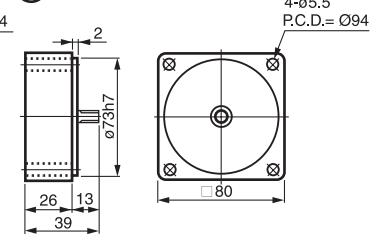
⑦ 4RK25A(GN)-□ 重量 1.65kg



⑧ 4GN-3~18 L=35.5 重量 0.5kg  
4GN-20~180 L=49 重量 0.7kg

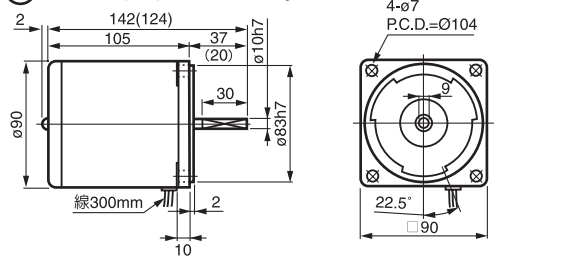


⑨ 4GN-10X 重量 0.45kg

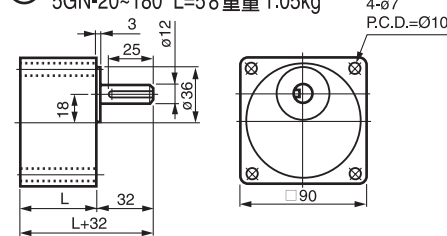


( )内數字係小齒輪軸馬達的數值 ( ) Numbers shown the dimension of the pinion shaft.

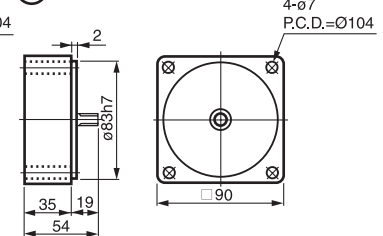
⑩ 5RK40A(GN)-□ 重量 2.5kg



⑪ 5GN-3~18 L=42 重量 0.7kg  
5GN-20~180 L=58 重量 1.05kg

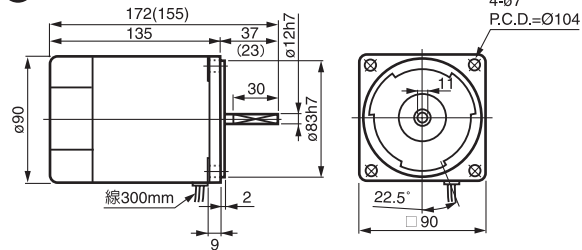


⑫ 5GN-10X 重量 0.6kg

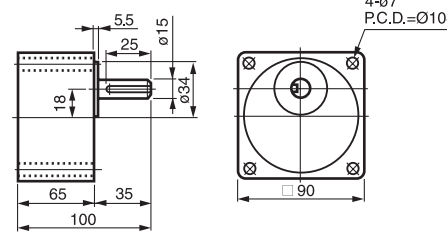


( )内數字係小齒輪軸馬達的數值 ( ) Numbers shown the dimension of the pinion shaft.

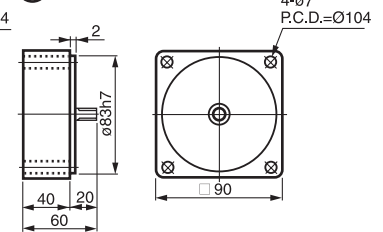
⑬ 5RK60A(GU)-□ 重量 2.6kg



⑭ 5GU-3~180 KB 重量 1.3kg (60W, 90W共用)

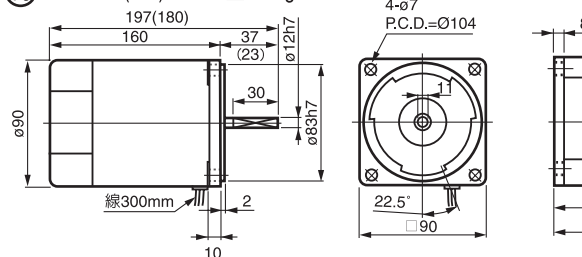


⑮ 5GU-10XK 重量 0.65kg

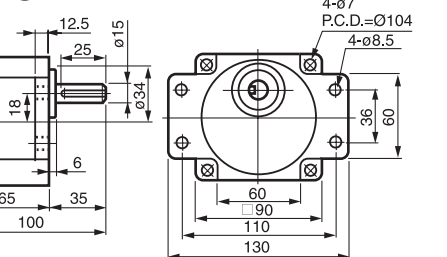


( )内數字係小齒輪軸馬達的數值 ( ) Numbers shown the dimension of the pinion shaft.

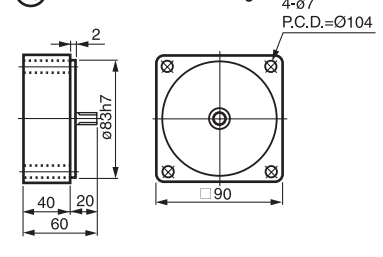
⑯ 5RK90A(GU)-□ 重量 3.4kg



⑰ 5GU-3~180K 重量 1.3kg (60W, 90W共用)



⑱ 5GU-10XK 重量 0.65kg



( )内數字係小齒輪軸馬達的數值 ( ) Numbers shown the dimension of the pinion shaft.

\*120W, 150W - 尺寸圖請參照90W Dimensions of 120W and 150W are same as 90W.

\*以上數值若有變動, 恕不另行通知\* We reserve the right to change without further notice.



# 單相附電磁剎車馬達

## Electromagnetic Brake Motor (Single Phase)

### IKB · RKB 型電磁剎車馬達特性表 Specifications of IKB & RKB Type Motor

馬達型號 Motor Model No.		出力 Force W	周波數 Peripheral Wave No. Hz	電壓 Voltage V	電流 Current A	起動轉矩 Start Turning Moment gcm	定格 Rating		起動電容 Start Condenser		齒輪型號 Gear Model No.					
圓柱形出力軸 Cylindrical Output Shaft	小齒切出力軸 Pinion Cut Output Shaft						轉矩 Turning Moment gcm	回轉數 Revolving No. rpm	容量 Capacity $\mu$ F	耐電壓 Resistance Voltage WV	培林軸承 Pairing Bearing	含油軸承與培林共用型 Oil Bearing and Pairing Bearing Combined	中間齒輪 Middle Gear			
2 IK RK 6A - AB	2 IK RK 6GN - AB	6	50 60	100	0.3	500	420	1200 1450	2.5	250	2GN-□K	2GN-□	2GN-10X			
2 IK RK 6A - CB	2 IK RK 6GN - CB			110		400								200 220	500 400	0.8
3 IK RK 15A - AB	3 IK RK 15GN - AB	15	50 60	100	0.45	900	800	1250 1550	4.0	250	3GN-□K	3GN-□	3GN-10X			
3 IK RK 15A - CB	3 IK RK 15GN - CB			110		850								200 220	900 850	1
4 IK RK 25A - AB	4 IK RK 25GN - AB	25	50 60	100	0.7	1600	1300	1250 1550	6.0	250	4GN-□K	4GN-□	4GN-10X			
4 IK RK 25A - CB	4 IK RK 25GN - CB			110		1500								200 220	1600 1500	1.5
5 IK RK 40A - AB	5 IK RK 40GN - AB	40	50 60	100	1.0	3000	2300	1300 1550	10.0	250	5GN-□K	5GN-□	5GN-10X			
5 IK RK 40A - CB	5 IK RK 40GN - CB			110		2600								200 220	2700 2600	2.5
5 IK RK 60A - AB	5 IK RK 60GN - AB	60	50 60	100	1.4	3200	3300	1300 1550	14.0	250	5GN-□K 5GU-□K 5GU-□KB	5GN-□	5GN-10X 5GU-10XK			
5 IK RK 60A - CB	5 IK RK 60GN - CB			110		3000								200 220	3200 3000	3.5
5 IK RK 90A - AB	5 IK RK 90GU - AB			100		4500							200 110	5200	1300 1550	20.0
5 IK RK 90A - CB	5 IK RK 90GU - CB	110	4500	200 220	5200	1300 1550	5.0	400	5GU-□KB							

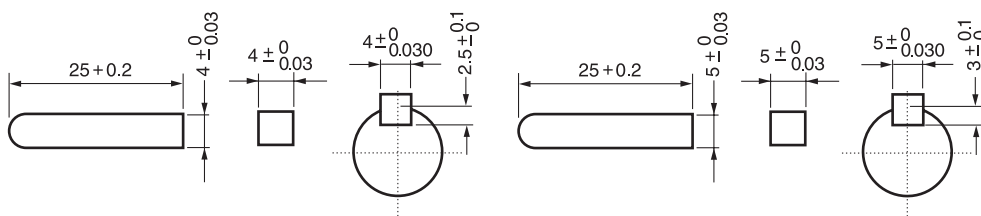
### 扭矩表 Gear Head-Torque Table (Kg-cm)

輸出回轉數 rpm	500	300	200	120	100	60	50	30	20	15	10	6	5	3	2	1.5	1
50Hz 減速比 60Hz Reduction Ratio	3	5	7.5	12.5	15	25	30	50	75	100	150	250	300	500	750	1000	1500
6W	1.0	1.6	2.5	4.1	5	8.1	9.7	16	23	25	25	25	25	25	25	25	25
15W	2.4	4.0	6.0	10	12	19	23	39	50	50	50	50	50	50	50	50	50
25W	4	6.7	10	16	20	32	39	65	80	80	80	80	80	80	80	80	80
40W	6.7	11	16	28	33	54	65	100	100	100	100	100	100	100	100	100	100
60W	10	16	24	40	48	77	93	155	200	200	200	200	200	200	200	200	200
90W	14	23	35	58	69	110	133	200	200	200	200	200	200	200	200	200	200

### 鍵尺寸 Key Dimensions

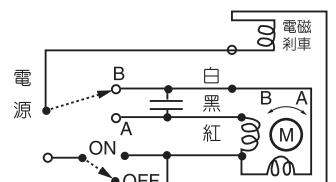
(3GN · 4GN · 5GN)

(5GU)



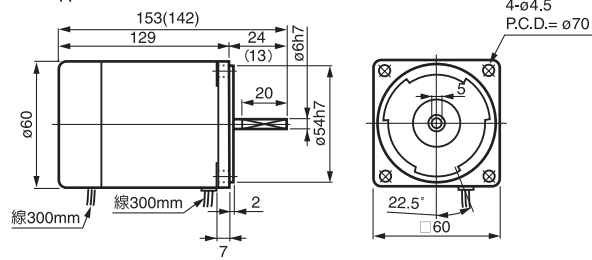
### 結線圖

### Line Knotting Chart

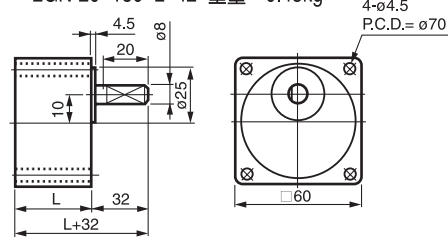


\*以上數值若有變動，恕不另行通知\* We reserve the right to change without further notice.

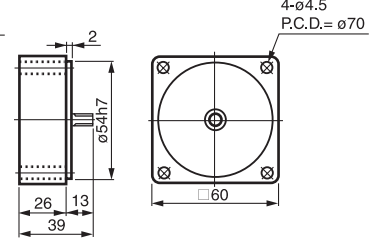
① 2<sub>R</sub>K6A(GN)-口B 重量 1.2kg



② 2GN-3-18 L=32 重量 0.35kg  
2GN-20~180 L=42 重量 0.45kg

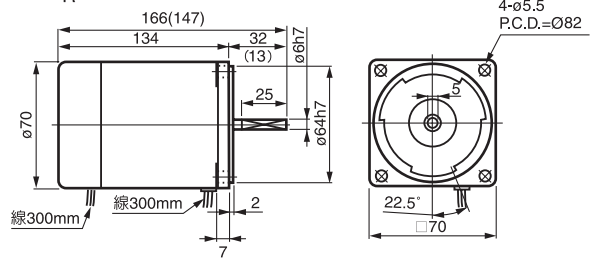


③ 2GN-10X 重量 0.3kg

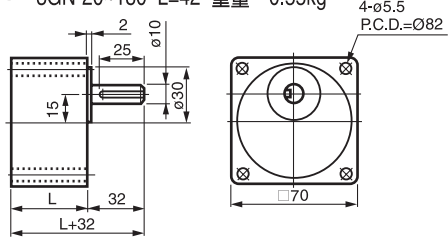


( )内數字係小齒輪軸馬達的數值 ( ) Numbers shown the dimension of the pinion shaft.

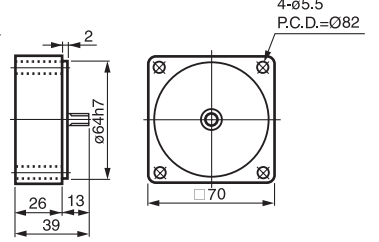
④ 3<sub>R</sub>K15A(GN)-口B 重量 1.6kg



⑤ 3GN-3-18 L=32 重量 0.45kg  
3GN-20~180 L=42 重量 0.55kg

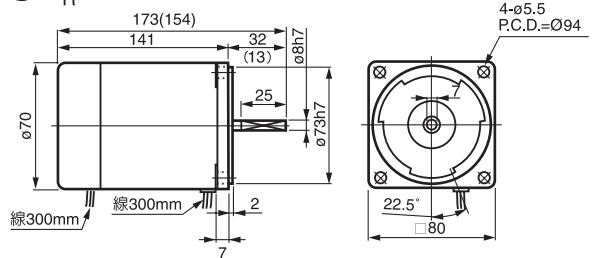


⑥ 3GN-10X 重量 0.35kg

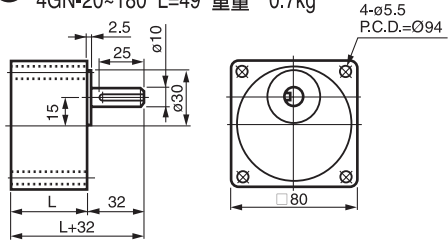


( )内數字係小齒輪軸馬達的數值 ( ) Numbers shown the dimension of the pinion shaft.

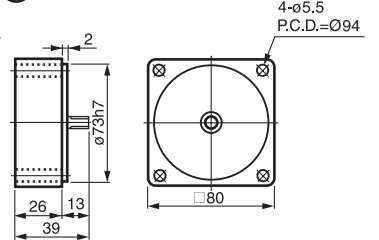
⑦ 4<sub>R</sub>K25A(GN)-口B 重量 2kg



⑧ 4GN-3-18 L=35.5 重量 0.5kg  
4GN-20~180 L=49 重量 0.7kg

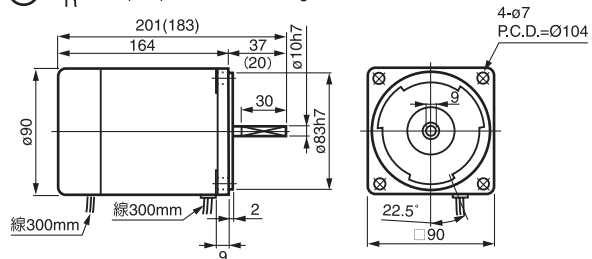


⑨ 4GN-10X 重量 0.45kg

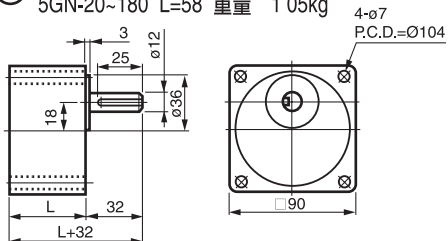


( )内數字係小齒輪軸馬達的數值 ( ) Numbers shown the dimension of the pinion shaft.

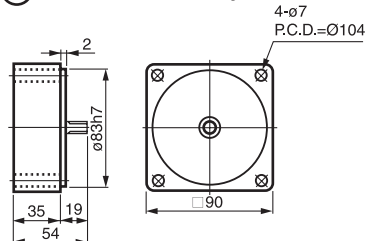
⑩ 5<sub>R</sub>K40A(GN)-口B 重量 3kg



⑪ 5GN-3-18 L=42 重量 0.7kg  
5GN-20~180 L=58 重量 1.05kg

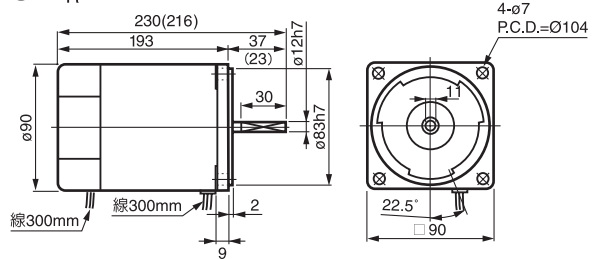


⑫ 5GN-10X 重量 0.6kg

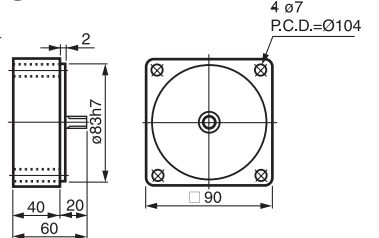
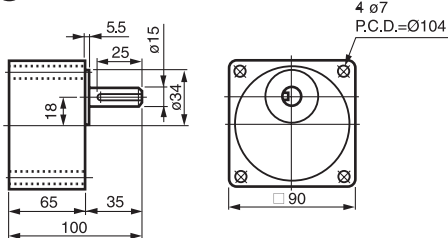


( )内數字係小齒輪軸馬達的數值 ( ) Numbers shown the dimension of the pinion shaft.

⑬ 5<sub>R</sub>K60A(GU)-口B 重量 3.1kg

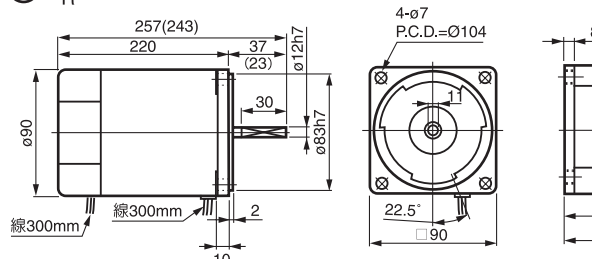


⑭ 5GU-3~180KB 重量 1.3kg (60W, 90W共用) ⑮ 5GU-10XK 重量 0.65kg

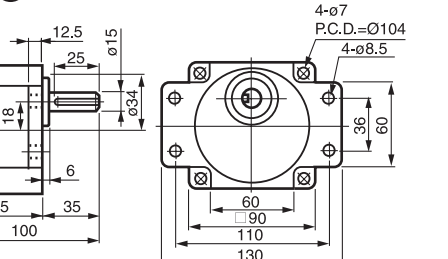


( )内數字係小齒輪軸馬達的數值 ( ) Numbers shown the dimension of the pinion shaft.

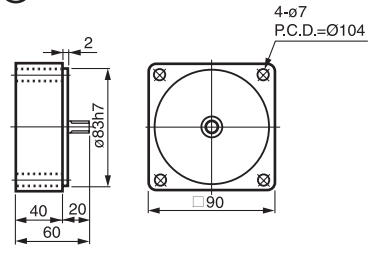
⑯ 5<sub>R</sub>K90A(GU)-口B 重量 4kg



⑰ 5GU-3~180K 重量 1.3kg (60W, 90W共用)



⑱ 5GU-10XK 重量 0.65kg



( )内數字係小齒輪軸馬達的數值 ( ) Numbers shown the dimension of the pinion shaft.

\*120W, 150W - 尺寸圖請參照90W Dimensions of 120W and 150W are same as 90W.

\*以上數值若有變動, 恕不另行通知\* We reserve the right to change without further notice.





# 三相附電磁剎車馬達

## Electromagnetic Brake Motor (3-Phase)

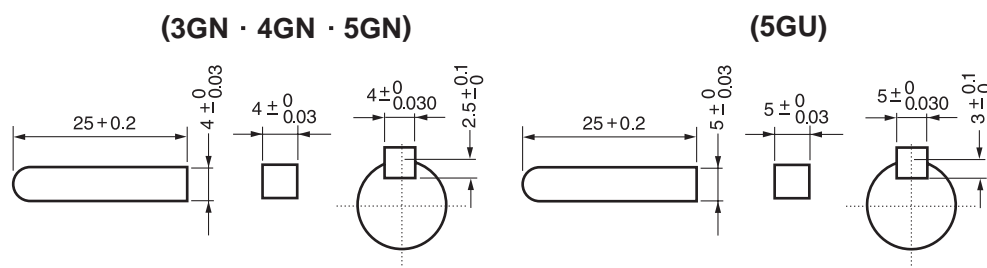
### 三相 IKB · RKB附電磁剎車馬達特性表 Specifications of IKB & RKB Type Motor(3-Phase)

馬達型號 Motor Model No.		出力 Force W	周波數 Peripheral Wave No. Hz	電壓 Voltage V	電流 Current A	起動轉矩 Start Turning Moment gcm	定格 Rating		齒輪型號 Gear Model No.		
圓柱形出力軸 Cylindrical Output Shaft	小齒切出力軸 Pinion Cut Output Shaft						轉矩 Turning Moment gcm	回轉數 Revolving No. rpm	培林軸承 Pairing Bearing	含油軸承與 培林共用型 Oil Bearing and Pairing Bearing Combined	中間齒輪 Middle Gear
4 IK RK 25A - S2B	4 IK RK 25GN - S2B	25	50 60	200 220	0.25	2400 1600	1900 1600	1300 1550	4GN-□ K	4GN-□	4GN-10X
4 IK RK 25A - S3B S4B	4 IK RK 25GN - S3B S4B	25	50 60	380 440	0.16	2400 1600	1900 1600	1300 1550			
5 IK RK 40A - S2B	5 IK RK 40GN - S2B	40	50 60	200 220	0.4	4000 2600	3000 2600	1300 1550	5GN-□ K	5GN-□	5GN-10X
5 IK RK 40A - S3B S4B	5 IK RK 40GN - S3B S4B	40	50 60	380 440	0.2	4000 2600	3000 2600	1300 1550			
5 IK RK 60A - S2B	5 IK RK 60GN - S2B	60	50 60	200 220	0.6	6000 5000	4500 3800	1300 1550	5GN-□ K 5GU-□ K	5GN-□	5GN-10X 5GU-10XK
5 IK RK 60A - S3B S4B	5 IK RK 60GN - S3B S4B	60	50 60	380 440	0.3	6000 5000	4500 3800	1300 1550			
5 IK RK 90A - S2B	5 IK RK 90GU - S2B	90	50 60	200 220	0.8	8500 7000	6800 5700	1300 1550	5GU-□ K	5GU-□ KB	5GU-10XK
5 IK RK 90A - S3B S4B	5 IK RK 90GU - S3B S4B	90	50 60	380 440	0.4	8500 7000	6800 5700	1300 1550			

### 扭矩表 Gear Head-Torque Table (Kg-cm)

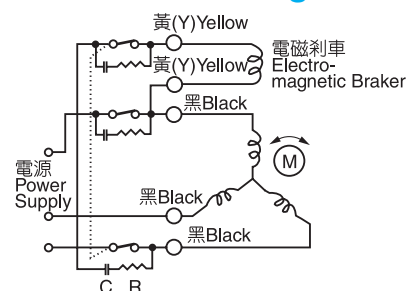
輸出回轉數 rpm	500	300	200	120	100	60	50	30	20	15	10	6	5	3	2	1.5	1
50Hz 減速比 60Hz Reduction Ratio	3	5 6	7.5 9	12.5 15	15 18	25 30	30 36	50 60	75 90	100 120	150 180	250 300	300 360	500 600	750 900	1000 1200	1500 1800
25W	4	6.7	10	16	20	32	39	65	80	80	80	80	80	80	80	80	80
40W	6.7	11	16	28	33	54	65	100	100	100	100	100	100	100	100	100	100
60W	10	16	24	40	48	77	93	155	200	200	200	200	200	200	200	200	200
90W	14	23	35	58	69	110	133	200	200	200	200	200	200	200	200	200	200

