TOYO

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EN CH

電動缸系列產品型錄

TOYO 2019
SERVO CYLINDER

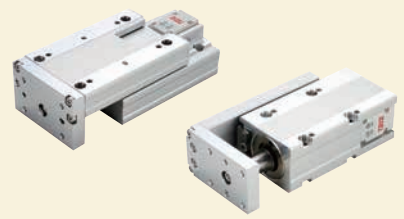
DM / DGTH / DGTY / CS / CGTH / CGTY / CH Series

東佑達自動化科技股份有限公司
TOYO AUTOMATION CO., LTD

目錄索引 Catalog Index

特色說明 Main Features

DM 超小伺服電動缸系列



DGTH 軌道內嵌式伺服電動滑台

DGTY 軌道內嵌式伺服電動缸

CS 微型電動缸系列

CGTH
軌道內嵌式
步進電動滑台

CGTY
軌道內嵌式
步進電動缸

CH
電動夾爪系列

伺服控制器
XC100
Controller

步進控制器
TC100
Controller

網站使用方式

TOYO Website Instructions.

請多加利用本公司網站進行資料下載

You can download following files from TOYO's website.

URL

http://www.toyorobot.com

① 產品型錄 Catalog　② CAD資料 CAD files

③ 操作說明書 Manuals　④ 軟體 Software

Smart! 選型軟體 Model Selection Tool

規格眾多，您有如何選型的困擾嗎？
使用線上選型軟體來幫助您快速有效導入設計。

Selection tool can help you to find the most suitable product for your applications.

依據下面條件依序填入您的需求 Instructions:

① 選擇使用環境 Select environment

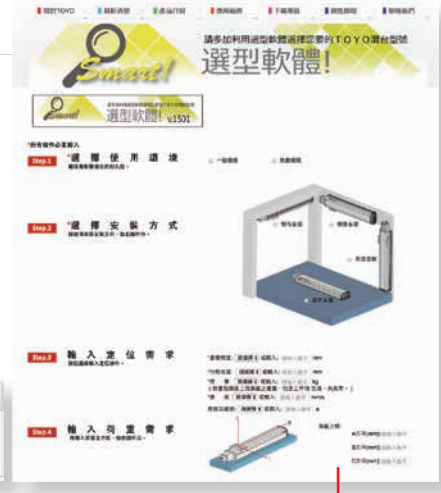
② 選擇安裝方式 Select mounting position

③ 輸入定位需求 Select accuracy requirement

④ 輸入荷重需求 Enter the payload requirement

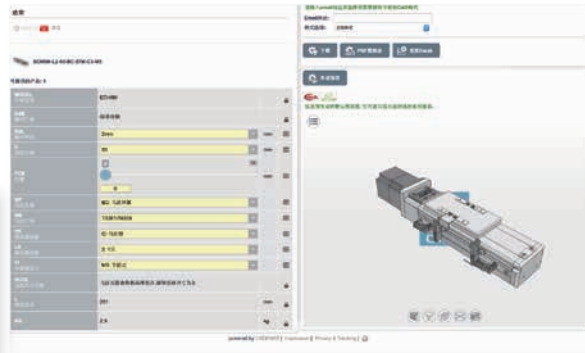
使用選型軟體請先加入會員

Please register to using the Selection Tool.



以輸入之條件檢索後，產生檢索結果。
點選3D可模擬CAD模型如右圖。

After submitted the requirements,
The result will show up and the 3D preview is on the right of the page.



型錄及圖面下載方法

Catalogs and Drawing Download.

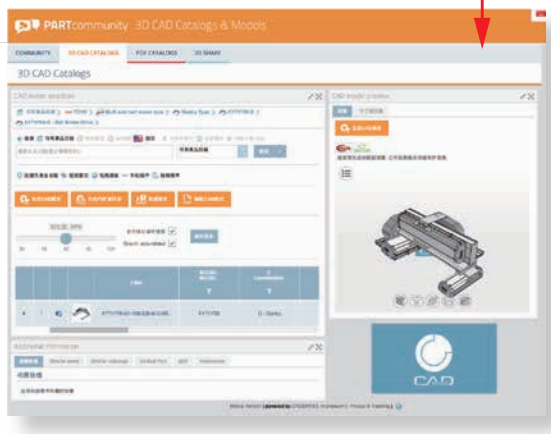
可以在一個位置便利的免費下載產品和技術支援文件。
輕鬆找到所需資訊。

You can find the catalogs and information of products here.

3D CAD下載 3D Drawing Download

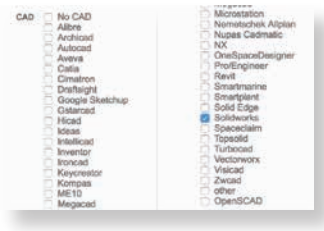
可使用3D下載生成模擬3D圖加入會員後即可下載。
依據所需3D格式確認後，圖面寄至您的郵箱。

This website can generate the selected types of CAD models and send it to your email.



使用3D下載請先加入會員

Please register to download the 3D files.



任何相關問題，多種管道可聯繫我們。

If you have any question, Please contact us.

URL http://www.toyorobot.com
可使用網站的聯絡我們留下您的訊息。
Please leave your message on the page "Contact Us".

Email info@toyorobot.com

Phone Taiwan 0800-800-893
China 400-875-0009

關於東佑達

About TOYO

以 <誠信 技術 服務>為根基
創造社會與產業的最大價值
並以超越客戶的需求為目標來努力

Based on the foundation of (Integrity, Technology and Service), TOYO create the maximum value for the society and industry and strive for the goal of exceeding the need of the customer.

自西元2000年東佑達成立以來，一直在各產業支持下，成為台灣及中國兩岸工業機械手閃耀第一品牌。東佑達公司累積了數十年在機械手製造的經驗，近期結合控制器與傳動模組發展出高性價比的工業用單軸/直交機械手及水平多關節機械手，讓產品更達到一個新的水平。無論您在哪個產業面臨哪種生產製造難題，東佑達高性價比的工業化機械手隨時滿足您的需求。

Since TOYO group has been set up at 2000 in Taiwan, with the support by partners in different business fields, TOYO has become the premium and preferred shinning brand in industrial robot market of Taiwan and China. Recently, TOYO create a innovative situation by the combination of controller and transmission module to develop high CP value industrial single/multi axis and SCARA robot. No matter which industry you are in or what kind of difficulty you are facing, TOYO's high CP value industrial robot will fulfill your demand.

直線傳動的六大產品

6 Major Products of Linear Drive

滑台模組
Electric Actuator

電動缸
Servo Cylinder

電動夾爪
Electric Gripper

線性馬達機械手
Linear Motor Robots

桌上型機械手
Desktop Robots

無人搬運車
Automated Guided Vehicle

- 高性價比 High price-performance ratio
- 彈性的客製化 Flexible customization
- 短交期 Short delivery time
- 穩定的品質 Stable quality
- 豐富的產品線 Versatile product line

服務系統

Srevice System

樣品機免費借出
Free demo machine

備有標準品的樣品測試機，可免費借出給客戶使用，請洽各地區業務及代理店。

TOYO prepare standard unit for customer' s demonstration and test. They are free rental for our customers. (15 days advanced notice / The longest rental period 30 days.) Please contact our sales and local agents.

24小時線上服務
24 hours online service

全年無休的 24 小時的 On Call Service，有任何產品問題請隨時來電。

臺灣 0800-800-893
中國 400-875-0009

0800-800893 (Taiwan , toll-free)400-875-0009 (China , toll-free)24hr on call service, please contact us for any questions or enquiries.

技術分享
Technical conference

我們定期舉辦產品說明會 / 技術研討會，將我們擁有的先端技術與客戶做交流與分享。

New product seminars and technical conferences are hold regularly to share our latest technology with free demo machine customers.

展示會
Exhibitions

為了讓客戶更了解產品，舉辦相關展示會，相關日程請洽本公司。

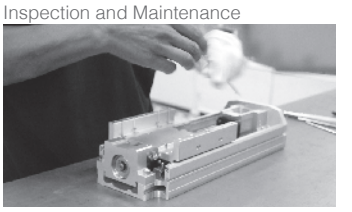
We participate in exhibitions frequently. Please contact us for more information.

巡迴展示車
Puncar Action

為了讓全台灣各地的客戶都可以親身體驗及了解的展示實品樣貌，成立了全台巡迴胖卡展示車，相關辦法請洽本公司。

For the purpose of leting the clients all over the island to have a chance to experience and be more familiar with the demonstrated product personally, we therefore build a mobile puncar cruising around the Taiwan island enable the clients to test it. For more details, please do not hesitate to contact us.

檢查、維修
Inspection and Maintenance



若您購買的產品發生故障或異常，本公司可為您檢查、修理。即使過了保固期，若產品經由修理仍維持、回復使用功能時，可以依客戶需求進行有償修理。

If the product has problem or out of order, you can send it back for inspection and maintenance. If the product is out of warranty, we still can repair it for certain charge.

品保認證 Quality Assurance Certification

ISO 9001 ISO 14001 OHSAS 18001

通過ISO9001、ISO14001、OHSAS18001國際認證
Passed ISO9001, ISO14001 and OHSAS18001 international certification.

專利技術 Patented Technologies

#M398055 #M429543 #M440838 #M523013 #M523014 #M523015

#M523016 #M523017 #M534739 #M523019 #M523018 #I530627

多項經濟部智慧財產局專利認證申請通過
Patent applications certified by the Intellectual Property Office of Ministry of Economic Affairs.

得獎肯定 Awards

榮獲第9屆新創事業獎
Got 9th Taiwan Business Startup Award

台灣精品 2018

CGTH/CGTY系列產品
榮獲 2018 台灣精品獎
CGTH/CGTY Sreies
Got 2018 Taiwan Excellence Awards

榮獲第19屆小巨人獎
Got 19th Taiwan Business Rising Star Award

規格索引

Spec Index

DM 超小型伺服電動缸系列

DM Miniature Cylinder

使用環境 Environment	傳動方式 Drive mode	仕樣 Specification	馬達容量 Motor Output (W)	本體寬幅 Width of profile (mm)	位置重複精度 Repeatability(mm)	螺桿規格(C7級) Ball screw spec (Accuracy C7) 外徑 Outer dia.(mm)	導程 Lead(mm)	最大可搬重量 Maximum Payload(kg) 水平使用 Horizontal	垂直使用 Vertical	額定推力 Rated Thrust (N)	最高速度*1 Maximum speed (mm/s)
一般環境 Standard	滾珠螺桿 Ball screw	DMG25	25	70	±0.02	6	2	7	2	160	100
		DMG40	40	80	±0.02	10	2	15	4	427	100
		DMH25	25	44	±0.02	6	2	7	2	160	100
		DMH40	40	62	±0.02	10	2	15	4	427	100

*1:最高速度的使用條件有限制，請參閱各仕樣內頁的速度-荷重曲線圖。

The working condition of max. speed is restricted limited. Please refer to the curve graph of speed and loading in this catalog.

DGTH 軌道內嵌式小型電動缸-滑台式

DGTH Built-in Linear Motion Guide Servo Cylinder-Slider Type

使用環境 Environment	傳動方式 Drive mode	仕樣 Specification	馬達容量 Motor Output (W)	本體寬幅 Width of profile (mm)	位置重複精度 Repeatability(mm)	螺桿規格(C7級) Ball screw spec (Accuracy C7) 外徑 Outer dia.(mm)	導程 Lead(mm)	最大可搬重量 Maximum Payload(kg) 水平使用 Horizontal	垂直使用 Vertical	最高速度*1 Maximum speed (mm/s)
一般環境 Standard	滾珠螺桿 Ball screw	DGTH4	40	44	±0.01	10	2	25	8	100
							6	20	5	300
							12	12	2	600
		DGTH5	40	54	±0.01	12	2	30	10	100
							5	30	8.1	250
							10	15	2.7	500
							20	10	1.4	1000

*1:最高速度的使用條件有限制，請參閱各仕樣內頁的速度-荷重曲線圖。

The working condition of max. speed is restricted limited. Please refer to the curve graph of speed and loading in this catalog.

*2:標準行程內的黑色數字，代表該行程內可使用的最高安全速度。若超過此速度，機械手可能會有嚴重共振產生。

The number written in the column means the highest safe speed within stroke.
If the speed is over the value shown in the chart , the vibration will be caused on the actuator.

	標準行程及最高使用速度 Stroke(mm) & Maximum speed(mm/s) 代表速度 Speed																								頁數 Page
	行程 Stroke	30	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	
		100																							043
		100																							047
		100																							051
		100																							055

	標準行程及最高使用速度*2 Stroke(mm) & Maximum speed(mm/s) 代表速度 Speed																							頁數 Page
	行程 Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	
		100											90	80	70	60	50							063
		300											270	240	210	180	150							
		600											540	480	420	360	300							
		100												90	80	70	60							067
		250												225	200	175	150							
		500												450	400	350	300							
		1000												900	800	700	600							

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DGTY 軌道內嵌式小型電動缸-推桿式

DGTY Built-in Linear Motion Guide Servo Cylinder-Rod Type

使用環境 Environment	傳動方式 Drive mode	仕樣 Specification	馬達容量 Motor Output (W)	本體寬幅 Width of profile (mm)	位置重複精度 Repeatability(mm)	螺桿規格(C7級) Ball screw spec (Accuracy C7) 外徑 Outer dia.(mm)	導程 Lead(mm)	最大可搬重量 Maximum Payload(kg) 水平使用 Horizontal	垂直使用 Vertical	最高速度*1 Maximum speed (mm/s)
一般環境 Standard	滾珠螺桿 Ball screw	DGTY4	40	44	±0.01	10	2	25	8	100
							6	20	5	300
							12	12	2	600
		DGTY5	40	54	±0.01	12	2	30	10	100
							5	30	8.1	250
							10	15	2.7	500
							20	10	1.4	1000

*1:最高速度的使用條件有限制，請參閱各仕樣內頁的速度-荷重曲線圖。
The working condition of max. speed is restricted limited. Please refer to the curve graph of speed and loading in this catalog.

*2:標準行程內的黑色數字，代表該行程內可使用的最高安全速度。若超過此速度，機械手可能會有嚴重共振產生。
The number written in the column means the highest safe speed within stroke.
If the speed is over the value shown in the chart , the vibration will be caused on the actuator.

CS 微型電動缸系列

CS Miniature Cylinder

使用環境 Environment	傳動方式 Drive mode	仕樣 Specification	馬達容量 Motor Output (W)	本體寬幅 Width of profile (mm)	位置重複精度 Repeatability(mm)	螺桿規格(C10級) Ball screw spec (Accuracy C10) 外徑 Outer dia.(mm)	導程 Lead(mm)	最大可搬重量 Maximum Payload(kg) 水平使用 Horizontal	垂直使用 Vertical	額定推力 Rated Thrust (N)	最高速度*1 Maximum speed (mm/s)
一般環境 Standard	滾珠螺桿 Ball screw	CSH20	25□	64.5	±0.02	6	1	6	2	466	50
							6	2	0.5	75	300
		CSF20	25□	92	±0.02	6	1	6	2	466	50
							6	2	0.5	75	300
		CSS20	25□	82	±0.02	6	1	6	2	466	50
							6	2	0.5	75	300

*1:最高速度的使用條件有限制，請參閱各仕樣內頁的速度-荷重曲線圖。
The working condition of max. speed is restricted limited. Please refer to the curve graph of speed and loading in this catalog.

	標準行程及最高使用速度*2 Stroke(mm) & Maximum speed(mm/s) 代表速度 Speed																					頁數 Page
行程 Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	
					100																	075
					300																	
					600																	
						100																079
						250																
						500																
						1000																

	標準行程及最高使用速度 Stroke(mm) & Maximum speed(mm/s) 代表速度 Speed																					頁數 Page
行程 Stroke	30	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	
		50																						087
		300																						
		50																						091
		300																						
		50																						095
		300																						

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CGTH 軌道內嵌式小型電動缸-滑台式

CGTH Built-in Linear Motion Guide Servo Cylinder-Slider Type

使用環境 Environment	傳動方式 Drive mode	仕樣 Specification	馬達尺寸 Motor dimension (mm)	本體寬幅 Width of profile (mm)	位置重複精度 Repeatability(mm)	螺桿規格(C7級) Ball screw spec (Accuracy C7) 外徑 Outer dia.(mm)	導程 Lead(mm)	最大可搬重量 Maximum Payload(kg) 水平使用 Horizontal	垂直使用 Vertical	最高速度*1 Maximum speed (mm/s)
一般環境 Standard	滾珠螺桿 Ball screw	CGTH4	35□	44	±0.01	10	2	25	8	110
							6	20	8	331
							12	12	3.5	661
		CGTH5	42□	54	±0.01	12	2	30	10	109
							5	30	10	273
							10	15	5	538
							20	10	2.5	1102

*1:最高速度的使用條件有限制，請參閱各仕樣內頁的速度-荷重曲線圖。
The working condition of max. speed is restricted limited. Please refer to the curve graph of speed and loading in this catalog.

*2:標準行程內的黑色數字，代表該行程內可使用的最高安全速度。若超過此速度，機械手可能會有嚴重共振產生。
The number written in the column means the highest safe speed within stroke.
If the speed is over the value shown in the chart , the vibration will be caused on the actuator.

CGTY 軌道內嵌式小型電動缸-推桿式

CGTY Built-in Linear Motion Guide Servo Cylinder-Rod Type

使用環境 Environment	傳動方式 Drive mode	仕樣 Specification	馬達尺寸 Motor dimension (mm)	本體寬幅 Width of profile (mm)	位置重複精度 Repeatability(mm)	螺桿規格(C7級) Ball screw spec (Accuracy C7) 外徑 Outer dia.(mm)	導程 Lead(mm)	最大可搬重量 Maximum Payload(kg) 水平使用 Horizontal	垂直使用 Vertical	最高速度*1 Maximum speed (mm/s)
一般環境 Standard	滾珠螺桿 Ball screw	CGTY4	35□	44	±0.01	10	2	25	8	110
							6	20	8	331
							12	12	3.5	661
		CGTY5	42□	54	±0.01	12	2	30	10	109
							5	30	10	273
							10	15	5	538
							20	10	2.5	1102

*1:最高速度的使用條件有限制，請參閱各仕樣內頁的速度-荷重曲線圖。
The working condition of max. speed is restricted limited. Please refer to the curve graph of speed and loading in this catalog.

*2:標準行程內的黑色數字，代表該行程內可使用的最高安全速度。若超過此速度，機械手可能會有嚴重共振產生。
The number written in the column means the highest safe speed within stroke.
If the speed is over the value shown in the chart , the vibration will be caused on the actuator.

	標準行程及最高使用速度*2 Stroke(mm) & Maximum speed(mm/s) 代表速度 Speed																							頁數 Page
行程 Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100		
	110											100	90	80	70	60								103
	331											300	270	240	210	180								
	661											600	540	480	420	360								
	109												90	80	70	60								107
	273												225	200	175	150								
	538												450	400	350	300								
	1102												900	800	700	600								

	標準行程及最高使用速度*2 Stroke(mm) & Maximum speed(mm/s) 代表速度 Speed																					頁數 Page
行程 Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	
	110																					115
	331																					
	661																					
	109																					119
	273																					
	538																					
	1102																					

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CH 電動夾爪系列
CH Electric Gripper

使用環境 Environment	傳動方式 Drive mode	仕樣 Specification	馬達尺寸 Motor dimension (mm)	本體寬幅 Width of profile (mm)	位置重複精度 Repeatability(mm)	開閉行程*1 Open/close stroke (mm)	開閉速度 Open/close speed (mm/s)	本體重量*2 Main body weight (g)
一般環境 Standard	螺桿式 Ball Screw	CHS2-S20	20□	50	±0.01	20	6.66~33.3	310
		CHS2-S40	25□	60.5	±0.01	40	8.2~41	625
		CHS2-S68	35□	85	±0.01	68	10~50	1730
	連桿式 Shaft	CHY2-S80	35□	74	±0.05	80	40~200	845
		CHY2-S150	35□	74	±0.05	150	40~200	890
	凸輪式 Cam	CHB6-S11	20□	30	±0.02	11	20~100	80
		CHB6-S14	25□	38	±0.02	14	20~100	250
		CHG2	Ø42	95	±0.05	30	30~150	450
	滑動牙桿式 Screw	CHZ20	25□	50	±0.02	10	5~50	368
		CHZ25	25□	63	±0.02	14	5~50	552

*1:雙邊合計行程。
Total stroke of both sides.
*2:重量包含本體與馬達。
Weight of model with motor.

	夾持力 Gripping force(N)																開閉速度 Open/close speed (mm/s)											頁數 Page
	5	10	20	30	60	90	120	150	180	210	240	270	300	400	500	600	0	5	10	20	30	60	90	120	150	180	200	
						20~124													6.66~33.3									127
								40~258												8.2~41								131
									80~509												10~50							135
					32~120																	40~200						139
			12~45																			40~200						143
	0.72~2.4																				20~100							147
	2.1~7																				20~100							151
		4.5~15																				30~150						155
				22~98															5~50									159
				22~98															5~50									163

傳動模組與控制器的完美結合
Perfect combination of actuator and controller

TC100/XC100 Series

Servo Cylinder 系列專用控制器
Servo Cylinder series controller

RoHS Certificate CE

台灣精品 2018

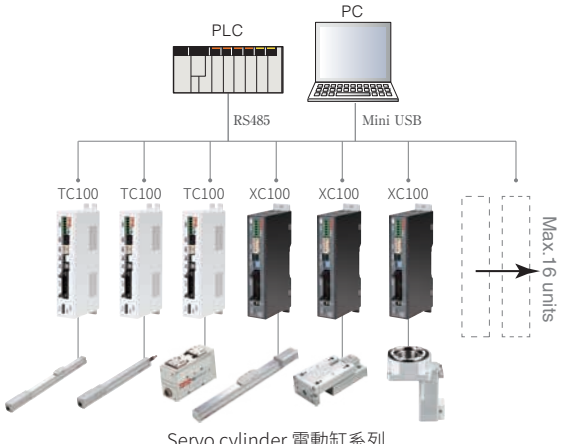
TC100
步進驅控器

1 豐富的搭配性
Abundant collocation

相同的控制器可同時搭配多種 Servo Cylinder,
配線及設定簡單，維修備品金額也可大幅降低

The same controller which is compatible to various modules and cables. It can be easily set up and adjusted and reduce the cost for repairing spare parts.

2 透過RS-485 最大可連16軸
Connect 16 stations via RS-485



Servo cylinder 電動缸系列
Actuators / Robots

最多可連接到16軸
Maximum 16 connecting units are available.

3 彈性的控制介面
Flexible control interface

一台同時支援三種控制介面
One single unit can support 3 different control interfaces.

控制方式 Control Mode	功能說明 Function	備註 Note
Pulse控制 Pulse control	✓ Line Drive (200K Hz)	XC100腳位分離減少雜訊 XC100 separate the pin for reducing noise
	✓ Open collector (60K Hz)	
	✓ Encoder 輸出擴充模組 Encoder output module	可做閉迴路控制 Enable closed-loop control
I/O控制 I/O control	✓ 127 點位置 127 positioning points	
通訊控制 Communication control	✓ Modbus-RS485	可控制16軸 Max.16 axis
	✓ mini USB	for TOYO-Single

4 多樣化的控制模式
Various control mode

控制模式可任意組合使用，可達到最佳化的運動控制
Following control modes can be combined randomly to maximize the action mode.

- 位置控制 Position control
- 速度控制 Speed control
- 推力控制 Pushing force control
- 量測控制 (電動夾爪Only) Measure control (Electrical gripper only)
- 夾持力控制 (電動夾爪Only) Clamping force control (Electrical gripper only)

業界首創

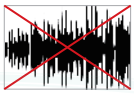
Pulse控制、I/O、通訊控制三合一控制器

控制器可同步輸出馬達Encoder信號

The controller which is the first and innovative in the industrycan simultaneously support three different control modes and the controller can do the outputing singal of the motor encoder(optional) to the host control unit.(Pulse、I/O、Communication)

XC100
伺服驅控器

大幅降低外部雜訊干擾
Reduce Noise

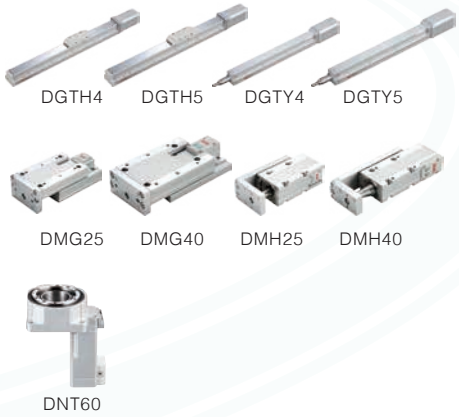


Line Driver / Open Collector
腳位分離設計， 可大幅降低
被外部雜訊干擾的機率。

The separate pin design of LD & OC helps to reduce the external noise.

省配線網路對應
Wiring Saving network

EtherCAT



5 優異的性能
Excellent performance

順暢運行 Smooth operaion

控制器 Controller	TC100	XC100
搭配馬達 Motor Type	閉迴路步進馬達 Closed-loop Stepping Motor	伺服馬達 Servo Motor
優點 Advantages	動力電壓改用DC48V，速度↑20%以上 The speed can be increased 20% by switching the power voltage to DC48V	在長行程的滑台上可在高速度時維持一定的扭力 It can keep the same torque for the long stroke actuator in the high speed
	移動不失步 Will not be out of steps even with high speed movement	
	搭配高精度的解碼器 Applied high resolution Encoder	
	移動更順暢 Smoother movement	
	定位更精準 More accurate positioning	
	入力電壓DC24V Power voltage to DC24V	

6 簡單的操作軟體（TOYO-Single）
Easy-to-use UI software

同時支援中、英、日三種語言的操作設定介面

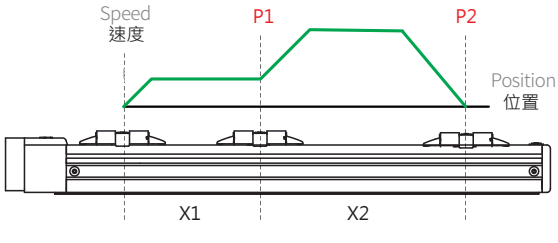
Support Traditional Chinese / English / Japanese user interfaces.

- 位置教導 Position teaching
- 參數設定 Parameter setting
- 程式編輯 Program editing
- 異常履歷 Error log
- 運轉監控 Operation monitoring
- 資料備份及讀取 Data backup and reading

7 連續運轉功能（支援ABS-R/INC-R）
Continuous operating mode（support ABS-R/INC-R）

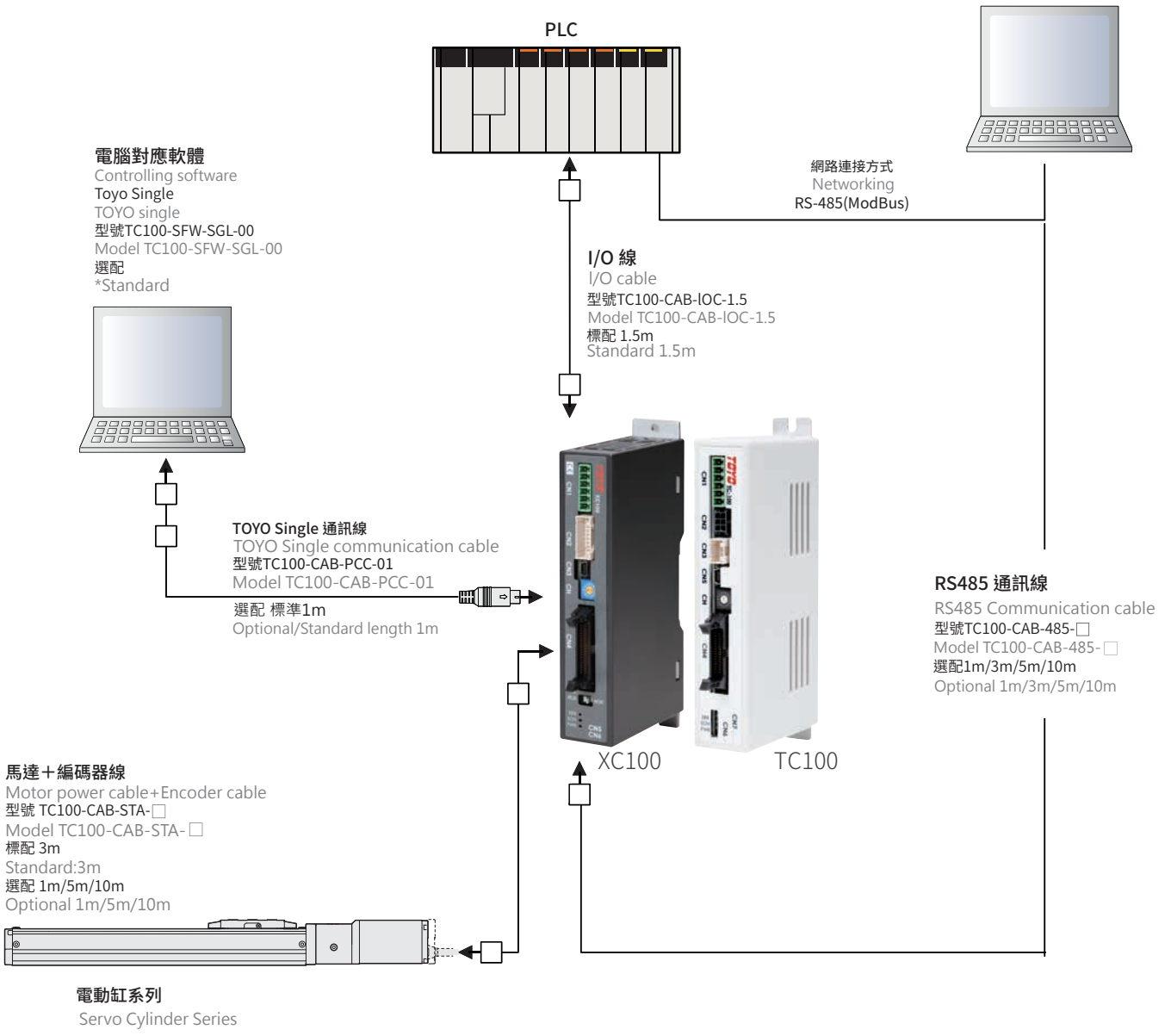
在不停止的狀態下改變速度，可連續運行多個座標點。

This mode could change speed to move continuous points in a non-stop state.



控制器系統構成

Control system structure

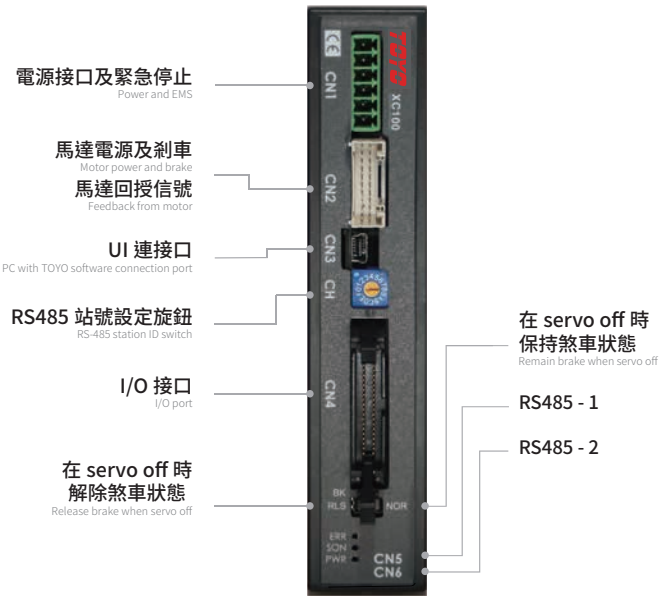


選配件規格請參考 → 173
Optional accessory spec please refer to P.173

控制器接口說明

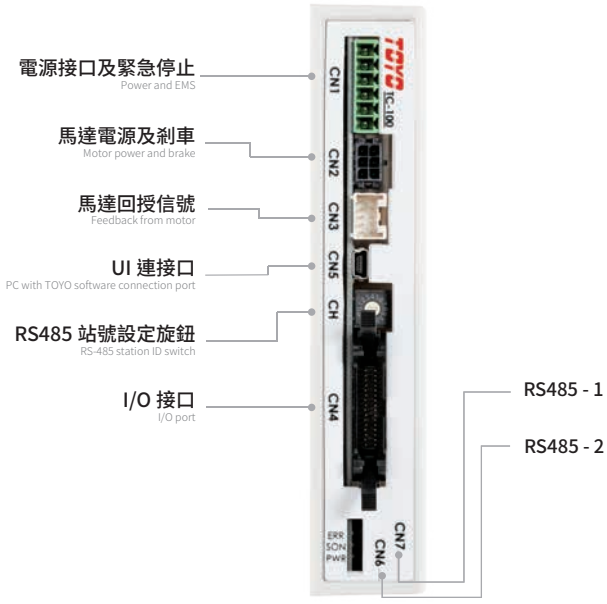
Controller connection explanation

XC100



接口詳細說明請參考 → 169
Port explanation details please refer to P.169

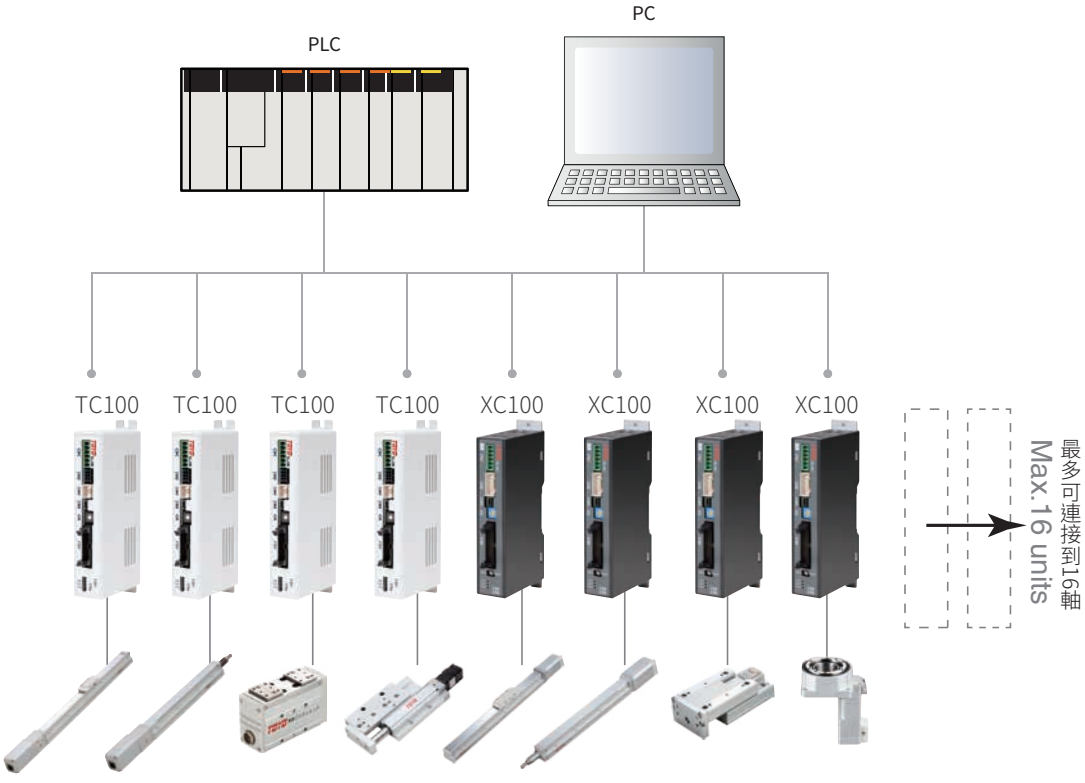
TC100



接口詳細說明請參考 → 178
Port explanation details please refer to P.178

通訊硬體架構<RS485>

Communication networking



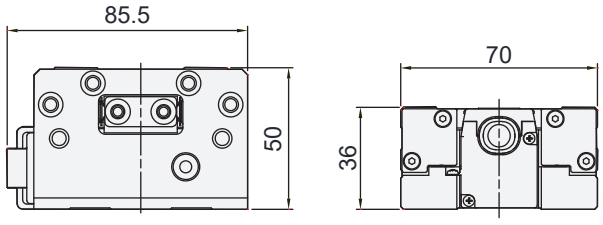
DM內部結構圖說明

DM Inner Structure

結構緊密，體積小 Compact structure, small size

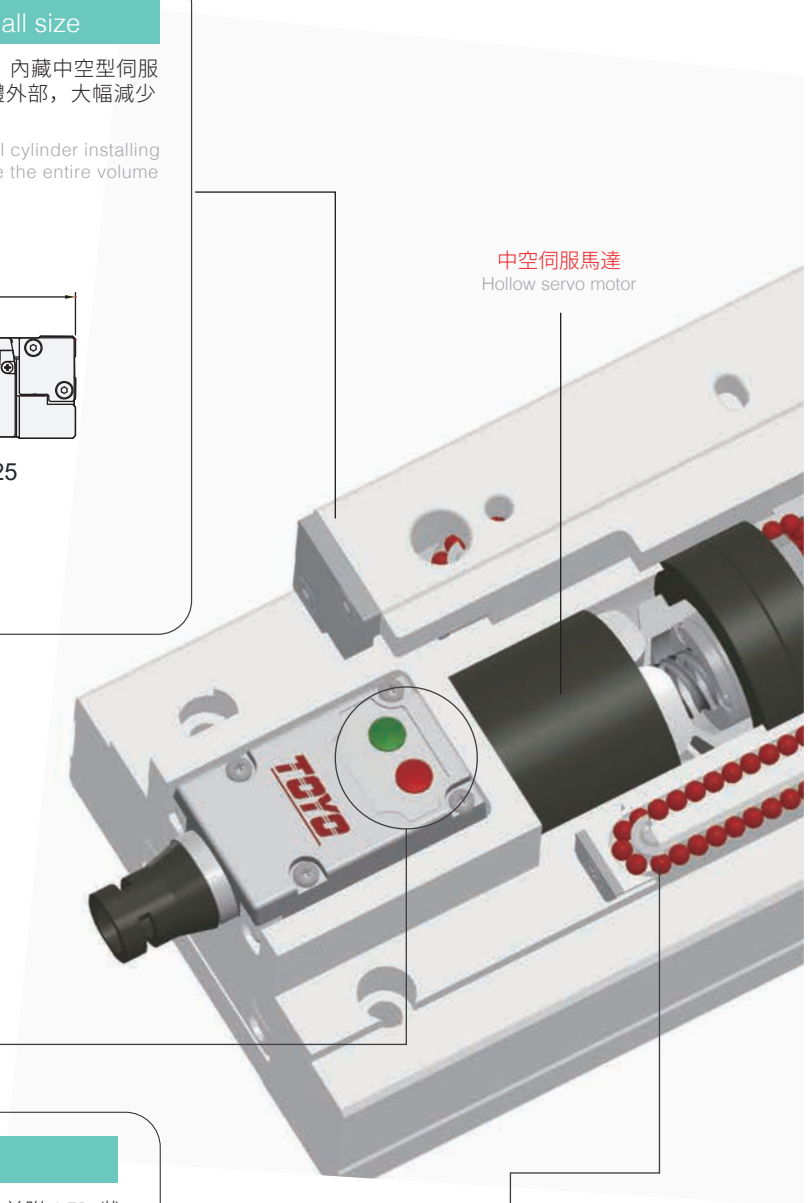
DM直線電動缸馬達使用中空馬達，將馬達安裝在本體內，內藏中空型伺服馬達有效縮短外觀長度有別與傳統電動缸馬達安裝於本體外部，大幅減少整體體積。

DM cylinder adopt hollow motor, different from other traditional cylinder installing motor outside the body, it put motor inside the body to reduce the entire volume greatly.



CSS20 DMG25

*相同條件荷重與CSS20系列比較。
Compare with CSS20 series at same condition.



狀態可快速監控 Status Monitoring Speedy

DM 直線電動缸整合了電控，安裝好機構輸入單元指令即可，並附 LED 狀態指示燈可快速監控作動狀態，因屬電子控制，相較於氣缸類產品，穩定性佳。

DM cylinder combines with electric controlling, and only need to be installed mechanism input unit command. Attached LED signal light for understanding current situation of product. Due to electric control, the stability is better than pneumatic cylinders.

本體狀態燈顯示：
Status light display

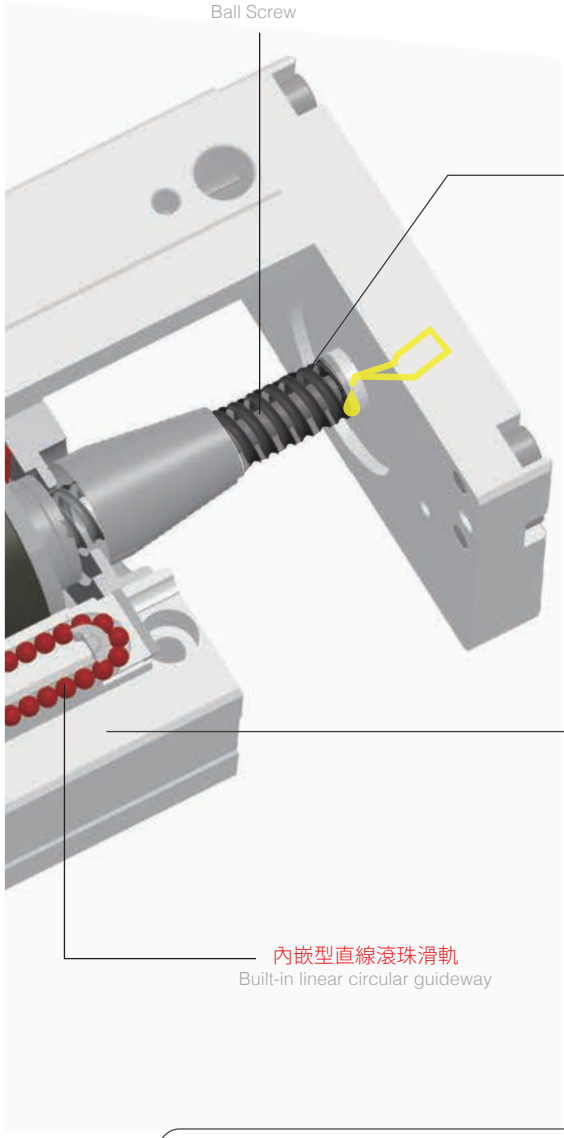
- 伺服ON：SVO (綠，常亮) / ERR (綠，常亮)。
  Servo On:SVO(Greeen, constantly on)/ERP(Green,constantly on)
- 伺服OFF：SVO (綠，亮500ms、滅500ms，交替) / ERR (綠，常亮)。
  Servo OFF:SVO(Green, 500ms on, 500ms off,interration)/ERP (Green, constantly on)
- 異常：SVO (綠，滅) / ERR (紅，亮500ms、滅500ms，交替)。
  Error:SVO(Green, off)/ERP(Red, 500ms on,500ms off, interration)

直線度提高 Straightness improved

專利內嵌式滾珠滑軌
直線度可達±0.02mm

Patented built-in circular guideway
+-0.02mm achieve +-0.02mm straightness

直線度 Straightness
±0.02mm



保養容易 Easy maintenance

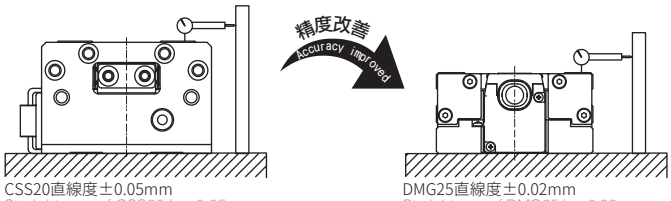
DM直線電動缸因整體元件被包覆性高，所以只需在螺桿處潤滑油保養即可，保養便利簡單。

Since the overall components of DM cylinder are highly coated, only necessary to maintain the grease at the ballscrew. It's simple and convenient for maintenance.

本體強度增加，順暢度更好
Rigidity higher, better fluency for mainframe

因為採用鋁本體結構，本體強度大幅增加。（與 CS 對比）且鋼材軌道嵌入鋁本體後再研磨處理，因此走行的等高度及直線度精度也提升到 ±0.02mm 以下。（與 CS 對比）

Adopt aluminum material for mainframe which makes body strengthened (Compared to CS).Combined steel guide with aluminum mainframe and grinded which make linear accuracy increase to ±0.02mm.(Compared to CS)



CSS20直線度±0.05mm
Straightness of CSS20 is ±0.05mm.
*行走50mm時。
*Measure length is 50mm.

DMG25直線度±0.02mm
Straightness of DMG25 is ±0.02mm.
*行走50mm時。
*Measure length is 50mm.

精度相較氣缸高，噪音小 Higher accuracy and less noisy than pneumatic cylinders

DM直線電動缸中DMG的規格本體採嵌入式軌道模組，嵌入式軌道的優點在於結構上充分利用內置空間，讓本體、軌道、鋼珠完全的配合，屬於量身訂做的模組，可使產品整體進行最大化的強度提升，內嵌式設計組合了研磨珠溝，所以行走精度相較一般利用滑軌滑塊此類組合件可靠，且內嵌式軌道為專為產品使用，壽命在各軸向的力矩都可以獲得最大化的強度，遠高於一般線軌。

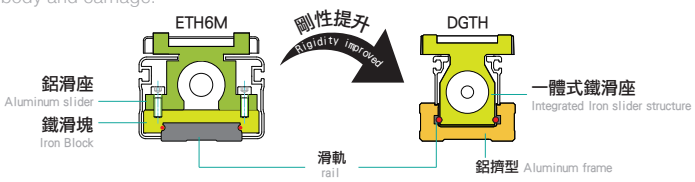
The DMG of DM cylinders are adopted in built-in guideway module. The advantages of built-in guideway are the ample used of inner space which makes body, guideway and steel balls coordinate with each other well. This tailored module is able to entirely strengthen the products. Since built-in design made combination with grinding ball ditch, the moving accuracy is much more reliable than the general assembly units made by slider blocks and carriage. In addition, the rigidity on the torque of every axis can achieve maximum strength, it is higher than normal linear guideway.

DGTH內部結構圖說明

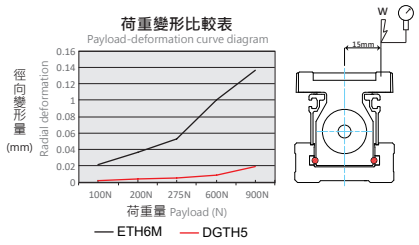
DGTH Inner Structure

滑座剛性強化 Carriage rigidity strengthened

本體與滑座一體成型鋼材，改善原始鋁滑座剛性較差問題。
Actuator body and carriage are made from steel that can improve the rigidness of body and carriage.

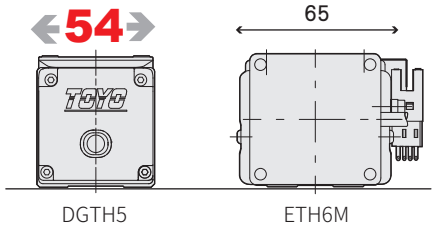


動態力矩大幅提升 Dynamic torque highly improved

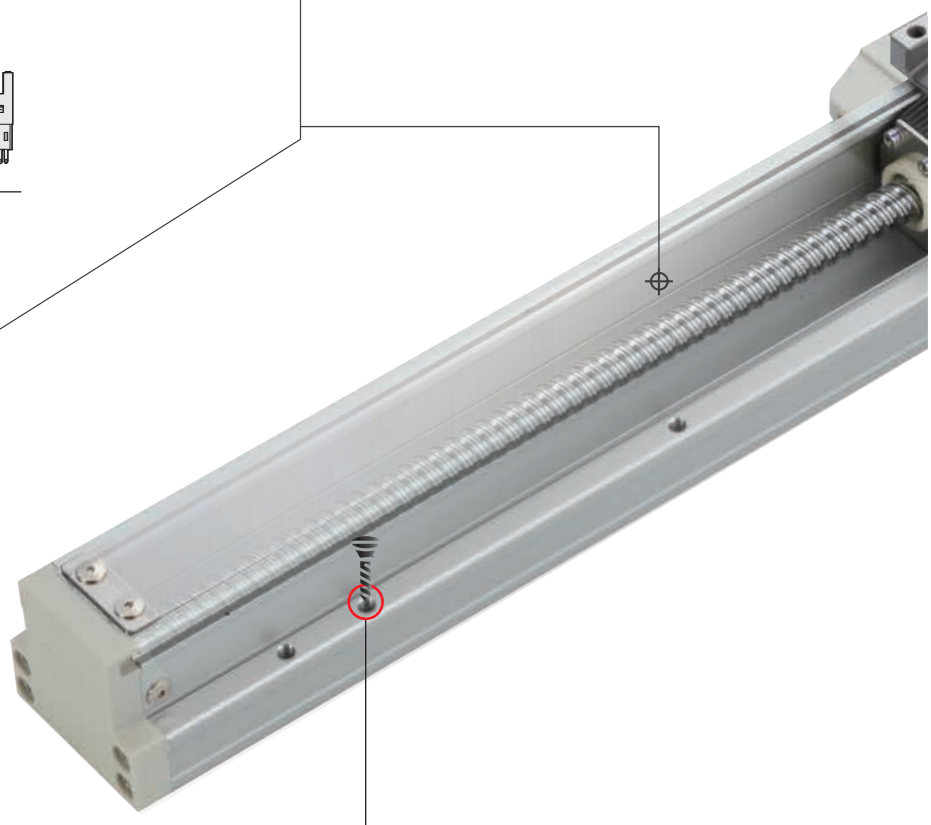


體積更小 Smaller size

寬度縮小，讓設備安裝所需空間更小。
Reduced width that can fitting in the compact environments.



*相同條件荷重30kg與ETH系列比較。
Compare with ETH series at same condition (30 kg payload).

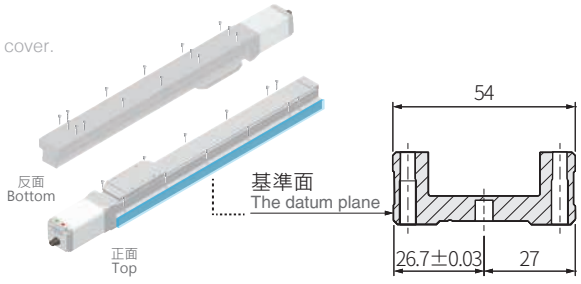


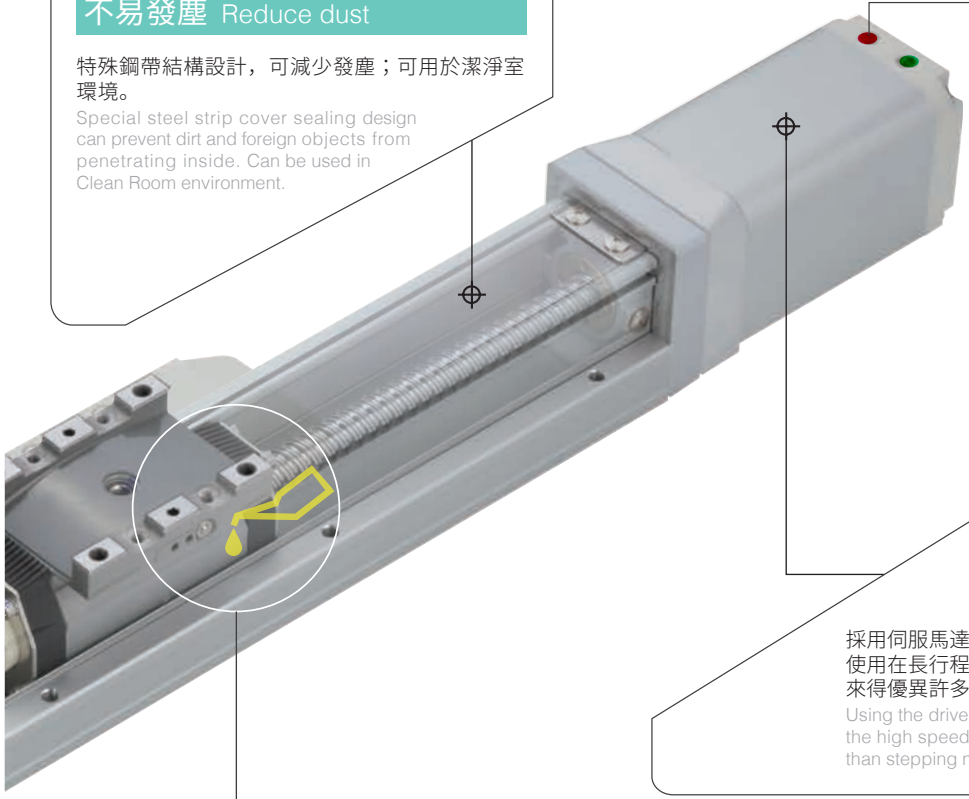
組裝省時、方便 Easy assemble

①不需拆卸鋼帶，即可由上往下固定或由下往上固定。
Can be fixed from the top and bottom without removing the cover.

②本體側面增加安裝基準面承靠。
Mounting datum plane designed on the side of the body.

③本體底部有定位PIN孔。
Built in Pin holes.





不易發塵 Reduce dust

特殊鋼帶結構設計，可減少發塵；可用於潔淨室環境。

Special steel strip cover sealing design can prevent dirt and foreign objects from penetrating inside. Can be used in Clean Room environment.

狀態可快速監控 Status monitoring speedy

本體狀態燈顯示：
Status light display

- 伺服ON：SVO (綠，常亮) / ERR (綠，常亮)。
  Servo On:SVO(Greeen, constantly on) /ERP(Green,constantly on)
- 伺服OFF：SVO (綠，亮500ms、滅500ms，交替) / ERR (綠，常亮)。
  Servo OFF:SVO(Green,500ms on, 500ms off,interration)/ERP (Green, constantly on)
- 異常：SVO (綠，滅) / ERR (紅，亮500ms、滅500ms，交替)。
  Error:SVO(Green, off)/ERP(Red, 500ms on,500ms off, interration)

搭載伺服馬達 Applied servo motor

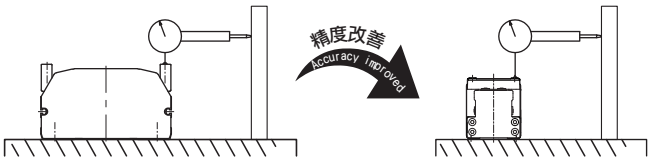
採用伺服馬達驅動，可以在高速度維持一定的扭力，故使用在長行程的滑台上，速度力量會相對的比步進馬達來得優異許多。

Using the driven of servo motor, can keep the same torque in the high speed. Therefore, the power of speed will be better than stepping motor with the long stroke actuator.

本體強度增加，順暢度更好 Rigidity higher, better fluency for mainframe

因為採用鋁本體結構，本體強度大幅增加。(與 ETH5M/6M 對比) 且鋼材軌道嵌入鋁本體後再研磨處理，因此走行的等高度及直線度精度也提升到 ±0.02mm 以下。(與 ETH10/12 對比)

Adopt aluminum material for mainframe which makes body strengthened (Compared to ETH5M/6M).Combined steel guide with aluminum mainframe and grinded which make linear accuracy increase to ±0.02mm.(Compared to ETH10/12)



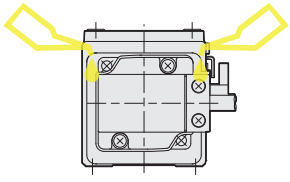
ETH10直線度±0.05mm
Straightness of ETH10 is ±0.05mm.
*行走1000mm時。
*Measure length is 1000mm.

