北譯精機
PEI-EI Machinery

http://www.peei.com.tw e-mail:cb@peei.com.tw

傳動無限．品味卓群
Self- Confident & Technology





公司簡介

Company Profile



北譯人、北譯心，大家共同一條心
造就企業生命共同體，以負責、用心的態度，
去製造一個能讓顧客滿意的產品，
同時在追求成長的過程中，也該善待這塊與
我們一起成長的土地，以留下一片淨土
予後代子孫。

The members of Pe-ei all are to be of one mind to achieve single community of enterprise. With all our hearts and conscientious to manufacture the products which can be customer's satisfactory for both quality and performance.

經營理念

以用心，負責的態度去製造乙份能讓顧客和自己滿意的產品，追求卓越的自我與產品的巔峰。

THE CONCEPT OF OPERATION

We are diligent and conscientious to turn out Pe-ei's products to be meet up with both customers and ourselves satisfactory. We are pursuing a goal of perfection and excellence.



經營方針

新： 觀念要新
速： 產能要快
實： 誠信為重
簡： 務實簡化

THE STRATEGY OF OPERATION

New: keep update new concept
Fast: short delivery lead time.
Integrity: attach most importance to honest and credibility
Simple: to be pragmatic and simplified.



公司沿革

1979年 6月　成立萬力可工業社.資本捌拾萬元,設廠於台北縣三重市大同北路148巷.廠房40平方米產品VR型
員工一人

1980年 5月　公司名稱更改北譯精機有限公司
廠址遷移至三重市大同南路143巷.廠房60平方米
產品APH/APS型
員工三人

1981年　遷移至三重市大同南路139巷
廠房120平方米
員工五人

1985年　增設三重市仁化街.廠房80平方米
產品十字轉向機電磁離合器制動器
員工八人

1986年10月　遷移台北縣新莊市化成路211巷
廠房1200平方米
員工十五人

1988年　引進AT-286電腦作為產品行銷管理

1990年 8月　公司名稱更改為北譯精機股份有限公司
由日本引進SBV型安全煞車馬達
資本額伍佰萬
引進CNC電腦車床

1990年12月　電磁制動器斷磁設計
通過中央標準局新型專利10年

1993年10月　提高資本額捌佰萬整
由行銷電腦化提升至管理電腦化

1994年 9月　成立天津北譯精密機械公司設廠於天津市復康路.
資本額260萬整,經營組裝與銷售

1994年11月　提高資本額至壹仟捌佰萬整
員工二十五人
電腦化管理納入網路系統

1995年 8月　廠區全面使用中央空調冷氣

1996年 5月　引進CNC車床自動供料彈性加工系統

1997年 1月　成立北譯二廠.設廠於新莊市化成路229巷23號，
產品小型齒輪減速馬達

1997年11月　通過英國SGS ISO-9002認證

1998年 8月　天津津南區購置廠地8660m²

1999年 3月　引進台灣濱井第一台「60SPNC」滾齒機

1999年 8月　小型馬達半自動化輸送機裝配品保系統
完成16000台/月

1999年11月　小型馬達通過 SGS CE 認證

2000年 8月　開發BN無勵磁煞車，成功推入代步車市場10000/月

2000年10月　通過減速馬達新式樣專利認證
新式樣第068384號

2001年 2月　小馬達成功批量外銷英國、日本、比利時

2002年 4月　小馬達全系列通過UL認證

2003年10月　小馬達通過大陸3C認證

THE COMPANY HISTORY

June 1979 : Founded 'Wan Li Co Work Shops with capital of US$25,000 in producing VR belt-transmission variable speed motors. Factory occupied an area of 40 square meters with one worker.

May 1980 : Renamed from Wan Li to Pe-ei Precision Machinery Co., Ltd'. Changed to new plant having 60 square meters building and increased workers to three in producing APH/APS belt-transmission variable-speed motors.

1981 : Moved to new plant building having 120 square meters and increased workers to five.

1985 : Set up 2nd new plant having 80 square meters and eight workers in producing miter gear box and electromagnetic clutch & brake.

1986 : Transferred to new plant having 1200 square meters and 15 workers.

1988 : Brought in AT-286 computer system to assist on management of sales marketing.

Aug. 1990 : To reorganize company as limited joint stock company and increase capital investment to be US$160,000. Brought in Japan BV type safety braking motor and bought a CNC lathe.

Dec. 1990 : The design of electromagnet breaker for electromagnetic brake was granted a 10-year patent by MOEA s Bureau of Standards, Metrology and Inspection, Taiwan s Ministry of Economic Affairs.

Oct. 1993 : Raised capital to US$250,000. Upgrade management to be computerized system.

Sep. 1994 : Set up Tianjin Pe-ei Precision Machinery, a subsidiary in China with capital US$100,000, dedicated in assembly and sales in China market.

Nov. 1994 : Raised capital to US$600,000, with total workforce of 25. Internet service was put in the computerized administration system.

Aug. 1995 : Centralized air conditioning systems were available for work site.

May 1996 : Imported auto-feed flexible processing systems for CNC lathe.

Jan. 1997 : Set up 2nd plant of Pe-ei in producing compact gearmotor.

Nov. 1997 : SGS ISO-9002 Certificate is available.

Aug. 1998 : Purchased 8,660 square meters of land as site of Tianjin factory in the Jinnan district, Tianjin, China.

March 1999 : Adopting the first Hamai 60SPNC gear hobber.

Aug. 1999 : Available for semi-automatic conveyor assembly quality assurance system for compact gear motor, which capacity can reach 16,0000 per month.

Nov. 1999 : The compact gear motor was passed SGS CE approval.

Aug. 2000 : Developing BN safety brake to successfully enter into Scooter marketing for selling 10,000units per month.

Oct. 2000 : Obtained new model patent of no. 068384 for deceleration motor.

Feb. 2001 : Successfully extend the market of compact gear motor to U.K., Japan & Belgium.

Apr. 2002 : The compact gear motor was UL approval.

Oct. 2003 : The compact gear motor was acquired 3C approval in China.

精密設備

「全面品管」在北譯絕不是一句口號，我們對品質的執著，對每一個產品的要求都有嚴格的指導書，一步一腳印踏實的品管不論從進料到裝配完成品的檢驗，已完全符合客戶要求及北譯的品質標準，品保部門有最精密的檢驗儀器，所謂「工欲善其事 必先利其器」這就是北譯品質信賴的保證。

PRECISE EQUIPMENT

"Total quality control" is never just a slogan, but is our insistent pursuit of perfection and excellence on our products. We have detail strict QC guide and procedure to ensure the quality, which are including of precise inspection equipments.





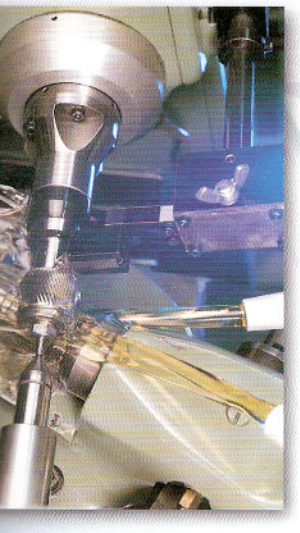




裝配線的一角

Perfect Control

Professional







最專業的工具機

北譯為增進技術精良，斥資購置整套CNC電腦加工機械設備，以精密零件加工配合優秀工程人員，提升零件精度確保穩定的品質。

THE MOST PROFESSIONAL TOOL MACHINE

To promote our technology and skill, Pe-ei invested a whole set of CNC computer processing equipment. Accompany with qualified engineers, we are capable to elevate the accuracy of each component to assure of stable good quality.



技術研發室
Technical research and development room

Education and Training

Professional



電腦輔助設計

在每一個生產高品質的背後，每一個流程及步驟都必須投入很多的設計概念與經驗，在北譯 我們有經驗豐富的優秀人才及高品質的設計環境，配合電腦輔助設計提高生產力及創造力，快速而完整地提供客戶一個滿意的解決問題之道。

COMPUTER-AIDED DESIGN

The superior quality of production is the result of tremendous design concept and cumulating experiences be investing in each procedures and steps. We have qualified persons of talent with good experiences and high quality design environment. And with computer-aided design program of CAD, we are competent to promote productivity as well as creativity that may completely and quickly consolidate to a satisfactory solution for our clients.

北譯對每一位員工定期的教育訓練，這樣才能讓北譯的每一位員工追求卓越的自我與產品的巔峰。

Pe-ei has a regularly scheduled training problem for each employee to allow he/she to pursue the same goal of perfection, innovation and top quality as company.



辦公室管理 Office control



電腦化倉儲管理
The computer stores in a storehouse the control





目 錄 Contents

公司沿革
Company Profile ..... A

產品簡介
Array of Products ..... B

結構說明
Structure Description

動作原理
Movement Theory

型號說明
Description of Models

技術資料
Technical Data C

機型選用
Selection of Models

產品規範
Product Specifications

基本控制電路
Basic Control Electric Circuits

使用條件注意事項
Use Conditions and Caution when in use

離合器制動器應用範例
Applied Model Examples of Clutch and Brake

尺寸規格表
Dimension and Specification ..... D

離合器
Clutch D1

制動器
Brake D2

離合器制動器組合
Clutch and Brake in One D3



乾式單板電磁離合器 制動器的優點：

- 操作性能好
- 可靠性高
- 靈敏度高
- 結構簡單、經濟

ADVANTAGE OF DRY SINGLE PANEL ELECTROMAGNETIC CLUTCH, BRAKE

- Excellent performance
- High reliability
- High precision
- Simple structure and compact size

電磁離合器 制動器的基本使用方法：

連接與切離動作

驅動部位與起動部位之間安裝離合器，則不須停止驅動處，起動處會依必要反應做連接與切離的動作

保持制動

為了維持於慣性負荷、緊急狀況、作業途中時的機器中斷而使用制動器

變速

作業途中時有相互轉換速度的情形、此時使用離合器、則不須關閉驅動處即可變速

正反轉

負荷點的正反轉切換時、配合離合器使用則驅動處只要順向回轉即可

高頻運轉

在快速循環中的斷續運轉、反覆利用馬達上的ON、OFF所提供的頻度有限、因此使用離合制動器、使之迅速反應、高精度的制動

位置推算

停留於測定位置或定量的傳送都須仰賴高精度定位裝置、使用離合制動器便能達到定位或定量功能

寸動

機械開始作動與位置接合時、只須以離合器瞬時作動即可

緩衝起動、制動

減少對負荷的衝擊之起動、停止，可調節轉速使用但如發熱過大、應把滑差的時間縮短

BASIC USE METHOD FOR ELECTROMAGNETIC CLUTCH, BRAKE

Connection and disconnection

To install clutch between driving location and starting location, there is no need to stop the driving and the starting point will be connection and disconnection just in accordance with necessary reaction.

Keep brake in action

Brake is used to maintain inertia load, or in case of emergency or abrupt stop during operation.

Speed change

During operation there are times that requires change of speed where the clutch comes to play. Transmission can then be made without turning off the driving point.

Reciprocal turn

Reciprocal turn switchover of the load point may be made with the use of the clutch by turning the driving point clockwise.

High frequency operation

In a fast cyclic intermittent run of the clutch brake, use the frequency as shown on ON, OFF of the motor repeatedly to achieve rapid reaction and high precision brake.

Position reckoning

Stop in a setting-out position or quantitative transmission all requires high precision positioning device. Use of the clutch brake can achieve this purpose.

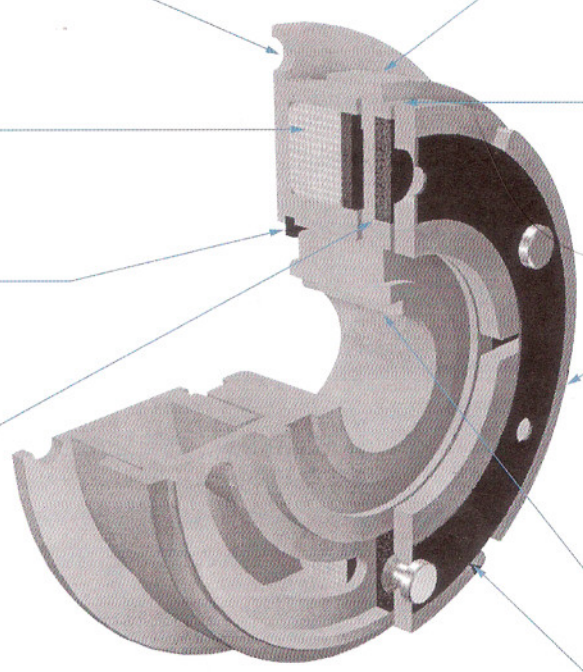
Short movement

When machinery begins to move and connect the position, all needed is an instant action of the clutch.

Slow start and brake

Can be used to adjust the speed to reduce the impact upon the load starting or stopping. If it is overheating, shorten the time for the slipping difference.

離合器構造
Structure of Clutch



磁軛
Magnetic yoke core
內裝線圈，採用法蘭式固定式方式
With built-in coil by fixed flange method

線圈
Coil
產生強力之電磁場
To create strong electromagnetic field.

C型扣環槽
C-buckle ring fillister
在安裝時，可扣上C型扣環，作為軸承定位用
During installation, snap the C-buckle ring fillister for positioning the bearing.

來令片
Lining plate
高摩擦係數材質固定於轉軛上，在電磁發生時電樞片被吸持時電樞片與其之間可產生大的摩擦轉矩
Material of high friction co-efficient is fixed on the transitional yoke core and, when electromagnetism is generated that absorbs the armature plate, between the transitional yoke core and the armature plate there may generate huge friction torque.

轉軛
Transitional yoke core
經由鍵固定於軸上當磁軛上之磁場形成時，透過電樞的吸引而作動
Fixed on the axle by virtue of key; when magnetic field on the magnetic yoke core is formed, it moves through the attraction of armature.

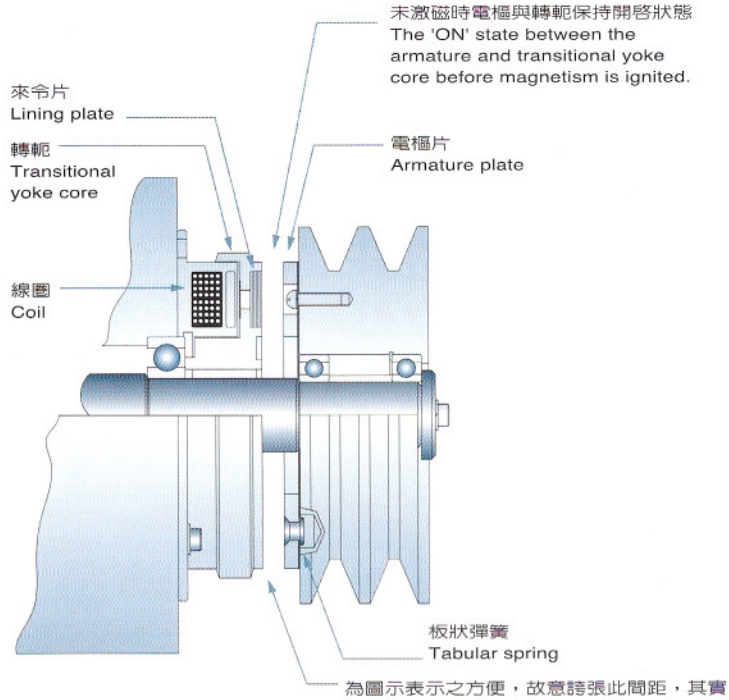
作動間隙
Movement clearance
磁軛與轉子及電樞片之微小空隙，在電磁回路產生或解放，電樞片與轉子間之作動間隙
The movement clearance between the armature plate and rotator generated or released in the electromagnetic loop that allows the tiny clearance between the magnetic yoke core and rotator and the armature plate.

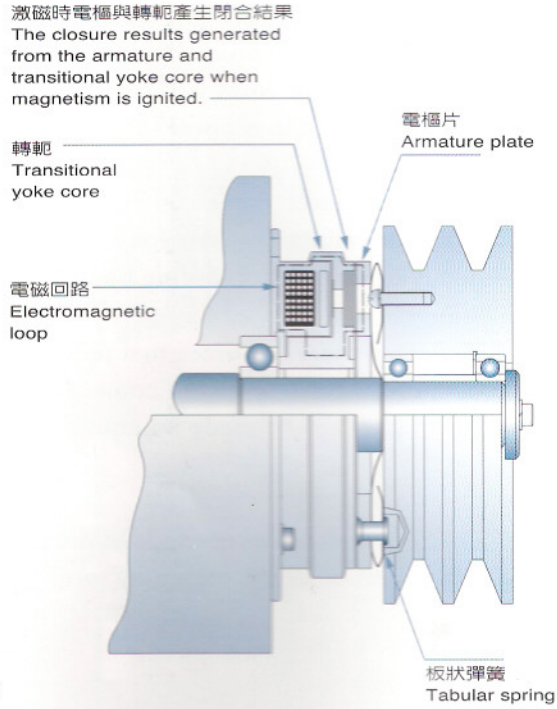
電樞片
Armature plate
線圈通電產生電磁回路被轉子吸引藉由轉子上之來令片傳達轉矩
Once the coil is electrified, it generates electromagnetic loop, which is absorbed by the rotator and, through the lining plate of the rotator, electricity is transmitted to the torque.

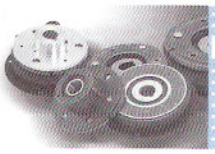
鍵槽
Key fillister

板狀彈簧
Tabular spring
在電流斷電，電磁回路結束時，以其彈性將電樞回歸正常位置結束轉矩之傳動
When electrical current is disrupted and electromagnetic loop is discontinued, the flexibility of the spring will return the armature to its normal position and end the torque movement.

動作原理
Movement theory



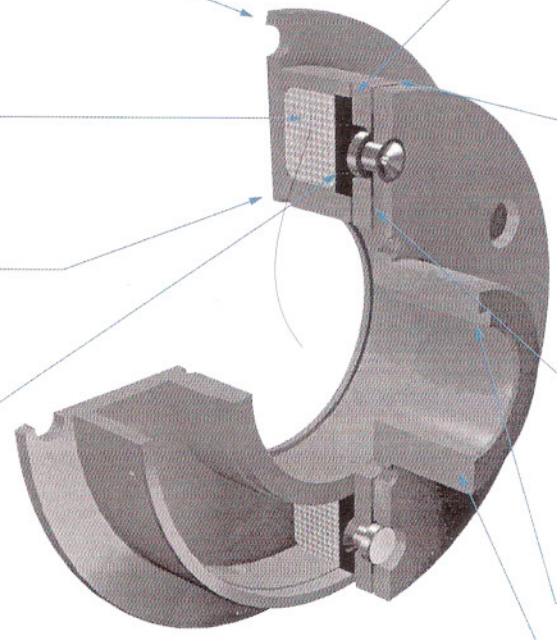




STRUCTURE MOVEMENT PRINCIPLE EXPLANATION

結構動作原理說明

制動器構造
Structure of Brake



磁軛
Magnetic yoke core
內裝線圈，採用法蘭式固定式方式
With built-in coil by fixed flange method

線圈
Coil
產生強力之電磁場
To create strong electromagnetic field

C型扣環槽
C-buckle ring fillister
在安裝時，可扣上C型扣環，作為軸承定位用
During installation, snap the C-buckle ring fillister for positioning the bearing.

來令片
Lining plate
高摩擦係數材質固定於磁軛上，在電磁發生時電樞片被吸持時電樞片與其之間可產生大的摩擦轉矩
Material of high friction co-efficient is fixed on the transitional yoke core and, when electromagnetism is generated that absorbs the armature plate, between the transitional yoke core and the armature plate there may generate huge friction torque.

電樞片
Armature plate
線圈通電產生電磁回路被磁軛吸引藉由磁軛上之來令片傳達轉矩
Once the coil is electrified, it generates electromagnetic loop, which is absorbed by the magnetic yoke core and, through the lining plate of the magnetic yoke core, electricity is transmitted to the torque.

作動間隙
Movement clearance
磁軛與電樞片之微小空隙，在電磁回路激磁或消磁，電樞片與磁軛間之作動間隙
The movement clearance between the armature plate and magnetic yoke core ignited or de-ignited in the electromagnetic loop that allows the tiny clearance between the magnetic yoke core and armature plate.

板狀彈簧
Tabular spring
在電流斷電，電磁回路結束時，以其彈性將電樞片回歸正常位置結束轉矩之傳動
When electrical current is disrupted and electromagnetic loop is discontinued, the flexibility of the spring will return the armature to its normal position and end the torque movement.

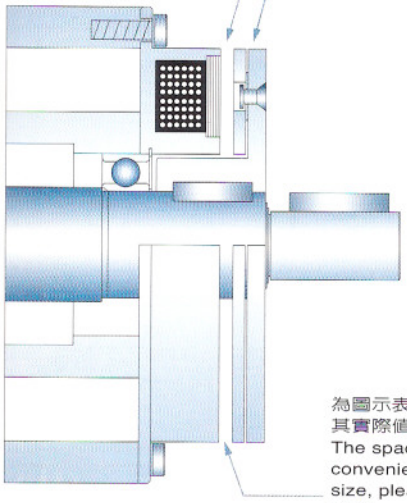
鍵槽
Key fillister

導座
Guide seat
經由鍵固定於軸上當磁軛上之磁場形成時，透過電樞的吸引而作動
Fixed on the axle by virtue of key; when magnetic field on the magnetic yoke core is formed, it moves through the attraction of armature.

動作原理
Movement theory

未激磁時電樞片與磁軛保持開啓狀態
The 'ON' state between the armature and magnetic yoke core before magnetism is ignited.

板狀彈簧
Tabular spring

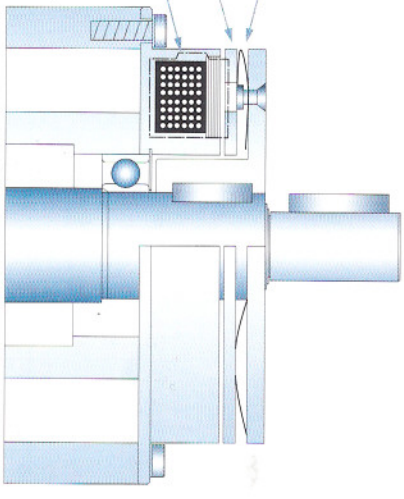


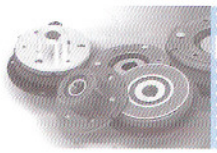
為圖示表示之方便，故意誇張此間距，其實際值請參考尺寸規格表
The space is inflated for the convenience of illustration; for actual size, please refer to the specifications table.

激磁時電樞片與磁軛產生閉合結果
The closure results generated from the armature plate and magnetic yoke core when magnetism is ignited.

電磁回路
Electromagnetic loop

板狀彈簧
Tabular spring





DESCRIPTION OF MODELS

PE-ET

型號說明

編號說明
Description of Serial Numbers

C - M40 - F02 - 25

產品代碼：
Products Codes:

C-代表離合器
C represents clutch.
B-代表制動器
B represents brake.

轉矩代碼：
Torque Codes:

請參考下頁轉矩代碼說明
Please refer to the below-listed description of torque.

型式代碼：
Type Codes:

請參考以下型號說明
Please refer to the below-listed description of models.

孔　徑：
Aperture:

離合器–指轉靶的孔徑
Clutch - referring to the aperture of the transitional yoke core.
制動器–指導座的孔徑
Brake - referring to the aperture of the guide seat.