### 鍵尺寸 Key Dimensions



### 結線圖

#### Line Knotting Chart







# 單相交流無段變速馬達

## Stepless Variable Speed Control Motor (Single Phase)

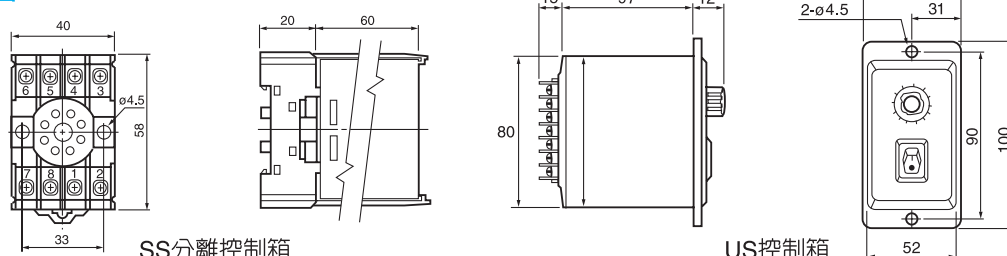
### US型馬達特性表 Specifications of US Type Motor(Single-Phase)

馬達型號 Motor Model No.		最大出力 Force W	電壓 Voltage V	周波數 Peripheral Wave No. Hz	極數 Pole P	可變速度範圍 Variable Speed Range		許容轉矩 Turning Moment gcm		起動轉矩 Start Turning Moment gcm	電流 Current A	消費電力 Consumed Power W	起動電容器 Condenser	
圓出力軸 Cylindrical Output Shaft	斜齒出力軸 Pinion Cut Output Shaft					回轉數 Revolving No. rpm	比 Ratio	1200rpm	90rpm				設定回轉數 Set Revolving No.	
		M206-001	M206-401	6	100 110					50 60	4	90~1400 90~1700	1:15	460
M206-002	M206-402	6	200 220	50 60	4	90~1400 90~1700	1:15	460	250	330	0.15	23	0.8	400
M315-001	M315-401	15	100 110	50 60	4	90~1400 90~1700	1:15	880 660	300	550	0.5	40	4.0	250
M315-002	M315-402	15	200 220	50 60	4	90~1400 90~1700	1:15	880 660	300	550	0.25	40	1	400
M425-001	M425-401	25	100 110	50 60	4	90~1400 90~1700	1:15	1760 1400	450	1200	0.7	60	6.0	250
M425-002	M425-402	25	200 220	50 60	4	90~1400 90~1700	1:15	1760 1400	450	1200	0.35	60	1.5	400
M540-001	M540-401	40	100 110	50 60	4	90~1400 90~1700	1:15	2800 1800	550	1900	1.0	90	10	250
M540-002	M540-402	40	200 220	50 60	4	90~1400 90~1700	1:15	2800 1800	550	1900	0.5	90	2.5	400
M560-001	M560-401 M560-501	60	100 110	50 60	4	90~1400 90~1700	1:15	5000 3500	700	3000	1.8	150	14	250
M560-002	M560-402 M560-502	60	200 220	50 60	4	90~1400 90~1700	1:15	5000 3500	700	3000	0.9	150	3.5	400
M590-001	M590-501	90	100 110	50 60	4	90~1400 90~1700	1:15	6600 5300	1100	4500	2.0	200	20	250
M590-002	M590-502	90	200 220	50 60	4	90~1400 90~1700	1:15	6600 5300	1100	4500	1.0	200	5	400

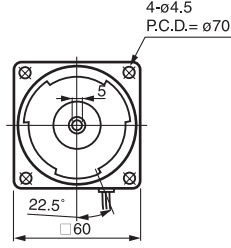
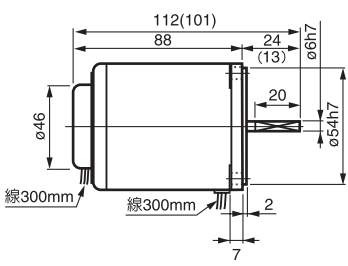
### 扭矩表 Gear Head-Torque Table (Kg-cm)

變化轉速範圍 (轉分) Variable Speed Range (rpm)	M206-001, -201-401 M206-002, -202-402		M315-001, -201-401 M315-002, -202-402		M425-001, -201-401 M425-002, -202-402		M540-001, -201-401 M540-002, -202-402		M560-001, -201-501 M560-002, -202-502		M590-001, -201-501 M590-002, -202-502	
	扭矩 Torque	傳動型 Transmission Type	扭矩 Torque	傳動型 Transmission Type	扭矩 Torque	傳動型 Transmission Type	扭矩 Torque	傳動型 Transmission Type	扭矩 Torque	傳動型 Transmission Type	扭矩 Torque	傳動型 Transmission Type
90~1700	0.3~0.5		0.45~1.2		0.6~1.8		0.8~2.5		1.0~3		1.6~5	
15~283	1.5~2.4	2GN-6	2.4~7	3GN-6	2.9~8.8	4GN-6	3.9~12	5GN-6	4.6~15	5GU-6K	8~24	5GU-6K
5~94.4	4.4~7.3	2GN-18	6.5~18	3GN-18	8.8~26	4GN-18	12~37	5GN-18	16~50	5GU-18K	45~75	5GU-18K
1.5~28.3	12~20	2GN-60	16~	3GN-60	24~71	4GN-60	32~100	5GN-60	45~120	5GU-60K	64~150	5GU-60K
1~18.8	18~25	2GN-90	25~70	3GN-90	36~80	4GN-90	48~100	5GN-90	60~125	5GU-90K	95~180	5GU-90K
0.5~9.4	25	2GN-180	70	3GN-180	80	4GN-180	90~100	5GN-180	100~125	5GU-180K	150~180	5GU-180K

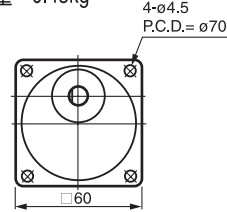
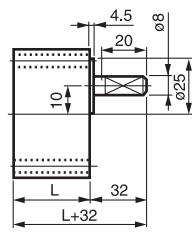
### 控制器尺寸圖 Dimensions of Control Unit



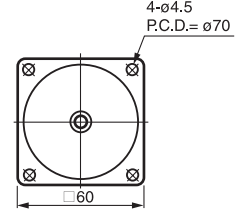
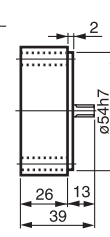
① M206-□ 重量 0.9kg



② 2GN-3~18 L=32 重量 0.35kg  
2GN-20~180 L=42 重量 0.45kg

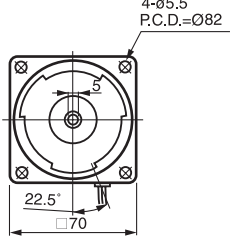
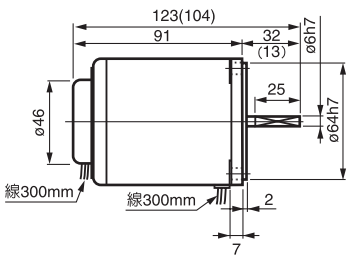


③ 2GN-10X 重量 0.3kg

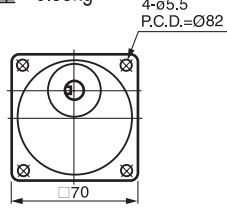
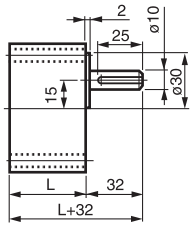


( )内數字係小齒輪軸馬達的數值 ( ) Numbers shown the dimension of the pinion shaft.

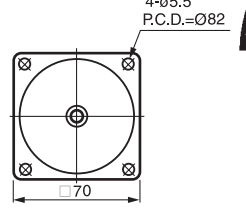
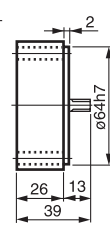
④ M315-□ 重量 1.3kg



⑤ 3GN-3~18 L=32 重量 0.45kg  
3GN-20~180 L=42 重量 0.55kg

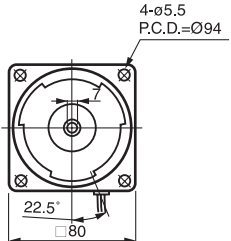
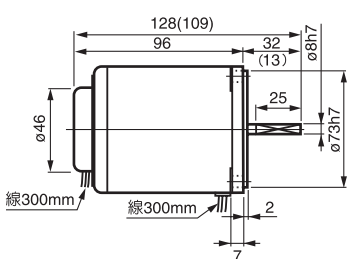


⑥ 3GN-10X 重量 0.35kg

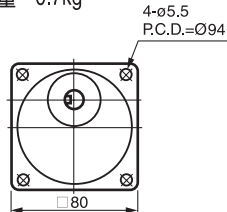
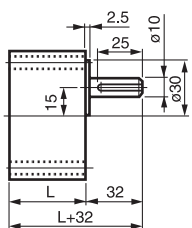


( )内數字係小齒輪軸馬達的數值 ( ) Numbers shown the dimension of the pinion shaft.

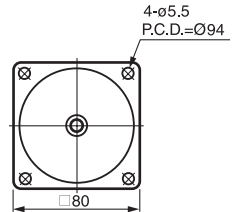
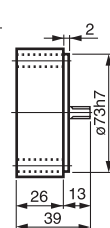
⑦ M425-□ 重量 1.8kg



⑧ 4GN-3~18 L=35.5 重量 0.5kg  
4GN-20~180 L=49 重量 0.7kg

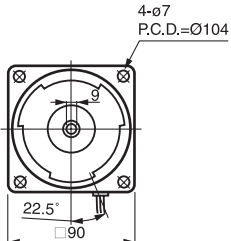
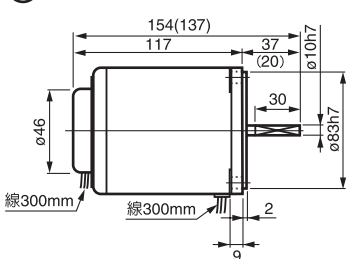


⑨ 4GN-10X 重量 0.45kg

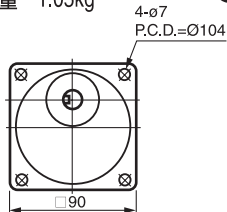
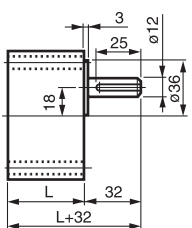


( )内數字係小齒輪軸馬達的數值 ( ) Numbers shown the dimension of the pinion shaft.

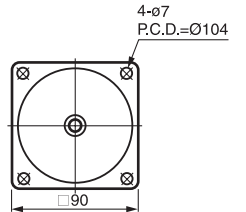
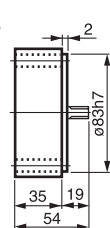
⑩ M540-□ 重量 2.6kg



⑪ 5GN-3~18 L=42 重量 0.7kg  
5GN-20~180 L=58 重量 1.05kg

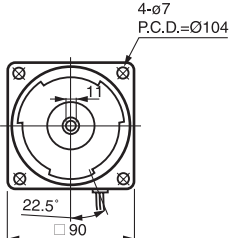
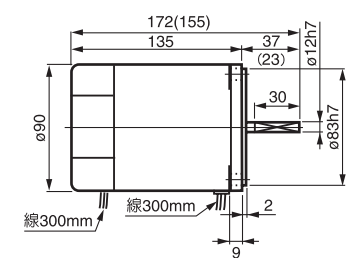


⑫ 5GN-10X 重量 0.6kg

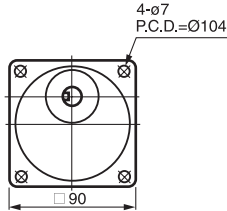
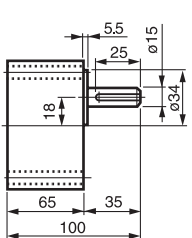


( )内數字係小齒輪軸馬達的數值 ( ) Numbers shown the dimension of the pinion shaft.

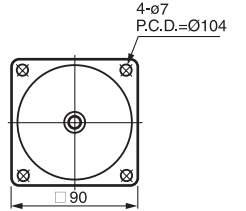
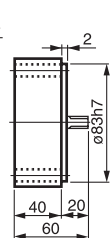
⑬ M560-□ 重量 2.7kg



⑭ 5GU-3~180 KB 重量 1.3kg (60W, 90W共用)

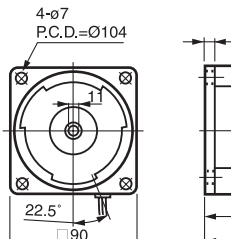
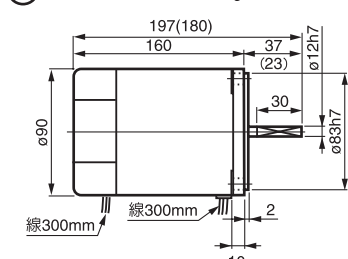


⑮ 5GU-10XK 重量 0.65kg

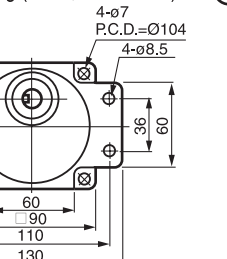
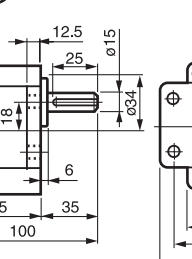


( )内數字係小齒輪軸馬達的數值 ( ) Numbers shown the dimension of the pinion shaft.

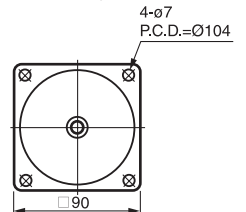
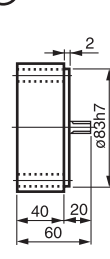
⑯ M590-□ 重量 3.4kg



⑰ 5GU-3~180K 重量 1.3kg (60W, 90W共用)



⑱ 5GU-10XK 重量 0.65kg



( )内數字係小齒輪軸馬達的數值 ( ) Numbers shown the dimension of the pinion shaft.

\*120W, 150W - 尺寸圖請參照90W Dimensions of 120W and 150W are same as 90W.

\*以上數值若有變動, 恕不另行通知\* We reserve the right to change without further notice.







# 單相交流無段變速附電磁剎車馬達

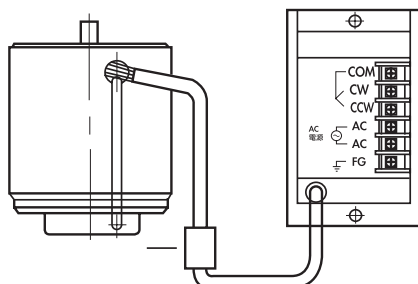
## Stepless Variable Speed Control Motor with Electromagnetic Brake (Single-Phase)

### US型剎車馬達特性表 Specifications of USB Type Motor (Single-Phase)

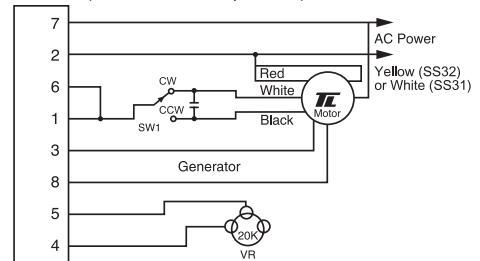
馬達型號 Motor Model No.		最大出力 Force W	電壓 Voltage V	周波數 Peripheral Wave No. Hz	極數 Pole P	可變速度範圍 Variable Speed Range		許容轉矩 Turning Moment gcm		起動轉矩 START Turning Moment gcm	電流 Current A	消耗電力 Consumed Power W	起動電容器 Condenser	
圓出力軸 Cylindrical Output Shaft	斜齒出力軸 Pinion Cut Output Shaft					回轉數 Revolving No. rpm	比 Ratio	設定回轉數 Set Revolving No.					容量 Capacity μF	耐電壓 Resistance Voltage VV
		1200rpm	90rpm											
M206-001B	M206-401B	6	100 110	50 60	4	90~1400 90~1700	1:15	460	250	330	0.3	23	2.5	250
M206-002B	M206-402B	6	200 220	50 60	4	90~1400 90~1700	1:15	460	250	330	0.15	23	0.8	400
M315-001B	M315-401B	15	100 110	50 60	4	90~1400 90~1700	1:15	880 660	300	550	0.5	40	4.0	250
M315-002B	M315-402B	15	200 220	50 60	4	90~1400 90~1700	1:15	880 660	300	550	0.25	40	1	400
M425-001B	M425-401B	25	100 110	50 60	4	90~1400 90~1700	1:15	1760 1400	450	1200	0.7	60	6.0	250
M425-002B	M425-402B	25	200 220	50 60	4	90~1400 90~1700	1:15	1760 1400	450	1200	0.35	60	1.5	400
M540-001B	M540-401B	40	100 110	50 60	4	90~1400 90~1700	1:15	2800 1800	550	1900	1.0	90	10	250
M540-002B	M540-402B	40	200 220	50 60	4	90~1400 90~1700	1:15	2800 1800	550	1900	0.5	90	2.5	400
M560-001B	M560-401B M560-501B	60	100 110	50 60	4	90~1400 90~1700	1:15	5000 3500	700	3000	1.8	150	14	250
M560-002B	M560-402B M560-502B	60	200 220	50 60	4	90~1400 90~1700	1:15	5000 3500	700	3000	0.9	150	3.5	400
M590-001B	M590-501B	90	100 110	50 60	4	90~1400 90~1700	1:15	6600 5300	1100	4500	2.0	200	20	250
M590-002B	M590-502B	90	200 220	50 60	4	90~1400 90~1700	1:15	6600 5300	1100	4500	1.0	200	5	400

### 接線說明 Line Knotting Chart

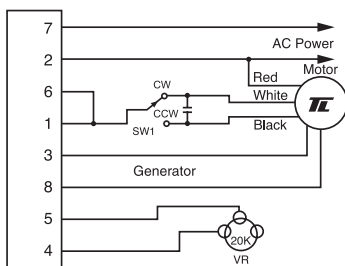
■ US正逆轉控速(接線圖)  
US speed control Unit ( Line Knotting Chart)



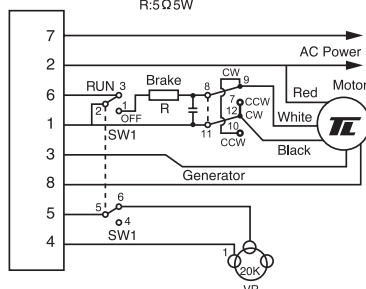
■ SS31/SS32 (B)速度控制正逆轉加電磁剎車接線圖  
SS speed control with electromagnetic brake  
( Bi Directional Operation)



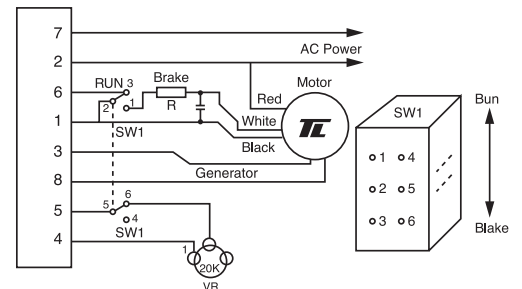
■ SS31/SS32速度控制正逆轉接線圖  
SS speed control  
( Bi Directional Operation)



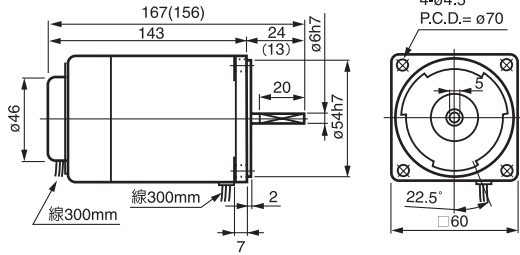
■ SS31/SS32 (R)速度控制正逆轉加電子剎車接線圖  
SS speed control with electronic brake  
( Bi Directional Operation)  
R:5Ω5W



■ SS31/SS32 (R)速度控制加電子剎車接線圖  
SS speed control with electronic brake  
R:5Ω5W

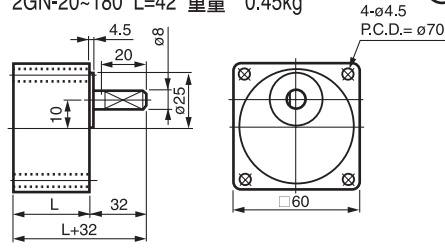


① M206-□B 重量 1.2kg

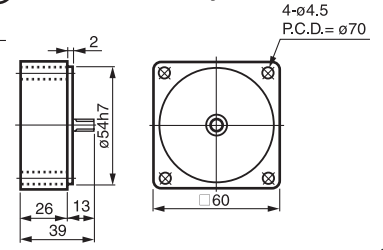


( ) 內數字係小齒輪軸馬達的數值 ( ) Numbers shown the dimension of the pinion shaft.

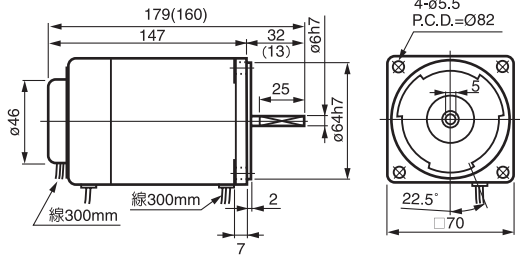
② 2GN-3~18 L=32 重量 0.35kg  
2GN-20~180 L=42 重量 0.45kg



③ 2GN-10X 重量 0.3kg

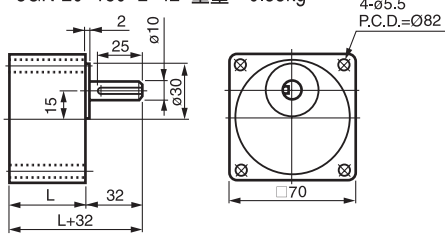


④ M315-□B 重量 1.1kg

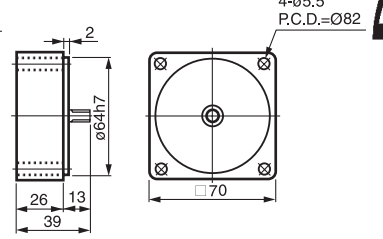


( ) 內數字係小齒輪軸馬達的數值 ( ) Numbers shown the dimension of the pinion shaft.

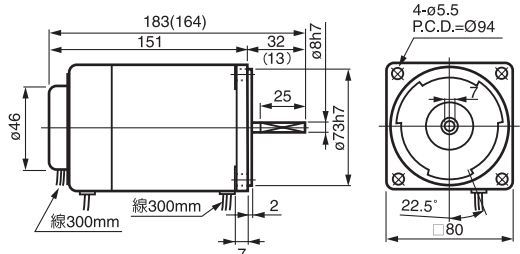
⑤ 3GN-3~18 L=32 重量 0.45kg  
3GN-20~180 L=42 重量 0.55kg



⑥ 3GN-10X 重量 0.35kg

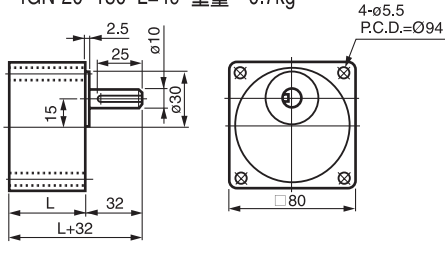


⑦ M425-□B 重量 1.6kg

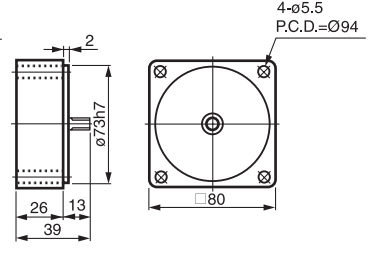


( ) 內數字係小齒輪軸馬達的數值 ( ) Numbers shown the dimension of the pinion shaft.