DCGTH5直線度±0.02mm
Straightness of DGTH5 is ±0.02mm.
*行走800mm時。
*Measure length is 800mm.

保養簡單 Easy to maintain

全系列兩側皆外拉注油嘴可直接外部注油，不須拆蓋。

External greasing design, easy maintenance without removing the cover.



無連軸器設計 No-coupling design

全系列兩側皆外拉注油嘴可直接外部注油，不須拆蓋。

External greasing design, easy maintenance without removing the cover.

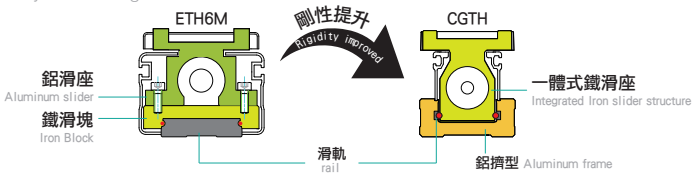
- 全長縮短
  Total length shortened.
- 定位精度高
  High position accuracy.
- 響應時間快
  Outstanding speed response performace.

CGTH內部結構圖說明

CGTH Inner Structure

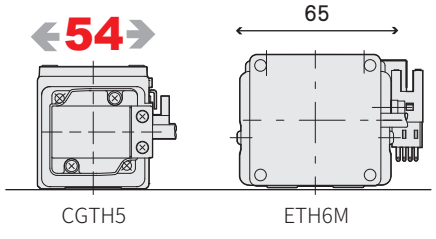
滑座剛性強化 Carriage Rigidity Strengthened

本體與滑座一體成型鋼材，改善原始鋁滑座剛性較差問題。
Actuator body and carriage are made from steel that can improve the rigidness of body and carriage.



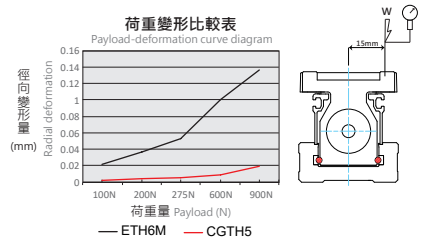
體積更小 Smaller size

寬度縮小，讓設備安裝所需空間更小。
Reduced width that can fitting in the compact environments.



*相同條件荷重30kg與ETH系列比較。
Compare with ETH series at same condition (30 kg payload).

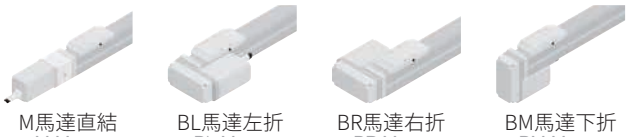
動態力矩大幅提升 Dynamic Torque highly Improved



台灣精品 2018

馬達安裝位置 Motor install options

搭載閉迴路步進馬達，多方向馬達安裝位置可供選擇，讓機台設計更有彈性。
Multiple motor installation positions provides the flexibility for machine design.



M馬達直結 M Motor Hidden In | BL馬達左折 BL Motor Left Side | BR馬達右折 BR Motor Right Side | BM馬達下折 BM Motor Bottom Side

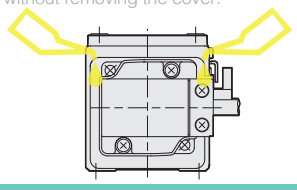
馬達、編碼器一體式接頭設計 Motor cable and encoder cable are integrated to one connector.

優勢：
Advantage:

1. 無中繼電纜省空間
   No extra cables and space saving.
2. 一體化設計更美觀
   Integrated compact design and better outlooking.

保養簡單 Easy to maintain

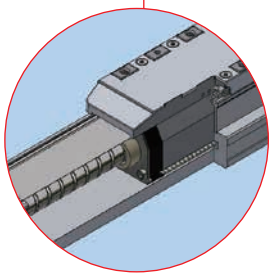
全系列兩側皆外拉注油嘴可直接外部注油，不須拆蓋。
External greasing design, easy maintenance without removing the cover.



不易發塵 Reduce dust

※另可特注無塵室使用
Please contact us for clean room type.

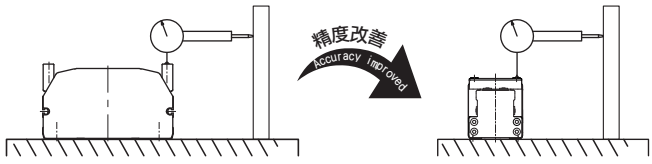
特殊鋼帶結構設計，可減少發塵；可用於潔淨室環境。
Special steel strip cover sealing design can prevent dirt and foreign objects from penetrating inside. Can be used in Clean Room environment.



內嵌型直線滾珠滑軌
Built-in linear circular guideway

本體強度增加，順暢度更好 Rigidity higher, better fluency for mainframe

因為採用鋁本體結構，本體強度大幅增加。（與 ETH5M/6M 對比）且鋼材軌道嵌入鋁本體後再研磨處理，因此走行的等高度及直線度精度也提升到 ±0.02mm 以下。(與 ETH10/12 對比)
Adopt aluminum material for mainframe which makes body strengthened (Compared to ETH5M/6M).Combined steel guide with aluminum mainframe and grinded which make linear accuracy increase to ±0.02mm.(Compared to ETH10/12)



ETH10直線度±0.05mm
Straightness of ETH10 is ±0.05mm.
*行走1000mm時。
*Measure length is 1000mm.

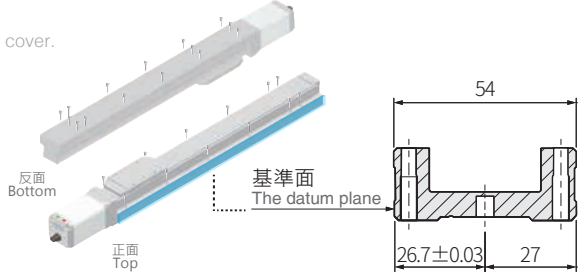
CGTH5直線度±0.02mm
Straightness of CGTH5 is ±0.02mm.
*行走800mm時。
*Measure length is 800mm.

組裝省時、方便 Easy assemble

①不需拆卸鋼帶，即可由上往下固定或由下往上固定。
Can be fixed from the top and bottom without removing the cover.

②本體側面增加安裝基準面承靠。
Mounting datum plane designed on the side of the body.

③本體底部有定位PIN孔。
Built in Pin holes.



CGTY內部結構圖說明

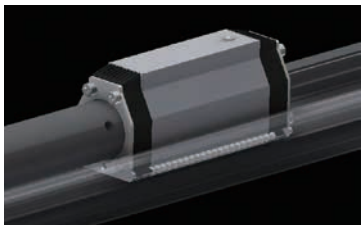
CGTY Inner Structure

剛性強化 Rigidness improved

本體與滑座一體成型鋼材，改善原始鋁滑座剛性較差問題。
Actuator body and carriage are made from steel that can improve the rigidness of body and carriage.

內藏循環型導軌 Built-in circular guideway

內藏滾珠循環型導軌，大幅增加徑向荷重與力矩。可抑制停止時的振動，行程最長可做到 800。無負荷時的推桿防止迴轉精度可到達「0 度」，品質大幅向上提升。
With built-in circular guideway, it can much improve torque and radial load. It can improve vibration while actuator stop working, and the maximum of stroke can be 800mm.Rod prevent-reverse accuracy can be 0 degree and highly improve the quality of product.

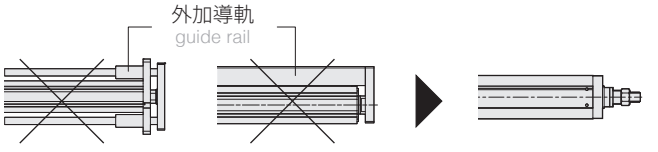


防止迴轉精度「0度」
Rod prevent-reverse accuracy can be 0 degree.

台灣精品 2018

體積更小 Smaller

不需要加裝外導軌。縮減設置體積。改善過去規格內部無直線導軌樣式，為了增加剛性而需外加導軌，較不方便。
No need to add additional ancillary guide , decreasing space for location.



過去結構需外裝導軌
Additional guide rail structure is needed for anti-rotating accuracy.

軸心防止迴轉精度「±0.05度」
Rod prevent-reverse accuracy can be ±0.05°.

CGTY5

軸心防止迴轉精度「0度」
Rod prevent-reverse accuracy can be 0°.

馬達、編碼器一體式接頭設計
Motor cable and encoder cable are integrated to one connector

優勢：
Advantage:

1. 無中繼電纜省空間
   No extra cables and space saving.
2. 一體化設計更美觀
   Integrated compact design and better outlooking.

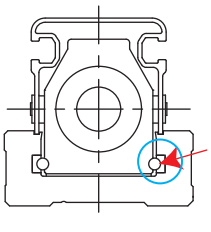
馬達安裝位置 Motor install options

搭載閉迴路步進馬達，多方向馬達安裝位置可供選擇，讓機台設計更有彈性。
With closed loop stepping motor, multiple motor installation positions provides the flexibility for machine design.

M馬達直結	BL馬達左折	BR馬達右折	BM馬達下折
M Motor Hidden In	BL Motor Left Side	BR Motor Right Side	BM Motor Bottom Side

直線度 Flat straightness

軌道嵌入於本體後研磨，因此直線度可在±0.02mm內。
Built in linear rail design, Straightness and flathess are highly improved to ±0.02mm.



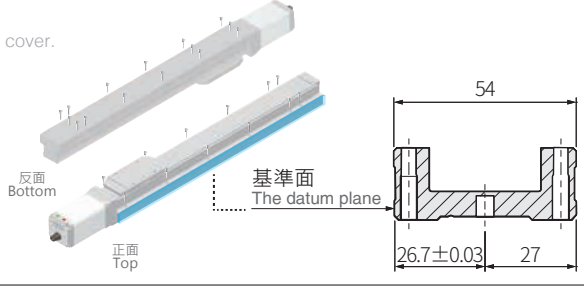
直線度 Straightness
±0.02mm

組裝省時、方便 Easy assemble

①不需拆卸鋼帶，即可由上往下固定或由下往上固定。
Can be fixed from the top and bottom without removing the cover.

②本體側面增加安裝基準面承靠。
Mounting datum plane designed on the side of the body.

③本體底部有定位PIN孔。
Built in Pin holes.



CHS2內部結構圖說明

CHS2 Inner Structure

高剛性，體積大幅減小 Compact size

鋁擠型結構，本體重量大幅減低內嵌結構設計，大幅減少整體體積

With built-in circular guideway, it can much improve torque and radial load. It can improve vibration while actuator stop working, and the maximum of stroke can be 800mm.Rod prevent-reverse accuracy can be 0 degree and highly improve the quality of product.

高品質航空接頭 Equipped with high quality aviation connector

使用航空接頭，耐用度保證、且無鬆脫疑慮，可快速連接和分離，耐環境好、可靠性高。

With built-in circular guideway, it can much improve torque and radial load. It can improve vibration while actuator stop working, and the maximum of stroke can be 800mm.Rod prevent-reverse accuracy can be 0 degree and highly improve the quality of product.

航空接頭
connector aviation

狀態可快速監控 Dynamic Torque highly Improved

側蓋燈條內設有LED指示燈，可顯示夾爪當下狀態是否異常，達到快速監控的目的。

With built-in circular guideway, it can much improve torque and radial load.
It can improve vibration while actuator stop working,

● 運轉中 ● Operation

易於安裝
Motor cable and encoder cable are integrated to one connector

本體三面皆有螺絲固定孔(含PIN孔)，安裝定位容易，達到易組裝的優點對準PIN孔即可組裝。

With built-in circular guideway, it can much improve torque and radial load. It can improve vibration while actuator stop working, and the maximum of stroke can be 800mm.

搭載閉迴路步進馬達
Equipped with closed-loop stepping motor

採用閉回路控制系統，可以有效的知道現在位置及控制目前運行中的扭力值。使用在夾爪形態時，更能有效的做到工件的外觀測量及更輕微的工件取放。

With built-in circular guideway, it can much improve torque and radial load. It can improve vibration while actuator stop working, and the maximum of stroke can be 800mm.Rod prevent-reverse accuracy can be 0 degree and highly improve the quality of product.

皮帶動力傳遞
Belt power transmission

採用無齒隙皮帶，振動小，易維修組裝。

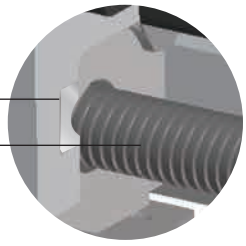
The use of a non-backlash belt, the vibration is small, easy to repair and assemble..

重複定位精度及夾持力提升
Repeatability and gripping force improved

軌道嵌入本體後再研磨處理，搭配高精度滾珠螺桿驅動，重複精度可達±0.01mm、最大夾持力可達500N。

No need to add additional ancillary guide , decreasing space for location.No need to add additional ancillary guide , decreasing space for location.

軌道內嵌式滑軌
Built-in guideway actuator
高精度滾珠螺桿
high accuracy ballscrew



重複定位精度 Position repeatability (mm)
±0.01mm

最大夾持力 Max.Gripping Force
500N

訂購型號說明

Ordering Code

DM 超小型伺服電動缸
DM Miniature Cylinder

DMG25 - L2 - 100 - XC100 - 03 - N1 - A001

滑台型號 Slider Model	導程 Lead	行程 Stroke	控制器 Controller	電纜線長 Cable Length	I/O線種類 I/O Cable	特注碼 Customization Coding

滑台型號 Slider Model

DMG25
DMG40
DMH25
DMH40

導程 Lead

L2	2mm

行程 Stroke

滑台型號 Slider Model	標準行程 Standard Stroke
DMG25	50 / 75 / 100mm
DMG40	50 / 75 / 100mm
DMH25	50 / 75 / 100mm
DMH40	50 / 75 / 100mm

控制器 Controller

XC100

電纜線長 Cable Length

01	1m
03	3m
05	5m
10	10m

*標配3m
Standard:3m

I/O線種類 I/O Cable

-	標準I/O彩虹排線 Standard I/O Cable
N1	隔離I/O線 Shielded I/O Cable

*標配1.5m
Standard:1.5m

DM超小型伺服電動缸 DM Miniature Cylinder


▲ DMG25


▲ DMG40


▲ DMH25


▲ DMH40

DGTH 軌道內嵌式小型電動缸-滑台式

DGTH Built-in Linear Motion Guide Servo Cylinder-Slider Type

DGTH4- L2 - 100 - M -XC100- 03 - N1 - A001

滑台型號 Slider Model	導程 Lead	行程 Stroke	馬達位置 Motor Position	控制器 Controller	電纜線長 Cable Length	I/O線種類 I/O Cable	特注碼 Customization Coding
DGTH4	L2 2mm	滑台型號 Slider Model / 標準行程 Standard Stroke	M 馬達直結 Motor Hidden In	XC100	01 1m	- 標準I/O彩虹排線 Standard I/O Cable	
DGTH5	L5 5mm	DGTH4 50~800 mm			03 3m	N1 隔離I/O線 Shielded I/O Cable	
	L6 6mm	DGTH5 50~800 mm			05 5m		
	L10 10mm				10 10m		
	L12 12mm						
	L20 20mm						

*標配3m
Standard:3m

*標配1.5m
Standard:1.5m

DGTH軌道內嵌式小型電動缸型-滑台式 DGTH Built-in Linear Motion Guide Servo Cylinder-Slider Type

▲ DGTH4

▲ DGTH5

訂購型號說明

Ordering Code

DGTY 軌道內嵌式小型電動缸-推桿式
DGTY Built-in Linear Motion Guide Servo Cylinder-Rod Type

DGTY4- L2 - 100 - M -XC100- 03 - N1 - A001

滑台型號 Slider Model	導程 Lead	行程 Stroke	馬達位置 Motor Position	控制器 Controller	電纜線長 Cable Length	I/O線種類 I/O Cable	特注碼 Customization Coding
DGTY4	L2 2mm	滑台型號 Slider Model / 標準行程 Standard Stroke	M 馬達直結 Motor Hidden In	XC100	01 1m	- 標準I/O彩虹排線 Standard I/O Cable	
DGTY5	L5 5mm	DGTY4 50~500 mm			03 3m	N1 隔離I/O線 Shielded I/O Cable	
	L6 6mm	DGTY5 50~600 mm			05 5m		
	L10 10mm				10 10m		
	L12 12mm						
	L20 20mm						

*標配3m
Standard:3m

*標配1.5m
Standard:1.5m

DGTY 軌道內嵌式小型電動缸-推桿式 DGTY Built-in Linear Motion Guide Servo Cylinder-Rod Type


▲ DGTY4


▲ DGTY5

CS微型電動缸
CS Miniature Cylinder

CSF20 - L6 - 50 - TC100 - 03 - N1 - A001

滑台型號 Cylinder Model	導程 Lead	行程 Stroke	控制器 Controller	電纜線長 Cable Length	I/O線種類 I/O Cable	特注碼 Customization Coding
CSH20	L1 1mm	滑台型號 Slider Model / 標準行程 Standard Stroke	TC100	01 1m	- 標準I/O彩虹排線 Standard I/O Cable	
CSF20	L6 6mm	CSH20 30 / 50 mm		03 3m	N1 隔離I/O線 Shielded I/O Cable	
CSS20		CSF20 30 / 50 mm		05 5m		
		CSS20 30 / 50 mm		10 10m		

若需其他行程，請洽營業人員。
Please contact our sales department if you need more information & requirement.

*標配3m
Standard:3m

*標配1.5m
Standard:1.5m

CS微型電動缸型號一覽 CS Miniature Cylinder


▲ CSH20


▲ CSF20


▲ CSS20

訂購型號說明

Ordering Code

CGTH 軌道內嵌式小型電動缸-滑台式
CGTH Built-in Linear Motion Guide Servo Cylinder-Slider Type

CGTH4- L2 - 100 - M -TC100- 03 - N1 - A001

滑台型號 Slider Model	導程 Lead	行程 Stroke	馬達位置 Motor Position	控制器 Controller	電纜線長 Cable Length	I/O線種類 I/O Cable	特注碼 Customization Coding

滑台型號 Slider Model

CGTH4
CGTH5

導程 Lead

L2	2mm
L5	5mm
L6	6mm
L10	10mm
L12	12mm
L20	20mm

行程 Stroke

滑台型號 Slider Model	標準行程 Standard Stroke
CGTH4	50~800 mm
CGTH5	50~800 mm

馬達位置 Motor Position

M	馬達直結 Motor Built-in
BM	馬達下折 Motor Bottom Side
BL	馬達左折 Motor Left Side
BR	馬達右折 Motor Right Side

控制器 Controller

TC100

電纜線長 Cable Length

01	1m
03	3m
05	5m
10	10m

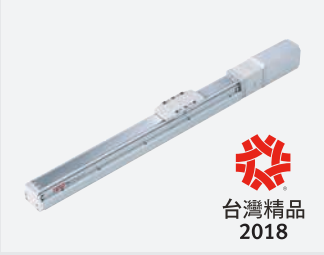
*標配3m
Standard:3m

I/O線種類 I/O Cable

-	標準I/O彩虹排線 Standard I/O Cable
N1	隔離I/O線 Shielded I/O Cable

*標配1.5m
Standard:1.5m

CGTH 軌道內嵌式小型電動缸-滑台式 CGTH Built-in Linear Motion Guide Servo Cylinder-Slider Type



▲ CGTH4

▲ CGTH5

CGTY 軌道內嵌式小型電動缸-推桿式

CGTY Built-in Linear Motion Guide Servo Cylinder-Rod Type

CGTY4- L2 - 100 - M -TC100- 03 - N1 - A001

滑台型號 Slider Model	導程 Lead	行程 Stroke	馬達位置 Motor Position	控制器 Controller	電纜線長 Cable Length	I/O線種類 I/O Cable	特注碼 Customization Coding

滑台型號 Slider Model

CGTY4
CGTY5

導程 Lead

L2	2mm
L5	5mm
L6	6mm
L10	10mm
L12	12mm
L20	20mm

行程 Stroke

滑台型號 Slider Model	標準行程 Standard Stroke
CGTY4	50~500 mm
CGTY5	50~600 mm

馬達位置 Motor Position

M	馬達直結 Motor Built-in
BM	馬達下折 Motor Bottom Side
BL	馬達左折 Motor Left Side
BR	馬達右折 Motor Right Side

控制器 Controller

TC100

電纜線長 Cable Length

01	1m
03	3m
05	5m
10	10m

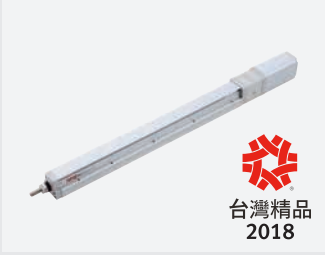
*標配3m
Standard:3m

I/O線種類 I/O Cable

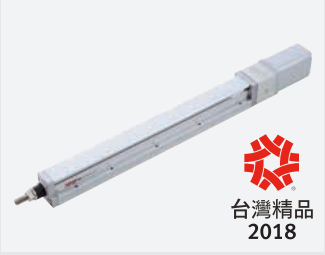
-	標準I/O彩虹排線 Standard I/O Cable
N1	隔離I/O線 Shielded I/O Cable

*標配1.5m
Standard:1.5m

CGTY 軌道內嵌式小型電動缸-推桿式 CGTY Built-in Linear Motion Guide Servo Cylinder-Rod Type



▲ CGTY4



▲ CGTY5

訂購型號說明

Ordering Code

電動夾爪
Electric Gripper

CHS2 - S10 - TC100 - 03 - N1 - W - A001

電動夾爪型號 Gripper Model	開閉行程 Open Close Stroke	
CHS2	S20	20 mm
	S40	40 mm
	S68	68 mm
CHB6	S11	11 mm
	S14	14 mm
CHZ20	S10	10 mm
CHZ25	S14	14 mm

控制器 Controller
TC100

電纜線長 Cable Length	
01	1m
03	3m
05	5m
10	10m

*標配3m
Standard:3m

I/O線種類 I/O Cable	
-	標準I/O彩虹排線 Standard I/O Cable
N1	隔離I/O線 Shielded I/O Cable

*標配1.5m
Standard:1.5m

出線位置 Cable location	
-	標準右側出線 Standard Location from the right
W	出線位置朝上 Cable location at the top

*只有CHS2可選。
The function is only able to selected for CHS2.

特注碼 Customization Coding
A001

控制器內藏型電動夾爪
Controller Built-in Electric Gripper

CHY2 - S150 - 15 - L - A001

電動夾爪型號 Gripper Model	開閉行程 Open Close Stroke	
CHY2	S80	80 mm
	S150	150 mm
CHG2	S30	30 mm

電纜線長 Cable Length	
15	150 mm
002	0.2 m

出線位置 Cable location	
-	標準直結出線 Standard straight type
L	90度轉折出線 90° type plug

*只有CHG2可選。
The function is only able to selected for CHG2.

特注碼 Customization Coding
A001

CH電動夾爪型號一覽 CH Electric Gripper


▲ CHS2-S20


▲ CHS2-S40


▲ CHS2-S68


▲ CHY2-S80


▲ CHY2-S150


▲ CHB6-S11


▲ CHB6-S14


▲ CHG2


▲ CHZ20


▲ CHZ25

使用範例

Application Samples

多工件移載裝置 Multi-workpiece transfer device

- 將三隻小型電動缸固定於電動滑台上，可同時對多個工件物進行移載，增加生產效率。

  Fixing three tiny cylinders on the electric slide actuator can transfer multiple workpieces at the same time helps to increase production efficiency.

- 使用規格 Recommended spec

  CGTH / DGTH

零件外觀檢測裝置 Inspection device of electronic part

- 搭配視覺，可進行外觀檢測。

  Tiny cylinder with vision system could do inspection work of parts.

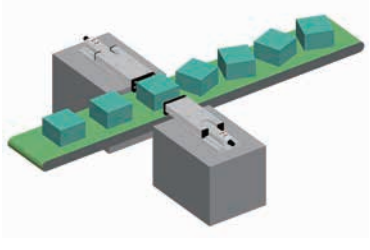
- 使用規格 Recommended spec

  CGTH / DGTH

對位裝置 Centering Device

- 搭配輸送帶，使用小型電動缸，對工件物進行對位整列，推力可控制，改善使用氣壓缸推力不當而傷害工件的狀況。

  Tiny servo cylinders are used to align work piece in the center that can help to prevent the work piece from being smashed compare to air cylinders.



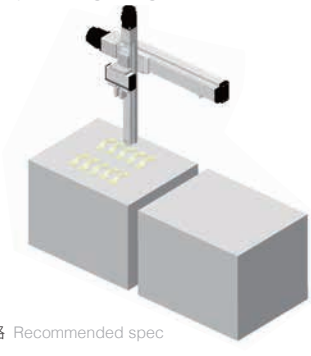
- 使用規格 Recommended spec

  DMG

電子零件搬送裝置 Pick and place

- 當夾持工件屬於脆弱材質如電子零件，可使用電動夾爪扭力模式避免將工件物夾傷損壞。

  If the workpiece is fragile, using electric grippers torque mode to avoid workpiece being damaged.



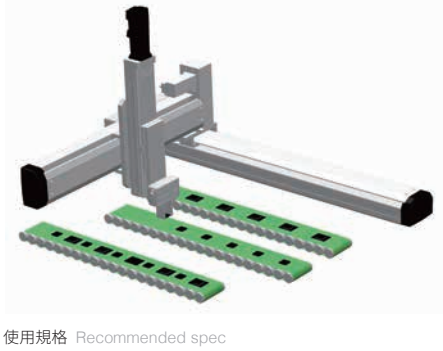
- 使用規格 Recommended spec

  CGTH / CHZ / CHB

電子零件組裝裝置 Assembling Device for Electronic Parts

- 利用電動夾爪可設定多點位置的功能，一支夾爪可夾不同尺寸物件進行組裝，扭力控制，可設定各零件的夾持力，防止夾傷零件。

  Using multi positions setting function, a single electric gripper is able to grip different dimensions of workpiece to assemble.



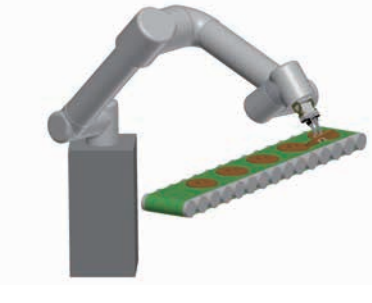
- 使用規格 Recommended spec

  CGTH / DGTH / CHS2

光碟搬送裝置 Pick & Place

- 控制器內藏的電動夾爪可適合搭載六軸機器手臂使用，簡易配線可快速安裝。

  Controller Built-in electric grippers are suitable used with 6 axes robot. Easy wiring and speedy installation.



- 使用規格 Recommended spec

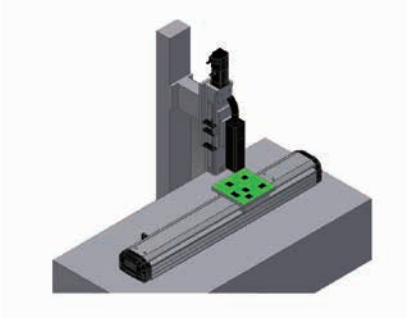
  CHG2 / CHY2

使用範例

Application Samples

PCB基板噴字裝置 Spray-Printing device for PCB substrate boards

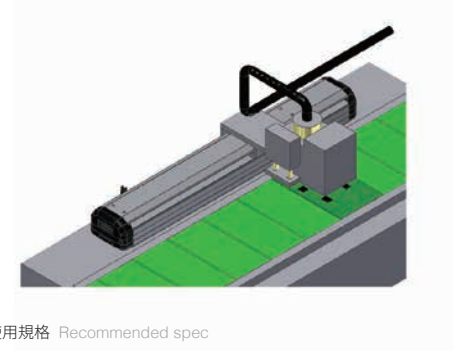
- 將基板固定於電動滑台上，利用滑台等速移動的特性，執行基板的噴字作業。
  Fix the substrate board onto the electric cylinder. Use the character of equal-speed sliding to execute the spray printing.



- 使用規格 Recommended spec
  CGTH / DGTH

電路板表面清潔裝置 Surface cleaning device for circuit boards

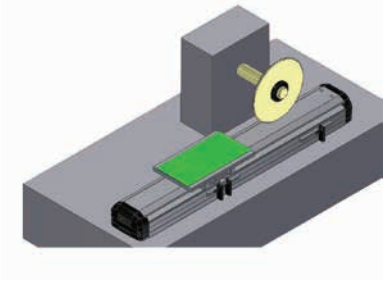
- 將PLASMA固定在電動滑台上，在輸送帶上方來回移動，做電路板表面的清潔工作。
  Fix the PLASMA onto the electric cylinder and move back and forth on the conveyor to do the surface cleaning for the circuit boards.



- 使用規格 Recommended spec
  CGTH / DGTH

PCB電路板切割裝置 Cutting device for PCB circuit boards

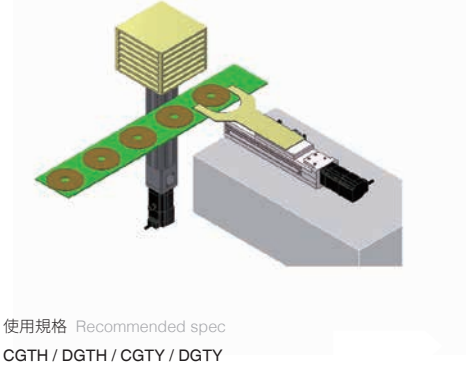
- 將PCB電路板放置在電動滑台上，搭配外部切刀機構，做裁切的動作。
  Place the PCB board on the electric cylinder and do the cutting by using external cutting devices.



- 使用規格 Recommended spec
  CGTH / DGTH

光碟收料裝置 Compact disc receiving device

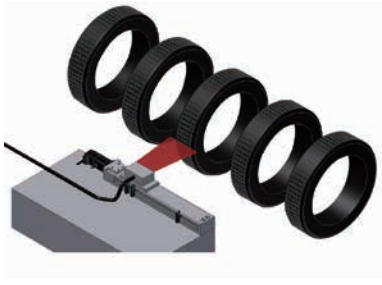
- 利用電動滑台可多點定位的特性，將光碟片收料盒做上下移動定位收料。
  Use the feature “multi-positioning” of electric cylinder to do loading and unloading of the disc box.



- 使用規格 Recommended spec
  CGTH / DGTH / CGTY / DGTY

輪胎表面檢查裝置 Tire surface inspection machine

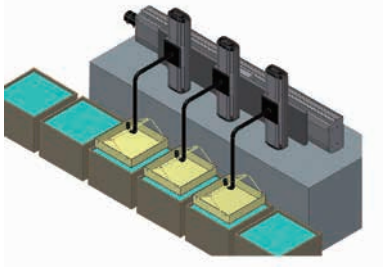
- 將C.C.D安裝在滑台上，利用滑台等速移動的特性，檢查輪胎表面上的缺陷，並即時回報給現場人員。
  Mount the C.C.D on the electric cylinder. Use the character of equal-speed sliding to check the defects on the tire surface and report to the on-site worker immediately.



- 使用規格 Recommended spec
  CGTH / DGTH

表面處理移動裝置 Mobile device for surface processing

- 利用滑台可上下左右高速移動的特性，將工作置掛在滑台上浸入溶劑內，做表面處理的工作。
  Mount the working piece on the electric cylinder and dip it into the solvents. Use the character of moving up and down, left and right at high speed to do the surface treatment processing.



- 使用規格 Recommended spec
  CGTH / DGTH

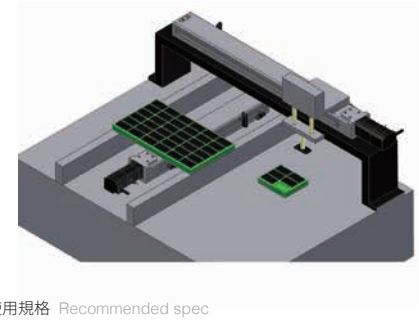
IC打印裝置 IC printer device

- 將IC裝置放於滑台上，利用滑台搭配伺服或步進馬達，可等速度移動的特性，執行雷射打印工作。
  Place the IC device on the electric cylinder. Use the character of equal-speed sliding and capable to adapt servo motor and stepping motor to execute the laser printing.

- 使用規格 Recommended spec
  CGTH / DGTH

IC取放整列裝置 Aligning device for pick-and-place of IC boards

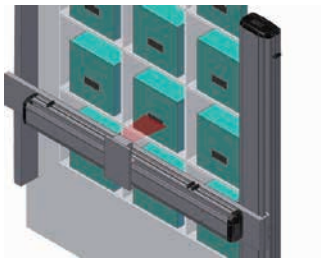
- 使用2支單軸電動滑台，可組合成簡易式IC取放機構。
  Install two single electric cylinder to combine a simple IC pick-and-place system.



- 使用規格 Recommended spec
  CGTH / DGTH

條碼掃描裝置 Barcode scanning device

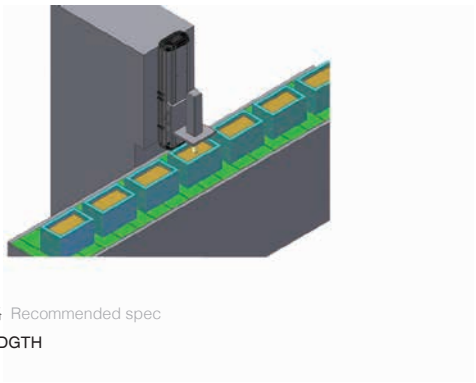
- 將XY滑台安裝在小型的自動倉儲內，執行物品條碼的掃描作業。
  Install the X-Y multi-axis system to automated warehouse to execute the scanning of barcode.



- 使用規格 Recommended spec
  CGTH / DGTH

充填裝置 Fillings device

- 為了因應不同產品的填充作業，利用滑台可程式化的特性，可於不同高度的位置，執行充填作業。
  In order to adapt to filling of different products, we can execute the filling at different height of position by programmable feature.



- 使用規格 Recommended spec
  CGTH / DGTH

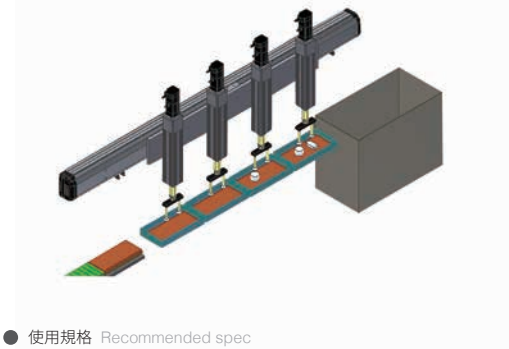
圓盤機上組立裝置 Assembling device on disc machine

- 利用2支單軸組合成XY機構，可架在圓盤機上，做零件的組立。
  Install two single electric cylinders to combine an X-Y system. Then mount it onto the disc machine to do the components assembly.

- 使用規格 Recommended spec
  CGTH / DGTH / CGTY / DGTY

小型部品組立裝置 Assembling device for small components

- 利用電動滑台可多點定位的特性，帶動吸盤及氣缸作小型零件的組立作業。
  Use the feature multi-positioning of the electric cylinder to drive the sucker and cylinders to do the assembly of small components.



- 使用規格 Recommended spec
  CGTH / DGTH / CGTY / DGTY

Memo

DM

超小伺服電動缸系列

Miniature Cylinder

Contents

規格索引

Spec Index

DM 超小型伺服電動缸系列

DM Miniature Cylinder

使用環境 Environment	傳動方式 Drive mode	仕樣 Specification	馬達容量 Motor Output (W)	本體寬幅 Width of profile (mm)	位置重複精度 Repeatability(mm)	螺桿規格(C7級) Ball screw spec (Accuracy C7)		最大可搬重量 Maximum Payload(kg)		額定推力 Rated Thrust (N)	最高速度*1 Maximum speed (mm/s)
						外徑 Outer dia.(mm)	導程 Lead(mm)	水平使用 Horizontal	垂直使用 Vertical		
一般環境 Standard	滾珠螺桿 Ball screw	DMG25	25	70	±0.02	6	2	7	2	160	100
		DMG40	40	80	±0.02	10	2	15	4	427	100
		DMH25	25	44	±0.02	6	2	7	2	160	100
		DMH40	40	62	±0.02	10	2	15	4	427	100

*1:最高速度的使用條件有限制，請參閱各仕樣內頁的速度-荷重曲線圖。

The working condition of max. speed is restricted limited. Please refer to the curve graph of speed and loading in this catalog.

	標準行程及最高使用速度 Stroke(mm) & Maximum speed(mm/s) 代表速度 Speed																								頁數 Page
	行程 Stroke	30	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	
	100																								043
	100																								047
	100																								051
	100																								055

DMG25

Servo XC

螺桿驅動 Ball Screw Drive

最大行程 Maximum Stroke	100mm
最高速度 Maximum Speed	100mm/s
馬達容量 Motor Dimension	25W
滾珠螺桿 Ball Screw	⌀6mm

型號表示方式 Ordering Method

DMG25 - L2 - 100 - XC100 - 03 - N1 - A001

本體型號 Model

特注式樣 Customization Order No.

螺桿導程 Ball Screw Lead

2	2mm

行程 Stroke

50	50mm
75	75mm
100	100mm

對應控制器 Corresponding Controller

XC100

電纜線長 Cable Length

01	1m
03	3m
05	5m
10	10m

*標配3m
Standard:3m

I/O線種類 Kind of I/O Cable

-	標準I/O彩虹排線 I/O Cable
N1	隔離I/O線 Shielded I/O Cable

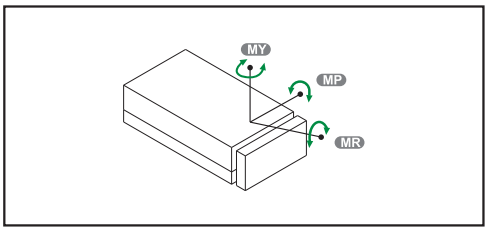
*標配1.5m
Standard:1.5m

基本仕樣 Specification

規格 Spec	位置重複精度 Repeatability (mm)		±0.02
	螺桿導程 Ball Screw Lead (mm)		2
	最高速度 Maximum Speed (mm/s)※1		100
	最大可搬重量 Maximum Payload	水平使用 Horizontal (kg)	7
		垂直使用 Vertical (kg)	2
	定格推力 Rated Thrust (N)		160
	標準行程 Stroke / Pitch (mm)		50 / 75 / 100
部品 Parts	馬達容量 Motor Output (W)		25
	滾珠螺桿規格 Ball Screw Spec		C7 ⌀ 6mm

※1 此處最高速度為軟體移動速度設定為100%時。
The maximum speed shown here is when software speed setting is 100%.

靜態容許負載慣量 Static Loading Moment



水平使用時 For horizontal use (單位 Unit:N.m)

MY	39.5
MP	39.5
MR	183.7

※符合型錄規範的正常使用下，保證壽命5000km或往返5000萬次。
Operation life is 5000km or 50 million times back and forth when products are used under the specified conditions.

對應控制器一覽表 Corresponding Controller Chart

外觀 Exterior	控制器型號 Controller Model	控制介面 Control Mode	特點 Featrues	電氣規格 Electrical Spec.	詳細參閱 Reference Page
	XC100	Pulse控制 Pulse Control Mode	Line driver 200k Hz Open collector 60k Hz 同時間只能使用一種。 Support Line driver and Open collector Max.pulse receiving speed 200k/60k Hz.	控制電路只能使用24V。 工作電壓DC24V，額定電流 3A，峰值電流8A。 The voltage of control circuit is 24V only. Operating voltage DC24V, rated current 3A, peak current 8A.	P.167
		I/O控制 I/O Control Mode	利用I/O變化，最多可以執行127個位置控制。 By I/O control, max. 127 positioning points, can be executed.		
		通訊控制 Communication Control Mode	採Modbus的RS485通訊介面(最大並接16台)及一組mini USB (TOYO-Single專用)。 Use Modbus as the interface of RS485 (connect max. 16 controllers) and 1 set mini USB. (special for TOYO-single)		

DMG25

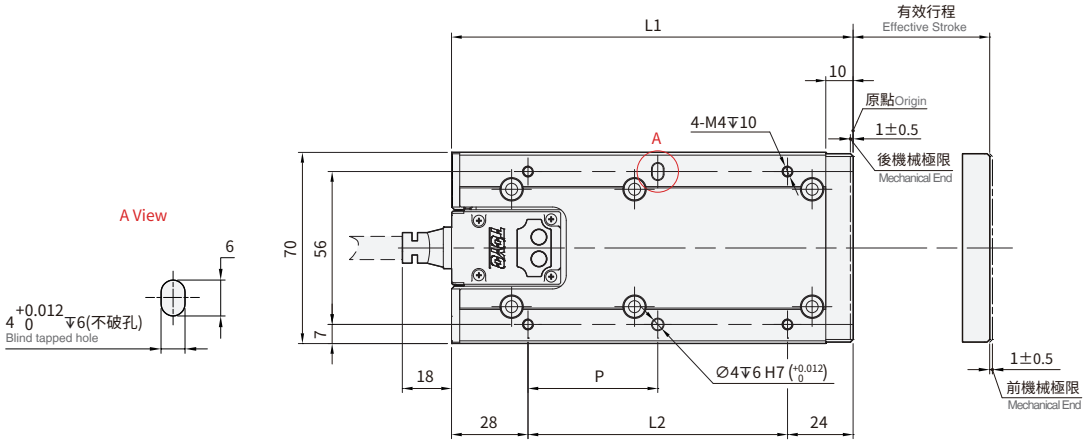
Servo XC

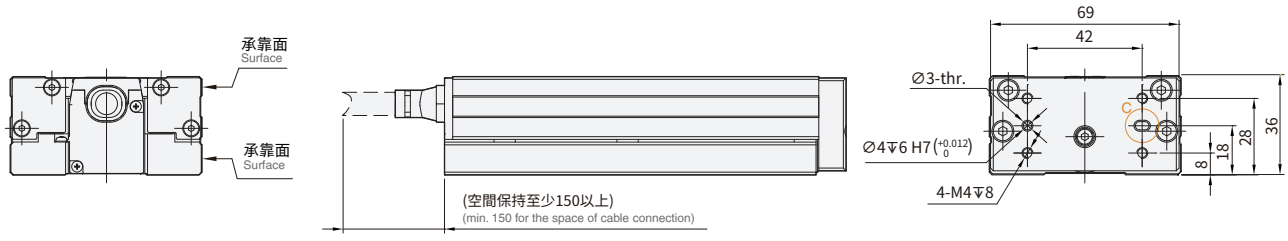
螺桿驅動 Ball Screw Drive

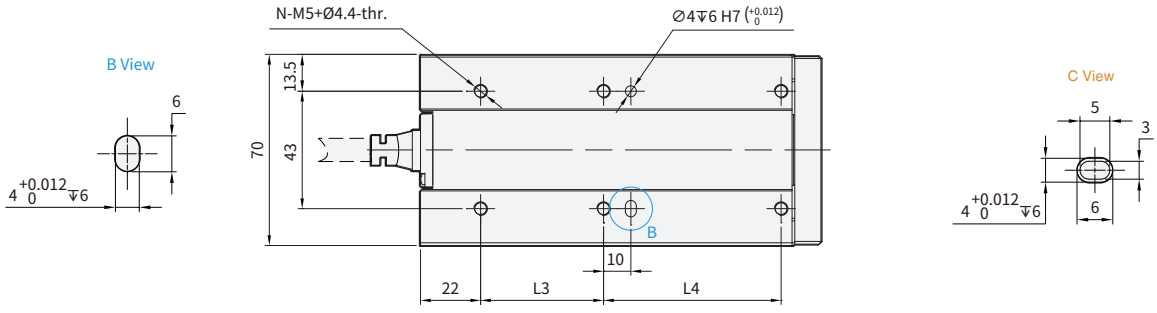
2D CAD 3D CAD

● CAD圖面可至www.toyorobot.com下載 ●
Please download the CAD file from TOYO's website: www.toyorobot.com

(單位 Unit : mm)







有效行程 Stroke	L1	L2	L3	L4	P	N	*Weight(g)
50	122	70	0	85	35	4	800
75	147	95	45	65	47.5	6	920
100	172	120	57.5	77.5	125	6	1030

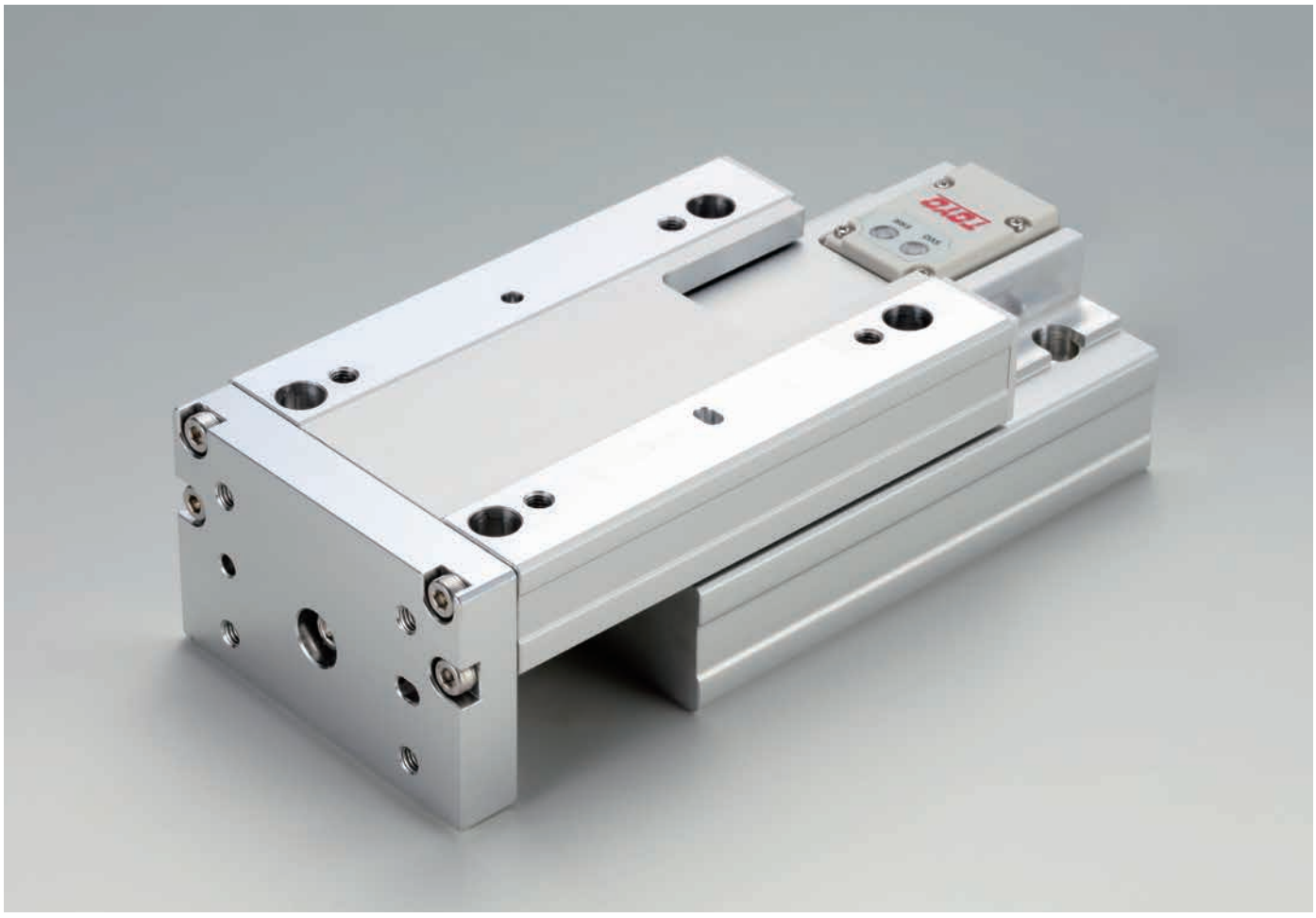
* 重量包含本體與馬達。Weight of model with motor.

Memo

DMG40

Servo XC

螺桿驅動 Ball Screw Drive



最大行程 Maximum Stroke	100mm
最高速度 Maximum Speed	100mm/s
馬達容量 Motor Dimension	40W
滾珠螺桿 Ball Screw	∅10mm

型號表示方式 Ordering Method

DMG40 - L2 - 100 - XC100 - 03 - N1 - A001

本體型號 Model

特注式樣 Customization Order No.

螺桿導程 Ball Screw Lead

2	2mm

行程 Stroke

50	50mm
75	75mm
100	100mm

對應控制器 Corresponding Controller

XC100

電纜線長 Cable Length

01	1m
03	3m
05	5m
10	10m

*標配3m
Standard:3m

I/O線種類 Kind of I/O Cable

-	標準I/O彩虹排線 I/O Cable
N1	隔離I/O線 Shielded I/O Cable

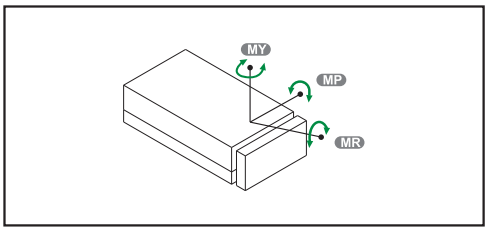
*標配1.5m
Standard:1.5m

基本仕樣 Specification

規格 Spec	位置重複精度 Repeatability (mm)		±0.02
	螺桿導程 Ball Screw Lead (mm)		2
	最高速度 Maximum Speed (mm/s)※1		100
	最大可搬重量 Maximum Payload	水平使用 Horizontal (kg)	15
		垂直使用 Vertical (kg)	4
	定格推力 Rated Thrust (N)		427
	標準行程 Stroke / Pitch (mm)		50 / 75 / 100
部品 Parts	馬達容量 Motor Output (W)		40
	滾珠螺桿規格 Ball Screw Spec		C7 ∅ 10mm

※1 此處最高速度為軟體移動速度設定為100%時。
The maximum speed shown here is when software speed setting is 100%.

靜態容許負載慣量 Static Loading Moment



水平使用時 For horizontal use (單位 Unit:N.m)

MY	66.4
MP	66.4
MR	284.6

※符合型錄規範的正常使用下，保證壽命5000km或往返5000萬次。
Operation life is 5000km or 50 million times back and forth when products are used under the specified conditions.

對應控制器一覽表 Corresponding Controller Chart

外觀 Exterior	控制器型號 Controller Model	控制介面 Control Mode	特點 Featrues	電氣規格 Electrical Spec.	詳細參閱 Reference Page
	XC100	**Pulse控制** Pulse Control Mode	Line driver 200k Hz Open collector 60k Hz 同時間只能使用一種。 Support Line driver and Open collector Max.pulse receiving speed 200k/60k Hz.	控制電路只能使用24V。 工作電壓DC24V，額定電流 3A，峰值電流8A。 The voltage of control circuit is 24V only. Operating voltage DC24V, rated current 3A, peak current 8A.	P.167
		I/O控制 I/O Control Mode	利用I/O變化，最多可以執行127個位置控制。 By I/O control, max. 127 positioning points, can be executed.		
		通訊控制 Communication Control Mode	採Modbus的RS485通訊介面(最大並接16台)及一組mini USB (TOYO-Single專用)。 Use Modbus as the interface of RS485 (connect max. 16 controllers) and 1 set mini USB. (special for TOYO-single)		

DMG40

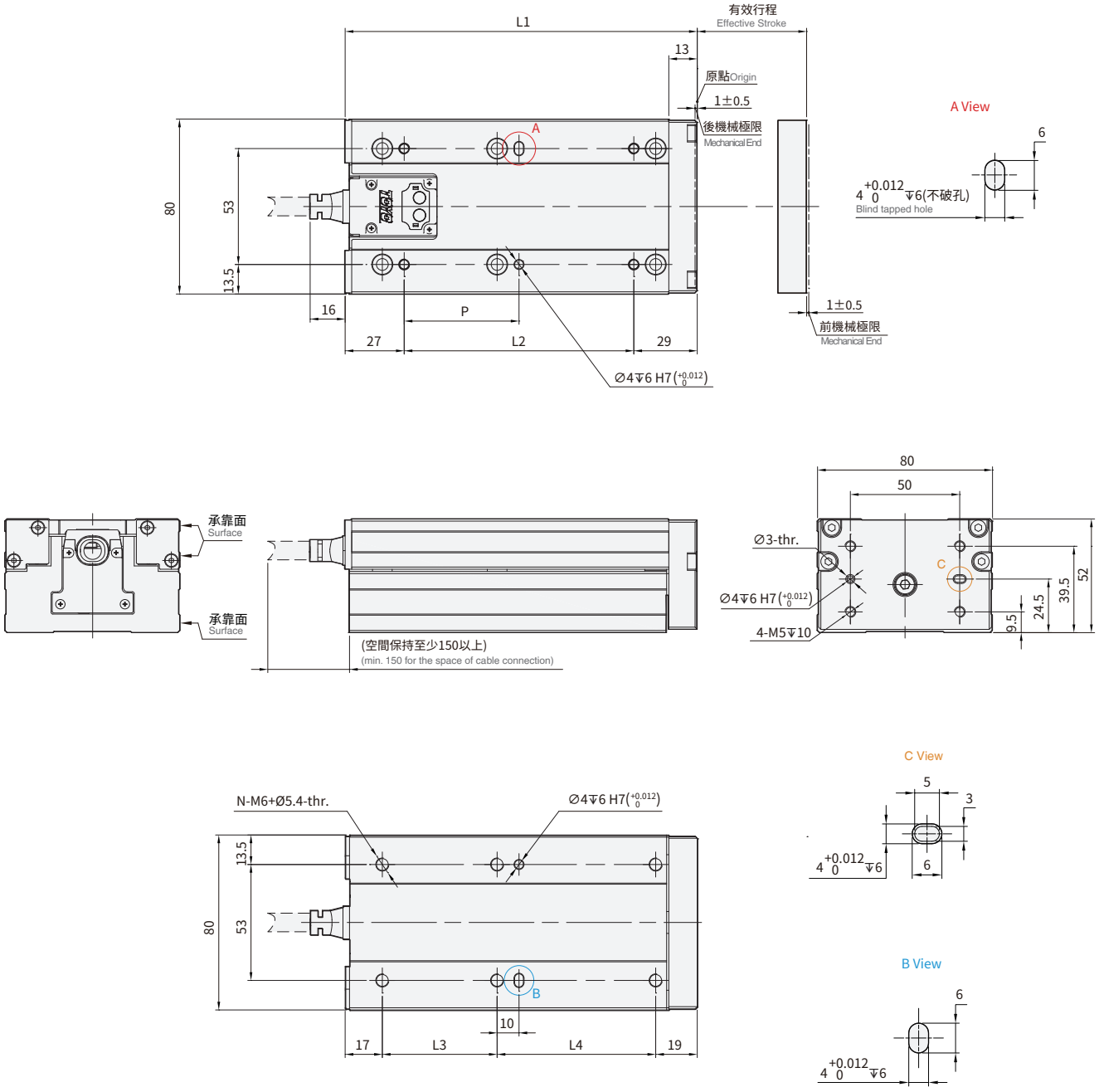
Servo XC

螺桿驅動 Ball Screw Drive

2D CAD 3D CAD

● CAD圖面可至www.toyorobot.com下載 ●
Please download the CAD file from TOYO's website: www.toyorobot.com

(單位 Unit : mm)



有效行程 Stroke	L1	L2	L3	L4	P	N	*Weight(g)
50	136	80	0	100	40	4	1530
75	161	105	52.5	72.5	52.5	6	1750
100	186	130	65	85	65	6	1930

* 重量包含本體與馬達。Weight of model with motor.