轉矩代碼及容許最高迴轉數
Torque Codes and Maximum Allowable Number of Revolutions

轉矩代碼 Torque Code	動摩擦轉矩 Torque in Dynamic Friction(kgf-m)(Td)	靜摩擦轉矩 Torque in Static Friction(kgf-m)(Ts)	容許最高迴轉數 Maximum Allowable Number of Revolutions(rpm)	轉矩代碼 Torque Code	動摩擦轉矩 Torque in Dynamic Friction(kgf-m)(Td)	靜摩擦轉矩 Torque in Static Friction(kgf-m)(Ts)	容許最高迴轉數 Maximum Allowable Number of Revolutions(rpm)
S24	0.24	0.26	10000	M40	4.0	4.5	4000
S50	0.5	0.55	8000	M80	8.0	9.0	3000
M10	1.0	1.1	6000	T16	16	17.5	2500
M20	2.0	2.2	5000	T32	32	35	2000

孔徑一覽表
List of Apertures

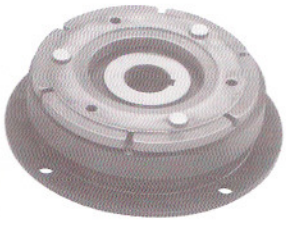
離合器、制動器　孔徑規格一覽表 / List of Aperture Specifications for Clutch, Brake

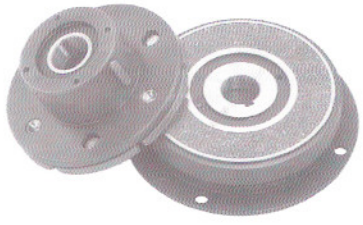
轉矩代碼 Torque Code	孔位置 Hole Location	標準孔徑 Standard Aperture	孔徑加工最大範圍 Maximum Range of Reprocessed Aperture	轉矩代碼 Torque Code	孔位置 Hole Location	標準孔徑 Standard Aperture	孔徑加工最大範圍 Maximum Range of Reprocessed Aperture
S24	轉子，導座 Rotator, Guide Seat	Ø10，Ø15	Ø8 ~ Ø15	M40	轉子 Rotator	Ø25，Ø30	Ø12.5 ~ Ø35
S50	轉子 Rotator	Ø12，Ø15	Ø8.5 ~ Ø17		導座 Guide Seat	Ø25，Ø30	Ø12.5 ~ Ø32
	導座 Guide Seat	Ø12，Ø15	Ø8.5 ~ Ø17	M80	轉子 Rotator	Ø30，Ø40	Ø18.5 ~ Ø50
M10	轉子 Rotator	Ø15，Ø20	Ø8.5 ~ Ø20		導座 Guide Seat	Ø30，Ø40	Ø18.5 ~ Ø48
	導座 Guide Seat	Ø15，Ø20	Ø8.5 ~ Ø20	T16	轉子 Rotator	Ø40，Ø50	Ø23.5 ~ Ø60
M20	轉子 Rotator	Ø20，Ø25	Ø12.5 ~ Ø30		導座 Guide Seat	Ø40，Ø50	Ø23.5 ~ Ø60
	導座 Guide Seat	Ø20，Ø25	Ø12.5 ~ Ø28	T32	轉子，導座 Rotator, Guide Seat	Ø50，Ø60	Ø23.5 ~ Ø75

型號說明
Description of Models

離 合 器 / Clutch

機型 Model	導座型式 Guide Seat Type	參考頁碼 Reference Page No.	機型 Model	導座型式 Guide Seat Type	參考頁碼 Reference Page No.	機型 Model	導座型式 Guide Seat Type	參考頁碼 Reference Page No.
F01	無,NO	D1-1	F02	正裝導座 Right Position Guide	D1-2	F04	軸承導座 Bearing Guide	D1-3

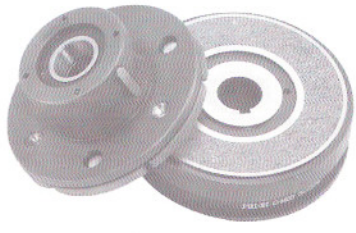




離 合 器 (軸 承 型) / Clutch (Bearing Type)

機型 Model	導座型式 Guide Seat Type	參考頁碼 Reference Page No.	機型 Model	導座型式 Guide Seat Type	參考頁碼 Reference Page No.	機型 Model	導座型式 Guide Seat Type	參考頁碼 Reference Page No.
R01	無,NO	D1-4	R02	正裝導座 Right Position Guide	D1-5	R04	軸承導座 Bearing Guide	D1-6





制 動 器 / Brake

機型 Model	導座型式 Guide Seat Type	參考頁碼 Reference Page No.	機型 Model	導座型式 Guide Seat Type	參考頁碼 Reference Page No.	機型 Model	導座型式 Guide Seat Type	參考頁碼 Reference Page No.
F01	無,NO	D2-1	F02	正裝導座 Right Position Guide	D2-2	F03	反裝導座 Back Guide	D2-3





DESCRIPTION OF MODELS

編號說明
Description of Serial Numbers

S - M 4 0 - A 2 1

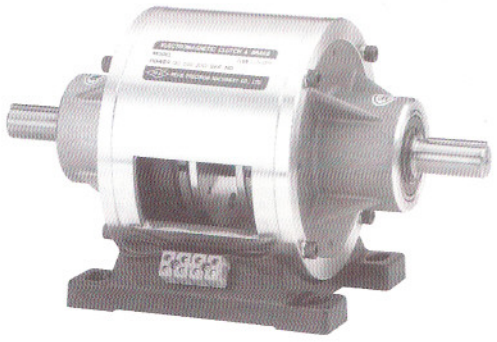
產品代碼： Products Codes:
S-代表離合制動器組合
S represents Clutch and Brake in One.

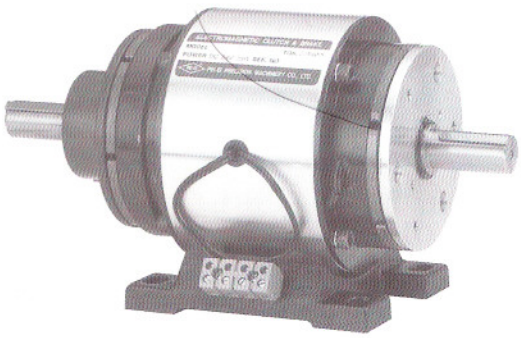
轉矩代碼： Torque Codes:
請參考轉矩代碼說明
Torque Codes: Please refer to the below-listed description of torque.

型式代碼： Type Codes:
請參考以下機型說明
Please refer to the below-listed description of models.

單離合制動器組合/Single Clutch and Brake in One

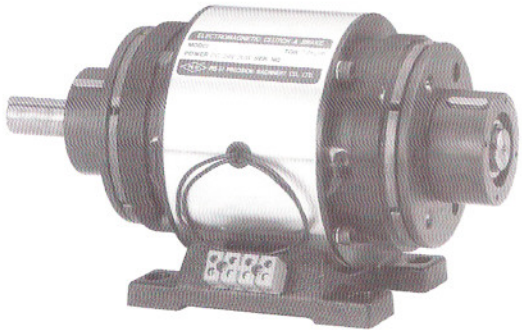
型式 Model	名稱 Name	參考頁碼 Reference Page No.	型式 Model	名稱 Name	參考頁碼 Reference Page No.
A21	雙軸型 Dual-Axes Type	D3-2	A22	通軸型 Through-Axes Type	D3-4





雙離合器組合/Double Clutch Combination

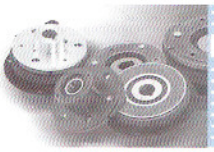
型式 Model	名稱 Name	參考頁碼 Reference Page No.
A23	通軸型 Through-Axes Type	D3-6



雙離合制動器組合/Double Clutch and Brake in One

型式 Model	名稱 Name	參考頁碼 Reference Page No.
A31	通軸型 Through-Axes Type	D3-8





DESCRIPTION OF MODELS

PE-EL

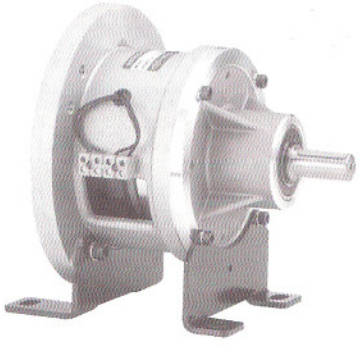
型號說明

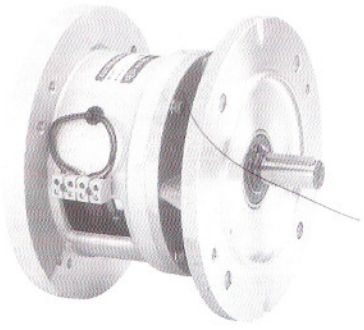
S - M 4 0 - K 2 5

產品代碼： Products Codes:	轉矩代碼： Torque Codes:	型式代碼： Type Codes:
S-代表離合制動器組合 S represents Clutch and Brake in One.	請參考轉矩代碼說明 Torque Codes: Please refer to the below-listed description of torque.	請參考以下機型說明 Please refer to the below-listed description of models.

離合器制動器組合/Clutch and Brake in One

型式 Model	名稱 Name	參考頁碼 Reference Page No.	型式 Model	名稱 Name	參考頁碼 Reference Page No.
K25	馬達直結單離合制動器臥式型 Motor-driven Horizontal Single Clutch and Brake	D3-10	K26	法蘭式單離合制動器立式型 Flange-type Vertical Single Clutch and Brake	D3-12



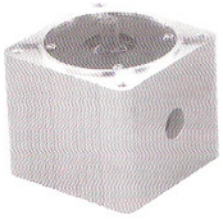


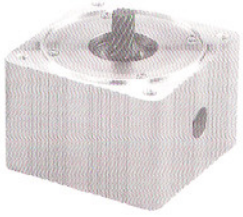
S - S 2 4 - A 2 6 - 1

產品代碼： Products Codes:	轉矩代碼： Torque Codes:	型式代碼： Type Codes:	出力軸型式： Type Codes:
S-代表離合制動器組合 S represents Clutch and Brake in One.	請參考轉矩代碼說明 Torque Codes: Please refer to the below-listed description of torque.	請參考以下機型說明 Please refer to the below-listed description of models.	請參考下列型式表 Horsepower Axle Models: Please refer to the below list of models.

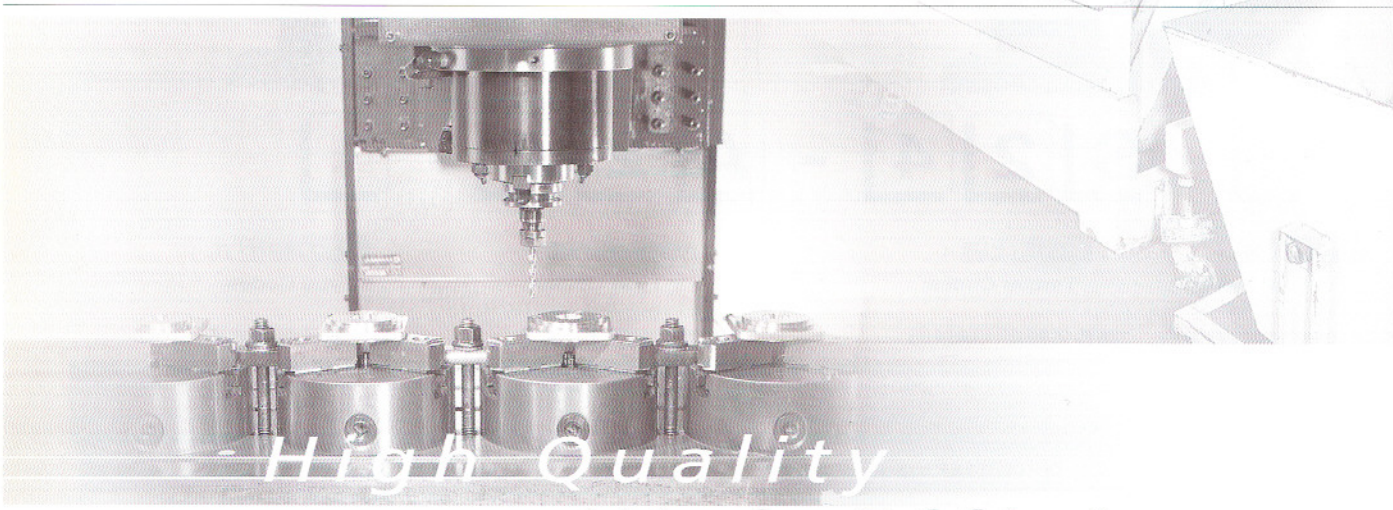
小型離合制動器組合/Mini Clutch and Brake in One

型式 Model	名稱 Name	參考頁碼 Reference Page No.
A26	小型離合制動器組合 Mini Clutch and Brake in One	D3-1





轉矩代碼 Torque Code	S24	S50	
出力軸型式 Horsepower Axle Model	1	1	2
模數 Module	0.6	0.8	0.6
齒數 Gear	10	12	14
使用馬達容量 Motor Capacity Used	25W	90W	60W 40W



High Quality

High Efficiency

機型選用
Selection of Machine Models

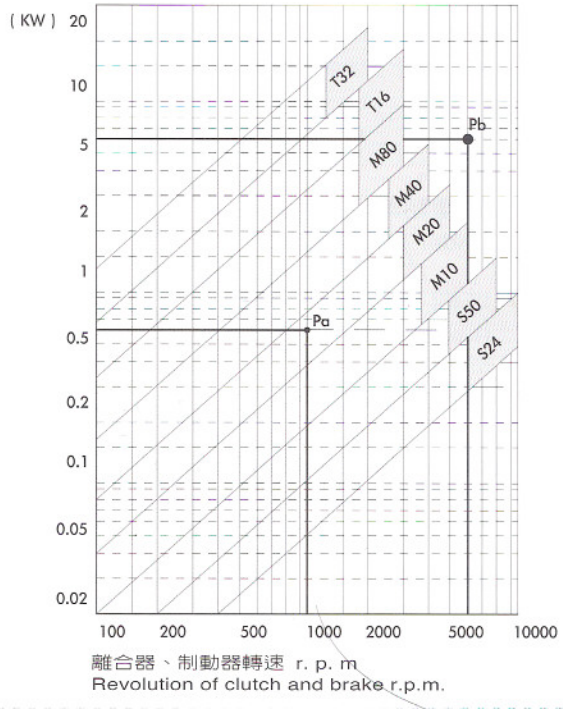
在一般的使用環境下離合器與制動器的選用是一件單純簡易的工作。為了能迅速的找到所適用的型式，請善用右邊之型式選定圖。圖中淺顏色部份為正常使用範圍，在深顏色部份就必須注意工作量，散熱能力及摩耗量。

In normal condition, selection of clutch and brake is a very simple and easy task. In order to select the desired ones, please consult the selection chart on the right side. Light color in the chart shows normal use range while dark color indicates attention must be paid to the workload, heat dissipation capability and attribution.

離合器／制動器選定之負荷係數f
Load Co-efficient f of Clutch/brake

負荷型態 Load Type	機械種類 Type of Machinery	負荷係數f Load Co-efficient f
定負荷 Fixed load 低慣性 Low inertia 低頻度 Low frequency	小型工作母機、小型紡織機、小型高速幫浦、小型木工機器、事務機器 Small machine tool, small textile machinery, mini-high speed pump, small carpenter machine, business machine.	1.5
變動負荷 Variable load 低慣性 Low inertia 低頻度 Low frequency	中型工作母機、小型沖床、木工機器、絞盤、小型幫浦、紡織機、空氣壓縮機、送風機 Medium machine tool, mini-lathe, carpenter machinery, capstan, mini-pump, textile machinery, air compressor, draught blower.	2.0
變動負荷 Variable load 高慣性 High inertia 低頻度 Low frequency	工作母機、中型沖床、紡織機、印刷機、包裝機、輸送機、製藥機器、吊車、攪拌機、攻牙機 Machine tool, medium lathe, textile machinery, packaging machine, transmission machinery, pharmaceutical machinery, crane, mixer, Tapping Machine.	2.5
重負荷 Heavy load 高慣性 High inertia 高頻度 High frequency	大型沖床、大型銑床、壓延機、造紙機、其他大型工作母機 Giant lathe, giant milling machine, rolling machine, paper machine, other giant machine tool.	3.5

型式選定圖
Selection Chart



例一、

馬達額定出力0.75KW的感應馬達，使用於低慣性、低頻度之變動負荷，離合器迴轉數為1000 r. p. m.，離合器／制動器額定動轉矩計算如下：

Example 1:

An induction motor with rated horsepower of 0.75W under variable load of low inertia and low frequency and revolution of the clutch is 1,000 r.p.m., computation of the rated dynamic torque of the clutch/brake is as follows:

$$0.75 \times \frac{2}{2.5} = 0.6\ (KW)\ ...Pa$$ (參照左圖) (Reference Fig. left)

由圖例0.6KW與1000 r. p. m. 的交點，選用型號M20離合器

By the cross point of 0.6KW and 1,000 r. p. m. as indicated in the chart, the desired model should be M20 clutch.

例二、

馬達額定出力7.5KW的感應馬達，使用於低慣性、低頻度之變動負荷，離合器設計迴轉數為5,500 r. p.m.，離合器／制動額定動轉矩計算如下：

Example 2:

An induction motor with rated horsepower of 0.75W under variable load of low inertia and low frequency and revolution of the clutch is 5,500 r.p.m., computation of the rated dynamic torque of the clutch/brake is as follows:

$$7.5 \times \frac{2}{2.5} = 6\ (KW)\ ...Pb$$ (參照左圖) (Reference Fig. left)

由圖例6KW與5,500 r. p. m的交點，超出選用範圍，為不正確之設計。

By the cross point of 0.6KW and 5,500 r. p. m. as indicated in the chart, the desired range is selected and we note that the design is not correct.

簡易計算–選用法
Simplified computation for selection

選用法所依據的準則如下：
The standard rules for selection are as follows:

準則（一）：
Rule 1:
於連結時
Under connection
Td需大於離合器之最大動摩擦轉矩
Td must be bigger than the maximum dynamic friction torque

準則（二）：
Rule 2:
於連結後
After connection
Td需大於離合器之最大靜摩擦轉矩
Td must be bigger than the maximum static friction torque

準則（三）：
Rule 3:
n 不得大於容許最高迴轉數
n must not be bigger than the maximum allowable number of revolutions

以“簡易計算–選用法”作為離合器／制動器轉矩選定之參考
Use the simplified computation for selection as a reference for selection of clutch/brake torque.

公式 = Formula

$$Td\ (kgf\text{-}m) = 973 \cdot \frac{KW}{n} \cdot f = 726 \cdot \frac{Hp}{n} \cdot f = 716 \cdot \frac{PS}{n} \cdot f$$

Td：離合器或制動器額定動轉矩(Kgf-m)
Td： The rated dynamic torque of clutch or brake
KW：馬達出力(KW)
KW：Motor horsepower (KW)
f：負荷系數
f：Load co-efficient
HP：馬達出力(Hp)
HP：Motor horsepower
PS：馬達出力(PS)
PS：Motor horsepower (PS)

例三、
馬達額定出力0.75KW的感應馬達，使用於低慣性、低頻度之變動負荷，離合器迴轉數為1000 r. p. m.，離合器／制動器額定動轉矩計算如下：
Example 3:
An induction motor with rated horsepower of 0.75W under variable load of low inertia and low frequency and revolution of the clutch is 1,000 r.p.m., computation of the rated dynamic torque of the clutch/brake is as follows:

$$Td = 973 \times \frac{0.75}{1000} \times 2.0 = 1.5\ (kgf\text{-}m)$$

依據準則（一）、（二）選取M20離合器　By Rules 1 and 2, we select M20 clutch.

例四、
馬達額定出力7.5KW的感應馬達，使用於低慣性、低頻度之變動負荷，離合器設計迴轉數為5,500 r. p.m.，離合器／制動器額定動轉矩計算如下：
Example 4:
An induction motor with rated horsepower of 0.75W under variable load of low inertia and low frequency and revolution of the clutch is 5,500 r.p.m., computation of the rated dynamic torque of the clutch/brake is as follows:

$$Td = 973 \times \frac{7.5}{5500} \times 2.0 = 2.65\ (kgf\text{-}m)$$

若依準則（一）、（二）選取M40離合器，但是因為本離合器設計迴轉數5,500 r. p. m大於M40離合器容許最高迴轉數4,000 r. p. m，是為不正確之設計。但若以M20取代，則可符合需求，唯間隙調整壽命及工作量應加以檢討。
By Rules 1 and 2, we should select M40. However, since the designed number of revolutions of the clutch is 5,500 r.p.m., which is bigger than the maximum allowable number of revolutions M40 operates, this is an incorrect design. If replaced by M20, it could meet the requirements, although clearance adjustment and service life and workload must be subject to review.

GD^2慣性矩計算
Computation of GD2inertia torque

實心圓棒之簡易_計算法
Simplified computation for solid pole

$$GD^2 = 3.0827 \times 10^{-12} \times D^4 \cdot L \cdot k$$ 實心圓棒 solid pole

$$GD^2 = 3.0827 \times 10^{-12} \times (D^4 - d^4) \cdot L \cdot k$$ 空心圓棒 Hollow pole

D：圓棒直徑(mm) L：圓棒長度(mm) K：材料因數 鋼鐵=1 鋁材=0.34 鑄鐵=0.93 銅材=1.13
D : Pole diameter L : Pole length K : Material factor Steel=1 Aluminum=0.34 Cast iron=0.93 Cooper=1.13

例一、
直徑109mm，長度100mm的鋁棒，GD^2為何？
Example:
An aluminum pole with a diameter of 109mm and length of 100mm, what is its GD^2 ?

簡算法：
Simplified computation method:

$$GD^2 = 3.0827 \times 10^{-12} \times D^4 \cdot L \cdot k$$
$$= 3.0827 \times 10^{-12} \times 109^4 \times 100 \times 0.34 = 0.014795 \ (kgf\text{-}m^2)$$

例二、
內徑100mm，外徑200mm，長度100mm的空心鋼鐵圓棒，GD^2為何？
Example:
A hollow steel oscillation pole with an internal diameter of 100mm and outer diameter of 200 mm and length of 100mm, what is its GD^2 ?