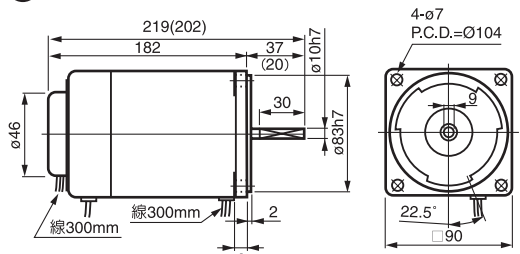
⑧ 4GN-3~18 L=35.5 重量 0.5kg  
4GN-20~180 L=49 重量 0.7kg



⑨ 4GN-10X 重量 0.45kg

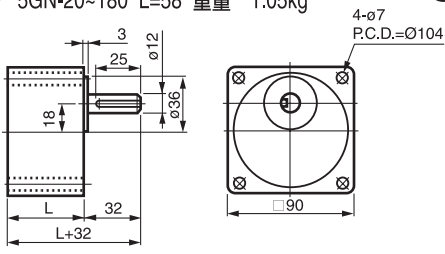


⑩ M540-□B 重量 3kg

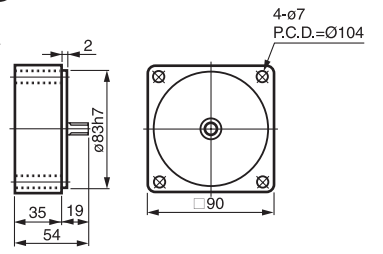


( ) 內數字係小齒輪軸馬達的數值 ( ) Numbers shown the dimension of the pinion shaft.

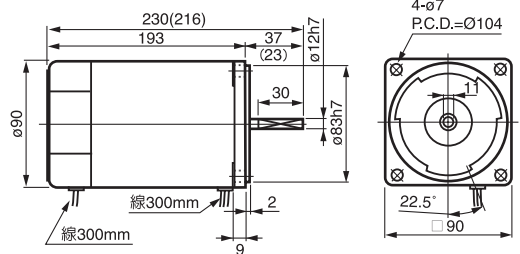
⑪ 5GN-3~18 L=42 重量 0.7kg  
5GN-20~180 L=58 重量 1.05kg



⑫ 5GN-10X 重量 0.6kg

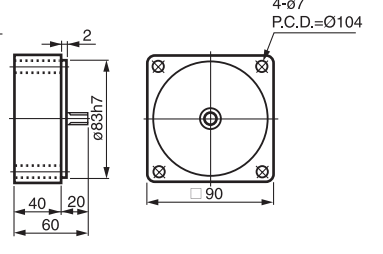
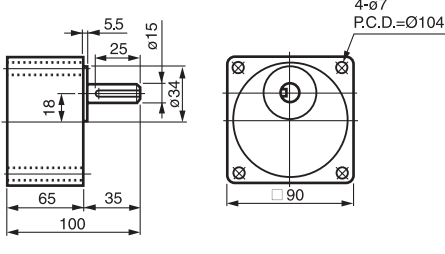


⑬ M560-□B 重量 3.1kg

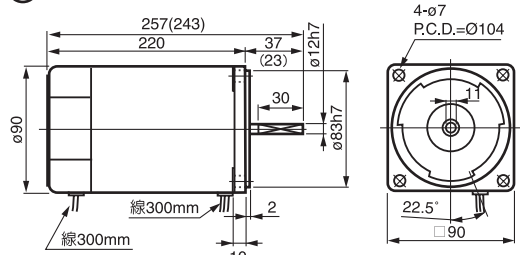


( ) 內數字係小齒輪軸馬達的數值 ( ) Numbers shown the dimension of the pinion shaft.

⑭ 5GU-3~180KB 重量 1.3kg (60W, 90W共用) ⑮ 5GU-10XK 重量 0.65kg

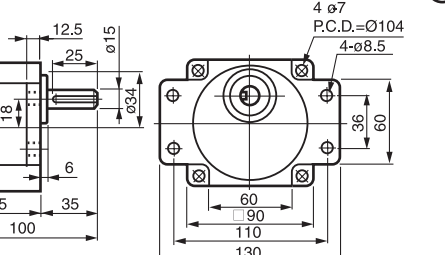


⑯ M590-□B 重量 4kg

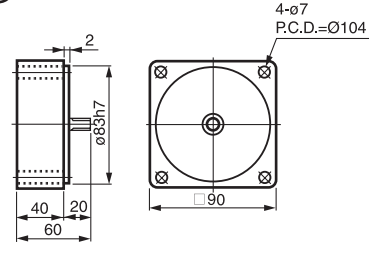


( ) 內數字係小齒輪軸馬達的數值 ( ) Numbers shown the dimension of the pinion shaft.

⑰ 5GU-3~180K 重量 1.3kg (60W, 90W共用)



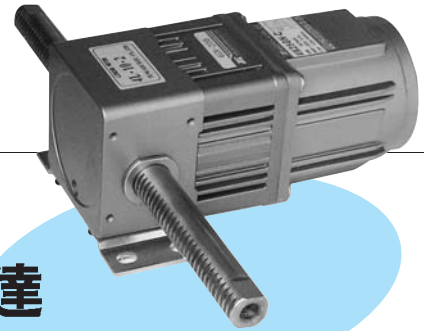
⑱ 5GU-10XK 重量 0.65kg



\*120W, 150W - 尺寸圖請參照90W Dimensions of 120W and 150W are same as 90W.

\*以上數值若有變動, 恕不另行通知 We reserve the right to change without further notice.

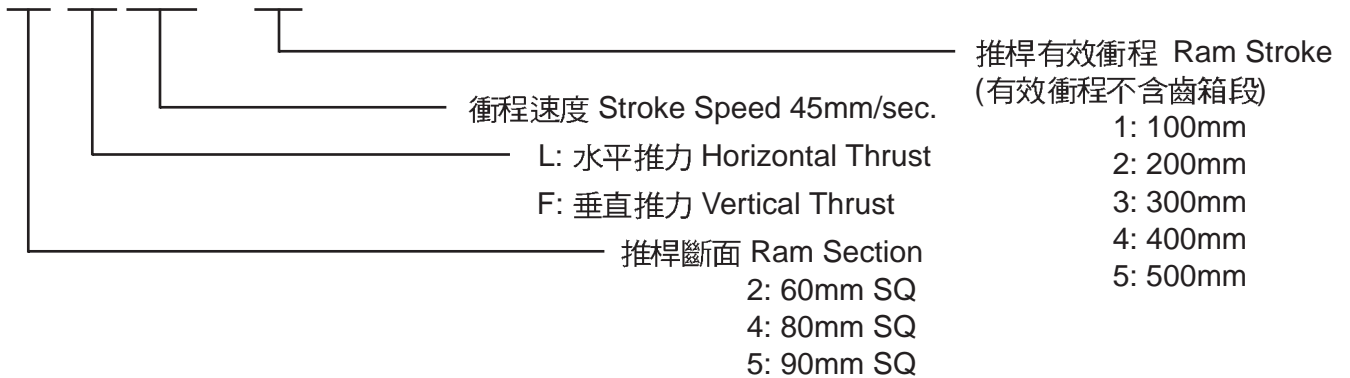
2



# GNT · GUT 直線型減變速馬達

## Linear Type Gear Head with Motor

**4 L 45 - 3**

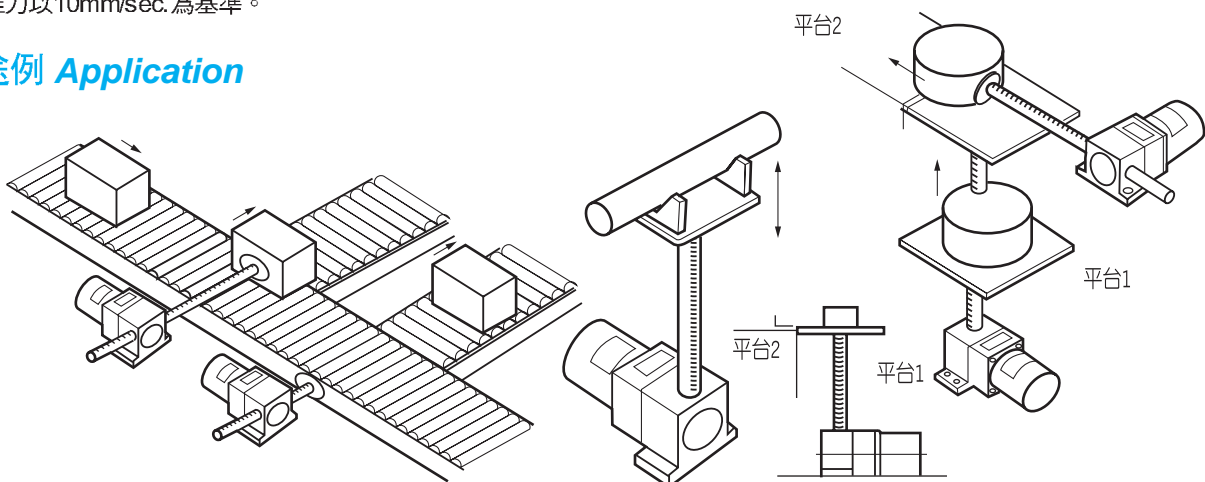


### 直線型齒輪箱特性表 Specifications of GNT (GUT) Type Gear Head with Motor

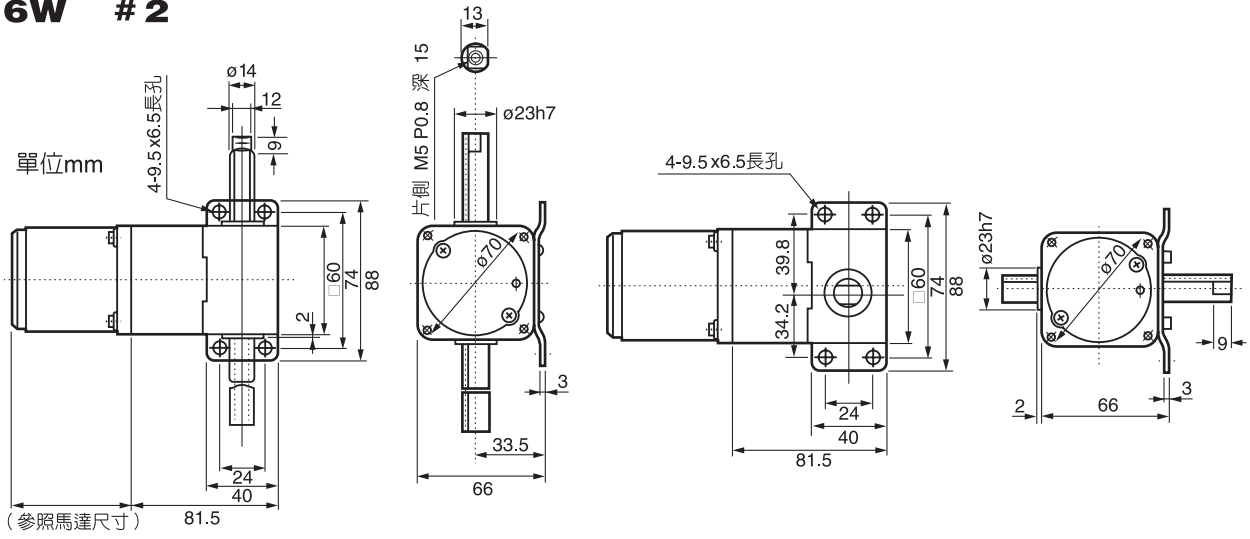
型號 Model No.	排桿座重量 Weight (kg)	配合馬達機種 Applicable Motor	最大推力 Max. Thrust (kg)	基本速度 Speed (mm/sec)	直吊荷重 Permissible O.H.L. (kg)	衝程 Stroke (mm)	排桿重量 Weight (kg)	衝程 Stroke (mm)	排桿重量 Weight (kg)
2 <sub>F</sub> <sup>L</sup> -□-□	0.35		20	10	3	100	0.19	400	0.53
				20		200		500	
				30		300		600	
				40					
				50					
4 <sub>F</sub> <sup>L</sup> -□-□	0.65		70	10	5	100	0.37	500	1.34
				20		200		600	
				30		300		700	
				40		400		800	
				50					
5 <sub>F</sub> <sup>L</sup> -□-□	0.87		100	10	8	100	0.73	500	2.15
				20		200		600	
				30		300		700	
				40		400		800	
				50					
6 <sub>F</sub> <sup>L</sup> -□-□	2		140	10	8	100	0.73	500	2.15
				20		200		600	
				30		300		700	
				40		400		800	
				50					

※ 最大推力以10mm/sec.為基準。

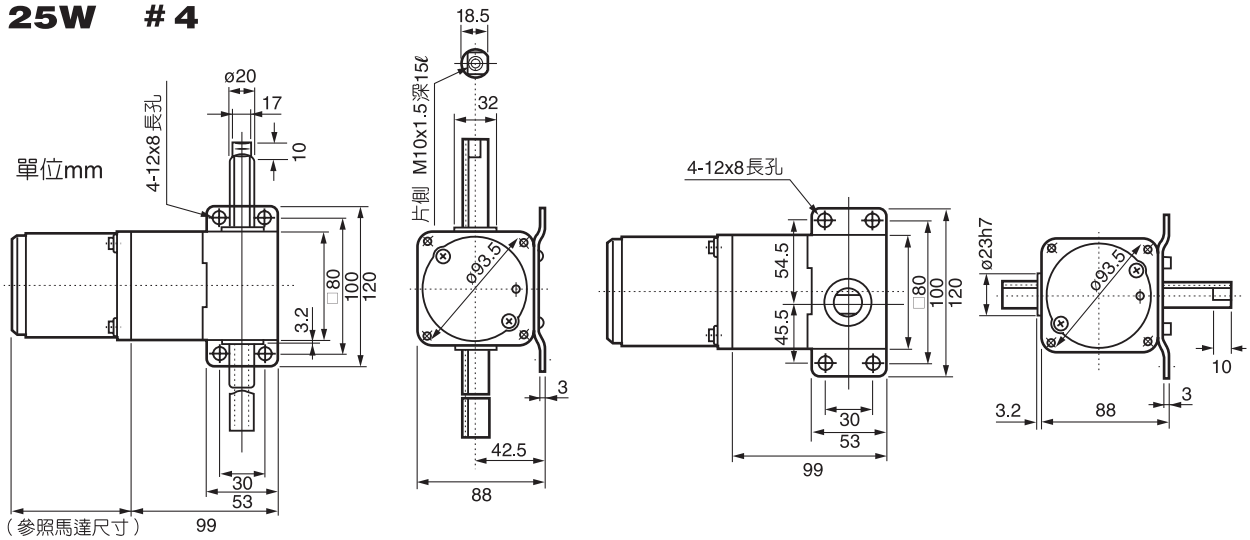
### 用途例 Application



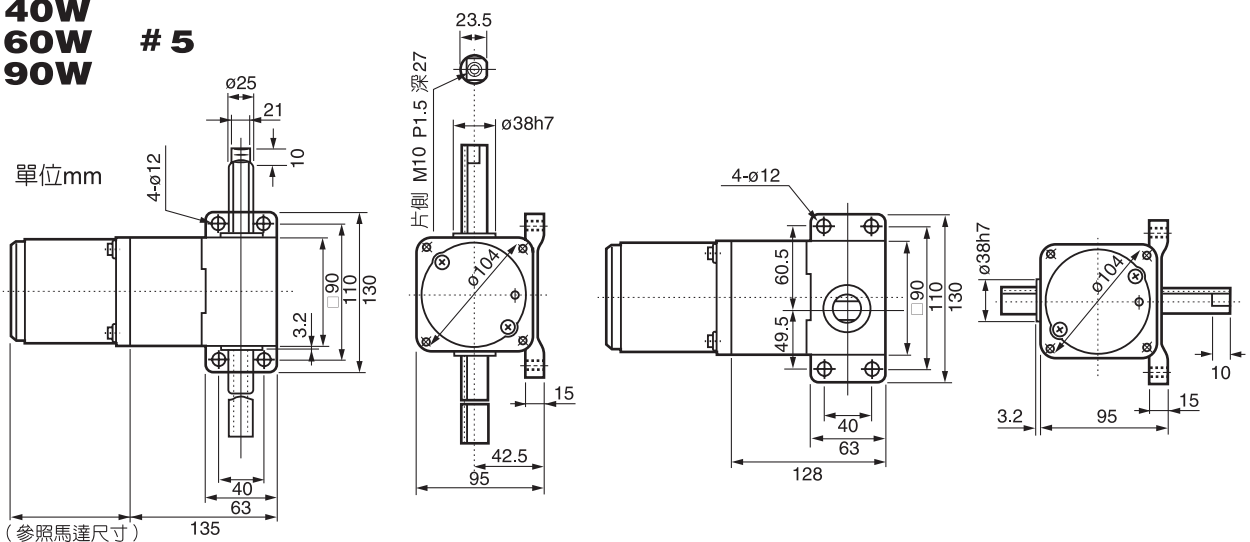
**6W # 2**



**25W # 4**



**40W  
60W  
90W # 5**



\*以上數值若有變動，恕不另行通知\* We reserve the right to change without further notice.



# DM 型永磁性直流減速馬達

## DM Type Permanent Magnet DC Motor

DMS-08, 09, 12

DM調速控制器  
(適用DC90V馬達)

### DM 08 GN - 90 - □

轉速 1800, 3000 RPM

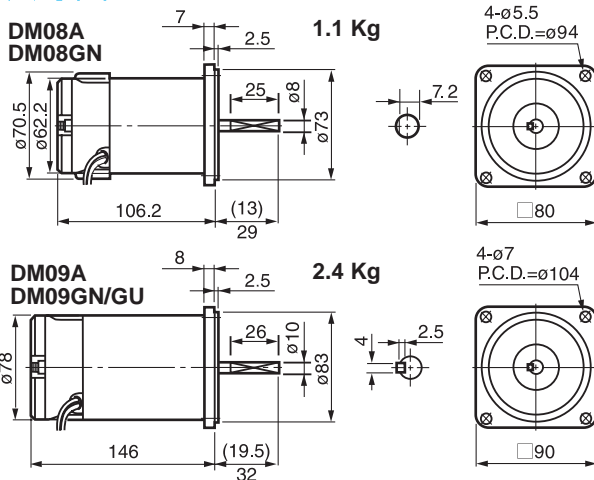
電壓 Voltage 12V, 24V, 90V

齒輪 Pinion Shaft: A 圓軸 Cylindrical  
GN (GU) 斜齒軸 Pinion cut

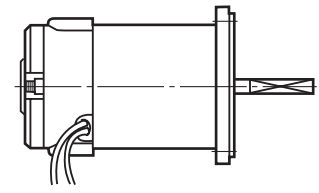
馬力代號 HP: 08(30W), 09(60W), 12(120W)

永磁式直流馬達 Permanent Magnet DC Motor

### 尺寸圖 Dimensions Chart



### 接線圖 Line Knotting Chart



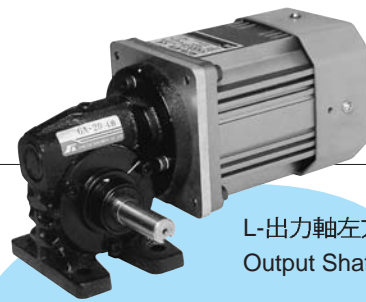
Red 紅 Black (正反轉紅黑對調)  
Normal/Reversible change by the red wire & black

( )內數字係齒輪馬達尺寸 ( ) Numbers shown the dimension of the gear motor

### 馬達特性 Specifications of DM Type Motor

馬達型號 Motor Model No.		出力 Output Force	電壓 Voltage	電流 Current	回轉數 Revolution	扭力 Torque	配合齒箱規格 Arrange Model of Gear Box
圓軸 Cylindrical Output Shaft	斜齒軸 Pinion Cut Output Shaft	W	V	A	rpm	Kg-cm	
DM08-A	DM08-GN□	30	12/24	5.6/2.8	3000	1.2	4GN-□ 4GN-□ K
DM09-A	DM09-GU/GN	60	12/24	9/4.5	3000	2.8	5GU-□K 5GN-□ K
DM12-A	DM12-GU□	120	12/24	14/7	3000	4.3	5GU-□K PL型 PF型
DM08-A	DM08-GN□	30	12/24	3.8/1.8	1800	1.8	4GN-□ 4GN-□ K
DM09-A	DM09-GU/GN	60	12/24	7.5/3.8	1800	3.5	5GU-□K 5GN-□ K
DM12-A	DM12-GU□	120	12/24	11/5.8	1800	6.5	5GU-□K 5GU-□KB PL型 PF型
DM08-A	DM08-GN□	30	90	0.4	1800	1.8	4GN-□ 4GN-□ K
DM09-A	DM09-GU/GN	60	90	0.8	1800	3.5	5GU-□K 5GN-□ K
DM12-A	DM12-GU□	120	90	1.4	1800	6.5	5GU-□K 5GU-□KB PL型 PF型





L-出力軸左方圖  
Output Shaft in the Left

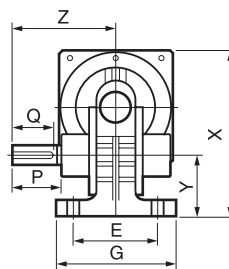
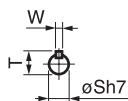
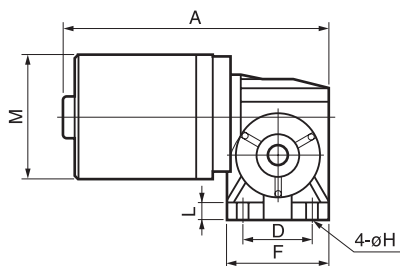
# GA型渦輪減速馬達

## Worm Gear Reducer with Motor

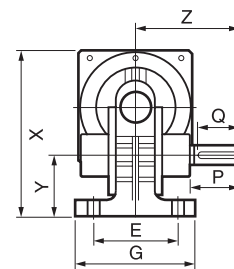
**GA U 40 - 60 A B** □

- L-左出力軸 Output Shaft in the Left
- R-右出力軸 Output Shaft in the Right
- B-附電磁剎車 With Electromagnetic Brake
- T-附端子箱 With Terminal Box
- A-單相 Single Phase 100V~110V
- C-單相 Single Phase 200V~220V
- S<sub>2</sub>: 三相 220V, S<sub>3</sub>: 三相220/380V, S<sub>4</sub>: 三相 220/440V
- 減速比 Gear Ratio 5, 10, 15, 20, 30, 40, 50, 60
- 馬力 HP 40W, 60W, 90W, 100W, 200W
- U: 無段變速馬達 Variable Speed Control Motor
- I: 連續運轉馬達 Induction Motor
- R: 定格30分馬達 Reversible Motor
- D: 直流馬達 DC Motor
- 渦輪代號 Worm Gear Type

### 尺寸圖 Dimension Chart



R-出力軸右方圖  
Output Shaft in the Right



L-出力軸左方圖  
Output Shaft in the Left

### GA尺寸表 Dimensions

(圖示為由馬達看向渦輪的方向)

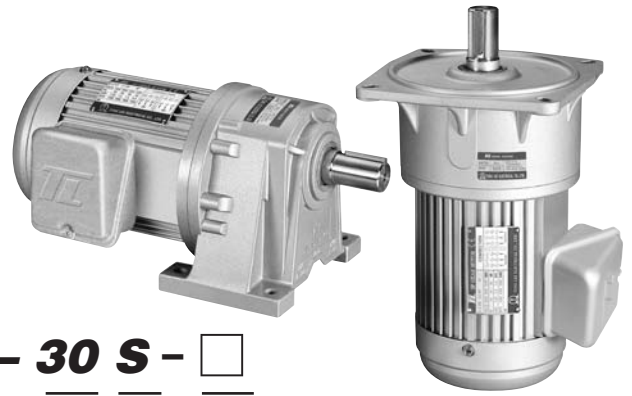
型號 Model No.	重量 Weight (Kg)	減速比 Gear Ratio	A	D	E	F	G	H	L	M	X	Y	Z	出力軸端 Output Shaft					渦座重量 (Kg)
														P	Q	S	T	W	
GAI-40-□-□	4.25	1/5-1/60	198 (248)	50	60	75	87	9	10	90	118	43.5	73	40	30	14	16.5	5	配小渦座 1.8
GAI-60-□-□	4.35	1/5-1/60	230 (288)	50	60	75	87	9	10	90	118	43.5	73	40	30	14	16.5	5	
GAI-90-□-□	6.7	1/51/60	270 (330)	65	90	92.8	112	10	10	90	160	56.5	97	52.6	40	16	18.5	5	配大渦座 3.5
GAI-100-□-□	6.4	1/5-1/60	255 (300)	65	90	92.8	112	10	10	126	160	56.5	97	52.6	40	16	18.5	5	
GAI-200-□-□	7.2	1/5-1/60	285 (330)	65	90	92.8	112	10	10	126	160	56.5	97	52.6	40	16	18.5	5	

( )為附剎車尺寸

( ) Numbers shown the dimension of the brake

\*以上數值若有變動，恕不另行通知\* We reserve the right to change without further notice.