Memo

DMH25

Servo XC

螺桿驅動 Ball Screw Drive

最大行程 Maximum Stroke	100mm
最高速度 Maximum Speed	100mm/s
馬達容量 Motor Dimension	25W
滾珠螺桿 Ball Screw	Ø6mm

型號表示方式 Ordering Method

DMH25 - L2 - 50 - XC100 - 03 - N1 - A001

本體型號 Model

特注式樣 Customization Order No.

螺桿導程 Ball Screw Lead

2	2mm

行程 Stroke

50	50mm
75	75mm
100	100mm

對應控制器 Corresponding Controller

XC100

電纜線長 Cable Length

01	1m
03	3m
05	5m
10	10m

*標配3m
Standard:3m

I/O線種類 Kind of I/O Cable

-	標準I/O彩虹排線 I/O Cable
N1	隔離I/O線 Shielded I/O Cable

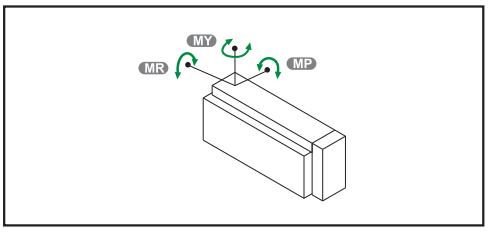
*標配1.5m
Standard:1.5m

基本仕樣 Specification

規格 Spec	位置重複精度 Repeatability (mm)		±0.02
	螺桿導程 Ball Screw Lead (mm)		2
	最高速度 Maximum Speed (mm/s)※1		100
	最大可搬重量 Maximum Payload	水平使用 Horizontal (kg)	7
		垂直使用 Vertical (kg)	2
	定格推力 Rated Thrust (N)		160
	標準行程 Stroke / Pitch (mm)		50 / 75 / 100
部品 Parts	馬達容量 Motor Output (W)		25
	滾珠螺桿規格 Ball Screw Spec		C7 ⌀ 6mm

※1 此處最高速度為軟體移動速度設定為100%時。
The maximum speed shown here is when software speed setting is 100%.

靜態容許負載慣量 Static Loading Moment



水平使用時 For horizontal use (單位 Unit:N.m)

MY	12.4
MP	12.4
MR	18.2

※符合型錄規範的正常使用下，保證壽命5000km或往返5000萬次。
Operation life is 5000km or 50 million times back and forth when products are used under the specified conditions.

對應控制器一覽表 Corresponding Controller Chart

外觀 Exterior	控制器型號 Controller Model	控制介面 Control Mode	特點 Featrues	電氣規格 Electrical Spec.	詳細參閱 Reference Page
	XC100	**Pulse控制** Pulse Control Mode	Line driver 200k Hz Open collector 60k Hz 同時間只能使用一種。 Support Line driver and Open collector Max.pulse receiving speed 200k/60k Hz.	控制電路只能使用24V。 工作電壓DC24V，額定電流 3A，峰值電流8A。 The voltage of control circuit is 24V only. Operating voltage DC24V, rated current 3A, peak current 8A.	P.167
		I/O控制 I/O Control Mode	利用I/O變化，最多可以執行127個位置控制。 By I/O control, max. 127 positioning points, can be executed.		
		通訊控制 Communication Control Mode	採Modbus的RS485通訊介面(最大並接16台)及一組mini USB (TOYO-Single專用)。 Use Modbus as the interface of RS485 (connect max. 16 controllers) and 1 set mini USB. (special for TOYO-single)		

DMH25

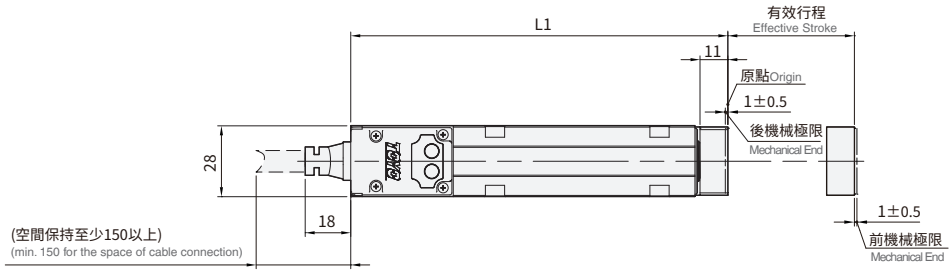
Servo XC

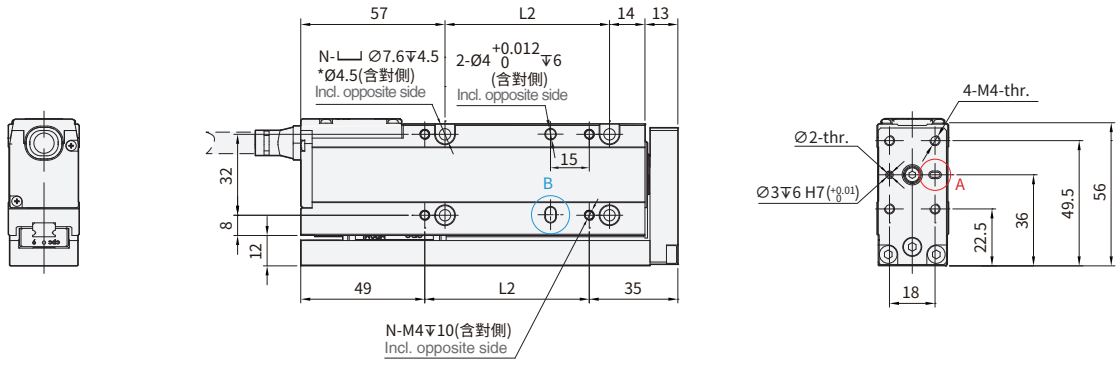
螺桿驅動 Ball Screw Drive

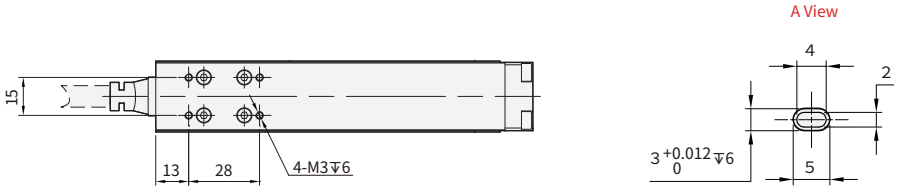
2D CAD 3D CAD

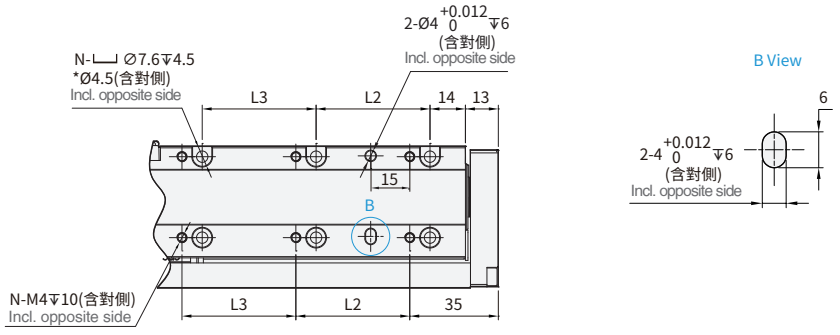
● CAD圖面可至www.toyorobot.com下載 ●
Please download the CAD file from TOYO's website: www.toyorobot.com

(單位 Unit : mm)









行程100固定孔示意圖
fixed hole sketch diagram for 100mm stroke

有效行程 Stroke	L1	L2	L3	N	*Weight(g)
50	124	40	0	8	570
75	149	65	0	8	600
100	174	45	45	12	630

* 重量包含本體與馬達。Weight of model with motor.

Memo

DMH40

Servo XC

螺桿驅動 Ball Screw Drive

最大行程 Maximum Stroke	100mm
最高速度 Maximum Speed	100mm/s
馬達容量 Motor Dimension	40W
滾珠螺桿 Ball Screw	∅10mm

型號表示方式 Ordering Method

DMH40 - L2 - 100 - XC100 - 03 - N1 - A001

本體型號 Model

特注式樣 Customization Order No.

螺桿導程 Ball Screw Lead

2	2mm

行程 Stroke

50	50mm
75	75mm
100	100mm

對應控制器 Corresponding Controller

XC100

電纜線長 Cable Length

01	1m
03	3m
05	5m
10	10m

*標配3m
Standard:3m

I/O線種類 Kind of I/O Cable

-	標準I/O彩虹排線 I/O Cable
N1	隔離I/O線 Shielded I/O Cable

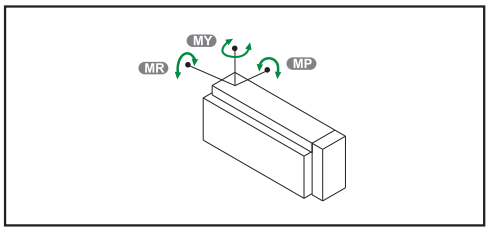
*標配1.5m
Standard:1.5m

基本仕樣 Specification

規格 Spec	位置重複精度 Repeatability (mm)		±0.02
	螺桿導程 Ball Screw Lead (mm)		2
	最高速度 Maximum Speed (mm/s)※1		100
	最大可搬重量 Maximum Payload	水平使用 Horizontal (kg)	15
		垂直使用 Vertical (kg)	4
	定格推力 Rated Thrust (N)		427
	標準行程 Stroke / Pitch (mm)		50 / 75 / 100
部品 Parts	馬達容量 Motor Output (W)		40
	滾珠螺桿規格 Ball Screw Spec		C7 ∅ 10mm

※1 此處最高速度為軟體移動速度設定為100%時。
The maximum speed shown here is when software speed setting is 100%.

靜態容許負載慣量 Static Loading Moment



水平使用時 For horizontal use (單位 Unit:N.m)

MY	27
MP	27
MR	43.6

※符合型錄規範的正常使用下，保證壽命5000km或往返5000萬次。
Operation life is 5000km or 50 million times back and forth when products are used under the specified conditions.

對應控制器一覽表 Corresponding Controller Chart

外觀 Exterior	控制器型號 Controller Model	控制介面 Control Mode	特點 Featrues	電氣規格 Electrical Spec.	詳細參閱 Reference Page
	XC100	**Pulse控制** Pulse Control Mode	Line driver 200k Hz Open collector 60k Hz 同時間只能使用一種。 Support Line driver and Open collector Max.pulse receiving speed 200k/60k Hz.	控制電路只能使用24V。 工作電壓DC24V，額定電流 3A，峰值電流8A。 The voltage of control circuit is 24V only. Operating voltage DC24V, rated current 3A, peak current 8A.	P.167
		I/O控制 I/O Control Mode	利用I/O變化，最多可以執行127個位置控制。 By I/O control, max. 127 positioning points, can be executed.		
		通訊控制 Communication Control Mode	採Modbus的RS485通訊介面(最大並接16台)及一組mini USB (TOYO-Single專用)。 Use Modbus as the interface of RS485 (connect max. 16 controllers) and 1 set mini USB. (special for TOYO-single)		

DMH40

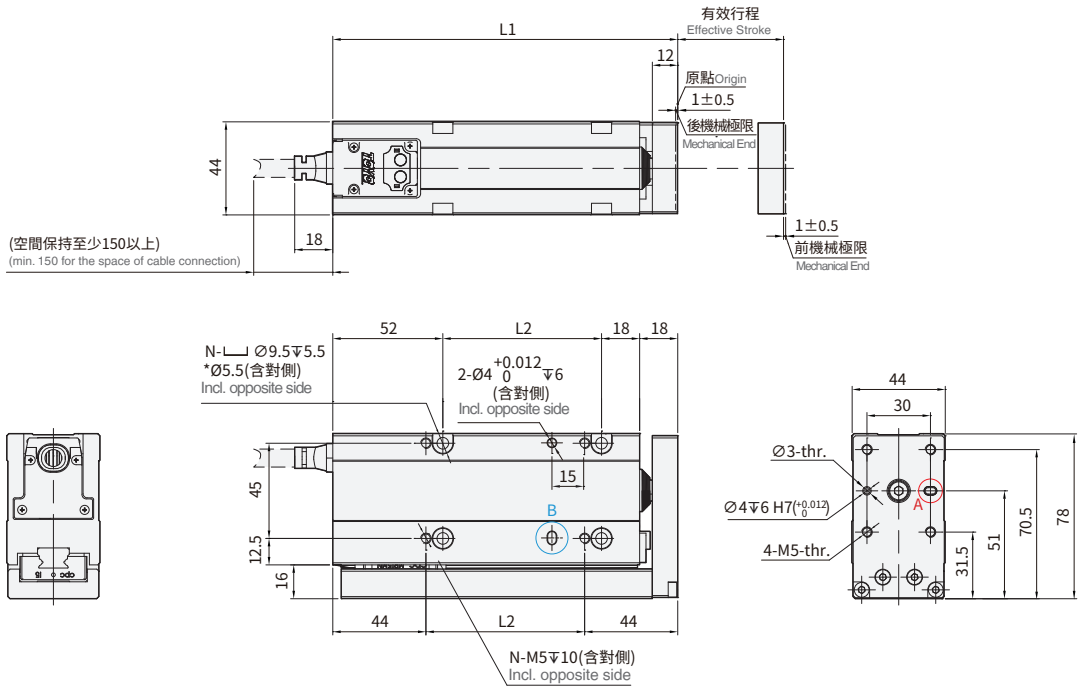
Servo XC

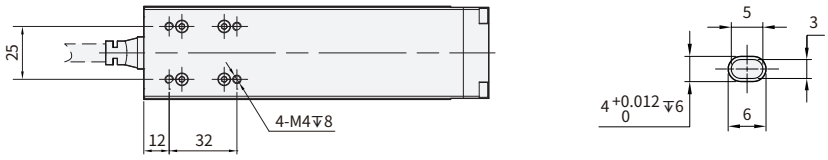
螺桿驅動 Ball Screw Drive

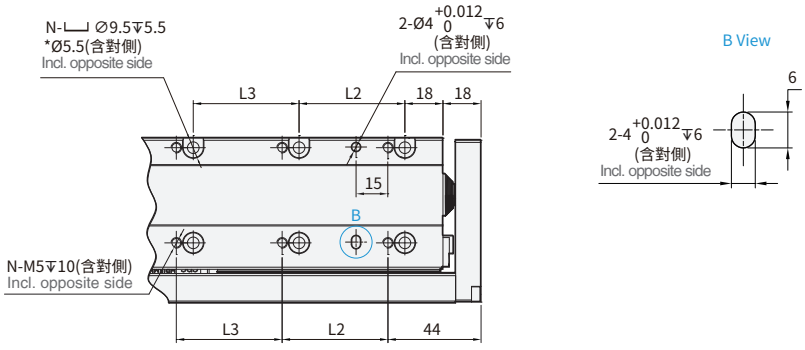
2D CAD 3D CAD

● CAD圖面可至www.toyorobot.com下載 ●
Please download the CAD file from TOYO's website: www.toyorobot.com

(單位 Unit : mm)







行程100固定孔示意圖
fixed hole sketch diagram for 100mm stroke

有效行程 Stroke	L1	L2	L3	N	*Weight(g)
50	138	50	0	8	1380
75	163	75	0	8	1440
100	188	50	50	12	1510

* 重量包含本體與馬達。Weight of model with motor.

Memo

Memo

DGTH

軌道內嵌式電動滑台

Built-in Linear Motion Guide Servo Cylinder-Slider Type

Contents

規格索引

Spec Index

DGTH 軌道內嵌式小型電動缸-滑台式

DGTH Built-in Linear Motion Guide Servo Cylinder-Slider Type

使用環境 Environment	傳動方式 Drive mode	仕樣 Specification	馬達容量 Motor Output (W)	本體寬幅 Width of profile (mm)	位置重複精度 Repeatability(mm)	螺桿規格(C7級) Ball screw spec (Accuracy C7)		最大可搬重量 Maximum Payload(kg)		最高速度*1 Maximum speed (mm/s)
						外徑 Outer dia.(mm)	導程 Lead(mm)	水平使用 Horizontal	垂直使用 Vertical	
一般環境 Standard	滾珠螺桿 Ball screw	DGTH4	40	44	±0.01	10	2	25	8	100
							6	20	5	300
							12	12	2	600
		DGTH5	40	54	±0.01	12	2	30	10	100
							5	30	8.1	250
							10	15	2.7	500
							20	10	1.4	1000

*1:最高速度的使用條件有限制，請參閱各仕樣內頁的速度-荷重曲線圖。
The working condition of max. speed is restricted limited. Please refer to the curve graph of speed and loading in this catalog.

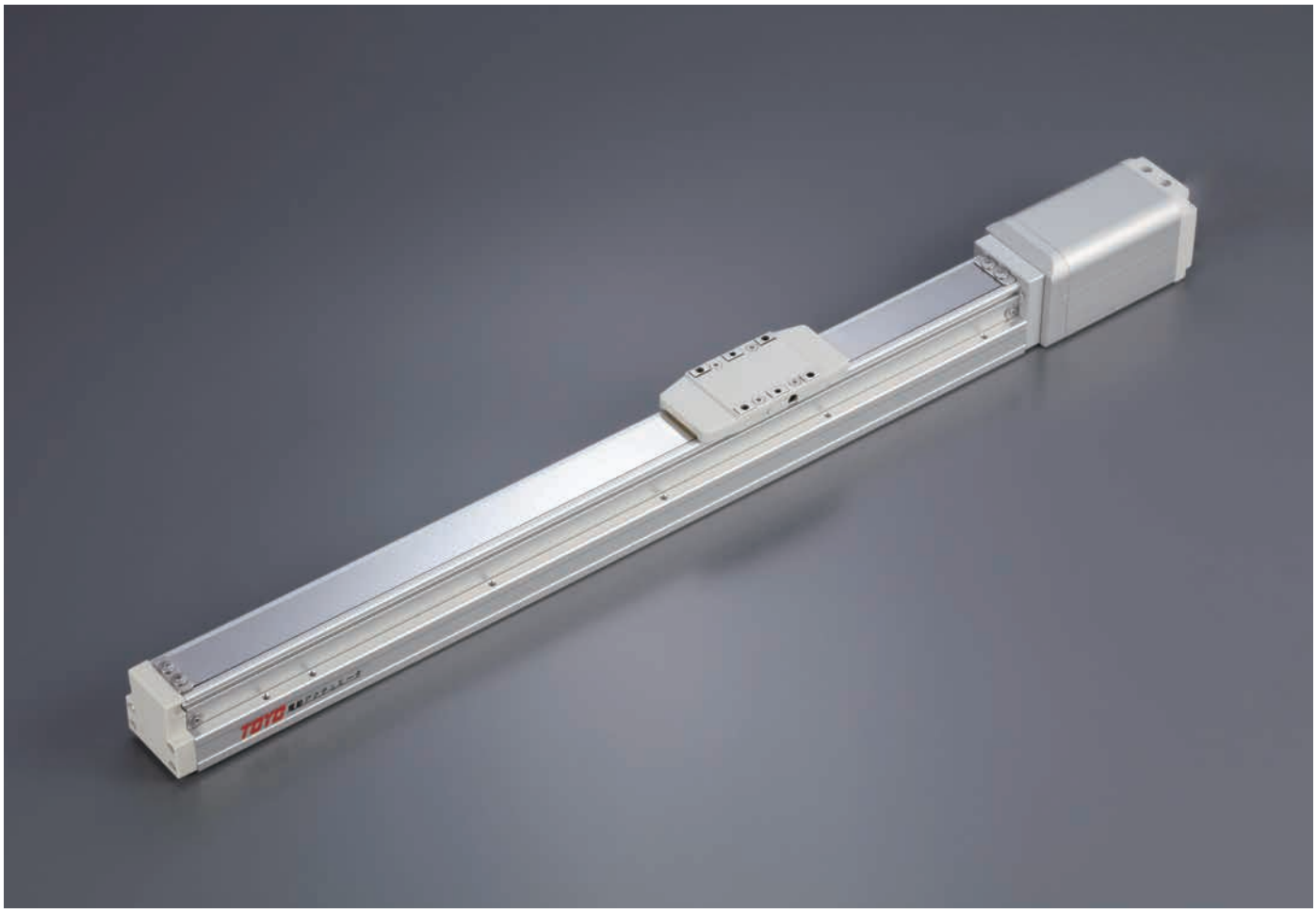
*2:標準行程內的黑色數字，代表該行程內可使用的最高安全速度。若超過此速度，機械手可能會有嚴重共振產生。
The number written in the column means the highest safe speed within stroke.
If the speed is over the value shown in the chart , the vibration will be caused on the actuator.

	標準行程及最高使用速度*2 Stroke(mm) & Maximum speed(mm/s) 代表速度 Speed																							頁數 Page
	行程 Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	
	100												90	80	70	60	50							063
	300												270	240	210	180	150							
	600												540	480	420	360	300							
	100													90	80	70	60							067
	250													225	200	175	150							
	500													450	400	350	300							
	1000													900	800	700	600							

DGTH4

Servo XC

螺桿驅動 Ball Screw Drive



最大行程 Maximum Stroke	800mm
最高速度 Maximum Speed	600mm/s
馬達容量 Motor Output	40W
滾珠螺桿 Ball Screw	⌀10mm

型號表示方式 Ordering Method

DGTH4 - L2 - 100 - M - XC100 - 03 - N1 - A001

本體型號 Model

特注式樣 Customization Order No.

螺桿導程 Ball Screw Lead

2	2mm
6	6mm
12	12mm

行程 Stroke

50-800mm
間隔50 Pitch 50 mm

馬達位置 Motor Position

M	馬達直結 Motor Hidden In

對應控制器 Corresponding Controller

XC100

電纜線長 Cable Length

01	1m
03	3m
05	5m
10	10m

*標配3m
Standard:3m

I/O線種類 Kind of I/O Cable

-	標準I/O彩虹排線 I/O Cable
N1	隔離I/O線 Shielded I/O Cable

*標配1.5m
Standard:1.5m

基本仕樣 Specification

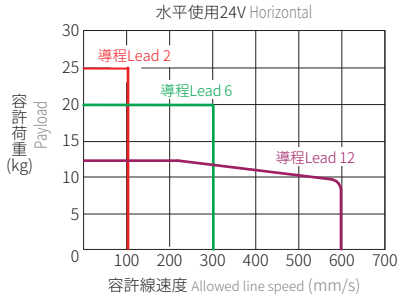
規格 Spec	位置重複精度 Repeatability (mm)		±0.01		
	螺桿導程 Ball Screw Lead (mm)		2	6	12
	最高速度 Maximum Speed (mm/s)※1※2	水平使用 Horizontal	≦100	≦ 300	≦ 600
		垂直使用 Vertical	≦100	≦ 300	≦ 600
	最大可搬重量 Maximum Payload※2	水平使用 Horizontal (kg)	≦ 25	≦ 20	≦ 12
		垂直使用 Vertical (kg)	≦ 8	≦ 5	≦ 2
	定格推力 Rated Thrust (N)		827	276	138
	標準行程 Stroke / Pitch (mm)※3		50-800mm/50 間隔 50 mm Pitch		
部品 Parts	馬達容量 Motor Output (W)		40		
	滾珠螺桿規格 Ball Screw Spec		C7 ⌀ 10mm		

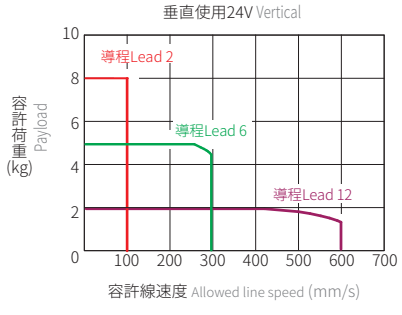
※1 此處最高速度為軟體移動速度設定為100%時。
The maximum speed shown here is when software speed setting is 100%.

※2 最高速度及最大荷重無法同時存在，選用前請詳見速度-荷重曲線圖。
The maximum speed and maximum payload cannot exist at the same time.
Please refer to diagram of Speed and payload curve before using.

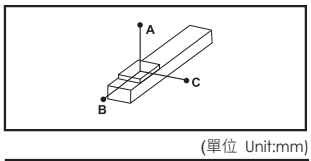
※3 行程超過550時，會產生螺桿偏擺震動，此時請將速度調降。詳細請參考P061頁說明。
When the stroke is over 550mm, the run-out of the ballscrew will occur.
We recommend to low down the working speed under this circumstances.Please refer to P061 for details.

速度-荷重曲線圖 Speed-Payload Curve Diagram



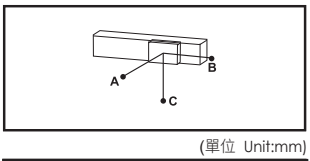


容許負載力距表 Allowable Moment



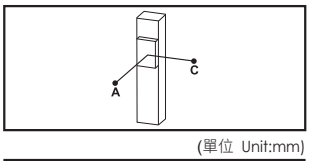
(單位 Unit:mm)

水平安裝 Horizontal Installation		A	B	C
導程 2 Lead	12kg	1000	55	80
	18kg	750	35	50
	25kg	500	23	32
導程 6 Lead	10kg	550	53	70
	15kg	350	32	45
	20kg	250	22	31
導程 12 Lead	8kg	305	59	75
	10kg	240	45	57
	12kg	195	37	47



(單位 Unit:mm)

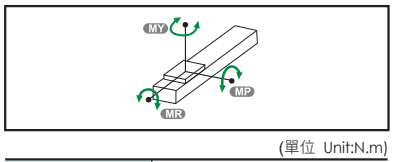
壁掛安裝 Wall Installation		A	B	C
導程 2 Lead	12kg	80	55	1000
	18kg	50	35	750
	25kg	32	23	500
導程 6 Lead	10kg	72	52	550
	15kg	45	32	345
	20kg	31	22	250
導程 12 Lead	8kg	75	59	300
	10kg	58	45	240
	12kg	47	37	190



(單位 Unit:mm)

垂直安裝 Vertical Installation		A	C
導程 2 Lead	4kg	200	200
	8kg	100	100
	-	-	-
導程 6 Lead	3kg	200	200
	5kg	120	120
	-	-	-
導程 12 Lead	1.5kg	350	350
	2kg	260	260
	-	-	-

靜態容許負載慣量 Static Loading Moment



(單位 Unit:N.m)

MY	79
MP	79
MR	116

※力距表所表示的數據，代表重心。
The torque value in the chart indicate the center of gravity.

※符合型錄規範的正常使用下，保證壽命為10000公里。
Operation life is 10,000km when the product is using under the specified conditions.

※倒吊使用無法套用標準規範，如有需求請洽詢我司業務。
Data information is not for ceiling-mount inverse use.
Contact us for the details if you want to apply ceiling-mount inverse usage.

對應控制器一覽表 Corresponding Controller Chart

外觀 Exterior	控制器型號 Controller Model	控制介面 Control Mode	特點 Featrues	電氣規格 Electrical Spec.	詳細參閱 Reference Page
	XC100	Pulse控制 Pulse Control Mode	Line driver 200k Hz Open collector 60k Hz 同時間只能使用一種。 Support Line driver and Open collector Max.pulse receiving speed 200k/60k Hz.	控制電路只能使用24V。 工作電壓DC24V，額定電流 3A，峰值電流8A。 The voltage of control circuit is 24V only. Operating voltage DC24V, rated current 3A, peak current 8A.	P.167
		I/O控制 I/O Control Mode	利用I/O變化，最多可以執行127個位置控制。 By I/O control, max. 127 positioning points, can be executed.		
		通訊控制 Communication Control Mode	採Modbus的RS485通訊介面(最大並接16台)及一組mini USB (TOYO-Single專用)。 Use Modbus as the interface of RS485 (connect max. 16 controllers) and 1 set mini USB. (special for TOYO-single)		

DGTH4

Servo XC

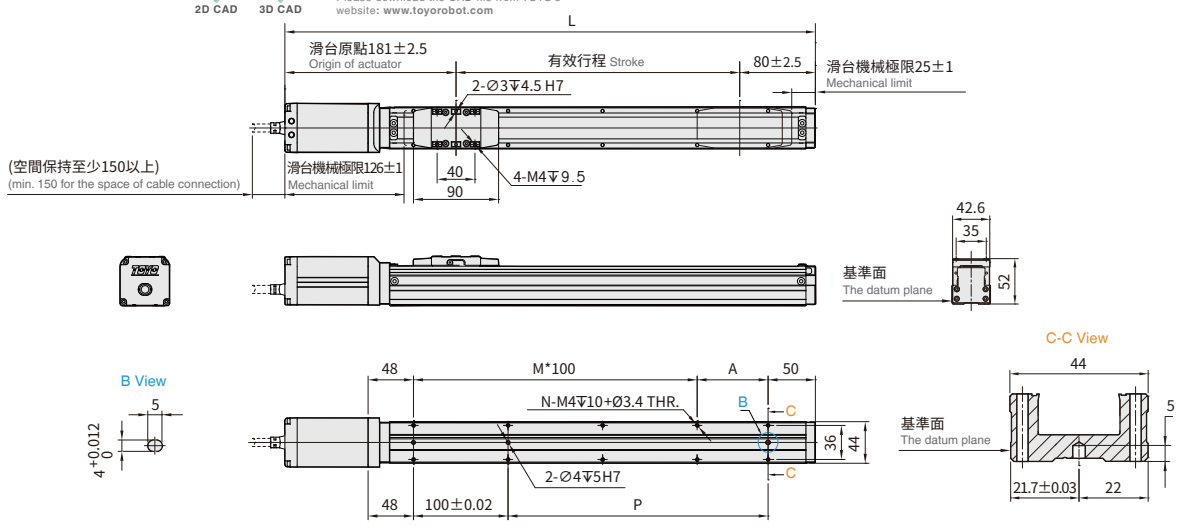
螺桿驅動 Ball Screw Drive

M 馬達直結 Motor Hidden In

2D CAD 3D CAD

● CAD圖面可至www.toyorobot.com下載 ●
Please download the CAD file from TOYO's website: www.toyorobot.com

(單位 Unit：mm)



※行程50時,因本體上鎖式固定孔會被滑座遮住,僅能使用4支螺絲固定,建議客戶本體使用下鎖式固定孔鎖附。
When the stroke is 50mm, if fixing the body from the top to the bottom, the fixing hole will be blocked by slider and only can be uses 4 screws to fix;as a result, suggest that fixing actuator body from the bottom to the top.

有效行程 Stroke	50※	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L	311	361	411	461	511	561	611	661	711	761	811	861	911	961	1011	1061
A	25	75	25	75	25	75	25	75	25	75	25	75	25	75	25	75
M	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8
N	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20
P	25	75	125	175	225	275	325	375	425	475	525	575	625	675	725	775
*Weight(kg)	1.26	1.43	1.6	1.78	1.96	2.14	2.32	2.5	2.68	2.86	3.04	3.22	3.4	3.58	3.76	3.94

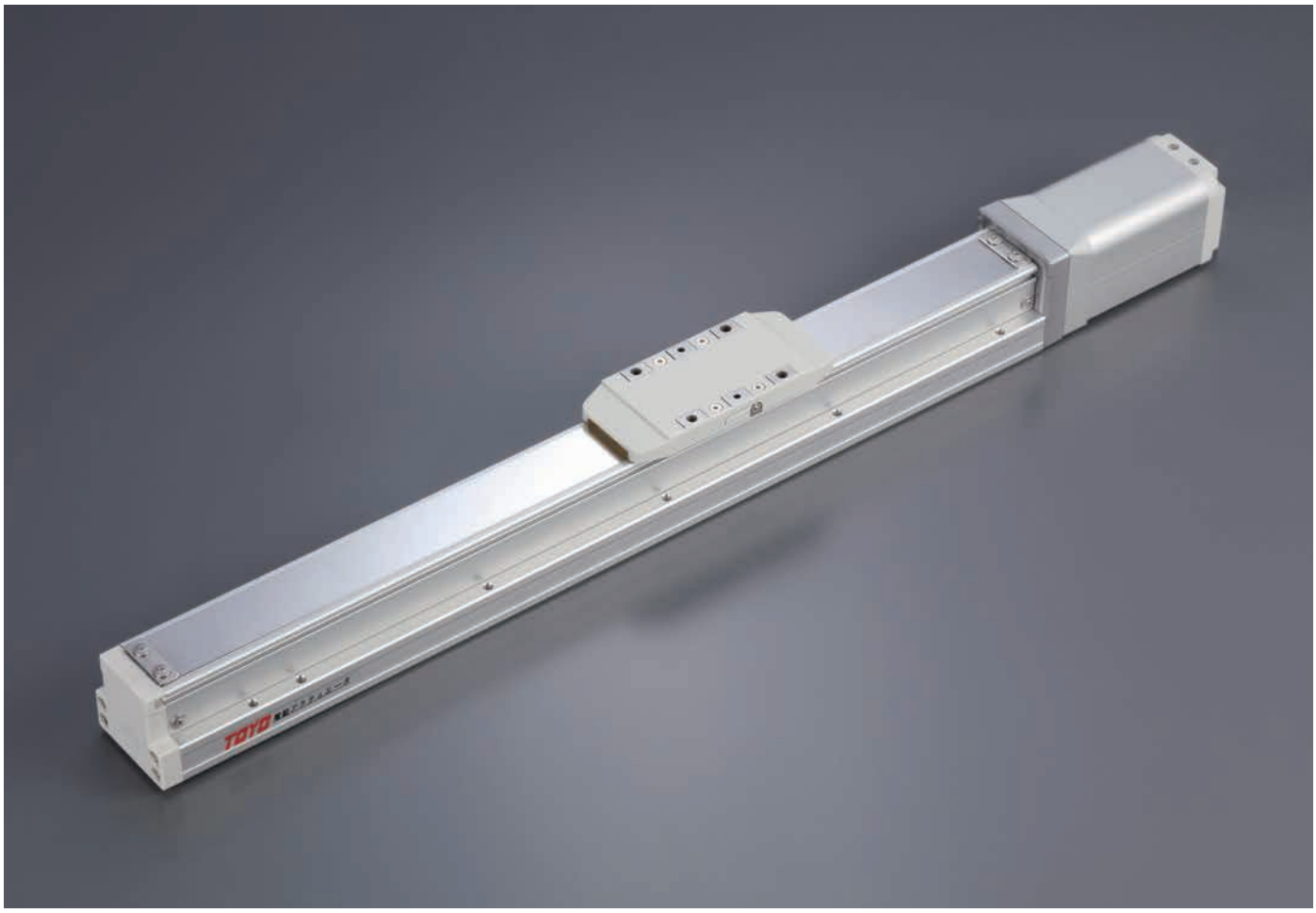
* 重量包含本體與馬達。Weight of model with motor.

Memo

DGTH5

Servo XC

螺桿驅動 Ball Screw Drive



最大行程 Maximum Stroke	最高速度 Maximum Speed	馬達容量 Motor Output	滾珠螺桿 Ball Screw
800mm	1000mm/s	40W	⌀12mm

型號表示方式 Ordering Method

DGTH5 - L5 - 100 - M - XC100 - 03 - N1 - A001

本體型號 Model

螺桿導程 Ball Screw Lead

2	2mm
5	5mm
10	10mm
20	20mm

行程 Stroke

50-800mm
間隔50 Pitch 50 mm

馬達位置 Motor Position

M	馬達直結 Motor Hidden In

對應控制器 Corresponding Controller

XC100

電纜線長 Cable Length

01	1m
03	3m
05	5m
10	10m

*標配3m
Standard:3m

I/O線種類 Kind of I/O Cable

-	標準I/O彩虹排線 I/O Cable
N1	隔離I/O線 Shielded I/O Cable

*標配1.5m
Standard:1.5m

特注式樣 Customization Order No.

基本仕樣 Specification

規格 Spec	位置重複精度 Repeatability (mm)		±0.01			
	螺桿導程 Ball Screw Lead (mm)		2	5	10	20
	最高速度 Maximum Speed (mm/s)※1※2	水平使用 Horizontal	≦100	≦250	≦500	≦1000
		垂直使用 Vertical	≦100	≦250	≦500	≦1000
	最大可搬重量 Maximum Payload※2	水平使用 Horizontal (kg)	≦30	≦30	≦15	≦10
		垂直使用 Vertical (kg)	≦10	≦8.1	≦2.7	≦1.4
	定格推力 Rated Thrust (N)		1147	459	229	115
	標準行程 Stroke / Pitch (mm)※3		50-800mm/50 間隔 50 mm Pitch			
部品 Parts	馬達容量 Motor Output (W)		40			
	滾珠螺桿規格 Ball Screw Spec		C7 ∅ 12mm			

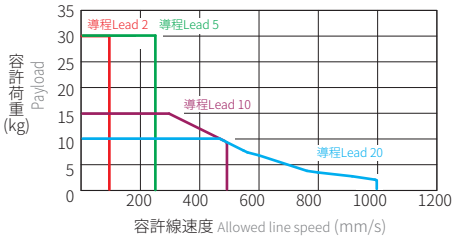
※1 此處最高速度為軟體移動速度設定為100%時。
The maximum speed shown here is when software speed setting is 100%.

※2 最高速度及最大荷重無法同時存在，選用前請詳見速度-荷重曲線圖。
The maximum speed and maximum payload cannot exist at the same time.
Please refer to diagram of Speed and payload curve before using.

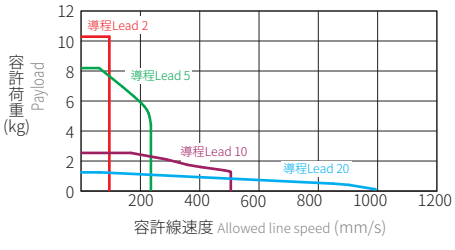
※3 行程超過600時，會產生螺桿偏擺震動，此時請將速度調降。詳細請參考P061頁說明。
When the stroke is over 550mm, the run-out of the ballscrew will occur.
We recommend to low down the working speed under this circumstances.Please refer to P061 for details.

速度-荷重曲線圖 Speed-Payload Curve Diagram

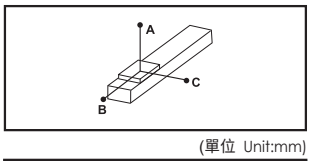
水平使用24V Horizontal



垂直使用24V Vertical

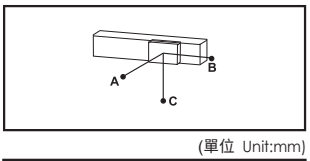


容許負載力距表 Allowable Moment



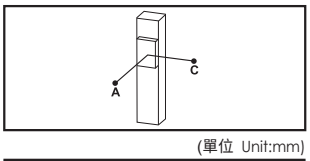
(單位 Unit:mm)

水平安裝 Horizontal Installation		A	B	C
導程 2 Lead	10kg	900	100	135
	20kg	700	45	60
	30kg	550	25	35
導程 5 Lead	10kg	650	75	100
	20kg	440	32	45
	30kg	270	19	25
導程 10 Lead	5kg	600	145	185
	10kg	370	70	85
	15kg	250	42	52
導程 20 Lead	5kg	320	120	130
	8kg	220	70	80
	10kg	175	55	60



(單位 Unit:mm)

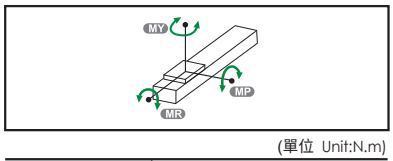
壁掛安裝 Wall Installation		A	B	C
導程 2 Lead	10kg	135	100	900
	20kg	60	45	700
	30kg	37	27	550
導程 5 Lead	10kg	100	75	650
	20kg	45	32	420
	30kg	25	19	260
導程 10 Lead	5kg	180	145	600
	10kg	85	68	370
	15kg	52	42	250
導程 20 Lead	4kg	130	120	320
	8kg	75	70	220
	10kg	60	55	170



(單位 Unit:mm)

垂直安裝 Vertical Installation		A	C
導程 2 Lead	6kg	180	180
	8kg	135	135
	10kg	110	110
導程 5 Lead	6kg	145	145
	8.1kg	120	120
	-	-	-
導程 10 Lead	1kg	800	800
	2.7kg	300	300
	-	-	-
導程 20 Lead	1kg	600	600
	1.4kg	350	350
	-	-	-

靜態容許負載慣量 Static Loading Moment



(單位 Unit:N.m)

MY	103
MP	103
MR	144

※力距表所表示的數據，代表重心。
The torque value in the chart indicate the center of gravity.

※符合型錄規範的正常使用下，保證壽命為10000公里。
Operation life is 10,000km when the product is using under the specified conditions.

※倒吊使用無法套用標準規範，如有需求請洽詢我司業務。
Data information is not for ceiling-mount inverse use.
Contact us for the details if you want to apply ceiling-mount inverse usage.

對應控制器一覽表 Corresponding Controller Chart

外觀 Exterior	控制器型號 Controller Model	控制介面 Control Mode	特點 Featrues	電氣規格 Electrical Spec.	詳細參閱 Reference Page
	XC100	Pulse控制 Pulse Control Mode	Line driver 200k Hz Open collector 60k Hz 同時間只能使用一種。 Support Line driver and Open collector Max.pulse receiving speed 200k/60k Hz.	控制電路只能使用24V。 工作電壓DC24V，額定電流 3A，峰值電流8A。 The voltage of control circuit is 24V only. Operating voltage DC24V, rated current 3A, peak current 8A.	P.167
		I/O控制 I/O Control Mode	利用I/O變化，最多可以執行127個位置控制。 By I/O control, max. 127 positioning points, can be executed.		
		通訊控制 Communication Control Mode	採Modbus的RS485通訊介面(最大並接16台)及一組mini USB (TOYO-Single專用)。 Use Modbus as the interface of RS485 (connect max. 16 controllers) and 1 set mini USB. (special for TOYO-single)		

DGTH5

Servo XC

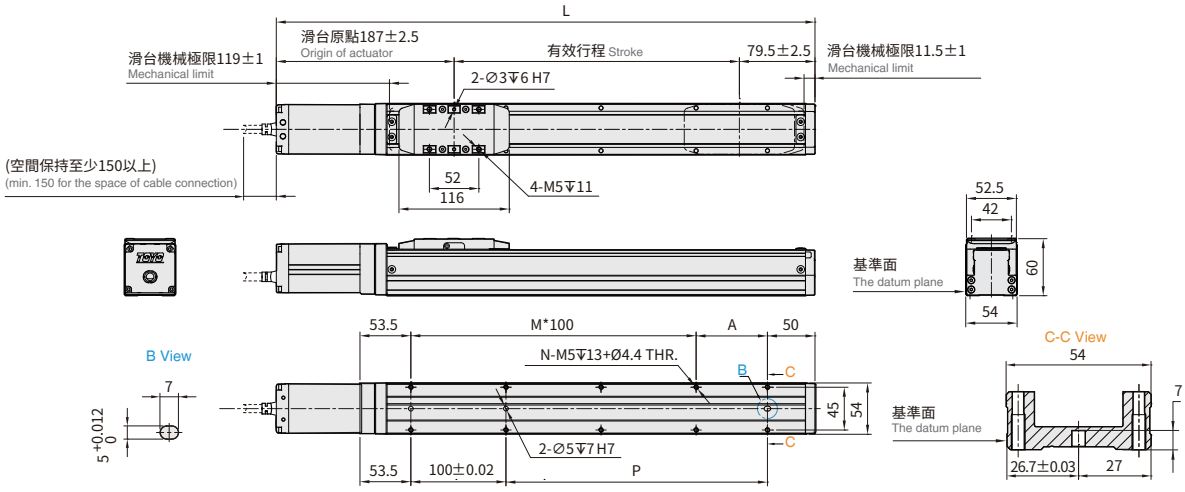
螺桿驅動 Ball Screw Drive

M 馬達直結 Motor Hidden In

2D CAD 3D CAD

● CAD圖面可至www.toyorobot.com下載 ●
Please download the CAD file from TOYO's website: www.toyorobot.com

(單位 Unit：mm)



※行程50時,因本體上鎖式固定孔會被滑座遮住,僅能使用4支螺絲固定,建議客戶本體使用下鎖式固定孔鎖附。
When the stroke is 50mm, if fixing the body from the top to the bottom, the fixing hole will be blocked by slider and only can be uses 4 screws to fix;as a result, suggest that fixing actuator body from the bottom to the top.

有效行程 Stroke	50※	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L	316.5	366.5	416.5	466.5	516.5	566.5	616.5	666.5	716.5	766.5	816.5	866.5	916.5	966.5	1016.5	1066.5
A	25	75	25	75	25	75	25	75	25	75	25	75	25	75	25	75
M	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8
N	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20
P	25	75	125	175	225	275	325	375	425	475	525	575	625	675	725	775
*Weight(kg)	1.86	2	2.13	2.32	2.6	2.71	2.73	2.96	3.07	3.16	3.36	3.49	3.65	3.79	3.92	4.3

* 重量包含本體與馬達。Weight of model with motor.

Memo

Memo

DGTY

軌道內嵌式小型電動缸-推桿式

Built-in Linear Motion Guide Servo Cylinder-Rod Type

Contents

規格索引

Spec Index

DGTY 軌道內嵌式小型電動缸-推桿式

DGTY Built-in Linear Motion Guide Servo Cylinder-Rod Type

使用環境 Environment	傳動方式 Drive mode	仕樣 Specification	馬達容量 Motor Output (W)	本體寬幅 Width of profile (mm)	位置重複精度 Repeatability(mm)	螺桿規格(C7級) Ball screw spec (Accuracy C7)		最大可搬重量 Maximum Payload(kg)		最高速度*1 Maximum speed (mm/s)
						外徑 Outer dia.(mm)	導程 Lead(mm)	水平使用 Horizontal	垂直使用 Vertical	
一般環境 Standard	滾珠螺桿 Ball screw	DGTY4	40	44	±0.01	10	2	25	8	100
							6	20	5	300
							12	12	2	600
		DGTY5	40	54	±0.01	12	2	30	10	100
							5	30	8.1	250
							10	15	2.7	500
							20	10	1.4	1000

*1:最高速度的使用條件有限制，請參閱各仕樣內頁的速度-荷重曲線圖。

The working condition of max. speed is restricted limited. Please refer to the curve graph of speed and loading in this catalog.

*2:標準行程內的黑色數字，代表該行程內可使用的最高安全速度。若超過此速度，機械手可能會有嚴重共振產生。

The number written in the column means the highest safe speed within stroke.
If the speed is over the value shown in the chart , the vibration will be caused on the actuator.

	標準行程及最高使用速度*2 Stroke(mm) & Maximum speed(mm/s) 代表速度 Speed																						頁數 Page
	行程 Stroke 50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050		
	100																						075
	300																						
	600																						
	100																						079
	250																						
	500																						
	1000																						

DGTY4

Servo XC

螺桿驅動 Ball Screw Drive

最大行程 Maximum Stroke	最高速度 Maximum Speed	馬達容量 Motor Output	滾珠螺桿 Ball Screw
800mm	600mm/s	40W	∅10mm

型號表示方式 Ordering Method

DGTY4 - L2 - 100 - M - XC100 - 03 - N1 - A001

本體型號 Model

螺桿導程 Ball Screw Lead

2	2mm
6	6mm
12	12mm

行程 Stroke

50-500mm
間隔50 50 mm Pitch

馬達位置 Motor Position

M	馬達直結 Motor Hidden In

對應控制器 Corresponding Controller

XC100

電纜線長 Cable Length

01	1m
03	3m
05	5m
10	10m

*標配3m Standard:3m

I/O線種類 Kind of I/O Cable

-	標準I/O彩虹排線 I/O Cable
N1	隔離I/O線 Shielded I/O Cable

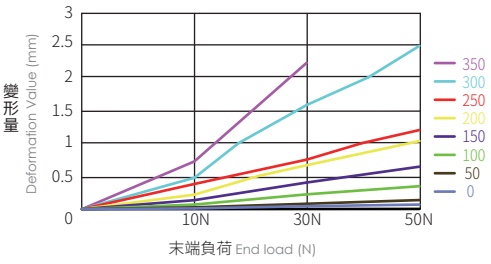
*標配1.5m Standard:1.5m

特注式樣 Customization Order No.

基本仕樣 Specification

規格 Spec	位置重複精度 Repeatability (mm)		±0.01		
	螺桿導程 Ball Screw Lead (mm)		2	6	12
	最高速度 Maximum Speed (mm/s)※1	水平使用 Horizontal	≦100	≦ 300	≦ 600
		垂直使用 Vertical	≦100	≦ 300	≦ 600
	最大可搬重量 Maximum Payload	水平使用 Horizontal (kg) ※2	≦ 25	≦ 20	≦ 12
		垂直使用 Vertical (kg)	≦ 8	≦ 5	≦ 2
	定格推力 Rated Thrust (N)		827	276	138
	標準行程 Stroke / Pitch (mm)		50-500mm/50 間隔 50 mm Pitch		
部品 Parts	馬達容量 Motor Output (W)		40		
	滾珠螺桿規格 Ball Screw Spec		C7 ∅ 10mm		

出力軸變形量 Shaft Output Deformation Value

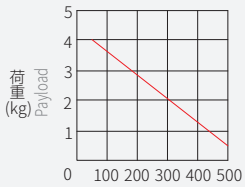


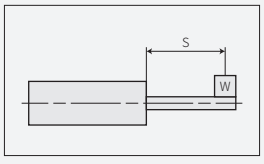
※此圖表為參考值。
This form is only reference values.

※ 1 此處最高速度為軟體移動速度設定為 100% 時。
The maximum speed shown here is when software speed setting is 100%.

※2 此荷重條件外部需搭配輔助滑軌以承受徑向負載。
If payload is near maximum, it requires to collocate externally with auxiliary guideway for bearing radial load.

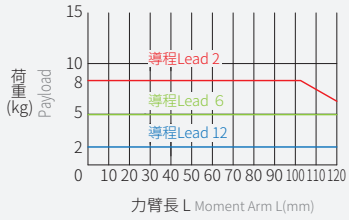
水平安裝荷重 Load In Horizontal Installation

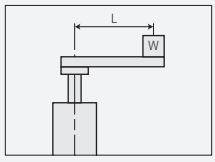




※無外部輔助機構,負載延伸距離0。
No external auxiliary mechanism, extension distance of load = 0.

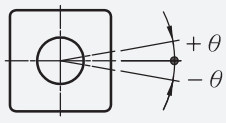
垂直安裝負載 Load In Vertical Installation





※計算條件:3000rpm/min , 加減速0.2s 。
Calculation conditions: 3000 rpm / min, acceleration and deceleration: 02.s.

出力桿的防止迴轉精度 Anti-rotating Accuracy of Rod



防止迴轉精度 θ Anti-rotating accuracy
±0°

※內附滾珠滑軌機構 , 所以推桿軸心不迴轉。
With built-in circular guideway, so the rod shaft of actuator does not rotate.

對應控制器一覽表 Corresponding Controller Chart

外觀 Exterior	控制器型號 Controller Model	控制介面 Control Mode	特點 Featrues	電氣規格 Electrical Spec.	詳細參閱 Reference Page
	XC100	**Pulse控制** Pulse Control Mode	Line driver 200k Hz Open collector 60k Hz 同時間只能使用一種。 Support Line driver and Open collector Max.pulse receiving speed 200k/60k Hz.	控制電路只能使用24V。 工作電壓DC24V, 額定電流 3A, 峰值電流8A。 The voltage of control circuit is 24V only. Operating voltage DC24V, rated current 3A, peak current 8A.	P.167
		I/O控制 I/O Control Mode	利用I/O變化, 最多可以執行127個位置控制。 By I/O control, max. 127 positioning points, can be executed.		
		通訊控制 Communication Control Mode	採Modbus的RS485通訊介面(最大並接16台)及一組mini USB (TOYO-Single專用)。 Use Modbus as the interface of RS485 (connect max. 16 controllers) and 1 set mini USB. (special for TOYO-single)		

DGTY4

Servo XC

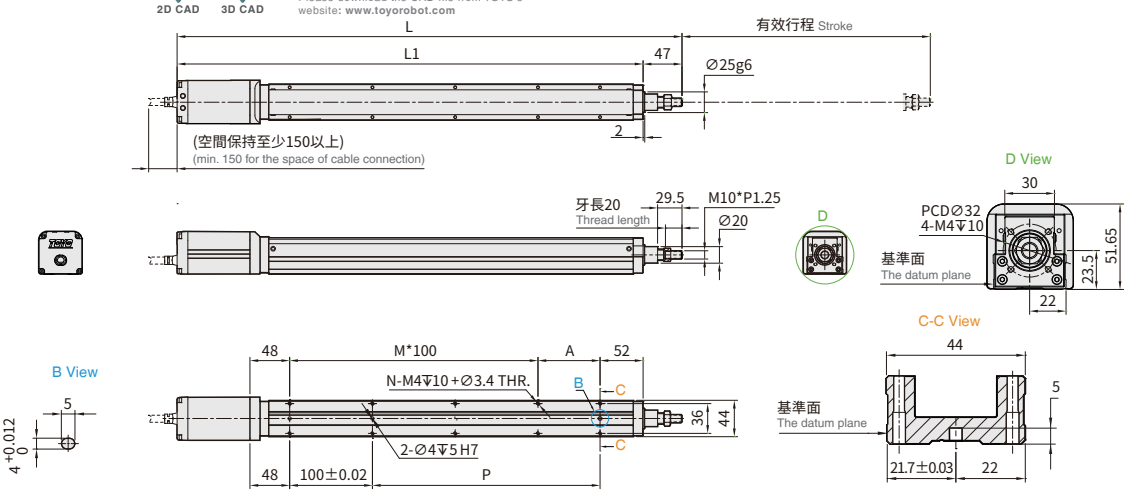
螺桿驅動 Ball Screw Drive

M 馬達直結 Motor Hidden In

2D CAD 3D CAD

● CAD圖面可至www.toyorobot.com下載 ●
Please download the CAD file from TOYO's website: www.toyorobot.com

(單位 Unit：mm)



※行程50時,因本體上鎖式固定孔會被滑座遮住,僅能使用4支螺絲固定,建議客戶本體使用下鎖式固定孔鎖附。
When the stroke is 50mm, if fixing the body from the top to the bottom, the fixing hole will be blocked by slider and only can be uses 4 screws to fix; as a result, suggest that fixing actuator body from the bottom to the top.

有效行程 Stroke	50※	100	150	200	250	300	350	400	450	500
L	360	410	460	510	560	610	660	710	760	810
L1	313	363	413	463	513	563	613	663	713	763
A	25	75	25	75	25	75	25	75	25	75
M	1	1	2	2	3	3	4	4	5	5
N	6	6	8	8	10	10	12	12	14	14
P	25	75	125	175	225	275	325	375	425	475
*Weight(kg)	1.26	1.43	1.6	1.78	1.96	2.14	2.32	2.5	2.68	2.86

* 重量包含本體與馬達。Weight of model with motor.

Memo

DGTY5

Servo XC

螺桿驅動 Ball Screw Drive

最大行程 Maximum Stroke	最高速度 Maximum Speed	馬達容量 Motor Output	滾珠螺桿 Ball Screw
600mm	1000mm/s	40W	⌀12mm

型號表示方式 Ordering Method

DGTY5 - L5 - 100 - M - XC100 - 03 - N1 - A001

本體型號 Model

特注式樣 Customization Order No.