簡算法：
Simplified computation method:

$$GD^2 = 3.0827 \times 10^{-12} \times (D^4 - d^4) \cdot L \cdot k$$
$$= 3.0827 \times 10^{-12} \times (200^4 - 100^4) \times 100 \times 1 = 0.4624 \ (kgf\text{-}m^2)$$

GD^2公式
GD2formula

迴轉體的GD^2
Gyro-rotor's GD^2

$$GD^2 = \frac{W \cdot D^2}{2 \times 10^6} \ (kgf\text{-}m^2) \qquad W = \frac{\pi D^2}{4 \times 10^6} \cdot L \cdot \gamma \ (kgw)$$ 實心圓柱體 Solid circular column

D：圓柱體的直徑或外徑(mm) γ：材料比重 鋼鐵=7.85 鋁材=2.7 鑄鐵=7.25 銅材=8.9
D : Diameter or outer diameter of solid circular column γ : Material proportion Steel=7.85 Aluminum=2.7 Cast iron=7.25 Cooper=8.9

$$GD^2 = \frac{W (D^2 + d^2)}{2 \times 10^6} \ (kgf\text{-}m^2) \qquad W = \frac{\pi (D^2 - d^2)}{4 \times 10^6} \cdot L \cdot \gamma \ (kgw)$$ 空心圓柱體 Hollow circular column

d：空心圓柱體的內徑(mm)
d : Internal diameter of hollow circular column

質量慣性矩（I）與重量慣性矩(GD^2)換算
Conversion of quality solid moment (I) and weight inertia moment (GD^2) :

$$GD^2 = 4gI_x = 39.24I_x$$

g = 重力加速度 9.81 (m/sec^2) I = 質量慣性矩 ($kgf\text{-}m\text{-}sec^2$)
g = gravity plus velocity 9.81 (m/sec^2) I = weight inertia moment ($kgf\text{-}m\text{-}sec^2$)

水平/重直運動體
Level/vertical motion body

$$GD^2 = W \cdot \frac{D^2}{10^6} \ (kgf\text{-}m^2)$$

離合器產品規範
Clutch - product specifications

離 合 器 / Clutch							
型號 Model	轉矩 Torque (kgfm)	電壓 Voltage(DC-V)	線圈 Coil			保護素子 Protective Prime Factor	最高回轉數 Maximum Number of Revolutions(r/min)
			容量 Capacity(W)	電流 Current(A)	電阻 Resistance(Ω)		
S24-F □□-□□	0.24	24	10	0.42	58	TNR9G820K	10000
S24-R □□-□□							500
S50-F □□-□□	0.50		11	0.46	52	TNR9G820K	8000
S50-R □□-□□							
M10-F □□-□□	1.0		15	0.63	38	TNR9G820K	6000
M10-R □□-□□							
M20-F □□-□□	2.0		20	0.83	29	TNR9G820K	5000
M20-R □□-□□							
M40-F □□-□□	4.0		25	1.04	23	TNR9G820K	4000
M40-R □□-□□							
M80-F □□-□□	8.0		35	1.46	16	TNR9G820K	3000
M80-R □□-□□							
T16-F □□-□□	16		45	1.88	13	TNR9G820K	2500
T32-F □□-□□	32		60	2.50	9.6	TNR9G820K	2000

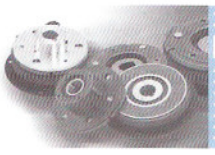
制動器產品規範
Brake - Production Specifications

制 動 器 / Brake							
型號 Model	轉矩 Torque (kgfm)	電壓 Voltage(DC-V)	線圈 Coil			保護素子 Protective Prime Factor	最高回轉數 Maximum Number of Revolutions(r/min)
			容量 Capacity(W)	電流 Current(A)	電阻 Resistance(Ω)		
S24-F □□-□□	0.24	24	10	0.42	58	TNR9G820K	10000
S50-F □□-□□	0.50		11	0.46	52	TNR9G820K	8000
M10-F □□-□□	1.0		15	0.63	38	TNR9G820K	6000
M20-F □□-□□	2.0		20	0.83	29	TNR9G820K	5000
M40-F □□-□□	4.0		25	1.04	23	TNR9G820K	4000
M80-F □□-□□	8.0		35	1.46	16	TNR9G820K	3000
T16-F □□-□□	16		45	1.88	13	TNR9G820K	2500
T32-F □□-□□	32		60	2.50	9.6	TNR9G820K	2000

重量 GD^2
Weight / GD^2

離合器 / Clutch				離合器 (軸承型) / Clutch (Bearing Type)			
型號 Model	重量 Weight (kgf)	GD^2 (kgf-cm^2)		型號 Model	重量 Weight (kgf)	GD^2 (kgf-cm^2)	
		轉軛 Transitional Yoke Core	電樞片 Armature Plate			轉軛 Transitional Yoke Core	電樞片 Armature Plate
C-S24-F01	0.310	1.26	3.63×10^{-1}	C-S24-R01	0.321	1.16	3.63×10^{-1}
-F02	0.325		5.50×10^{-1}	-R02	0.336		5.50×10^{-1}
-F04	0.335		5.50×10^{-1}	-R04	0.346		5.50×10^{-1}
C-S50-F01	0.460	2.94	1.69	C-S50-R01	0.500	2.94	1.69
-F02	0.500		2.41	-R02	0.540		2.41
-F04	0.660		4.19	-R04	0.700		4.19
C-M10-F01	0.830	8.94	4.72	C-M10-R01	0.870	8.94	4.72
-F02	0.910		6.83	-R02	0.950		6.83
-F04	1.190		1.20 x 10	-R04	1.230		1.20 x 10
C-M20-F01	1.500	2.71 x 10	1.91 x 10	C-M20-R01	1.570	2.71 x 10	1.91 x 10
-F02	1.660		2.65 x 10	-R02	1.730		2.65 x 10
-F04	2.110		3.78 x 10	-R04	2.180		3.78 x 10
C-M40-F01	2.760	8.56 x 10	5.22 x 10	C-M40-R01	2.890	8.56 x 10	5.22 x 10
-F02	3.050		7.22 x 10	-R02	3.180		7.22 x 10
-F04	3.800		1.10×10^2	-R04	3.930		1.10×10^2
C-M80-F01	5.100	2.52×10^2	1.92×10^2	C-M80-R01	5.300	2.52×10^2	1.92×10^2
-F02	5.400		2.54×10^2	-R02	5.600		2.54×10^2
-F04	6.900		3.62×10^2	-R04	7.100		3.62×10^2
C-T16-F01	9.300	7.70×10^2	5.48×10^2	C-T16-R01	11.20	7.70×10^2	5.48×10^2
-F02	10.50		7.59×10^2	-R02	12.40		7.59×10^2
-F04	13.00		1.06×10^3	-R04	14.90		1.06×10^3
C-T32-F01	17.00	1.79×10^3	1.43×10^3	C-T32-R01	21.20	1.79×10^3	1.43×10^3
-F02	18.70		1.93×10^3	-R02	22.90		1.93×10^3
-F04	23.60		2.98×10^3	-R04	27.80		2.98×10^3

制 動 器 / Brake			制 動 器 / Brake		
型號 Model	重量 Weight (kgf)	GD^2 (kgf-cm^2) 電樞片 Armature Plate	型號 Model	重量 Weight (kgf)	GD^2 (kgf-cm^2) 電樞片 Armature Plate
B-S24-F01	0.200	3.63×10^{-1}	B-M40-F01	1.680	5.22 x 10
-F02	0.215	5.50×10^{-1}	-F02	1.970	7.22 x 10
-F03	0.215	5.50×10^{-1}	-F03	1.970	7.22 x 10
B-S50-F01	0.280	1.69	B-M80-F01	3.150	1.92×10^2
-F02	0.320	2.41	-F02	3.450	2.54×10^2
-F03	0.320	2.41	-F03	3.450	2.54×10^2
B-M10-F01	0.500	4.72	B-T16-F01	5.900	5.48×10^2
-F02	0.580	6.83	-F02	7.100	7.59×10^2
-F03	0.580	6.83	-F03	7.100	7.59×10^2
B-M20-F01	0.910	1.91 x 10	B-T32-F01	10.50	1.43×10^3
-F02	1.070	2.65 x 10	-F02	12.20	1.93×10^3
-F03	1.070	2.65 x 10	-F03	12.20	1.93×10^3

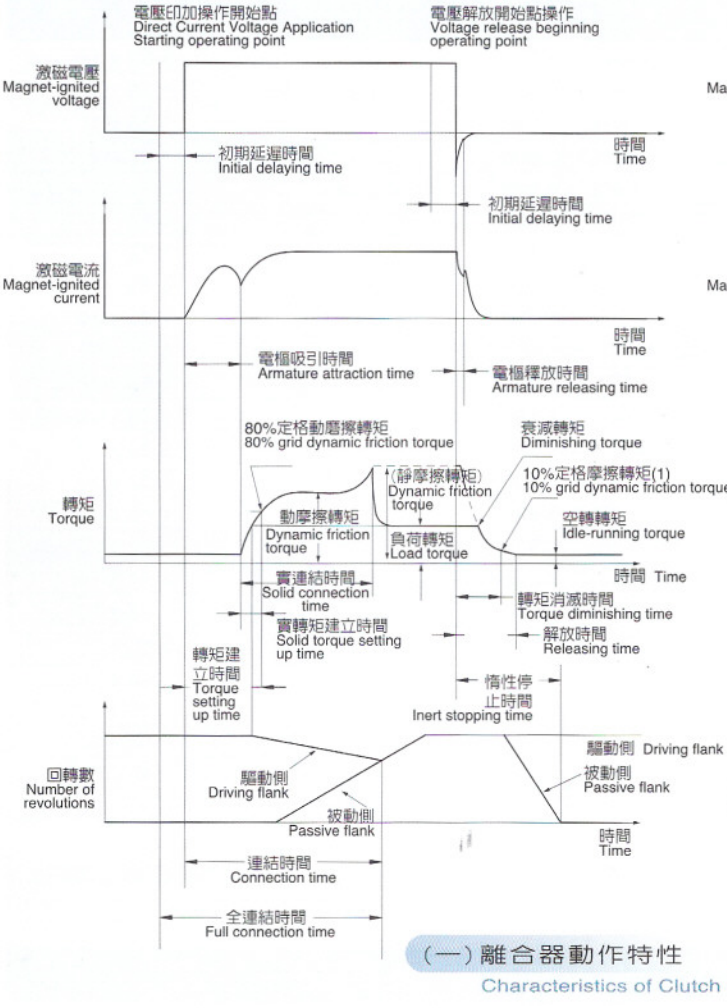


THE MOTION CHARACTERISTICS OF CLUTCH, BRAKE

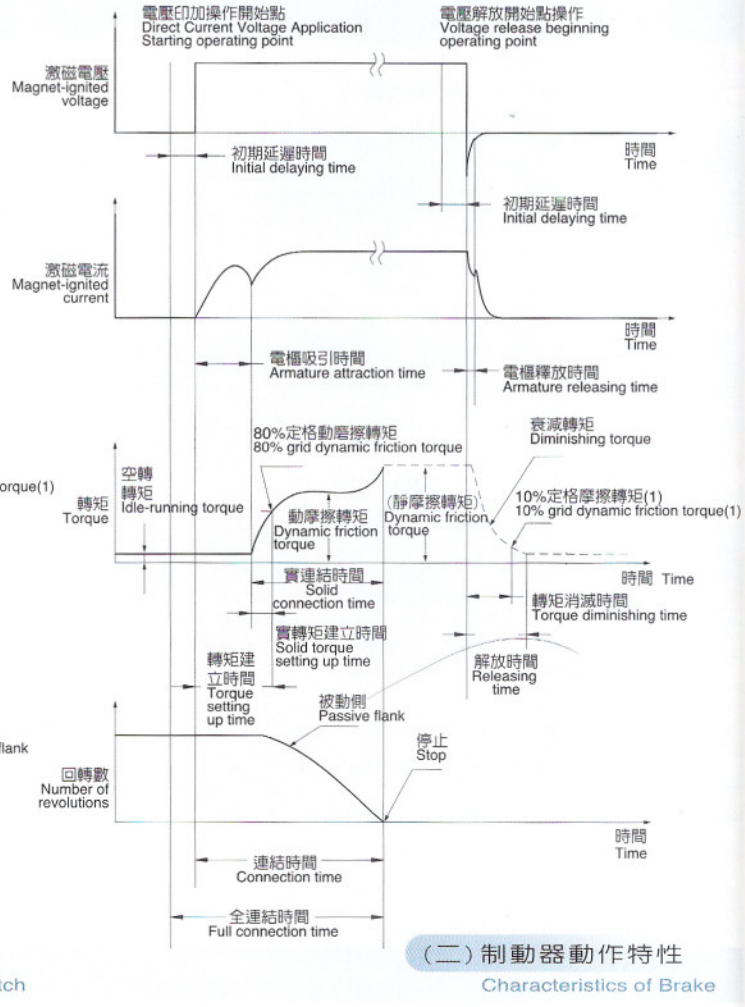
離合器、制動器的動作特性

電磁離合器、制動器功能，除扭矩傳遞、制動以外，其電樞片吸引釋放時間，是否能在規定時間內完成機械動作更形重要。
Except transmission and braking, the function of electromagnetic clutch and brake seems more important hinging on whether the time it takes to attract and release the armature plate in time to complete the mechanic movement.

圖(一)(二)為激磁動作形電磁離合器、制動器，電壓、電流波形。
Fig. 1 and Fig. 2 show magnet-motion electromagnetic clutch, brake, voltage and current wave.



(一) 離合器動作特性
Characteristics of Clutch



(二) 制動器動作特性
Characteristics of Brake

測試電路控制方式，是利用電磁繼電器接點控制直流側，使其產生ON-OFF動作。直流電源採用DC24V，線圈並接保護素子(TNR9G820K)吸收突波電壓，保護接點壽命及避免線圈絕緣被破壞。
The method to test circuit control is to use electromagnetic relay junction to control the direct current flank, making it create ON-OFF movement. The power source of direct current uses DC24V and coil connected with protective prime factor (TNR9G820K) to attract abrupt voltage so as to protect the service life of the junction and avoid damage of the coil insulation.

離合器、制動器之電樞片吸引釋放時間
Attraction and Releasing Time of Armature Plate in Clutch and Brake

	型號 Model	靜摩擦轉矩 Torque in Static Friction(kgf-m)(Ts)	激磁電阻 Magnet-ignited Resistor(Ω)	線圈電流 Coil Current(A)	電樞吸引時間 Armature attraction time(ms)	電樞釋放時間 Armature releasing time(ms)	調整間隙 Adjustment of clearance(mm)
離合器 Clutch	S24	0.24	57.6	0.42	10.0	13.0	0.2±0.05
	S50	0.50	52.4	0.46	13.6	14.4	0.2±0.05
	M10	1.00	38.4	0.63	21.0	15.2	0.2±0.05
	M20	2.00	28.8	0.83	18.4	58.0	0.2±0.05
	M40	4.00	23.0	1.04	36.0	70.0	0.3±0.05
	M80	8.00	16.5	1.46	80.0	98.0	0.3±0.05
	T16	16.0	12.8	1.88	115	210	0.5±0.05
制動器 Brake	S24	0.24	57.6	0.42	8.0	10.0	0.2±0.05
	S50	0.50	52.4	0.46	10.4	11	0.2±0.05
	M10	1.00	38.4	0.63	12.8	16	0.2±0.05
	M20	2.00	28.8	0.83	13.2	26	0.2±0.05
	M40	4.00	23.0	1.04	24.0	28.0	0.3±0.05
	M80	8.00	16.5	1.46	44.0	62.0	0.3±0.05
	T16	16.0	12.8	1.88	85.0	125	0.5±0.05

直流電源
Direct Current (DC) power source

離合器、制動器直流電源一般採用交流電路整流，可分為半波整流及全波整流。
The DC power source of clutch and brake generally uses alternating current (AC) circuit commutation, which is classified as half-wave commutation and full-wave commutation.

1.半波整流電路
Half-wave commutation circuit

半波整流電路是使用一個矽二極體當做整流子，電路構造較簡單且價格便宜，但因漣波因素較大，所以電流波形變動大，相對扭矩也變動大，較不切實用。
Half-wave commutation circuit uses diode as commutator, the structure of which is rather simple and the price is cheap. However, due to the ripple factor, the current wave tends to vary greatly, causing rather huge variation relatively in torque. That makes it not practical in use.

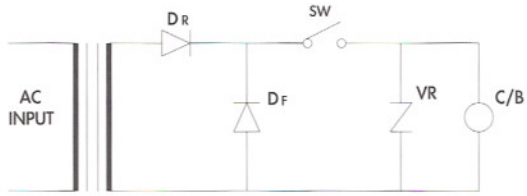


圖1

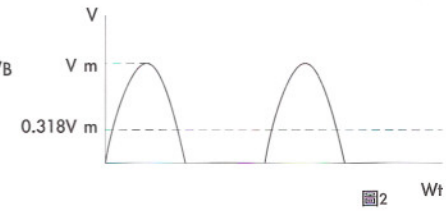


圖2

V_{DC}=0.318Vm
= 0.318 $\sqrt{2}$ Vrms = 0.45Vrms

Vm=交流電壓最大峰值
Vm= maximum AC voltage peak value

Vrms=交流電壓均方根值(Vm=$\sqrt{2}$ Vrms)
Vrms= AC voltage root-mean-square value

2.全波整流電路
Full-wave commutation circuit

一般離合器、制動器直流電源供應都使用此方式，是利用變壓器降壓後做橋式整流，而達到漣波因素較小較平滑電壓波形，所以電流波形變動小，扭矩也較穩定。
Generally speaking, clutch and brake use this manner in their DC power supply. In practice, it uses transformer to depress the voltage and make bridge commutation in order to achieve rather smooth voltage wave to circumvent the ripple factor. Consequently, variation of current wave is nominal and torque can be comparatively steady.

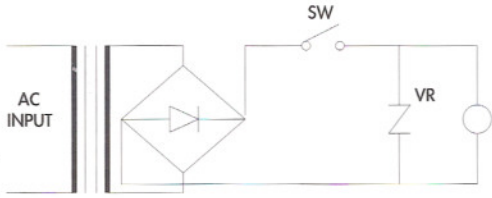


圖3

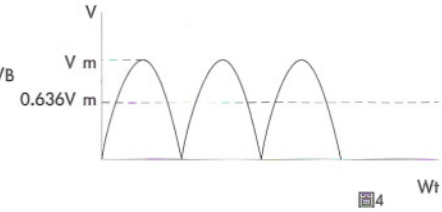


圖4

V_{DC}=0.636Vm
= 0.636 $\sqrt{2}$ Vrms = 0.90Vrms

Vm=交流電壓最大峰值
Vm= maximum AC voltage peak value

Vrms=交流電壓均方根值(Vm=$\sqrt{2}$ Vrms)
Vrms= AC voltage root-mean-square value

電壓調節控制
Voltage regulation and control

離合器、制動器在有些場合須要控制扭矩大小，可使用電壓調節方式控制。
On some occasions, torque of clutch and brake needs to be regulated and controlled and the method used relies on voltage regulation and control.

1.固定電阻式或可變電阻式
Fixed resistor or variable resistor method

固定電阻式是數個固定電阻與離合器、制動器線圈串聯，利用切換開關控制不同電阻值之壓降而達到調整電壓之方法。(圖5)可變電阻式是利用可變電阻VR，調整不同電阻值而達到變動連續電壓。(圖6)
The fixed resistor method is several fixed resistors in series with coil of clutch, brake, using the switch to control voltage depression from different resistor values and thereby achieve the goal of voltage adjustment. Fig. 5 show how variable resistor (VR) at work, adjusting different values to reach the goal of varying continuous voltage.Fig. 6



圖5

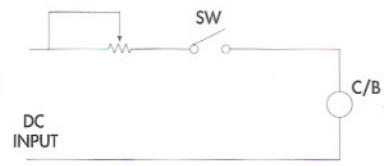


圖6

2.可變電壓調整器方式
Variable voltage regulator method

是利用自藕變壓器裝置在變壓器一次側，來調整電壓，使變壓器二次側電壓可由零開始調整起。(圖7)
The method installs auto-transformer on the primary transformer flank to regulate voltage, making the second transformer flank to adjust from zero (see Fig.7).

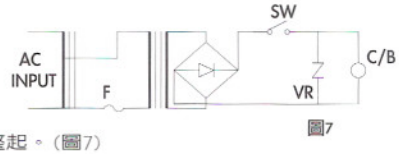


圖7

3.SCR相位控制
SCR phase control

是利用相位控制回路(如UJT等)產生觸發脈波來控制SCR輸出電壓相位角度。(圖8)(圖9)
The method uses phase to control loops such as UJT to create trigger pulse wave in order to control the transmitted phase angle of voltage.

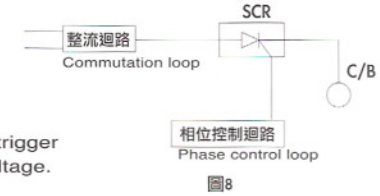


圖8

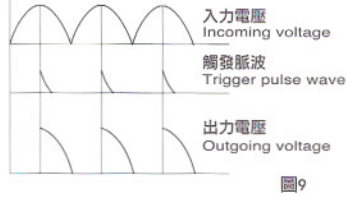


圖9

電流調整控制
Current regulation and control

是利用晶體控制回路可以得到較穩定扭力輸出。(圖10)
Crystal is used to control the loop to have steady torque output.

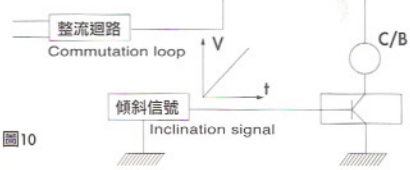


圖10

突波吸收回路
Abrupt wave absorption route

離合器、制動器在ON-OFF會有突波電壓產生，突波電壓大約為正常電壓數拾倍以上，此突波電壓會造成電磁繼電器接點磨耗，若用半導體元件會超過尖峰倒壓而破損，如果長時間使用上述情形線圈絕緣很容易破壞，因此離合器、制動器在ON-OFF時須加置突波吸收器，一般突波吸收回路有下列幾種方式。

Either the clutch or brake is ON or OFF, there tends to occur abrupt wave voltage at times, which is several times higher than normal voltage. This abrupt wave voltage could cause attrition of the electromagnetic relay junction. If semi-conductor component is used, it would exceed the peak inverting voltage and result in damage. For a long period of use as described above, the insulation coil can be easily damaged. Therefore, there should be an added device of abrupt wave absorber installed at the position of ON-OFF. In general abrupt wave absorption can be in the following manners:

1.非線性素子
Non-linear primary factor

電壓低時電阻大，電壓高時電阻急速減小，不會消耗電力吸收突波電壓效果良好，並對釋放時間無不良影響，目前北譯均採用此種突波吸收器。(圖11)

When voltage is low, the resistance is high. On the contrary, when voltage is high, resistance would rapidly lessen. It would not consume much power and the abrupt wave voltage effect is excellent, creating no ill effect upon the releasing time. At PEI-EI, we use this sort of abrupt wave absorber (Fig.11).



圖11

2.二極體方式
Diode method

此方式常用於電晶體開關，做突波吸收之用，因為理想二極體電阻值趨近於零，所以突波吸收效果最好，但唯其使用時應特別注意，釋放時間長，會產生干涉現象，造成磨耗加快。(圖12)

This method is usually seen used in the switch of transistor as absorption of abrupt wave. The ideal diode resistor value is proximate to zero, which results in the best absorption effect of abrupt wave. But, it must be noted that in actual use, there will be disturbances because of the long releasing time that quickens attrition. (Fig.12)

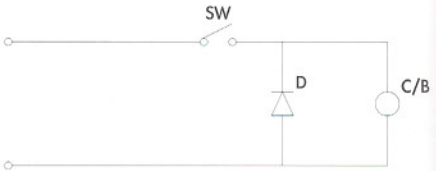


圖12

3.電阻、二極體方式
Resistor and diode method

是採用約為線圈電阻值10倍的電阻與離合器、制動器並聯使用，但因分壓結果會損失一部分電力，所以亦有採用電阻加二極體，以補償電力損失部份。(圖13)

The method uses the resistor approximately 10 times the coil resistance value in joint use with the clutch or brake. Since division of voltage will result in loss of part of power, some also use resistor plus diode to compensate loss of part of the power (Fig.13).

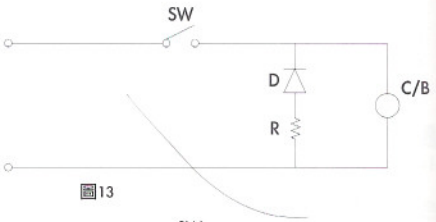


圖13

4.電容器方式
Condenser method

將電容器與線圈電感並聯產生共振，利用此方式選擇適當容量的電容器來吸收逆向電壓並使其釋放時間加快。大容量離合器、制動器需裝置大容量電容器時需串聯電阻以抑制突入電流。(圖14)

The method is to induce the condenser coil and create resonance. In actual use, condenser with adequate capacity must be selected so as to absorb the inverting voltage and quicken the releasing time. With large-capacity clutch or brake, there requires installation of string resistors to curb the abrupt intrusion of current (Fig.14).