# 馬達減速機型號解說 (GL, GF, PL, PF 規格)



- PL-臥式馬達外殼鋁合金型  
Horizontal Aluminum alloy motor shell
- PF-立式馬達外殼鋁合金型  
Vertical Aluminum alloy motor shell
- GL-臥式馬達外殼鋼板型 (已停產)  
Horizontal Steel motor shell
- GF-立式馬達外殼鋼板型 (已停產)  
Vertical Steel motor shell
- PLD-臥式雙軸型  
Horizontal dual-shaft type
- PFD-立式雙軸型  
Vertical dual-shaft type
- PLK-臥式入力自配型  
Horizontal self-contained motor type
- PFK-立式入力自配型  
Vertical self-contained motor type

**PL 22 - 200 - 30 S - □**

出力軸  
Output Shaft :  
ø18, ø22, ø28, ø32,  
ø40, ø50

馬力 HP:  
100W, 200W, 400W, 750W,  
1500W, 2200W, 3700W

減速比 Ratio: 1/30

B-附電磁剎車  
W/Electromagnetic  
Brake

A: 單相 Single Phase 110V  
C: 單相 Single Phase 220V  
S2: 三相 3-Phase 220V  
S3: 三相 3-Phase 220/380V  
S4: 三相 3-Phase 220/440V

## 馬達及安全剎車器特性表 Specifications of PL, PF Type Motor & Brake

相 Phase	馬力 KW	極數 P	電壓 VOLT	頻率 Hz	定格 RATING			絕緣 Class	扭矩 Kgfm	釋放時間 Release Time			調整間隙 Adjust Gap		附安全剎車器 With Brake		
					轉速 R.P.M	電流 AMP	轉矩 Kg-m			交流一切斷 AC Switch	直流別切 DC Switch	規定值 Specified Value	限界值 Boundary Value	剎車電壓 Brake Volt	整流電壓 Input Volt	使用次數 Operation Times	
三相 3	0.1	4P	220/380	60/50	1680/1380	0.8/0.46	0.058/0.071	E/F	0.1	0.1	0.06	0.3	0.7	DC90V	AC200~240V	10 times/min	
	0.2		220/380	60/50	1680/1380	1.2/0.7	0.116/0.142	E/F	0.2	0.07	0.03	0.3	0.7				
	0.4		220/380	60/50	1680/1400	2.1/1.2	0.232/0.278	E/F	0.4	0.10	0.03	0.3	0.7				
	0.75		220/380	60/50	1680/1400	3.6/2.1	0.43/0.52	E/F	0.8	0.12	0.05	0.4	1.0				
	1.5		220/380	60/50	1680/1420	6.1/3.5	0.87/1.03	E/F	1.6	0.14	0.05	0.4	1.0				
	2.2		220/380	60/50	1680/1420	9.5/5.5	1.27/1.51	E/F	2.5	0.15	0.03	0.4	1.0				
單相 1	0.1	4P	110/220	60/50	1680/1380	2/1	0.058/0.071	E	0.1	0.1	0.06	0.3	0.7	DC90V	AC-100~110V AC-200~240V	10 times/min	
	0.2		110/220	60/50	1680/1380	4/2	0.116/0.142	E	0.2	0.07	0.03	0.3	0.7				
	0.4		110/220	60/50	1680/1400	8/4	0.232/0.278	E	0.4	0.10	0.03	0.3	0.7				
	0.75		110/220	60/50	1680/1400	12/6	0.43/0.52	E	0.8	0.12	0.15	0.4	1.0				

## 減速機輸出特性表 Specifications of Gear Reducer

減速比 Gear Ratio	出力轉速 Out. rpm		0.1KW			0.2KW			0.4KW			0.75KW			1.5KW			2.2KW									
	50Hz	60Hz	出力軸容許扭力荷重			出力軸容許扭力荷重			出力軸容許扭力荷重			出力軸容許扭力荷重			出力軸容許扭力荷重			出力軸容許扭力荷重									
	Type	Type	型號	50Hz	60Hz	O.H.L.	型號	50Hz	60Hz	O.H.L.	型號	50Hz	60Hz	O.H.L.	型號	50Hz	60Hz	O.H.L.	型號	50Hz	60Hz	O.H.L.					
5	300	360	18	0.31	0.26	60	18	0.62	0.51	60	22	1.2	1	90	32	4.3	1.9	130	32	4.8	3.5	180	40	6.6	5.5	220	
10	150	180		0.62	0.51	90		1.2	1	90		2.5	2.1	120		2.6	3.9	180		8.8	7.1	250		13.2	10.7	320	
12.5	120	144		0.77	0.66	100		1.54	1.24	100		3.1	2.5	130		5.7	4.9	190		11	8.9	290		16.5	13.3	340	
15	100	120		0.93	0.77	100		1.85	1.5	100		3.7	2.9	140		6.9	5.8	220		13.2	10.7	290		19.8	16	360	
20	75	90		1.2	1	120		2.47	1.99	120		4.94	4	150		9.3	7.7	240		17.6	14.2	330		26.5	21.4	410	
25	60	72		1.5	1.3	130		3	2.49	130		6.17	4.9	170		11.6	9.6	250		22.1	17.8	390		33.1	26.7	480	
30	50	60		1.9	1.5	140		3.7	2.99	180		7.41	5.9	260		13.9	11.6	410		26.5	21.4	520		39.7	32.1	710	
40	37.5	45		2.4	2	150		4.94	3.99	190		9.88	7.98	290		17.9	14.9	430		35.3	28.5	600		53	42.8	740	
50	30	36		3	2.5	160		6.17	4.98	200		12.3	9.97	320		22.4	18.7	470		44.2	35.7	720		66.3	53.3	880	
60	25	30		3.6	3	220		7.4	5.98	220		14.8	11.9	350		26.9	22.4	560		53	42.8	720		79.5	64.2	1000	
75	20	24		4.6	3.7	220		9.2	7.5	220		18.5	14.9	350		35.1	28.3	560		66.3	53.5	720		99.4	80.3	1000	
90	16.6	20		5.5	4.5	250		11.1	9	250		22.2	17.9	350		42.1	34	600		79.5	64.2	720		119.3	96.3	1000	
100	15	18		6	5	250		12.3	9.9	250		24.7	19.9	350		46.8	37.8	600		88.4	71.4	720		132.6	107.1	1000	
120	12.5	15		7.2	6	250		14.8	11.9	340		29.6	23.9	600		58.4	47.3	720		106	85.6	1000					
150	10	12		9.2	7.5	250		18.5	14.9	350		37	29.9	600		70.2	56.7	720		132.6	107.1	1000					
180	8.3	10		11	9	250		22.2	17.9	350		44.4	35.9	600		84.2	68	720		132.6	107.1	1000					
200	7.5	9		11.9	10	250		24.7	19.9	350		49.4	39.9	600		93.6	75.6	720		132.6	107.1	1000					
300	5	6		17.5	14.9	350		35.1	28.3	600		70.2	56.7	720		132.6	107.1	1000									
1200	1.25	1.5		58.5	47.6	350		70.2	56.7	600		70.2	56.7	720		132.6	107.1	1000									
1800	0.83	1		58.5	47.6	350		70.2	56.7	600		70.2	56.7	720		132.6	107.1	1000									

\*以上數值若有變動，恕不另行通知\* We reserve the right to change without further notice.

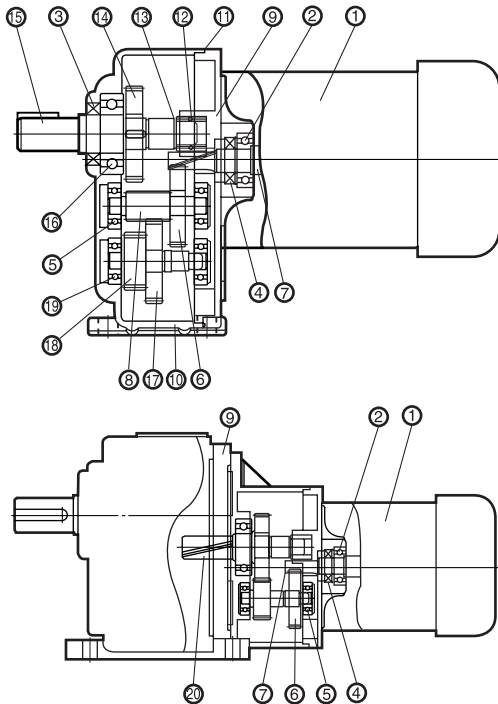
### 減速機外殼材質表 Shell Material

型號 Type	材質 Material
18	ADC 12 (鋁合金 Aluminum)
22	ADC 12 (鋁合金 Aluminum)
28	ADC 12 (鋁合金 Aluminum)
32	ADC 12 (鋁合金 Aluminum)
40	FC 25 (銑鐵 Steel)
50	FC 25 (銑鐵 Steel)

### 油量表 Oil Capacities

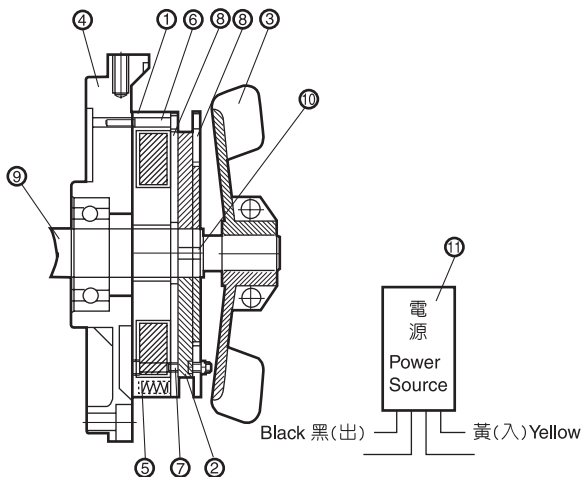
型號 Type	注油量 g	潤滑 Lubrication
18	180	HT-750高溫齒輪油
22	250	
28	500	
32	650	
40	900	
50	1200	

### 齒輪馬達減速機結構圖 Gear Reducer Structure



編號 No.	零件名稱 Name of Parts
1	馬達 Motor
2	馬達軸承 Motor Bearing
3	油軸封(出) Oil Seal (Out)
4	油軸封(入) Oil Seal (In)
5	二段側軸承 2nd Stage Bearing
6	一段側齒輪 1st Stage Gear
7	馬達小齒輪軸 Motor Pinion Shaft
8	二段側小齒輪軸 2nd Stage Pinion Shaft
9	本體蓋 Body Cover
10	本體 Body
11	油封膠圈 "O" Ring
12	出力軸尖軸承 Needle Bearing (Sleeve)
13	推力墊圈 Thrust Washer
14	出力齒輪 Output Gear
15	出力軸 Output Shaft
16	出力軸軸承 Output Shaft Bearing
17	二段側齒輪 2nd Stage Gear
18	三段側小齒輪軸 3rd Stage Pinion
19	三段側軸承 3rd Stage Bearing
20	中間段齒輪 Middle Stage Gear

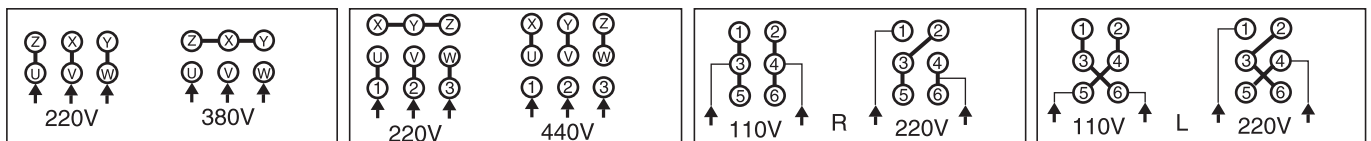
### 安全剎車器結構圖 Brake Structure



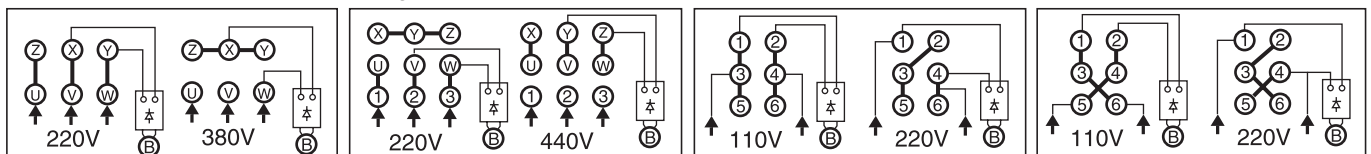
編號 No.	零件名稱 Name of Parts
1	托架 Bracket(Brake Coil Included)
2	剎車來令 Brake Shoe
3	外扇風葉 Output Fan
4	軸承蓋 Bearing Cover
5	壓縮彈簧 Spring Compression
6	內六角螺絲 Hex Screw
7	內六角螺絲 Hex Screw
8	剎車基板 Brake Plate
9	馬達軸心 Motor Spindle
10	來令片固定環 Brake Shoe Fixing Ring
11	剎車電源裝置(整流器) Power Device for Brake(Rectifier)

### 接線圖 Line Knotting Chart 三相(Three Phase)

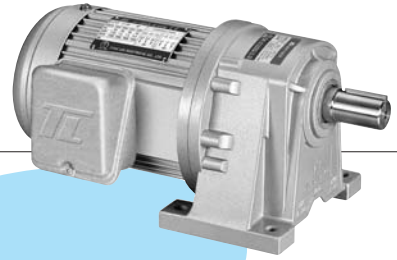
### 單相(Single Phase)



下方圖係附剎車之接線圖 Line knotting chart of the brake are shown as below..



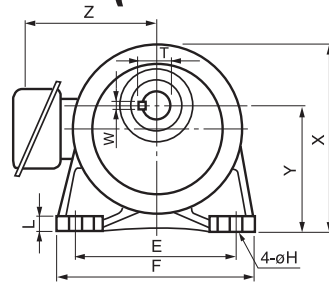
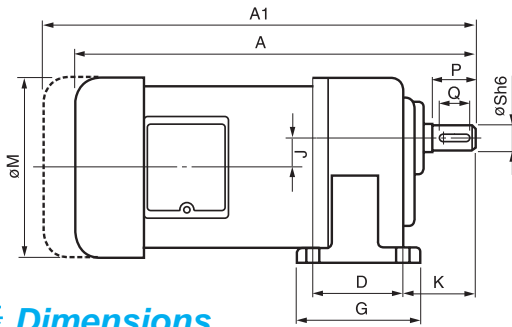
\*以上數值若有變動，恕不另行通知\* We reserve the right to change without further notice.



# PL型(臥式)三相齒輪減速馬達

## PL Type 3-Phase Horizontal Gear Reduction Motor

### (Foot Mounted)



### 馬達尺寸表 Dimensions

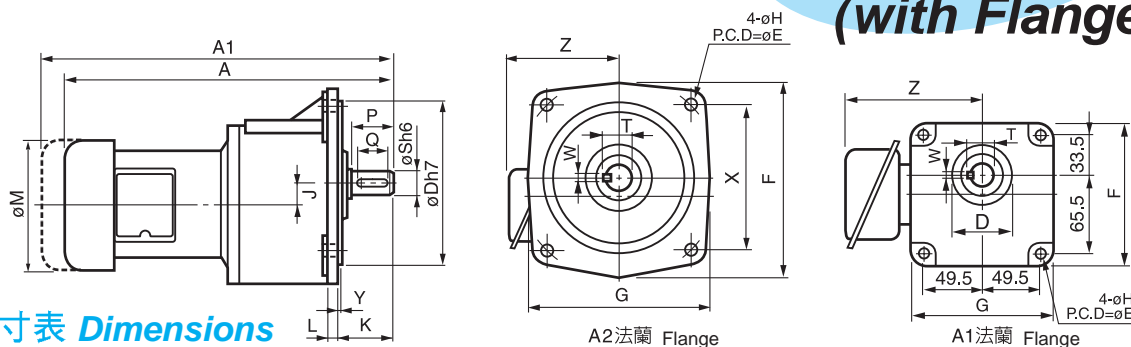
馬力 HP	減速比 Gear Ratio	框號 Type	Motor Dimensions													出力軸端 Output Shaft					重量 App.Wt. Kg	
			A	A1	D	E	F	G	H	L	J	K	M	X	Y	Z	P	Q	S	T		W
0.1KW   1/8HPx4P	5~50	18	255	282	40	110	135	65	9	10	15.98	50	125	127	85	116	30	22	18	20	5	6.1
	60~200	22	287	314	65	130	155	90	11	12	17.66	60	125	145	90	116	40	30	22	25	7	7.0
	250~1800	22	356	383	65	130	155	90	11	12	17.66	60	125	145	90	116	40	30	22	25	7	8.9
	250~1800	28	393	420	90	140	170	120	11	15	23.11	70	125	170	110	116	45	35	28	31	7	11.6
0.2KW   1/4HPx4P	5~10	18	273	301	40	110	135	65	9	10	15.98	50	125	127	85	116	30	22	18	20	5	7.04
	12.5~25	18	273	301	40	110	135	65	9	10	15.98	50	125	127	85	116	30	22	18	20	5	7.1
	12.5~100	22	305	330	65	130	155	90	11	12	17.66	60	125	145	90	116	40	30	22	25	7	8.8
	100~200	28	334	361	90	140	170	120	11	15	23.11	70	125	170	110	116	45	35	28	31	7	10.3
	250~1800	28	411	437	90	140	170	120	11	15	23.11	70	125	170	110	116	45	35	28	31	7	12.4
250~1800	32	443	471	130	170	210	167	13	18	30.22	75	125	204	130	116	55	45	32	36.5	10	24.6	
0.4KW   1/2HPx4P	5~10	22	323	350	65	130	155	90	11	12	17.66	60	125	145	90	116	40	30	22	25	7	9.3
	12.5~25	22	323	350	65	130	155	90	11	12	17.66	60	125	145	90	116	40	30	22	25	7	10.6
	12.5~100	28	352	379	90	140	170	120	11	15	23.11	70	125	170	110	116	45	35	28	31	7	12.1
	100~200	32	382	409	130	170	210	167	13	18	30.22	75	125	204	130	116	55	45	32	36.5	10	25.2
	250~1800	32	464	491	130	170	210	167	13	18	30.22	75	125	204	130	116	55	45	32	36.5	10	27.6
250~1800	40	542	569	150	210	260	200	18	23	37.96	96	125	252	160	116	65	55	40	44	10 (12)	45.2	
0.75KW   1HPx4P	5~25	28	379	405	90	140	170	120	11	15	23.11	70	158	170	110	131	45	35	28	31	7	15.1
	30~120	32	409	435	130	170	210	167	13	18	30.22	75	158	204	130	131	55	45	32	36.5	10	27.8
	120~200	40	465	491	150	210	260	200	18	23	37.96	96	158	252	160	131	65	55	40	44	10 (12)	45.2
	250~1800	40	569	595	150	210	260	200	18	23	37.96	96	158	252	160	131	65	55	40	44	10 (12)	47.7
250~1800	50	580	606	160	230	285	210	18	25	39.2	104	158	293	176	-	75	65	50	53.5	14	60.5	
1.5KW   2HPx4P	5~30	32	442	477	130	170	210	167	13	18	30.22	75	190	204	130	138	55	45	32	36.5	10	25
	40~100	40	498	533	150	210	260	200	18	23	37.96	96	190	252	160	138	65	55	40	44	10 (12)	47.7
	120~200	50	509	543	160	230	285	210	18	25	39.2	104	190	293	176	-	75	65	50	53.5	14	55.0
2.2KW   3HPx4P	5~10	32	467	502	130	170	210	167	13	18	30.22	75	190	204	130	138	55	45	32	36.5	10	35.2
	15~60	40	523	558	150	210	260	200	18	23	37.96	96	190	252	160	138	65	55	40	44	10 (12)	49.1
3.7KW 5HPx4P	75~120	50	534	569	160	230	285	210	18	25	39.2	104	190	293	176	-	75	65	50	53.5	14	58.0
	5~20	40	552	586	150	210	260	200	18	23	37.96	96	230	252	160	190	65	55	40	44	10 (12)	71
25~100	50	562	597	160	230	285	210	18	25	39.2	104	230	293	176	190	75	65	50	53.5	14	60.0	

- A1之長度為馬達附剎車之總長。 1. Length of A1 is the total length of motor and the brake.
  - 淺藍色為輕扭力之機型。 2. Colour in Light blue indicates motor of smaller torque.
  - 1/8~1 HP之附剎車重量,約無剎車重量加 2 KG. 3. Weight of 1/8 ~ 1HP motor w / brake shall be weight of motor w / 0 brake + 2Kg.
  - 2~3 HP之附剎車重量,約無剎車重量加 3.5 KG. 4. Weight of a 2~3HP motor w / brake is equal to motor w/0 brake + 3.5kg.
  - 40~50 筒齒箱上附加 O 型吊環 (高度約 50 mm). 5. " O " type rings shall be attached to the 40 ~ 50mm gear box. (add. Height: 50mm)
- \*以上數值若有變動,恕不另行通知\* We reserve the right to change without further notice.