螺桿導程 Ball Screw Lead

2	2mm
5	5mm
10	10mm
20	20mm

行程 Stroke

50-600mm
間隔50 50 mm Pitch

馬達位置 Motor Position

M	馬達直結 Motor Hidden In

對應控制器 Corresponding Controller

XC100

電纜線長 Cable Length

01	1m
03	3m
05	5m
10	10m

*標配3m
Standard:3m

I/O線種類 Kind of I/O Cable

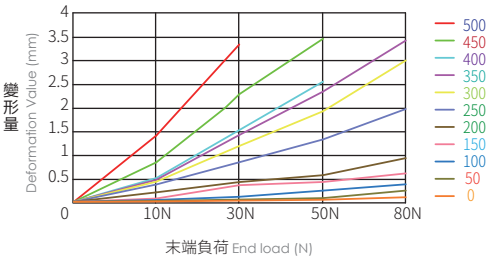
-	標準I/O彩虹排線 I/O Cable
N1	隔離I/O線 Shielded I/O Cable

*標配1.5m
Standard:1.5m

基本仕樣 Specification

規格 Spec	位置重複精度 Repeatability (mm)		±0.01			
	螺桿導程 Ball Screw Lead (mm)		2	5	10	20
	最高速度 Maximum Speed (mm/s)※1	水平使用 Horizontal	≦100	≦250	≦500	≦1000
		垂直使用 Vertical	≦100	≦250	≦500	≦1000
	最大可搬重量 Maximum Payload	水平使用 Horizontal (kg) ※2	≦30	≦30	≦15	≦10
		垂直使用 Vertical (kg)	≦10	≦8.1	≦2.7	≦1.4
	定格推力 Rated Thrust (N)		1147	459	229	115
	標準行程 Stroke / Pitch (mm)		50-600mm/50 間隔 50 mm Pitch			
部品 Parts	馬達容量 Motor Output (W)		40			
	滾珠螺桿規格 Ball Screw Spec		C7 ∅ 12mm			

出力軸變形量 Shaft Output Deformation Value

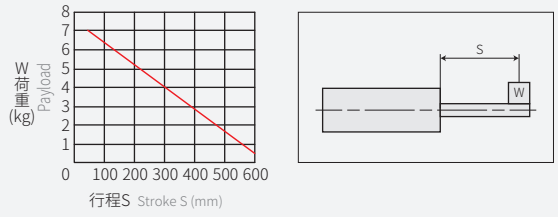


※此圖表為參考值。
This form is only reference values.

※ 1 此處最高速度為軟體移動速度設定為 100% 時。
The maximum speed shown here is when software speed setting is 100%.

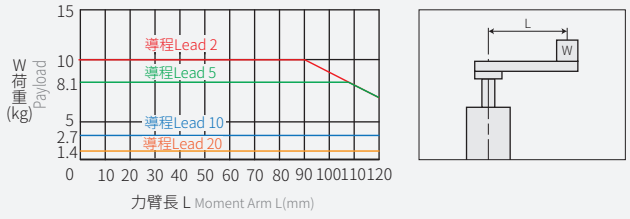
※2 此荷重條件外部需搭配輔助滑軌以承受徑向負載。
If payload is near maximum, it requires to collocate externally with auxiliary guideway for bearing radial load.

水平安裝荷重 Load In Horizontal Installation



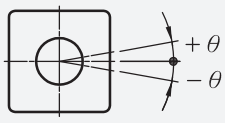
※無外部輔助機構,負載延伸距離0。
No external auxiliary mechanism, extension distance of load = 0.

垂直安裝負載 Load In Vertical Installation



※計算條件:3000rpm/min , 加減速0.2s 。
Calculation conditions: 3000 rpm / min, acceleration and deceleration: 0.2s.

出力桿的防止迴轉精度 Anti-rotating Accuracy of Rod



防止迴轉精度 θ Anti-rotating accuracy
±0°

※內附滾珠滑軌機構 , 所以推桿軸心不迴轉。
With built-in circular guideway, so the rod shaft of actuator does not rotate.

對應控制器一覽表 Corresponding Controller Chart

外觀 Exterior	控制器型號 Controller Model	控制介面 Control Mode	特點 Featrues	電氣規格 Electrical Spec.	詳細參閱 Reference Page
	XC100	**Pulse控制** Pulse Control Mode	Line driver 200k Hz Open collector 60k Hz 同時間只能使用一種。 Support Line driver and Open collector Max.pulse receiving speed 200k/60k Hz.	控制電路只能使用24V。 工作電壓DC24V, 額定電流 3A, 峰值電流8A。 The voltage of control circuit is 24V only. Operating voltage DC24V, rated current 3A, peak current 8A.	P.167
		I/O控制 I/O Control Mode	利用I/O變化, 最多可以執行127個位置控制。 By I/O control, max. 127 positioning points, can be executed.		
		通訊控制 Communication Control Mode	採Modbus的RS485通訊介面(最大並接16台)及一組mini USB (TOYO-Single專用)。 Use Modbus as the interface of RS485 (connect max. 16 controllers) and 1 set mini USB. (special for TOYO-single)		

DGTY5

Servo XC

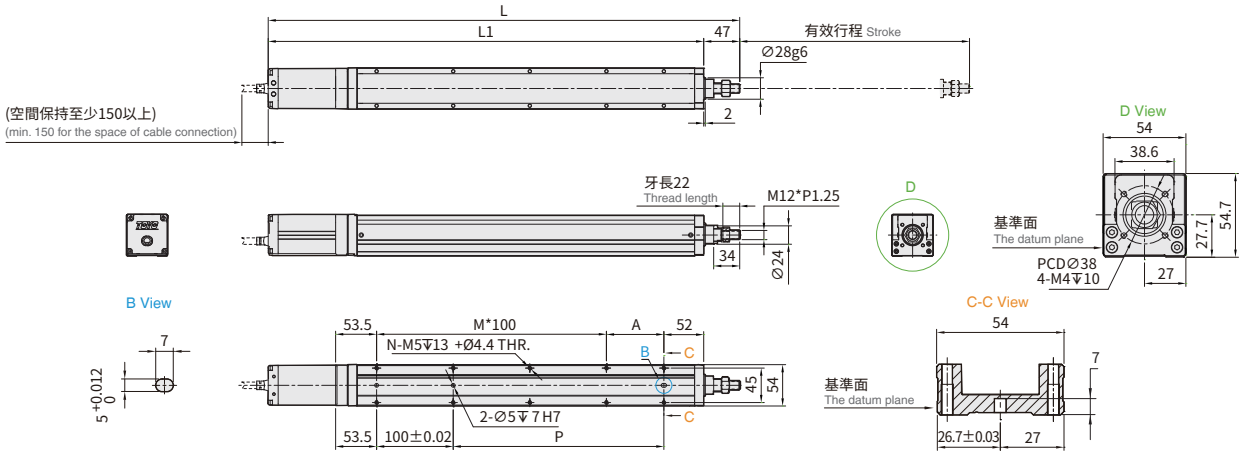
螺桿驅動 Ball Screw Drive

M 馬達直結 Motor Hidden In

2D CAD 3D CAD

● CAD圖面可至www.toyorobot.com下載 ●
Please download the CAD file from TOYO's website: www.toyorobot.com

(單位 Unit：mm)



※行程50時,因本體上鎖式固定孔會被滑座遮住,僅能使用4支螺絲固定,建議客戶本體使用下鎖式固定孔鎖附。
When the stroke is 50mm, if fixing the body from the top to the bottom, the fixing hole will be blocked by slider and only can be uses 4 screws to fix;as a result, suggest that fixing actuator body from the bottom to the top.

有效行程 Stroke	50※	100	150	200	250	300	350	400	450	500	550	600
L	365.5	415.5	465.5	515.5	565.5	615.5	665.5	715.5	765.5	815.5	865.5	915.5
L1	318.5	368.5	418.5	468.5	518.5	568.5	618.5	668.5	718.5	768.5	818.5	868.5
A	25	75	25	75	25	75	25	75	25	75	25	75
M	1	1	2	2	3	3	4	4	5	5	6	6
N	6	6	8	8	10	10	12	12	14	14	16	16
P	25	75	125	175	225	275	325	375	425	475	525	575
*Weight(kg)	1.86	2	2.13	2.32	2.6	2.71	2.73	2.96	3.07	3.16	3.36	3.49

* 重量包含本體與馬達。Weight of model with motor.

Memo

Memo

CS

微型電動缸系列

Miniature Cylinder

Contents

規格索引

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CS 微型電動缸系列
CS Miniature Cylinder

使用環境 Environment	傳動方式 Drive mode	仕樣 Specification	馬達容量 Motor Output (W)	本體寬幅 Width of profile (mm)	位置重複精度 Repeatability(mm)	螺桿規格(C10級) Ball screw spec (Accuracy C10) 外徑 Outer dia.(mm)	導程 Lead(mm)	最大可搬重量 Maximum Payload(kg) 水平使用 Horizontal	垂直使用 Vertical	額定推力 Rated Thrust (N)	最高速度*1 Maximum speed (mm/s)
一般環境 Standard	滾珠螺桿 Ball screw	CSH20	25□	64.5	±0.02	6	1	6	2	466	50
							6	2	0.5	75	300
		CSF20	25□	92	±0.02	6	1	6	2	466	50
							6	2	0.5	75	300
		CSS20	25□	82	±0.02	6	1	6	2	466	50
							6	2	0.5	75	300

*1:最高速度的使用條件有限制，請參閱各仕樣內頁的速度-荷重曲線圖。
The working condition of max. speed is restricted limited. Please refer to the curve graph of speed and loading in this catalog.

	標準行程及最高使用速度 Stroke(mm) & Maximum speed(mm/s) 代表速度 Speed																								頁數 Page
	行程 Stroke	30	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	
	50																								087
	300																								
	50																								091
	300																								
	50																								095
	300																								

CSH20

Step TC

螺桿驅動 Ball Screw Drive

最大行程 Maximum Stroke	最高速度 Maximum Speed	馬達尺寸 Motor Dimension	滾珠螺桿 Ball Screw	直線滑軌 Linear Guide
50mm	300mm/s	25□mm	⌀6mm	12X7.5-1pc

型號表示方式 Ordering Method

CSH20 - L6 - 50 - TC100 - 03 - N1 - A001

本體型號 Model

特注式樣 Customization Order No.

螺桿導程 Ball Screw Lead

1	1mm
6	6mm

行程 Stroke

30	30mm
50	50mm

*可特注行程
Stroke can be customized

對應控制器 Corresponding Controller

TC100

電纜線長 Cable Length

01	1m
03	3m
05	5m
10	10m

*標配3m
Standard:3m

I/O線種類 Kind of I/O Cable

-	標準I/O彩虹排線 I/O Cable
N1	隔離I/O線 Shielded I/O Cable

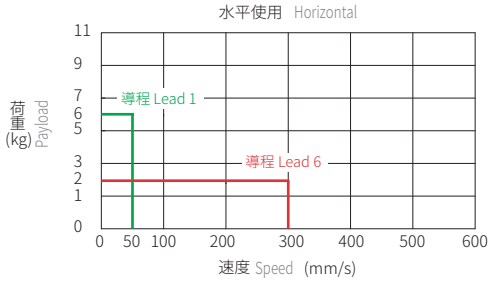
*標配1.5m
Standard:1.5m

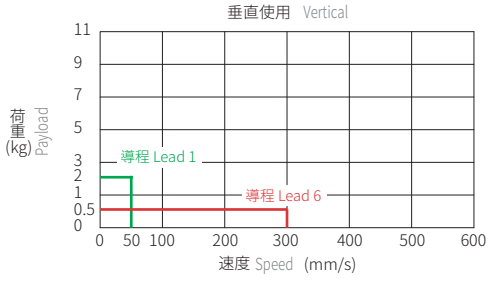
基本仕樣 Specification

規格 Spec	位置重複精度 Repeatability (mm)		±0.02	
	螺桿導程 Ball Screw Lead (mm)		1	6
	最高速度 Maximum Speed (mm/s)※1	水平使用 Horizontal	≤50	≤300
		垂直使用 Vertical	≤50	≤300
	最大可搬重量 Maximum Payload	水平使用 Horizontal (kg)	≤6	≤2
		垂直使用 Vertical (kg)	≤2	≤0.5
	定格推力 Rated Thrust (N)		466	75
	標準行程 Stroke / Pitch (mm)		30 / 50	
部品 Parts	馬達尺寸 Motor Dimension (mm)		25□	
	滾珠螺桿規格 Ball Screw Spec		C10 ⌀ 6mm	

※1 此處最高速度為軟體移動速度設定為100%時。
The maximum speed shown here is when software speed setting is 100%.

速度-荷重曲線圖 Speed-Payload Curve Diagram





對應控制器一覽表 Corresponding Controller Chart

外觀 Exterior	控制器型號 Controller Model	控制介面 Control Mode	特點 Featrues	電氣規格 Electrical Spec.	詳細參閱 Reference Page
	TC100	**Pulse控制** Pulse Control Mode	Line driver 200k Hz Open collector 60k Hz 同時間只能使用一種。 Support Line driver and Open collector Max.pulse receiving speed 200k/60k Hz.	控制電路只能使用24V。 工作電壓DC24V，額定電流 2A，峰值電流3A。 工作電壓DC48V，額定電流 1A，峰值電流2A。 使用DC48V時在相同扭力下，轉速會提升，詳細內容請跟服務窗口連絡。 The voltage of control circuit is 24V only. Operating voltage DC24V, rated current 2A, peak current 3A. Operating voltage DC48V, rated current 1A, peak current 2A. When the voltage is DC48V but same torque, the rotation speed will be raised. Please contact your service window to details.	P.175
		I/O控制 I/O Control Mode	利用I/O變化，最多可以執行127個位置控制。 By I/O control, max. 127 positioning points, can be executed.		
		通訊控制 Communication Control Mode	採Modbus的RS485通訊介面(最大並接16台)及一組mini USB (TOYO-Single專用)。 Use Modbus as the interface of RS485 (connect max. 16 controllers) and 1 set mini USB. (special for TOYO-single)		

CSH20

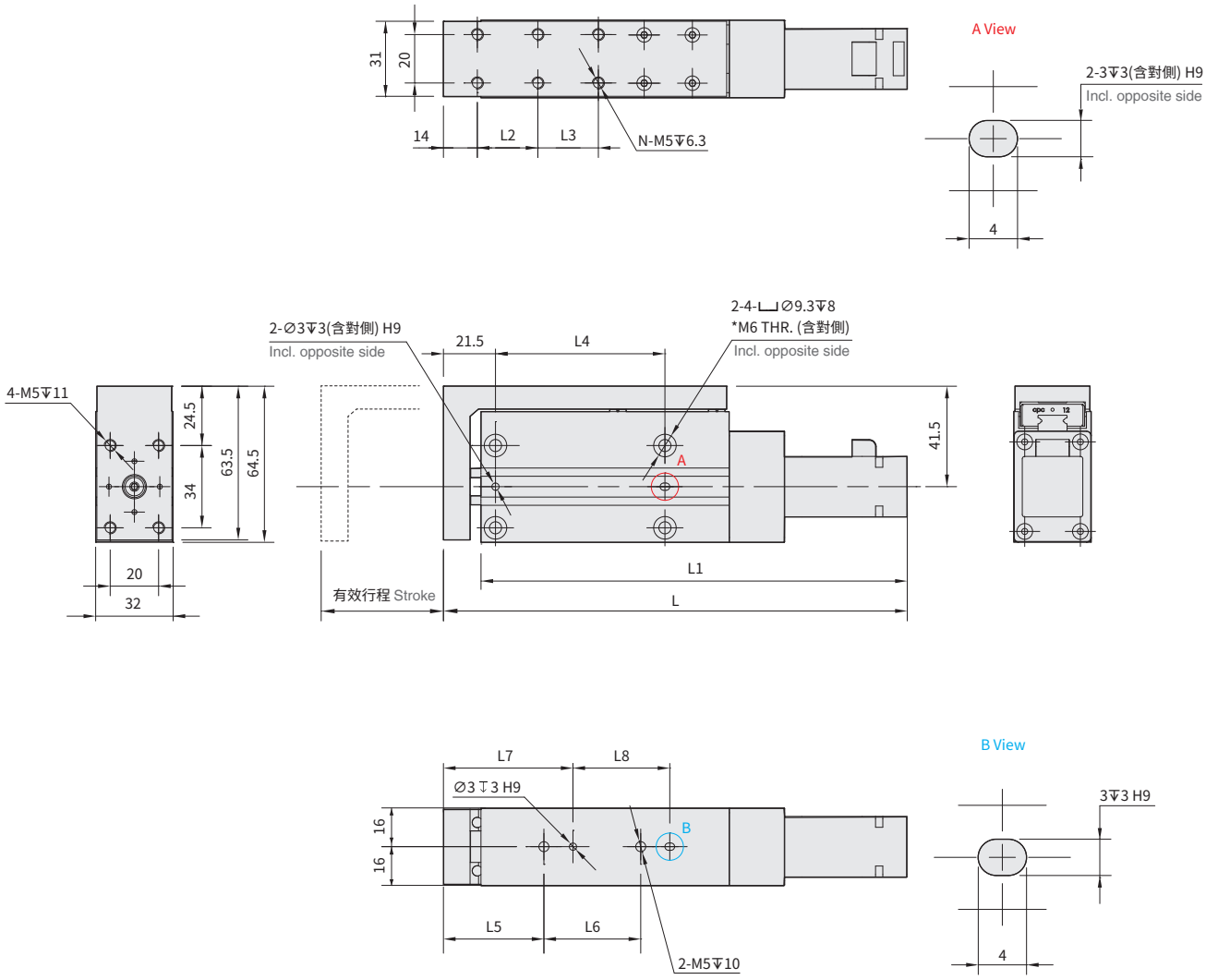
Step TC

螺桿驅動 Ball Screw Drive

2D CAD 3D CAD

● CAD圖面可至www.toyorobot.com下載 ●
Please download the CAD file from TOYO's website: www.toyorobot.com

(單位 Unit：mm)



有效行程 Stroke	N	L	L1	L2	L3	L4	L5	L6	L7	L8	*Weight(g)
30	4	171.5	156	30	0	40	31.5	30	43.5	30	724
50	6	191.5	176	25	25	70	41.5	40	53.5	40	840

* 重量包含本體與馬達。Weight of model with motor.

Memo

CSF20

Step TC

螺桿驅動 Ball Screw Drive

最大行程 Maximum Stroke	最高速度 Maximum Speed	馬達尺寸 Motor Dimension	滾珠螺桿 Ball Screw	交叉滾柱導軌 Cross Roller Guide
50mm	300mm/s	25□mm	⌀6mm	37X9.5-1pc

型號表示方式 Ordering Method

CSF20 - L6 - 50 - TC100 - 03 - N1 - A001

本體型號 Model

特注式樣 Customization Order No.

螺桿導程 Ball Screw Lead

1	1mm
6	6mm

行程 Stroke

30	30mm
50	50mm

*可特注行程
Stroke can be customized

對應控制器 Corresponding Controller

TC100

電纜線長 Cable Length

01	1m
03	3m
05	5m
10	10m

*標配3m
Standard:3m

I/O線種類 Kind of I/O Cable

-	標準I/O彩虹排線 I/O Cable
N1	隔離I/O線 Shielded I/O Cable

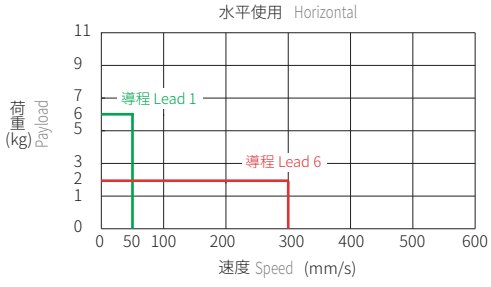
*標配1.5m
Standard:1.5m

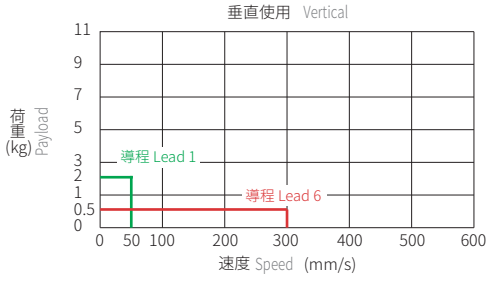
基本仕樣 Specification

規格 Spec	位置重複精度 Repeatability (mm)		±0.02	
	螺桿導程 Ball Screw Lead (mm)		1	6
	最高速度 Maximum Speed (mm/s)※1	水平使用 Horizontal	≤50	≤300
		垂直使用 Vertical	≤50	≤300
	最大可搬重量 Maximum Payload	水平使用 Horizontal (kg)	≤6	≤2
		垂直使用 Vertical (kg)	≤2	≤0.5
	定格推力 Rated Thrust (N)		466	75
	標準行程 Stroke / Pitch (mm)		30 / 50	
部品 Parts	馬達尺寸 Motor Dimension (mm)		25□	
	滾珠螺桿規格 Ball Screw Spec		C10 ⌀ 6mm	

※1 此處最高速度為軟體移動速度設定為100%時。
The maximum speed shown here is when software speed setting is 100%.

速度-荷重曲線圖 Speed-Payload Curve Diagram





對應控制器一覽表 Corresponding Controller Chart

外觀 Exterior	控制器型號 Controller Model	控制介面 Control Mode	特點 Featrues	電氣規格 Electrical Spec.	詳細參閱 Reference Page
	TC100	**Pulse控制** Pulse Control Mode	Line driver 200k Hz Open collector 60k Hz 同時間只能使用一種。 Support Line driver and Open collector Max.pulse receiving speed 200k/60k Hz.	控制電路只能使用24V。 工作電壓DC24V，額定電流 2A，峰值電流3A。 工作電壓DC48V，額定電流 1A，峰值電流2A。 使用DC48V時在相同扭力下，轉速會提升，詳細內容請跟服務窗口連絡。 The voltage of control circuit is 24V only. Operating voltage DC24V, rated current 2A, peak current 3A. Operating voltage DC48V, rated current 1A, peak current 2A. When the voltage is DC48V but same torque, the rotation speed will be raised. Please contact your service window to details.	P.175
		I/O控制 I/O Control Mode	利用I/O變化，最多可以執行127個位置控制。 By I/O control, max. 127 positioning points, can be executed.		
		通訊控制 Communication Control Mode	採Modbus的RS485通訊介面(最大並接16台)及一組mini USB (TOYO-Single專用)。 Use Modbus as the interface of RS485 (connect max. 16 controllers) and 1 set mini USB. (special for TOYO-single)		

CSF20

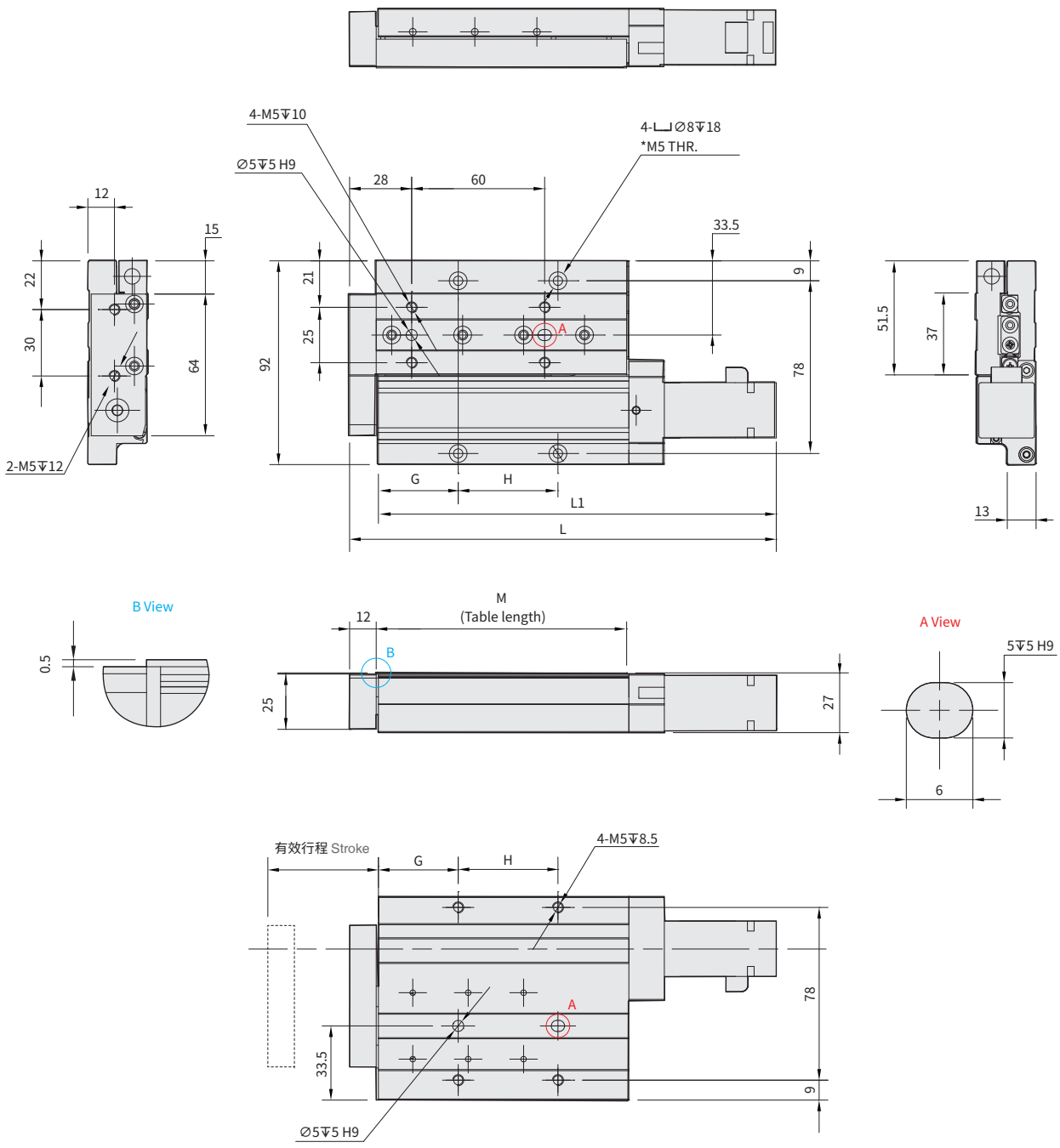
Step TC

螺桿驅動 Ball Screw Drive

2D CAD 3D CAD

● CAD圖面可至www.toyorobot.com下載 ●
Please download the CAD file from TOYO's website: www.toyorobot.com

(單位 Unit : mm)



有效行程 Stroke	L	L1	G	H	M	*Weight(g)
30	172.5	159.5	29	30	93	742
50	192.5	179.5	36	45	113	920

* 重量包含本體與馬達。Weight of model with motor.

Memo

CSS20

Step TC

螺桿驅動 Ball Screw Drive

最大行程 Maximum Stroke	最高速度 Maximum Speed	馬達尺寸 Motor Dimension	滾珠螺桿 Ball Screw	交叉滾柱導軌 Cross Roller Guide
50mm	300mm/s	25□mm	⌀6mm	50X13-1pc

型號表示方式 Ordering Method

CSS20 - L6 - 50 - TC100 - 03 - N1 - A001

本體型號 Model

特注式樣 Customization Order No.

螺桿導程 Ball Screw Lead

1	1mm
6	6mm

行程 Stroke

30	30mm
50	50mm

*可特注行程
Stroke can be customized

對應控制器 Corresponding Controller

TC100

電纜線長 Cable Length

01	1m
03	3m
05	5m
10	10m

*標配3m
Standard:3m

I/O線種類 Kind of I/O Cable

-	標準I/O彩虹排線 I/O Cable
N1	隔離I/O線 Shielded I/O Cable

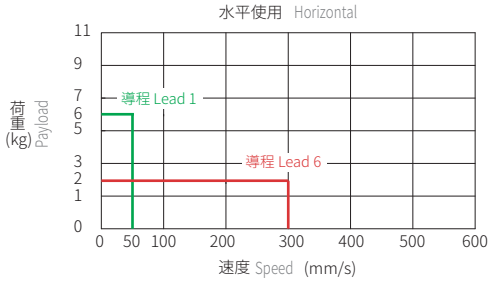
*標配1.5m
Standard:1.5m

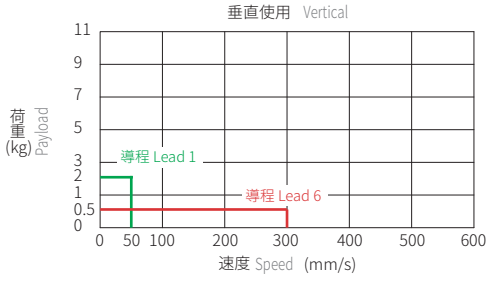
基本仕樣 Specification

規格 Spec	位置重複精度 Repeatability (mm)		±0.02	
	螺桿導程 Ball Screw Lead (mm)		1	6
	最高速度 Maximum Speed (mm/s)※1	水平使用 Horizontal	≤50	≤300
		垂直使用 Vertical	≤50	≤300
	最大可搬重量 Maximum Payload	水平使用 Horizontal (kg)	≤6	≤2
		垂直使用 Vertical (kg)	≤2	≤0.5
	定格推力 Rated Thrust (N)		466	75
	標準行程 Stroke / Pitch (mm)		30 / 50	
部品 Parts	馬達尺寸 Motor Dimension (mm)		25□	
	滾珠螺桿規格 Ball Screw Spec		C10 ⌀ 6mm	

※1 此處最高速度為軟體移動速度設定為100%時。
The maximum speed shown here is when software speed setting is 100%.

速度-荷重曲線圖 Speed-Payload Curve Diagram





對應控制器一覽表 Corresponding Controller Chart

外觀 Exterior	控制器型號 Controller Model	控制介面 Control Mode	特點 Featrues	電氣規格 Electrical Spec.	詳細參閱 Reference Page
	TC100	**Pulse控制** Pulse Control Mode	Line driver 200k Hz Open collector 60k Hz 同時間只能使用一種。 Support Line driver and Open collector Max.pulse receiving speed 200k/60k Hz.	控制電路只能使用24V。 工作電壓DC24V，額定電流 2A，峰值電流3A。 工作電壓DC48V，額定電流 1A，峰值電流2A。 使用DC48V時在相同扭力下，轉速會提升，詳細內容請跟服務窗口連絡。 The voltage of control circuit is 24V only. Operating voltage DC24V, rated current 2A, peak current 3A. Operating voltage DC48V, rated current 1A, peak current 2A. When the voltage is DC48V but same torque, the rotation speed will be raised. Please contact your service window to details.	P.175
		I/O控制 I/O Control Mode	利用I/O變化，最多可以執行127個位置控制。 By I/O control, max. 127 positioning points, can be executed.		
		通訊控制 Communication Control Mode	採Modbus的RS485通訊介面(最大並接16台)及一組mini USB (TOYO-Single專用)。 Use Modbus as the interface of RS485 (connect max. 16 controllers) and 1 set mini USB. (special for TOYO-single)		

CSS20

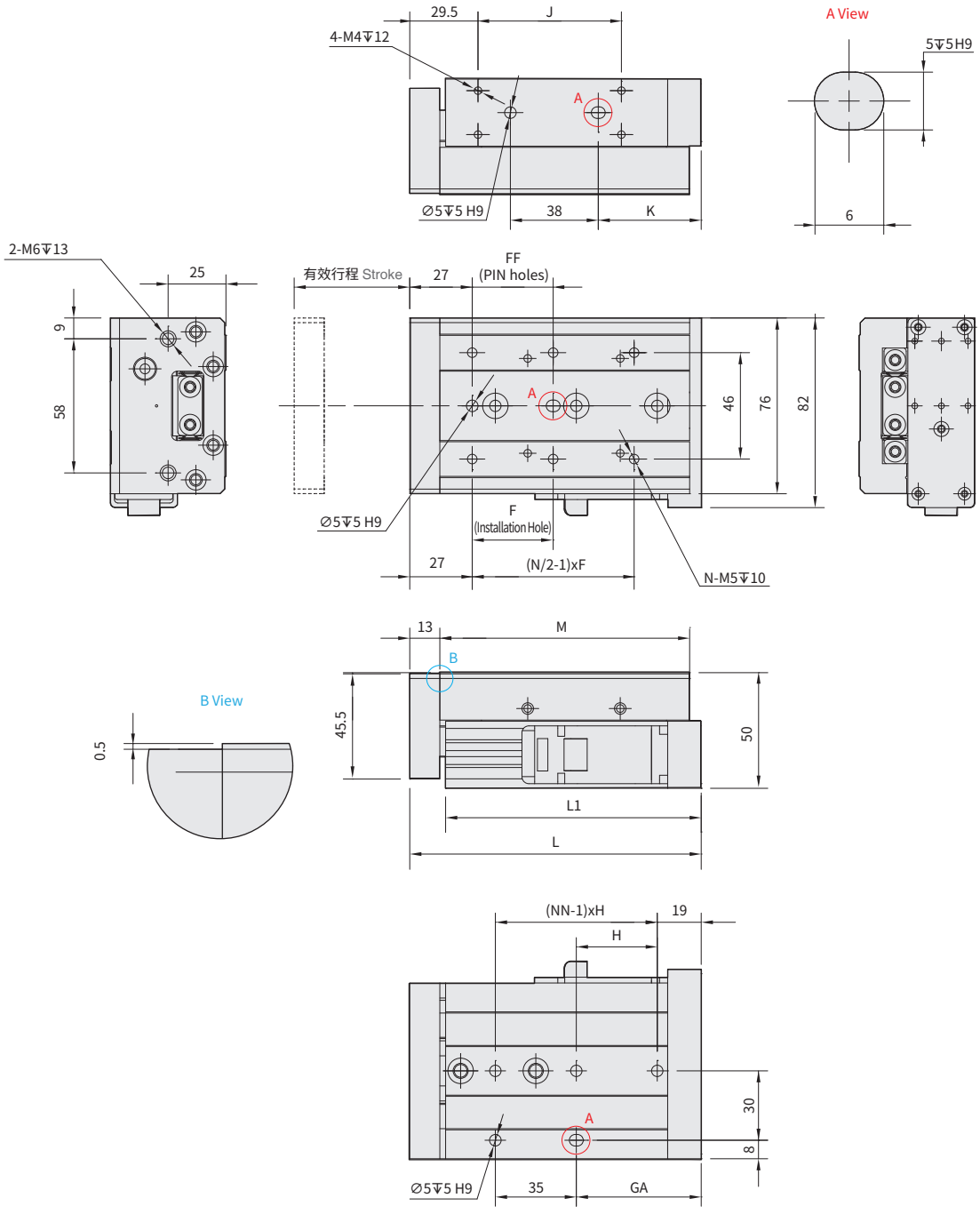
Step TC

螺桿驅動 Ball Screw Drive

2D CAD 3D CAD

● CAD圖面可至www.toyorobot.com下載 ●
Please download the CAD file from TOYO's website: www.toyorobot.com

(單位 Unit : mm)



有效行程 Stroke	L	L1	F	FF	N	H	NN	GA	J	K	M	*Weight(g)
30	101	85.5	50	40	4	45	2	29	37	19.5	83	1046
50	126	110.5	35	35	6	35	3	54	62	44.5	108	1340

* 重量包含本體與馬達。Weight of model with motor.

Memo

Memo

CGTH

軌道內嵌式小型電動缸-滑台式

Built-in Linear Motion Guide Servo Cylinder-Slider Type

Contents

規格索引

Spec Index

CGTH 軌道內嵌式小型電動缸-滑台式

CGTH Built-in Linear Motion Guide Servo Cylinder-Slider Type

使用環境 Environment	傳動方式 Drive mode	仕樣 Specification	馬達尺寸 Motor dimension (mm)	本體寬幅 Width of profile (mm)	位置重複精度 Repeatability(mm)	螺桿規格(C7級) Ball screw spec (Accuracy C7)		最大可搬重量 Maximum Payload(kg)		最高速度*1 Maximum speed (mm/s)
						外徑 Outer dia.(mm)	導程 Lead(mm)	水平使用 Horizontal	垂直使用 Vertical	
一般環境 Standard	滾珠螺桿 Ball screw	CGTH4	35□	44	±0.01	10	2	25	8	110
							6	20	8	331
							12	12	3.5	661
		CGTH5	42□	54	±0.01	12	2	30	10	109
							5	30	10	273
							10	15	5	538
							20	10	2.5	1102

*1:最高速度的使用條件有限制，請參閱各仕樣內頁的速度-荷重曲線圖。
The working condition of max. speed is restricted limited. Please refer to the curve graph of speed and loading in this catalog.

*2:標準行程內的黑色數字，代表該行程內可使用的最高安全速度。若超過此速度，機械手可能會有嚴重共振產生。
The number written in the column means the highest safe speed within stroke.
If the speed is over the value shown in the chart , the vibration will be caused on the actuator.

	標準行程及最高使用速度*2 Stroke(mm) & Maximum speed(mm/s) 代表速度 Speed																							頁數 Page
	行程 Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	
	110												100	90	80	70	60							103
	331												300	270	240	210	180							
	661												600	540	480	420	360							
	109													90	80	70	60							107
	273													225	200	175	150							
	538													450	400	350	300							
	1102													900	800	700	600							

CGTH4

Step TC

螺桿驅動 Ball Screw Drive

最大行程 Maximum Stroke	最高速度 Maximum Speed	馬達尺寸 Motor Dimension	滾珠螺桿 Ball Screw
800mm	661mm/s	35□mm	⌀10mm

型號表示方式 Ordering Method

CGTH4 - L2 - 100 - M B - TC100 - 03 - N1 - A001

本體型號 Model

螺桿導程 Ball Screw Lead

2	2mm
6	6mm
12	12mm

行程 Stroke

50-800mm
間隔50 50 mm Pitch

馬達位置 Motor Position

M	馬達直結 Motor Hidden In
BM	馬達下折 Motor Bottom Side
BR	馬達右折 Motor Right Side
BL	馬達左折 Motor Left Side

是否煞車 Brake (Optional)

垂直使用時追加內藏式煞車器 Built-in brake is added when vertically used

*若無煞車則不表示。
If No Brake,No Description.

對應控制器 Corresponding Controller

TC100

電纜線長 Cable Length

01	1m
03	3m
05	5m
10	10m

*標配3m
Standard:3m

I/O線種類 Kind of I/O Cable

-	標準I/O彩虹排線 I/O Cable
N1	隔離I/O線 Shielded I/O Cable

*標配1.5m
Standard:1.5m

特注式樣 Customization Order No.

基本仕樣 Specification

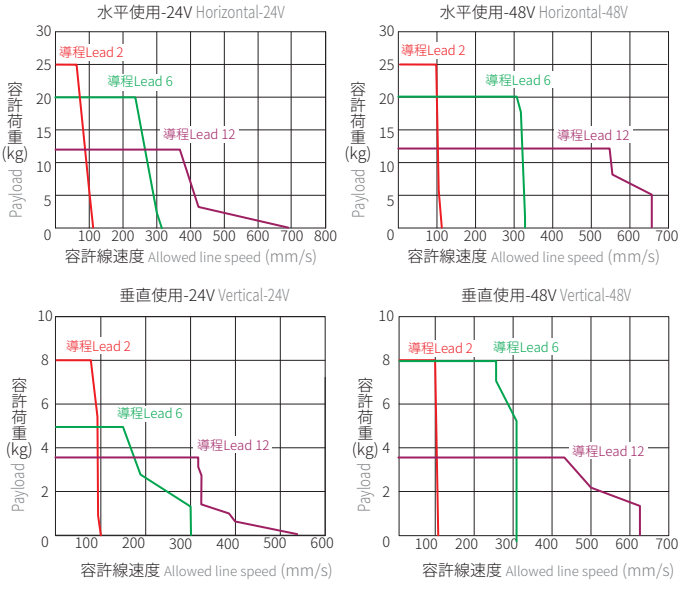
規格 Spec	位置重複精度 Repeatability (mm)		±0.01		
	螺桿導程 Ball Screw Lead (mm)		2	6	12
	最高速度 Maximum Speed (mm/s)※1※2	水平使用 Horizontal	≦110	≦ 331	≦ 661
		垂直使用 Vertical	≦108	≦ 314	≦ 646
	最大可搬重量 Maximum Payload※2	水平使用 Horizontal (kg)	≦ 25	≦ 20	≦ 12
		垂直使用 Vertical (kg)	≦ 8	≦ 8	≦ 3.5
	定格推力 Rated Thrust (N)		1094	365	182
	標準行程 Stroke / Pitch (mm)※3		50-800mm/50 間隔 50 mm Pitch		
部品 Parts	馬達尺寸 Motor Dimension (mm)		35□		
	滾珠螺桿規格 Ball Screw Spec		C7 ⌀ 10mm		

※1 此處最高速度為軟體移動速度設定為100%時。
The maximum speed shown here is when software speed setting is 100%.

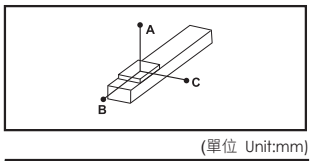
※2 最高速度及最大荷重無法同時存在，選用前請詳見速度-荷重曲線圖。
The maximum speed and maximum payload cannot exist at the same time.
Please refer to diagram of Speed and payload curve before using.

※3 行程超過550時，會產生螺桿偏擺震動，此時請將速度調降。詳細請參考P101頁說明。
When the stroke is over 550mm, the run-out of the ballscrew will occur.
We recommend to low down the working speed under this circumstances.Please refer to P101 for details.

速度-荷重曲線圖 Speed-Payload Curve Diagram

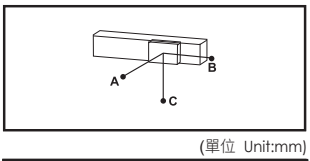


容許負載力距表 Allowable Moment



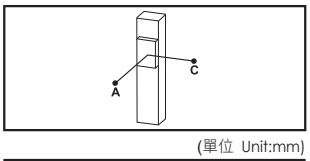
(單位 Unit:mm)

水平安裝 Horizontal Installation		A	B	C
導程 2 Lead	12kg	640	64	94
	18kg	400	40	59
	25kg	280	28	42
導程 6 Lead	8kg	770	77	107
	12kg	480	48	68
	20kg	280	28	39
導程 12 Lead	6kg	990	99	135
	9kg	610	61	77
	12kg	440	44	55



(單位 Unit:mm)

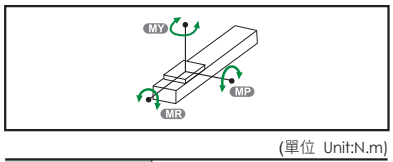
壁掛安裝 Wall Installation		A	B	C
導程 2 Lead	12kg	93	64	640
	18kg	58	40	400
	25kg	41	28	280
導程 6 Lead	8kg	107	77	770
	12kg	68	48	480
	20kg	39	28	280
導程 12 Lead	6kg	135	99	990
	9kg	88	61	610
	12kg	63	44	440



(單位 Unit:mm)

垂直安裝 Vertical Installation		A	C
導程 2 Lead	3.6kg	246	246
	5.4kg	165	165
	8kg	116	116
導程 6 Lead	3.2kg	215	215
	5.4kg	140	140
	8kg	99	99
導程 12 Lead	1kg	646	646
	2.3kg	288	288
	3.5kg	190	190

靜態容許負載慣量 Static Loading Moment



(單位 Unit:N.m)

MY	79
MP	79
MR	116

※力距表所表示的數據，代表重心。
The torque value in the chart indicate the center of gravity.

※符合型錄規範的正常使用下，保證壽命為10000公里。
Operation life is 10,000km when the product is using under the specified conditions.

※倒吊使用無法套用標準規範，如有需求請洽詢我司業務。
Data information is not for ceiling-mount inverse use.
Contact us for the details if you want to apply ceiling-mount inverse usage.

對應控制器一覽表 Corresponding Controller Chart

外觀 Exterior	控制器型號 Controller Model	控制介面 Control Mode	特點 Featrues	電氣規格 Electrical Spec.	詳細參閱 Reference Page
	TC100	**Pulse控制** Pulse Control Mode	Line driver 200k Hz Open collector 60k Hz 同時間只能使用一種。 Support Line driver and Open collector Max.pulse receiving speed 200k/60k Hz.	控制電路只能使用24V。 工作電壓DC24V，額定電流 2A，峰值電流3A。 工作電壓DC48V，額定電流 1A，峰值電流2A。 使用DC48V時在相同扭力下，轉速會提升，詳細內容請跟服務窗口連絡。 The voltage of control circuit is 24V only. Operating voltage DC24V, rated current 2A, peak current 3A. Operating voltage DC48V, rated current 1A, peak current 2A. When the voltage is DC48V but same torque, the rotation speed will be raised. Please contact your service window to details.	P.175
		I/O控制 I/O Control Mode	利用I/O變化，最多可以執行127個位置控制。 By I/O control, max. 127 positioning points, can be executed.		
		通訊控制 Communication Control Mode	採Modbus的RS485通訊介面(最大並接16台)及一組mini USB (TOYO-Single專用)。 Use Modbus as the interface of RS485 (connect max. 16 controllers) and 1 set mini USB. (special for TOYO-single)		

CGTH4

Step TC

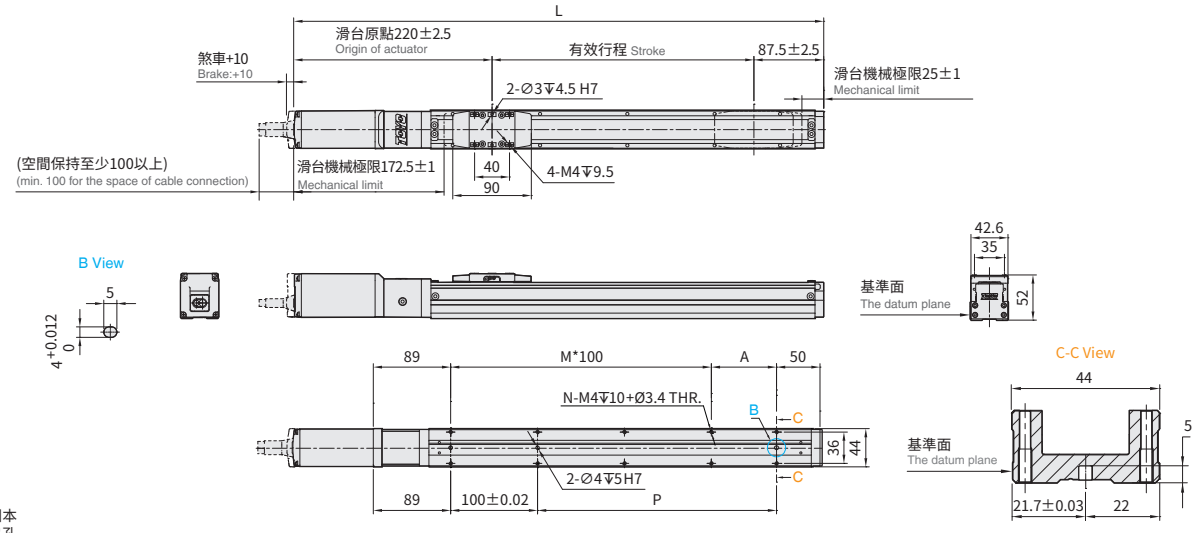
螺桿驅動 Ball Screw Drive

M 馬達直結 Motor Hidden In

2D CAD 3D CAD

● CAD圖面可至www.toyorobot.com下載 ●
Please download the CAD file from TOYO's website: www.toyorobot.com

(單位 Unit：mm)



※行程50時,因本體上鎖式固定孔會被滑座遮住,僅能使用4支螺絲固定,建議客戶本體使用下鎖式固定孔鎖附。
When the stroke is 50mm, if fixing the body from the top to the bottom, the fixing hole will be blocked by slider and only can be uses 4 screws to fix;as a result, suggest that fixing actuator body from the bottom to the top.

有效行程 Stroke	50※	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L	357.5	407.5	457.5	507.5	557.5	607.5	657.5	707.5	757.5	807.5	857.5	907.5	957.5	1007.5	1057.5	1107.5
A	25	75	25	75	25	75	25	75	25	75	25	75	25	75	25	75
M	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8
N	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20
P	25	75	125	175	225	275	325	375	425	475	525	575	625	675	725	775
*Weight(kg)	1.2	1.45	1.7	1.95	2.19	2.44	2.69	2.94	3.18	3.43	3.68	3.93	4.18	4.43	4.68	4.93

* 重量包含本體與馬達。Weight of model with motor.

BM 馬達下折 Motor Bottom Side

2D CAD 3D CAD

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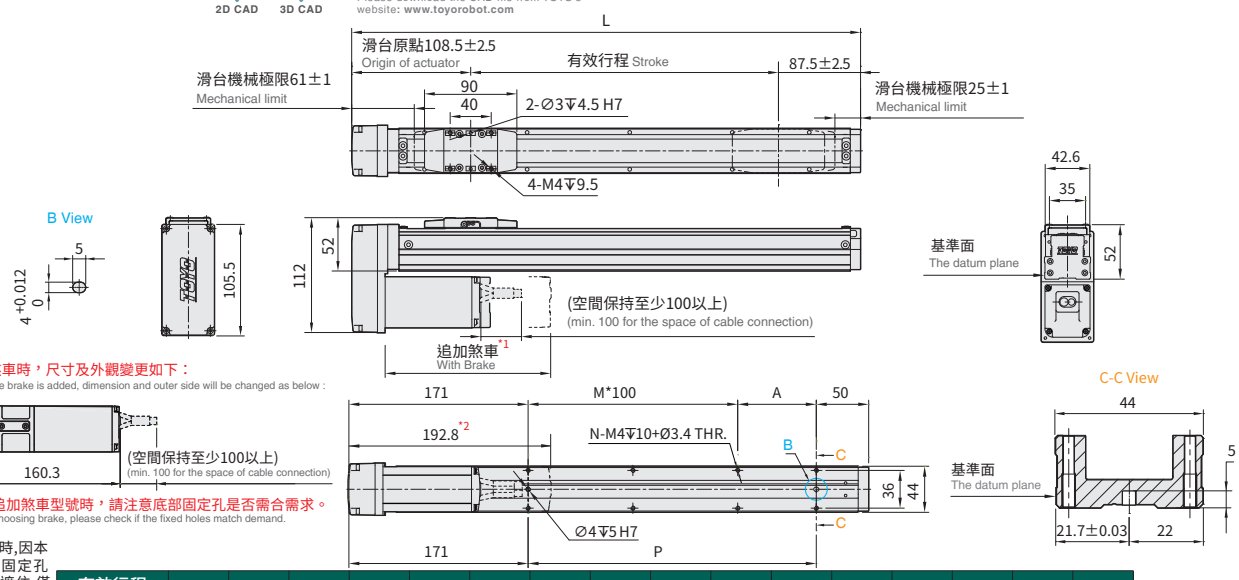
(單位 Unit：mm)



※行程50時,因本體上鎖式固定孔會被滑座遮住,僅能使用4支螺絲固定,建議客戶本體使用下鎖式固定孔鎖附。
When the stroke is 50mm, if fixing the body from the top to the bottom, the fixing hole will be blocked by slider and only can be uses 4 screws to fix;as a result, suggest that fixing actuator body from the bottom to the top.

有效行程 Stroke	50※	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L	246	296	346	396	446	496	546	596	646	696	746	796	846	896	946	996
A	25	75	25	75	25	75	25	75	25	75	25	75	25	75	25	75
M	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7
N	4	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18
P	25	75	125	175	225	275	325	375	425	475	525	575	625	675	725	775
*Weight(kg)	1.46	1.71	1.96	2.2	2.45	2.7	2.95	3.19	3.44	3.69	3.94	4.19	4.44	4.69	4.94	5.19

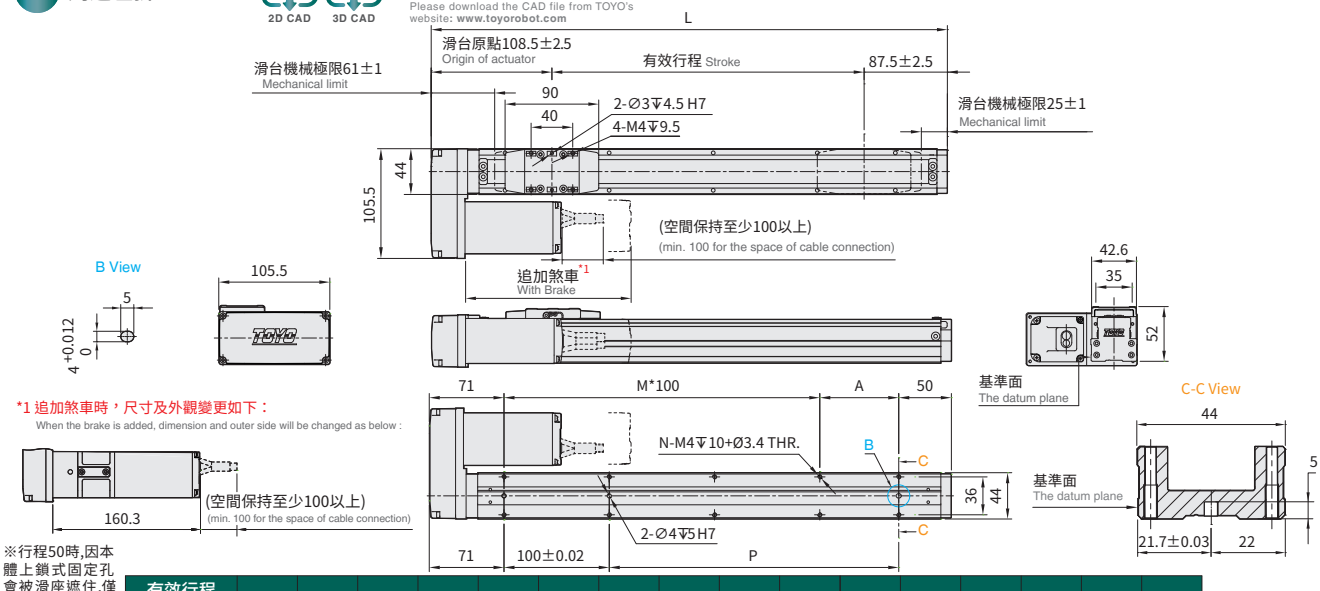
* 重量包含本體與馬達。Weight of model with motor.

BL 馬達左折 Motor Left Side

2D CAD 3D CAD

● CAD圖面可至www.toyorobot.com下載 ●
Please download the CAD file from TOYO's website: www.toyorobot.com

(單位 Unit：mm)



*1 追加煞車時，尺寸及外觀變更如下：
When the brake is added, dimension and outer side will be changed as below :

※行程50時,因本體上鎖式固定孔會被滑座遮住,僅能使用4支螺絲固定,建議客戶本體使用下鎖式固定孔鎖附。
When the stroke is 50mm, if fixing the body from the top to the bottom, the fixing hole will be blocked by slider and only can be uses 4 screws to fix;as a result, suggest that fixing actuator body from the bottom to the top.