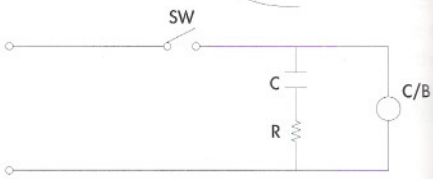


圖14

一般控制電路
General control circuit

圖15 為控制離合器、制動器最基本回路，是由變壓器、整流器、突波吸收器及開關所構成。

圖16 電磁繼電器接點在直流側，所以接點容量應選用標準負荷10倍左右。

Fig.15 Basic loop to control clutch or brake constituted by transformer, commutator, abrupt wave absorber and switch.

Fig.16 As the electromagnetic relay contact is at the direct current flank, the standard load of the contact capacity can be 10 times higher.

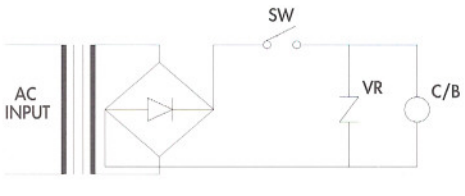


圖15

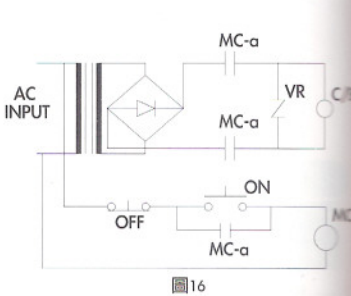


圖16

圖17 電磁繼電器接點在交流側，所以接點容量可選用小容量，但釋放時間較在直流側長。

圖18 此電路常為離合器，制動器組所使用，是以電磁繼電器a、b接點來切換，若均保持離合器、制動器OFF，須加裝開關來控制。

Fig.17 As the electromagnetic relay contact is at the AC flank, the capacity of contactor may use smaller ones, but the releasing time is longer compared to one at the direct current flank.

Fig.18 The circuit is often used by clutch and brake, switching over by electromagnetic condenser a, b contacts to keep the cluth and brake OFF, will need additional switch to control.

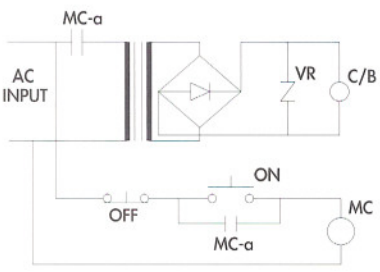


圖17

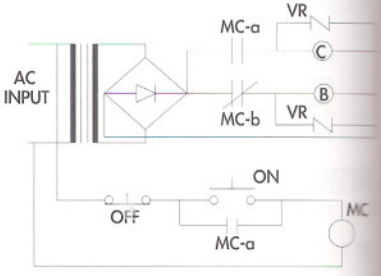


圖18

圖19 此電路為互鎖電路，為防止離合器，制動器動作重疊而導致危險，MC1b、MC2b接點做為MC1、MC2互鎖接點。
Fig.19 The circuit is an off-setting circuit. To prevent overlapping movement of the clutch and brake that causes danger, contacts MC1b, MC2b change to reciprocal interlock MC1 and MC2.

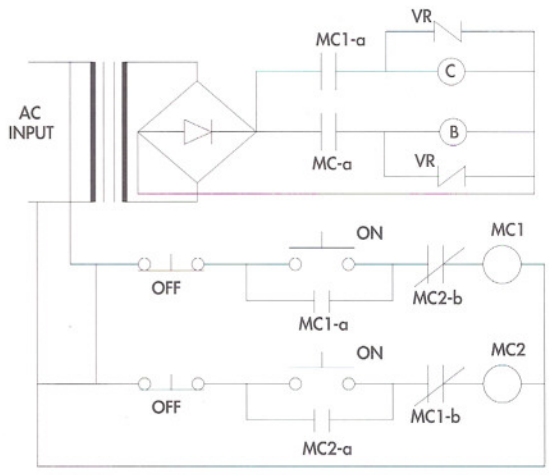


圖19

高速控制回路
High-speed control loop

1.急速激磁回路
Rapid magnet-ignited loop

利用線圈與電阻串聯，可減少充放電時間(T)圖20。
線圈之時間常數 $T c = L / R c$ .....(6・1)
回路之時間常數 $T = L / (R c + R s)$.....(6・2)
$V c = V s \ (R c / R s + R c)$...分壓法則 Principle for division of voltage
$V s = V c \ (1 + R s / R c)$.....(6・3)
By the series of coil and resistor may reduce discharging time (T), see Fig. 20 for details. Coil time and loop time both are constant.

由6・2式看出Rs值對線圈電阻比例越大則可改善應答性及電流建立時間，但因串聯Rs之故線圈電壓Vc會降低，所以輸入電壓Vs須提高，例如
$R s = 3 R c$， $V c = 24$ V代入6・3式 $V s = 96$ V。
From 6.2, we note that the larger ratio of the Rs value toward coil resistor, the bigger improvement can be made in the response time and setting of current time. Because of Rs series, the coil voltage (Vc) will be reduced. Consequently, input of voltage must be elevated, for instance:
$R s = 3 R c$， $V c = 24$ V replaced by 6.3 formula where $V s = 96$ V。

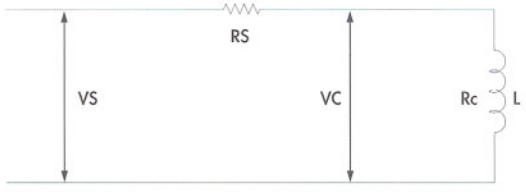


圖20

2.過激磁回路
Anaphylactic magnetic loop

此方式利用電容器充放電特性，提早建立初期電流。但大型離合器、制動器線圈電感較大，電流建立較遲緩，使用此方式較不理想。電容器使用方法有如圖21與線圈串聯，及圖22與線圈並聯。
The method uses the charging and discharging characteristics of condenser to set up initial current at the earliest possible time. This method is not suitable for large clutch and brake as induction of the coil is bigger and is slow in setting up the current. How to use condenser and make parallel connection with the coil is illustrated in Fig. 21. Fig. 22 in parallel with coil.

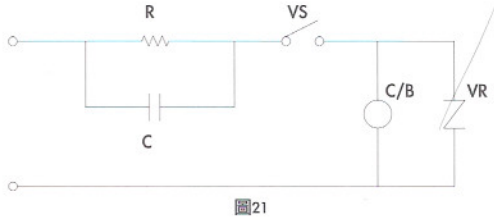


圖21

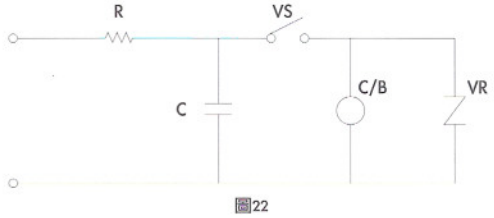


圖22

3.過電壓回路
Overvoltage gyromagnetism

此方式為通電初期，以較高額定之電壓加於線圈，提早建立電流及改善應答性。連續通較高額定之電壓線圈會發熱，所以須利用計時器在一定時間後，恢復原來之額定電壓。圖23
In the initial energizing period, this method adds higher rated voltage to the coil so as to set up the current and improve the response as early as possible. Continuous energizing higher rated voltage can make the voltage line create heat. Therefore, a timer must be used so that after a certain time, the originally rated voltage may be resumed. Fig. 23

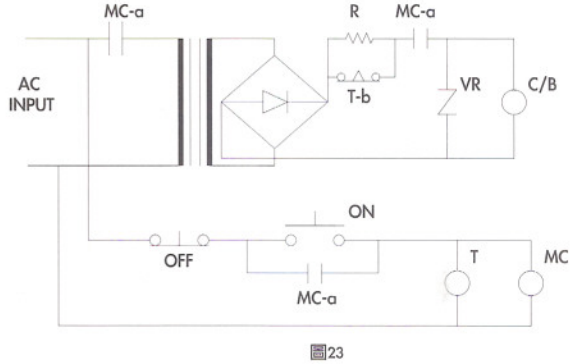
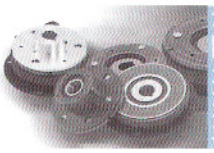


圖23



USE CONDITIONS AND CAUTION WHEN IN USE

使用條件與注意事項

電源系統
Power Source System

激磁電壓之正確使用，激磁電壓之標準為DC24V，而在高、低性能上之影響，以不超過 ±10%為原則
Please note the standard magnet-ignited voltage is DC24V while under the influence of high and low performance should not in principle exceed ±10%. This is the correct use of magnet-ignited voltage.

電氣接點保護
Electric contact protection

離合器與制動器 ON-OFF之電氣接點，應以本公司所提供之突波吸收器並聯，以保護控制接點及系統。若以電晶體或固態電驛控制，除需注意離合器與制動器切換干涉狀況，亦應加裝突波吸收裝置，以保護接點。
The electric contact ON-OFF of clutch and brake is recommended connected in parallel using the abrupt wave absorber we provide so that the electric contact and system may be duly protected. If controlled by transistor or solid relay, attention must be given to the switching disturbance of the clutch and brake. However, for better protection, additional installation of the abrupt wave absorber is recommended.

使用環境
Use Environment

- 使用溫度40°C以下室外使用時，要有良好之防護。儘量避免暴露在雨水或腐蝕性較高的氣體下作業。
- When used outdoors under temperature 40°C, excellent protection is needed. Try to avoid operations exposed in rains or to highly erosive gas.
- 於高負荷作業下，應注意通風及冷卻之問題，摩擦面摩擦時，可能會有少許火花發生，於有塵爆或防爆顧慮的場合，不可使用。
- When operating with high load, be careful with ventilation and cooling issues. A spark of fire may ignite when the friction surface is in friction and it is not suitable on occasions when dust may rise or anti-explosion preparation is in progress.

摩擦間隙調整
Friction Clearance Adjustment

來令片與電樞片的間隙，會隨著摩耗的發生而增大，應將間隙調整至“規格間隙”，以免失效。
The clearance between lining plate and armature plate may become bigger with the occurrence of friction. To avoid ineffectiveness, adjust the clearance to the 'specified clearance specifications."

汙染
Pollution

本產品為乾式單板激磁性結構，其傳動靠兩高摩擦係數平面，傳動扭矩。絕對避免水、粉塵、油脂類產品之附著。
This product is of dry single-panel magnet-ignited structure, the driving of which relies on the friction coefficient of the two quotients and driving torque. It is absolutely necessary to avoid water, dust or grease to be attached to the product.

安裝
Installation

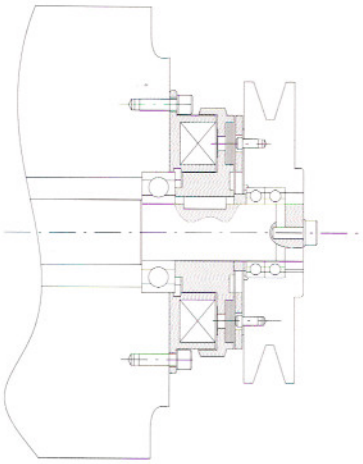
離合器制動器為精密之傳動組件，在安裝組配上，請採用適當之工具，並避免不當之外力強行安裝。
Clutch and brake are precision driving components. So, when installed, please use adequate tools and avoid forced foreign installation.

摩擦轉矩
Friction torque

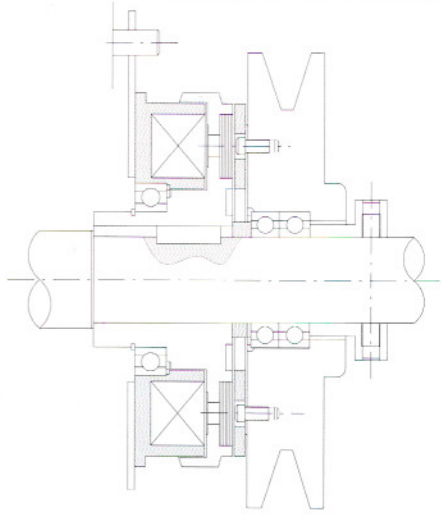
乾式單板電磁離合器與制動器的靜摩擦扭矩，依各機型有別，大約成一定值。但動摩擦係數，會隨使用的轉速(r. p. m.)提高而略成遞減。
The static friction torque of dry single-panel magnet-ignited clutch and brake is not the same, but approximately have a fixed value. However, the dynamic friction co-efficient will slightly reduce progressively with the elevation of the r.p.m. used.
使用初期，由於兩相對應摩擦面尚不十分平滑，初期的摩擦轉矩約為額定靜摩擦轉矩的70%-80%，經使用後自然磨合達額定轉矩，為必經過程。諸如以上的定轉矩使用場合，請洽本公司技術諮詢部門，以利協助設計。
In the initial stage of use when friction of the two phases has not become smooth, the initial friction torque ranges approximately 70% to 80% of the rated value. The process that must go through calls for natural abrasion after use before the rated torque value is reached.

APPLIED MODEL EXAMPLES OF CLUTCH AND BRAKE 離合器制動器應用範例

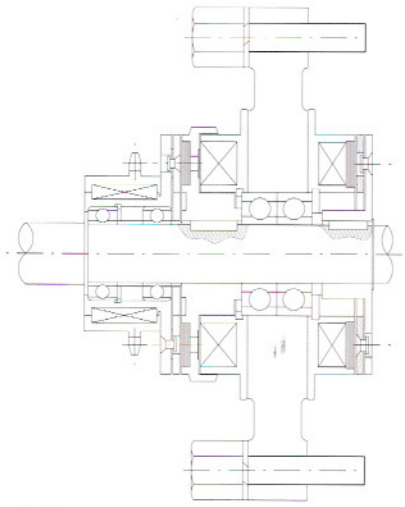
C-F01 應用範例/Applied Model Examples



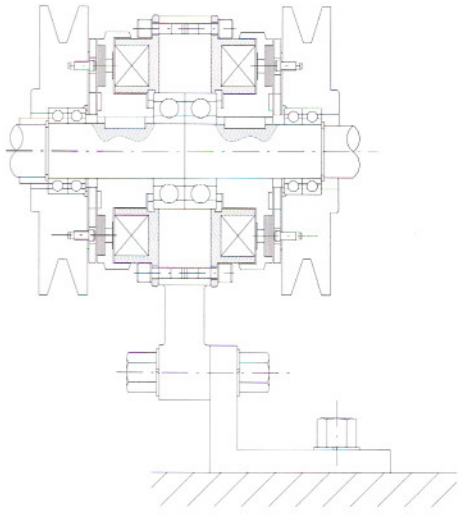
C-R01 應用範例/Applied Model Examples



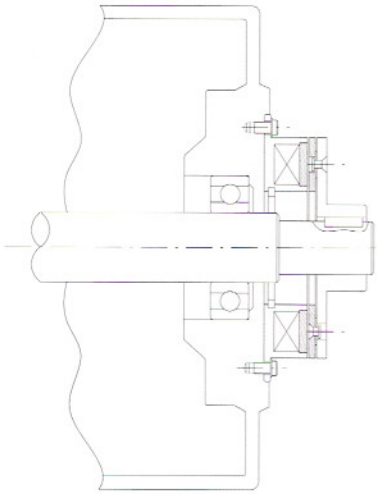
C-F04 & B-F03 應用範例/Applied Model Examples



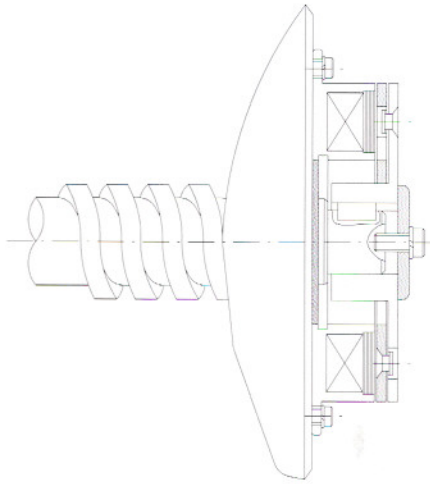
C-F01 應用範例/Applied Model Examples



B-F02 應用範例/Applied Model Examples



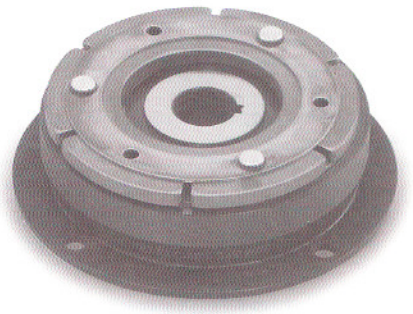
B-F03 應用範例/Applied Model Examples

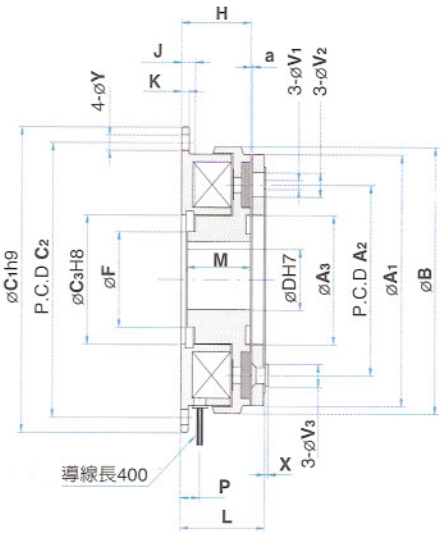


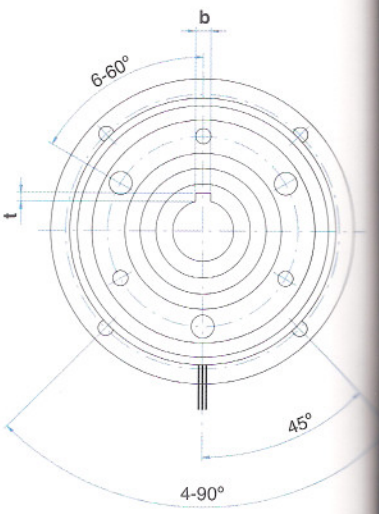
法蘭式無導座型
Flange Guideless Seat Type

C-□□□-F01-□□

轉矩代碼 Torque Code　　孔徑 Aperture







特 性 / Characteristics

轉矩代碼 Dynamic Torque	動轉矩 Dynamic Torque(kgfm)	靜轉矩 Static Torque(kgfm)	功率 Power (w/20°C)	電流 Current (A/20°C)	電壓 Voltage DC-V	最高轉速 Highest RPM (r.p.m)	重量 Weight (kgf)
S24	0.24	0.27	10	0.42	24V	10000	0.31
S50	0.5	0.55	11	0.46	24V	8000	0.46
M10	1.0	1.1	15	0.63	24V	6000	0.83
M20	2.0	2.2	20	0.83	24V	5000	1.50
M40	4.0	4.5	25	1.04	24V	4000	2.76
M80	8.0	9	35	1.46	24V	3000	5.10
T16	16	17.5	45	1.88	24V	2500	9.30
T32	32	35	60	2.50	24V	2000	17.0

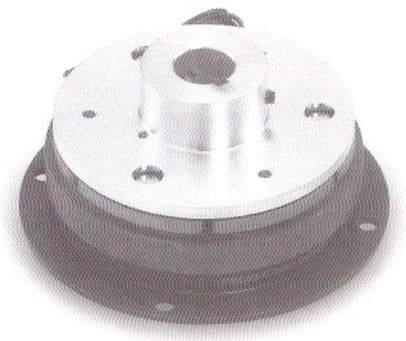
安 裝 尺 寸 (mm) / Installation Size (mm)

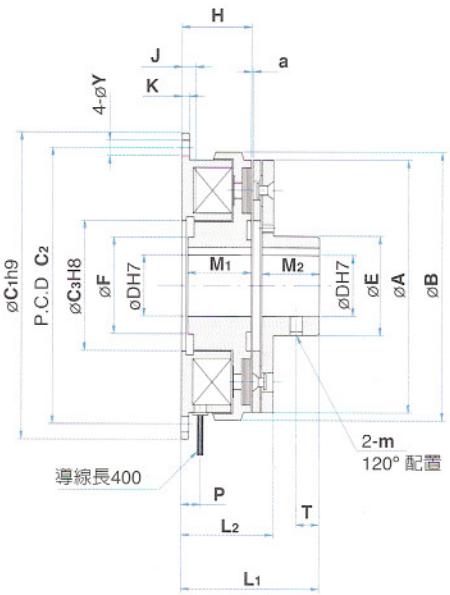
轉矩代碼 Dynamic Torque	A1	A2	A3	B	C1	C2	C3	F	H	J	K	L	M	P	V1	V2	V3	X	Y	a	øD	b	t
S24	50	38	26	54	65	58	26	22	28	3.2	2	31.5	26	8	3.1	6.5	5	1	4.5	0.2 (+0.05 -0.05)	10	4	1.4
																					15	5	2.3
S50	63	46	34.5	67.5	80	72	35	24	24	3.6	2	28	22	7.5	3.1	6.3	5	1	5		12	4	1.8
																					15	5	2.3
M10	80	60	41.5	85	100	90	42	30.5	26.5	4.3	2.5	31	24	8	4.1	8	6.2	1.2	6		15	5	2.3
																					20	5	2.3
M20	100	76	51.5	106	125	112	52	40	30	5	3	36	27	9	5.1	11	8	1.5	7		20	5	2.3
																					25	7	3.3
M40	125	95	61.5	133	150	137	62	45	33.5	5.5	3.5	41	30	9	6.2	12	10	1.8	7	0.3 (+0.05 -0.10)	25	7	3.3
																					30	7	3.3
M80	160	120	79.5	169	190	175	80	62	37.5	6.1	4	47	34	11.5	8.2	15	13	2.2	9.5		30	7	3.3
																					40	10	3.3
T16	200	158	99.5	212.5	230	215	100	77	44	7	5	55.5	40	13	10.2	20	17.5	4	9.5	0.5 (+0.0 -0.2)	40	10	3.3
																					50	12	3.3
T32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		50	12	3.3
																					60	15	5

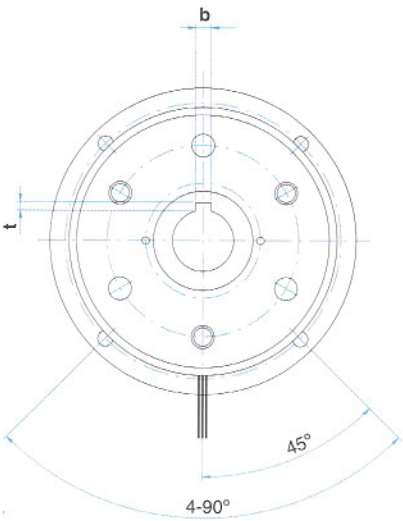
法蘭式正裝導座型
Flange Guide Seat Type

C-□□□-F02-□□

轉矩代碼 Torque Code　　孔徑 Aperture







特 性 / Characteristics

轉矩代碼 Dynamic Torque	動轉矩 Dynamic Torque(kgfm)	靜轉矩 Static Torque(kgfm)	功率 Power (w/20°C)	電流 Current (A/20°C)	電壓 Voltage DC-V	最高轉速 Highest RPM (r.p.m)	重量 Weight (kgf)
S24	0.24	0.27	10	0.42	24V	10000	0.325
S50	0.5	0.55	11	0.46	24V	8000	0.50
M10	1.0	1.1	15	0.63	24V	6000	0.91
M20	2.0	2.2	20	0.83	24V	5000	1.66
M40	4.0	4.5	25	1.04	24V	4000	3.05
M80	8.0	9	35	1.46	24V	3000	5.40
T16	16	17.5	45	1.88	24V	2500	10.5
T32	32	35	60	2.50	24V	2000	18.7