# PF型(立式)三相齒輪減速馬達

## PF Type 3-Phase Vertical Gear Reduction Motor (with Flange)



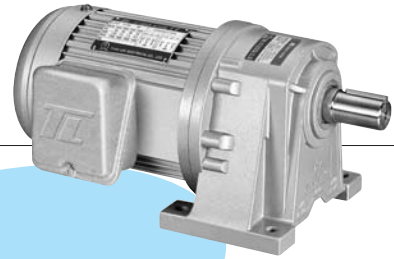
馬達尺寸表 **Dimensions**

馬力 HP	減速比 Gear Ratio	框號 Type	A	A1	D	E	X	F	G	H	L	J	K	M	Y	Z	出力軸端 Output Shaft					重量 App.Wt. Kg	備註 Remark
																	P	Q	S	T	W		
0.1KW   1/8HPx4P	5~50	18	255	282	50	140	99	122	120	9	12	15.98	40	125	5	116	30	22	18	20	5	6.08	A1法蘭
	60~200	22	287	314	148	185	131	176	165	11	12	17.66	50	125	3.5	116	40	30	22	25	7	7.3	A2法蘭
	250~1800	22	356	383	148	185	131	176	165	11	12	17.66	50	125	3.5	116	40	30	22	25	7	9.8	A2法蘭
	250~1800	28	393	420	170	220	156	205	195	$\begin{smallmatrix} \phi 11 \\ +14L \end{smallmatrix}$	13	23.11	60	125	4	116	45	35	28	31	7	11.9	A2法蘭
0.2KW   1/4HPx4P	5~10	18	273	302	50	140	99	122	120	9	12	15.98	40	125	5	116	30	22	18	20	5	7.1	A1法蘭
	12.5~25	18	273	302	50	140	99	122	120	9	12	15.98	40	125	5	116	30	22	18	20	5	7.13	A1法蘭
	12.5~100	22	305	330	148	185	131	176	165	11	12	17.66	50	125	3.5	116	40	30	22	25	7	8.81	A2法蘭
	100~200	28	334	361	170	220	156	205	195	$\begin{smallmatrix} \phi 11 \\ +14L \end{smallmatrix}$	13	23.11	60	125	4	116	45	35	28	31	7	11.7	A2法蘭
	250~1800	28	411	437	170	220	156	205	195	$\begin{smallmatrix} \phi 11 \\ +14L \end{smallmatrix}$	13	23.11	60	125	4	116	45	35	28	31	7	12.8	A2法蘭
0.4KW   1/2HPx4P	250~1800	32	443	471	185	255	180	241	225	15	15	30.22	70	125	4	116	55	40	32	36.5	10	25.2	A2法蘭
	5~10	22	325	350	148	185	131	176	165	11	12	17.66	50	125	3.5	116	40	30	22	25	7	9.62	A2法蘭
	12.5~25	22	325	350	148	185	131	176	165	11	12	17.66	50	125	3.5	116	40	30	22	25	7	11	A2法蘭
	12.5~100	28	352	380	170	220	156	205	195	$\begin{smallmatrix} \phi 11 \\ +14L \end{smallmatrix}$	13	23.11	60	125	4	116	45	35	28	31	7	13.4	A2法蘭
	100~200	32	385	410	185	255	180	241	225	15	15	30.22	70	125	4	116	55	45	32	36.5	10	24.4	A2法蘭
0.75KW   1HPx4P	250~1800	32	465	592	185	255	180	241	225	15	15	30.22	70	125	4	116	55	45	32	36.5	10	26.8	A2法蘭
	250~1800	40	545	570	230	310	219	297	268	15	20	37.96	76	125	5	-	65	55	40	44	$\begin{smallmatrix} 10 \\ (12) \end{smallmatrix}$	45.6	A2法蘭
	5~25	28	380	405	170	220	156	205	195	$\begin{smallmatrix} \phi 11 \\ +14L \end{smallmatrix}$	13	23.11	60	158	4	131	45	35	28	31	7	15.1	A2法蘭
	30~120	32	410	435	185	255	180	241	225	15	15	30.22	70	158	4	131	55	45	32	36.5	10	26.9	A2法蘭
1.5KW   2HPx4P	120~200	40	465	492	230	310	219	297	268	15	20	37.96	76	158	5	-	65	55	40	44	$\begin{smallmatrix} 10 \\ (12) \end{smallmatrix}$	45.6	A2法蘭
	250~1800	40	570	595	230	310	219	297	268	15	20	37.96	76	158	5	-	65	55	40	44	$\begin{smallmatrix} 10 \\ (12) \end{smallmatrix}$	48.1	A2法蘭
	250~1800	50	580	606	250	352	249	320	290	18	22	39.2	86	158	5	-	75	65	50	53.5	14	57.3	A2法蘭
2.2KW   3HPx4P	5~30	32	442	478	185	255	180	241	225	15	15	30.22	70	190	4	138	55	45	32	36.5	10	26.5	A2法蘭
	40~100	40	500	535	230	310	219	297	268	15	20	37.96	76	190	5	138	65	55	40	44	$\begin{smallmatrix} 10 \\ (12) \end{smallmatrix}$	49.3	A2法蘭
	120~200	50	510	543	250	352	249	320	290	18	22	39.2	86	190	5	-	75	65	50	53.5	14	60.2	A2法蘭
3.7KW   5HPx4P	5~10	32	467	502	185	255	180	241	225	15	15	30.22	70	190	4	138	55	45	32	36.5	10	34.2	A2法蘭
	15~60	40	525	560	230	310	219	297	268	15	20	37.96	76	190	5	138	65	55	40	44	$\begin{smallmatrix} 10 \\ (12) \end{smallmatrix}$	50.8	A2法蘭
	75~120	50	535	570	250	352	249	320	290	18	22	39.2	86	190	5	-	75	65	50	53.5	14	55.6	A2法蘭
3.7KW   5HPx4P	5~20	40	552	586	230	310	219	297	268	15	20	37.96	76	230	5	190	65	55	40	44	$\begin{smallmatrix} 10 \\ (12) \end{smallmatrix}$	56.5	A2法蘭
	25~100	50	565	600	250	352	249	320	290	18	22	39.2	86	230	5	190	75	65	50	53.5	14	60.0	A2法蘭

- A1之長度為馬達附剎車之總長。
- 淺藍色為輕扭力之機型。
- 1/8~1 HP 之附剎車重量, 約無剎車重量加2KG.
- 2~3 HP 之附剎車重量, 約無剎車重量加3.5 KG.

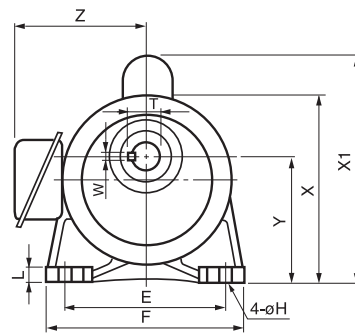
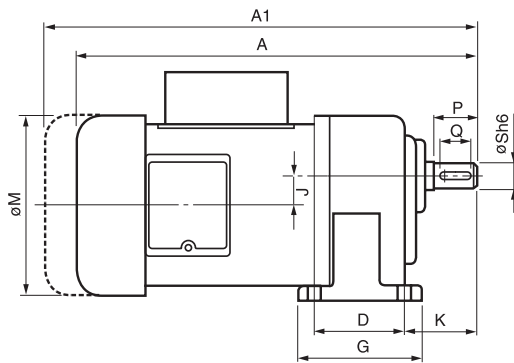
\*以上數值若有變動, 恕不另行通知\* We reserve the right to change without further notice.





# PL 型(臥式)單相齒輪減速馬達

## PL Type Single-Phase Horizontal Gear Reduction Motor (Foot Mounted)



### 馬達尺寸表 Dimensions

馬力 HP	減速比 Gear Ratio	框號 Type	A	A1	D	E	F	G	H	L	J	K	M	X1	X	Y	Z	出力軸端 Output Shaft					重量 App.Wt. Kg	
																		P	Q	S	T	W		
0.1KW   1/8HPx4P	5~50	18	255	281	40	110	135	65	9	10	15.98	50	125	-	127	85	116	30	22	18	20	5	5.6	
	60~200	22	286	313	65	130	155	90	11	12	17.66	60	125	-	145	90	116	40	30	22	25	7	7.0	
	250~1800	22	356	382	65	130	155	90	11	12	17.66	60	125	-	145	90	116	40	30	22	25	7	8.9	
	250~1800	28	393	419	90	140	170	120	11	15	23.11	70	125	-	170	110	116	45	35	28	31	7	11.6	
0.2KW   1/4HPx4P	5~10	18	290	315	40	110	135	65	9	10	15.98	50	125	-	127	85	116	30	22	18	20	5	6.4	
	12.5~25	18	290	315	40	110	135	65	9	10	15.98	50	125	-	127	85	116	30	22	18	20	5	6.4	
	12.5~100	22	322	347	65	130	155	90	11	12	17.66	60	125	-	145	90	116	40	30	22	25	7	7.9	
	100~200	28	351	376	90	140	170	120	11	15	23.11	70	125	-	170	110	116	45	35	28	31	7	10.3	
	250~1800	28	428	453	90	140	170	120	11	15	23.11	70	125	-	170	110	116	45	35	28	31	7	12.4	
250~1800	32	462	487	130	170	210	167	13	18	30.22	75	125	-	204	130	116	55	45	32	36.5	10	24.6		
0.4KW   1/2HPx4P	5~10	22	374	430	65	130	155	90	11	12	17.66	60	125	195	145	90	131	40	30	22	25	7	12.6	
	12.5~25	22	374	430	65	130	155	90	11	12	17.66	60	125	195	145	90	131	40	30	22	25	7	12.6	
	12.5~100	28	405	461	90	140	170	120	11	15	23.11	70	125	210	170	110	131	45	35	28	31	7	15.0	
	100~200	32	435	491	130	170	210	167	13	18	30.22	75	125	222	204	130	131	55	45	32	36.5	10	27.2	
	250~1800	32	520	572	130	170	210	167	13	18	30.22	75	125	-	204	130	131	55	45	32	36.5	10	29.6	
250~1800	40	595	650	150	210	260	200	18	23	37.96	96	125	-	252	160	131	65	55	40	44	44	<sup>10</sup> (12)	47.2	
0.75KW   1HPx4P	5~25	28	440	474	90	140	170	120	11	15	23.11	70	158	214	170	110	138	45	35	28	31	7	16.7	
	30~120	32	472	506	130	170	210	167	13	18	30.22	75	158	227	204	130	138	55	45	32	36.5	10	29.8	
	120~200	40	528	562	150	210	260	200	18	23	37.96	96	158	-	252	160	138	65	55	40	44	44	<sup>10</sup> (12)	47.2
	250~1800	40	629	663	150	210	260	200	18	23	37.96	96	158	-	252	160	138	65	55	40	44	44	<sup>10</sup> (12)	49.7

1. A1之長度為馬達附剎車之總長。

2. 淺藍色為輕扭力之機型。

3. 1/8~1 HP之附剎車重量, 約無剎車重量加 2 KG.

4. 2~3 HP之附剎車重量, 約無剎車重量加 3.5 KG.

5. 40~50 筒齒箱上附加 O 型吊環 (高度約 50 mm).

\*以上數值若有變動, 恕不另行通知\* We reserve the right to change without further notice.

1. Length of A1 is the total length of motor and the brake.

2. Colour in Light blue indicates motor of smaller torque.

3. Weight of 1/8 ~ 1HP motor w/brake shall be weight of motor w/o brake + 2Kg.

4. Weight of a 2~3HP motor w/brake is equal to motor w/o brake + 3.5kg.

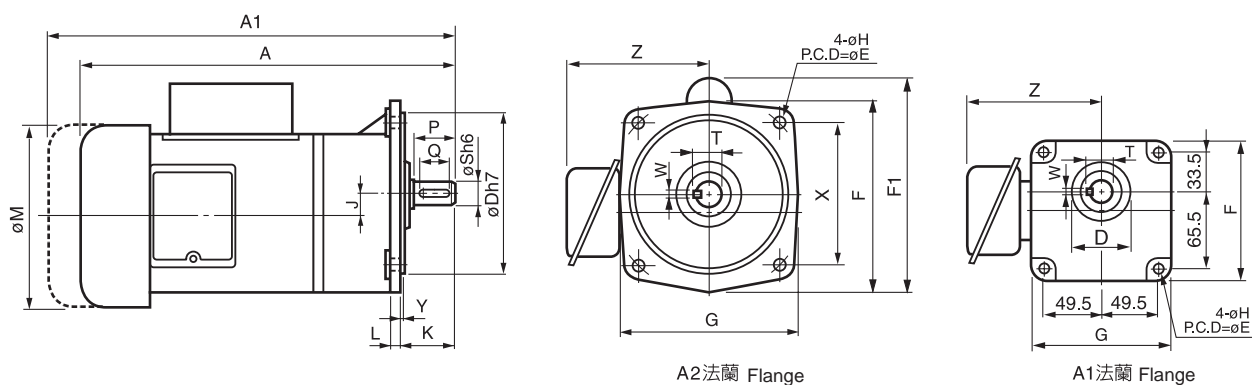
5. "O" type rings shall be attached to the 40 ~ 50mm gear box. (add. Height: 50mm)



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# PF型 (立式)單相齒輪減速馬達

## PF Type Single-Phase Vertical Gear Reduction Motor (with Flange)

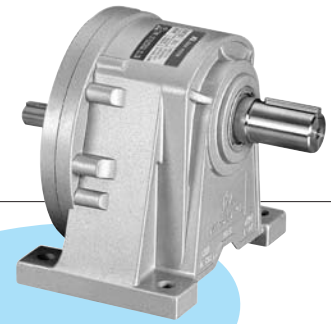


### 馬達尺寸表 Dimensions

馬力 HP	減速比 Gear Ratio	框號 Type	A	A1	D	E	X	F	F1	G	H	L	J	K	M	Y	Z	出力軸端 Output Shaft					重量 App.Wt. Kg	備註 Remark
																		P	Q	S	T	W		
0.1KW   1/8HPx4P	5~50	18	255	281	50	140	99	122	-	120	9	12	15.98	40	125	5	116	30	22	18	20	5	5.5	A1法蘭
	60~200	22	286	313	148	185	131	176	-	165	11	12	17.66	50	125	3.5	116	40	30	22	25	7	7.3	A2法蘭
	250~1800	22	356	385	148	185	131	176	-	165	11	12	17.66	50	125	3.5	116	40	30	22	25	7	9.2	A2法蘭
	250~1800	28	395	420	170	220	156	205	-	195	ø <sup>11</sup> <sub>14L</sub>	13	23.11	60	125	4	116	45	35	28	31	7	11.9	A2法蘭
0.2KW   1/4HPx4P	5~10	18	290	315	50	140	99	122	-	120	9	12	15.98	40	125	5	116	30	22	18	20	5	6.5	A1法蘭
	12.5~25	18	290	315	50	140	99	122	-	120	9	12	15.98	40	125	5	116	30	22	18	20	5	6.5	A1法蘭
	12.5~100	22	322	347	148	185	131	176	-	165	11	12	17.66	50	125	3.5	116	40	30	22	25	7	8.3	A2法蘭
	100~200	28	351	376	170	220	156	205	-	195	ø <sup>11</sup> <sub>14L</sub>	13	23.11	60	125	4	116	45	35	28	31	7	11.7	A2法蘭
	250~1800	28	428	453	170	220	156	205	-	195	ø <sup>11</sup> <sub>14L</sub>	13	23.11	60	125	4	116	45	35	28	31	7	12.8	A2法蘭
0.4KW   1/2HPx4P	250~1800	32	462	487	185	255	180	241	-	225	15	15	30.22	70	125	4	116	55	45	32	36.5	10	25.2	A2法蘭
	5~10	22	375	430	148	185	131	176	195	165	11	12	17.66	50	125	3.5	131	40	30	22	25	7	11	A2法蘭
	12.5~25	22	375	430	148	185	131	176	195	165	11	12	17.66	50	125	3.5	131	40	30	22	25	7	11	A2法蘭
	12.5~100	28	405	461	170	220	156	205	-	195	ø <sup>11</sup> <sub>14L</sub>	13	23.11	60	125	4	131	45	35	28	31	7	13.4	A2法蘭
	100~200	32	435	491	185	255	180	241	-	225	15	15	30.22	70	125	4	131	55	45	32	36.5	10	24.4	A2法蘭
	250~1800	32	520	575	185	255	180	241	-	225	15	15	30.22	70	125	4	131	55	45	32	36.5	10	26.8	A2法蘭
0.75KW   1HPx4P	250~1800	40	595	650	230	310	219	297	-	268	15	20	37.96	76	125	5	-	65	55	40	44	<sup>10</sup> <sub>(12)</sub>	47.4	A2法蘭
	5~25	28	440	475	170	220	156	205	209.5	195	ø <sup>11</sup> <sub>14L</sub>	13	23.11	60	158	4	138	45	35	28	31	7	15.1	A2法蘭
	30~120	32	472	506	185	255	180	241	-	225	15	15	30.22	70	158	4	138	55	45	32	36.5	10	26.9	A2法蘭
	120~200	40	528	565	230	310	219	297	-	268	15	20	37.96	76	158	5	138	65	55	40	44	<sup>10</sup> <sub>(12)</sub>	47.4	A2法蘭
250~1800	40	630	665	230	310	219	297	-	268	15	20	37.96	76	158	5	138	65	55	40	44	<sup>10</sup> <sub>(12)</sub>	49.7	A2法蘭	

- A1之長度為馬達附剎車之總長。 1. Length of A1 is the total length of motor and the brake.
- 淺藍色為輕扭力之機型。 2. Colour in Light blue indicates motor of smaller torque.
- 1/8~1 HP 之附剎車重量, 約無剎車重量加2KG。 3. Weight of 1/8 ~ 1HP motor w/brake shall be weight of motor w/o brake + 2Kg.
- 2~3 HP 之附剎車重量, 約無剎車重量加 3.5 KG。 4. Weight of a 2~3HP motor w/brake is equal to motor w/o brake + 3.5kg.

\*以上數值若有變動, 恕不另行通知\* We reserve the right to change without further notice.



# PLD (臥式)雙軸型齒輪減速機

## PLD Dual-Shaft Type Gear Reducer

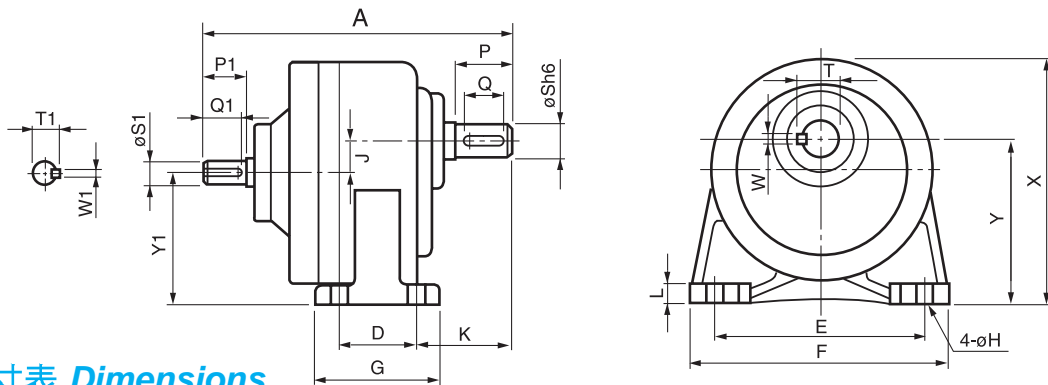
### PLD 18 - 200 - 10

減速比 Ratio: 1/10

馬力 HP: 200W

出力軸尺寸 Output Shaft Dimension:  $\phi 18$

PLD臥式雙軸型 Horizontal Type (Two-Shaft)

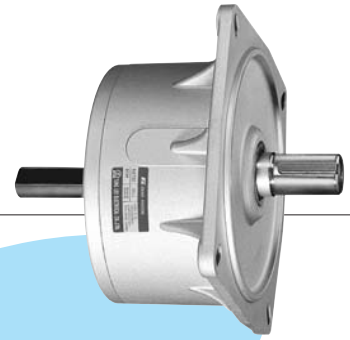


### 馬達尺寸表 Dimensions

馬力 HP	減速比 Gear Ratio	A	D	E	F	G	H	J	K	L	X	Y	Y1	出力軸端 Output Shaft					入力軸端 Input Shaft					重量 App.Wt. Kg	
														P	Q	S	T	W	P1	Q1	S1	T1	W1		
0.1KW	5~50	18	172	40	110	135	65	9	15.98	50	10	127	85	69	30	22	18	20	5	25	22	14	15.5	4	3
	60~200	22	204	65	130	155	90	11	17.66	60	12	145	90	72.3	40	30	22	25	7	25	22	14	15.5	4	4.2
0.2KW	5~10	18	172	40	110	135	65	9	15.98	50	10	127	85	69	30	22	18	20	5	25	22	14	15.5	4	3
	12.5~25	18	172	40	110	135	65	9	15.98	50	10	127	85	69	30	22	18	20	5	25	22	14	15.5	4	3
	12.5~100	22	204	65	130	155	90	11	17.66	60	12	145	90	72.3	40	30	22	25	7	25	22	14	15.5	4	4.2
	100~200	28	266	90	140	170	120	11	23.11	70	15	170	110	87	45	35	28	31	7	30	27	16	18	5	5.5
0.4KW	5~10	22	204	65	130	155	90	11	17.66	60	12	145	90	72.3	40	30	22	25	7	25	22	14	15.5	4	4.2
	12.5~25	22	204	65	130	155	90	11	17.66	60	12	145	90	72.3	40	30	22	25	7	25	22	14	15.5	4	4.2
	12.5~100	28	266	90	140	170	120	11	23.11	70	15	170	110	87	45	35	28	31	7	30	27	16	18	5	5.5
	100~200	32	296	130	170	210	167	13	30.22	75	18	204	130	99.8	55	45	32	36.5	10	30	27	19	21	5	16
0.75KW	5~25	28	266	90	140	170	120	11	23.11	70	15	170	110	87	45	35	28	31	7	30	27	16	18	5	6.5
	30~120	32	296	130	170	210	167	13	30.22	75	18	204	130	99.8	55	45	32	36.5	10	30	27	19	21	5	19.5
1.5KW	120~200	40	357	150	210	260	200	18	37.96	96	23	252	160	122	65	55	40	44	$\frac{10}{(12)}$	35	32	24	27	7	38
	5~30	32	296	130	170	210	167	13	30.22	75	18	204	130	99.8	55	45	32	36.5	10	30	27	19	21	5	19.5
	40~100	40	357	150	210	260	200	18	37.96	96	23	252	160	122	65	55	40	44	$\frac{10}{(12)}$	35	32	24	27	7	38
	120~200	50	367	160	230	285	210	18	39.2	104	25	305	200	149	75	65	50	53.5	14	45	42	28	31	8	51.2
2.2KW	5~10	32	296	130	170	210	167	13	30.22	75	18	204	130	99.8	55	45	32	36.5	10	30	27	19	21	5	20.5
	15~60	40	357	150	210	260	200	18	37.96	96	23	252	160	122	65	55	40	44	$\frac{10}{(12)}$	35	32	24	27	7	39
	75~120	50	367	160	230	285	210	18	39.2	104	25	305	200	149	75	65	50	53.5	14	45	42	28	31	8	53
3.7KW	5~20	40	357	150	210	260	200	18	37.96	96	23	252	160	122	65	55	40	44	$\frac{10}{(12)}$	35	32	24	27	7	39
	25~100	50	367	160	230	285	210	18	39.2	104	25	305	200	149	75	65	50	53.5	14	45	42	28	31	8	53

1. 淺藍色為輕扭力之機型。 1. Colour in Light blue indicates motor of smaller torque.
2. 40~50 筒齒箱上附加O型吊環(高度約50mm)。 2. "O" type rings shall be attached to the 40 ~ 50mm gear box. (add. Height: 50mm)

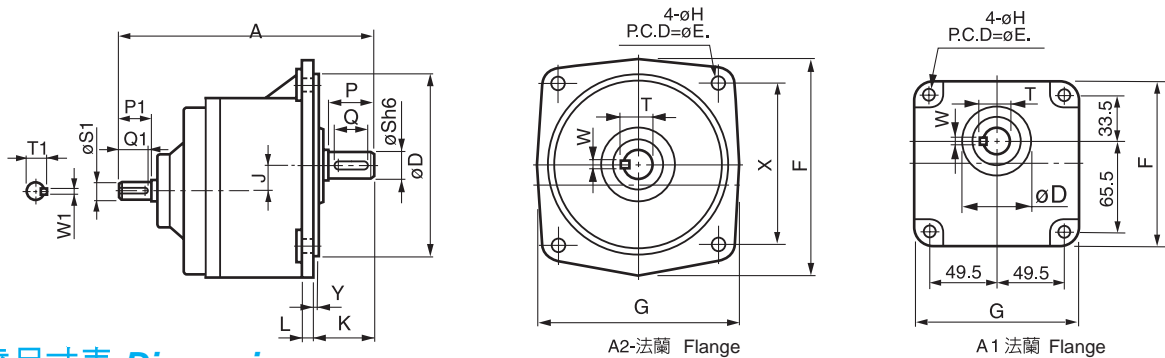
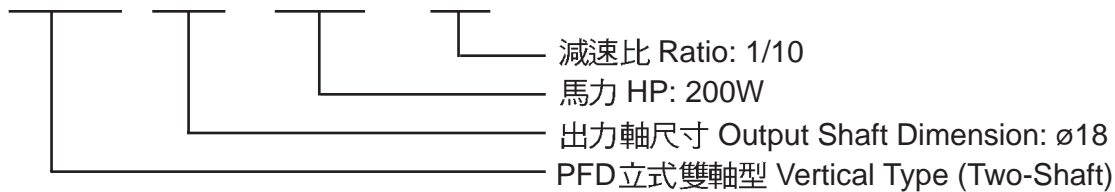
\*以上數值若有變動，恕不另行通知\* We reserve the right to change without further notice.