有效行程 Stroke	50※	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L	246	296	346	396	446	496	546	596	646	696	746	796	846	896	946	996
A	25	75	25	75	25	75	25	75	25	75	25	75	25	75	25	75
M	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8
N	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20
P	25	75	125	175	225	275	325	375	425	475	525	575	625	675	725	775
*Weight(kg)	1.46	1.71	1.96	2.2	2.45	2.7	2.95	3.19	3.44	3.69	3.94	4.19	4.44	4.69	4.94	5.19

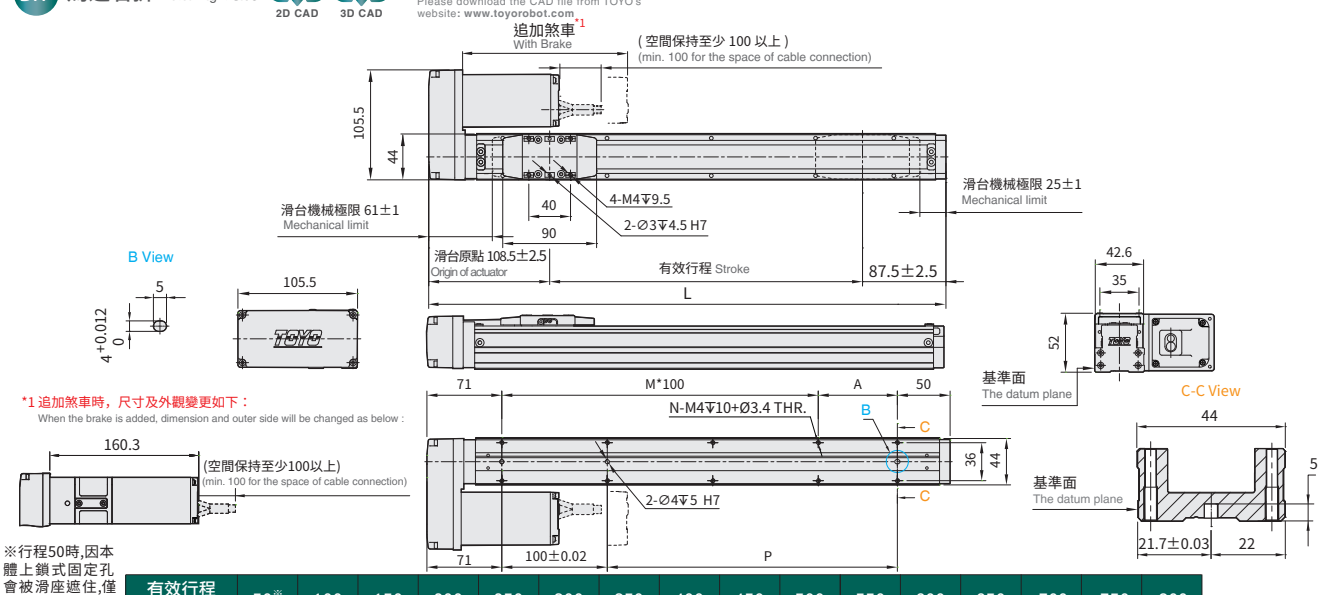
* 重量包含本體與馬達。Weight of model with motor.

BR 馬達右折 Motor Right Side

2D CAD 3D CAD

● CAD圖面可至www.toyorobot.com下載 ●
Please download the CAD file from TOYO's website: www.toyorobot.com

(單位 Unit：mm)



*1 追加煞車時，尺寸及外觀變更如下：
When the brake is added, dimension and outer side will be changed as below :

※行程50時,因本體上鎖式固定孔會被滑座遮住,僅能使用4支螺絲固定,建議客戶本體使用下鎖式固定孔鎖附。
When the stroke is 50mm, if fixing the body from the top to the bottom, the fixing hole will be blocked by slider and only can be uses 4 screws to fix;as a result, suggest that fixing actuator body from the bottom to the top.

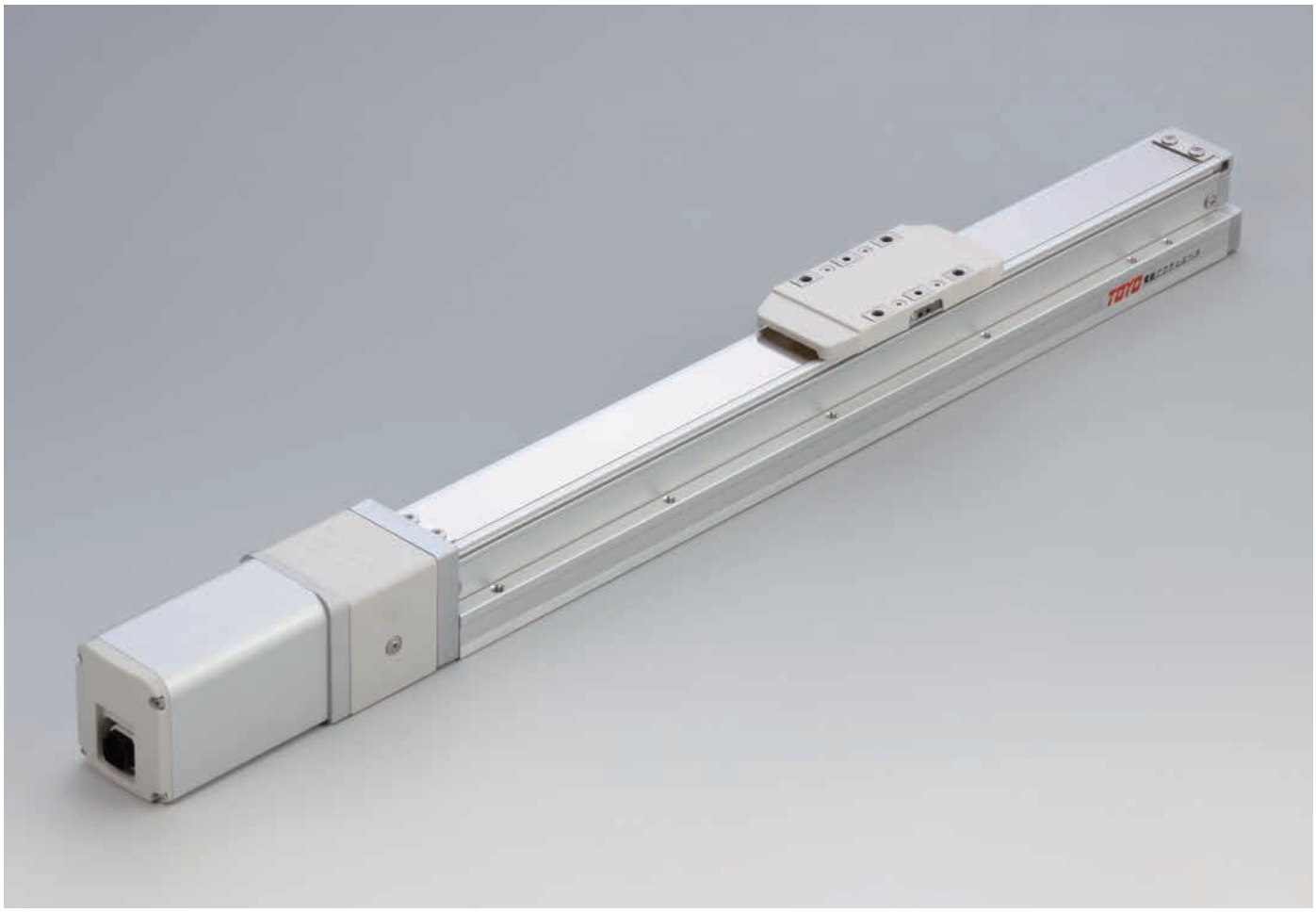
有效行程 Stroke	50※	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L	246	296	346	396	446	496	546	596	646	696	746	796	846	896	946	996
A	25	75	25	75	25	75	25	75	25	75	25	75	25	75	25	75
M	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8
N	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20
P	25	75	125	175	225	275	325	375	425	475	525	575	625	675	725	775
*Weight(kg)	1.46	1.71	1.96	2.2	2.45	2.7	2.95	3.19	3.44	3.69	3.94	4.19	4.44	4.69	4.94	5.19

* 重量包含本體與馬達。Weight of model with motor.

CGTH5

Step TC

螺桿驅動 Ball Screw Drive



最大行程 Maximum Stroke	最高速度 Maximum Speed	馬達尺寸 Motor Dimension	滾珠螺桿 Ball Screw
800mm	1102mm/s	42□mm	⌀12mm

型號表示方式 Ordering Method

CGTH5 - L5 - 100 - M B - TC100 - 03 - N1 - A001

本體型號 Model

螺桿導程 Ball Screw Lead

2	2mm
5	5mm
10	10mm
20	20mm

行程 Stroke

50-800mm
間隔50 50 mm Pitch

馬達位置 Motor Position

M	馬達直結 Motor Hidden In
BM	馬達下折 Motor Bottom Side
BR	馬達右折 Motor Right Side
BL	馬達左折 Motor Left Side

是否煞車 Brake (Optional)

垂直使用時追加內藏式煞車器 Built-in brake is added when vertically used

*若無煞車則不表示。
If No Brake,No Description.

對應控制器 Corresponding Controller

TC100

電纜線長 Cable Length

01	1m
03	3m
05	5m
10	10m

*標配3m
Standard:3m

I/O線種類 Kind of I/O Cable

-	標準I/O彩虹排線 I/O Cable
N1	隔離I/O線 Shielded I/O Cable

*標配1.5m
Standard:1.5m

特注式樣 Customization Order No.

基本仕樣 Specification

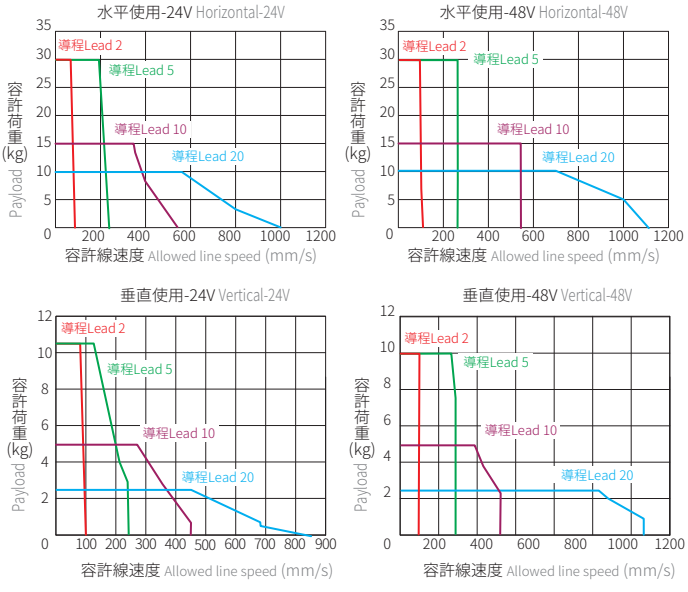
規格 Spec	位置重複精度 Repeatability (mm)		±0.01			
	螺桿導程 Ball Screw Lead (mm)		2	5	10	20
	最高速度 Maximum Speed (mm/s)※1※2	水平使用 Horizontal	≦109	≦273	≦538	≦1102
		垂直使用 Vertical	≦108	≦269	≦538	≦1093
	最大可搬重量 Maximum Payload※2	水平使用 Horizontal (kg)	≦30	≦30	≦15	≦10
		垂直使用 Vertical (kg)	≦10	≦10	≦5	≦2.5
	定格推力 Rated Thrust (N)		1147	459	229	115
	標準行程 Stroke / Pitch (mm)※3		50-800mm/50 間隔 50 mm Pitch			
部品 Parts	馬達尺寸 Motor Dimension (mm)		42□			
	滾珠螺桿規格 Ball Screw Spec		C7 ∅ 12mm			

※1 此處最高速度為軟體移動速度設定為100%時。
The maximum speed shown here is when software speed setting is 100%.

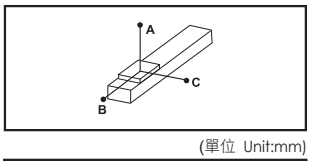
※2 最高速度及最大荷重無法同時存在，選用前請詳見速度-荷重曲線圖。
The maximum speed and maximum payload cannot exist at the same time.
Please refer to diagram of Speed and payload curve before using.

※3 行程超過600時，會產生螺桿偏擺震動，此時請將速度調降。詳細請參考P101頁說明。
When the stroke is over 550mm, the run-out of the ballscrew will occur.
We recommend to low down the working speed under this circumstances.Please refer to P101 for details.

速度-荷重曲線圖 Speed-Payload Curve Diagram

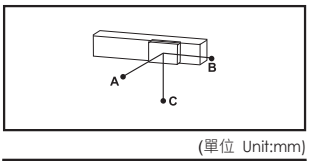


容許負載力距表 Allowable Moment



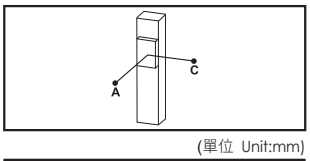
(單位 Unit:mm)

水平安裝 Horizontal Installation		A	B	C
導程 2 Lead	10kg	1290	129	180
	18kg	680	68	95
	30kg	380	38	53
導程 5 Lead	9kg	1140	114	155
	18kg	540	54	74
	30kg	290	29	41
導程 10 Lead	6kg	1414	59	204
	9g	1060	106	139
	15kg	610	61	81
導程 20 Lead	5kg	1660	166	198
	7kg	1200	120	145
	10kg	700	88	112



(單位 Unit:mm)

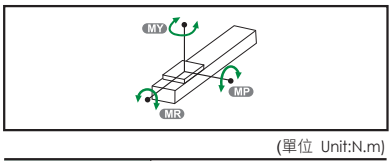
壁掛安裝 Wall Installation		A	B	C
導程 2 Lead	10kg	180	129	1290
	18kg	95	68	680
	30kg	53	38	380
導程 5 Lead	9kg	155	114	1140
	18kg	74	54	540
	30kg	41	29	290
導程 10 Lead	6kg	204	159	1414
	9g	139	106	1060
	15kg	81	61	610
導程 20 Lead	5kg	198	166	829
	7kg	145	120	660
	10kg	112	88	700



(單位 Unit:mm)

垂直安裝 Vertical Installation		A	C
導程 2 Lead	5.4kg	257	257
	8.1kg	175	175
	10kg	143	143
導程 5 Lead	4.5kg	277	277
	8.1kg	161	161
	10kg	123	123
導程 10 Lead	0.9kg	1120	1120
	2.7kg	392	392
	5kg	217	217
導程 20 Lead	0.9kg	1023	1023
	1.4kg	677	677
	2.5kg	396	396

靜態容許負載慣量 Static Loading Moment



(單位 Unit:N.m)

MY	103
MP	103
MR	144

※力距表所表示的數據，代表重心。
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※符合型錄規範的正常使用下，保證壽命為10000公里。
Operation life is 10,000km when the product is using under the specified conditions.

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外觀 Exterior	控制器型號 Controller Model	控制介面 Control Mode	特點 Featrues	電氣規格 Electrical Spec.	詳細參閱 Reference Page
	TC100	**Pulse控制** Pulse Control Mode	Line driver 200k Hz Open collector 60k Hz 同時間只能使用一種。 Support Line driver and Open collector Max.pulse receiving speed 200k/60k Hz.	控制電路只能使用24V。 工作電壓DC24V，額定電流 2A，峰值電流3A。 工作電壓DC48V，額定電流 1A，峰值電流2A。 使用DC48V時在相同扭力下，轉速會提升，詳細內容請跟服務窗口連絡。 The voltage of control circuit is 24V only. Operating voltage DC24V, rated current 2A, peak current 3A. Operating voltage DC48V, rated current 1A, peak current 2A. When the voltage is DC48V but same torque, the rotation speed will be raised. Please contact your service window to details.	P.175
		I/O控制 I/O Control Mode	利用I/O變化，最多可以執行127個位置控制。 By I/O control, max. 127 positioning points, can be executed.		
		通訊控制 Communication Control Mode	採Modbus的RS485通訊介面(最大並接16台)及一組mini USB (TOYO-Single專用)。 Use Modbus as the interface of RS485 (connect max. 16 controllers) and 1 set mini USB. (special for TOYO-single)		

CGTH5

Step TC

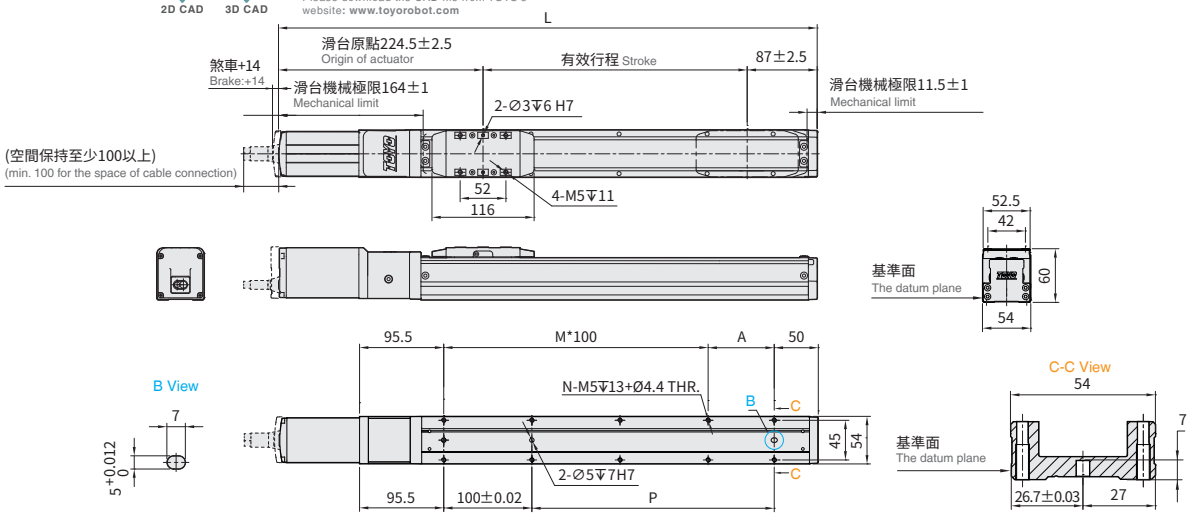
螺桿驅動 Ball Screw Drive

M 馬達直結 Motor Hidden In

2D CAD 3D CAD

● CAD圖面可至www.toyorobot.com下載 ●
Please download the CAD file from TOYO's website: www.toyorobot.com

(單位 Unit：mm)



※行程50時,因本體上鎖式固定孔會被滑座遮住,僅能使用4支螺絲固定,建議客戶本體使用下鎖式固定孔鎖附。
When the stroke is 50mm, if fixing the body from the top to the bottom, the fixing hole will be blocked by slider and only can be uses 4 screws to fix;as a result, suggest that fixing actuator body from the bottom to the top.

有效行程 Stroke	50※	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L	361.5	411.5	461.5	511.5	561.5	611.5	661.5	711.5	761.5	811.5	861.5	911.5	961.5	1011.5	1061.5	1111.5
A	25	75	25	75	25	75	25	75	25	75	25	75	25	75	25	75
M	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8
N	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20
P	25	75	125	175	225	275	325	375	425	475	525	575	625	675	725	775
*Weight(kg)	1.97	2.18	2.4	2.62	2.83	3.05	3.27	3.48	3.7	3.92	4.13	4.35	4.57	4.78	5	5.22

* 重量包含本體與馬達。Weight of model with motor.

BM 馬達下折 Motor Bottom Side

2D CAD 3D CAD

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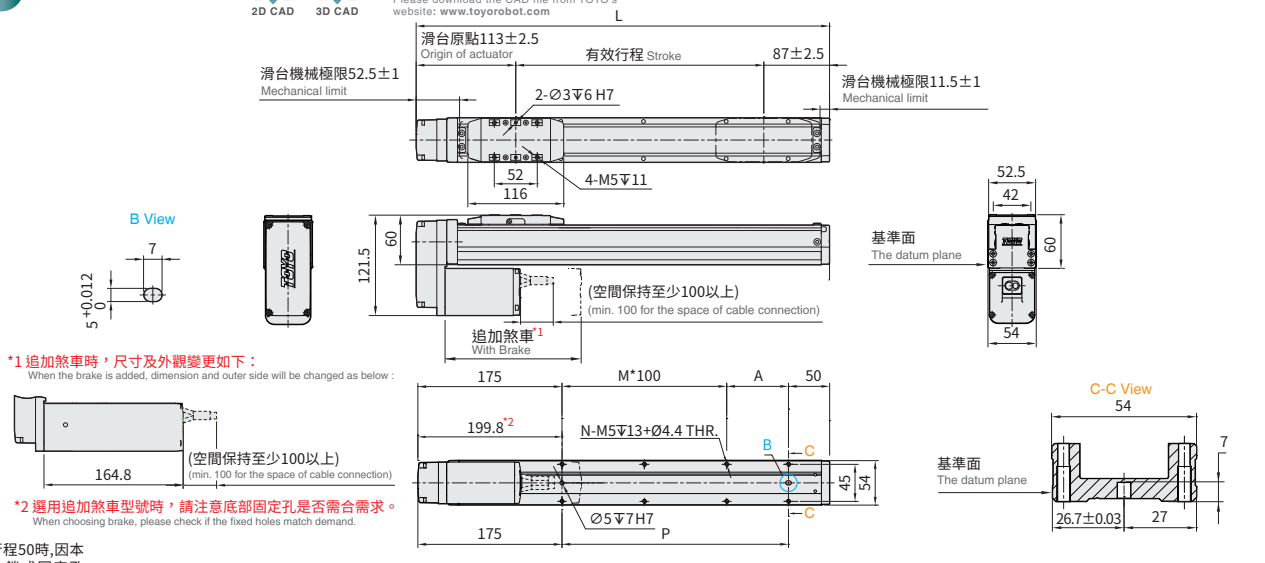
(單位 Unit：mm)



※行程50時,因本體上鎖式固定孔會被滑座遮住,僅能使用4支螺絲固定,建議客戶本體使用下鎖式固定孔鎖附。
When the stroke is 50mm, if fixing the body from the top to the bottom, the fixing hole will be blocked by slider and only can be uses 4 screws to fix;as a result, suggest that fixing actuator body from the bottom to the top.

有效行程 Stroke	50※	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
A	25	75	25	75	25	75	25	75	25	75	25	75	25	75	25	75
M	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7
N	4	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18
P	25	75	125	175	225	275	325	375	425	475	525	575	625	675	725	775
*Weight(kg)	2.34	2.54	2.73	2.93	3.13	3.32	3.52	3.72	3.91	4.11	4.31	4.5	4.7	4.9	5.09	5.29

* 重量包含本體與馬達。Weight of model with motor.

BL 馬達左折 Motor Left Side

2D CAD 3D CAD

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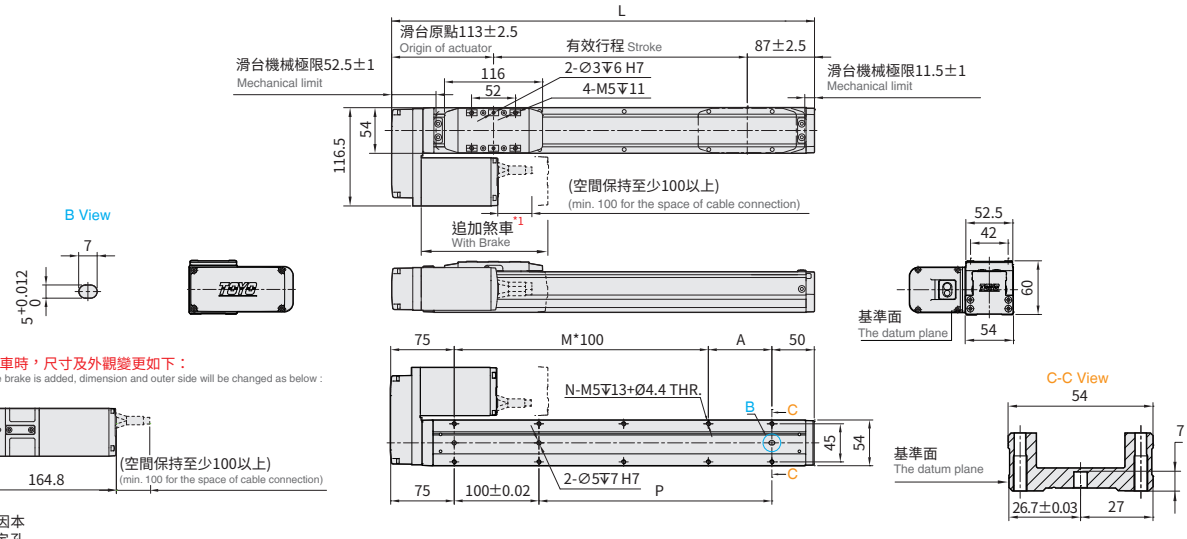
Please download the CAD file from TOYO's website: www.toyorobot.com

(單位 Unit：mm)



※行程50時,因本體上鎖式固定孔會被滑座遮住,僅能使用4支螺絲固定,建議客戶本體使用下鎖式固定孔鎖附。
When the stroke is 50mm, if fixing the body from the top to the bottom, the fixing hole will be blocked by slider and only can be uses 4 screws to fix;as a result, suggest that fixing actuator body from the bottom to the top.

有效行程 Stroke	50※	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
A	25	75	25	75	25	75	25	75	25	75	25	75	25	75	25	75
M	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8
N	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20
P	25	75	125	175	225	275	325	375	425	475	525	575	625	675	725	775
*Weight(kg)	2.34	2.54	2.73	2.93	3.13	3.32	3.52	3.72	3.91	4.11	4.31	4.5	4.7	4.9	5.09	5.29

* 重量包含本體與馬達。Weight of model with motor.

BR 馬達右折 Motor Right Side

2D CAD 3D CAD

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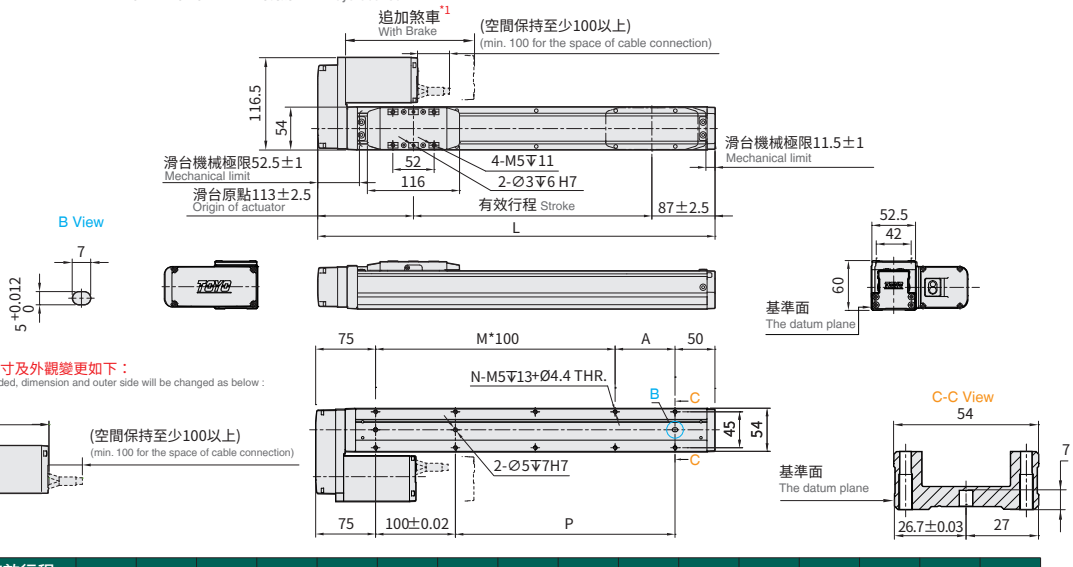
Please download the CAD file from TOYO's website: www.toyorobot.com

(單位 Unit：mm)



※行程50時,因本體上鎖式固定孔會被滑座遮住,僅能使用4支螺絲固定,建議客戶本體使用下鎖式固定孔鎖附。
When the stroke is 50mm, if fixing the body from the top to the bottom, the fixing hole will be blocked by slider and only can be uses 4 screws to fix;as a result, suggest that fixing actuator body from the bottom to the top.

有效行程 Stroke	50※	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
A	25	75	25	75	25	75	25	75	25	75	25	75	25	75	25	75
M	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8
N	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20
P	25	75	125	175	225	275	325	375	425	475	525	575	625	675	725	775
*Weight(kg)	2.34	2.54	2.73	2.93	3.13	3.32	3.52	3.72	3.91	4.11	4.31	4.5	4.7	4.9	5.09	5.29

* 重量包含本體與馬達。Weight of model with motor.

Memo

CGTY

軌道內嵌式小型電動缸-推桿式

Built-in Linear Motion Guide Servo Cylinder-Rod Type

Contents

規格索引

Spec Index

CGTY 軌道內嵌式小型電動缸-推桿式

CGTY Built-in Linear Motion Guide Servo Cylinder-Rod Type

使用環境 Environment	傳動方式 Drive mode	仕樣 Specification	馬達尺寸 Motor dimension (mm)	本體寬幅 Width of profile (mm)	位置重複精度 Repeatability(mm)	螺桿規格(C7級) Ball screw spec (Accuracy C7)		最大可搬重量 Maximum Payload(kg)		最高速度*1 Maximum speed (mm/s)
						外徑 Outer dia.(mm)	導程 Lead(mm)	水平使用 Horizontal	垂直使用 Vertical	
一般環境 Standard	滾珠螺桿 Ball screw	CGTY4	35□	44	±0.01	10	2	25	8	110
							6	20	8	331
							12	12	3.5	661
		CGTY5	42□	54	±0.01	12	2	30	10	109
							5	30	10	273
							10	15	5	538
							20	10	2.5	1102

*1:最高速度的使用條件有限制，請參閱各仕樣內頁的速度-荷重曲線圖。
The working condition of max. speed is restricted limited. Please refer to the curve graph of speed and loading in this catalog.

*2:標準行程內的黑色數字，代表該行程內可使用的最高安全速度。若超過此速度，機械手可能會有嚴重共振產生。
The number written in the column means the highest safe speed within stroke.
If the speed is over the value shown in the chart , the vibration will be caused on the actuator.

	標準行程及最高使用速度*2 Stroke(mm) & Maximum speed(mm/s) 代表速度 Speed																						頁數 Page
	行程 Stroke 50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050		
	110																						115
	331																						
	661																						
	109																						119
	273																						
	538																						
	1102																						

CGTY4

Step TC

螺桿驅動 Ball Screw Drive

最大行程 Maximum Stroke	最高速度 Maximum Speed	馬達尺寸 Motor Dimension	滾珠螺桿 Ball Screw
500mm	696mm/s	35□mm	⌀10mm

型號表示方式 Ordering Method

CGTY4 - L2 - 100 - M B - TC100 - 03 - N1 - A001

本體型號 Model

螺桿導程 Ball Screw Lead

2	2mm
6	6mm
12	12mm

行程 Stroke

50-500mm

間隔50 50 mm Pitch

馬達位置 Motor Position

M	馬達直結 Motor Hidden In
BM	馬達下折 Motor Bottom Side
BR	馬達右折 Motor Right Side
BL	馬達左折 Motor Left Side

是否煞車 Brake (Optional)

垂直使用時追加內藏式煞車器 Built-in brake is added when vertically used

*若無煞車則不表示。 If No Brake,No Description.

對應控制器 Corresponding Controller

TC100

電纜線長 Cable Length

01	1m
03	3m
05	5m
10	10m

*標配3m Standard:3m

I/O線種類 Kind of I/O Cable

-	標準I/O彩虹排線 I/O Cable
N1	隔離I/O線 Shielded I/O Cable

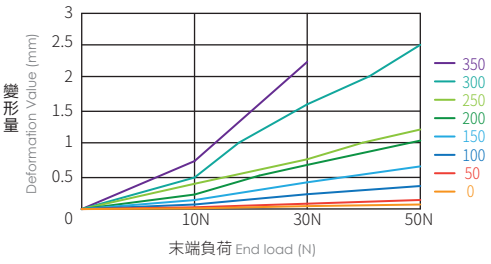
*標配1.5m Standard:1.5m

特注式樣 Customization Order No.

基本仕樣 Specification

規格 Spec	位置重複精度 Repeatability (mm)		±0.01		
	螺桿導程 Ball Screw Lead (mm)		2	6	12
	最高速度 Maximum Speed (mm/s)※1	水平使用 Horizontal	≦110	≦ 331	≦ 661
		垂直使用 Vertical	≦108	≦ 314	≦ 646
	最大可搬重量 Maximum Payload	水平使用 Horizontal (kg) ※2	≦ 25	≦ 20	≦ 12
		垂直使用 Vertical (kg)	≦ 8	≦ 8	≦ 3.5
	定格推力 Rated Thrust (N)		1094	365	182
	標準行程 Stroke / Pitch (mm)		50-500mm/50 間隔 50 mm Pitch		
部品 Parts	馬達尺寸 Motor Dimension (mm)		35□		
	滾珠螺桿規格 Ball Screw Spec		C7 ⌀ 10mm		

出力軸變形量 Shaft Output Deformation Value

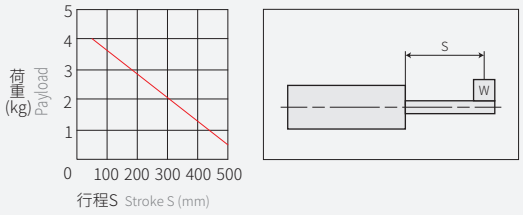


※此圖表為參考值。
This form is only reference values.

※ 1 此處最高速度為軟體移動速度設定為 100% 時。
The maximum speed shown here is when software speed setting is 100%.

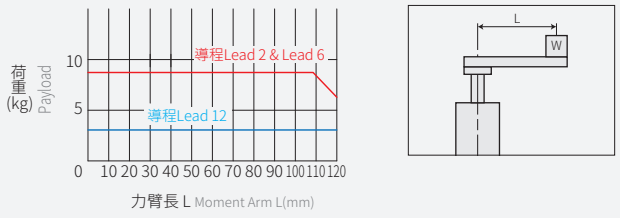
※2 此荷重條件外部需搭配輔助滑軌以承受徑向負載。
If payload is near maximum, it requires to collocate externally with auxiliary guideway for bearing radial load.

水平安裝荷重 Load In Horizontal Installation



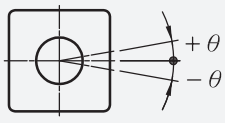
※無外部輔助機構,負載延伸距離0。
No external auxiliary mechanism, extension distance of load = 0.

垂直安裝負載 Load In Vertical Installation



※計算條件:3000rpm/min , 加減速0.3s 。
Calculation conditions: 3000 rpm / min, acceleration and deceleration: 0.3s.

出力桿的防止迴轉精度 Anti-rotating Accuracy of Rod



防止迴轉精度 θ Anti-rotating accuracy
±0°

※內附滾珠滑軌機構 , 所以推桿軸心不迴轉。
With built-in circular guideway, so the rod shaft of actuator does not rotate.

對應控制器一覽表 Corresponding Controller Chart

外觀 Exterior	控制器型號 Controller Model	控制介面 Control Mode	特點 Featrues	電氣規格 Electrical Spec.	詳細參閱 Reference Page
	TC100	**Pulse控制** Pulse Control Mode	Line driver 200k Hz Open collector 60k Hz 同時間只能使用一種。 Support Line driver and Open collector Max.pulse receiving speed 200k/60k Hz.	控制電路只能使用24V。 工作電壓DC24V, 額定電流 2A, 峰值電流3A。 工作電壓DC48V, 額定電流 1A, 峰值電流2A。 使用DC48V時在相同扭力下, 轉速會提升, 詳細內容請跟服務窗口連絡。 The voltage of control circuit is 24V only. Operating voltage DC24V, rated current 2A, peak current 3A. Operating voltage DC48V, rated current 1A, peak current 2A. When the voltage is DC48V but same torque, the rotation speed will be raised. Please contact your service window to details.	P.175
		I/O控制 I/O Control Mode	利用I/O變化, 最多可以執行127個位置控制。 By I/O control, max. 127 positioning points, can be executed.		
		通訊控制 Communication Control Mode	採Modbus的RS485通訊介面(最大並接16台)及一組mini USB (TOYO-Single專用)。 Use Modbus as the interface of RS485 (connect max. 16 controllers) and 1 set mini USB. (special for TOYO-single)		

CGTY4

Step TC

螺桿驅動 Ball Screw Drive

M 馬達直結 Motor Hidden In

2D CAD 3D CAD

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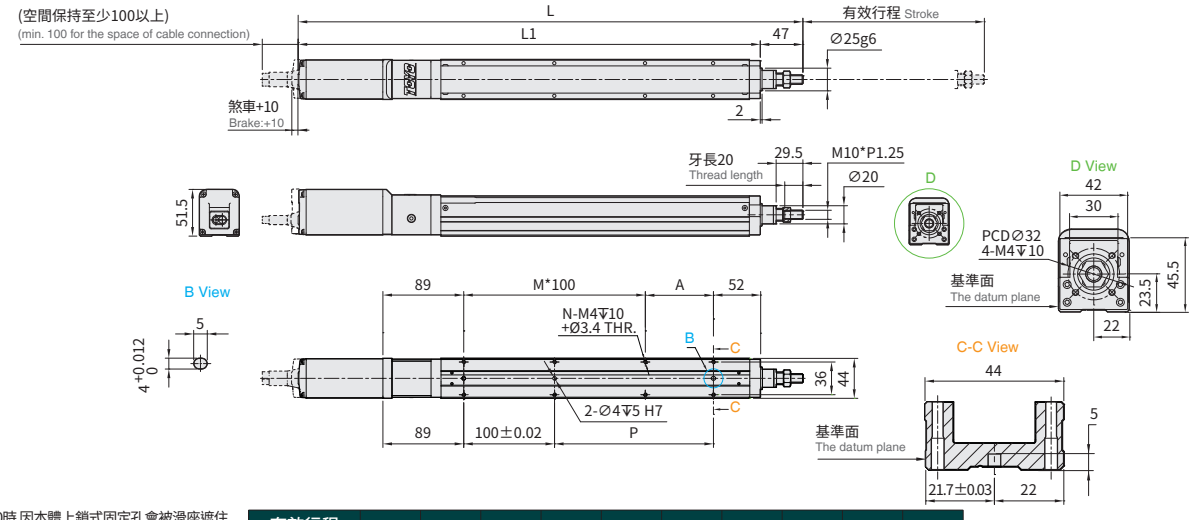
(單位 Unit：mm)



※行程50時,因本體上鎖式固定孔會被滑座遮住,僅能使用4支螺絲固定,建議客戶本體使用下鎖式固定孔鎖附。
When the stroke is 50mm, if fixing the body from the top to the bottom, the fixing hole will be blocked by slider and only can be uses 4 screws to fix;as a result, suggest that fixing actuator body from the bottom to the top.

有效行程 Stroke	50※	100	150	200	250	300	350	400	450	500
L	406.5	456.5	506.5	556.5	606.5	656.5	706.5	756.5	806.5	856.5
L1	359.5	409.5	459.5	509.5	559.5	609.5	659.5	709.5	759.5	809.5
A	25	75	25	75	25	75	25	75	25	75
M	1	1	2	2	3	3	4	4	5	5
N	6	6	8	8	10	10	12	12	14	14
P	25	75	125	175	225	275	325	375	425	475
*Weight(kg)	1.33	1.58	1.83	2.08	2.32	2.57	2.82	3.07	3.31	3.56

* 重量包含本體與馬達。Weight of model with motor.

BM 馬達下折 Motor Bottom Side

2D CAD 3D CAD

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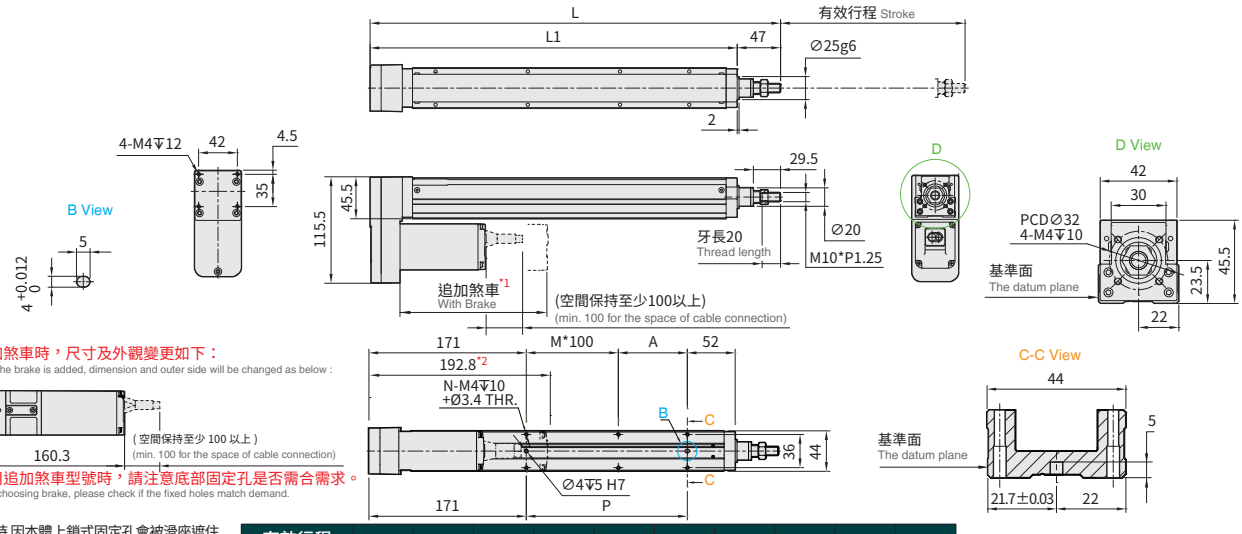
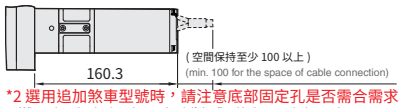
(單位 Unit：mm)



*1 追加煞車時，尺寸及外觀變更如下：
When the brake is added, dimension and outer side will be changed as below :



*2 選用追加煞車型號時，請注意底部固定孔是否需合需求。
When choosing brake, please check if the fixed holes match demand.

※行程50時,因本體上鎖式固定孔會被滑座遮住,僅能使用4支螺絲固定,建議客戶本體使用下鎖式固定孔鎖附。
When the stroke is 50mm, if fixing the body from the top to the bottom, the fixing hole will be blocked by slider and only can be uses 4 screws to fix;as a result, suggest that fixing actuator body from the bottom to the top.

有效行程 Stroke	50※	100	150	200	250	300	350	400	450	500
L	295	345	395	445	495	545	595	645	695	745
L1	248	298	348	398	448	498	548	598	648	698
A	25	75	25	75	25	75	25	75	25	75
M	0	0	1	1	2	2	3	3	4	4
N	4	4	6	6	8	8	10	10	12	12
P	25	75	125	175	225	275	325	375	425	475
*Weight(kg)	1.63	1.88	2.13	2.38	2.62	2.87	3.12	3.37	3.61	3.86

* 重量包含本體與馬達。Weight of model with motor.

BL 馬達左折 Motor Left Side

2D CAD 3D CAD

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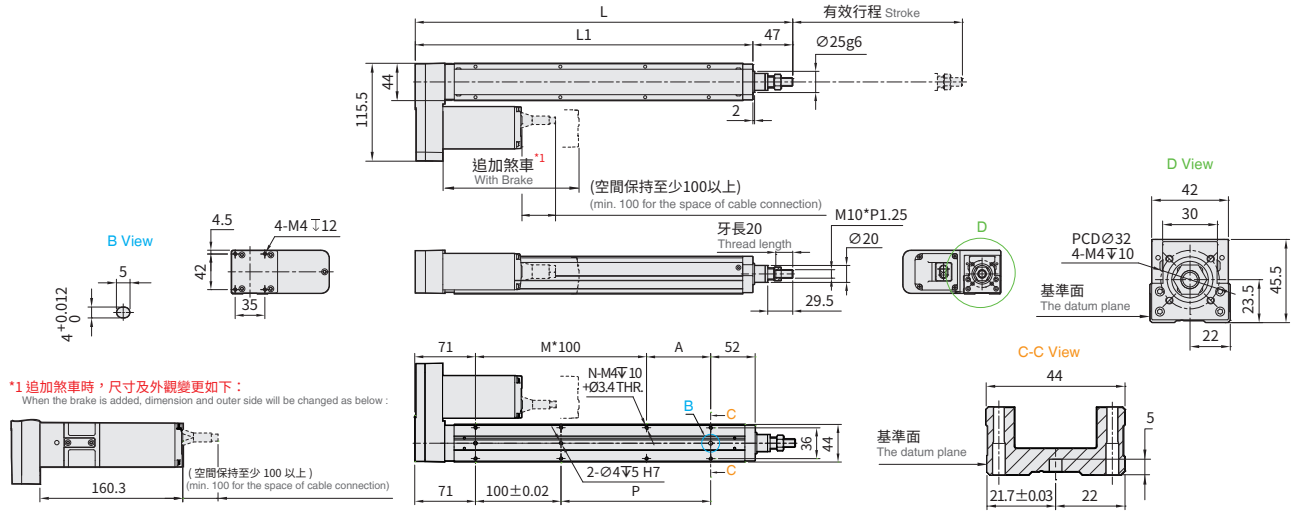
(單位 Unit：mm)



※行程50時,因本體上鎖式固定孔會被滑座遮住,僅能使用4支螺絲固定,建議客戶本體使用下鎖式固定孔鎖附。
When the stroke is 50mm, if fixing the body from the top to the bottom, the fixing hole will be blocked by slider and only can be uses 4 screws to fix;as a result, suggest that fixing actuator body from the bottom to the top.

有效行程 Stroke	50※	100	150	200	250	300	350	400	450	500
L	295	345	395	445	495	545	595	645	695	745
L1	248	298	348	398	448	498	548	598	648	698
A	25	75	25	75	25	75	25	75	25	75
M	1	1	2	2	3	3	4	4	5	5
N	6	6	8	8	10	10	12	12	14	14
P	25	75	125	175	225	275	325	375	425	475
*Weight(kg)	1.63	1.88	2.13	2.38	2.62	2.87	3.12	3.37	3.61	3.86

* 重量包含本體與馬達。Weight of model with motor.

BR 馬達右折 Motor Right Side

2D CAD 3D CAD

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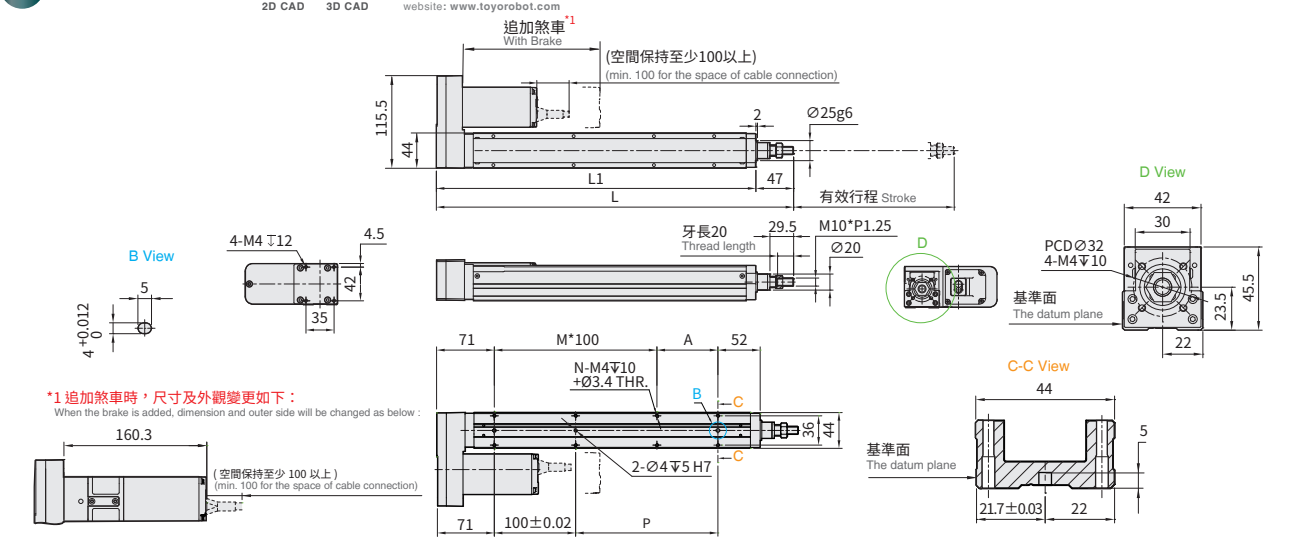
Please download the CAD file from TOYO's website: www.toyorobot.com

(單位 Unit：mm)



※行程50時,因本體上鎖式固定孔會被滑座遮住,僅能使用4支螺絲固定,建議客戶本體使用下鎖式固定孔鎖附。
When the stroke is 50mm, if fixing the body from the top to the bottom, the fixing hole will be blocked by slider and only can be uses 4 screws to fix;as a result, suggest that fixing actuator body from the bottom to the top.

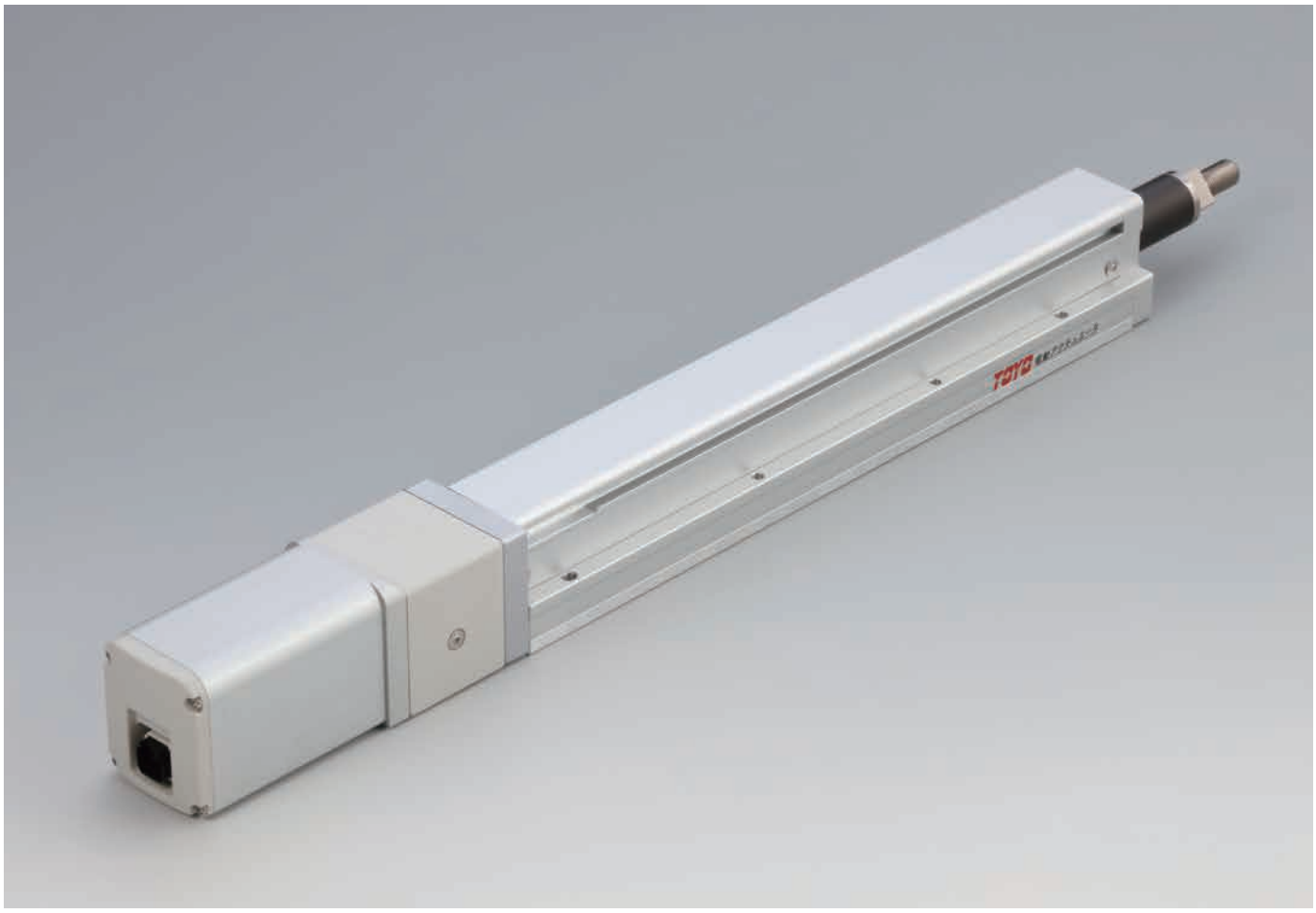
有效行程 Stroke	50※	100	150	200	250	300	350	400	450	500
L	295	345	395	445	495	545	595	645	695	745
L1	248	298	348	398	448	498	548	598	648	698
A	25	75	25	75	25	75	25	75	25	75
M	1	1	2	2	3	3	4	4	5	5
N	6	6	8	8	10	10	12	12	14	14
P	25	75	125	175	225	275	325	375	425	475
*Weight(kg)	1.63	1.88	2.13	2.38	2.62	2.87	3.12	3.37	3.61	3.86

* 重量包含本體與馬達。Weight of model with motor.

CGTY5

Step TC

螺桿驅動 Ball Screw Drive



最大行程 Maximum Stroke 600mm

最高速度 Maximum Speed 1160mm/s

馬達尺寸 Motor Dimension 42□mm

滾珠螺桿 Ball Screw ⌀12mm

型號表示方式 Ordering Method

CGTY5 - L5 - 100 - M B - TC100 - 03 - N1 - A001

本體型號 Model

特注式樣 Customization Order No.

螺桿導程 Ball Screw Lead

2	2mm
5	5mm
10	10mm
20	20mm

行程 Stroke

50-600mm

間隔50 Pitch 50 mm

馬達位置 Motor Position

M	馬達直結 Motor Hidden In
BM	馬達下折 Motor Bottom Side
BR	馬達右折 Motor Right Side
BL	馬達左折 Motor Left Side

是否煞車 Brake (Optional)

垂直使用時追加內藏式煞車器 Built-in brake is added when vertically used

*若無煞車則不表示。 If No Brake,No Description.

對應控制器 Corresponding Controller

TC100

電纜線長 Cable Length

01	1m
03	3m
05	5m
10	10m

*標配3m Standard:3m

I/O線種類 Kind of I/O Cable

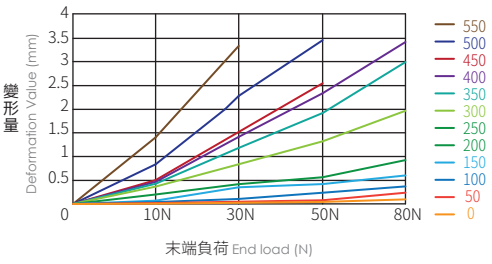
-	標準I/O彩虹排線 I/O Cable
N1	隔離I/O線 Shielded I/O Cable

*標配1.5m Standard:1.5m

基本仕樣 Specification

規格 Spec	位置重複精度 Repeatability (mm)		±0.01			
	螺桿導程 Ball Screw Lead (mm)		2	5	10	20
	最高速度 Maximum Speed (mm/s)※1	水平使用 Horizontal	≦109	≦273	≦538	≦1102
		垂直使用 Vertical	≦108	≦269	≦538	≦1093
	最大可搬重量 Maximum Payload	水平使用 Horizontal (kg) ※2	≦30	≦30	≦15	≦10
		垂直使用 Vertical (kg)	≦10	≦10	≦5	≦2.5
	定格推力 Rated Thrust (N)		1147	459	229	115
	標準行程 Stroke / Pitch (mm)		50-600mm/50 間隔 50 mm Pitch			
部品 Parts	馬達尺寸 Motor Dimension (mm)		42□			
	滾珠螺桿規格 Ball Screw Spec		C7 ∅ 12mm			

出力軸變形量 Shaft Output Deformation Value

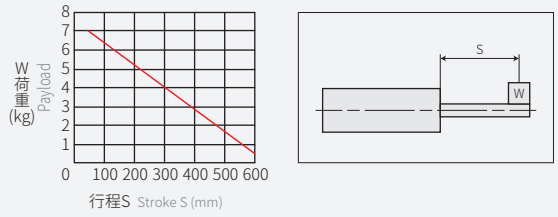


※此圖表為參考值。
This form is only reference values.