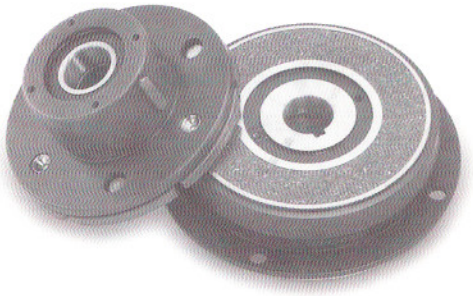
安 裝 尺 寸 (mm) / Installation Size (mm)

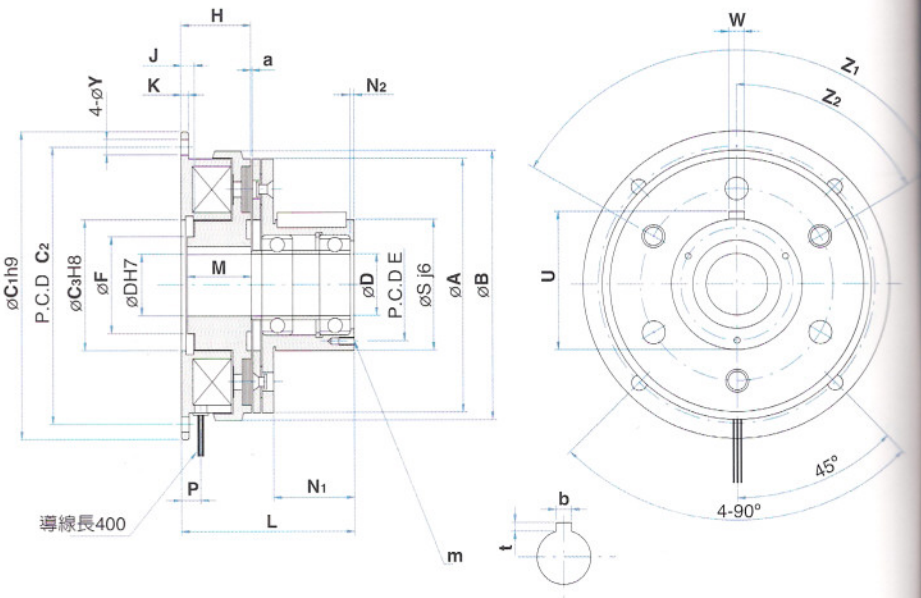
轉矩代碼 Dynamic Torque	A	B	C1	C2	C3	E	F	H	J	K	L1	L2	M1	M2	P	T	Y	a	m	øD	b	t
S24	50	54	65	58	26	27	22	28	3.2	2	43.5	34.5	26	12	8	5	4.5	0.2 (+0.05 -0.05)	M4X0.7	10	4	1.4
																				15	5	2.3
S50	63	67.5	80	72	35	26	24	24	3.6	2	43	32	22	15	7.5	6	5		M4X0.7	12	4	1.8
																				15	5	2.3
M10	80	85	100	90	42	32	30.5	26.5	4.3	2.5	51	35	24	20	8	8	6		M5X0.8	15	5	2.3
																				20	5	2.3
M20	100	106	125	112	52	42	40	30	5	3	61	41.5	27	25	9	10	7		M5X0.8	20	5	2.3
																				25	7	3.3
M40	125	133	150	137	62	49	45	33.5	5.5	3.5	71	47	30	30	9	12	7	0.3 (+0.05 -0.10)	M6X1.0	25	7	3.3
																				30	7	3.3
M80	160	169	190	175	80	65	62	37.5	6.1	4	85	54	34	38	11.5	15	9.5		M8X1.25	30	7	3.3
																				40	10	3.3
T16	200	212.5	230	215	100	83	77	44	7	5	100.5	64.5	40	45	13	18	9.5	0.5 (+0.0 -0.2)	M8X1.25	40	10	3.3
																				50	12	3.3
T32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		M10X1.5	50	12	3.3
																				60	15	5

法蘭式軸承導座型
Flange Bearing Guide Seat Type

C-□□□-F04-□□

轉矩代碼 Torque Code　　孔徑 Aperture





特 性 / Characteristics

轉矩代碼 Dynamic Torque	動轉矩 Dynamic Torque(kgfm)	靜轉矩 Static Torque(kgfm)	功率 Power (w/20°C)	電流 Current (A/20°C)	電壓 Voltage DC-V	最高轉速 Highest RPM (r.p.m)	重量 Weight (kgf)
S24	0.24	0.27	10	0.42	24V	10000	-
S50	0.5	0.55	11	0.46	24V	8000	0.66
M10	1.0	1.1	15	0.63	24V	6000	1.19
M20	2.0	2.2	20	0.83	24V	5000	2.11
M40	4.0	4.5	25	1.04	24V	4000	3.80
M80	8.0	9	35	1.46	24V	3000	6.90
T16	16	17.5	45	1.88	24V	2500	13.0
T32	32	35	60	2.50	24V	2000	23.6

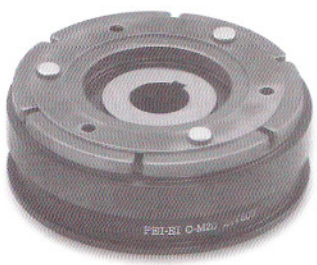
安 裝 尺 寸 (mm) / Installation Size (mm)

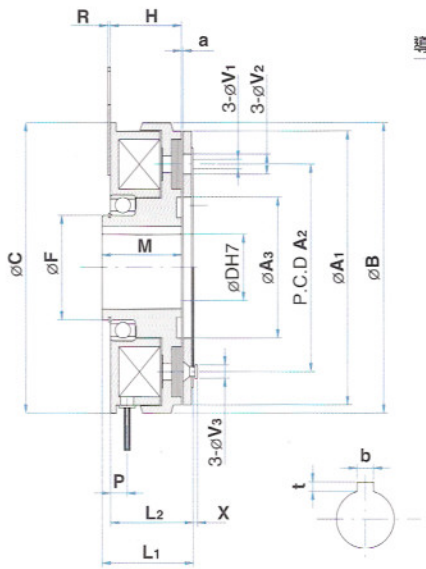
轉矩代碼 Dynamic Torque	A	B	C1	C2	C3	E	F	H	J	K	L	M	N1	N2	P	Y	S	U	W	a	m	Z1	Z2	øD	b	t
S24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-
S50	63	67.5	80	72	35	33	24	24	3.6	2	52	22	20.5	2	7.5	5	38	39.5	4	0.2 (+0.05 -0.05)	3-M4x0.7 深4	60°	3-120°	12	4	1.8
M10	80	85	100	90	42	37	30.5	26.5	4.3	2.5	61	24	26	2	8	6	45	47	5		3-M4x0.7 深6	60°	3-120°	15	5	2.3
M20	100	106	125	112	52	47	40	30	5	3	71	27	29.9	3	9	7	55	57	5		4-M4x0.7 深8	45°	4-90°	20	5	2.3
M40	125	133	150	137	62	54	45	33.5	5.5	3.5	86.5	30	40	2	9	7	64	67	7	0.3 (+0.05 -0.10)	4-M4x0.7 深8	45°	4-90°	25	7	3.3
M80	160	169	190	175	80	64	62	37.5	6.1	4	104	34	50	3	11.5	9.5	75	78	7		4-M5x0.8 深8	45°	4-90°	30	7	3.3
T16	200	212.5	230	215	100	79	77	44	7	5	124.5	40	60	5	13	9.5	90	93	10	0.5 (+0.0 -0.2)	4-M6x1 深12	45°	4-90°	40	10	3.3
T32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-

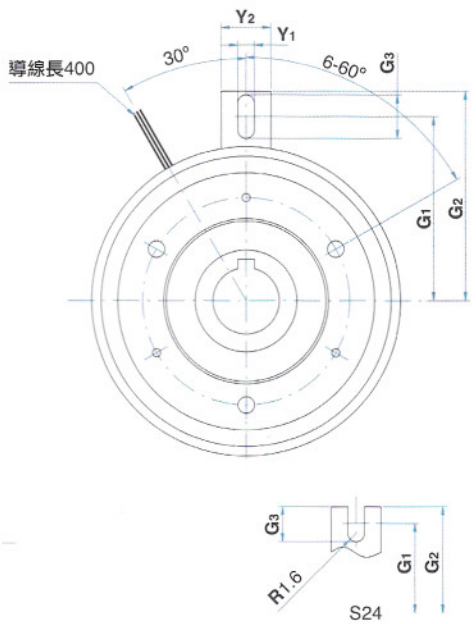
軸承式無導座型
Bearing Guideless Seat Type

C-□□□-R01-□□

轉矩代碼 Torque Code　　孔徑 Aperture







特 性 / Characteristics

轉矩代碼 Dynamic Torque	動轉矩 Dynamic Torque(kgfm)	靜轉矩 Static Torque(kgfm)	功率 Power (w/20°C)	電流 Current (A/20°C)	電壓 Voltage DC-V	最高轉速 Highest RPM (r.p.m)	重量 Weight (kgf)
S24	0.24	0.27	10	0.42	24V	10000	0.28
S50	0.5	0.55	11	0.46	24V	8000	0.50
M10	1.0	1.1	15	0.63	24V	6000	0.87
M20	2.0	2.2	20	0.83	24V	5000	1.57
M40	4.0	4.5	25	1.04	24V	4000	2.89
M80	8.0	9	35	1.46	24V	3000	5.30

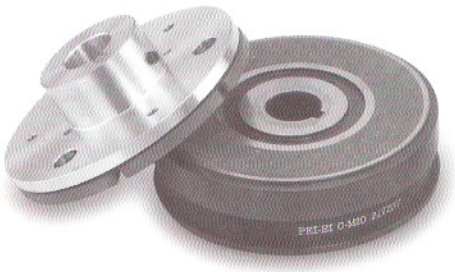
安 裝 尺 寸 (mm) / Installation Size (mm)

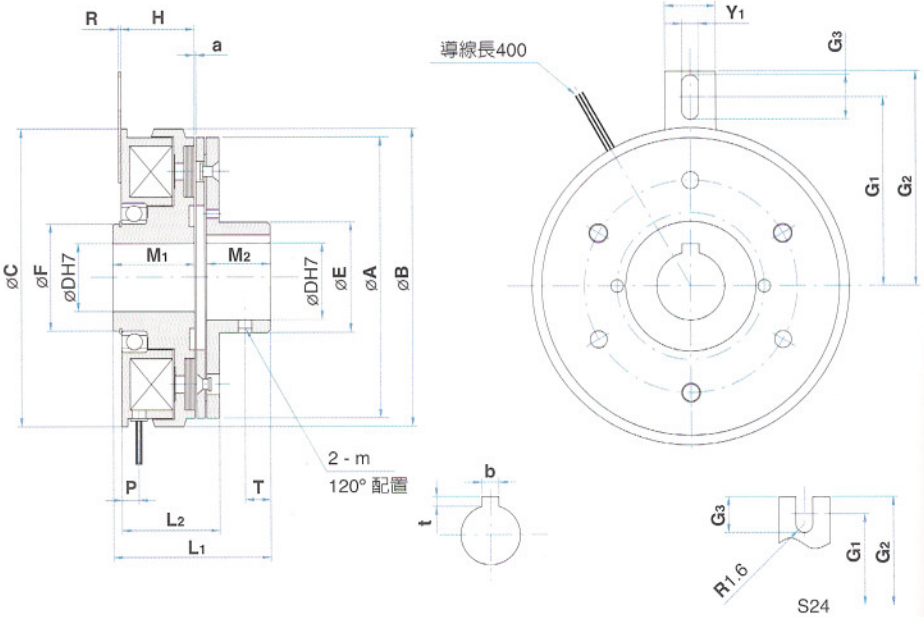
轉矩代碼 Dynamic Torque	A1	A2	A3	B	C	F	G1	G2	G3	H	L1	L2	M	P	R	V1	V2	V3	X	Y1	Y2	a	øD	b	t
S24	50	38	26	54	54	15	28	31	4.6	24	27	27	24	8	1.6	3.1	6.5	5	1	3.2	8		10 15	4 5	1.8 2.3
S50	63	46	34.5	67.5	67.5	20	41.5	49.5	7	24	31	28	27	7.5	2	3.1	6.3	5	1	5	14	0.2 (+0.05 -0.05)	12	4	1.8
M10	80	60	41.5	85	85	25	57.5	65	9	26.5	34.5	31.5	29.5	8	2	4.1	8	6.2	1.2	6	16		15	5	2.3
M20	100	76	51.5	106	106	30	62.5	70	10	30	40	36	34	9	2	5.1	11	8	1.5	7	16		20	5	2.3
M40	125	95	61.5	133	133	40	77.5	85	10	33.5	44.5	40.5	37.5	9	2	6.2	12	10	1.8	7	16	0.3 (+0.05 -0.10)	25	7	3.3
M80	160	120	79.5	169	169	50	100	112	18	37.5	51.5	47	42	11.5	3.2	8.2	15	13	2.2	9	25		30	7	3.3

軸承式正裝導座型
Bearing Guide Seat Type

C-□□□-R02-□□

轉矩代碼 Torque Code　　孔徑 Aperture





特 性 / Characteristics

轉矩代碼 Torque Code	動轉矩 Dynamic Torque(kgfm)	靜轉矩 Static Torque(kgfm)	功率 Power (w/20°C)	電流 Current (A/20°C)	電壓 Voltage DC-V	最高轉速 Highest RPM (r.p.m)	重量 Weight (kgf)
S24	0.24	0.27	10	0.42	24V	10000	0.3
S50	0.5	0.55	11	0.46	24V	8000	0.54
M10	1.0	1.1	15	0.63	24V	6000	0.95
M20	2.0	2.2	20	0.83	24V	5000	1.73
M40	4.0	4.5	25	1.04	24V	4000	3.18
M80	8.0	9	35	1.46	24V	3000	5.60

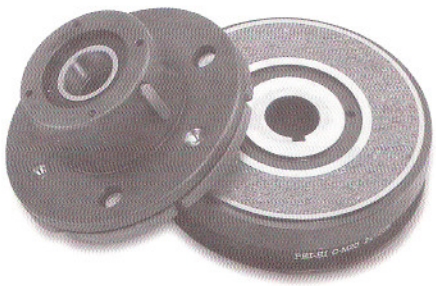
安 裝 尺 寸 (mm) / Installation Size (mm)

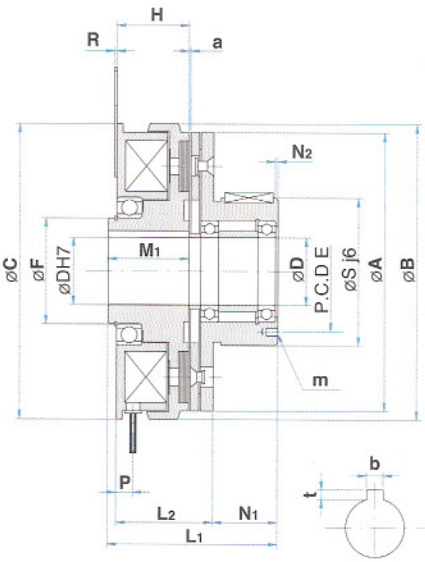
轉矩代碼 Torque Code	A	B	C	E	F	G1	G2	G3	H	L1	L2	M1	M2	P	R	T	Y1	Y2	a	m	øD	b	t
S24	50	54	54	27	15	28	31	4.6	24	39	30	24	12	8	1.6	5	3.2	8	0.2 ± 0.05	M4X0.7	10 15	4 5	1.8 2.3
S50	63	67.5	67.5	26	20	41.5	49.5	7	24	46	31.5	27	15	7.5	2	6	5	14		M4X0.7	12	4	1.8
M10	80	85	85	32	25	57.5	65	9	26.5	54.5	35.5	29.5	20	8	2	8	6	16		M5X0.8	15	5	2.3
M20	100	106	106	42	30	62.5	70	10	30	65	41.5	34	25	9	2	10	7	16		M5X0.8	20	5	2.3
M40	125	133	133	49	40	77.5	85	10	33.5	74.5	46.5	37.5	30	9	2	12	7	16	0.3 +0.05 -0.1	M6X1.0	25	7	3.3
M80	160	169	169	65	50	100	112	18	37.5	89.5	54	42	38	11.5	3.2	15	9	25		M8X1.25	30	7	3.3

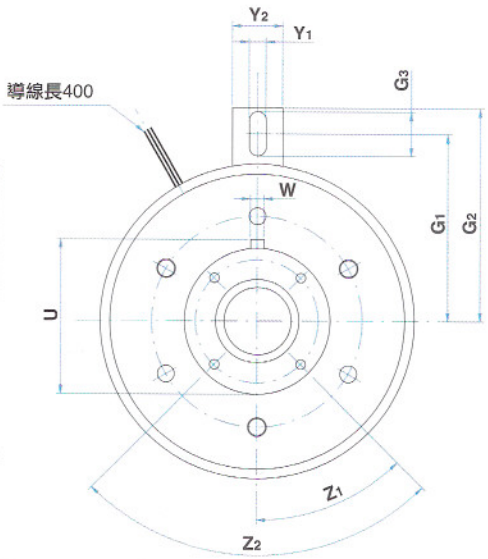
軸承式軸承導座型
Bearing Guide Seat Type

C-□□□-R04-□□

轉矩代碼 Torque Code　　孔徑 Aperture







特 性 / Characteristics							
轉矩代碼 Torque Code	動轉矩 Dynamic Torque(kgfm)	靜轉矩 Static Torque(kgfm)	功率 Power (w/20°C)	電流 Current (A/20°C)	電壓 Voltage DC-V	最高轉速 Highest RPM (r.p.m)	重量 Weight (kgf)
S24	0.24	0.27	10	0.42	24V	10000	-
S50	0.5	0.55	11	0.46	24V	8000	0.70
M10	1.0	1.1	15	0.63	24V	6000	1.23
M20	2.0	2.2	20	0.83	24V	5000	2.18
M40	4.0	4.5	25	1.04	24V	4000	3.93
M80	8.0	9	35	1.46	24V	3000	7.10

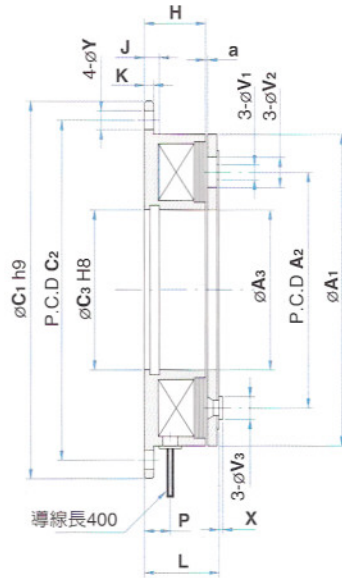
安 裝 尺 寸 (mm) / Installation Size (mm)																										
轉矩代碼 Torque Code	A	B	C	E	F	G1	G2	G3	H	L1	L2	M	N1	N2	P	R	S	U	W	Y1	Y2	a	m	Z1	Z2	øD	b	t
S24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-
S50	63	67.5	67.5	33	20	41.5	49.5	7	24	55	31.5	27	20.5	2	7.5	2	38	39.5	4	5	14	0.2 (+0.05 -0.05)	3-M4X0.7 深4	0°	3-120°	12	4	1.8
M10	80	85	85	37	25	57.5	65	9	26.5	64.5	35.5	29.5	26	2	8	2	45	47	5	6	16		3-M4X0.7 深6	0°	3-120°	15	5	2.3
M20	100	106	106	47	30	62.5	70	10	30	75	41.5	34	30	3	9	2	55	57	5	7	16		4-M4X0.7 深8	45°	4-90°	20	5	2.3
M40	125	133	133	54	40	77.5	85	10	33.5	90.5	46.5	37.5	40	2	9	2	64	67	7	7	16	0.3 (+0.05 -0.10)	4-M4X0.7 深8	45°	4-90°	25	7	3.3
M80	160	169	169	64	50	100	112	18	37.5	108.5	54	42	50	3	11.5	3.2	75	78	7	9	25		4-M5X0.8 深8	30°	6-60°	30	7	3.3

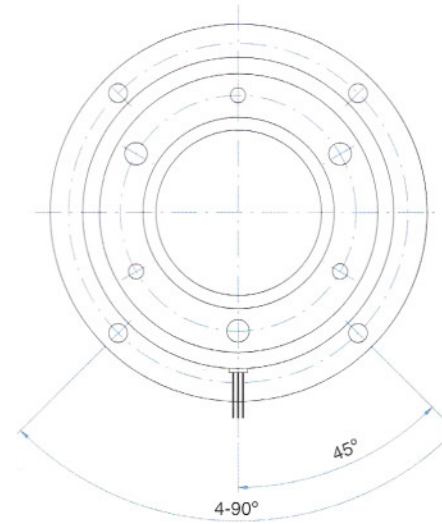
法蘭式無導座型
Flange Guideless Seat Type

B-□□□-F01

轉矩代碼
Torque Code







特 性 / Characteristics							
轉矩代碼 Torque Code	動轉矩 Dynamic Torque(kgfm)	靜轉矩 Static Torque(kgfm)	功率 Power (w/20°C)	電流 Current (A/20°C)	電壓 Voltage DC-V	最高轉速 Highest RPM (r.p.m)	重量 Weight (kgf)
S24	0.24	0.27	10	0.42	24V	10000	0.2
S50	0.5	0.55	11	0.46	24V	8000	0.28
M10	1.0	1.1	15	0.63	24V	6000	0.50
M20	2.0	2.2	20	0.83	24V	5000	0.91
M40	4.0	4.5	25	1.04	24V	4000	1.68
M80	8.0	9	35	1.46	24V	3000	3.15
T16	16	17.5	45	1.88	24V	2500	5.90
T32	32	35	60	2.50	24V	2000	10.5

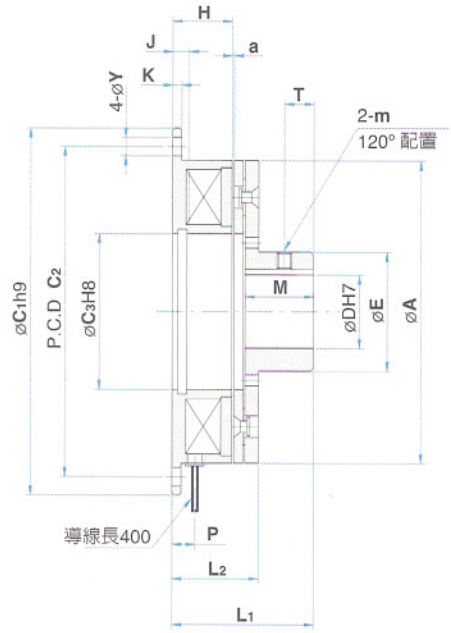
安 裝 尺 寸 (mm) / Installation Size (mm)																
轉矩代碼 Torque Code	A1	A2	A3	C1	C2	C3	H	J	K	L	P	V1	V2	V3	X	Y	a
S24	50	38	26	65	58	26	22	3.2	2	25	8	3.1	6.5	5	1	4.5	
S50	63	46	34.5	80	72	35	18	3.6	2	22	7.5	3.1	6.3	6	1	5	0.2 (+0.05 -0.05)
M10	80	60	41.5	100	90	42	20	4.3	2.5	25	8	4.1	8	6.2	1.2	6	
M20	100	76	51.5	125	112	52	22	5	3	28	9	5.1	11	8	1.5	7	
M40	125	95	61.5	150	137	62	24	5.5	3.5	31	9	6.2	12	10	1.8	7	0.3 (+0.05 -0.10)
M80	160	120	79.5	190	175	80	26	6.1	4	35.5	11.5	8.2	15	13	2.2	9.5	
T16	200	158	99.5	230	215	100	30	7	5	41.5	13	10.2	20	17.5	4	9.5	0.5 (+0.0 -0.2)
T32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