# PFD (立式)雙軸型齒輪減速機

## PFD Dual-Shaft Gear Reducer

### PFD 18 - 200 - 10



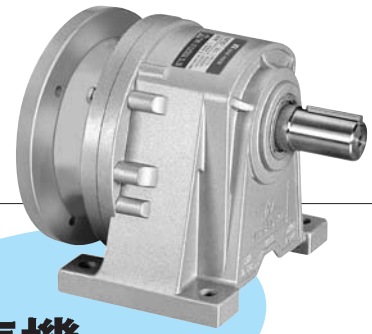
### 馬達尺寸表 *Dimensions*

馬力 HP	減速比 Gear Ratio	框號 Type	A	D	E	X	F	G	H	J	K	L	Y	出力軸端 Output Shaft					入力軸端 Input Shaft					重量 App.Wt. Kg	備註 Rremark
														P	Q	S	T	W	P1	Q1	S1	T1	W1		
0.1KW	5~50	18	172	50	140	99	122	120	9	15.98	40	12	5	30	22	18	20	5	25	22	14	15.5	4	3	A1法蘭
	60~200	22	204	148	185	131	176	165	11	17.66	50	12	3.5	40	30	22	25	7	25	22	14	15.5	4	4.2	A2法蘭
0.2KW	5~10	18	172	50	140	99	122	120	9	15.98	40	12	5	30	22	18	20	5	25	22	14	15.5	4	3	A1法蘭
	12.5~25	18	172	50	140	99	122	120	9	15.98	40	12	5	30	22	18	20	5	25	22	14	15.5	4	3	A1法蘭
	12.5~100	22	204	148	185	131	176	165	11	17.66	50	12	3.5	40	30	22	25	7	25	22	14	15.5	4	4.2	A2法蘭
0.4KW	100~200	28	266	170	220	156	205	195	$\phi 11_{14L}$	23.11	60	13	4	45	35	28	31	7	30	26	16	18	5	5.5	A2法蘭
	5~10	22	204	148	185	131	176	165	11	17.66	50	12	3.5	40	30	22	25	7	25	22	14	15.5	4	4.2	A2法蘭
	12.5~25	22	204	148	185	131	176	165	11	17.66	50	12	3.5	40	30	22	25	7	25	22	14	15.5	4	4.2	A2法蘭
	12.5~100	28	266	170	220	156	205	195	$\phi 11_{14L}$	23.11	60	13	4	45	35	28	31	7	30	26	16	18	5	5.5	A2法蘭
0.75KW	100~200	32	296	185	255	180	241	225	15	30.22	70	15	4	55	45	32	36.5	10	30	26	19	21	5	17	A2法蘭
	5~25	28	266	170	220	156	205	195	$\phi 11_{14L}$	23.11	60	13	4	45	35	28	31	7	30	26	16	18	5	6.5	A2法蘭
1.5KW	30~120	32	296	185	255	180	241	225	15	30.22	70	15	4	55	45	32	36.5	10	30	26	19	21	5	19.5	A2法蘭
	120~200	40	357	230	310	219	297	268	15	37.96	76	20	5	65	55	40	44	$\frac{10}{12}$	35	32	24	27	7	38	A2法蘭
	5~30	32	296	185	255	180	241	225	15	30.22	70	15	4	55	45	32	36.5	10	30	26	19	21	5	19.5	A2法蘭
2.2KW	40~100	40	357	230	310	219	297	268	15	37.96	76	20	5	65	55	40	44	$\frac{10}{12}$	35	32	24	27	7	38	A2法蘭
	120~200	50	367	250	352	249	320	290	18	39.2	86	22	5	75	65	50	53.5	14	45	42	28	31	8	51.2	A2法蘭
	5~10	32	296	185	255	180	241	225	15	30.22	70	15	4	55	45	32	36.5	10	30	26	19	21	5	20.5	A2法蘭
3.7KW	15~60	40	357	230	310	219	297	268	15	37.96	76	20	5	65	55	40	44	$\frac{10}{12}$	35	32	24	27	7	39	A2法蘭
	75~120	50	367	250	352	249	320	290	18	39.2	86	22	5	75	65	50	53.5	14	45	42	28	31	8	53	A2法蘭
3.7KW	5~20	40	357	230	310	219	297	268	15	37.96	76	20	5	65	55	40	44	$\frac{10}{12}$	35	32	24	27	7	39	A2法蘭
	25~100	50	367	250	352	249	320	290	18	39.2	86	22	5	75	65	50	53.5	14	45	42	28	31	8	53	A2法蘭

1. 淺藍色為輕扭力之機型

1. Colour in Light blue indicates motor of smaller torque.

\*以上數值若有變動，恕不另行通知\* We reserve the right to change without further notice.



# PLK (臥式)單軸型自配馬達減速機

## PLK Self-Contained Motor Type Gear Reducer

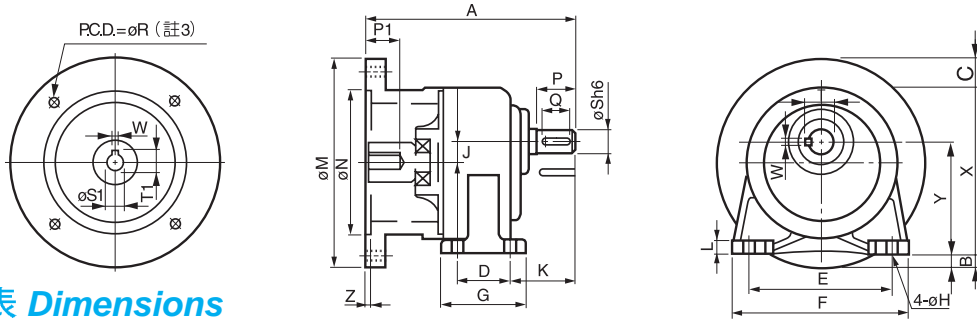
### PLK 18 - 200 - 10

減速比 Ratio: 1/10

馬力 HP: 200W

出力軸尺寸 Output Shaft Dimension:  $\phi 18$

PLK臥式單軸型 Horizontal Type (Single-Shaft)



### 馬達尺寸表 Dimensions

馬力 HP	減速比 Gear Ratio	框號 Type	A	B	C	D	E	F	G	H	J	K	L	M	N	R	X	Y	Z	入力軸端 Input Shaft				出力軸端 Output Shaft					重量 App.Wt. Kg
																				P1	S1	T1	W1	P	Q	S	T	W	
0.1KW	5~50	18	159	11	22	40	110	135	65	9	15.98	50	10	160	110	130	127	85	4	26	11	12.7	4	30	22	18	20	5	5
	60~200	22	191	8	8	65	130	155	90	11	17.66	60	12	160	110	130	145	90	4	26	11	12.7	4	40	30	22	25	7	6.2
0.2KW	5~10	18	159	11	22	40	110	135	65	9	15.98	50	10	160	110	130	127	85	4	26	11	12.7	4	30	22	18	20	5	5
	12.5~25	18	159	11	22	40	110	135	65	9	15.98	50	10	160	110	130	127	85	4	26	11	12.7	4	30	22	18	20	5	5
	12.5~100	22	191	8	8	65	130	155	90	11	17.66	60	12	160	110	130	145	90	4	26	11	12.7	4	40	30	22	25	7	6.2
	100~200	28	220	-	-	90	140	170	120	11	23.11	70	15	160	110	130	170	110	4	26	11	12.7	4	45	35	28	31	7	7.5
0.4KW	5~10	22	191	8	8	65	130	155	90	11	17.66	60	12	160	110	130	145	90	4	33	14	16.2	5	40	30	22	25	7	6.2
	12.5~25	22	191	8	8	65	130	155	90	11	17.66	60	12	160	110	130	145	90	4	33	14	16.2	5	40	30	22	25	7	6.2
	12.5~100	28	220	-	-	90	140	170	120	11	23.11	70	15	160	110	130	170	110	4	33	14	16.2	5	45	35	28	31	7	7.5
	100~200	32	250	-	-	130	170	210	167	13	30.22	75	18	160	110	130	204	130	4	33	14	16.2	5	55	45	32	36.5	10	19
0.75KW	5~25	28	254	135	-	90	140	170	120	11	23.11	70	15	200	130	165	170	110	4.5	43	19	21.7	6	45	35	28	31	7	7.5
	30~120	32	284	-	-	130	170	210	167	13	30.22	75	18	200	130	165	204	130	4.5	43	19	21.7	6	55	45	32	36.5	10	20.5
	120~200	40	340	-	-	150	210	260	200	18	37.96	96	23	200	130	165	252	160	4.5	43	19	21.7	6	65	55	40	44	<sup>10</sup> / <sub>(12)</sub>	39
1.5KW	5~30	32	285	-	-	130	170	210	167	13	30.22	75	18	200	130	165	204	130	4.5	53	24	27.2	8	55	45	32	36.5	10	20.5
	40~100	40	341	-	-	150	210	260	200	18	37.96	96	23	200	130	165	252	160	4.5	53	24	27.2	8	65	55	40	44	<sup>10</sup> / <sub>(12)</sub>	39
	120~200	50	351	-	-	160	230	285	210	18	39.2	104	30	200	130	165	305	200	4.5	53	24	27.2	8	75	65	50	53.5	14	52.2
2.2KW	5~10	32	317	-	-	130	170	210	167	13	30.22	75	18	250	180	215	204	130	4.5	63	28	31.2	8	55	45	32	36.5	10	21.5
	15~60	40	373	3	-	150	210	260	200	18	37.96	96	23	250	180	215	252	160	4.5	63	28	31.2	8	65	55	40	44	<sup>10</sup> / <sub>(12)</sub>	40
	75~120	50	383	-	-	160	230	285	210	18	39.2	104	30	250	180	215	305	200	4.5	63	28	31.2	8	75	65	50	53.5	14	54
3.7KW	5~20	40	373	3	-	150	210	260	200	18	37.96	96	23	250	180	215	252	160	4.5	63	28	31.2	8	65	55	40	44	<sup>10</sup> / <sub>(12)</sub>	40
	25~100	50	383	-	-	160	230	285	210	18	39.2	104	30	250	180	215	305	200	4.5	63	28	31.2	8	75	65	50	53.5	14	54

1. 淺藍色為輕扭力之機型。

2. 40~50 筒齒箱上附加 O 型吊環 (高度約 50 mm)。

3. 中間螺絲孔 1/8~1/4 HP 為 M8\*P1.25。

1/2~2 HP 為 M10\*P1.5。 3 HP 為 M14\*P2。

\*以上數值若有變動，恕不另行通知\* We reserve the right to change without further notice.

1. Colour in Light blue indicates motor of smaller torque.

2. "O" type rings shall be attached to the 40 ~ 50mm gear box. (add. Height: 50mm)

3. Central screw hole for 1/8 ~ 1/4 HP motor shall be M8\*P1.25

Central screw hole for the 1/2 ~ 2HP motor shall be M10\*P1.5

Central screw hole for the 3HP motor shall be M14\*P2





# PFK (立式)單軸型自配馬達減速機

## PFK Self-Contained Motor Type Gear Reducer

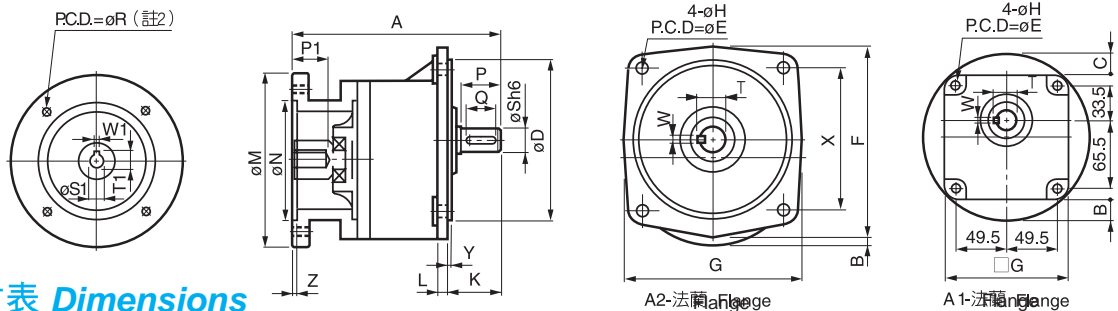
### PFK 18 - 200 - 10

減速比 Ratio: 1/10

馬力 HP: 200W

出力軸尺寸 Output Shaft Dimension:  $\phi 18$

PFK立式單軸型 Vertical Type (Single-Shaft)



### 馬達尺寸表 Dimensions

馬力 HP	減速比 Gear Ratio	框號 Type	A2-法蘭 Flange																	A1-法蘭 Flange					A2-法蘭 Flange		重量 App.Wt. Kg	備註		
			A	B	C	D	E	X	F	G	H	J	K	L	M	N	R	Y	Z	P1	S1	T1	W1	P	Q	S			T	W
0.1KW	5~50	18	159	20	20	50	140	99	122	120	9	15.98	40	12	160	110	130	5	4	26	11	12.7	4	30	22	18	20	5	5	A1法蘭
	60~200	22	191	7	-	148	185	131	176	165	11	17.66	50	12	160	110	130	3.5	4	26	11	12.7	4	40	30	22	25	7	6.2	A2法蘭
0.2KW	5~10	18	159	20	20	50	140	99	122	120	9	15.98	40	12	160	110	130	5	4	26	11	12.7	4	30	22	18	20	5	5	A1法蘭
	12.5~25	18	159	20	20	50	140	99	122	120	9	15.98	40	12	160	110	130	5	4	26	11	12.7	4	30	22	18	20	5	5	A1法蘭
	12.5~100	22	191	7	-	148	185	131	176	165	11	17.66	50	22	160	110	130	3.5	4	26	11	12.7	4	40	30	22	25	7	6.2	A2法蘭
	100~200	28	220	-	-	170	220	156	205	195	$\phi 14L$	23.11	60	13	160	110	130	4	4	26	11	12.7	4	45	35	28	31	7	7.5	A2法蘭
0.4KW	5~10	22	191	7	-	148	185	131	176	165	11	17.66	50	12	160	110	130	3.5	4	33	14	16.2	5	40	30	22	25	7	6.2	A2法蘭
	12.5~25	22	191	7	-	148	185	131	176	165	11	17.66	50	12	160	110	130	3.5	4	33	14	16.2	5	40	30	22	25	7	6.2	A2法蘭
	12.5~100	28	220	-	-	170	220	156	205	195	$\phi 14L$	23.11	60	13	160	110	130	4	4	33	14	16.2	5	45	35	28	31	7	7.5	A2法蘭
	100~200	32	250	-	-	185	255	180	241	225	15	30.22	70	15	160	110	130	4	4	33	14	16.2	5	55	45	32	36.5	10	19	A2法蘭
0.75KW	5~25	28	254	17.5	-	170	220	156	205	195	$\phi 14L$	23.11	60	13	200	130	165	4	4.5	43	19	21.7	6	45	35	28	31	7	7.5	A2法蘭
	30~120	32	284	2	-	185	255	180	241	225	15	30.22	70	15	200	130	165	4	4.5	43	19	21.7	6	55	45	32	36.5	10	20.5	A2法蘭
	120~200	40	340	-	-	230	310	219	297	268	15	37.96	76	20	200	130	165	5	4.5	43	19	21.7	6	65	55	40	44	$\frac{10}{12}$	39	A2法蘭
1.5KW	5~30	32	285	2	-	185	255	180	241	225	15	30.22	70	15	200	130	165	4	4.5	53	24	27.2	8	55	45	32	36.5	10	20.5	A2法蘭
	40~100	40	341	-	-	230	310	219	297	268	15	37.96	76	20	200	130	165	5	4.5	53	24	27.2	8	65	55	40	44	$\frac{10}{12}$	39	A2法蘭
	120~200	50	351	13.5	-	250	352	249	320	290	18	39.2	86	22	200	130	165	5	4.5	53	24	27.2	8	75	65	50	53.5	14	52.2	A2法蘭
2.2KW	5~10	32	317	27	-	185	255	180	241	225	15	30.22	70	15	250	180	215	4	4.5	63	28	31.2	8	55	45	32	36.5	10	21.5	A2法蘭
	15~60	40	373	2.5	-	230	310	219	297	268	15	37.96	76	20	250	180	215	5	4.5	63	28	31.7	8	65	55	40	44	$\frac{10}{12}$	40	A2法蘭
	75~120	50	383	13.5	-	250	352	249	320	290	18	39.2	86	22	250	180	215	5	4.5	63	28	31.2	8	75	65	50	53.5	14	54	A2法蘭
3.7KW	5~20	40	373	2.5	-	230	310	219	297	268	15	37.96	76	20	250	180	215	5	4.5	63	28	31.2	8	65	55	40	44	$\frac{10}{12}$	40	A2法蘭
	25~100	50	383	13.5	-	250	352	249	320	290	18	39.2	86	22	250	180	215	5	4.5	63	28	31.2	8	75	65	50	53.5	14	54	A2法蘭

1. 淺藍色為輕扭力之機型。

2. 中間垂直螺絲孔 1/8~1/4 HP 為 M8\*P1.25.

1/2~2 HP 為 M10\*P1.5.

3 HP 為 M14\*P2.

1. Colour in Light blue indicates motor of smaller torque.

2. Central screw hole for 1/8 ~ 1/4 HP motor shall be M8\*P1.25

Central screw hole for the 1/2 ~ 2HP motor shall be M10\*P1.5

Central screw hole for the 3HP motor shall be M14\*P2

\*以上數值若有變動，恕不另行通知\* We reserve the right to change without further notice.

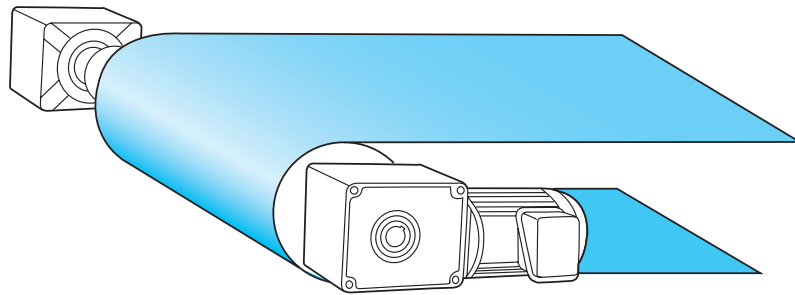


# TL系列一軸上型蝸輪減速機

## TL 4070 - 400 - 30 S3 B

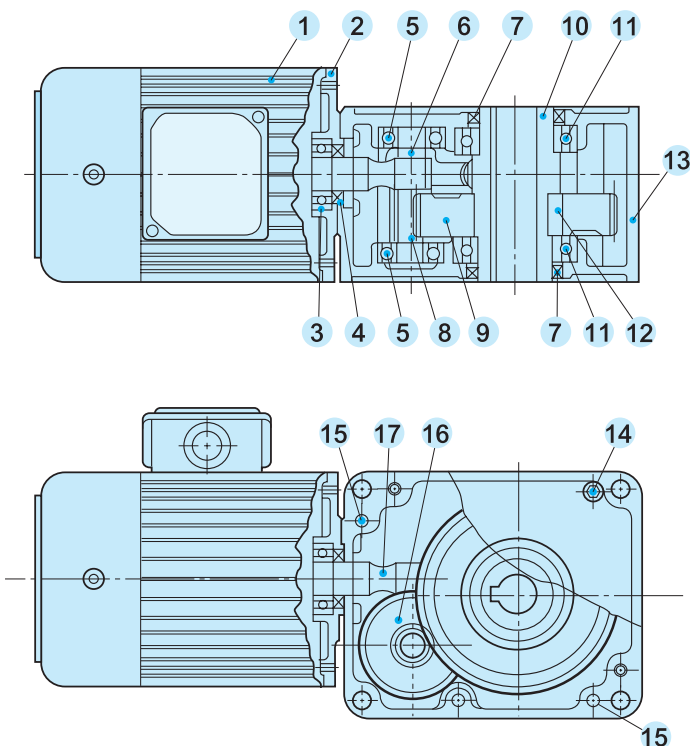
- 附剎車
- 電壓: A: 110V, C: 220V, S<sub>3</sub>: 三相: 220/380V
- 減速比: 30, 40, 50, 60, 75, 100, 120, 132, 150, 180, 200, 250, 300
- 馬力: 100W, 200W, 400W, 750W, 1500W
- 框號代號: 4070, 5080
- 軸上型代號

### 應用範例 Examples



輸送機 CONVEYER

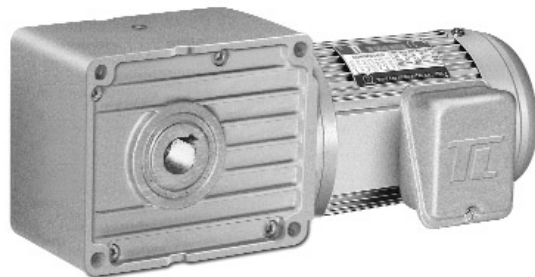
### 零件組合圖 SYSTEM DRAWING



No.	零件名稱	Name of Parts
1	馬達	Motor
2	馬達盤	Motor Cover
3	滾珠軸承	Ball Bearing
4	油封	Oil Seal
5	滾珠軸承	Ball Bearing
6	雙圓鍵	Key
7	油封	Oil Seal
8	A齒輪軸	A Gear Shaft
9	B齒輪	B Gear
10	出力套軸	Output Shaft Bushing
11	滾珠軸承	Ball Bearing
12	雙圓鍵	Key
13	齒輪箱	Gear Shell
14	內六角螺絲	Hex. Screw
15	定位梢	Location Pin
16	蝸輪	Worm Wheel
17	蝸桿	Worm Shaft

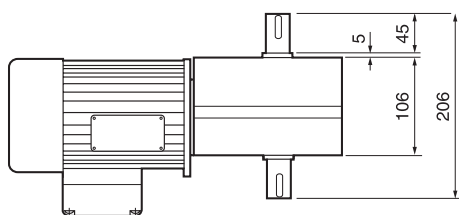
\*以上數值若有變動，恕不另行通知\* We reserve the right to change without further notice.

# TL Series Shaft-Mounted Reducer

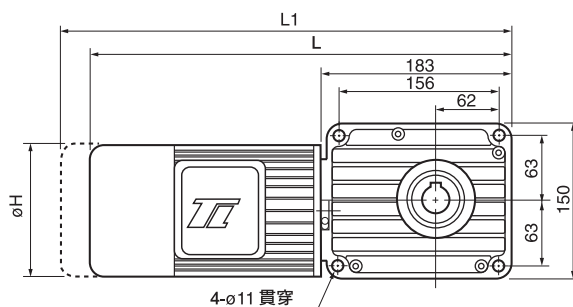


## Model: TL4070

減速比 (Ratio) :  
1/30~1/300



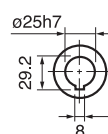
(雙出或單出力軸)



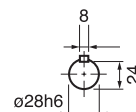
(中空型)

## 尺寸表 Dimension 單位: mm

馬力 (4P)	L	L1	øH	重量 (Kg)
1/8	345	372	125	12.5
1/4	363	391	125	13.5
1/2	382	409	125	15.5



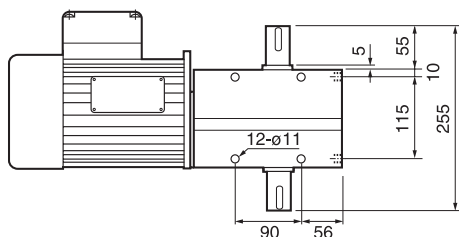
(中孔式)



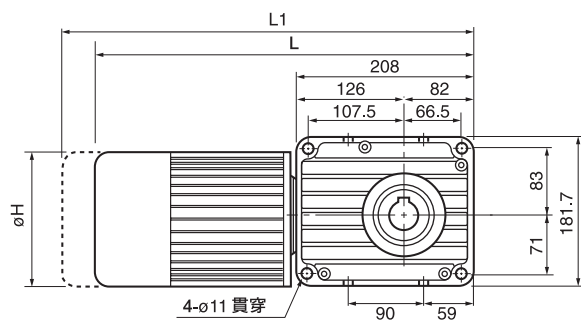
(軸心式)

## Model: TL5080

減速比 (Ratio) :  
1/30~1/300



(雙出或單出力軸)

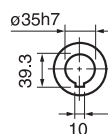


(中空型)

## 尺寸表 Dimension 單位: mm

馬力 (4P)	L	L1	øH	重量 (Kg)
1/2	406	433	125	20
1	433	459	158	25.2
2	465	500	190	30.5

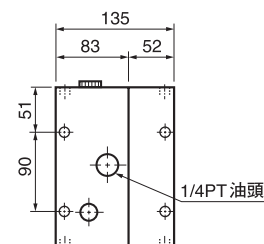
(中孔式)



(中孔式)



(軸心式)



\* L1之長度為馬達附剎車之總長。(L1 is the total length of motor with brake.)