※ 1 此處最高速度為軟體移動速度設定為 100% 時。
The maximum speed shown here is when software speed setting is 100%.

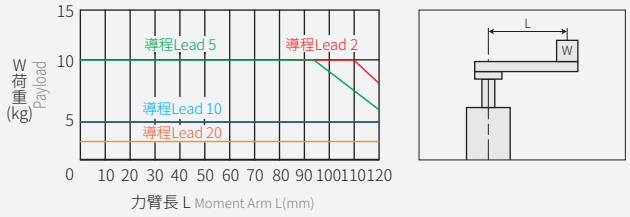
※2 此荷重條件外部需搭配輔助滑軌以承受徑向負載。
If payload is near maximum, it requires to collocate externally with auxiliary guideway for bearing radial load.

水平安裝荷重 Load In Horizontal Installation



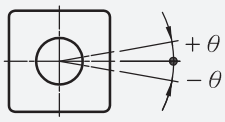
※無外部輔助機構,負載延伸距離0。
No external auxiliary mechanism, extension distance of load = 0.

垂直安裝負載 Load In Vertical Installation



※計算條件:3000rpm/min , 加減速0.3s 。
Calculation conditions: 3000 rpm / min, acceleration and deceleration: 0.3s.

出力桿的防止迴轉精度 Anti-rotating Accuracy of Rod



防止迴轉精度 θ Anti-rotating accuracy
±0°

※內附滾珠滑軌機構 , 所以推桿軸心不迴轉。
With built-in circular guideway, so the rod shaft of actuator does not rotate.

對應控制器一覽表 Corresponding Controller Chart

外觀 Exterior	控制器型號 Controller Model	控制介面 Control Mode	特點 Featrues	電氣規格 Electrical Spec.	詳細參閱 Reference Page
	TC100	**Pulse控制** Pulse Control Mode	Line driver 200k Hz Open collector 60k Hz 同時間只能使用一種。 Support Line driver and Open collector Max.pulse receiving speed 200k/60k Hz.	控制電路只能使用24V。 工作電壓DC24V, 額定電流 2A,峰值電流3A。 工作電壓DC48V, 額定電流 1A,峰值電流2A。 使用DC48V時在相同扭力下,轉速會提升,詳細內容請跟服務窗口連絡。 The voltage of control circuit is 24V only. Operating voltage DC24V, rated current 2A, peak current 3A. Operating voltage DC48V, rated current 1A, peak current 2A. When the voltage is DC48V but same torque, the rotation speed will be raised. Please contact your service window to details.	P.175
		I/O控制 I/O Control Mode	利用I/O變化,最多可以執行127個位置控制。 By I/O control, max. 127 positioning points, can be executed.		
		通訊控制 Communication Control Mode	採Modbus的RS485通訊介面(最大並接16台)及一組mini USB (TOYO-Single專用)。 Use Modbus as the interface of RS485 (connect max. 16 controllers) and 1 set mini USB. (special for TOYO-single)		

CGTY5

Step TC

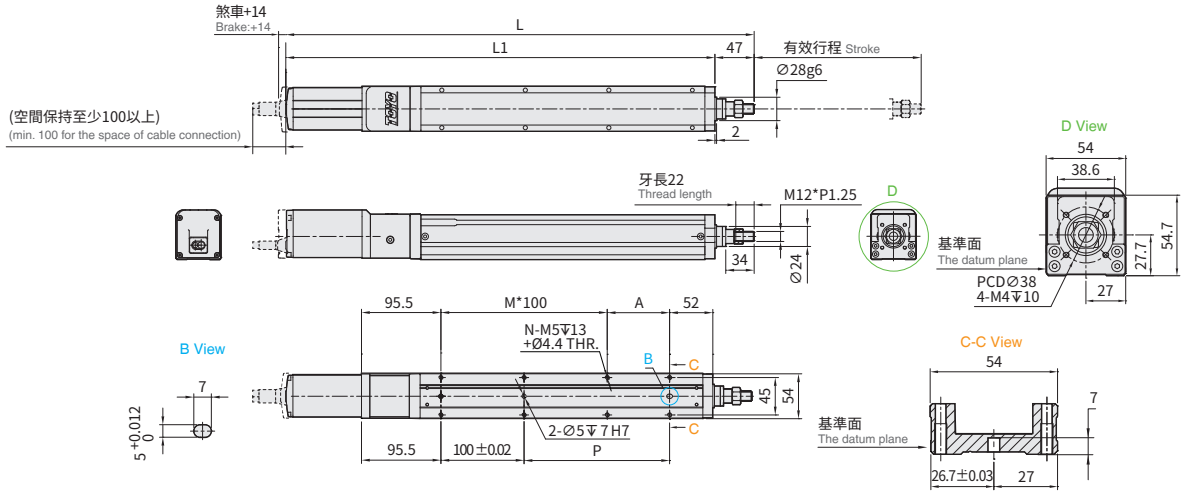
螺桿驅動 Ball Screw Drive

M 馬達直結 Motor Hidden In

2D CAD 3D CAD

● CAD圖面可至www.toyorobot.com下載 ●
Please download the CAD file from TOYO's website: www.toyorobot.com

(單位 Unit : mm)



※行程50時,因本體上鎖式固定孔會被滑座遮住,僅能使用4支螺絲固定,建議客戶本體使用下鎖式固定孔鎖附。
When the stroke is 50mm, if fixing the body from the top to the bottom, the fixing hole will be blocked by slider and only can be uses 4 screws to fixcas a result, suggest that fixing actuator body from the bottom to the top.

有效行程 Stroke	50※	100	150	200	250	300	350	400	450	500	550	600
L	411	461	511	561	611	661	711	761	811	861	911	961
L1	364	414	464	514	564	614	664	714	764	814	864	914
A	25	75	25	75	25	75	25	75	25	75	25	75
M	1	1	2	2	3	3	4	4	5	5	6	6
N	6	6	8	8	10	10	12	12	14	14	16	16
P	25	75	125	175	225	275	325	375	425	475	525	575
*Weight(kg)	1.91	2.12	2.34	2.56	2.77	2.99	3.21	3.42	3.64	3.86	4.07	4.29

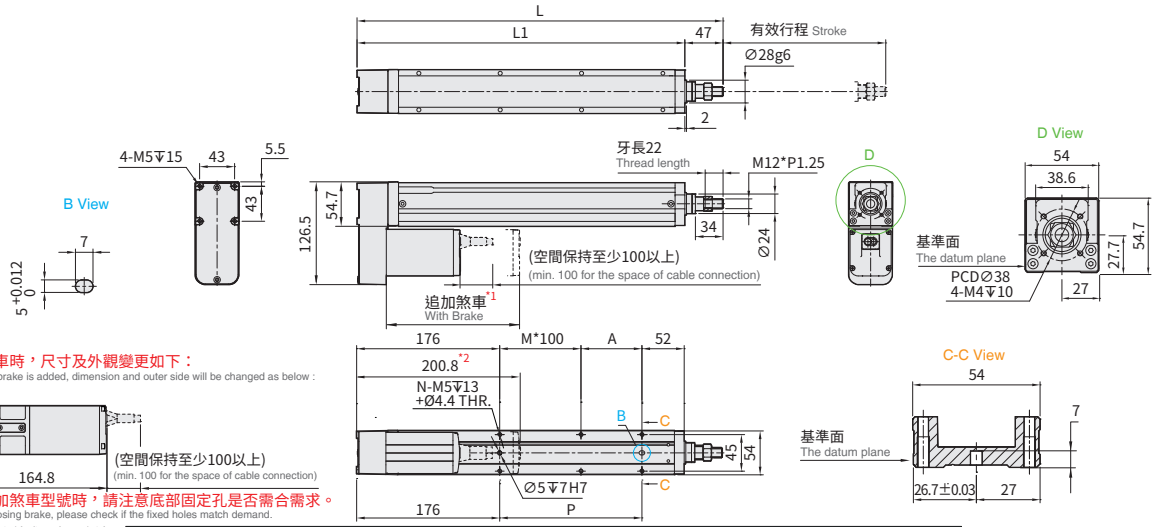
* 重量包含本體與馬達。Weight of model with motor.

BM 馬達下折 Motor Bottom Side

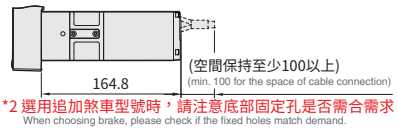
2D CAD 3D CAD

● CAD圖面可至www.toyorobot.com下載 ●
Please download the CAD file from TOYO's website: www.toyorobot.com

(單位 Unit : mm)



*1 追加煞車時，尺寸及外觀變更如下：
When the brake is added, dimension and outer side will be changed as below :



*2 選用追加煞車型號時，請注意底部固定孔是否需合需求。
When choosing brake, please check if the fixed holes match demand.

※行程50時,因本體上鎖式固定孔會被滑座遮住,僅能使用4支螺絲固定,建議客戶本體使用下鎖式固定孔鎖附。
When the stroke is 50mm, if fixing the body from the top to the bottom, the fixing hole will be blocked by slider and only can be uses 4 screws to fixcas a result, suggest that fixing actuator body from the bottom to the top.

有效行程 Stroke	50※	100	150	200	250	300	350	400	450	500	550	600
L	300	350	400	450	500	550	600	650	700	750	800	850
L1	253	303	353	403	453	503	553	603	653	703	753	803
A	25	75	25	75	25	75	25	75	25	75	25	75
M	0	0	1	1	2	2	3	3	4	4	5	5
N	4	4	6	6	8	8	10	10	12	12	14	14
P	25	75	125	175	225	275	325	375	425	475	525	575
*Weight(kg)	2.3	2.49	2.69	2.89	3.08	3.28	3.48	3.67	3.87	4.07	4.26	4.46

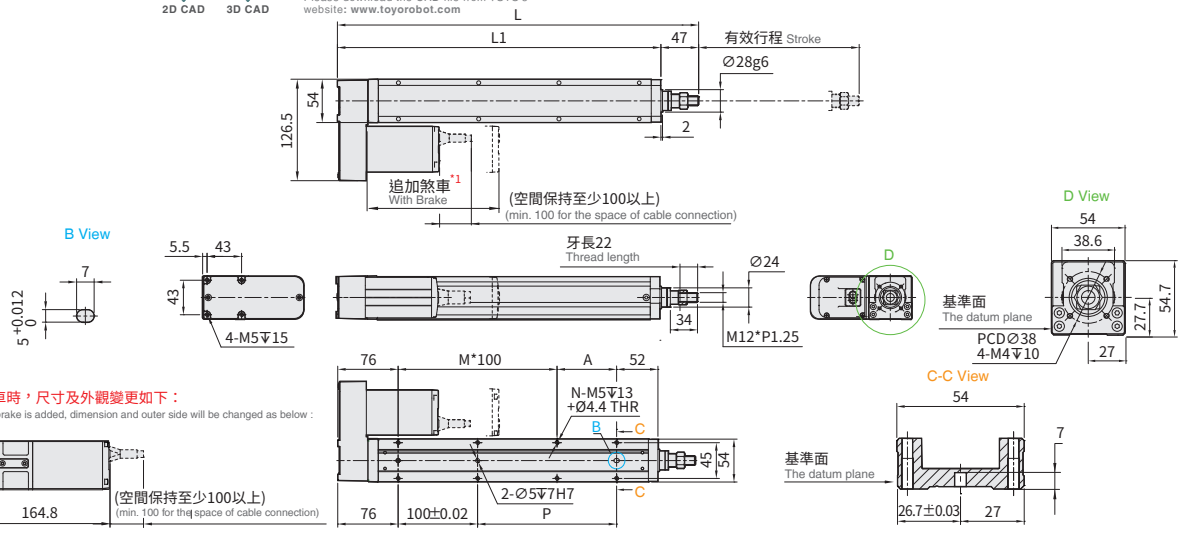
* 重量包含本體與馬達。Weight of model with motor.

BL 馬達左折 Motor Left Side

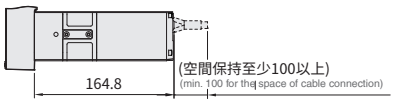
2D CAD 3D CAD

● CAD圖面可至www.toyorobot.com下載 ●
Please download the CAD file from TOYO's website: www.toyorobot.com

(單位 Unit：mm)



*1 追加煞車時，尺寸及外觀變更如下：
When the brake is added, dimension and outer side will be changed as below :



※行程50時,因本體上鎖式固定孔會被滑座遮住,僅能使用4支螺絲固定,建議客戶本體使用下鎖式固定孔鎖附。
When the stroke is 50mm, if fixing the body from the top to the bottom, the fixing hole will be blocked by slider and only can be uses 4 screws to fix;as a result, suggest that fixing actuator body from the bottom to the top.

有效行程 Stroke	50※	100	150	200	250	300	350	400	450	500	550	600
L	300	350	400	450	500	550	600	650	700	750	800	850
L1	253	303	353	403	453	503	553	603	653	703	753	803
A	25	75	25	75	25	75	25	75	25	75	25	75
M	1	1	2	2	3	3	4	4	5	5	6	6
N	6	6	8	8	10	10	12	12	14	14	16	16
P	25	75	125	175	225	275	325	375	425	475	525	575
*Weight(kg)	2.3	2.49	2.69	2.89	3.08	3.28	3.48	3.67	3.87	4.07	4.26	4.46

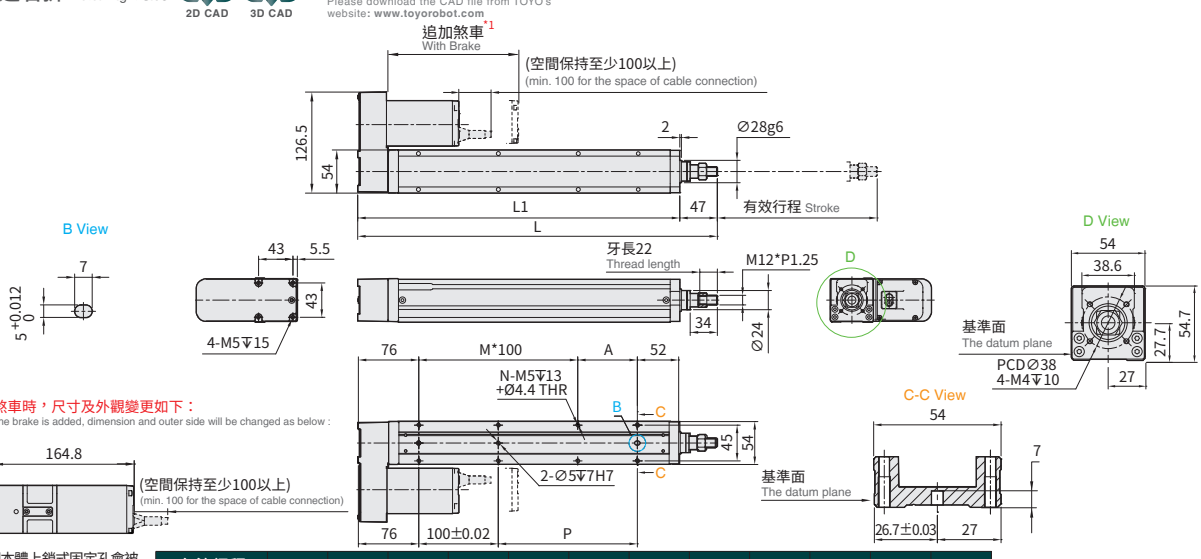
* 重量包含本體與馬達。Weight of model with motor.

BR 馬達右折 Motor Right Side

2D CAD 3D CAD

● CAD圖面可至www.toyorobot.com下載 ●
Please download the CAD file from TOYO's website: www.toyorobot.com

(單位 Unit：mm)



*1 追加煞車時，尺寸及外觀變更如下：
When the brake is added, dimension and outer side will be changed as below :

※行程50時,因本體上鎖式固定孔會被滑座遮住,僅能使用4支螺絲固定,建議客戶本體使用下鎖式固定孔鎖附。
When the stroke is 50mm, if fixing the body from the top to the bottom, the fixing hole will be blocked by slider and only can be uses 4 screws to fix;as a result, suggest that fixing actuator body from the bottom to the top.

有效行程 Stroke	50※	100	150	200	250	300	350	400	450	500	550	600
L	300	350	400	450	500	550	600	650	700	750	800	850
L1	253	303	353	403	453	503	553	603	653	703	753	803
A	25	75	25	75	25	75	25	75	25	75	25	75
M	1	1	2	2	3	3	4	4	5	5	6	6
N	6	6	8	8	10	10	12	12	14	14	16	16
P	25	75	125	175	225	275	325	375	425	475	525	575
*Weight(kg)	2.3	2.49	2.69	2.89	3.08	3.28	3.48	3.67	3.87	4.07	4.26	4.46

* 重量包含本體與馬達。Weight of model with motor.

Memo

CH

電動夾爪系列

Electric Gripper

Contents

規格索引

Spec Index

CH 電動夾爪系列
CH Electric Gripper

使用環境 Environment	傳動方式 Drive mode	仕樣 Specification	馬達尺寸 Motor dimension (mm)	本體寬幅 Width of profile (mm)	位置重複精度 Repeatability(mm)	開閉行程*1 Open/close stroke (mm)	開閉速度 Open/close speed (mm/s)	本體重量*2 Main body weight (g)
一般環境 Standard	螺桿式 Ball Screw	CHS2-S20	20□	50	±0.01	20	6.66~33.3	310
		CHS2-S40	25□	60.5	±0.01	40	8.2~41	625
		CHS2-S68	35□	85	±0.01	68	10~50	1730
	連桿式 Shaft	CHY2-S80	35□	74	±0.05	80	40~200	845
		CHY2-S150	35□	74	±0.05	150	40~200	890
	凸輪式 Cam	CHB6-S11	20□	30	±0.02	11	20~100	80
		CHB6-S14	25□	38	±0.02	14	20~100	250
		CHG2	Ø42	95	±0.05	30	30~150	450
	滑動牙桿式 Screw	CHZ20	25□	50	±0.02	10	5~50	368
		CHZ25	25□	63	±0.02	14	5~50	552

*1:雙邊合計行程。
Total stroke of both sides.
*2:重量包含本體與馬達。
Weight of model with motor.

	夾持力 Gripping force(N)																開閉速度 Open/close speed (mm/s)											頁數 Page
	5	10	20	30	60	90	120	150	180	210	240	270	300	400	500	600	0	5	10	20	30	60	90	120	150	180	200	
						20~124													6.66~33.3									127
								40~258												8.2~41								131
									80~509												10~50							135
					32~120																	40~200						139
			12~45																			40~200						143
	0.72~2.4																				20~100							147
	2.1~7																				20~100							151
		4.5~15																				30~150						155
				22~98															5~50									159
				22~98															5~50									163

CHS2-S20

Step TC

螺桿驅動 Ball Screw Drive

馬達尺寸 Motor Dimension 20□mm

型號表示方式 Ordering Method

CHS2 - S20 - TC100 - 03 - N1 - W - A001

本體型號 Model

特注式樣 Customization Order No.

開閉行程 Open Close Stroke

20	20mm

對應控制器 Corresponding Controller

TC100

電纜線長 Cable Length

01	1m
03	3m
05	5m
10	10m

*標配3m
Standard:3m

I/O線種類 Kind of I/O Cable

-	標準I/O彩虹排線 I/O Cable
N1	隔離I/O線 Shielded I/O Cable

*標配1.5m
Standard:1.5m

出線位置 Cable location

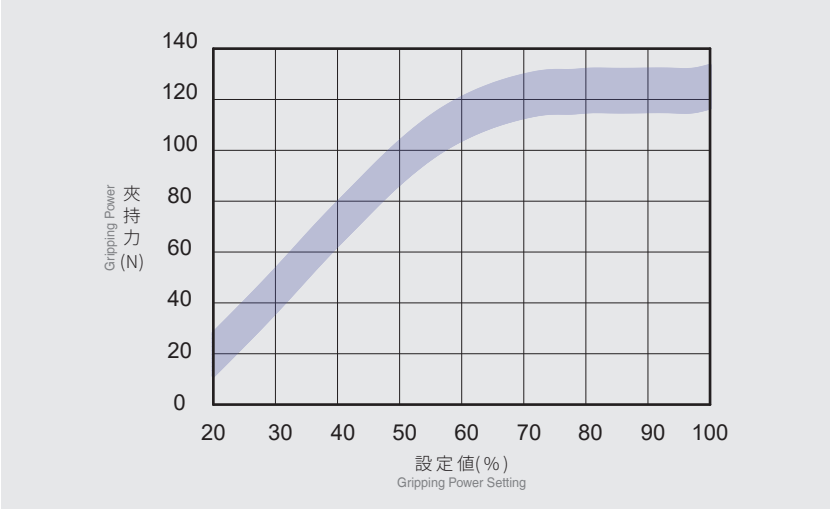
-	標準右側出線 Standard Location from the right
W	出線位置朝上 Cable location at the top

基本仕樣 Specification

規格 Spec	夾持重量 Weight (kg)	1.24
	夾持力範圍 Gripping force (N)	20~124 (15-100%)
	開閉行程 Ball Screw Lead (mm)	20
	開閉速度 Open/Close Speed (mm/s)	6.66~33.3
	位置重複精度 Position repeatability (mm)	±0.01
	導引機構 Guide structure	線性滑軌 Linear guide
	使用溫度範圍 Operating temperature range (°C)	0~+40
	使用濕度範圍 Operating humidity range (%)	RH90以下(無結露) Below RH90 Dew free
部品 Parts	馬達尺寸 Motor Dimension (mm)	20□
	重量 Weight (g)※1	310

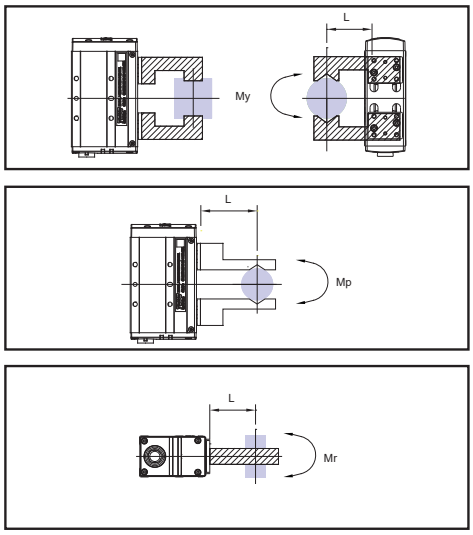
※1 重量包含本體與馬達。Weight of model with motor.

夾持力與指令值曲線表 Gripping Power vs. Gripping Power Setting (%)



*夾持力誤差:±15% ±15% clamping force tolerance .

容許夾持負載力矩表 Allowable Moment

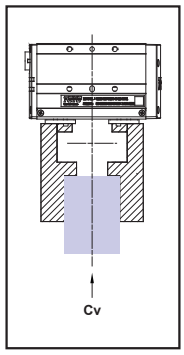


*L:夾爪至負荷作用點之距離(mm)
Distance to the loading location

(單位 Unit:N.m)

最大容許力矩 Maximum moment		
偏力矩 Allowable yawing moment	MY	6.54
俯仰力矩 Allowable pitching moment	MP	6.54
滾動力矩 Allowable rolling moment	MR	19.78

*表中負荷及力矩的值表示靜的值
The value in the chart is static, not dynamic loading and torque.



(單位 Unit:N)

垂直方向容許靜負荷 FV Vertical Maximum Force
2746.9

對應控制器一覽表 Corresponding Controller Chart

外觀 Exterior	控制器型號 Controller Model	控制介面 Control Mode	特點 Featrues	電氣規格 Electrical Spec.	詳細參閱 Reference Page
	TC100	I/O控制 I/O Control Mode	利用I/O變化，最多可以執行127個位置控制。 By I/O control, max. 127 positioning points, can be executed.	控制電路只能使用24V。 工作電壓DC24V，額定電流 2A，峰值電流3A。 工作電壓DC48V，額定電流 1A，峰值電流2A。 使用DC48V時在相同扭力下，轉速會提升，詳細內容請跟服務窗口連絡。 The voltage of control circuit is 24V only. Operating voltage DC24V, rated current 2A, peak current 3A. Operating voltage DC48V, rated current 1A, peak current 2A. When the voltage is DC48V but same torque, the rotation speed will be raised. Please contact your service window to details.	P.175
		通訊控制 Communication Control Mode	採Modbus的RS485通訊介面(最大並接16台)及一組mini USB (TOYO-Single專用)。 Use Modbus as the interface of RS485 (connect max. 16 controllers) and 1 set mini USB. (special for TOYO-single)		

CHS2-S20

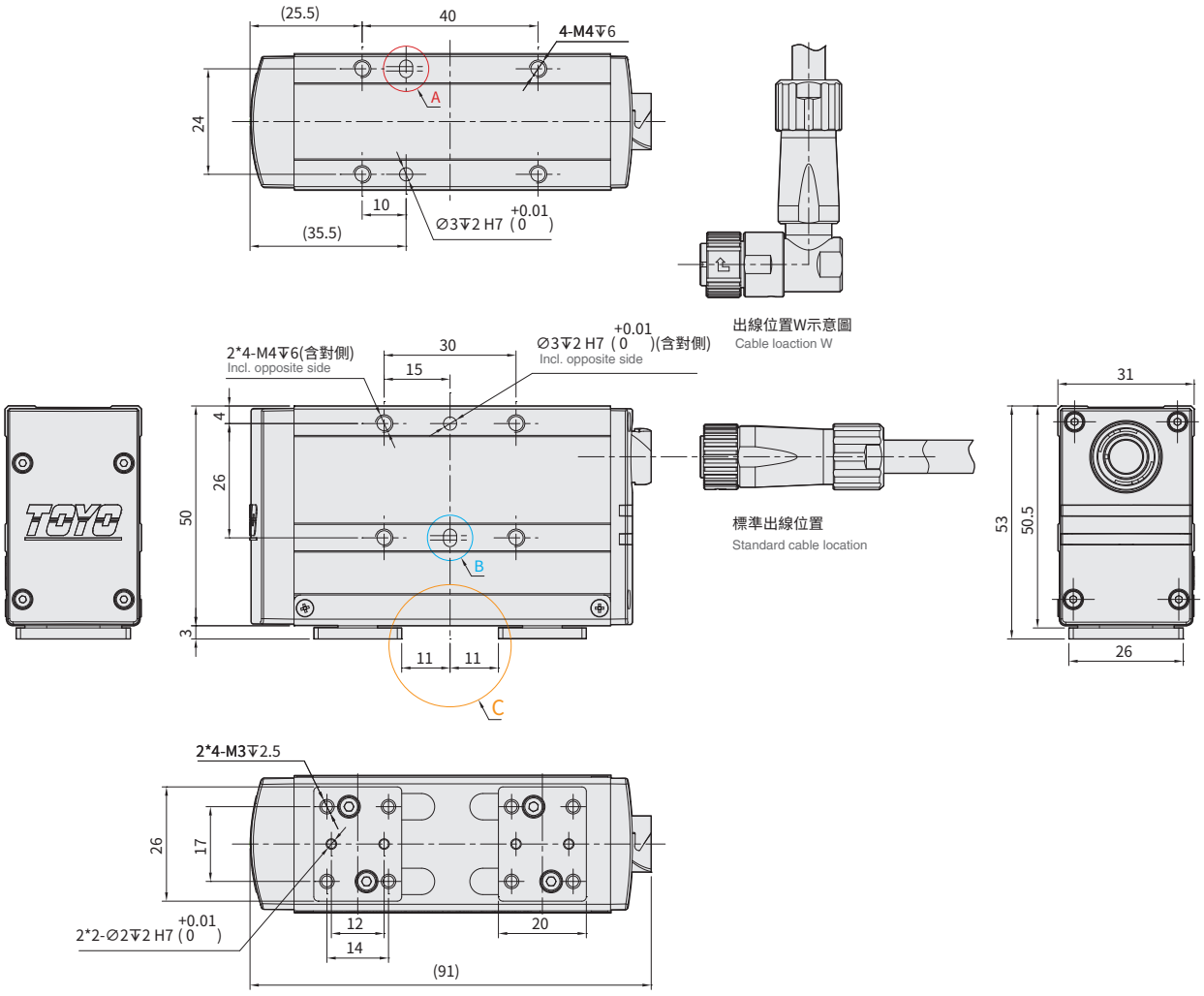
Step TC

螺桿驅動 Ball Screw Drive

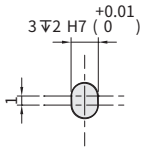
2D CAD 3D CAD

● CAD圖面可至www.toyorobot.com下載 ●
Please download the CAD file from TOYO's website: www.toyorobot.com

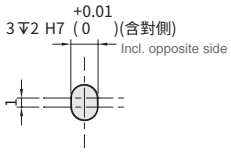
(單位 Unit : mm)



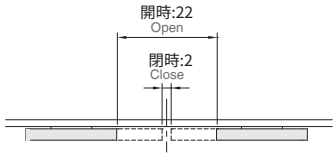
A View



B View



C View



Memo

CHS2-S40

Step TC

螺桿驅動 Ball Screw Drive

馬達尺寸 Motor Dimension 25□mm

型號表示方式 Ordering Method

CHS2 - S40 - TC100 - 03 - N1 - W - A001

本體型號 Model

特注式樣 Customization Order No.

開閉行程 Open Close Stroke

40	40mm

對應控制器 Corresponding Controller

TC100

電纜線長 Cable Length

01	1m
03	3m
05	5m
10	10m

*標配3m Standard:3m

I/O線種類 Kind of I/O Cable

-	標準I/O彩虹排線 I/O Cable
N1	隔離I/O線 Shielded I/O Cable

*標配1.5m Standard:1.5m

出線位置 Cable location

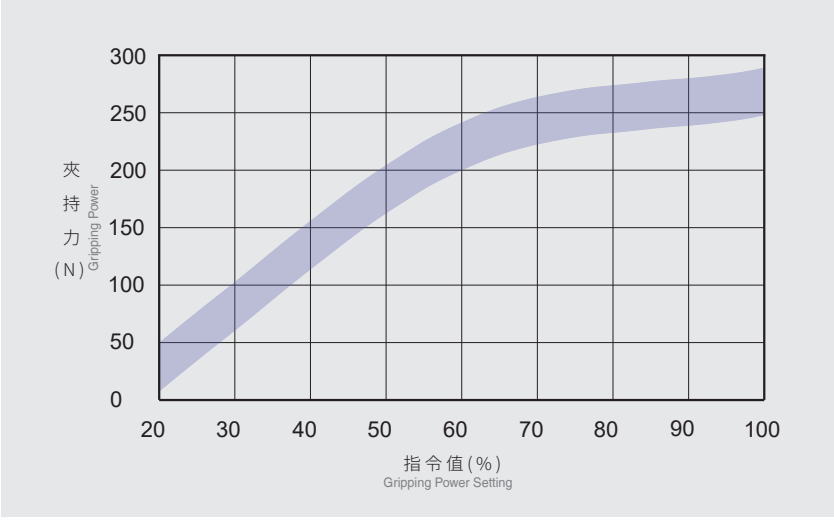
-	標準右側出線 Standard Location from the right
W	出線位置朝上 Cable location at the top

基本仕樣 Specification

規格 Spec	夾持重量 Weight (kg)	2.58
	夾持力範圍 Gripping force (N)	40~258 (15-100%)
	開閉行程 Ball Screw Lead (mm)	40
	開閉速度 Open/Close Speed (mm/s)	8.2~41
	位置重複精度 Position repeatability (mm)	±0.01
	導引機構 Guide structure	線性滑軌 Linear guide
	使用溫度範圍 Operating temperature range (°C)	0~+40
	使用濕度範圍 Operating humidity range (%)	RH90以下(無結露) Below RH90 Dew free
部品 Parts	馬達尺寸 Motor Dimension (mm)	25□
	重量 Weight (g)※1	625

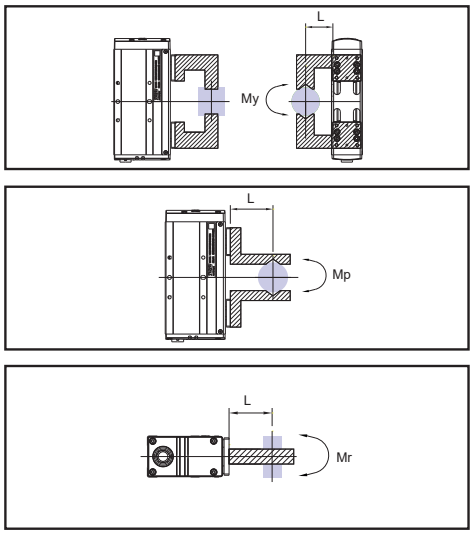
※1 重量包含本體與馬達。Weight of model with motor.

夾持力與指令值曲線表 Gripping Power vs. Gripping Power Setting (%)



*夾持力誤差:±15% ±15% clamping force tolerance .

容許夾持負載力矩表 Allowable Moment

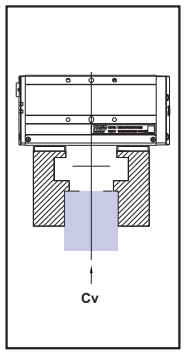


*L:夾爪至負荷作用點之距離(mm)
Distance to the loading location

(單位 Unit:N.m)

最大容許力矩 Maximum moment		
偏力矩 Allowable yawing moment	MY	13.74
俯仰力矩 Allowable pitching moment	MP	13.74
滾動力矩 Allowable rolling moment	MR	37.08

*表中負荷及力矩的值表示靜的值
The value in the chart is static, not dynamic loading and torque.



(單位 Unit:N)

垂直方向容許靜負荷 FV Vertical Maximum Force
4120.4

對應控制器一覽表 Corresponding Controller Chart

外觀 Exterior	控制器型號 Controller Model	控制介面 Control Mode	特點 Featrues	電氣規格 Electrical Spec.	詳細參閱 Reference Page
	TC100	I/O控制 I/O Control Mode	利用I/O變化，最多可以執行127個位置控制。 By I/O control, max. 127 positioning points, can be executed.	控制電路只能使用24V。 工作電壓DC24V，額定電流 2A，峰值電流3A。 工作電壓DC48V，額定電流 1A，峰值電流2A。 使用DC48V時在相同扭力下，轉速會提升，詳細內容請跟服務窗口連絡。 The voltage of control circuit is 24V only. Operating voltage DC24V, rated current 2A, peak current 3A. Operating voltage DC48V, rated current 1A, peak current 2A. When the voltage is DC48V but same torque, the rotation speed will be raised. Please contact your service window to details.	P.175
		通訊控制 Communication Control Mode	採Modbus的RS485通訊介面(最大並接16台)及一組mini USB (TOYO-Single專用)。 Use Modbus as the interface of RS485 (connect max. 16 controllers) and 1 set mini USB. (special for TOYO-single)		

CHS2-S40

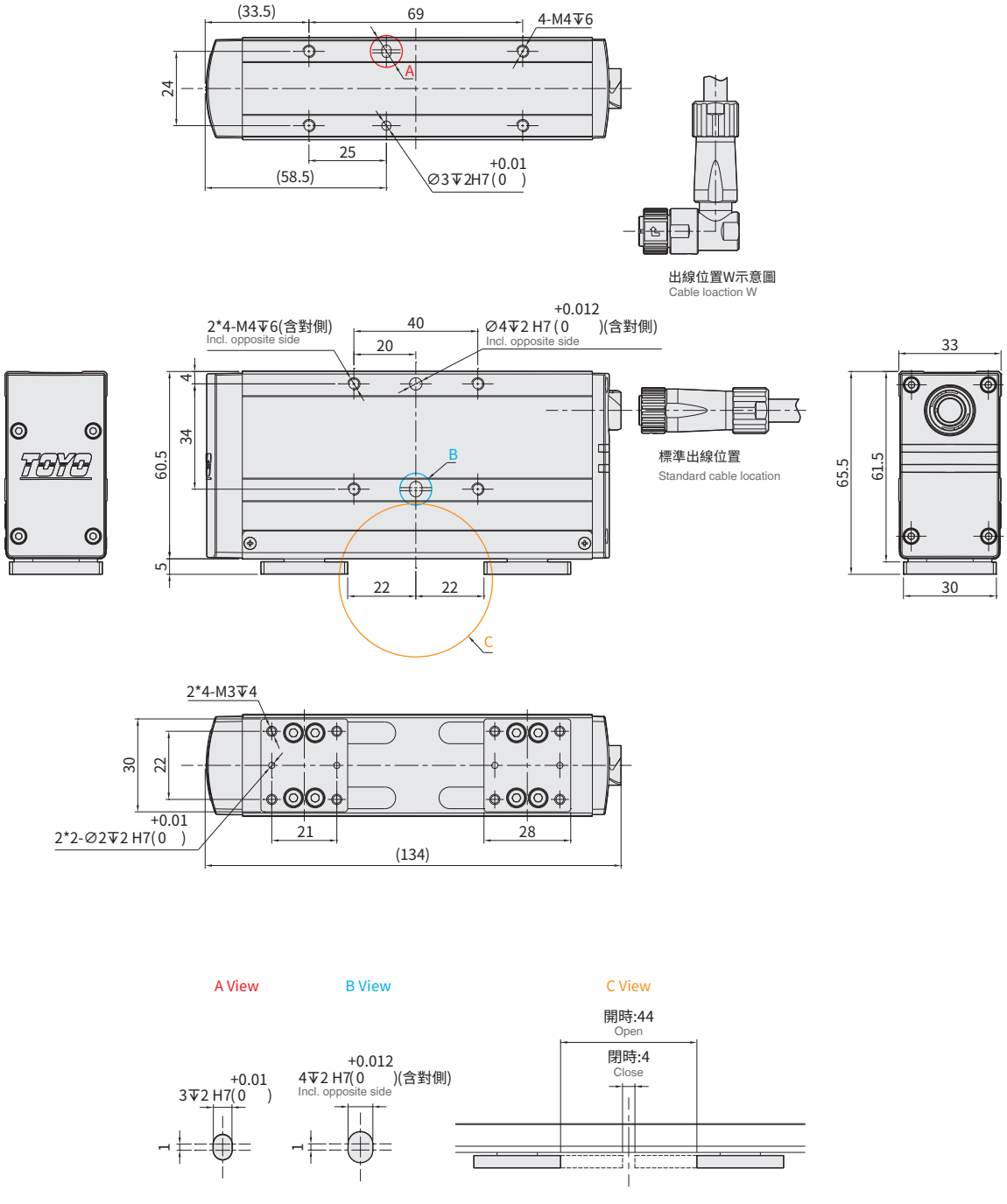
Step TC

螺桿驅動 Ball Screw Drive

2D CAD 3D CAD

● CAD圖面可至www.toyorobot.com下載 ●
Please download the CAD file from TOYO's website: www.toyorobot.com

(單位 Unit：mm)



Memo

CHS2-S68

Step TC

螺桿驅動 Ball Screw Drive

馬達尺寸 Motor Dimension 35□mm

型號表示方式 Ordering Method

CHS2 - S68 - TC100 - 03 - N1 - W - A001

本體型號 Model

特注式樣 Customization Order No.

開閉行程 Open Close Stroke

68	68mm

對應控制器 Corresponding Controller

TC100

電纜線長 Cable Length

01	1m
03	3m
05	5m
10	10m

*標配3m
Standard:3m

I/O線種類 Kind of I/O Cable

-	標準I/O彩虹排線 I/O Cable
N1	隔離I/O線 Shielded I/O Cable

*標配1.5m
Standard:1.5m

出線位置 Cable location

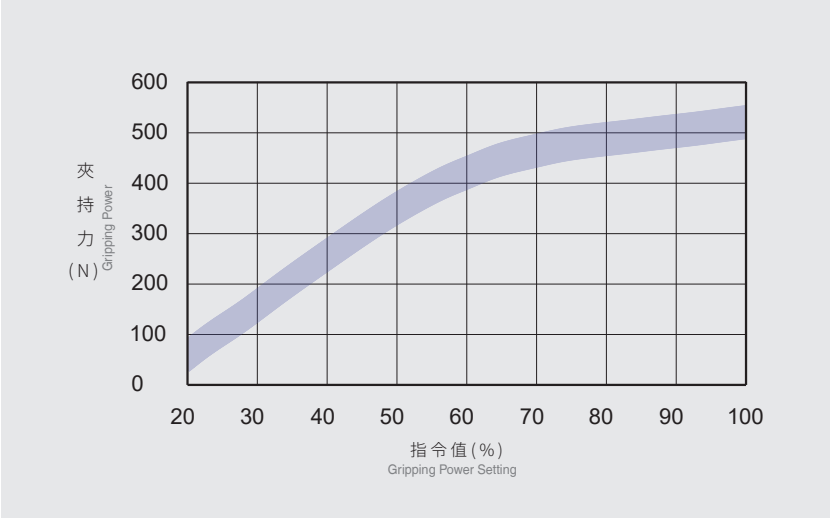
-	標準右側出線 Standard Location from the right
W	出線位置朝上 Cable location at the top

基本仕樣 Specification

規格 Spec	夾持重量 Weight (kg)	5.09
	夾持力範圍 Gripping force (N)	80~509 (15-100%)
	開閉行程 Ball Screw Lead (mm)	68
	開閉速度 Open/Close Speed (mm/s)	10~50
	位置重複精度 Position repeatability (mm)	±0.01
	導引機構 Guide structure	線性滑軌 Linear guide
	使用溫度範圍 Operating temperature range (°C)	0~+40
	使用濕度範圍 Operating humidity range (%)	RH90以下(無結露) Below RH90 Dew free
部品 Parts	馬達尺寸 Motor Dimension (mm)	35□
	重量 Weight (g)※1	1730

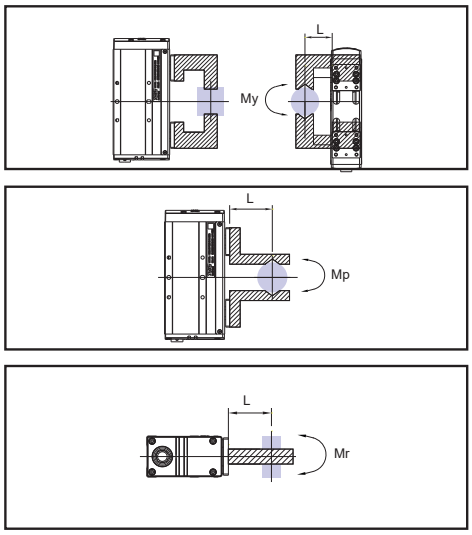
※1 重量包含本體與馬達。Weight of model with motor.

夾持力與指令值曲線表 Gripping Power vs. Gripping Power Setting (%)



*夾持力誤差:±15% ±15% clamping force tolerance .

容許夾持負載力矩表 Allowable Moment

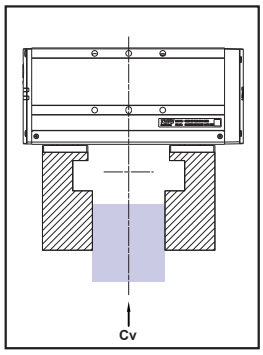


*L:夾爪至負荷作用點之距離(mm)
Distance to the loading location

(單位 Unit:N.m)

最大容許力矩 Maximum moment		
偏力矩 Allowable yawing moment	MY	18.32
俯仰力矩 Allowable pitching moment	MP	18.32
滾動力矩 Allowable rolling moment	MR	67.06

*表中負荷及力矩的值表示靜的值
The value in the chart is static, not dynamic loading and torque.



(單位 Unit:N)

垂直方向容許靜負荷 FV Vertical Maximum Force
4807.2

對應控制器一覽表 Corresponding Controller Chart

外觀 Exterior	控制器型號 Controller Model	控制介面 Control Mode	特點 Featrues	電氣規格 Electrical Spec.	詳細參閱 Reference Page
	TC100	I/O控制 I/O Control Mode	利用I/O變化，最多可以執行127個位置控制。 By I/O control, max. 127 positioning points, can be executed.	控制電路只能使用24V。 工作電壓DC24V，額定電流 2A，峰值電流3A。 工作電壓DC48V，額定電流 1A，峰值電流2A。 使用DC48V時在相同扭力下，轉速會提升，詳細內容請跟服務窗口連絡。 The voltage of control circuit is 24V only. Operating voltage DC24V, rated current 2A, peak current 3A. Operating voltage DC48V, rated current 1A, peak current 2A. When the voltage is DC48V but same torque, the rotation speed will be raised. Please contact your service window to details.	P.175
		通訊控制 Communication Control Mode	採Modbus的RS485通訊介面(最大並接16台)及一組mini USB (TOYO-Single專用)。 Use Modbus as the interface of RS485 (connect max. 16 controllers) and 1 set mini USB. (special for TOYO-single)		

CHS2-S68

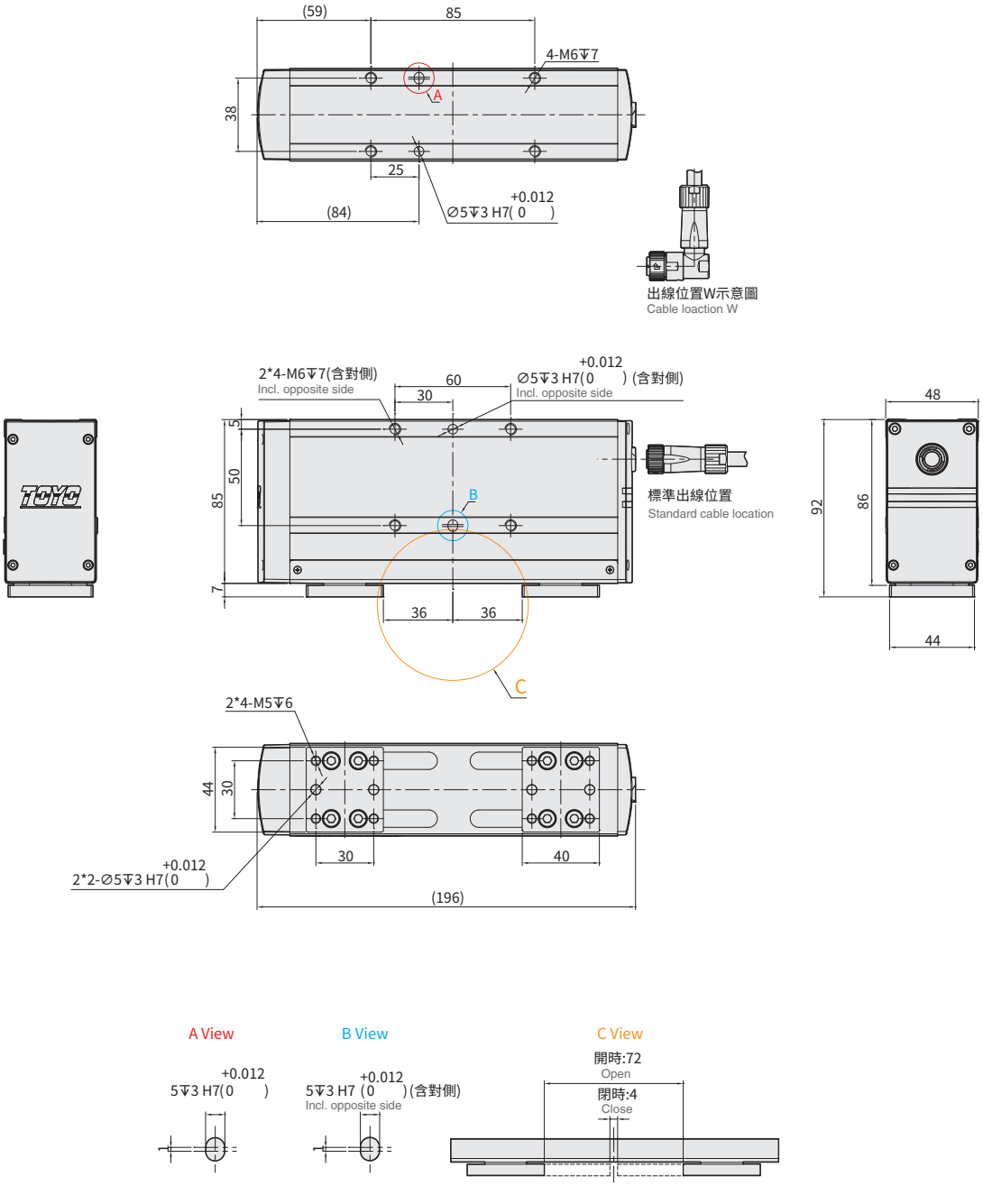
Step TC

螺桿驅動 Ball Screw Drive

2D CAD 3D CAD

● CAD圖面可至www.toyorobot.com下載 ●
Please download the CAD file from TOYO's website: www.toyorobot.com

(單位 Unit：mm)



Memo

CHY2-S80

Step

連桿式電動夾爪
Shaft Drive

馬達尺寸 Motor Dimension 35□mm

型號表示方式 Ordering Method

CHY2 - S80 - 15

本體型號 Model

開閉行程 Open Close Stroke

80	80mm

電纜線長 Cable Length

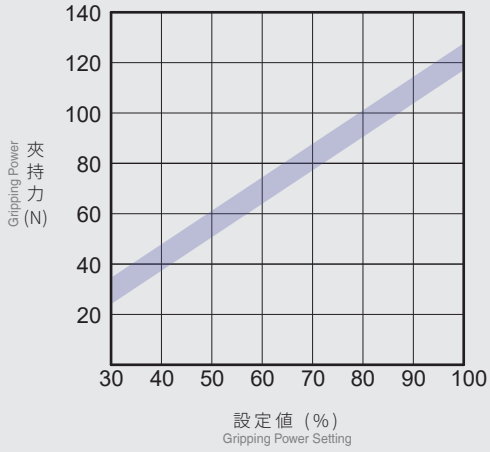
15	150mm

基本仕樣 Specification

規格 Spec	夾持重量 Weight (kg)	1.2
	夾持力範圍 Gripping force (N)	32~120 (30-100%)
	開閉行程 Open and close stroke (mm)※1	80
	開閉速度 Open and close speed (mm/s)	40~200
	位置重複精度 Position repeatability (mm)	±0.05
	導引機構 Guide structure	連桿機構 Shafts
	使用溫度範圍 Operating temperature range (°C)	0~+40
	使用濕度範圍 Operating humidity range (%)	RH90以下(無結露) Below RH90 Dew free
部品 Parts	馬達尺寸 Motor Dimension (mm)	35□
	重量 Weight (g)※2	845

※1 雙邊合計行程。Total stroke of both sides.
※2重量包含本體與馬達。Weight of model with motor.

夾持力與指令值曲線表 Gripping Power vs. Gripping Power Setting (%)



*夾持力誤差:±15% ±15% clamping force tolerance .

CHY2-S80

Step

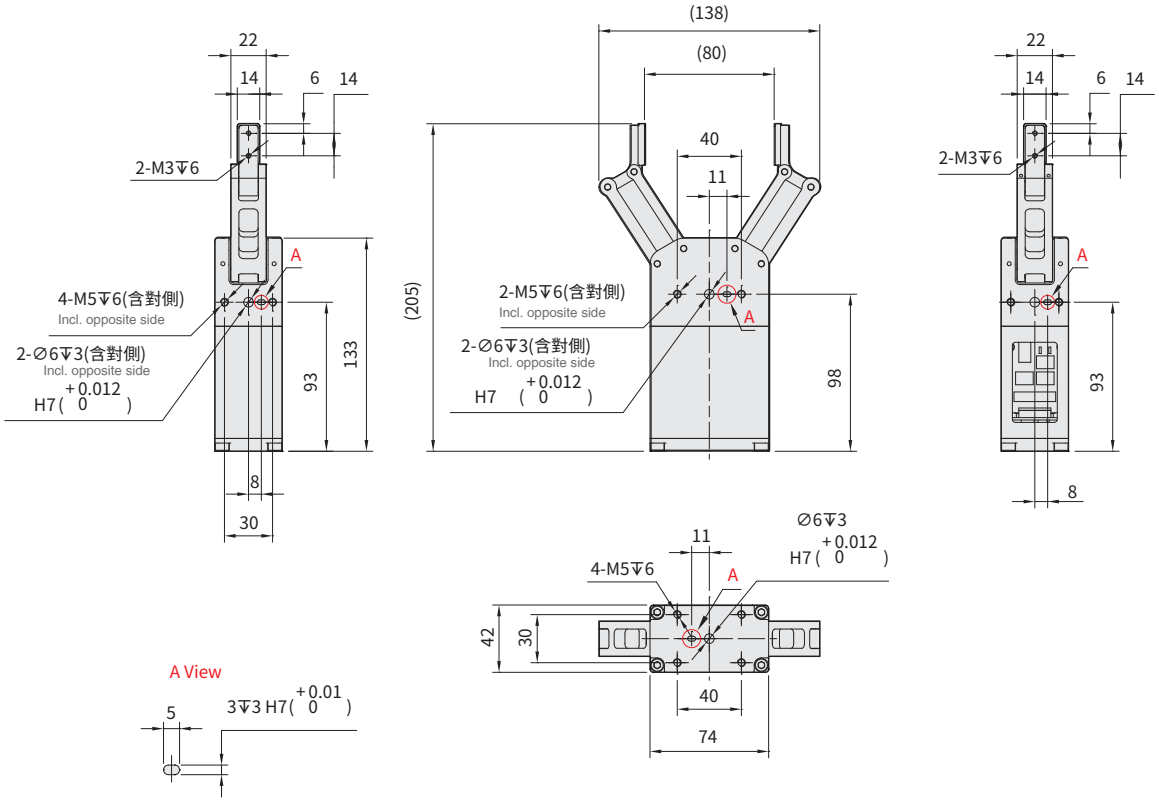
連桿式電動夾爪
Shaft Drive

S80 標準型 Standard Type

2D CAD 3D CAD

● CAD圖面可至www.toyorobot.com下載 ●
Please download the CAD file from TOYO's website: www.toyorobot.com

(單位 Unit：mm)



Memo

CHY2-S150

Step

連桿式電動夾爪
Shaft Drive

馬達尺寸 Motor Dimension 35□mm

型號表示方式 Ordering Method

CHY2 - S150 - 15

本體型號
Model

開閉行程
Open Close Stroke

150	150mm

電纜線長
Cable Length

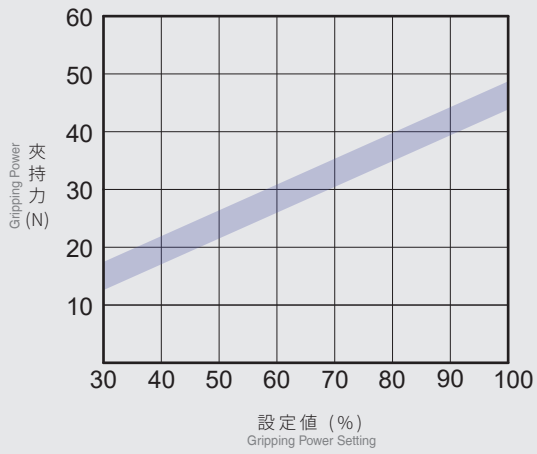
15	150mm

基本仕樣 Specification

規格 Spec	夾持重量 Weight (kg)	0.45
	夾持力範圍 Gripping force (N)	12~45 (30~100%)
	開閉行程 Open and close stroke (mm)※1	150
	開閉速度 Open and close speed (mm/s)	40~200
	位置重複精度 Position repeatability (mm)	±0.05
	導引機構 Guide structure	連桿機構 Shafts
	使用溫度範圍 Operating temperature range (°C)	0~+40
	使用濕度範圍 Operating humidity range (%)	RH90以下(無結露) Below RH90 Dew free
部品 Parts	馬達尺寸 Motor Dimension (mm)	35□
	重量 Weight (g)※2	890

※1 雙邊合計行程。Total stroke of both sides.
※2重量包含本體與馬達。Weight of model with motor.