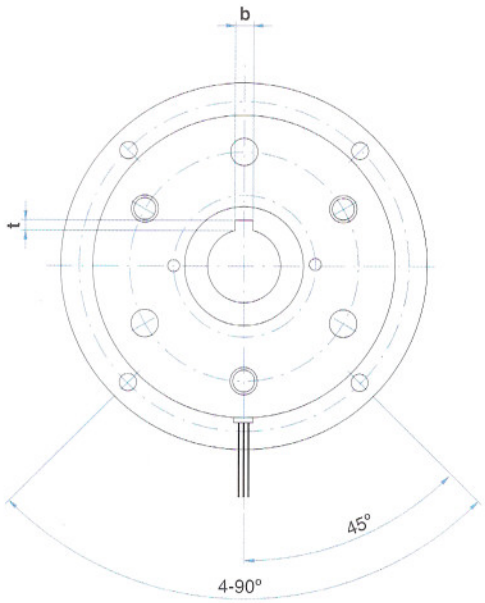
法蘭式正裝導座型
Flange Guide Seat Type

B-□□□-F02-□□

轉矩代碼 Torque Code　　孔徑 Aperture







特 性 / Characteristics

轉矩代碼 Torque Code	動轉矩 Dynamic Torque(kgfm)	靜轉矩 Static Torque(kgfm)	功率 Power (w/20°C)	電流 Current (A/20°C)	電壓 Voltage DC-V	最高轉速 Highest RPM (r.p.m)	重量 Weight (kgf)
S24	0.24	0.27	10	0.42	24V	10000	0.23
S50	0.5	0.55	11	0.46	24V	8000	0.32
M10	1.0	1.1	15	0.63	24V	6000	0.58
M20	2.0	2.2	20	0.83	24V	5000	1.07
M40	4.0	4.5	25	1.04	24V	4000	1.97
M80	8.0	9	35	1.46	24V	3000	3.45
T16	16	17.5	45	1.88	24V	2500	7.10
T32	32	35	60	2.50	24V	2000	12.2

安 裝 尺 寸 (mm) / Installation Size (mm)

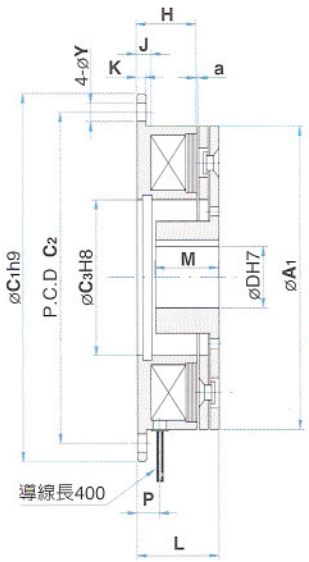
轉矩代碼 Torque Code	A	C1	C2	C3	E	H	J	K	L1	L2	M	P	T	Y	a	m	øD		b		t	
S24	50	65	58	26	27	22	3.2	2	37	28	12	8	5	4.5	0.2 (+0.05 -0.05)		10	15	4	5	1.8	2.3
S50	63	80	72	35	26	18	3.6	2	37	25.5	15	7.5	6	5		M4X0.7	12	15	4	5	1.8	2.3
M10	80	100	90	42	32	20	4.3	2.5	45	29	20	8	8	6		M5X0.8	15	20	5	5	2.3	2.3
M20	100	125	112	52	42	22	5	3	53	33.5	25	9	10	7			20	25	5	7	2.3	3.3
M40	125	150	137	62	49	24	5.5	3.5	61	37	30	9	12	7	0.3 (+0.05 -0.10)	M6X1.0	25	30	7	7	3.3	3.3
M80	160	190	175	80	65	26	6.1	4	73.5	42.5	38	11.5	15	9.5		M8X1.25	30	40	7	10	3.3	3.3
T16	200	230	215	100	83	30	7	5	86.5	50.5	45	13	18	9.5	0.5 (+0.0 -0.2)	M8X1.25	40	50	10	12	3.3	3.3
T32	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-		-		-	

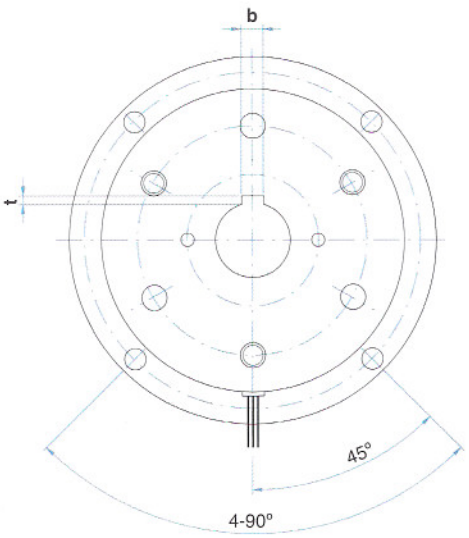
法蘭式反裝導座型
Flange Type Reverse Mounted Guide Seat Type

B-□□□-F03-□□

轉矩代碼 Torque Code　　孔徑 Aperture





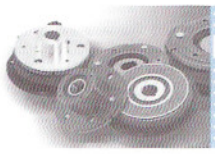


特 性 / Characteristics

轉矩代碼 Torque Code	動轉矩 Dynamic Torque(kgfm)	靜轉矩 Static Torque(kgfm)	功率 Power (w/20°C)	電流 Current (A/20°C)	電壓 Voltage DC-V	最高轉速 Highest RPM (r.p.m)	重量 Weight (kgf)
S24	0.24	0.27	10	0.42	24V	10000	0.23
S50	0.5	0.55	11	0.46	24V	8000	0.28
M10	1.0	1.1	15	0.63	24V	6000	0.50
M20	2.0	2.2	20	0.83	24V	5000	0.91
M40	4.0	4.5	25	1.04	24V	4000	1.68
M80	8.0	9	35	1.46	24V	3000	3.15
T16	16	17.5	45	1.88	24V	2500	5.90
T32	32	35	60	2.50	24V	2000	10.5

安 裝 尺 寸 (mm) / Installation Size (mm)

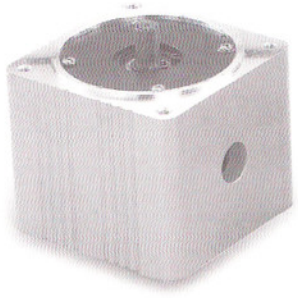
轉矩代碼 Torque Code	A1	C1	C2	C3	H	J	K	L	M	P	Y	a	øD		b		t	
S24	50	65	58	26	22	3.2	2	28	12	8	4.5	0.2 (+0.05 -0.05)	10	15	4	5	1.8	2.3
S50	63	80	72	35	18	3.6	2	25.5	15	7.5	5		12	15	4	5	1.8	2.3
M10	80	100	90	42	20	4.3	2.5	29	20	8	6		15	20	5	5	2.3	2.3
M20	100	125	112	52	22	5	3	33.5	25	9	7		20	25	5	7	2.3	3.3
M40	125	150	137	62	24	5.5	3.5	37	30	9	7	0.3 (+0.05 -0.10)	25	30	7	7	3.3	3.3
M80	160	190	175	80	26	6.1	4	42.5	38	11.5	9.5		30	40	7	10	3.3	3.3
T16	200	230	215	100	30	7	5	50.5	45	13	9.5	0.5 (+0.0 -0.2)	40	50	10	12	3.3	3.3
T32	-	-	-	-	-	-	-	-	-	-	-		-		-		-	

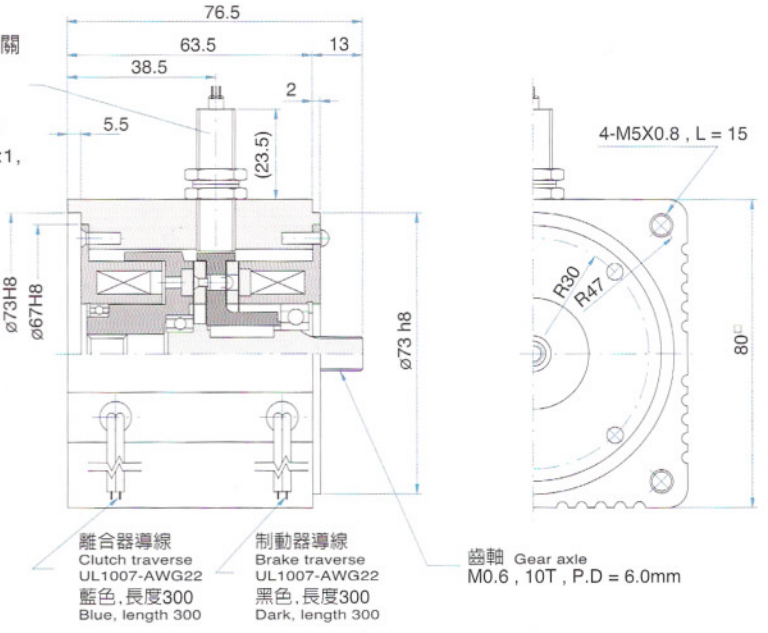


CLUTCH AND BRAKE IN ONE

小型離合制動器組合
Mini Clutch and Brake in One

S-S24-A26-1



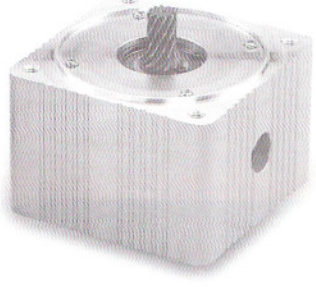


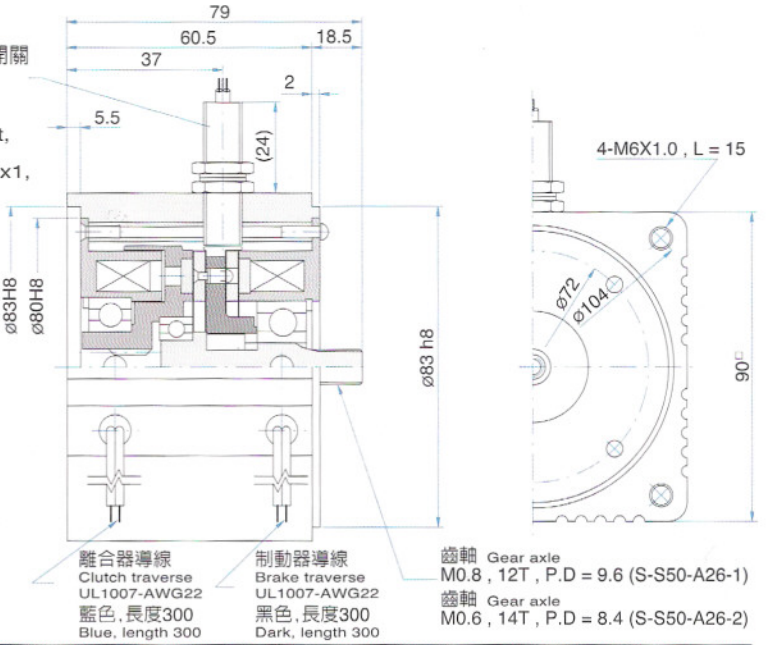
規格 Specifications	離合器 Clutch	制動器 Brake	規格 Specifications	離合器 Clutch	制動器 Brake
勵磁電壓 DC (V) Field Voltage	24		轉矩建立時間 (msec) Torque Setup Time	20	20
靜摩擦轉矩 (kgf-cm) Static Friction Torque	17	17	釋放時間 (msec) Discharging Time	25	25
動摩擦轉矩 (kgf-cm) Dynamic Friction Torque	17	17	動作頻度(回/分鐘) Movement Frequency (round/min)	100	100
功 率 (W) Power	10	10	導 線 (AWG22,L=300) Traverse	藍色 Blue	黑色 Dark
絕緣等級 Insulation Grade	E	E	來令片 Lining Plate	非石綿半金屬系 Non-asbestos semi-ferrous system	
吸引時間 (msec) Attraction Time	15	15			

小型離合制動器組合
Mini Clutch and Brake in One

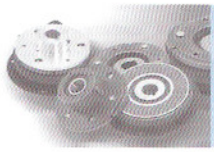
S-S50-A26-□

1 M0.8 12T 90W
2 M0.6 14T 60W
40W





規格 Specifications	離合器 Clutch	制動器 Brake	規格 Specifications	離合器 Clutch	制動器 Brake
勵磁電壓 DC(V) Field Voltage	24		轉矩建立時間 (msec) Torque Setup Time	20	20
靜摩擦轉矩 (kgf-cm) Static Friction Torque	38	38	釋放時間 (msec) Discharging Time	25	25
動摩擦轉矩 (kgf-cm) Dynamic Friction Torque	35	35	動作頻度(回/分鐘) Movement Frequency (round/min)	100	100
功 率 (W) Power	11	11	導 線 (AWG22,L=300) Traverse	藍色 Blue	黑色 Dark
絕緣等級 Insulation Grade	E	E	來令片 Lining Plate	非石綿半金屬系 Non-asbestos semi-ferrous system	
吸引時間 (msec) Attraction Time	15	15			



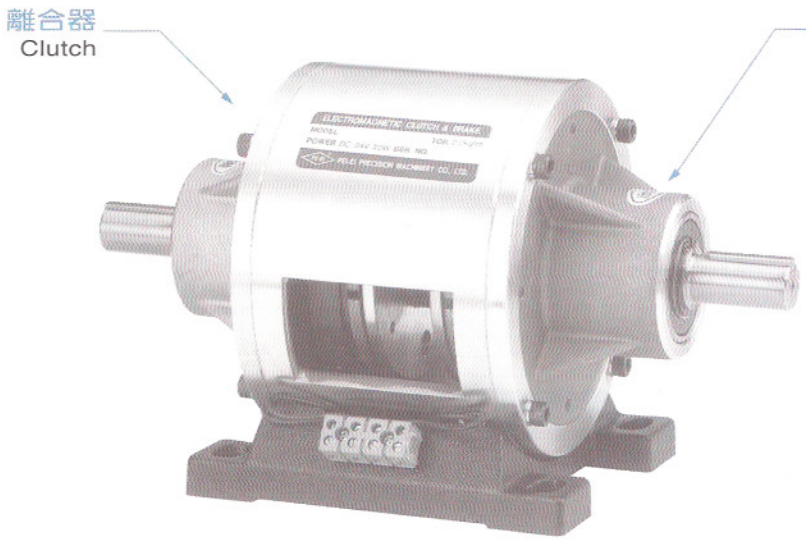
CLUTCH AND BRAKE IN ONE

離合器制動器組合

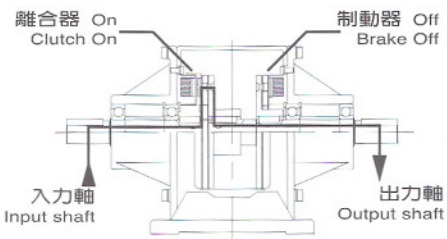
單離合制動器雙軸型
Single Clutch with Two Bearings

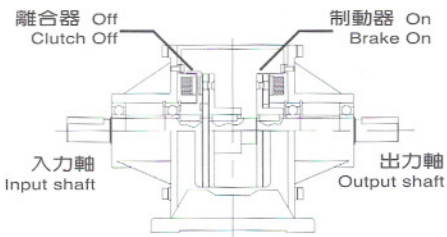
S-□□□-A21

轉矩代碼
Torque Code



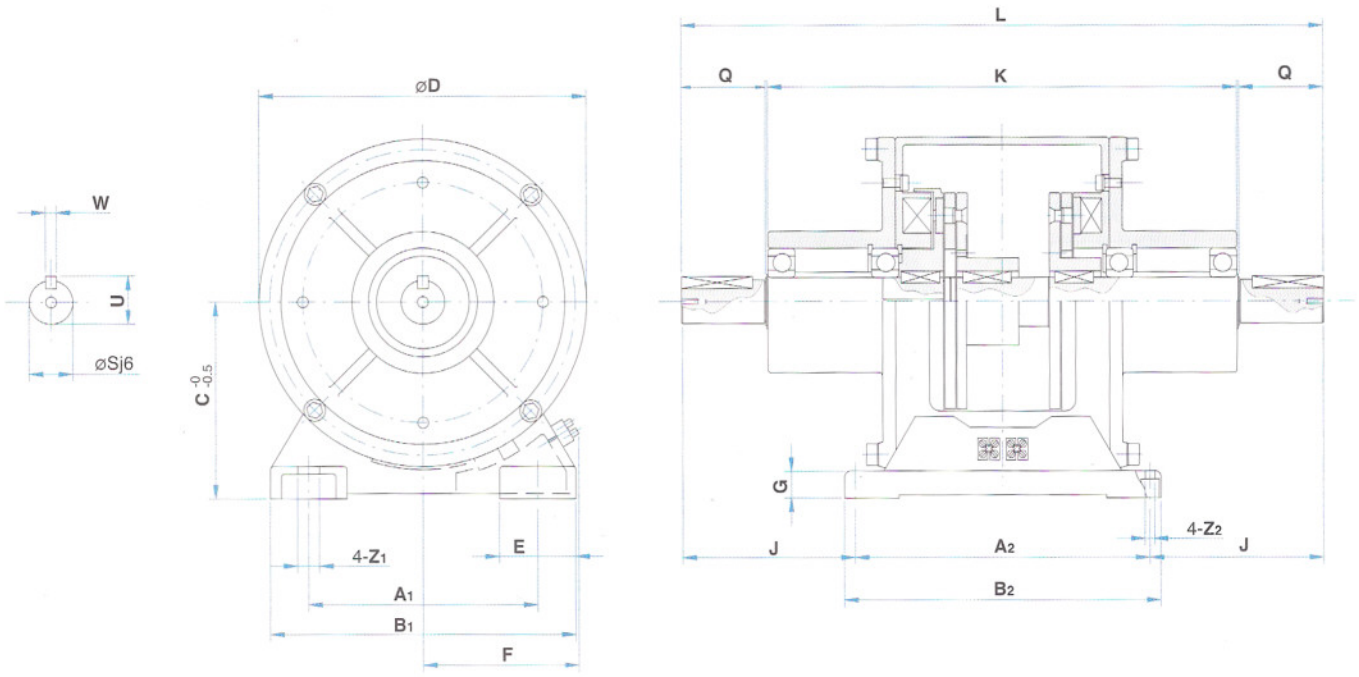
- 離合器與制動器的組合單元。
  Assembly Unit of Clutch and Brake.
- 鋁合金外殼，防滴型結構，滾珠軸承支撐。
  Outer shell made of aluminum alloy; structure designed to prevent dripping and supported by rolling bearing.
- 雙軸型，入力軸與出力軸分離。
  Two axial, split input bearing and output bearing.
- 臥式固定方式，組合安裝容易簡便。
  Fixed horizontal type, easy for assembly and simple for installation.
- 適合與變速皮帶組合(APH型)搭配運用。
  Suitable for use in conjunction with transmission belt assembly (APH type).
- 保養維護方便。
  Easy maintenance.





單離合制動器雙軸型 / Single Clutch with Two Bearings

型號 Model	轉矩 Torque (kgfm)	電壓 Voltage DC-V	線圈 Coil			保護素子 Protective Prime Factor	最高回轉數 Maximum Number of Revolutions(r/min)
			容量 Capacity(W)	電流 Current(A)	電阻 Resistance(Ω)		
S-S50-A21	0.50	24	11	0.46	52	TNR9G820K	8000
S-M10-A21	1.0	24	15	0.63	38	TNR9G820K	6000
S-M20-A21	2.0	24	20	0.83	29	TNR9G820K	5000
S-M40-A21	4.0	24	25	1.04	23	TNR9G820K	4000
S-M80-A21	8.0	24	35	1.46	16	TNR9G820K	3000
S-T16-A21	16	24	45	1.88	13	TNR9G820K	2500



特 性 / Characteristics						
轉矩代碼 Torque Code	動轉矩 Dynamic Torque(kgfm)	靜轉矩 Static Torque(kgfm)	功率 Power (w/20°C)	電壓 Voltage DC-V	使用馬力 Horsepower	重量 Weight (kgf)
S50	0.5	0.55	11	24V	200W	2.6
M10	1.0	1.1	15	24V	400W	4.5
M20	2.0	2.2	20	24V	750W	7.7
M40	4.0	4.5	25	24V	1.5KW	14
M80	8.0	9	35	24V	2.2KW	27
T16	16	17.5	45	24V	5.6KW	49

安 裝 尺 寸 (mm) / Installation Size (mm)																		
轉矩代碼 Torque Code	A1	A2	B1	B2	C	D	E	F	G	J	K	L	Z1	Z2	Q	S	U	W
S50	65	90	90	105	65	100	28	60	10	48.5	132	187	13.5	6.5	25	11	12.5	4
M10	80	110	110	130	80	125	32	68	12	63	171	236	15	9	30	14	16	5
M20	105	135	140	160	90	150	35	81	15	80	209	295	20	11	40	19	21	5
M40	135	160	175	185	112	190	42	97	15	108	270	376	24	11	50	24	27	7
M80	155	200	200	230	132	230	45	110	18	145	362	490	28	14	60	28	31	7
T16	195	240	240	270	160	290	47	129	20	188	448	616	28	14	80	38	41	10

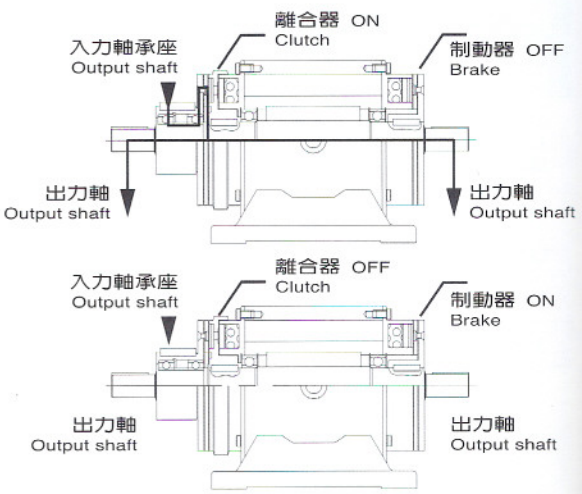
單離合制動器單軸型
Single Clutch Brake, Single Axial Type