\* 出線盒可指定向上, 向下, 左邊, 右邊。(Terminal Box position can be changed.)

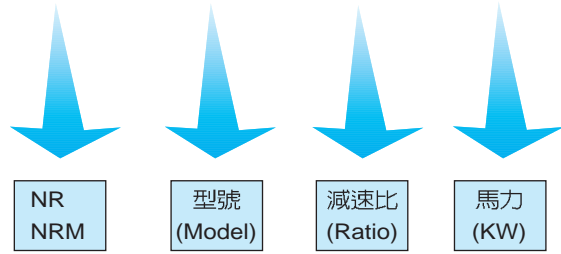
\* 以上數值若有變動, 恕不另行通知\* We reserve the right to change without further notice.



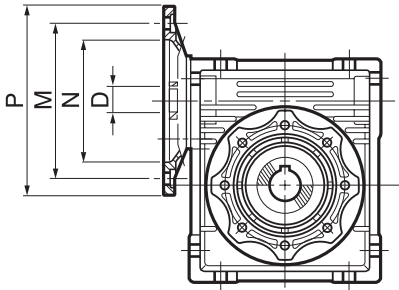
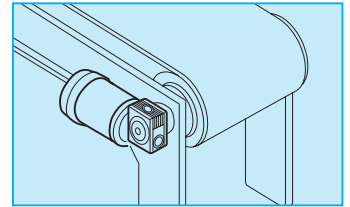
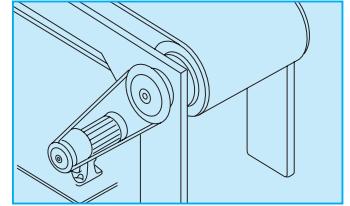
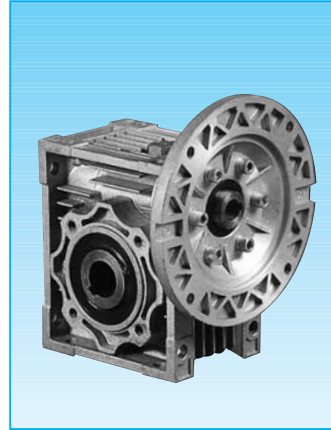
# 鋁合金中空型渦輪減速機

機種代號說明：

**NRM - 030 - 010 - 0.4**



使用差異 *Difference in usage*



## 不佔空間及降低成本的代名詞

- 1. 自鎖功能:**  
對於一般需要微保持力的使用場合，可節省裝置制動器的費用，如（爬坡型輸送機）。
- 2. 安全性高:**  
使用不同於傳統的傳動方式，免鏈輪、皮帶輪，傳動結構不外露，減少作業人員的傷害。
- 3. 可多面安裝，無角度限制:**  
全系列產品，每個平面，皆有固定孔，您可選擇安裝時所需的方向、角度安裝。

## 標準馬達直結型選擇表（一段型）

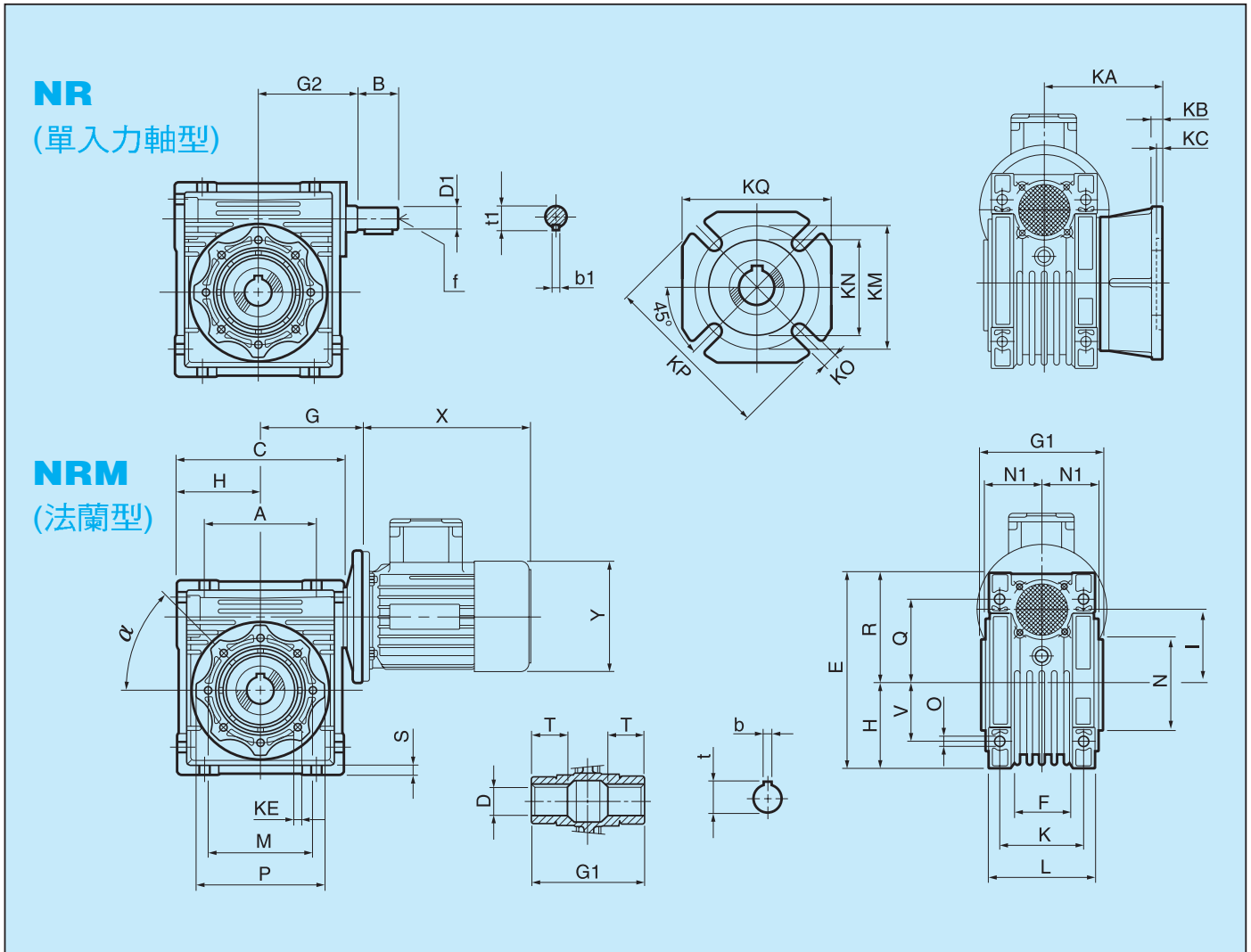
框號	PAM IEC	馬力 (4P) kW	N	M	P	D (Input Shaft Dia. 入力軸徑/Gear Ratio 減速比)											
						5	7.5	10	15	20	25	30	40	50	60	80	100
NRM030 鋁合金	63B14	0.2	60	75	90	11	11	11	11	-	-	11	-	-	-	-	-
	TL, 方型	0.06/0.09	83	104	90	12	12	12	12	12	12	12	12	12	12	-	-
NRM040 鋁合金	71B5	0.4	110	130	160	14	14	14	14	-	-	14	-	-	-	-	-
	71B15	0.2	110	130	160	11	11	11	11	11	11	11	11	11	11	-	-
NRM050 鋁合金	80B5	0.75	130	165	200	19	19	19	19	-	-	19	-	-	-	-	-
	71B5	0.4	110	130	160	14	14	14	14	14	14	14	14	14	14	-	-
NRM063 鋁合金	71B5	0.2	110	130	160	11	11	11	11	11	11	11	11	11	11	11	11
	90B5	1.5	130	165	200	24	24	24	24	24	24	24	-	-	-	-	-
	80B5	0.75	130	165	200	19	19	19	19	19	19	19	19	19	-	-	-
NRM075 鋁合金	71B5	0.4	110	130	160	-	-	14	14	14	14	14	14	14	14	14	14
	100/112B5	2.2/3.7	180	215	250	-	28	28	28	-	-	28	-	-	-	-	-
	90B5	1.5	130	165	200	-	24	24	24	24	24	24	24	-	-	-	-
NRM090 鑄 銹	80B5	0.75	130	165	200	-	-	-	-	19	19	19	19	19	19	19	19
	100/112B5	2.2/3.7	180	215	250	-	28	28	28	28	28	28	-	-	-	-	-
	90B5	1.5	130	165	200	-	24	24	24	24	24	24	24	24	24	-	-
NRM100 鑄 銹	80B5	0.75	130	165	200	-	-	-	-	-	-	-	-	-	-	19	19
	132B5	5.5/7.5	230	265	300	-	38	38	38	38	-	-	-	-	-	-	-
	100/112B5	2.2/3.7	180	215	250	-	28	28	28	28	28	28	28	28	28	-	-
NRM130 鑄 銹	90B5	1.5	130	165	200	-	-	-	-	-	-	-	-	-	-	-	19
	132B5	5.5/7.5	230	265	300	-	38	38	38	38	38	38	-	-	-	-	-
	100/112B5	2.2/3.7	180	215	250	-	-	-	-	-	28	28	28	28	28	28	28
	90B5	1.5	130	165	200	-	-	-	-	-	-	-	-	-	-	24	24

\*另有扭力臂、單出力軸、雙出力軸、輸出法蘭可選配。(Torque arm, single shaft, dual shaft, output flange are optional.)

\*以上數值若有變動，恕不另行通知\* We reserve the right to change without further notice.

# Hollow Shaft Worm Gear Reducer

## NR/NRM 尺寸圖 (一段型) *Dimensions (One stage type)*



尺寸 型式	A	B	C	D (H7)	D1 (j6)	E	F	G	G1	G2	H	I	L	M	N	N1	O	P	Q	R	S	T
030	54	20	80	14	9	97	32	55	65	51	40	30	56	65	55	29.5	7	75	44	57	5.5	21
040	70	23	101	18 (19)	11	121.5	43	70.5	80	60	50	40	71	75	60	37	7	90	55	71.5	6.5	26
050	80	30	120	25 (24)	14	145	49	80	93.5	74	60	50	85	85	70	44	9	105	64	84	7	30
063	100	40	148	25 (28)	19	174	67	100.5	112	90	72	63	104	95	80	53.5	9	110	80	102	8	36
075	120	50	175	28 (35)	24	205	72	114	120	105	86	75	113	115	95	59	11	140	93	119	10	40
090	140	50	206	35 (38)	24	238	74	129.5	140	125	103	90	130	130	110	67	13	160	102	135	11	45

尺寸 型式	V	K	KA	KB	KC	KE	KM	KN(HB)	KO	KP	KQ	b	b1	f	t	t1	Kg
030	27	44	54.5	9	4	M6x11 n. 4	69	50	6.5 n. 4	80	70	5	3	-	16.3	10.2	1.2
040	35	60	72 (76.5)	7 (9)	4 (5)	M6x8 n. 4	84 (115)	60 (95)	9 (9.5) n. 4	110 (140)	95	6 (6)	4	-	20.8 (21.8)	12.5	2.3
050	40	70	90 (87.5)	9 (10)	5 (5)	M8x10 n. 4	90 (130)	70 (110)	11 (9.5) n. 4	125 (160)	110	8 (8)	5	M6	28.3 (27.3)	16.0	3.5
063	50	85	82 (99)	10 (11)	6 (5)	M8x14 n. 8	154 (165)	115 (130)	11 (11) n. 4	180 (200)	142	8 (8)	6	M6	28.3 (31.3)	21.5	6.2
075	60	90	111	13	6	M8x14 n. 8	168	130	14 n. 4	195	170	8 (10)	8	M8	31.3 (38.3)	27.0	9
090	70	100	111	13	6	M10x18 n. 8	175	152	14 n. 4	210	200	10 (10)	8	M8	38.3 (41.3)	27.0	13

圖中X與Y軸的尺寸請參考所使用的馬達。

Please refer to the motor used for the size of X and Y in the figure.

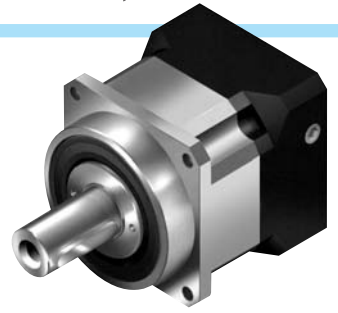
\*以上數值若有變動，恕不另行通知\* We reserve the right to change without further notice.







# 伺服專用減速機-TRS 型號 (歐系規格)



**TRS - 060 - 010 - P1 /**

TRS: 歐規機種  
TRS: European spec.

減速比 Ratio :  
一段式 One stage : 3~10  
二段式 Two stage : 3~100

馬達廠牌及型號  
Motor brand & Model

裝置尺寸 Dimension of device  
060, 090, 115, 142, 180

<b>P0超精密背隙 :</b> 一段式 : 0.05° (3弧分以下) 二段式 : 0.08° (5弧分以下)	<b>P1精密背隙 :</b> 一段式 : 0.1° (6弧分以下) 二段式 : 0.13° (8弧分以下)	<b>P2標準背隙 :</b> 一段式 : 0.25° (15弧分以下) 二段式 : 0.33° (20弧分以下)
<b>P0 Grade Backlash</b> One stage Less than 0.05° (3 Arc-min) Two stage Less than 0.08° (5 Arc-min)	<b>P1 Grade Backlash</b> One stage Less than 0.1° (6 Arc-min) Two stage Less than 0.13° (8 Arc-min)	<b>P2 Grade Backlash</b> One stage Less than 0.25° (15 Arc-min) Two stage Less than 0.33° (20 Arc-min)

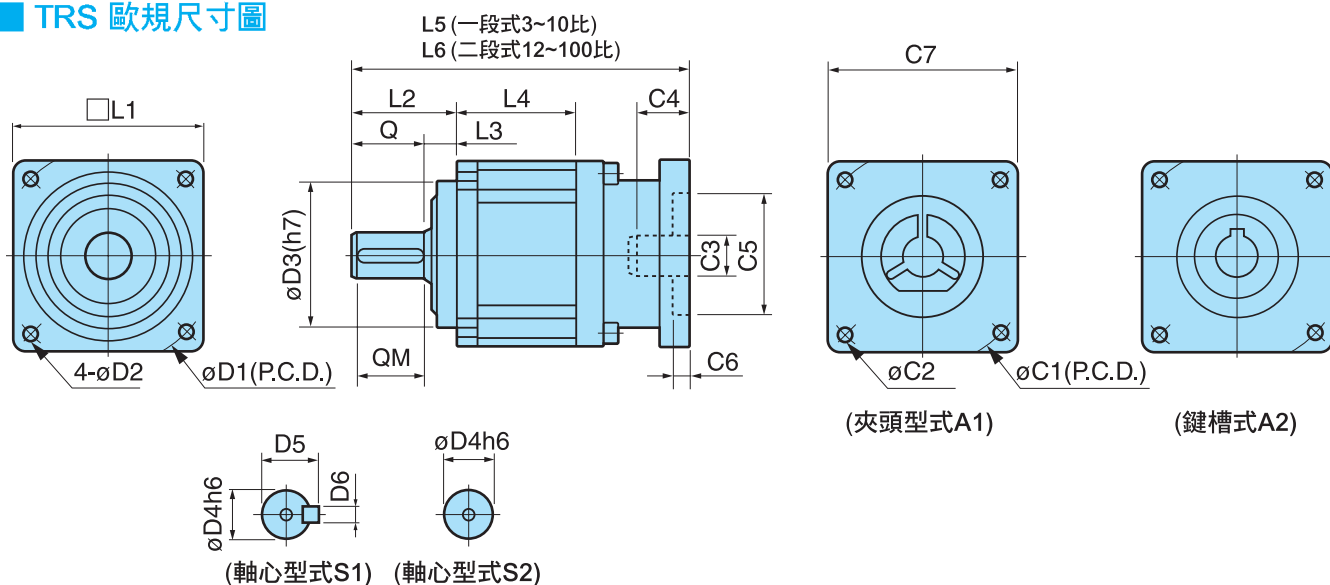
## 性能表

規格	段數(Section)	減速比(Ratio)	TRS-060	TRS-090	TRS-115	TRS-142	TRS-180
額定輸出力矩(N-m)	一段式	3	55	130	208	342	1200
		4	50	140	290	542	1100
		5	60	160	330	650	1200
		6	55	150	310	600	1100
		7	50	140	300	550	1100
		8	45	120	260	500	1000
		9	40	100	230	450	900
		10	40	100	230	450	900
		二段式	15	55	130	208	342
	20		50	140	290	542	770
	25		60	150	330	650	840
	30		55	150	310	600	770
	35		50	140	300	550	770
	40		45	120	260	500	700
	45		40	100	230	450	830
	50		60	160	330	650	840
	60		55	150	310	600	770
	70		50	140	300	550	770
	80	45	120	260	500	700	
90	40	100	230	450	630		
100	28	100	230	450	630		
最大輸出力矩 T2B N-m	1.2	3-100	3倍額定輸出力矩				
額定輸入轉速 NIN RPM	1.2	3-100	5,000	4,000	4,000	3,000	2,000
最大輸入轉速 NIB RPM	1.2	3-100	10,000	8,000	8,000	6,000	4,000
超精密背隙 P0 Arc-Min	1	3-10	≤3	≤3	≤3	≤3	≤3
	2	15-100	≤5	≤5	≤5	≤5	≤5
精密背隙 P1 Arc-Min	1	3-10	≤6	≤6	≤6	≤6	≤6
	2	15-100	≤8	≤8	≤8	≤8	≤8
標準背隙 P2 Arc-Min	1	3-10	≤15	≤15	≤15	≤15	≤15
	2	15-100	≤20	≤20	≤20	≤20	≤20
扭轉剛性 N-m/Arc-Min	1.2	3-100	7	14	25	50	145
容許徑向力 F <sub>ZRBN</sub>	1.2	3-100	1176	2352	3528	4704	50000
容許軸向力 F <sub>ZABN</sub>	1.2	3-100	588	1170	1784	2352	25000
使用壽命 HR	1.2	3-100	20000				
效率 η %	1	3-10	≤97%				
	2	15-100	≤94%				
使用溫度 °C	1.2	3-100	-10 °C ~ +90 °C				
潤滑	1.2	3-100	CPC高黏性滑脂				
防護等級	1.2	3-100	IP65				
安裝方向	1.2	3-100	任意方向				
噪音值 (N1=3000RPM) db	1.2	3-100	<50	<60	<63	<65	<70

\*以上數值若有變動，恕不另行通知\* We reserve the right to change without further notice.

# Servo Reducer-TRS

## ■ TRS 歐規尺寸圖



## ■ 尺寸表

															C代號=>配合馬達可變更尺寸						
	L1	L2	L3	L4	L5	L6	Q	QM	D1	D2	D3	D4	D5	D6	C1	C2	C3	C4	C5	C6	C7
TRS-060	65	38	10	38	126	156	28	22	70	5.5	50	16	18.5	5	70	M5	14	25	50	4	65
TRS-090	90	50	15	45	155	190	35	29	100	6.5	80	22	25	6	100	M6	19	30	80	4	90
TRS-115	115	65	15	50	182	220	50	48	130	9	110	32	37	10	130	M8	32	40	110	5	115
TRS-142	145	98	23	60	250	295	75	68	165	11	130	40	46	12	165	M10	38	60	130	7	145
TRS-180	180	110	30	80	285	335	80	73	215	13	160	55	63	16	215	M10	48	80	180	7	180

## ■ 減速機轉動慣量

規格	段數(Section)	減速比(Ratio)	TRS-060	TRS-090	TRS-115	TRS-142	TRS-180	
轉動慣量 J1 (Kg • cm)	一段式	3	0.16	0.61	3.25	9.21	46.76	
		4	0.14	0.48	2.74	7.54	33.53	
		5	0.13	0.47	2.71	7.42	30.31	
		6	0.13	0.45	2.65	7.25	27.07	
		7	0.13	0.45	2.62	7.14	25.57	
		8	0.13	0.44	2.58	7.07	24.37	
		9	0.13	0.44	2.58	7.04	23.63	
		10	0.13	0.44	2.58	7.03	23.23	
		二段式	15	0.03	0.13	0.47	2.71	10.19
			20	0.03	0.13	0.47	2.71	9.84
	25		0.03	0.13	0.47	2.71	9.76	
	30		0.03	0.13	0.47	2.71	9.66	
	35		0.03	0.13	0.47	2.71	9.62	
	40		0.03	0.13	0.47	2.71	9.58	
	45		0.03	0.13	0.47	2.71	9.58	
	50		0.03	0.13	0.44	2.57	7.56	
	60		0.03	0.13	0.44	2.57	7.54	
	70		0.03	0.13	0.44	2.57	7.53	
	80	0.03	0.13	0.44	2.57	7.52		
	90	0.03	0.13	0.44	2.57	7.51		
100	0.03	0.13	0.44	2.57	7.51			

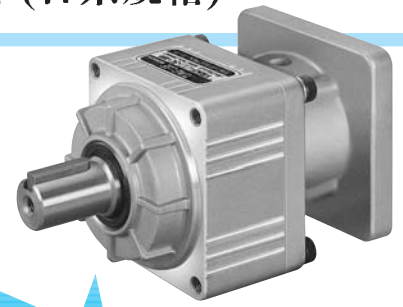
## ■ 適用馬力 (W) 3000RPM

型號	A1 減速比	馬力(W)	A2 減速比	馬力(W)	A2 減速比	馬力(W)	A2 減速比	馬力(W)	A2 減速比	馬力(W)	A2 減速比	馬力(W)
TRS-060	4-6	50-400	16-36	50-400								
TRS-090	3-10	200-1300	12-70	50-1000	72-81	750	90-100	500				
TRS-115	3-10	500-1500	12-36	200-1500	40-64	1300	70-72	1000	80-81	850	90-100	750
TRS-142	3-10	750-3500	12-70	500-2000	72-81	1500	90-100	1000				
TRS-180	3-10	1200-4500	12-36	750-4500	40-81	3000	90-100	2000				

\*以上數值若有變動，恕不另行通知\* We reserve the right to change without further notice.



# 伺服專用減速機-TRK 型號 (日系規格)



**TRK - 03 - B - P1 / □**

TRK: 日規機種  
TRK: Japan spec.