夾持力與指令值曲線表 Gripping Power vs. Gripping Power Setting (%)



*夾持力誤差:±15% ±15% clamping force tolerance .

CHY2-S150

Step

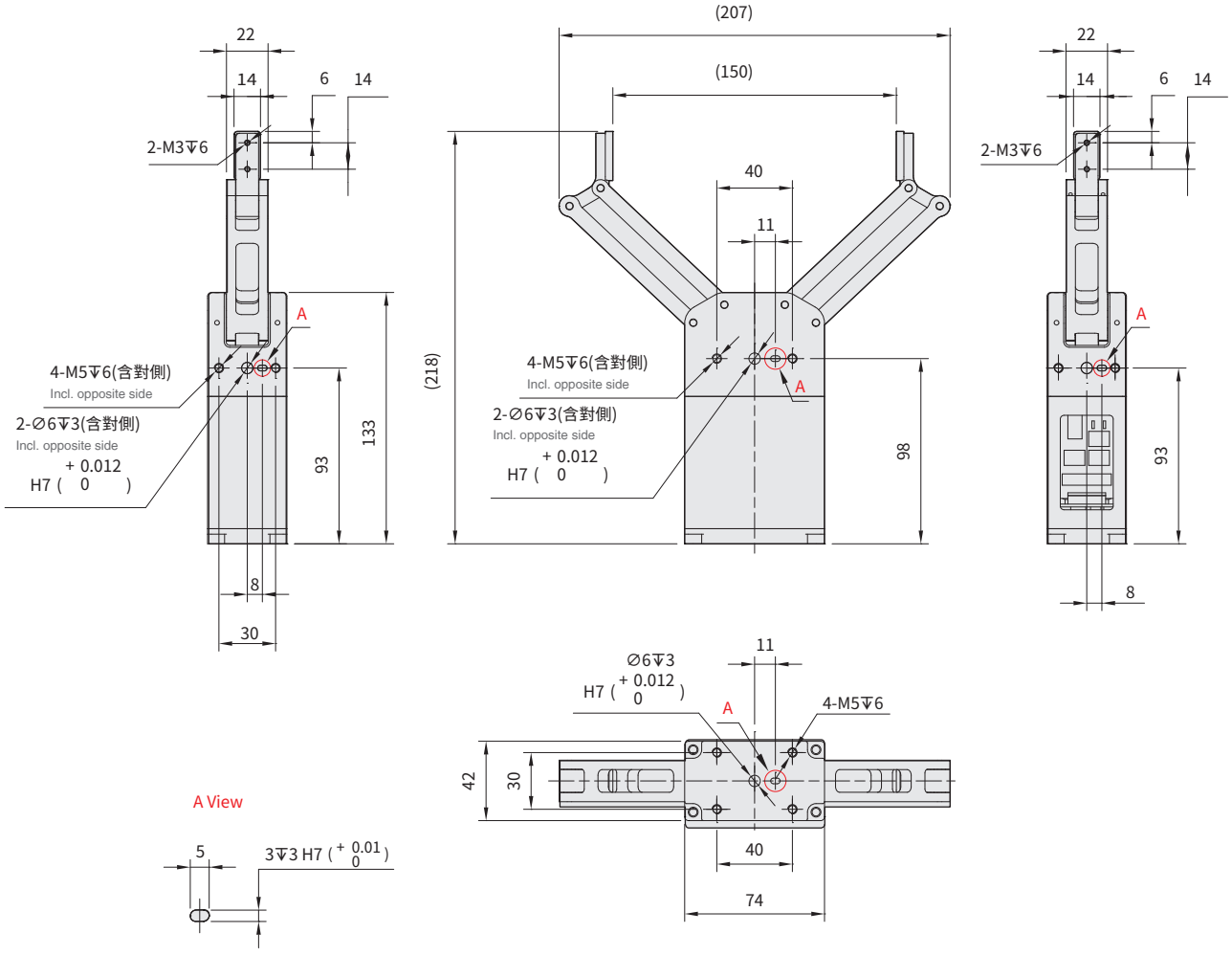
連桿式電動夾爪
Shaft Drive

S150 標準型 Standard Type

2D CAD 3D CAD

● CAD圖面可至www.toyorobot.com下載 ●
Please download the CAD file from TOYO's website: www.toyorobot.com

(單位 Unit : mm)



Memo

CHB6-S11

Step TC

凸輪式電動夾爪
Cam Structure Drive

馬達尺寸 Motor Dimension 20□mm

型號表示方式 Ordering Method

CHB6 - S11 - TC100 - 03 - N1 - A001

本體型號 Model

特注式樣 Customization Order No.

開閉行程 Open Close Stroke

11	11mm

對應控制器 Corresponding Controller

TC100

電纜線長 Cable Length

01	1m
03	3m
05	5m
10	10m

*標配3m
Standard:3m

I/O線種類 Kind of I/O Cable

-	標準I/O彩虹排線 I/O Cable
N1	隔離I/O線 Shielded I/O Cable

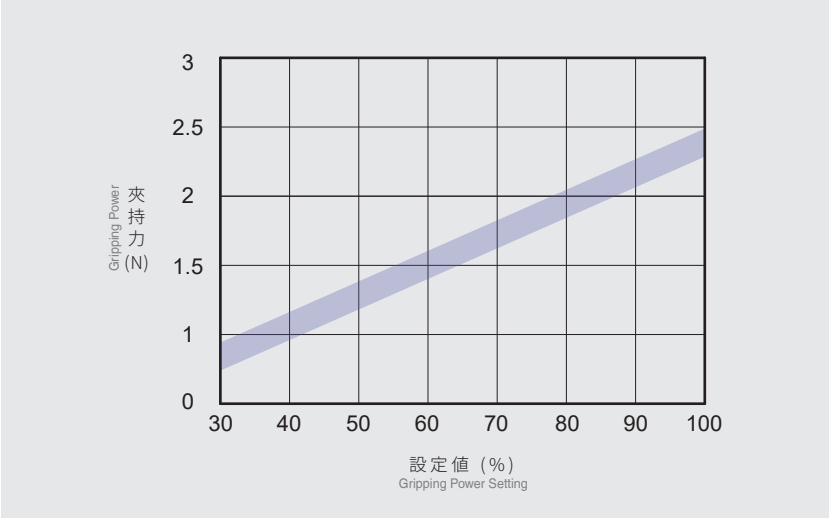
*標配1.5m
Standard:1.5m

基本仕樣 Specification

規格 Spec	夾持重量 Weight (kg)	0.024
	夾持力範圍 Gripping force (N)	0.72~2.4 (30-100%)
	開閉行程 Open and close stroke (mm)※1	11
	最高速度 Maximun speed (mm/s)	20~100
	位置重複精度 Position repeatability (mm)	±0.02
	導引機構 Guide structure	線性滑軌 Linear guide
	使用溫度範圍 Operating temperature range (°C)	0~+40
	使用濕度範圍 Operating humidity range (%)	RH90以下(無結露) Below RH90 Dew free
部品 Parts	馬達尺寸 Motor Dimension (mm)	20□
	重量 Weight (g)※2	80

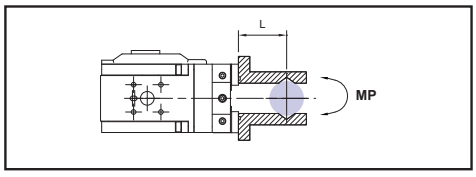
※1 雙邊合計行程。Total stroke of both sides.
※2重量包含本體與馬達。Weight of model with motor.

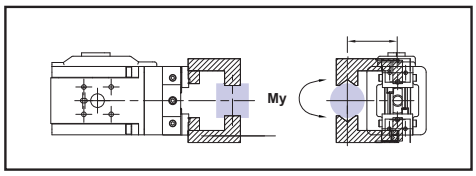
夾持力與指令值曲線表 Gripping Power vs. Gripping Power Setting (%)

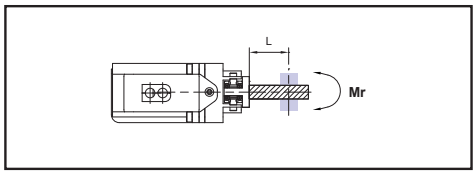


*夾持力誤差:±15% ±15% clamping force tolerance .

容許夾持負載力矩表 Allowable Moment





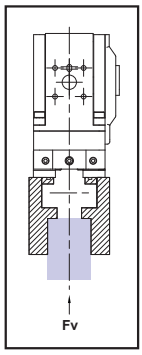


*L:夾爪至負荷作用點之距離(mm)
Distance to the loading location

(單位 Unit:N.m)

最大容許力矩 Maximum moment		
偏力矩 Allowable yawing moment	MY	0.4
俯仰力矩 Allowable pitching moment	MP	0.4
滾動力矩 Allowable rolling moment	MR	0.6

*表中負荷及力矩的值表示靜的值
The value in the chart is static, not dynamic loading and torque.



(單位 Unit:N)

垂直方向容許靜負荷 FV Vertical Maximum Force
310

對應控制器一覽表 Corresponding Controller Chart

外觀 Exterior	控制器型號 Controller Model	控制介面 Control Mode	特點 Featrues	電氣規格 Electrical Spec.	詳細參閱 Reference Page
	TC100	I/O控制 I/O Control Mode	利用I/O變化，最多可以執行127個位置控制。 By I/O control, max. 127 positioning points, can be executed.	控制電路只能使用24V。 工作電壓DC24V，額定電流 2A，峰值電流3A。 工作電壓DC48V，額定電流 1A，峰值電流2A。 使用DC48V時在相同扭力下，轉速會提升，詳細內容請跟服務窗口連絡。 The voltage of control circuit is 24V only. Operating voltage DC24V, rated current 2A, peak current 3A. Operating voltage DC48V, rated current 1A, peak current 2A. When the voltage is DC48V but same torque, the rotation speed will be raised. Please contact your service window to details.	P.175
		通訊控制 Communication Control Mode	採Modbus的RS485通訊介面(最大並接16台)及一組mini USB (TOYO-Single專用)。 Use Modbus as the interface of RS485 (connect max. 16 controllers) and 1 set mini USB. (special for TOYO-single)		

CHB6-S11

Step TC

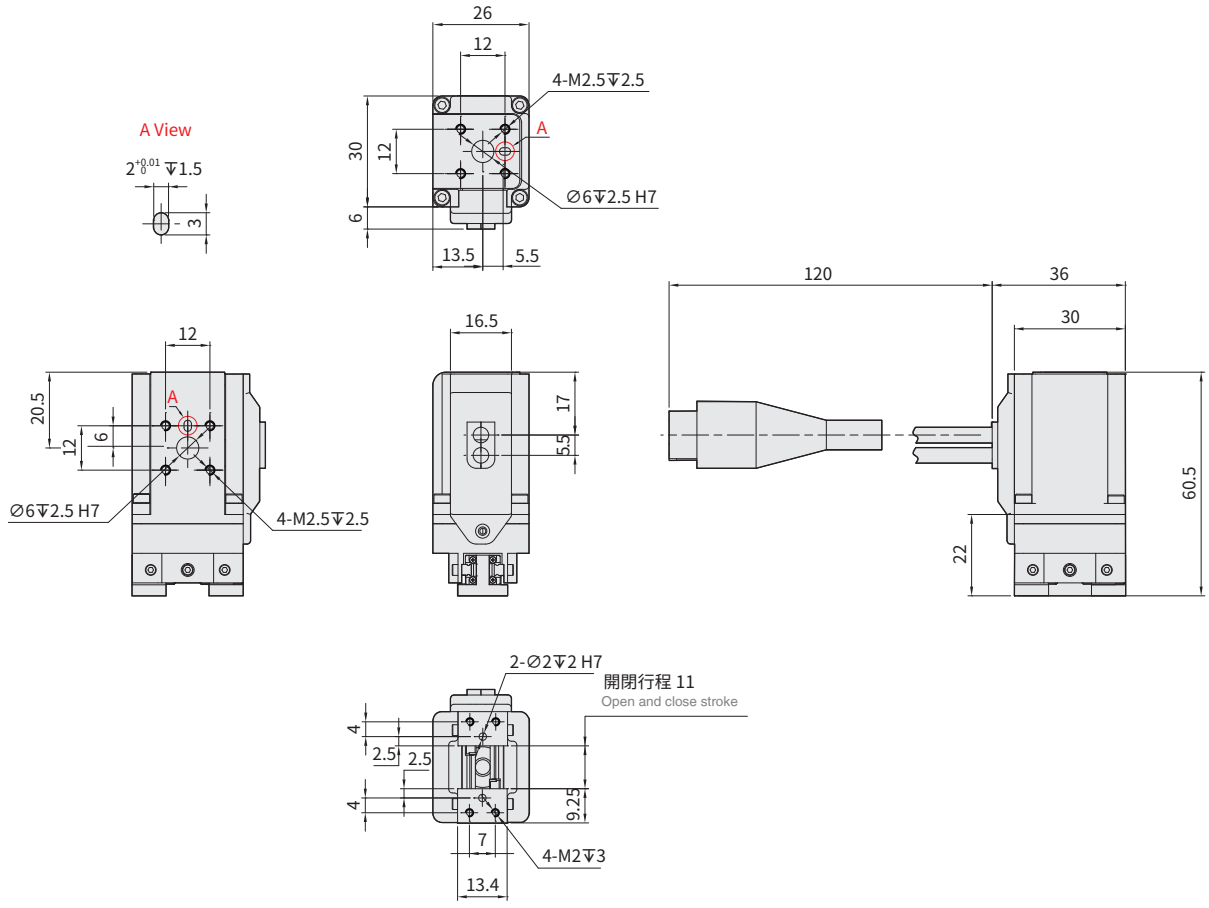
凸輪式電動夾爪
Cam Structure Drive

S11 標準型 Standard Type

2D CAD 3D CAD

● CAD圖面可至www.toyorobot.com下載 ●
Please download the CAD file from TOYO's website: www.toyorobot.com

(單位 Unit : mm)



Memo

CHB6-S14

Step TC

凸輪式電動夾爪
Cam Structure Drive

馬達尺寸 Motor Dimension 25□mm

型號表示方式 Ordering Method

CHB6 - S14 - TC100 - 03 - N1 - A001

本體型號 Model

特注式樣 Customization Order No.

開閉行程 Open Close Stroke

14	14mm

對應控制器 Corresponding Controller

TC100

電纜線長 Cable Length

01	1m
03	3m
05	5m
10	10m

*標配3m
Standard:3m

I/O線種類 Kind of I/O Cable

-	標準I/O彩虹排線 I/O Cable
N1	隔離I/O線 Shielded I/O Cable

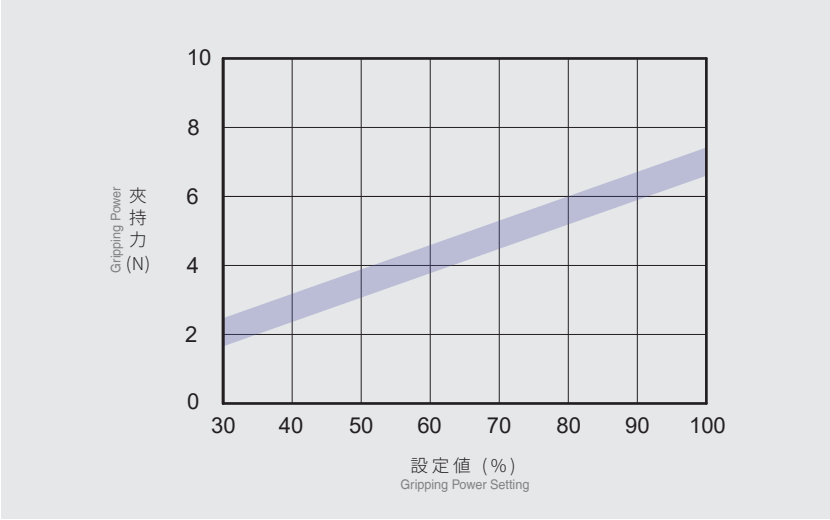
*標配1.5m
Standard:1.5m

基本仕樣 Specification

規格 Spec	夾持重量 Weight (kg)	0.07
	夾持力範圍 Gripping force (N)	2.1-7 (30-100%)
	開閉行程 Open and close stroke (mm)※1	14
	開閉速度 Open/Close Speed (mm/s)	20~100
	位置重複精度 Position repeatability (mm)	±0.02
	導引機構 Guide structure	線性滑軌 Linear guide
	使用溫度範圍 Operating temperature range (°C)	0~+40
	使用濕度範圍 Operating humidity range (%)	RH90以下(無結露) Below RH90 Dew free
部品 Parts	馬達尺寸 Motor Dimension (mm)	25□
	重量 Weight (g)※2	250

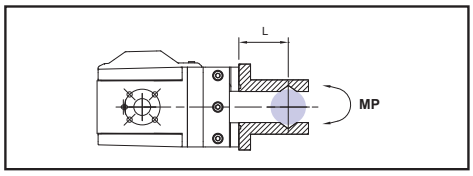
※1 雙邊合計行程。Total stroke of both sides.
※2重量包含本體與馬達。Weight of model with motor.

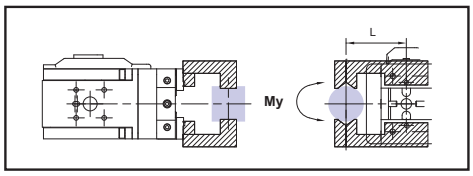
夾持力與指令值曲線表 Gripping Power vs. Gripping Power Setting (%)

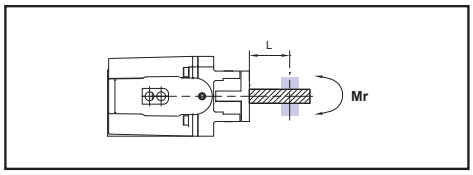


*夾持力誤差:±15% ±15% clamping force tolerance .

容許夾持負載力矩表 Allowable Moment





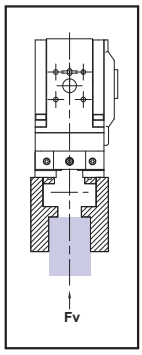


*L:夾爪至負荷作用點之距離(mm)
Distance to the loading location

(單位 Unit:N.m)

最大容許力矩 Maximum moment		
偏力矩 Allowable yawing moment	MY	1
俯仰力矩 Allowable pitching moment	MP	1
滾動力矩 Allowable rolling moment	MR	1.7

*表中負荷及力矩的值表示靜的值
The value in the chart is static, not dynamic loading and torque.



(單位 Unit:N)

垂直方向容許靜負荷 FV Vertical Maximum Force
550

對應控制器一覽表 Corresponding Controller Chart

外觀 Exterior	控制器型號 Controller Model	控制介面 Control Mode	特點 Featrues	電氣規格 Electrical Spec.	詳細參閱 Reference Page
	TC100	I/O控制 I/O Control Mode	利用I/O變化，最多可以執行127個位置控制。 By I/O control, max. 127 positioning points, can be executed.	控制電路只能使用24V。 工作電壓DC24V，額定電流 2A，峰值電流3A。 工作電壓DC48V，額定電流 1A，峰值電流2A。 使用DC48V時在相同扭力下，轉速會提升，詳細內容請跟服務窗口連絡。 The voltage of control circuit is 24V only. Operating voltage DC24V, rated current 2A, peak current 3A. Operating voltage DC48V, rated current 1A, peak current 2A. When the voltage is DC48V but same torque, the rotation speed will be raised. Please contact your service window to details.	P.175
		通訊控制 Communication Control Mode	採Modbus的RS485通訊介面(最大並接16台)及一組mini USB (TOYO-Single專用)。 Use Modbus as the interface of RS485 (connect max. 16 controllers) and 1 set mini USB. (special for TOYO-single)		

CHB6-S14

Step TC

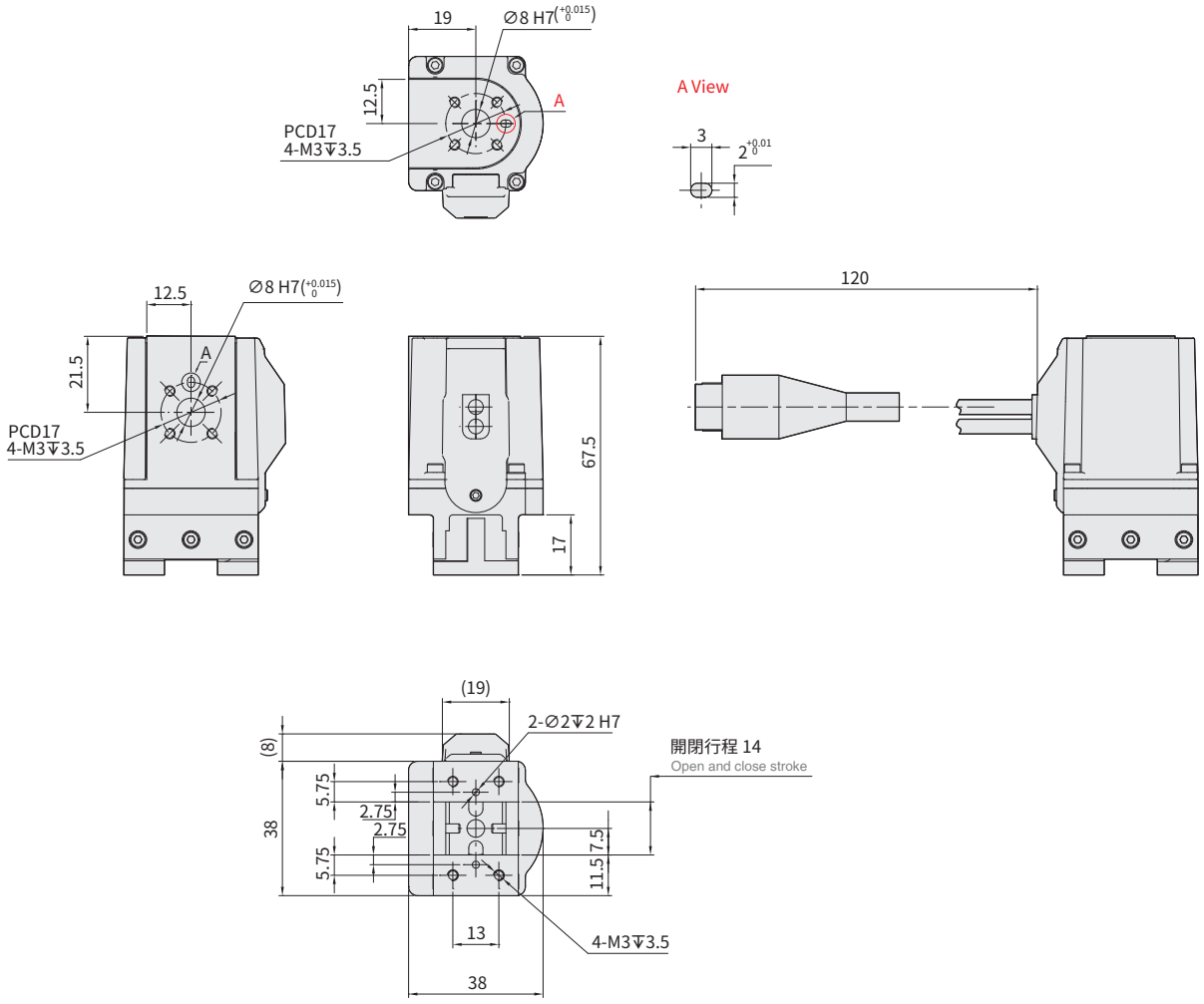
凸輪式電動夾爪
Cam Structure Drive

S14 標準型 Standard Type

2D CAD 3D CAD

● CAD圖面可至www.toyorobot.com下載 ●
Please download the CAD file from TOYO's website: www.toyorobot.com

(單位 Unit：mm)

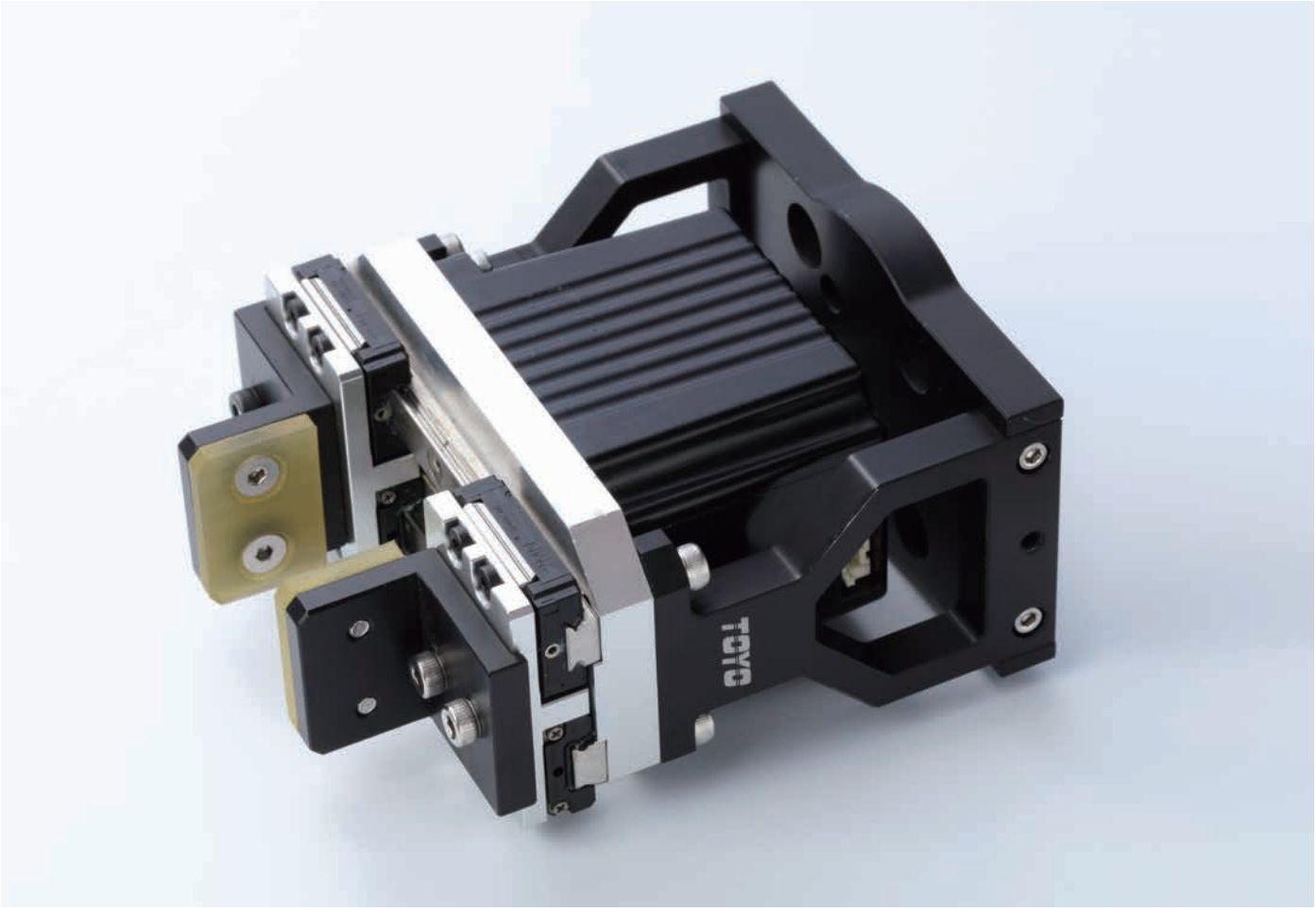


Memo

CHG2

Step

凸輪式電動夾爪
Cam Structure Drive



馬達尺寸 Motor Dimension ⌀42mm

型號表示方式 Ordering Method

CHG2 - S30 - 002 - L - A001

本體型號 Model

特注式樣 Customization Order No.

開閉行程 Open Close Stroke

30	30mm

電纜線長 Cable Length

002	0.2m

出線位置 Cable location

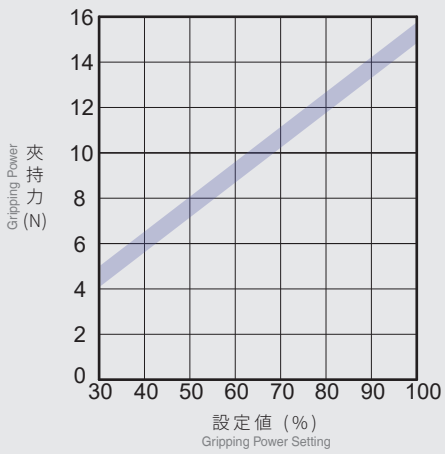
-	標準直結出線 standard straight type
L	90度轉折出線 90° type plug

基本仕樣 Specification

規格 Spec	夾持重量 Weight (kg)	0.15
	夾持力範圍 Gripping force (N)	4.5~15 (30-100%)
	開閉行程 Open and close stroke (mm)※1	30
	最高速度 Maximun speed (mm/s)	30~150
	位置重複精度 Position repeatability (mm)	±0.05
	導引機構 Guide structure	線性滑軌 Linear guide
	使用溫度範圍 Operating temperature range (°C)	0~+40
	使用濕度範圍 Operating humidity range (%)	RH90以下 Below RH90
部品 Parts	馬達尺寸 Motor Dimension (mm)	Ø42
	重量 Weight (g)※2	450

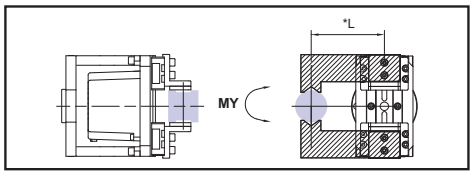
※1 雙邊合計行程。Total stroke of both sides.
※2重量包含本體與馬達。Weight of model with motor.

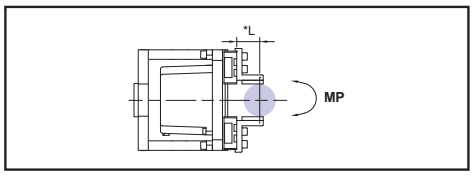
夾持力與指令值曲線表 Gripping Power vs. Gripping Power Setting (%)

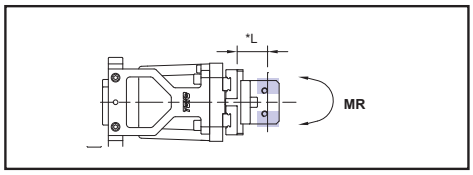


*夾持力誤差:±15% ±15% clamping force tolerance .

容許夾持負載力矩表 Allowable Moment





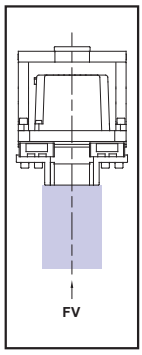


*L:夾爪至負荷作用點之距離(mm)
Distance to the loading location

(單位 Unit:N.m)

最大容許力矩 Maximum moment		
偏力矩 Allowable yawing moment	MY	7.4
俯仰力矩 Allowable pitching moment	MP	7.4
滾動力矩 Allowable rolling moment	MR	11.8

*表中負荷及力矩的值表示靜的值
The value in the chart is static, not dynamic loading and torque.



(單位 Unit:N)

垂直方向容許靜負荷 FV Vertical Maximum Force
500

CHG2

Step

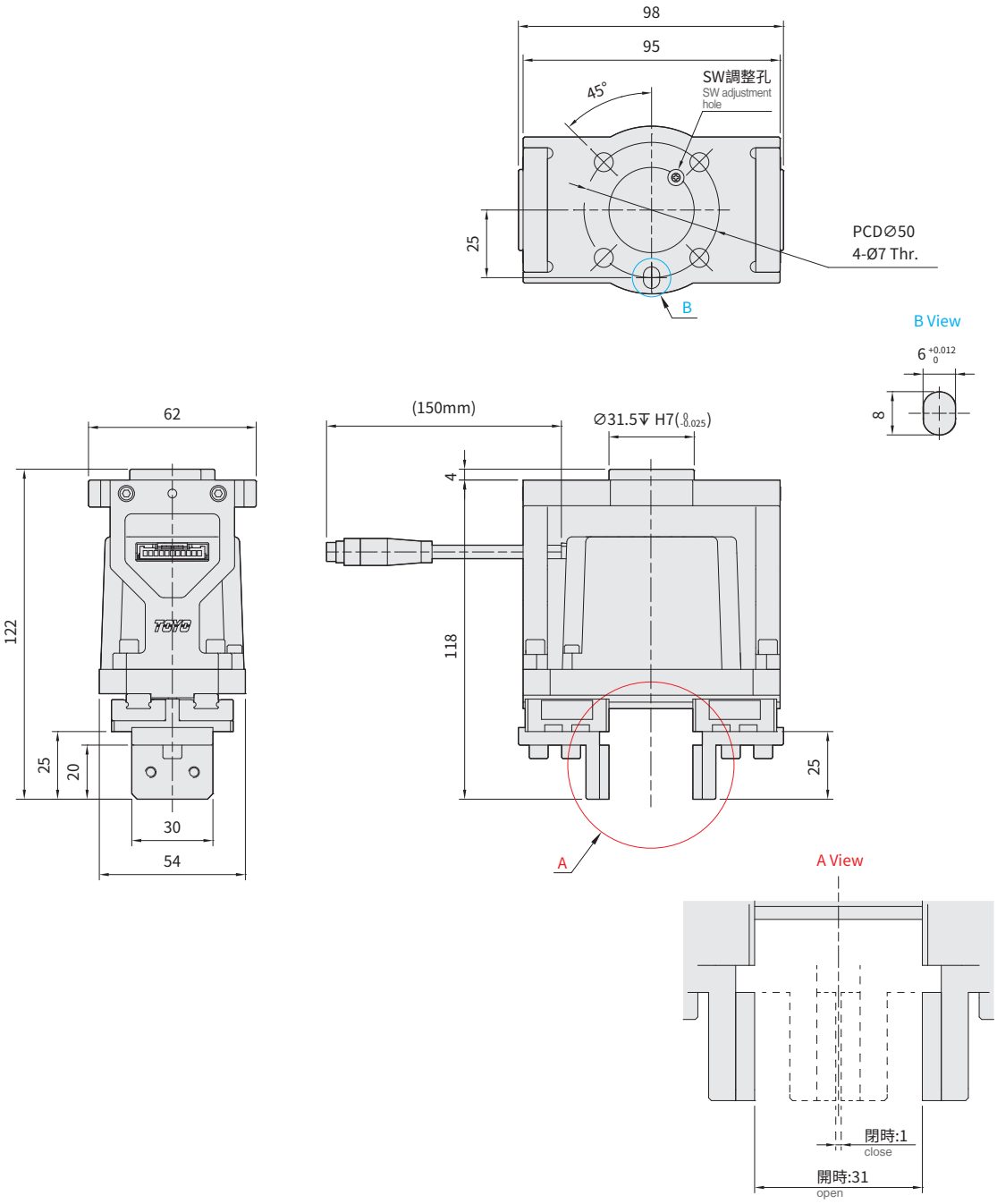
凸輪式電動夾爪
Cam Structure Drive

S30 標準型 Standard Type

2D CAD 3D CAD

● CAD圖面可至www.toyorobot.com下載 ●
Please download the CAD file from TOYO's website: www.toyorobot.com

(單位 Unit：mm)

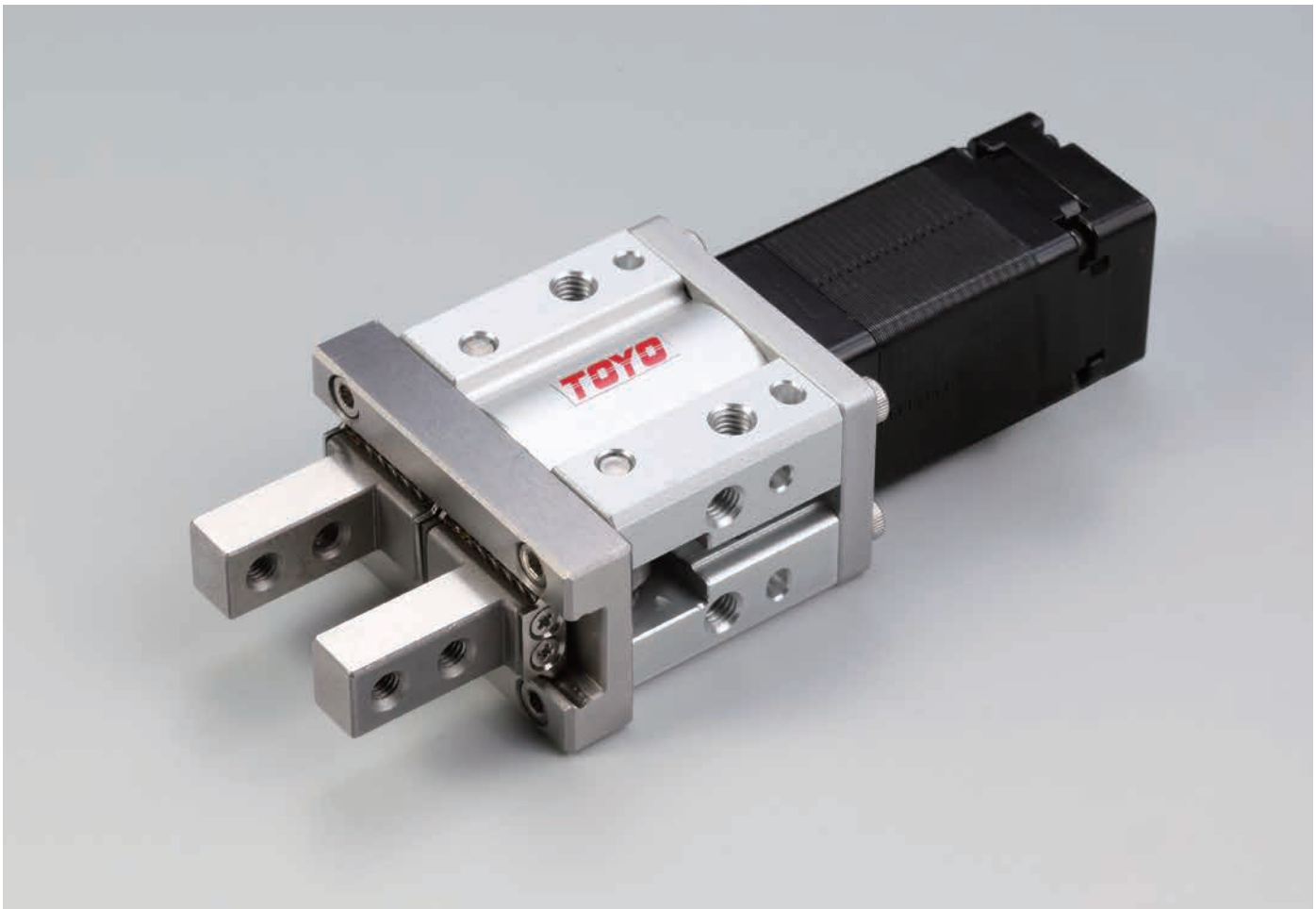


Memo

CHZ20

Step TC

滑動連桿電動夾爪
ACME Lead Screw Drive



馬達尺寸 Motor Dimension 25□mm

型號表示方式 Ordering Method

CHZ20 - S10 - TC100 - 03 - N1 - A001

本體型號 Model

特注式樣 Customization Order No.

開閉行程 Open Close Stroke

S10	標準型 Standard Type
N10	窄型 Narrow Type

對應控制器 Corresponding Controller

TC100

電纜線長 Cable Length

01	1m
03	3m
05	5m
10	10m

*標配3m
Standard:3m

I/O線種類 Kind of I/O Cable

-	標準I/O彩虹排線 I/O Cable
N1	隔離I/O線 Shielded I/O Cable

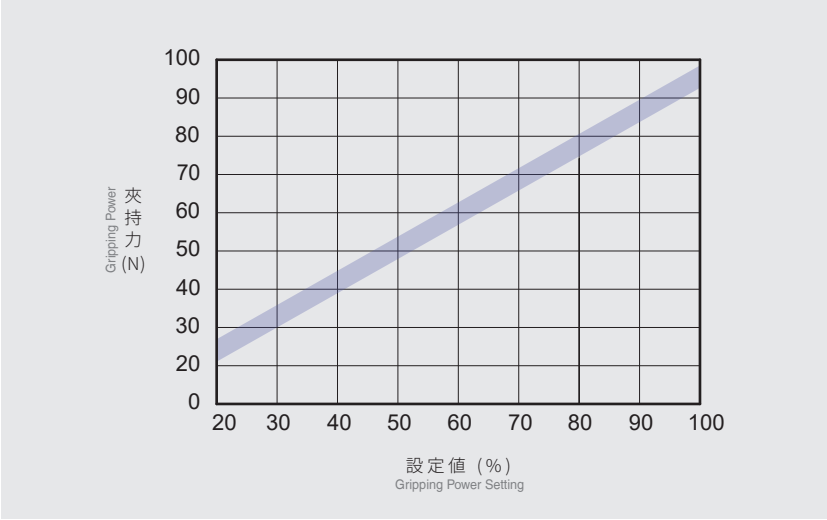
*標配1.5m
Standard:1.5m

基本仕樣 Specification

規格 Spec	夾持重量 Weight (kg)	0.98
	夾持力範圍 Gripping force (N)	22~98 (20-100%)
	開閉行程 Open and close stroke (mm)※1	10
	最高速度 Maximun speed (mm/s)	5~50
	位置重複精度 Position repeatability (mm)	±0.02
	導引機構 Guide structure	線性滑軌 Linear guide
	使用溫度範圍 Operating temperature range (°C)	0~+40
	使用濕度範圍 Operating humidity range (%)	RH90以下 Below RH90
部品 Parts	馬達尺寸 Motor Dimension (mm)	25□
	重量 Weight (g)※2	368

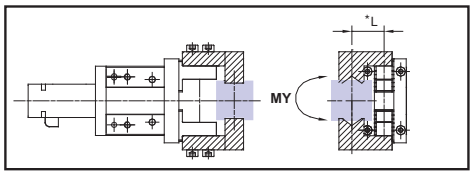
※1 雙邊合計行程。Total stroke of both sides.
※2重量包含本體與馬達。Weight of model with motor.

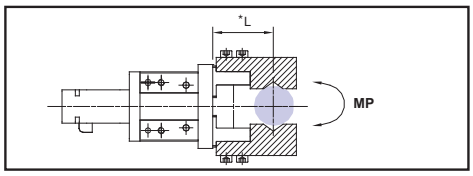
夾持力與指令值曲線表 Gripping Power vs. Gripping Power Setting (%)

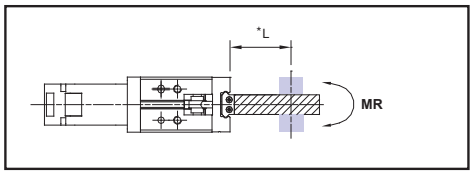


*夾持力誤差:±15% ±15% clamping force tolerance .

容許夾持負載力矩表 Allowable Moment





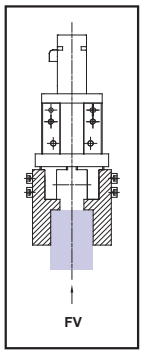


*L:夾爪至負荷作用點之距離(mm)
Distance to the loading location

(單位 Unit:N.m)

最大容許力矩 Maximum moment		
偏力矩 Allowable yawing moment	MY	1.32
俯仰力矩 Allowable pitching moment	MP	1.32
滾動力矩 Allowable rolling moment	MR	2.65

*表中負荷及力矩的值表示靜的值
The value in the chart is static, not dynamic loading and torque.



(單位 Unit:N)

垂直方向容許靜負荷 FV Vertical Maximum Force
147

對應控制器一覽表 Corresponding Controller Chart

外觀 Exterior	控制器型號 Controller Model	控制介面 Control Mode	特點 Featrues	電氣規格 Electrical Spec.	詳細參閱 Reference Page
	TC100	I/O控制 I/O Control Mode	利用I/O變化，最多可以執行127個位置控制。 By I/O control, max. 127 positioning points, can be executed.	控制電路只能使用24V。 工作電壓DC24V，額定電流 2A，峰值電流3A。 工作電壓DC48V，額定電流 1A，峰值電流2A。 使用DC48V時在相同扭力下，轉速會提升，詳細內容請跟服務窗口連絡。 The voltage of control circuit is 24V only. Operating voltage DC24V, rated current 2A, peak current 3A. Operating voltage DC48V, rated current 1A, peak current 2A. When the voltage is DC48V but same torque, the rotation speed will be raised. Please contact your service window to details.	P.175
		通訊控制 Communication Control Mode	採Modbus的RS485通訊介面(最大並接16台)及一組mini USB (TOYO-Single專用)。 Use Modbus as the interface of RS485 (connect max. 16 controllers) and 1 set mini USB. (special for TOYO-single)		

CHZ20

Step TC

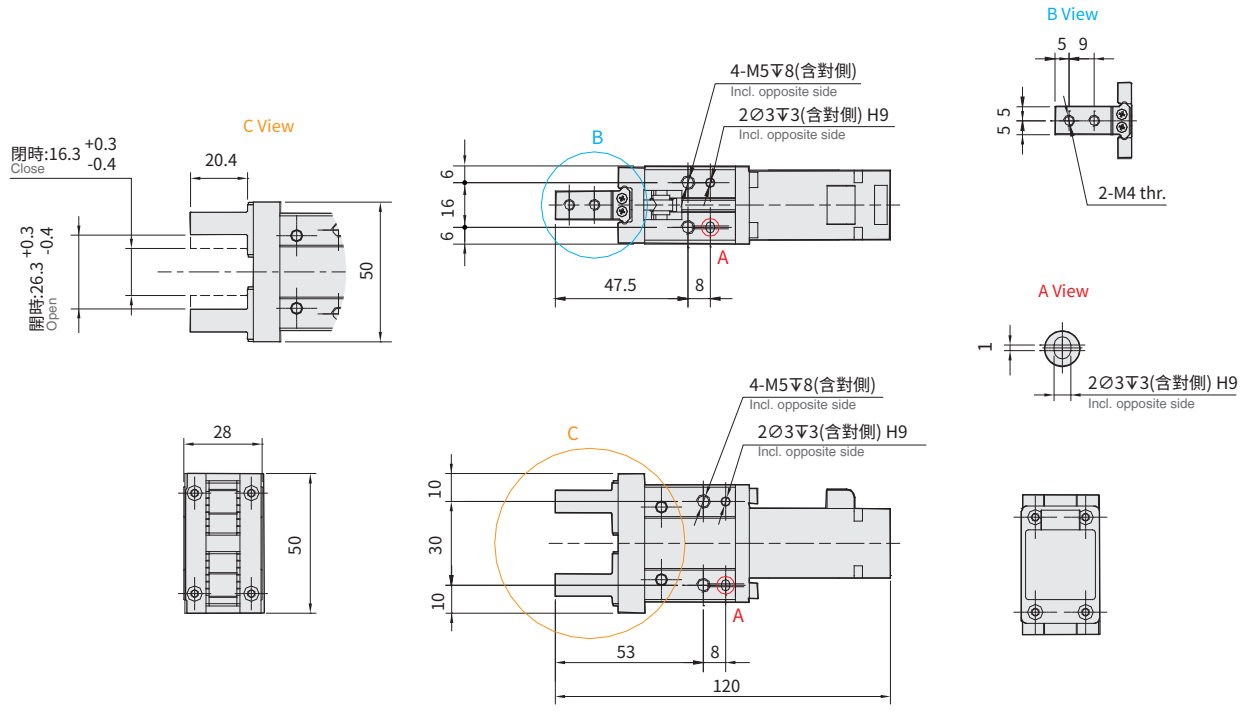
滑動連桿電動夾爪
ACME Lead Screw Drive

S10 標準型 Standard Type

2D CAD 3D CAD

● CAD圖面可至www.toyorobot.com下載 ●
Please download the CAD file from TOYO's website: www.toyorobot.com

(單位 Unit : mm)

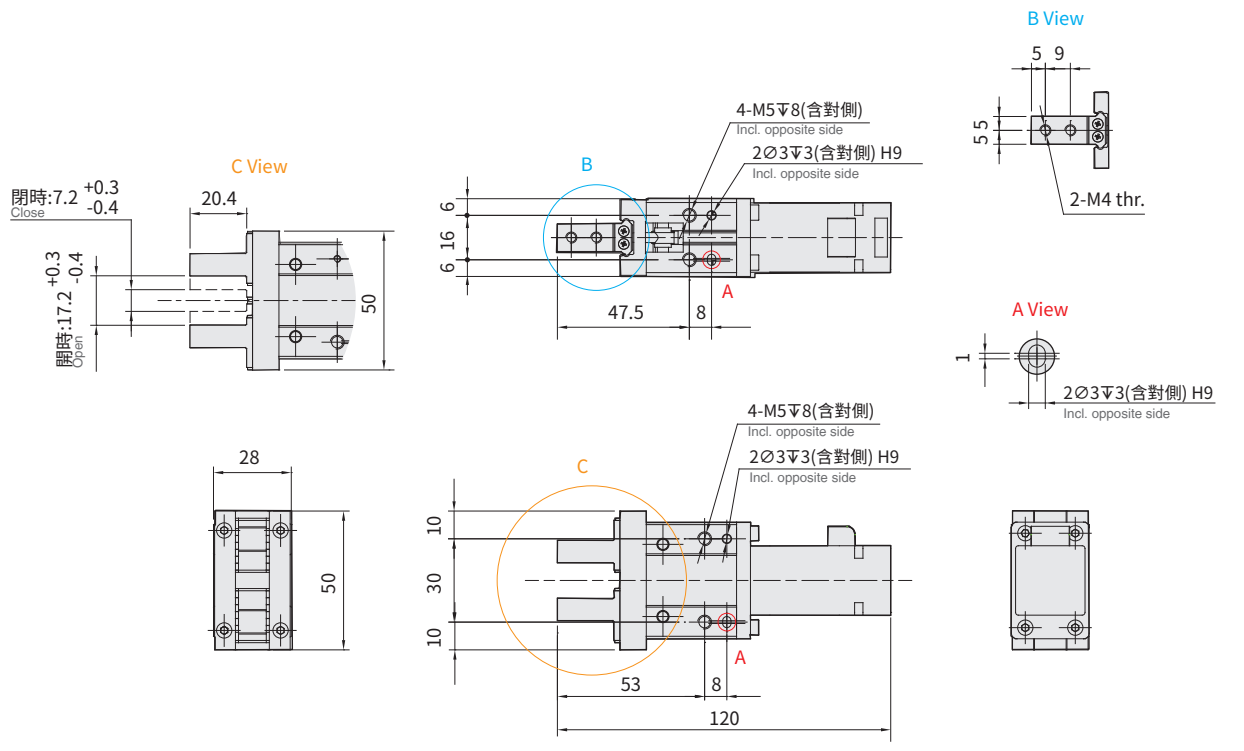


N10 窄型 Narrow Type

2D CAD 3D CAD

● CAD圖面可至www.toyorobot.com下載 ●
Please download the CAD file from TOYO's website: www.toyorobot.com

(單位 Unit : mm)



Memo

CHZ25

Step TC

滑動連桿電動夾爪
ACME Lead Screw Drive

馬達尺寸 Motor Dimension 25□mm

型號表示方式 Ordering Method

CHZ25 - S14 - TC100 - 03 - N1 - A001

本體型號 Model

特注式樣 Customization Order No.

開閉行程 Open Close Stroke

S14	標準型 Standard Type
N14	窄型 Narrow Type

對應控制器 Corresponding Controller

TC100

電纜線長 Cable Length

01	1m
03	3m
05	5m
10	10m

*標配3m
Standard:3m

I/O線種類 Kind of I/O Cable

-	標準I/O彩虹排線 I/O Cable
N1	隔離I/O線 Shielded I/O Cable

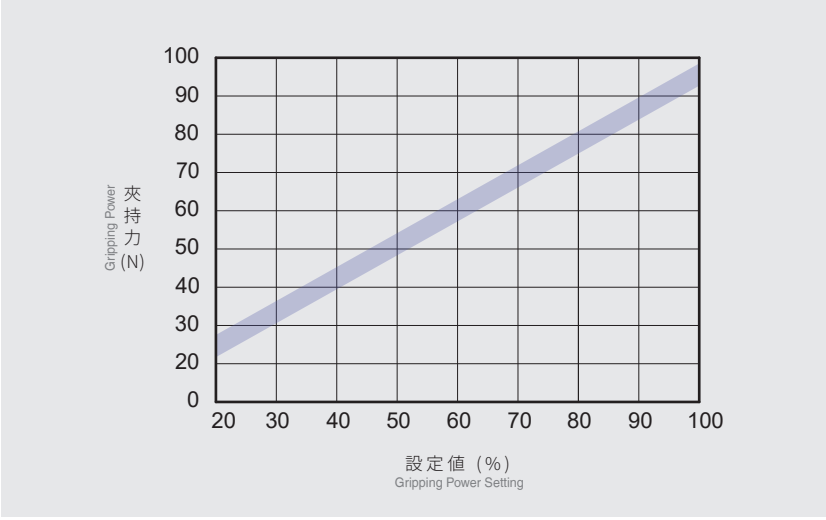
*標配1.5m
Standard:1.5m

基本仕樣 Specification

規格 Spec	夾持重量 Weight (kg)	0.98
	夾持力範圍 Gripping force (N)	22~98 (20-100%)
	開閉行程 Open and close stroke (mm)※1	14
	最高速度 Maximun speed (mm/s)	5~50
	位置重複精度 Position repeatability (mm)	±0.02
	導引機構 Guide structure	線性滑軌 Linear guide
	使用溫度範圍 Operating temperature range (°C)	0~+40
	使用濕度範圍 Operating humidity range (%)	RH90以下 Below RH90
部品 Parts	馬達尺寸 Motor Dimension (mm)	25□
	重量 Weight (g)※2	552

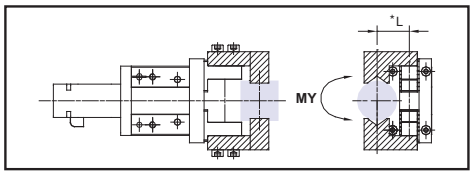
※1 雙邊合計行程。Total stroke of both sides.
※2重量包含本體與馬達。Weight of model with motor.

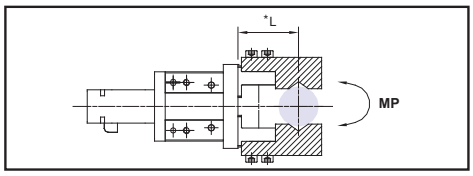
夾持力與指令值曲線表 Gripping Power vs. Gripping Power Setting (%)

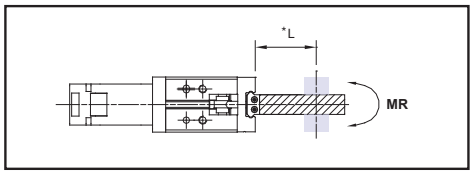


*夾持力誤差:±15% ±15% clamping force tolerance .