S-□□□-A22

轉矩代碼
Torque Code

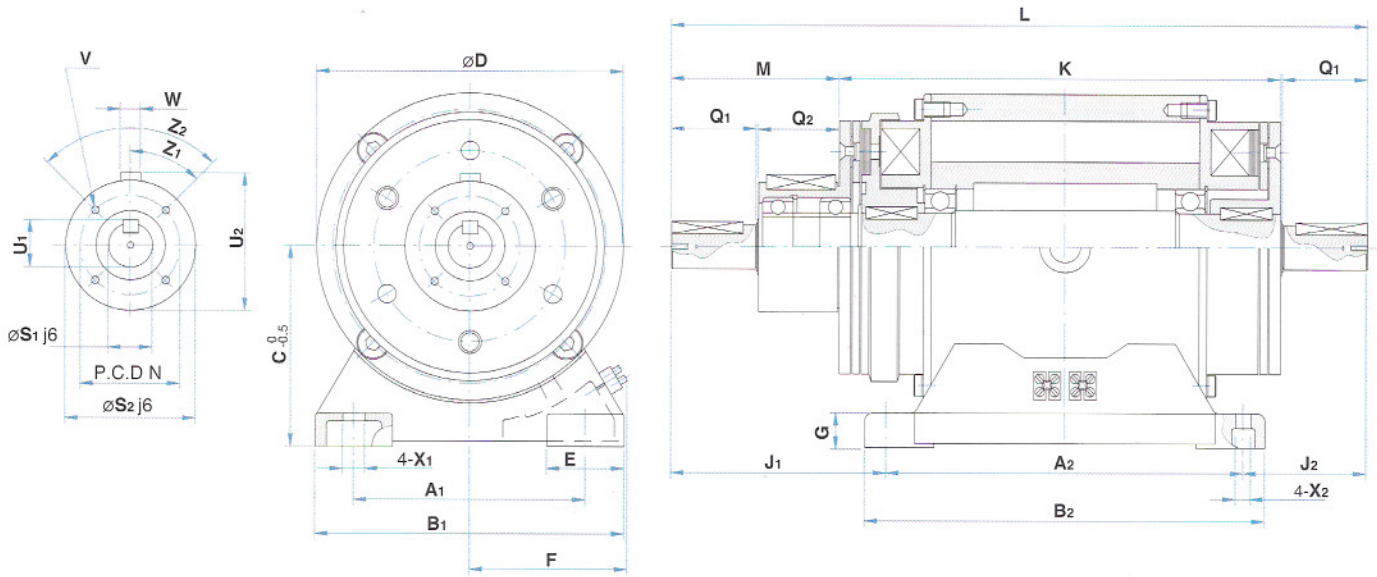


- 離合器與制動器的組合單元。
  Assembly Unit of Clutch and Brake
- 鋁合金本體，開放式結構。
  Aluminum body with open-ended structure
- 單軸雙凸端結構，由離合器軸承座入力，兩軸端為出力側。
  Single axial structure with dual convex end where input is conducted through the clutch bearing seat while output is discharged from the two convex ends.
- 臥式固定方式，組合安裝容易簡便。
  Fixed horizontal type, easy for assembly and simple for installation.
- 離合器軸承座剛性高，適合搭配齒輪，鏈輪，等傳動件。
  Rigidity of the clutch bearing seat is high, suitable for use with driving components such as gear, chain wheel.
- 保養維護方便
  Easy maintenance



單離合制動器單軸型 / Single Clutch Brake, Uniaxial Type

型號 Model	轉矩 Torque (kgfm)	電壓 Voltage DC-V	線圈 Coil			保護素子 Protective Prime Factor	最高回轉數 Maximum Number of Revolutions(r/min)
			容量 Capacity(W)	電流 Current(A)	電阻 Resistance(Ω)		
S-S50-A22	0.50	24	11	0.46	52	TNR9G820K	8000
S-M10-A22	1.0	24	15	0.63	38	TNR9G820K	6000
S-M20-A22	2.0	24	20	0.83	29	TNR9G820K	5000
S-M40-A22	4.0	24	25	1.04	23	TNR9G820K	4000
S-M80-A22	8.0	24	35	1.46	16	TNR9G820K	3000
S-T16-A22	16	24	45	1.88	13	TNR9G820K	2500
S-T32-A22	32	24	60	2.50	9.6	TNR9G820K	2000



特 性 / Characteristics

轉矩代碼 Dynamic Torque	動轉矩 Dynamic Torque(kgfm)	靜轉矩 Static Torque(kgfm)	功率 Power (w/20°C)	電壓 Voltage DC-V	使用馬力 Horsepower	重量 Weight (kgf)
S50	0.5	0.55	11	24V	200W	1.50
M10	1.0	1.1	15	24V	400W	2.70
M20	2.0	2.2	20	24V	750W	5.50
M40	4.0	4.5	25	24V	1.5KW	9.60
M80	8.0	9	35	24V	2.2KW	18.5
T16	16	17.5	45	24V	5.6KW	35.0
T32	32	35	60	24V	-	64.0

安 裝 尺 寸 (mm) / Installation Size (mm)

轉矩代碼 Dynamic Torque	A1	A2	B1	B2	C	D	E	F	G	J1	J2	K	L	M	N	V	X1	X2	Z1	Z2	S1	S2	Q1	Q2	U1	U2	W
S50	52.5	75	80	90	55	80	27.5	57	10	65.5	40.5	105.5	181	46.5	33	3-M4X0.7 深4	13.5	6.5	60°	3-120°	11	38	25	20.5	12.5	39.5	4
M10	65	90	90	105	65	100	28	60	10	78.5	48.5	126	217	57	37	3-M4X0.7 深6	13.5	6.5	60°	3-120°	14	45	30	26	16	47	5
M20	80	110	110	130	80	125	32	68	12	98	62	154	270	72	47	4-M4X0.7 深8	15	9	45°	4-90°	19	55	40	30	21	57	5
M40	105	135	140	160	90	150	35	81	15	121	74	184	330	92	54	4-M4X0.7 深8	20	11	45°	4-90°	24	64	50	40	27	67	7
M80	135	160	175	185	112	190	42	97	15	149	90	221	399	113	64	4-M5X0.8 深8	24	11	30°	6-60°	28	75	60	50	31	78	7
T16	155	200	200	230	132	230	45	110	18	187	117	276	504	142	79	4-M6X1 深12	28	14	45°	4-90°	38	90	80	60	41	93	10
T32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

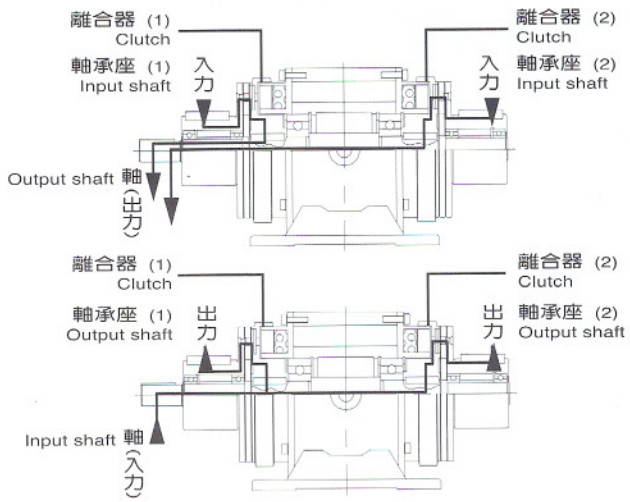
雙離合器單軸型
Dual Clutch, Single Axial Type

S-□□□-A23

轉矩代碼
Torque Code

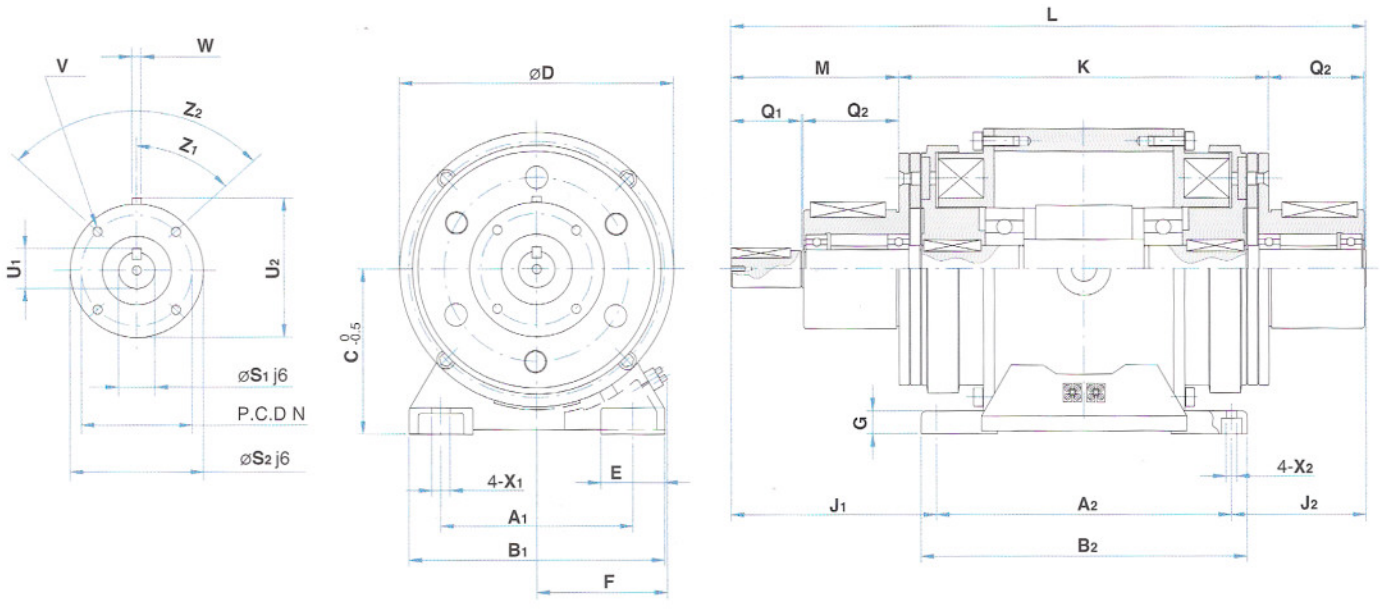


- 雙離合器的組合單元。
  Assembly Unit of Dual Clutch
- 鋁合金本體，開放式結構。
  Aluminum body with open-ended structure
- 單軸雙凸端結構
  Uniaxial structure with dual convex end structure
  多變化的傳動方式。
  Multi-variable driving methods
- 1)兩離合器的軸承座為入力端，由軸端出力。
  1)Input end at the bearing seat of the two clutches and the output at the axis end
- 2)軸端入力，兩離合器的軸承座為出力。
  2)Input at the axis end with output at the bearing seat of the two clutches.
- 適合2段變速組合，正反轉組合，動力傳達分配等
  Suitable for buckle segment transmission assembly, reciprocal assembly, and delivery and distribution of moving force.



雙離合器單軸型 / Dual Clutch, Uniaxial Type

型號 Model	轉矩 Torque (kgfm)	電壓 Voltage DC-V	線圈 Coil			保護素子 Protective Prime Factor	最高回轉數 Maximum Number of Revolutions(r/min)
			容量 Capacity(W)	電流 Current(A)	電阻 Resistance(Ω)		
S-S50-A23	0.50	24	11	0.46	52	TNR9G820K	8000
S-M10-A23	1.0	24	15	0.63	38	TNR9G820K	6000
S-M20-A23	2.0	24	20	0.83	29	TNR9G820K	5000
S-M40-A23	4.0	24	25	1.04	23	TNR9G820K	4000
S-M80-A23	8.0	24	35	1.46	16	TNR9G820K	3000
S-T16-A23	16	24	45	1.88	13	TNR9G820K	2500
S-T32-A23	32	24	60	2.50	9.6	TNR9G820K	2000



特 性 / Characteristics

轉矩代碼 Dynamic Torque	動轉矩 Dynamic Torque(kgfm)	靜轉矩 Static Torque(kgfm)	功率 Power (w/20°C)	電壓 Voltage DC-V	使用馬力 Horsepower	重量 Weight (kgf)
S50	0.5	0.55	11	24V	200W	1.70
M10	1.0	1.1	15	24V	400W	3.10
M20	2.0	2.2	20	24V	750W	6.50
M40	4.0	4.5	25	24V	1.5KW	10.50
M80	8.0	9	35	24V	2.2KW	21.0
T16	16	17.5	45	24V	5.6KW	38.5
T32	32	35	60	24V	-	70.0

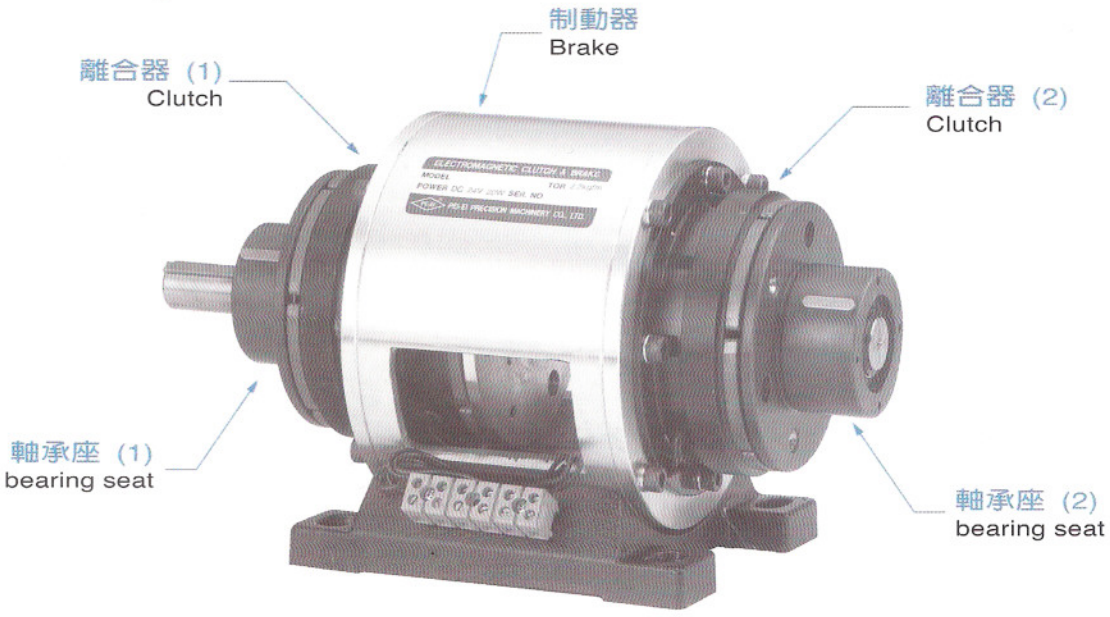
安 裝 尺 寸 (mm) / Installation Size (mm)

轉矩代碼 Dynamic Torque	A1	A2	B1	B2	C	D	E	F	G	J1	J2	K	L	M	N	V	X1	X2	Z1	Z2	S1	S2	Q1	Q2	U1	U2	W
S50	52.5	75	80	90	55	80	27.5	57	10	65.5	40.5	111.5	181	46.5	33	3-M4X0.7 深4	13.5	6.5	60°	3-120°	11	38	25	20.5	12.5	39.5	4
M10	65	90	90	105	65	100	28	60	10	78.5	48.5	133	217	57	37	3-M4X0.7 深6	13.5	6.5	60°	3-120°	14	45	30	25	16	47	5
M20	80	110	110	130	80	125	32	68	12	98	62	162	266	72	47	4-M4X0.7 深8	15	9	45°	4-90°	19	55	40	30	21	57	5
M40	105	135	140	160	90	150	35	81	15	121	74	193	327	92	54	4-M4X0.7 深8	20	11	45°	4-90°	24	64	50	40	27	67	7
M80	135	160	175	185	112	190	42	97	15	149	90	233	397	113	64	4-M5X0.8 深8	24	11	30°	6-60°	28	75	60	50	31	78	7
T16	155	200	200	230	132	230	45	110	18	187	105	290	492	142	79	4-M6X1 深12	28	14	45°	4-90°	38	90	80	60	41	93	10
T32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

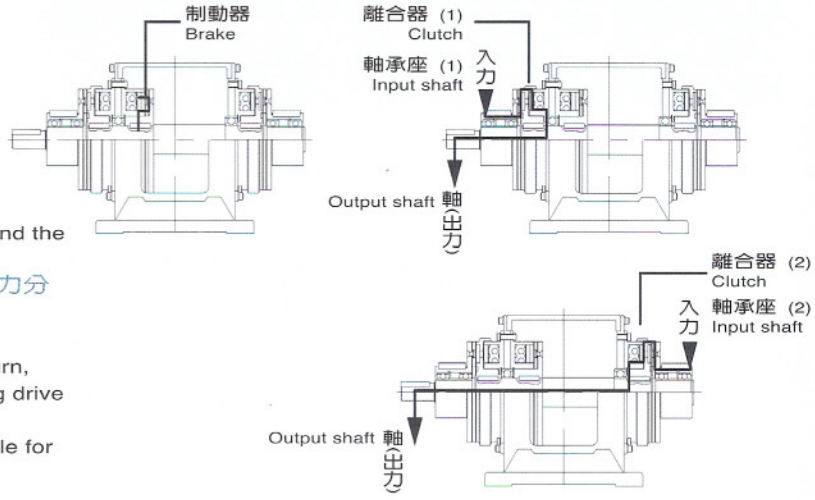
雙離合單制動器單軸型
Dual Clutch Single Brake, Single Axial Type

S-□□□-A31

轉矩代碼
Torque Code

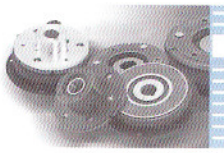


- 雙離合器單制動器的組合單元
  Assembly element of dual clutch single brake
- 鋁合金本體，開放式結構。
  Aluminum body with open-ended structure
- 單軸，單凸端結構。
  Single axis, single convex end structure
- 兩離合器的軸承座為入力端，由軸端出力。
  Input end at the bearing seat of the two clutches and the output at the axis end
- 適合2段變速定位置停止，高頻度正逆轉，動力分配且精確定位的傳動組合。
  Suitable for assemblies of 2-stage transmission positioning stop, high-frequency regular reverse turn, moving force distribution, and precision positioning drive
- 臥式固定方式，組合安裝容易簡便。
  Fixed horizontal type, easy for assembly and simple for installation.



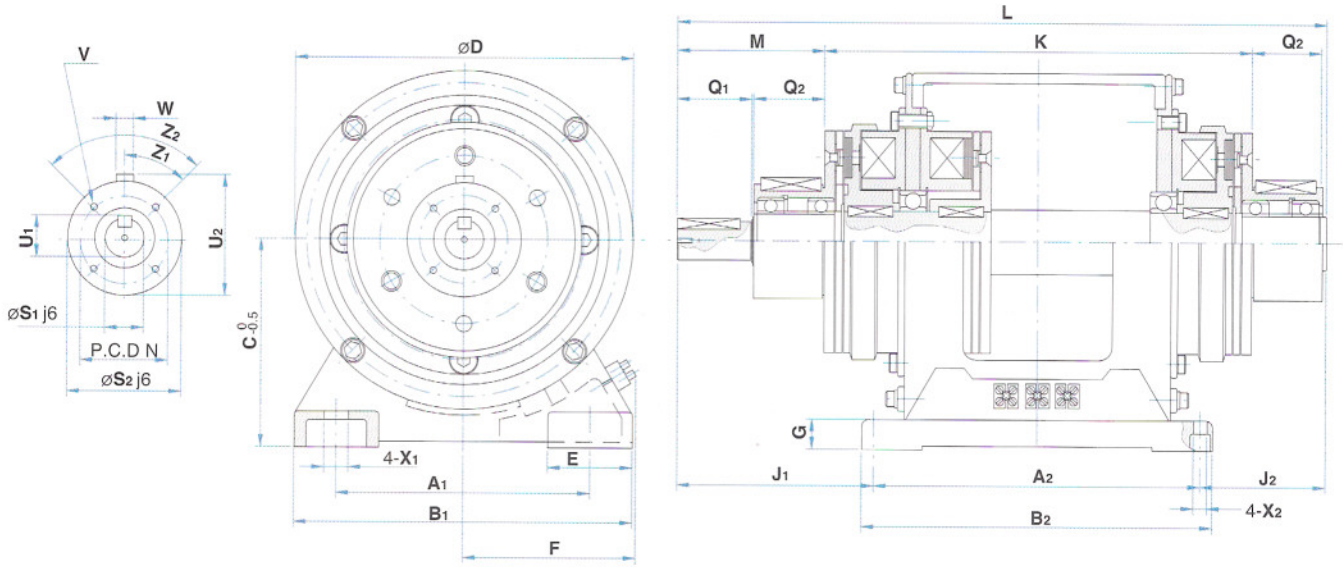
雙離合單制動器單軸型 / Dual Clutch Single Brake, Unaxial Type

型號 Model	轉矩 Torque (kgfm)	電壓 Voltage DC-V	線圈 Coil			保護素子 Protective Prime Factor	最高回轉數 Maximum Number of Revolutions(r/min)
			容量 Capacity(W)	電流 Current(A)	電阻 Resistance(Ω)		
S-S50-A31	0.50	24	11	0.46	52	TNR9G820K	8000
S-M10-A31	1.0	24	15	0.63	38	TNR9G820K	6000
S-M20-A31	2.0	24	20	0.83	29	TNR9G820K	5000
S-M40-A31	4.0	24	25	1.04	23	TNR9G820K	4000
S-M80-A31	8.0	24	35	1.46	16	TNR9G820K	3000
S-T16-A31	16	24	45	1.88	13	TNR9G820K	2500



CLUTCH AND BRAKE IN ONE

離合器制動器組合



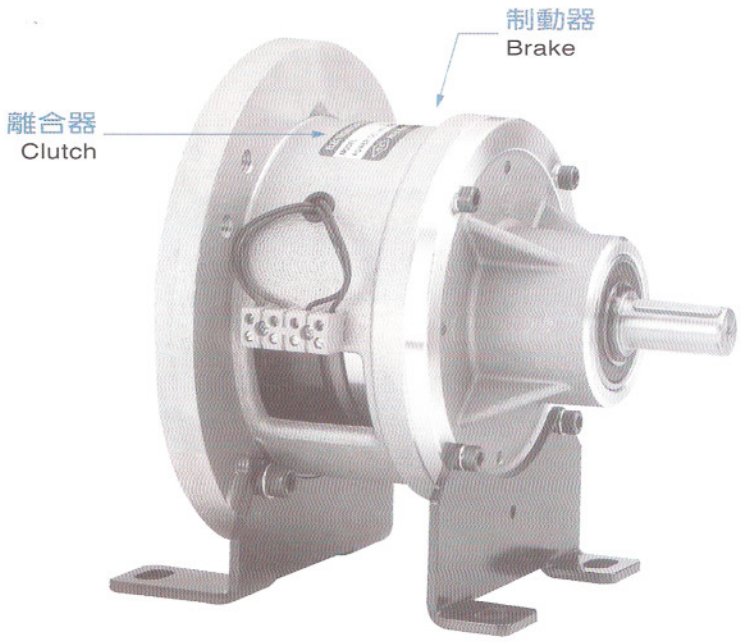
特 性 / Characteristics						
轉矩代碼 Dynamic Torque	動轉矩 Dynamic Torque(kgfm)	靜轉矩 Static Torque(kgfm)	功率 Power (w/20°C)	電壓 Voltage DC-V	使用馬力 Horsepower	重量 Weight (kgf)
S50	0.5	0.55	11	24V	200W	4
M10	1.0	1.1	15	24V	400W	6
M20	2.0	2.2	20	24V	750W	9
M40	4.0	4.5	25	24V	1.5KW	17
M80	8.0	9	35	24V	2.2KW	29
T16	16	17.5	45	24V	5.6KW	58

安 裝 尺 寸 (mm) / Installation Size (mm)																									
轉矩代碼 Dynamic Torque	A1	A2	B1	B2	C	D	E	F	G	J1	J2	K	L	M	N	V	X1	X2	Z1	Z2	S1	S2	Q1	Q2	U1	U2	W
S50	65	90	90	105	65	100	28	60	10	73	48	144	213	47	33	3-M4X0.7 深4	13.5	6.5	60°	3-120°	11	38	25	20.5	12.5	39.5	4
M10	80	110	110	130	80	125	32	68	12	83	53	162	246	57	37	3-M4X0.7 深6	15	9	60°	3-120°	14	45	30	25	16	47	5
M20	105	135	140	160	90	150	35	81	15	99	59	191	294	72	47	4-M4X0.7 深8	20	11	45°	4-90°	19	55	40	30	21	57	5
M40	135	160	175	185	112	190	42	97	15	124	74	223	358	93	54	4-M4X0.7 深8	24	11	45°	4-90°	24	64	50	40	27	67	7
M80	155	200	200	230	132	230	45	110	18	150	90	272	440	114	64	4-M5X0.8 深8	28	14	30°	6-60°	28	75	60	50	31	78	7
T16	195	240	240	270	160	290	47	129	20	196	114	348	550	142	79	4-M6X1 深12	28	14	45°	4-90°	38	90	80	60	41	93	10