裝置尺寸 Dimension of device  
B: □60mm C: □80mm  
D: □100mm E: □125mm

馬達廠牌及型號  
Motor brand & Model

減速比 Ratio :  
一段式 One stage : 3, 5  
二段式 Two stage : 9, 15, 25

<b>P0超精密背隙：</b> 一段式：0.05°(3弧分以下) 二段式：0.08°(5弧分以下)	<b>P1精密背隙：</b> 一段式：0.1°(6弧分以下) 二段式：0.13°(8弧分以下)	<b>P2標準背隙：</b> 一段式：0.25°(15弧分以下) 二段式：0.33°(20弧分以下)
<b>P0 Grade Backlash</b> One stage Less than 0.05°(3 Arc-min) Two stage Less than 0.08°(5 Arc-min)	<b>P1 Grade Backlash</b> One stage Less than 0.1°(6 Arc-min) Two stage Less than 0.13°(8 Arc-min)	<b>P2 Grade Backlash</b> One stage Less than 0.25°(15 Arc-min) Two stage Less than 0.33°(20 Arc-min)

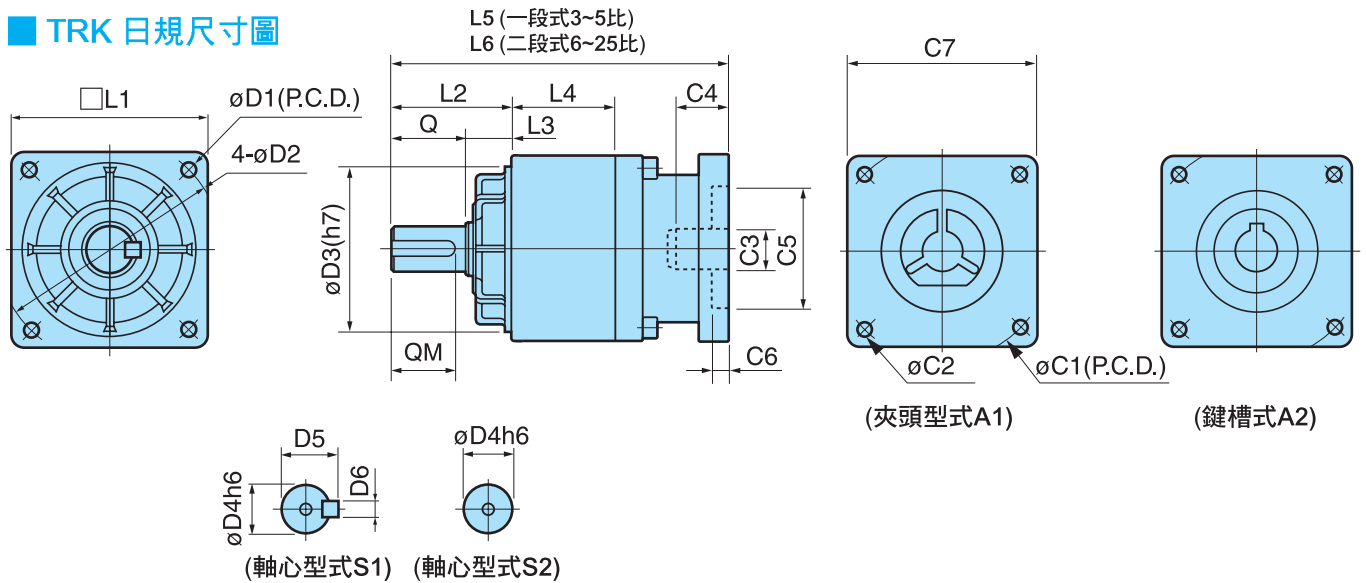
## 性能表 (入力迴轉速3000 rpm時)

減速比 Ratio	出力軸 轉速	Model				定格出力 轉矩 (N-m)	瞬間最大 出力轉矩 (N-m)	容許徑量 力荷重 (N)	容許軸向 力荷重 (N)	減速機 特性 G-cm <sup>2</sup>	容許出力 轉矩 (N-m)	瞬間最大 容許轉矩 (N-m)	
		機種	減速比	型號	W								
1/3	1000	TRK-3	B-	50	0.255	0.784	392	196	57.5	3.43	10.3		
		TRK-3	B-	100	0.715	2.05	392	196	57.5	3.43	10.3		
		TRK-3	B-	200	1.47	4.51	392	196	135	3.43	10.3		
		TRK-3	B-	400	3.43	10.3	392	196	145	3.43	10.3		
		TRK-3	C-	750	6.37	19.3	784	392	913	6.88	20.8		
		TRK-3	D-	1000	7.55	22.8	882	441	2430	18.3	54.9		
		TRK-3	D-	1500	12.3	37.1	882	441	2430	18.3	54.9		
		TRK-3	D-	2000	17.2	51.5	882	441	2430	18.3	54.9		
		TRK-3	E-	2500	19.0	57.2	1370	686	5550	44.1	132		
		TRK-3	E-	3000	23.7	71.2	1370	686	5550	44.1	132		
		TRK-3	E-	3500	26.3	85.2	1370	686	5550	44.1	132		
		TRK-3	E-	4000	33.1	99	1370	686	5780	44.1	132		
1/5	600	TRK-5	B-	50	0.51	1.47	490	245	40	1.57	4.7		
		TRK-5	B-	100	1.18	3.72	490	245	40	1.57	4.7		
		TRK-5	B-	200	2.65	6.04	490	245	118	2.84	8.53		
		TRK-5	C-	400	5.93	16.2	980	490	363	6.57	19.7		
		TRK-5	C-	750	10.7	32.1	980	490	713	11.5	34.3		
		TRK-5	D-	1000	13.4	40.5	1080	539	1850	23.5	70.6		
		TRK-5	D-	1500	21.5	64.4	1080	539	1850	23.5	70.6		
		TRK-5	E-	2000	23.8	71.5	1670	833	3500	58.8	171		
		TRK-5	E-	2500	31.8	95.5	1670	833	3500	58.8	171		
		TRK-5	E-	3000	39.6	119	1670	833	3480	58.8	171		
		TRK-5	E-	3500	47.2	141	1670	833	3480	58.8	171		
		TRK-5	E-	4000	55.3	168	1670	833	3480	58.8	171		
1/9	333	TRK-9	B-	50	0.921	2.74	558	294	35	2.35	7.25		
		TRK-9	B-	100	3.25	6.85	558	294	35	2.35	7.25		
		TRK-9	C-	200	3.72	11.3	1180	588	275	9.7	29.2		
		TRK-9	C-	400	9.51	28.5	1180	588	275	9.7	29.2		
		TRK-9	D-	750	18.2	54.7	1470	735	986	18.2	54.7		
		TRK-9	E-	1000	20.0	60.1	1960	980	2930	73.5	221		
		TRK-9	E-	1500	34.3	103	1960	980	3800	73.5	221		
		TRK-9	E-	2000	48.8	146	1960	980	3800	73.5	221		
		TRK-9	E-	2500	60.8	182	1960	980	3800	73.5	221		
		TRK-9	E-	3000	73.0	219	1960	980	3750	73.5	221		
		1/15	200	TRK-15	B-	50	1.67	5.00	784	392	35	4.02	12.2
				TRK-15	B-	100	3.72	11.4	784	392	35	4.02	12.2
TRK-15	C-			200	6.27	18.8	1470	735	300	16.2	48.6		
TRK-15	C-			400	15.8	47.5	1470	735	300	16.2	48.6		
TRK-15	D-			750	30.4	91.2	1760	892	700	30.4	91.2		
TRK-15	E-			1000	33.3	100	2350	1180	1950	91.4	274		
TRK-15	E-			1500	57.2	172	2350	1180	2800	91.4	274		
TRK-15	E-			2000	61.0	243	2350	1180	2800	91.4	274		
1/25	120			TRK-25	B-	50	2.74	8.33	882	441	32.5	4.02	12.2
				TRK-25	C-	100	6.27	19	1670	833	37.5	7.84	23.8
				TRK-25	C-	200	11.1	33.3	1670	833	288	21.7	64.9
				TRK-25	D-	400	28.4	79.2	2080	1030	300	28.3	85.2
		TRK-25	E-	750	50.7	152	2650	1320	700	50.7	152		
		TRK-25	E-	1000	55.7	167	2650	1320	1880	65.4	196		

\*以上數值若有變動，恕不另行通知\* We reserve the right to change without further notice.

# Servo Reducer-TRK

## TRK 日規尺寸圖



## 適用馬力 (W)

## 減速機尺寸 (m/m)

Model				C代號=>配合馬達可變更尺寸																				
機種	減速比	型號	W	L1	L2	L3	L4	L5	L6	Q	QM	D1	D2	D3	D4	D5	D6	C1	C2	C3	C4	C5	C6	C7
TRK-	3-5	B-	50	65	38	10	38	126	156	28	25	70	M5	50	16	18.5	5	70	M5	14	25	50	4	65
TRK-	15-25	B-	50																					
TRK-	3-5	B-	100																					
TRK-	15	B-	100																					
TRK-	3-5	B-	200																					
TRK-	3	B-	400																					
TRK-	25	C-	100	80	52	22	45	146	180	30	27	90	M6	70	19	22	6	90	M6	19	30	70	4	80
TRK-	9	C-	200																					
TRK-	15-25	C-	200																					
TRK-	5	C-	400																					
TRK-	15	C-	400																					
TRK-	3-5	C-	750																					
TRK-	25	D-	400	100	62	22	50	180	220	40	35	115	M8	90	24	28	8	115	M8	28	40	80	5	100
TRK-	9	D-	750																					
TRK-	15	D-	750																					
TRK-	3-5	D-	1000																					
TRK-	3-5	D-	1500																					
TRK-	3	D-	2000																					
TRK-	25	E-	750	125	72	22	60	222	262	50	45	135	M10	110	32	37	10	135	M10	32	60	110	7	125
TRK-	9-15-25	E-	1000																					
TRK-	9-15	E-	1500																					
TRK-	5	E-	2000																					
TRK-	9-15	E-	2000																					
TRK-	3-5	E-	2500																					
TRK-	9	E-	2500																					
TRK-	3-5	E-	3000																					
TRK-	9	E-	3000																					
TRK-	3-5	E-	3500																					
TRK-	3-5	E-	4000																					
TRK-	3	E-	4500																					
TRK-	3	E-	5000																					

## 特長

- \* 鋁合金外殼，美觀，堅固，質輕。
- \* P0超精密背隙 0.05° (3弧分以下)
- \* P1精密背隙 0.1° (6弧分以下)
- \* P2標準背隙 0.25° (15弧分以下)。
- \* 減速比 1/3 ~ 1/25。
- \* 入力容量 50W ~ 5000W。
- \* 內部容量高精度，小型化，慣性低，適合於精密運轉之控制。
- \* 採用高級潤滑油脂，全密封充填構造，且永遠免換油。
- \* 入力法蘭規格化可搭配任一廠牌製造的伺服馬達。
- \* 出力軸方向可任意安裝。

## 伺服馬達標準裝配系列

- \* 松下電器產業 (株) / MIMAS 系列
- \* 安川電機 / SGM, SGMAH 系列
- \* 三菱電機 (株) / HA-ME/HC-MF 系列
- \* 日機電裝 (株) / NA50 / NA70 系列
- \* 神鋼電機 (株) / BM / ZM 系列
- \* 東榮電機 (株) / T.Z 系列
- \* 山洋電氣 (株) / P3 系列
- \* 富士電機 (株) / FALDIC 系列
- \* 東元精電伺服馬達
- \* 台達伺服馬達

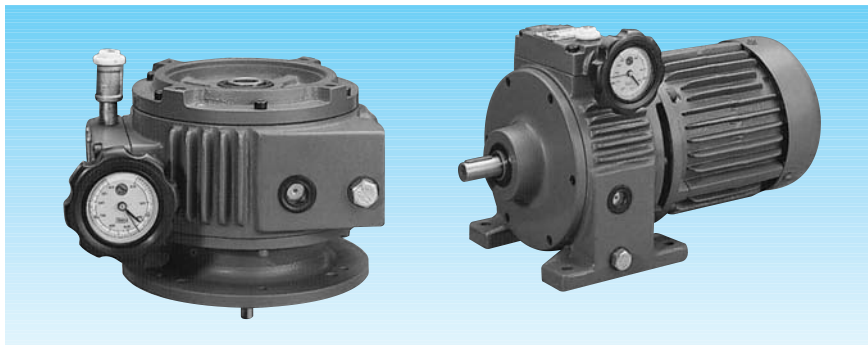
## 潤滑油

CPC-高黏性滑脂

\*以上數值若有變動，恕不另行通知\* We reserve the right to change without further notice.



# DISCO 無段變速機 (Variable Speed Control Motor)



## A系列標準型附加法蘭

### A series standard model with flange

■ 馬力 HP : 0.2K~3.7K

■ 變速範圍 Range of speed variation:

50Hz 165~1000rpm  
60Hz 200~1200rpm

■ 附R型減速比 With R type reduction ratio:

AR2.5 50Hz 66~400rpm  
60Hz 80~480rpm  
AR5 50Hz 33~200rpm  
60Hz 40~240rpm

## 特點：

### 1. 低速時扭力變大效率高

DISCO 無段變速機，輸入容量自0.18W~22KW，其扭力的傳導是由多組斜面游星片面的傳導，所以能夠承受過負載、衝擊負荷和反動作負荷的特殊環境，在低速時因游星片軌道擴大而力臂增大，故扭力變大效力特高。

### 2. 全封閉機械式變速

DISCO 無段變速機，經由機械方式變速，且全封閉在框架內，故在特殊場所，如爆炸性、易燃性、粉塵性、酸鹼性、潮濕性場所，只要馬達選用得當，均能適應，沒有危險且壽命特長。

### 3. 穩定：速度變動率在0.01%以內

機械式變速的另一特色，就是速度穩定變動率低，游星片的組合均附調壓裝置，故速度非常穩，不會因環境溫升改變或使用過久而失去準確性。

### 4. 體積小、重量輕、介面特性佳

DISCO 本體 1HP 僅 125mm 長，體積小重量輕，且立式、臥式，雙軸型均可配合在整體的聯動系統中，可適用單一馬達驅動，降低成本、減少故障，提高系統聯動的特性，因此雙軸型的應用不可或缺。

### 5. 變速操作容易

由於採用操作輪，變速容易，運轉中不管是否在負載狀態下，均可快速而卻實地變速，並且可以裝用各種遙控裝置，與 P.L.D. 自動控制。

### 6. 應用範圍廣泛

任何速度均可指定，任何角度均可安裝，不受入力軸變速的限制，且能配合各種馬達及減速機使用。

## Features:

### 1. High torque at low speed enhance the efficiency

Disco stage less reducer, with input capacity from 0.18W~22KW, the transmission of torque is done by multiple tapered planetary plate which capable to withstand special conditions of overload, impact load and reverse acting load. The torque arm is enlarged due to expansion of planetary plate while low speed, so the torque is enlarged with higher efficiency.

### 2. Fully enclosed mechanical speed variation

Disco stage less reducer, speed change via mechanical method and enclosed in fully concealed frame, so is adaptable to special places such as explosive, flammable, dusty, acid and alkaline, damp place is right selection of motor, hazard free and long life.

### 3. Stable: speed variation rate within 0.01%

Another feature of mechanical speed change is stable speed with low variation, the combination of planetary plate is complete with pressure regulation device, so the speed is very stable, no concern of accuracy loss due to temperature change or extended usage.

### 4. Compact, light weight, good interface characteristic.

The body of 1HP Disco is merely 125mm long, compact and light weight, match the interlinked system by using vertical, flat or dual shafts type, suitable for single motor drive, reduce cost, less trouble, elevate the characteristic of system interlocked, thus the application of dual shafts is indispensable.

### 5. Easy operation for speed change

Easy speed change due to adoption of operation wheel, speed change exactly and fast during operating regardless loaded or not, and allow remote control device, and PLD automatic control.

### 6. Wide application scope

Any speed can be specified and mount to any angle, no restriction from the speed change of input shaft, and match with various motor and reducer.

## 各系列機種例 Full kinds of series model:

A—基本型 A- Basic	R—附偏心減速機 R- with eccentric reducer	G—附齒輪減速機 G- with gear reducer	W—附渦輪減速機 W- with worm gear reducer	S—電氣式遙控數字顯示器 S- electrical remote number display
AM	ARM	AGM	AWM	S—並附把手 S-with handle
AVM	AVRM	AVGM	AVWM	
200-1200RPM	輸出轉速任意指定方式 Free designating of output revolution.			

註：出力軸安裝方向均可指定，並可作雙軸使用。

NOTE: The installation direction of the output shaft can be designated and may be served as dual shafts.

\*以上數值若有變動，恕不另行通知\* We reserve the right to change without further notice.

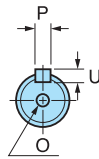
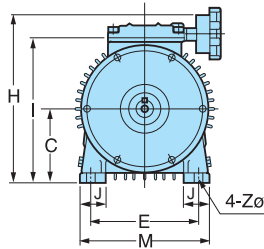




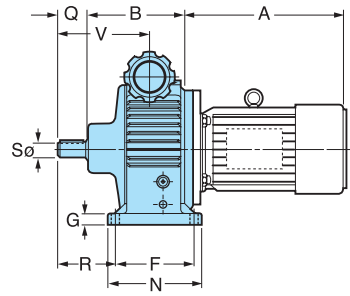
## 常用出力軸回轉數選擇表 Selection list for revolution of common output shaft

出力軸回轉數選擇表 (RPM)		減速比 Ratio	變速範圍 Range of speed variation	減速機型式 Model of reducer	代號 Code
4P 60Hz	4P 50Hz				
1200~200	1000~165		1/1.4~1/8.4	A 系列 Series	AM AVM
480~80	400~66	2.5	1/3.5~1/21	R 型：附偏心齒輪減速機 R type: with eccentric reducer	ARM AVRМ
240~40	200~33	5	1/7~1/42		
120~20	100~16.5	10	1/14~1/84	C 型：附擺線線形減速機 G 型：附齒輪減速機 W 型：附渦輪減速機 C type: with swing linear reducer G type: with gear reducer W type: with worm gear reducer	AGM AVGM AWM AVWM
80~13.3	66.6~11	15	1/21~1/126		
60~10	50~8.3	20	1/28~1/168		
40~6.7	33.3~5.5	30	1/42~1/251		
20~3.3	16.7~2.8	60	1/84~1/509		

### 臥式基本型 (腳座安裝型) Horizontal type (Foot mounting)

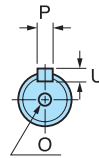
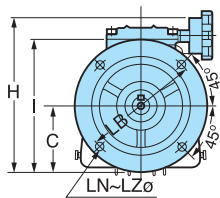


### A (M) 型

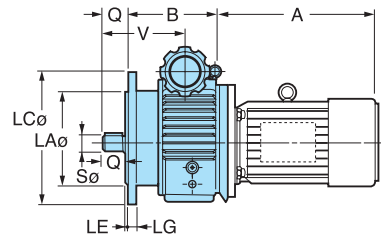


型式 Model	B	C	E	F	G	H	I	J	M	N	R	V	Z	出力軸尺寸 Output shaft size					A (Kg)
														S (h6)	Q	P	U	O	
02A(M)	110	71	110	105	12	203	158	25	140	125	48	99	9	14	30	5	5	M5	8
05A(M)	138	90	120	105	15	223	177	32	160	135	60	110	10	14	30	5	5	M5	14
1A(M)	152	106	160	125	15	254	208	40	190	150	75	129	12	19	40	6	6	M6	20
2A(M)	190	125	180	140	18	300	246	50	230	165	100	157	12	24	50	8	7	M8	34
3/5A(M)	220	150	245	230	20	360	298	55	300	270	85	187	14	28	60	8	7	M8	63
																			67

### 立式基本型 (法蘭直結型) Vertical type (Flange direct coupling)



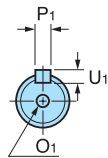
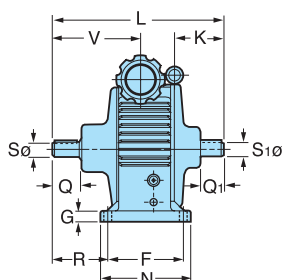
### AV (M) 型



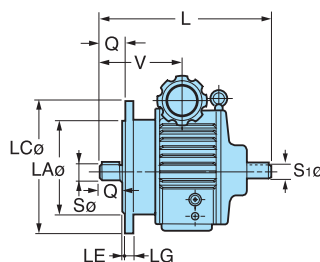
型式 Model	B	C	H	I	V	LA	LB	LC	LE	LG	LN	LZ	出力軸尺寸 Output shaft size					AV (Kg)
													S (h6)	Q	P	U	O	
02AV(M)	110	66	198	153	99	110	130	160	3.5	10	4	10	11	23	5	5	M5	8.5
05AV(M)	138	87	220	174	110	110	130	160	3.5	12	4	12	14	30	5	5	M5	15
1AV(M)	152	103	251	205	129	130	165	200	3.5	12	4	12	19	40	6	6	M6	22
2AV(M)	190	120	295	241	157	130	165	200	4	16	4	15	24	50	8	7	M8	37
3/5AV(M)	220	147	357	295	187	180	215	250	4	16	4	15	28	60	8	7	M8	68
																		72

### 雙軸型 Dual shafts Type

#### AK 型



#### AVK 型



型式 Model	L	K	出力軸尺寸 Output shaft size				
			S <sub>1</sub> (h6)	Q <sub>1</sub>	P <sub>1</sub>	U <sub>1</sub>	O <sub>1</sub>
02 <sup>A</sup> <sub>AV</sub> K	205	77	14	30	5	5	M5
	200		11	25			
05 <sup>A</sup> <sub>AV</sub> K	210	69	14	30	5	5	M5
1 <sup>A</sup> <sub>AV</sub> K	261	89	19	40	6	6	M6
2 <sup>A</sup> <sub>AV</sub> K	331	112	24	50	8	7	M8
3 <sup>A</sup> <sub>AV</sub> K	391	134	28	60	8	7	M8

\*以上數值若有變動，恕不另行通知\* We reserve the right to change without further notice.



# 東力小型 齒輪、渦輪減速變速馬達

先進尖端的品質，精確控制機器自動化的命脈

DNV ISO-9001 國際品質保證 CE (EMC) 認證通過

## 臥式齒輪減速馬達

### Horizontal/Vertical type gear motor

CE/EMC approved

馬力：0.1kw-3.7kw

減速比：1/3-1/1800

Horsepower: 0.1kw-3.7kw

Ratio: 1/3-1/1800



## 無段變速齒輪馬達

### Speed control gear motor

### 齒輪減速馬達

馬力：6w-150w

減速比：1/3-1/1800

Horsepower: 6w-150w

Ratio: 1/3-1/1800



## 直線型馬達

### Linear gear motor

推力：1kg-140kg

基本速度：1mm/sec-50mm/sec



## 電磁制動馬達

### Electromagnetic brake motor

馬力：6w-150w

減速比：1/3-1/1800

Horsepower: 6w-150w

Ratio: 1/3-1/1800



## 中空渦輪減速機

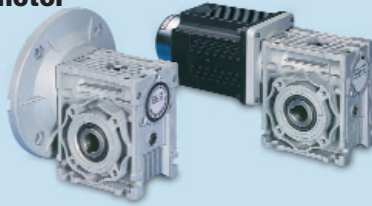
### Hollow-worm gear motor

馬力：40w-2200w

減速比：1/5-1/180

Horsepower: 40w-2200w

Ratio: 1/5-1/180



## 軸上型減速機 (直交軸型)

### Shaft-Mounted Reducer

Model: TL-4070

減速比 (Ratio) : 1/30~1/300

Model: TL-5080

減速比 (Ratio) : 1/30~1/300

馬力：100w-1500w



## TRS低間隙伺服馬達專用減速機 (歐系規格)

### Low backlash planetary gear reducer for servo motor

機種：060, 090, 115, 142, 180

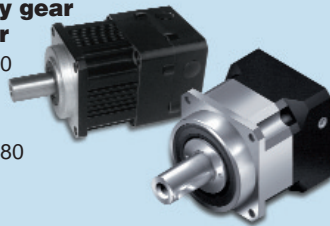
馬力：50w-5000w

減速比：3-100

Model : 060, 090, 115, 142, 180

Horsepower: 50w-5000w

Ratio: 3-100



## TRK低間隙伺服馬達專用減速機 (日系規格)

### Low backlash planetary gear reducer for servo motor

機種：TRK-B.C.D.E

馬力：50w-5000w

減速比：3-25

Type: TRK-B.C.D.E

Horsepower: 50w-5000w

Ratio: 3-25



## 無段變速機

### Variable Speed control motor

馬力：0.2kw-3.7kw

變速範圍：200rpm-1200rpm

Horsepower: 0.2kw-3.7kw

Speed range: 200rpm-1200rpm



## 遊星式減速機

### Planetary Reducer

馬力：1/2HP-150HP

減速比齊全



東力

## 東力電機股份有限公司

台灣廠：台北縣五股工業區五權三路50號

Tel: +886-2-22992655~59

Fax: +886-2-22990146

E-mail: tunglee@mail.mold.net.tw

http://www.tunglee.com.tw

廈門東力：Tel: +86-592-7899357~8

Fax: +86-592-7559311

蘇州東力：Tel: +86-512-5360-4758(68)

Fax: +86-512-53601027

東莞東力：Tel: +86-769-85083030~1

Fax: +86-769-85085955





(EMC) 認證通過

# 東力小型 伺服減速 齒輪減速 渦輪減速 馬達

## T.L. GEAR REDUCTION MOTOR