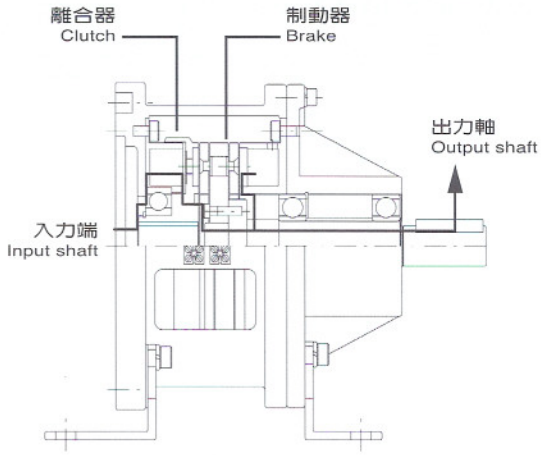
馬達直結單離合制動臥式型
Direct Motor Moutned Horizontal Single Clutch Brake

S-□□□-K25

轉矩代碼
Torque Code

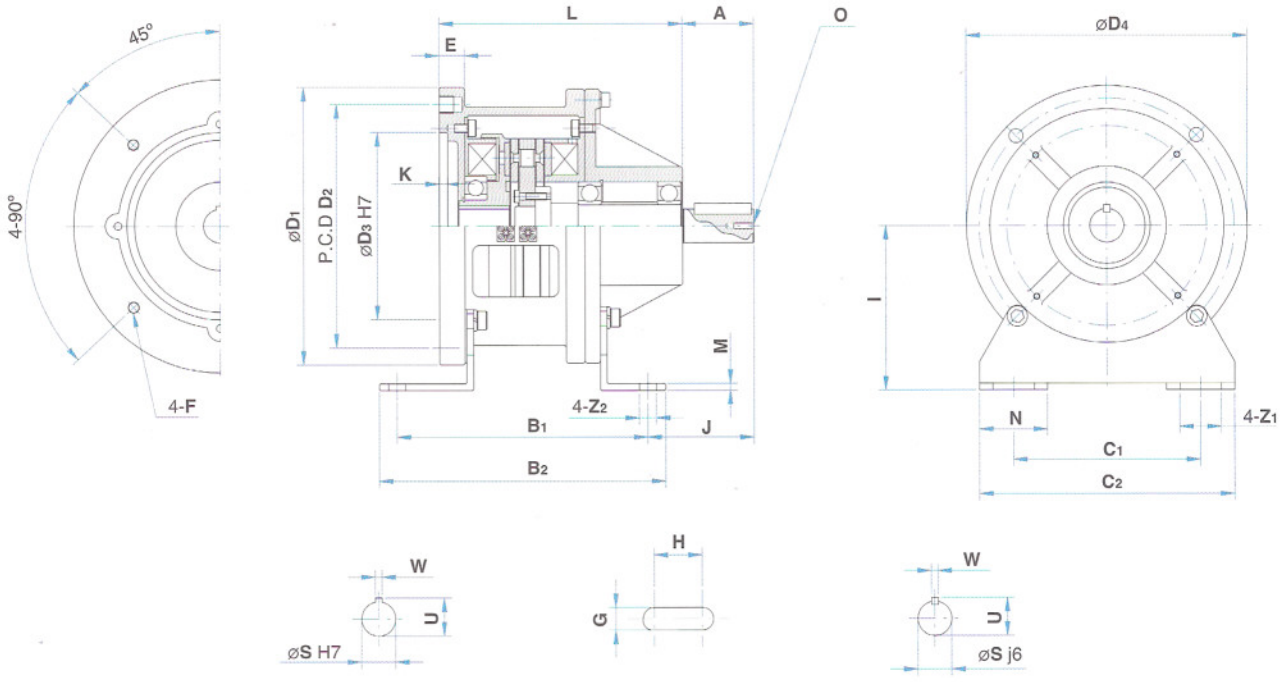


- 馬達直結，離合器與制動器的組合單元。
  Assembly units of direct motor mounted, clutch and brake
- 離合器，制動器部份鋁合金外殼，防滴型結構。
  Outer shell of clutch and brake is made of aluminum alloy; structure designed to prevent dripping.
- 配合IEC國際規格，結構輕薄短小安裝容易不佔空間。
  Compact structure is light, thin and short, comply with IEC international requirements.
- 臥式底座固定方式。
  Fixed horizontal base seat
- 保養維護方便。
  Easy maintenance.



馬達直結單離合制動臥式型 / Direct Horizontal Single Clutch Brake

型號 Model	轉矩 Torque (kgfm)	電壓 Voltage DC-V	線圈 Coil			保護素子 Protective Prime Factor	最高回轉數 Maximum Number of Revolutions(r/min)
			容量 Capacity(W)	電流 Current(A)	電阻 Resistance(Ω)		
S-S50-K25	0.50	24	11	0.46	52	TNR9G820K	8000
S-M10-K25	1.0	24	15	0.63	38	TNR9G820K	6000
S-M20-K25	2.0	24	20	0.83	29	TNR9G820K	5000
S-M40-K25	4.0	24	25	1.04	23	TNR9G820K	4000
S-M80-K25	8.0	24	35	1.46	16	TNR9G820K	3000



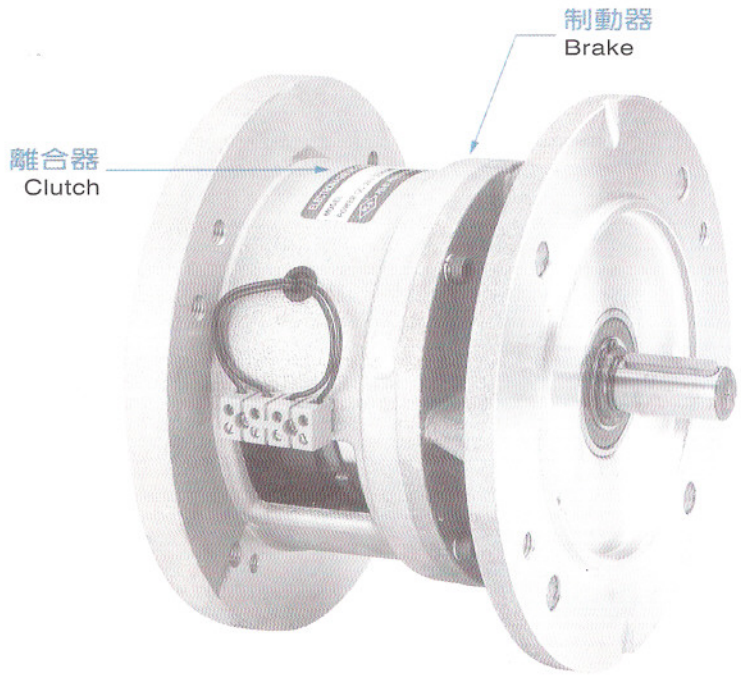
特 性 / Characteristics						
轉矩代碼 Dynamic Torque	動轉矩 Dynamic Torque(kgfm)	靜轉矩 Static Torque(kgfm)	功率 Power (w/20°C)	電壓 Voltage DC-V	使用馬力 Horsepower	重量 Weight (kgf)
S50	0.5	0.55	11	24V	200W	2.7
M10	1.0	1.1	15	24V	400W	3.8
M20	2.0	2.2	20	24V	750W	6.8
M40	4.0	4.5	25	24V	1.5KW	10.3
M80	8.0	9	35	24V	2.2KW	18.8

安 裝 尺 寸 (mm) / Installation Size (mm)																								
轉矩代碼 Dynamic Torque	A	B1	B2	C1	C2	D1	D2	D3	D4	E	F	G	H	I	J	K	L	M	N	O	W	S	U	Z1	Z2
S50	26	116	136	65	90	160	130	110	100	14	M8X1.25-4	6.5	7	90	28	4.5	99	4.5	27.5	M4X0.7深8	4	11	12.5	13.5	6.5
M10	34	130	150	80	110	160	130	110	125	14	M8X1.25-4	9	7	90	47	4.5	120	4.5	32.5	M4X0.7深8	5	14	16	15.5	9
M20	44	143	167	105	140	200	165	130	150	17	M10X1.5-4	11	9	110	70	5.5	147	4.5	35	M6X1深11	5	19	21.5	20	11.5
M40	55	160	185	135	175	200	165	130	190	17	M10X1.5-4	11	13	110	97	5.5	174	4.5	42.5	M6X1深11	7	24	27	24.5	11.5
M80	64	200	230	155	200	250	215	180	230	17	M12X1.75-4	14	14	140	127	6	214	6	45	M6X1深11	7	28	31	28	14

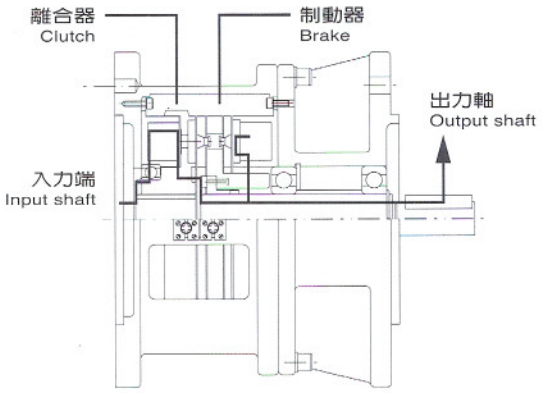
法蘭式馬達直結單離合制動器立式型
Flange Type Direct Motor Mounted Vertical Single Clutch Brake

S-□□□-K26

轉矩代碼
Torque Code

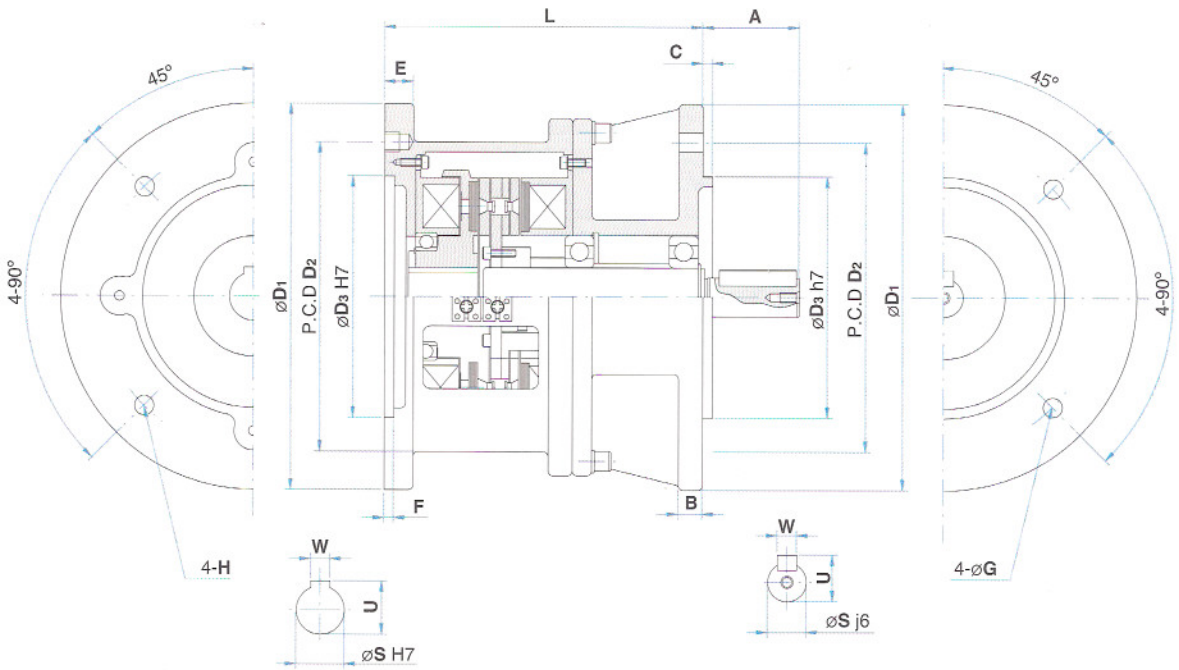


- 馬達直結，離合器與制動器的組合單元。
  Assembly unit of direct motor mounted, clutch and brake
- 離合器，制動器部份鋁合金外殼，防滴型結構。
  Outer shell of clutch and brake is made of aluminum alloy; structure designed to prevent dripping.
- 配合IEC國際規格，結構輕薄短小安裝容易不佔空間。
  Compact structure is light, thin and short, comply with IEC international requirements.
- 立式法蘭固定方式。
  Fixed flange fixed base seat
- 保養維護方便。
  Easy maintenance



法蘭式馬達直結單離合制動器立式型 / Direct Flange Vertical Single Clutch Brake

型號 Model	轉矩 Torque (kgfm)	電壓 Voltage DC-V	線圈 Coil			保護素子 Protective Prime Factor	最高回轉數 Maximum Number of Revolutions(r/min)
			容量 Capacity(W)	電流 Current(A)	電阻 Resistance(Ω)		
S-S50-K26	0.50	24	11	0.46	52	TNR9G820K	8000
S-M10-K26	1.0	24	15	0.63	38	TNR9G820K	6000
S-M20-K26	2.0	24	20	0.83	29	TNR9G820K	5000
S-M40-K26	4.0	24	25	1.04	23	TNR9G820K	4000
S-M80-K26	8.0	24	35	1.46	16	TNR9G820K	3000



特 性 / Characteristics

轉矩代碼 Dynamic Torque	動轉矩 Dynamic Torque(kgfm)	靜轉矩 Static Torque(kgfm)	功率 Power (w/20°C)	電壓 Voltage DC-V	使用馬力 Horsepower	重量 Weight (kgf)
S50	0.5	0.55	11	24V	200W	2.8
M10	1.0	1.1	15	24V	400W	4.1
M20	2.0	2.2	20	24V	750W	7.2
M40	4.0	4.5	25	24V	1.5KW	11
M80	8.0	9	35	24V	2.2KW	19.5

安 裝 尺 寸 (mm) / Installation Size (mm)

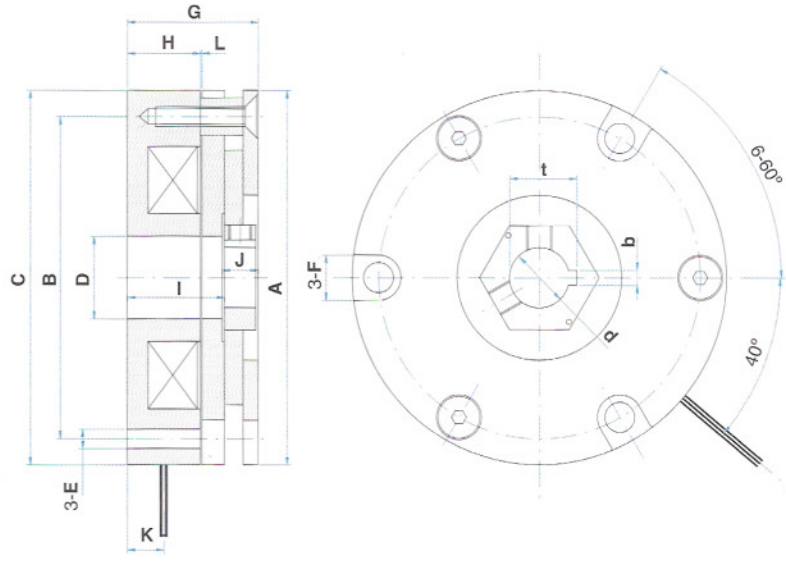
轉矩代碼 Dynamic Torque	A	B	C	D_1	D_2	D_3	E	F	G	H	L	W	S	U
S50	23	10	3.5	160	130	110	14	4.5	10	M8X1.25	103.5	4	11	12.5
M10	30	10	3.5	160	130	110	14	4.5	10	M8X1.25	122.5	5	14	16
M20	40	12	3.5	200	165	130	17	5.5	12	M10X1.5	141	6	19	21.5
M40	50	12	3.5	200	165	130	17	5.5	12	M10X1.5	167	8	24	27
M80	60	16	4	250	215	180	17	6	14.5	M12X1.75	218	8	28	31

無勵磁乾式負作動電磁制動器
Electromagnetic Spring Loaded Brake

BN-□□□-□□□-□

型號 Model　　型式 Type





型號 Model	形式 Type	額定電壓 Voltage DC-V	靜摩擦扭力 Torque in Static Friction (Nm)	靜摩擦扭力 Torque in Static Friction (kgfm)	入力容量 Input Capacity (W)	線圈 Coil(20°C) 電流 Current(A)	線圈 Coil(20°C) 電阻 Resistance(Ω)	孔徑 Aperture $d^{+0.025}_{+0.01}$	鍵槽尺寸 Key Fillister Size $b^{+0.0125}_{-0.0125} \times t^{+0.10}_{0}$
S05	SNF-2	24V	0.5	0.05	7	0.292	82.3	8	-
	SNF-5	90V				0.078	1157.1		
S10	SNF-2	24V	1.0	0.1	9	0.375	64	8	-
	SNF-5	90V				0.1	900		
S20	SNF-2	24V	2.0	0.2	13	0.542	44.3	12	4 x 13.8
	SNF-5	90V				0.144	623		
S40	SNF-2	24V	4.0	0.4	15	0.625	38.4	14	5 x 16.3
	SNF-5	90V				0.167	540		
S80	SNF-2	24V	8.0	0.8	18	0.75	32	19	5 x 21.3
	SNF-5	90V				0.2	450		

型號 Model	徑方向 / Diameter Direction						軸方向 / Axis Direction					
	A	B	C	D	E	F	G	H	I	J	K	L
S05	50	44	50.3	10	3.5	3.5	29.55	18.7	21.55	8	9.7	0.1~0.2
S10	63	54	63	22	4.5	9	30.55	20	22.55	8	8.5	0.1~0.2
S20	85	74	85	19	5.5	11	29.65	17.5	22.15	7.5	9	0.1~0.2
S40	97	85	97	22	5.5	11	30.15	18	22.65	7.5	8	0.1~0.2
S80	118	108	118	35	5.5	11	35.7	19.5	26.2	9.5	9.5	0.1~0.2

尺寸單位：mm

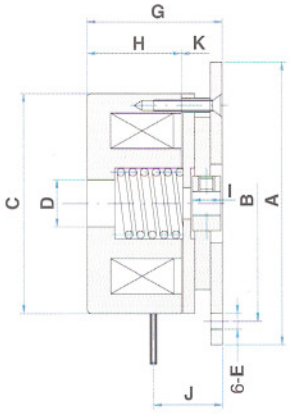
無勵磁乾式負作動(附把手型)電磁制動器
Electromagnetic Spring Loaded Brake

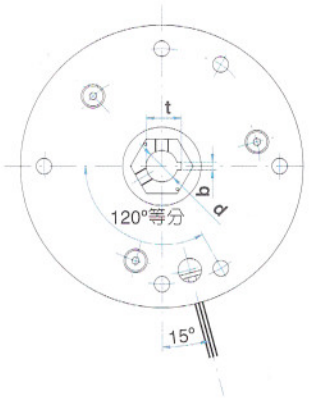
BN-□□□-□□□-□

型號 Model　　型式 Type

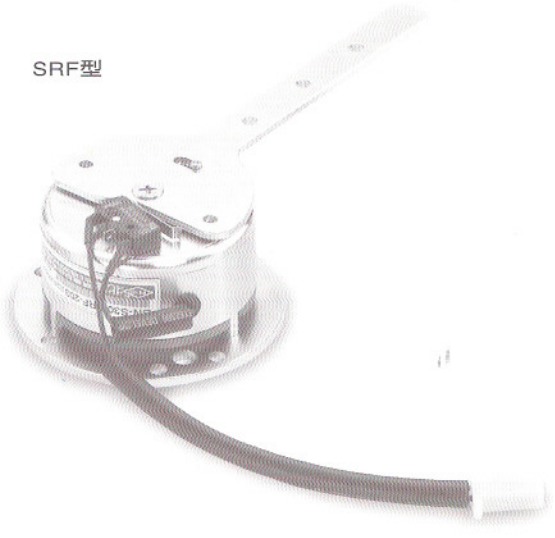
SNF型

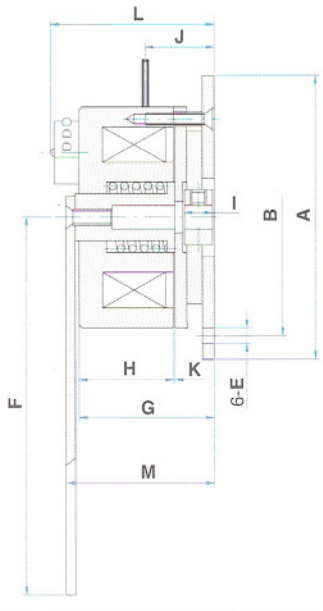


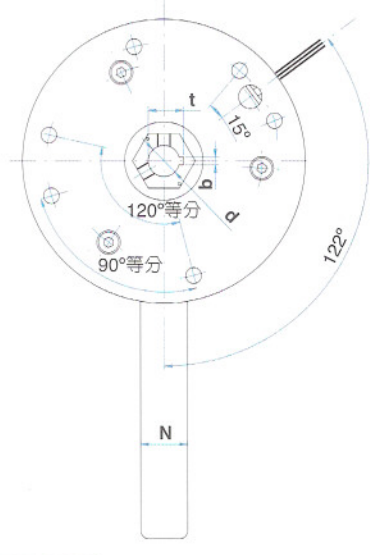




SRF型







型號 Model	形式 Type	額定電壓 Voltage DC-V	靜摩擦扭力 Torque in Static Friction (Nm)	(kgfm)	入力容量 Input Capacity (W)	線圈 Coil(20°C) 電流 Current(A)	電阻 Resistance(Ω)	孔徑 Aperture $d^{+0.025}_{+0.01}$	鍵槽尺寸 Key Fillister Size $b^{+0.0125}_{-0.0125} \times t^{+0.10}_{0}$
S30	SNF-2	24V	4	0.4	12	0.5	48	8	3X9.4
S30	SNF-5	90V	4	0.4	12	0.133	675	8	3X9.4
S30	SRF-2	24V	4.5	0.45	12	0.5	48	8	3X9.4
S30	SRF-5	90V	4.5	0.45	12	0.133	675	8	3X9.4

型號 Model	徑方向 / Diameter Direction						軸方向 / Axis Direction							
	A	B	C	D	E	F	G	H	I	J	K	L	M	N
S30	77	68	61	13	5	-	36.55	26	8	20.55	0.1~0.2	-	-	-
S30	77	68	61	13	5	-	36.55	26	8	20.55	0.1~0.2	-	-	-
S30	77	68	61	-	5	126	36.55	26	8	20.55	0.1~0.2	44.25	40.4	13
S30	77	68	61	-	5	126	36.55	26	8	20.55	0.1~0.2	44.25	40.4	13

尺寸單位：mm






R & D / DESIGN / MANUFACTURE/ SERVICE

研發 / 設計 / 製造 / 維修

北譯精機股份有限公司
PEI-EI Precision Machinery Co.,Ltd
No.24, Lane 211, Hua-cheng Rd. Hsin-chung, Taipei 242, TAIWAN

Web site:http//www.peei.com.tw

Canley Trading Company
欽利貿易有限公司
台北市民生東路四段79號7樓
7/F., 79 Ming Sheng East Road, Sec. 4, Taipei, Taiwan
TEL: 886-2-2717-1616, 2717-1619
E-mail：canley@hn.tpemail.net.tw
Fax：886-2-2713-1332

經銷商
Dealer

關於型錄內容，本公司保留設計變更的權利 I904C501.003/2004.04.3000

© PM-20