容許夾持負載力矩表 Allowable Moment





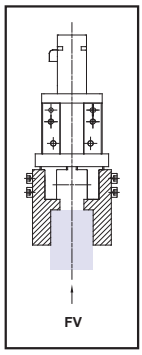


*L:夾爪至負荷作用點之距離(mm)
Distance to the loading location

(單位 Unit:N.m)

最大容許力矩 Maximum moment		
偏力矩 Allowable yawing moment	MY	1.94
俯仰力矩 Allowable pitching moment	MP	1.94
滾動力矩 Allowable rolling moment	MR	3.88

*表中負荷及力矩的值表示靜的值
The value in the chart is static, not dynamic loading and torque.



(單位 Unit:N)

垂直方向容許靜負荷 FV Vertical Maximum Force
255

對應控制器一覽表 Corresponding Controller Chart

外觀 Exterior	控制器型號 Controller Model	控制介面 Control Mode	特點 Featrues	電氣規格 Electrical Spec.	詳細參閱 Reference Page
	TC100	I/O控制 I/O Control Mode	利用I/O變化，最多可以執行127個位置控制。 By I/O control, max. 127 positioning points, can be executed.	控制電路只能使用24V。 工作電壓DC24V，額定電流 2A，峰值電流3A。 工作電壓DC48V，額定電流 1A，峰值電流2A。 使用DC48V時在相同扭力下，轉速會提升，詳細內容請跟服務窗口連絡。 The voltage of control circuit is 24V only. Operating voltage DC24V, rated current 2A, peak current 3A. Operating voltage DC48V, rated current 1A, peak current 2A. When the voltage is DC48V but same torque, the rotation speed will be raised. Please contact your service window to details.	P.175
		通訊控制 Communication Control Mode	採Modbus的RS485通訊介面(最大並接16台)及一組mini USB (TOYO-Single專用)。 Use Modbus as the interface of RS485 (connect max. 16 controllers) and 1 set mini USB. (special for TOYO-single)		

CHZ25

Step TC

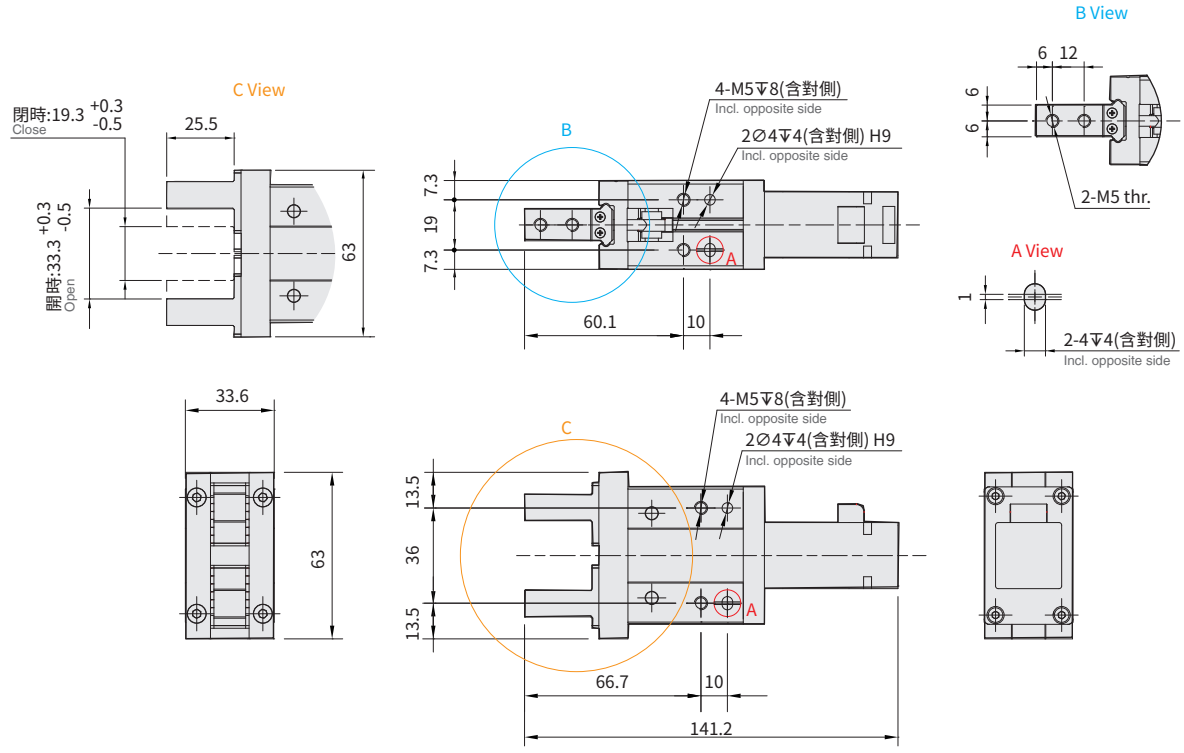
滑動連桿電動夾爪
ACME Lead Screw Drive

S14 標準型 Standard Type

2D CAD 3D CAD

● CAD圖面可至www.toyorobot.com下載 ●
Please download the CAD file from TOYO's website: www.toyorobot.com

(單位 Unit : mm)

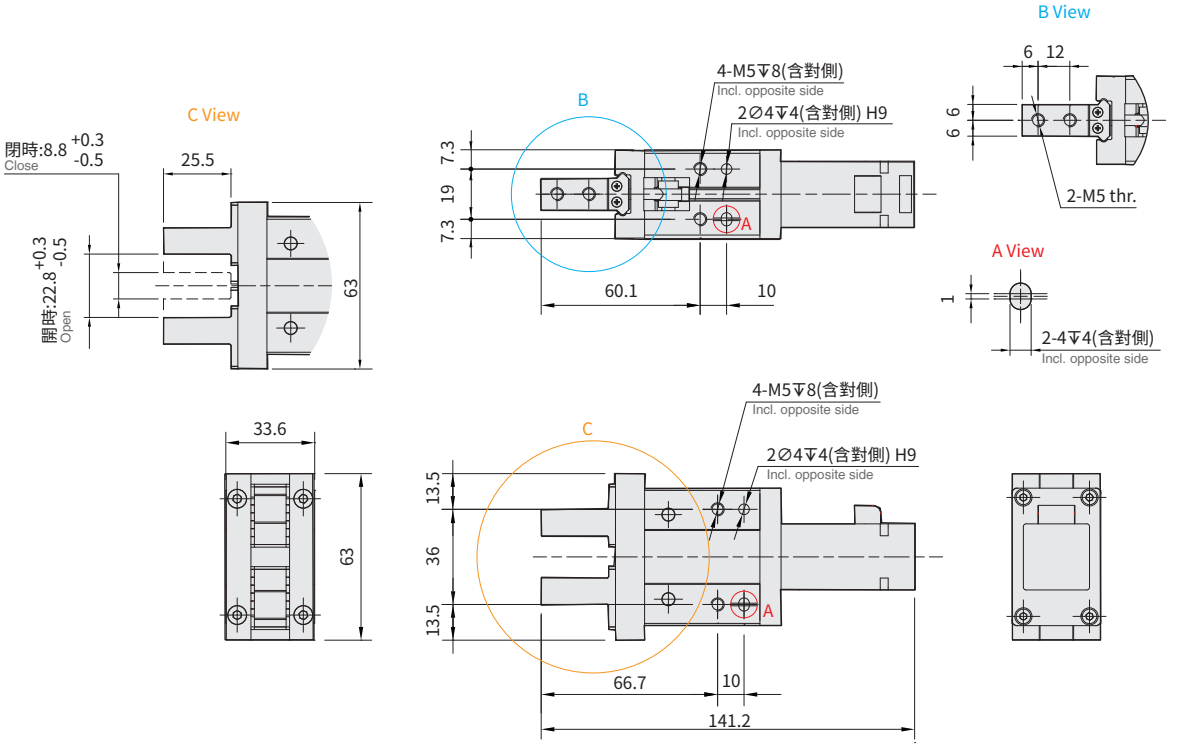


N14 窄型 Narrow Type

2D CAD 3D CAD

● CAD圖面可至www.toyorobot.com下載 ●
Please download the CAD file from TOYO's website: www.toyorobot.com

(單位 Unit : mm)



Memo

XC100 控制器

DC伺服系列電動缸皆可使用

XC100, compatible to all DC servo series of module

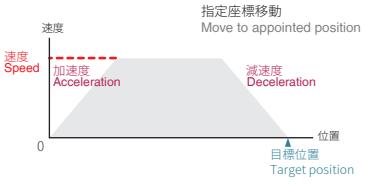
DGTH Series DGTY Series

DMH Series DMG Series

XC100
Robot Controller

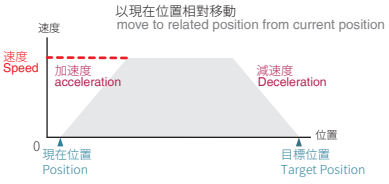
主要運轉模式 Main operation modes

ABS運行
ABS mode



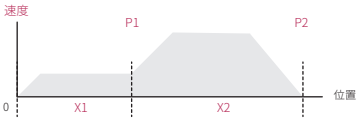
以原點為基準，設定目標位置的移動。
use ORG as origin, move to the appointed position.

INC運行
INC mode



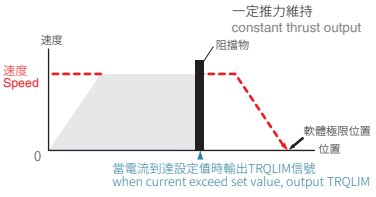
以現在位置為基準，移動一個相對位置量。
Use current postion as origin, move to the relative position.

連續運轉功能（支援ABS-R/INC-R）
Continuous operation function
(support ABS-R / INC-R mode simultaneously)



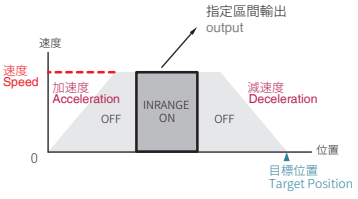
在不停止的狀態下改變速度，可連續運行多個座標點。
Change speed under non-stop status, the continuous operation function allow actuator moving among multiple coordinate points.

+/- TSL推力運行
TSL thrust mode



設定一個電流值,當運行時,電流達到設定值時將不再前進,維持在設定值。
Set a max. current value, when the current reach the value, it will not proceed further.

指定區間輸出信號
output signal in specified range



設定一個區間，移動到區間內時 INRANGE 信號會輸出，區間外則為 OFF。
Set up a special range. The "INRANGE" signal will be output when moving in the range.The "OFF" signal will be output when it is outside of the range.

設定點資料 Adjustable data settings

設定項目	內容
運轉模式	設置位置運行時的類型，共有7種模式。如INC、ABS...等。
移動座標	設置運行時的目標位置或移動量。
移動速度	設置運行的速度（%）。
扭力極限	設置運行的電流限制值。
區間下限	設置輸出"單一個區域輸出"的上下限範圍。
區間上限	
加速時間	加速至設置速度之時間
減速時間	從設置速度到停止之時間
等待	移動結束後的等待延遲時間。
下一步編號	移動結束後的下個執行編號。

Setting	Content
Operation mode	Position setting mode, total 7 types including INC and ABS...etc.
Moving position	Set absolute position or moving amount.
Moving speed	Set speed of movement(%)
Torque limit	Set operational current limit
Minimum value of trigger range	Set the max and min value of the trigger range
Maximum value of trigger range	
Acc time(msec)	The time from accelerate speed to the setting speed
Dec time(msec)	The time from setting speed to stop
Dowel time	Set dowel time after movement.
Next item number	Jump to the next operational item after current one has ended.

運轉電流自動設定 Operational current auto setting

運轉電流是機械手壽命及效率決定的重要因素。
如果轉電流設定太高的話，會造成太多效能浪費，最差的狀況、可能會導致馬達在短時間就燒毀。
XC系列控制器、可針對搬送重量、考量過馬達的出力與導軌的壽命, 自動調整馬達最適當的電流。
可以放心使用。

Operational current is the main factor determining the efficiency and lifetime of the robot.If the operational current is set too high, the extra performance will be wasted, or even the motor might be burnt .XC series controller can adjust operational current automatically based on the moving load, motor output and lifetime of the rail.

彈性的控制介面 Flexible control interface

一台同時支援三種控制介面

- Pulse控制：Line Driver 200k Hz/Open Collector 60k Hz 同時間只能使用一種。
- I/O控制：利用I/O變化最多可以執行127個位置控制。
- 通訊控制：採Modbus的RS485通訊介面(最大並接16台)及一組mini USB（TOYO Single專用）

One single unit can support 3 different control interfaces.

- Pulse control: Support Line Driver and Open collector Max. pulse receiving speed: 200k/60k Hz.
- I/O control: By I/O control, max. 127 positioning points can be executed.
- Communication control:use Modbus as the interface of RS485(connect max.16 controllers) and 1 set mini USB(special for TOYO-single)

多樣化的控制模式 Various control mode

控制模式可任意組合使用,可達到最佳化的運動控制

- 位置控制
- 速度控制
- 夾持力控制 (電動夾爪Only)
- 量測控制 (電動夾爪Only)
- 推力控制

Following control modes can be combined randomly to maximize the action mode.

- Position control
- Speed control
- Gripping force control (Electric gripper only)
- Measure control (Electric gripper only)
- Pushing force control

透過RS-485 最大可連接16台 Possible to connect 16 stations via RS-485

使用者可由PC、PLC或其他可使用RS-485傳輸資料的週邊，經由RS-485來串接XC100控制器。
可以作到設定、控制及監測，最大可串接16台XC100控制器，相當便利。

The user can connect PC, PLC or other devices which can transfer datas via RS-485 to XC100 controller.It is very convenient to do thesetting, controlling and monitoring upto 16 units of XC100 at once.

XC100式樣表

XC100 specification and connectors

■基本規格 Specification

項目 Item		內容說明 Specification
輸入電源 Input power	控制電源 Control power	DC 24V (±10%)
	動力電源 power supply	DC 24V (±10%)
控制軸數 Number of controlled axis		1軸 Single axis
馬達 Motor	適用馬達 Appropriate motor	DC 伺服馬達 DC Servo motor
	容量 Output	25W、40W
	額定輸出 Rated output	25W 2.7Arms; 40W 3Arms
	瞬間最大輸出 Instant maximum output	25W 7.3Arms; 40W 8Arms
動作控制模式 Motion control mode		ABS運行 ABS Mode
		INC運行 INC Mode
		INC-R 連續運行 INC-R Continuous Mode
		ABS-R 連續運行 ABS-R Continuous Mode
		推力運行 TSL Thrust Mode
位置 Position	點位總數 Total number of points	1~127 點(個別動作) 1~127 points
	點位設定方法 Points setting method	通訊設定點位置 Communication setting point position
		IO 點位置教導 I/O point position teaching
編碼器 Encoder	位置管理 Position management	增量型 Incremental
	位置檢出 Position checking	光學旋轉編碼器 Optical rotary encoder
	解析度 Resolution	10000 ppr
泛用 DI/DO 信號 General DI/DO signal		DI(14點) / DO(10 點)NPN可透過參數修改定義 DI(14 points)/DO(10 points)NPN Modify definition through parameter
剎車 Brake		選配 (購買前需先告知) Optional(Please inform before buying)
錯誤履歷 Error history		最大可存50組錯誤代碼 Maximum storage for 50 error code
安全回路 Safety circuit		緊停壓入後 (伺服 OFF) Emergency stop switch (servo OFF)
通訊 Communication		USB(虛擬 COM 埠)：mini USB / RS485(半雙工)：RJ-45 USB(virtual COM port):Mini USB/RS485(half duplex):RJ-45
LED 狀態表示 LED status display		PWR:電源 (綠)：驅動 + 控制電源投入時恆亮;當驅動電源被關閉時，綠點閃爍。 PWR power supply(green):permanent radiating when drive + control power supply input, green flashing when the drive power supply was turned off.
		SON:伺服 (綠)：伺服 ON 時恆亮;錯誤出現時熄滅。 SON servo(green):permanent radiating when servo ON,extinguished when the error shows.
		ERR:異常 (紅)：依閃爍次數來決定錯誤訊息。 ERR error: (red); use the times of flashing to decide the error messages.
站號設定 Station number setting		旋轉 DIP 開關 (0~F)，16 站 Rotating DIP switch (0-F),16 station

XC100 外觀尺寸、接口及端子說明

XC100 dimension and terminal

■訂購型號 Ordering model

■ 控制器單體 Controller

XC100※

控制器 Controller

■ 控制器＋電纜線長 Controller+Cables

XC100 — [ ] — **N1**

控制器 Controller

電纜長度 Cable length
01 : 1M
03 : 3M
05 : 5M
10 : 10M

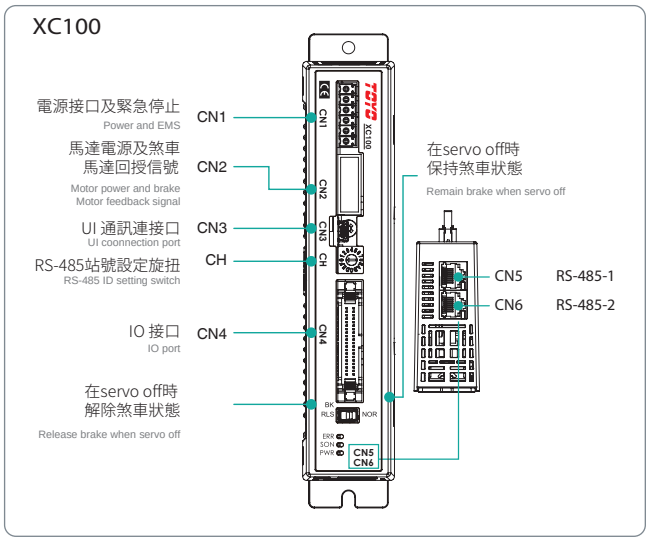
*標配3m
Standard:3m

控制器單體含以下：
The controller unit contains the following :

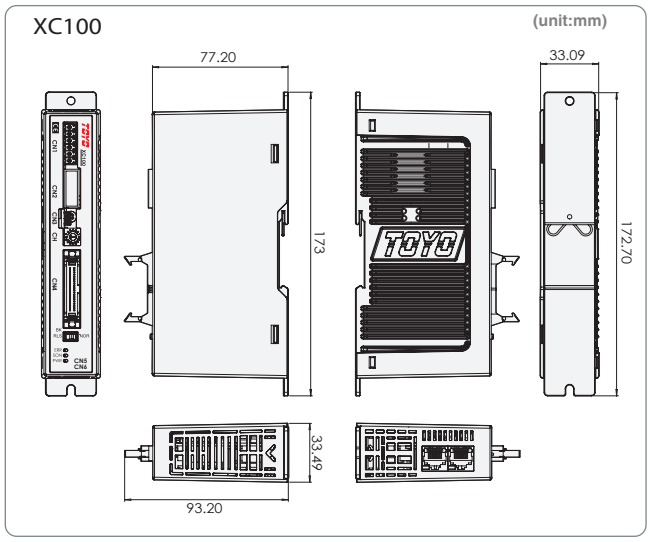
※ XC100 含I/O彩虹排線標準長度為1.5米。
XC100 include rainbow marking line standard length 1.5 meter.

※ XC100-N1 含I/O隔離線1.5米。
XC100-N1 include I/O separation line 1.5 meter.

■各部接口說明 Port explanation



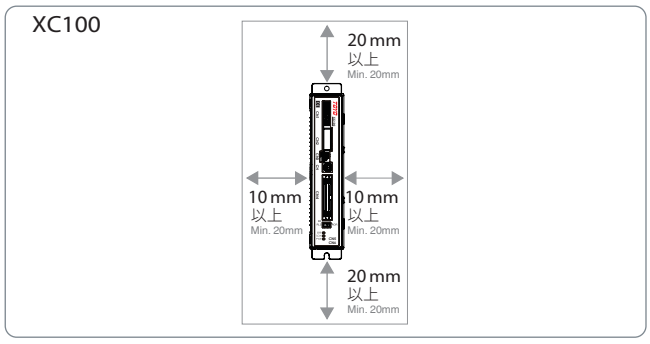
■控制器外觀尺寸 Controller dimension



■不可設置之環境條件 Restricted setting condition

- 含有硫酸、鹽酸、高酸鹼度等腐蝕性氣體、可燃氣體或易燃液體的環境。
  Environment with corrosive, explosive and flammable gas and combustible liquids.
- 粉塵較多的地方。
  Environment with heavy dust.
- 會被其他設備的切屑、油、水等濺到的地方。
  Locations where can be polluted by other equipments' coolant.
- 受到較強振動(0.5G以上)影響的地方。
  Locations with high vibrations(0.5G or above).
- 為確保控制器可以正常作動，請參考右圖安裝控制器。
  Please locate the controller as shown on the right for correct installation position.

■建議安裝方式 Recommanded assembly method

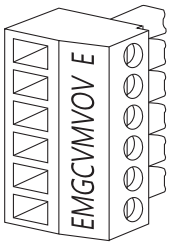


XC100入出力各端子的接線圖

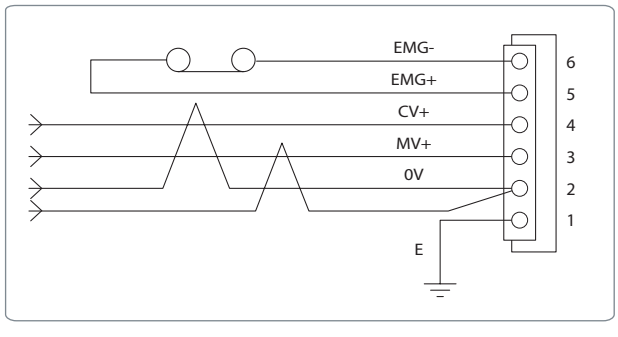
XC100 wiring diagram (Power / IO /EMS)

■ 電源接腳定義 Pin Designation

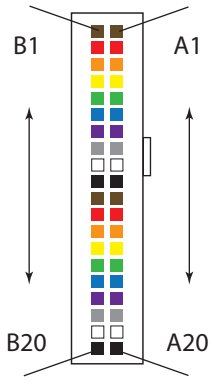
編號 NO.	信號名稱 Signal name	說明 Explanation
1	E	外殼接地（為防止雜訊，干擾產生誤動作，請確實接地） Grounding (Ensure to connect to ground to avoid disturbance)
2	0 V	GND
3	MV +	主電源：DC24V ±10% Main power supply
4	CV +	控制電源：DC24V ±10% Controlling power
5	EMG +	緊急停止，請使用常閉接點（RELAY） EMS (please use Normal Close connection)
6	EMG -	



急停及電源接線圖 EMS and Power wiring



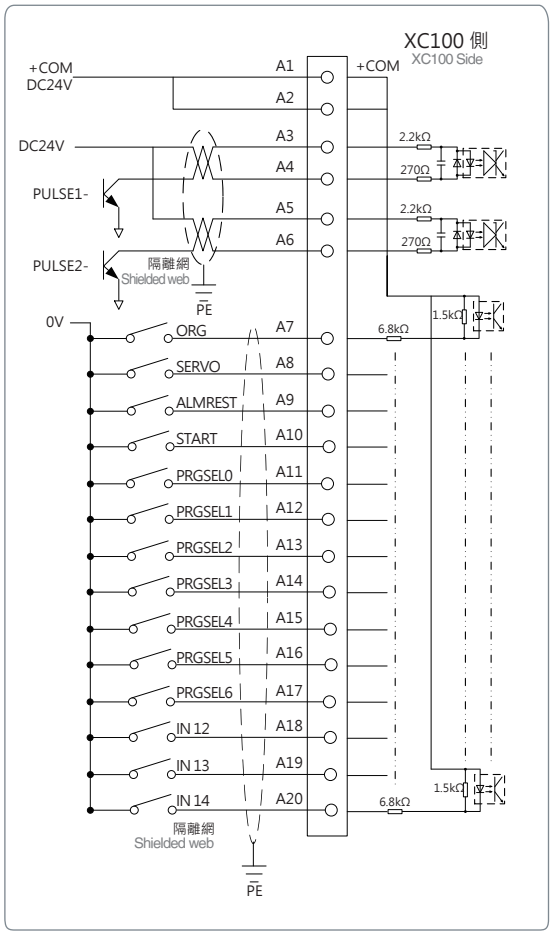
■ IO接頭 IO plug



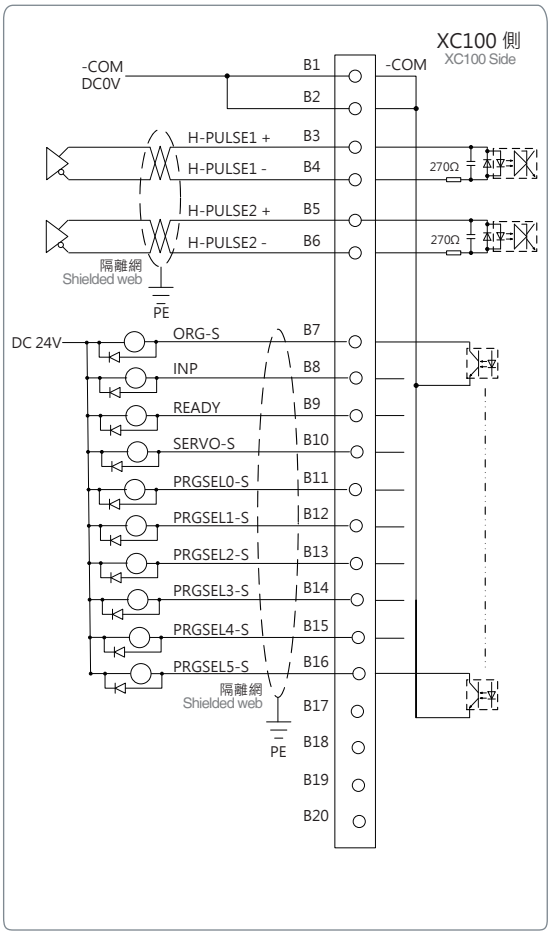
■ IO信號(出廠預設值) IO signal(Factory defaulty)

NO	信號名 Signal name	內容說明 Content description	備註 Note	NO	信號名 Signal name	內容說明 Content description	備註 Note
A1/1	+COM	I/O 電源 +24V Power	DC24V ±10%	B1/21	-COM	I/O 電源 0V Power	DC24V ±10%
A2/2	+COM			B2/22	-COM		
A3/3	PULSE1+	CW、B相、PULSE B Phrase	Open Collector 專用接點 Dedicated contact	B3/23	H-PULSE1+	CW、B相、PULSE B Phrase	Line Driver 專用接點 Dedicated contact
A4/4	PULSE1-			B4/24	H-PULSE1-		
A5/5	PULSE2+	CCW、A相、DIR A Phrase		B5/25	H-PULSE2+	CCW、A相、DIR A Phrase	
A6/6	PULSE2-			B6/26	H-PULSE2-		
A7/7	IN 1	ORG	未設參數： Unset parameter ORG_SIG MANUAL JOG+ JOG TEACH BK_OFF CONT_MODE FULL_COUNT	B7/27	OUT1	ORG-S	未設參數： Unset parameter ALARM MOVE PRGSEL6-S TRQLIM ERR0 ⋮ ERR3 INRANGE NEAR SOFTLMT
A8/8	IN 2	SERVO		B8/28	OUT2	INP	
A9/9	IN 3	ALM_RESET		B9/29	OUT3	READY	
A10/10	IN 4	START		B10/30	OUT4	SERVO-S	
A11/11	IN 5	PRGSEL0		B11/31	OUT5	PRGSEL0-S	
A12/12	IN 6	PRGSEL1		B12/32	OUT6	PRGSEL1-S	
A13/13	IN 7	PRGSEL2		B13/33	OUT7	PRGSEL2-S	
A14/14	IN 8	PRGSEL3		B14/34	OUT8	PRGSEL3-S	
A15/15	IN 9	PRGSEL4		B15/35	OUT9	PRGSEL4-S	
A16/16	IN 10	PRGSEL5		B16/36	OUT10	PRGSEL5-S	
A17/17	IN 11	PRGSEL6		B17/37	-	-	保留 Reserved
A18/18	IN 12	可自訂 User-defined		B18/38	-	-	
A19/19	IN 13	可自訂 User-defined		B19/39	-	-	
A20/20	IN 14	可自訂 User-defined		B20/40	-	-	

IO輸入接線 IO input wiring



IO輸出接線 IO output wiring

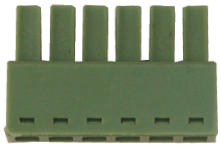


配件一覽表

Accessories list

■標準配件 Standard accessories

電源接頭 Power supply connector	
型號 Model	TC100-CON-POW-00



I/O彩虹排線(1.5m) I/O cable(1.5m)	
型號 Model	XC100-CAB-IOL-1.5

馬達電纜線＋編碼器線 Standard Cable (Motot Power+Encoder)	
型號 Model	XC100-CAB-STA- □
□	線長 Cable Length
01	1m
03	3m
05	5m
10	10m

■ 選購品 Optional accessories

UI通訊用mini UBS通訊線 Mini USB cable for supporting software	
型號 Model	TC100-CAB-PCL-01

RS - 485通訊用RJ- 45 網路線(平行線) RJ-45 cable for RS-485 connections	
型號 Model	TC100-CAB-485- □
□	線長 Cable Length
01	1m
03	3m
05	5m
10	10m

脈衝用IO隔離線含磁環(1.5m) IO Isolation line Cable	
型號 Model	XC100-SHIELD IO CAB-1.5

TC100 控制器

步進伺服系列電動缸皆可使用

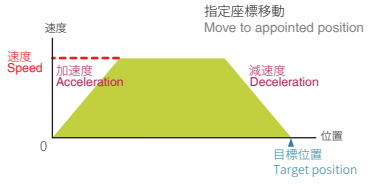
TC100, compatible to servo motor series of module

TC100
Robot Controller

台灣精品
2018

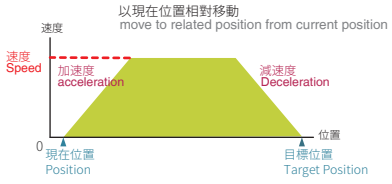
主要運轉模式 Main operation modes

ABS運行
ABS mode



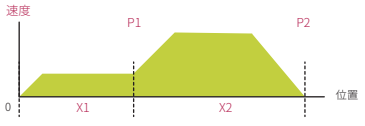
以原點為基準，設定目標位置的移動。
use ORG as origin, move to the appointed position.

INC運行
INC mode



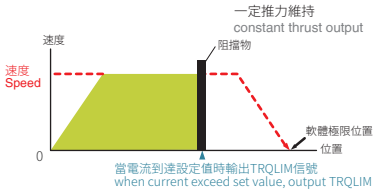
以現在位置為基準，移動一個相對位置量。
Use current postion as origin, move to the relative position.

連續運轉功能（支援ABS-R/INC-R）
Continuous operation function
(support ABS-R / INC-R mode simultaneously)



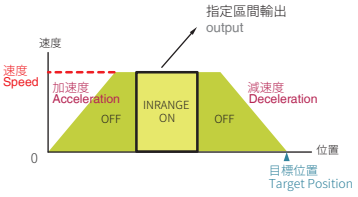
在不停止的狀態下改變速度，可連續運行多個座標點。
Change speed under non-stop status, the continuous operation function allow actuator moving among multiple coordinate points.

+/- TSL推力運行
TSL thrust mode



設定一個電流值,當運行時,電流達到設定值時將不再前進,維持在設定值。
Set a max. current value, when the current reach the value, it will not proceed further.

指定區間輸出信號
output signal in specified range



設定一個區間,移動到區間內時 INRANGE 信號會輸出,區間外則為 OFF。
Set up a special range. The "INRANGE" signal will be output when moving in the range.The "OFF" signal will be output when it is outside of the range.

設定點資料 Adjustable data settings

設定項目	內容
運轉模式	設置位置運行時的類型，共有7種模式。如INC、ABS...等。
移動座標	設置運行時的目標位置或移動量。
移動速度	設置運行的速度（%）。
扭力極限	設置運行的電流限制值。
區間下限	設置輸出"單一個區域輸出"的上下限範圍。
區間上限	
加速時間	加速至設置速度之時間
減速時間	從設置速度到停止之時間
等待	移動結束後的等待延遲時間。
下一步編號	移動結束後的下個執行編號。

Setting	Content
Operation mode	Position setting mode, total 7 types including INC and ABS...etc.
Moving position	Set absolute position or moving amount.
Moving speed	Set speed of movement(%)
Torque limit	Set operational current limit
Minimum value of trigger range	Set the max and min value of the trigger range
Maximum value of trigger range	
Acc time(msec)	The time from accelerate speed to the setting speed
Dec time(msec)	The time from setting speed to stop
Dowel time	Set dowel time after movement.
Next item number	Jump to the next operational item after current one has ended.

運轉電流自動設定 Operational current auto setting

運轉電流是機械手壽命及效率決定的重要因素。
如果轉電流設定太高的話，會造成太多效能浪費，最差的狀況、可能會導致馬達在短時間就燒毀。
TC系列控制器、可針對搬送重量、考量過馬達的出力與導軌的壽命, 自動調整馬達最適當的電流。
可以放心使用。

Operational current is the main factor determining the efficiency and lifetime of the robot.If the operational current is set too high, the extra performance will be wasted, or even the motor might be burnt .TC series controller can adjust operational current automatically based on the moving load, motor output and lifetime of the rail.

彈性的控制介面 Flexible control interface

一台同時支援三種控制介面

- Pulse控制：Line Driver 200k Hz/Open Collector 60k Hz 同時間只能使用一種。
- I/O控制：利用I/O變化最多可以執行127個位置控制。
- 通訊控制：採Modbus的RS485通訊介面(最大並接16台)及一組mini USB（TOYO Single專用）

One single unit can support 3 different control interfaces.

- Pulse control: Support Line Driver and Open collector Max. pulse receiving speed: 200k/60k Hz.
- I/O control: By I/O control, max. 127 positioning points can be executed.
- Communication control:use Modbus as the interface of RS485(connect max.16 controllers) and 1 set mini USB(special for TOYO-single)

多樣化的控制模式 Various control mode

控制模式可任意組合使用,可達到最佳化的運動控制

- 位置控制
- 速度控制
- 夾持力控制 (電動夾爪Only)
- 量測控制 (電動夾爪Only)
- 推力控制

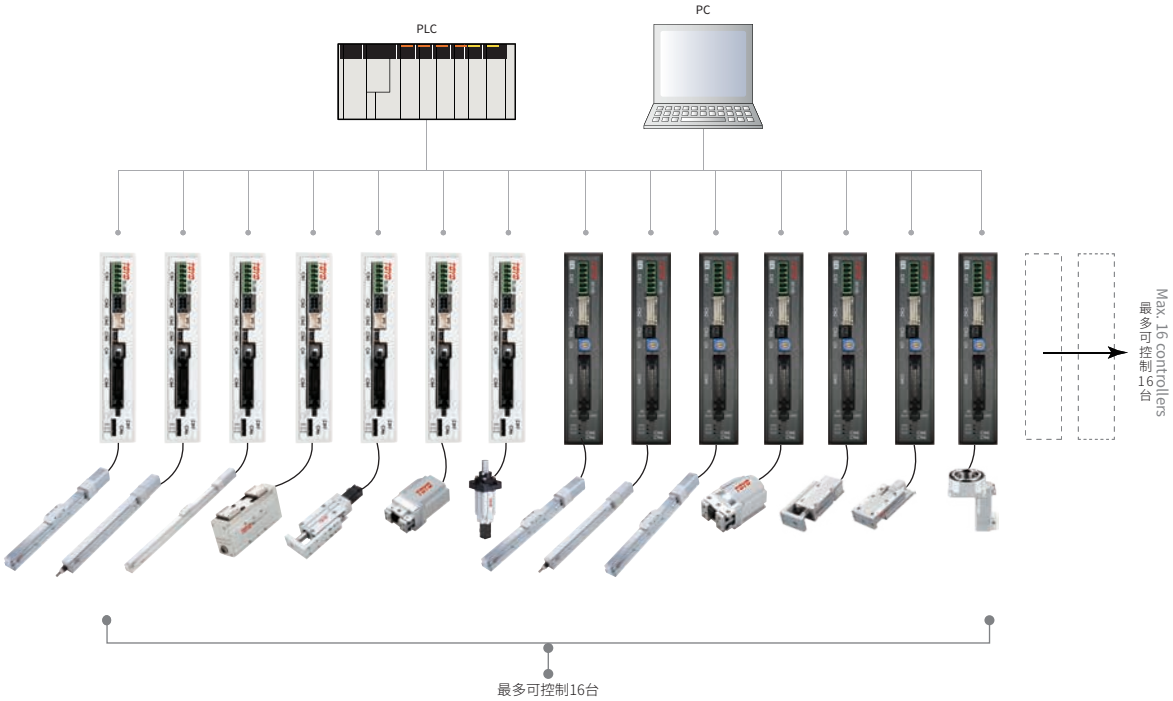
Following control modes can be combined randomly to maximize the action mode.

- Position control
- Speed control
- Gripping force control (Electric gripper only)
- Measure control (Electric gripper only)
- Pushing force control

透過RS-485 最大可連接16台 Possible to connect 16 stations via RS-485

使用者可由PC、PLC或其他可使用RS-485傳輸資料的週邊，經由RS-485來串接TC100控制器。
可以作到設定、控制及監測，最大可串接16台TC100控制器，相當便利。

The user can connect PC, PLC or other devices which can transfer datas via RS-485 to TC100 controller.It is very convenient to do thesetting, controlling and monitoring upto 16 units of TC100 at once.



TC100式樣表

TC100 specification and connectors

基本規格 Specification

項目 Item		內容說明 Specification
輸入電源 Input power	控制電源 Control power	DC 24V (±10%)
	動力電源 power supply	DC 24V (±10%) / DC 48V (±10%)
控制軸數 Number of controlled axis		1軸 Single axis
馬達 Motor	適用馬達 Appropriate motor	兩相微步進馬達 Two phrase stepping motor
	尺寸 Dimension	56、42、35、25、20角 56、42、35、25、20□
	額定輸出 Rated output	2Ao-p (正弦波電流的波峰值) 2Ao-p Peak value of sine wave current
	瞬間最大輸出 Instant maximum output	3Ao-p (正弦波電流的波峰值) 3Ao-p Peak value of sine wave current
動作控制模式 Motion control mode		ABS運行 ABS Mode
		INC運行 INC Mode
		INC-R 連續運行 INC-R Continuous Mode
		ABS-R 連續運行 ABS-R Continuous Mode
		推力運行 TSL Thrust Mode
位置 Position	點位總數 Total number of points	1~127 點(個別動作) 1~127 points
	點位設定方法 Points setting method	通訊設定點位置 Communication setting point position
		IO 點位置教導 I/O point position teaching
編碼器 Encoder	位置管理 Position management	增量型 Incremental
	位置檢出 Position checking	光學旋轉編碼器 Incremental
	解析度 Resolution	16000ppr (56、42 角) / 12800ppr(35角)/9600ppr(25角)/1600ppr(20角) 1600ppr(56、42)□/12800ppr(35□)/9600ppr(25□)/1600ppr(20□)
泛用 DI/DO 信號 General DI/DO signal		DI(14點) / DO(10 點)NPN可透過參數修改定義 DI(14 points)/DO(10 points)NPN Modify definition through parameter
剎車 Brake		選配 (購買前需先告知) Optional(Please inform before buying)
錯誤履歷 Error history		最大可存50組錯誤代碼 Maximum storage for 50 error code
安全回路 Safety circuit		緊停壓入後 (伺服 OFF) Emergency stop switch (servo OFF)
通訊 Communication		USB(虛擬 COM 埠)：mini USB / RS485(半雙工)：RJ-45 USB(virtual COM port):Mini USB/RS485(half duplex):RJ-45
LED 狀態表示 LED status display		PWR:電源 (綠)：驅動 + 控制電源投入時恆亮;當驅動電源被關閉時，綠點閃爍。 PWR power supply(green):permanent radiating when drive + control power supply input, green flashing when the drive power supply was turned off.
		SON:伺服 (綠)：伺服 ON 時恆亮;錯誤出現時熄滅。 SON servo(green):permanent radiating when servo ON,extinguished when the error shows.
		ERR:異常 (紅)：依閃爍次數來決定錯誤訊息。 ERR error: (red); use the times of flashing to decide the error messages.
站號設定 Station number setting		旋轉 DIP 開關 (0~F)，16 站 Rotating DIP switch (0-F),16 station

TC100 外觀尺寸、接口及端子說明

TC100 dimension and terminal

訂購型號 Ordering model

■ 控制器單體 Controller　■ 控制器＋電纜線長 Controller+Cables

TC100※ 控制器 Controller

TC100 — [ ] — N1

控制器 Controller

電纜長度 Cable length

01 : 1M
03 : 3M
05 : 5M
10 : 10M

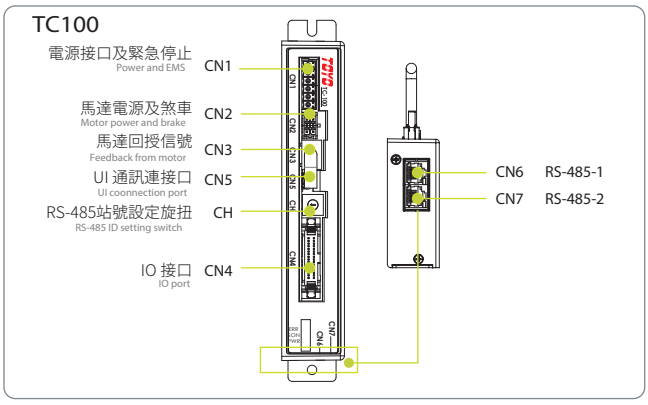
*標配3m
Standard:3m

控制器單體含以下：
The controller unit contains the following :

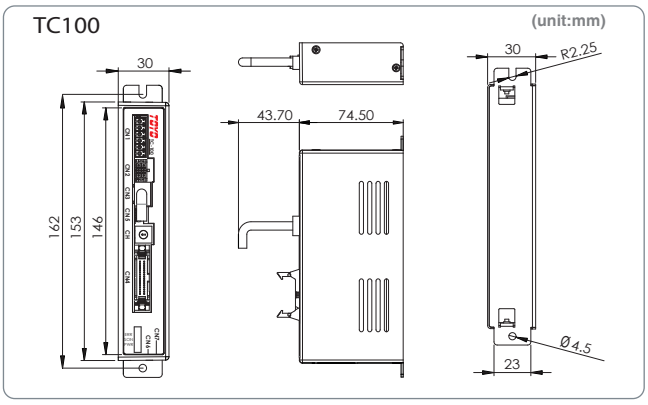
※ TC100 含I/O彩虹排線標準長度為1.5米。
TC100 include rainbow marking line standard length 1.5 meter.

※ TC100-N1 含I/O隔離線1.5米。
TC100-N1 include I/O separation line 1.5 meter.

各部接口說明 Port explanation



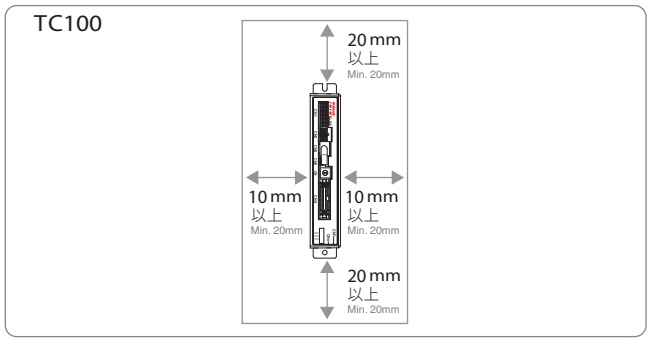
控制器外觀尺寸 Controller dimension



不可設置之環境條件 Restricted setting condition

- 含有硫酸、鹽酸、高酸鹼度等腐蝕性氣體、可燃氣體或易燃液體的環境。
  Environment with corrosive, explosive and flammable gas and combustible liquids.
- 粉塵較多的地方。
  Environment with heavy dust.
- 會被其他設備的切屑、油、水等濺到的地方。
  Locations where can be polluted by other equipments' coolant.
- 受到較強振動(0.5G以上)影響的地方。
  Locations with high vibrations(0.5G or above).
- 為確保控制器可以正常作動，請參考右圖安裝控制器。
  Please locate the controller as shown on the right for correct installation position.

建議安裝方式 Recommanded assembly method



IO信號(出廠預設值) IO signal(Factory defaulty)

NO	信號名 Signal name	內容說明 Content description	備註 Note	NO	信號名 Signal name	內容說明 Content description	備註 Note
1	COM+	I/O 電源 +24V Power	+24V ±10%	17	OUT1	ORG-S	未設參數：Unset parameter ALARM MOVE PRGSEL6-S TRQLIM ERR0 : ERR3 INRANGE NEAR SOFTLMT
2	COM-	I/O 電源 0V Power	未設參數：Unset parameter ORG_SIG MANUAL JOG+ JOG- TEACH BK_OFF CONT_MODE FULL_COUNT	18	OUT2	INP	
3	IN 1	ORG		19	OUT3	READY	
4	IN 2	SERVO		20	OUT4	SERVO-S	
5	IN 3	ALM_RESET		21	OUT5	PRGSEL0-S	
6	IN 4	START		22	OUT6	PRGSEL1-S	
7	IN 5	PRGSEL0		23	OUT7	PRGSEL2-S	
8	IN 6	PRGSEL1		24	OUT8	PRGSEL3-S	
9	IN 7	PRGSEL2		25	OUT9	PRGSEL4-S	
10	IN 8	PRGSEL3		26	OUT10	PRGSEL5-S	
11	IN 9	PRGSEL4		27	P1+	CW、B相、PULSE B Phrase	
12	IN 10	PRGSEL5		28	P1-		
13	IN 11	PRGSEL6		29	P2+	CCW、A相、DIR A Phrase	
14	IN 12	LOCK		30	P2-		
15	IN 13	-		31	保留 Reserved	-	
16	IN 14	-		32	FG	隔離網/接地 Shielded web/ground	

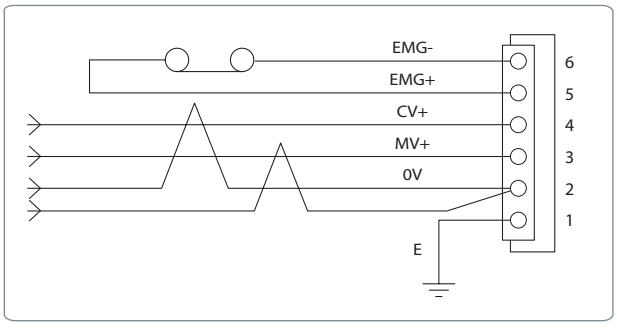
TC100入出力各端子的接線圖

TC100 wiring diagram (Power / IO /EMS)

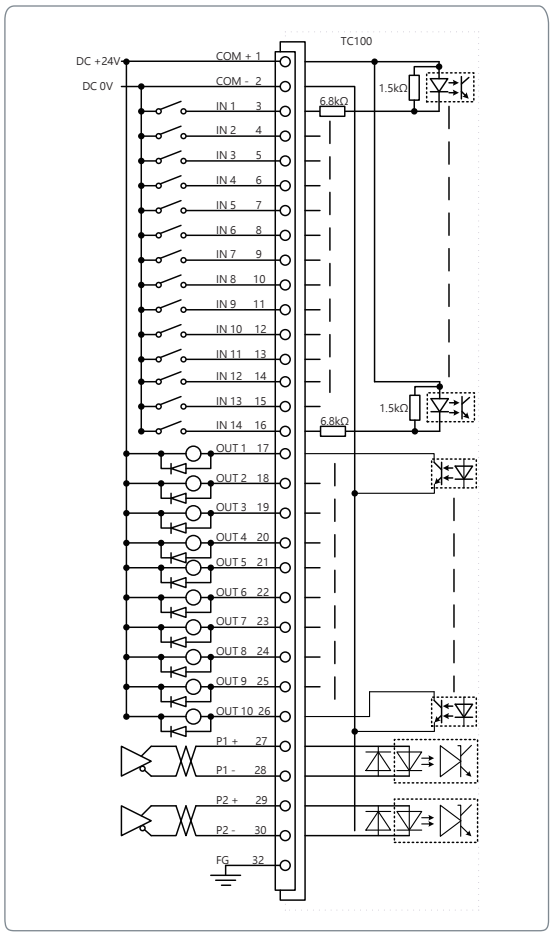
電源接腳定義 Pin Designation

編號 NO.	信號名稱 Signal name	說明 Explanation
1	E	外殼接地（為防止雜訊，干擾產生誤動作，請確實接地） Grounding (Ensure to connect to ground to avoid disturbance)
2	0 V	GND
3	MV +	主電源：DC24V ±10%；DC48 ±10% Main power supply
4	CV +	控制電源：DC24V ±10% Controlling power
5	EMG +	緊急停止，請使用常閉接點（RELAY） EMS (please use Normal Close connection)
6	EMG -	

急停及電源接線圖 EMS and Power wiring

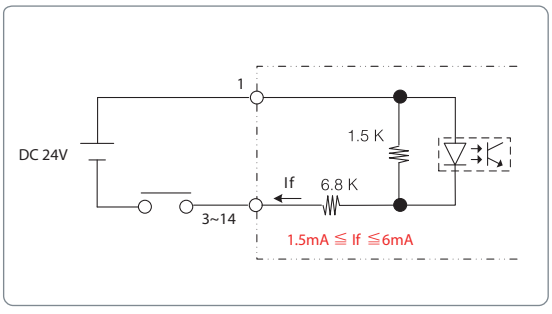


IN/OUT 接線(NPN) IO wiring (NPN)

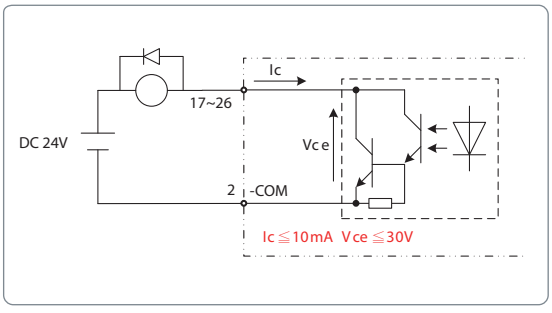


繼電器接點接線 Relay wiring

輸入電路 Input Circuit

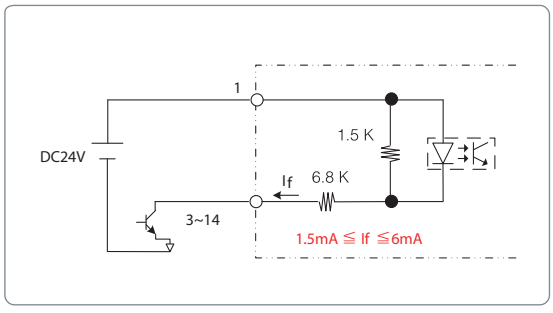


輸出電路 Output Circuit

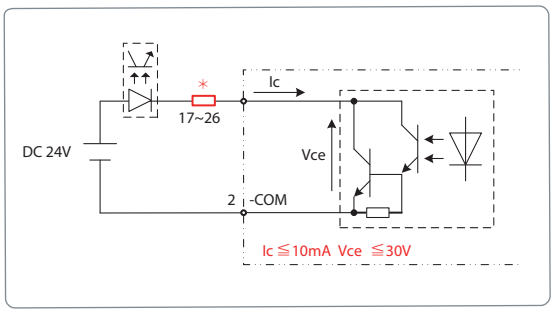


電晶體接點接線 Transistor wiring

輸入電路 Input Circuit

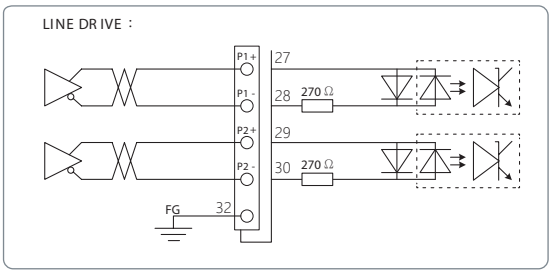


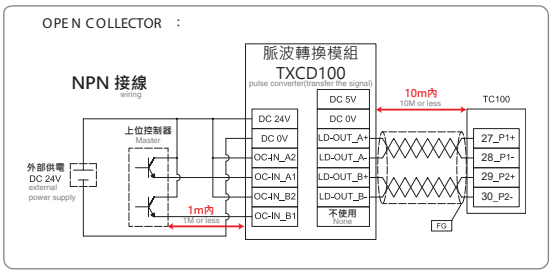
輸出電路 Output Circuit

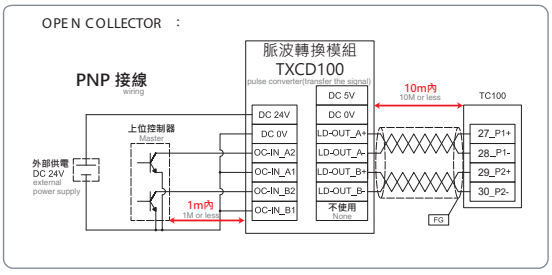


＊：請考慮輸出的光耦合器的飽和電壓 1Vtyp(出力電流為10mA時)。
Note: Please consider the output saturation voltage of optocoupler 1Vtyp (when output current is1 0mA).

脈波輸出接線 Pulse output wiring







＊：在外部PULSE模式下，原點復歸結束後，指令現在位置和目前位置，皆無法清除成0，是正常現象，不會影響到送PULSE的過程。

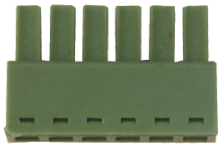
At the external Pulse mode, after homing completed, assigned current position and current position cannot be clear to 0. It is normal situation, it will not affect the process of pulse sending.

配件一覽表

Accessories list

標準配件 Standard accessories

電源接頭 Power supply connector	
型號 Model	TC100-CON-POW-00

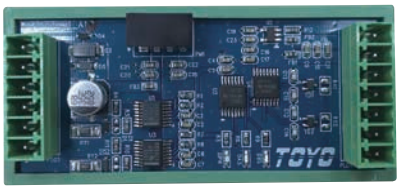


脈衝用IO隔離線含磁環(1.5m) IO Isolation line Cable	
型號 Model	TC100-SHIELD IO CAB-1.5

馬達電纜線＋編碼器線 Standard Cable (Motot Power+Encoder)	
型號 Model	TC100-CAB-STA- □
□	線長 Cable Length
01	1m
03	3m
05	5m
10	10m

選購品 Optional accessories

脈波輸入轉換模組（開集極轉差動） Pulse Transfer Module	
型號 Model	TC100-OPEN TO LINE



UI通訊用mini UBS通訊線 Mini USB cable for supporting software	
型號 Model	TC100-CAB-PCL-01

RS - 485通訊用RJ- 45 網路線(平行線) RJ-45 cable for RS-485 connections	
型號 Model	TC100-CAB-485- □
□	線長 Cable Length
01	1m
03	3m
05	5m
10	10m

TOYO SINGLE 操作介面說明

TOYO-Single user interface description

XC100/TC100專用PC 操作軟體 (Windows)

PC interface software for XC100 / TC100 (Windows)

運行環境 Basic Specification

TOYO-Single

基本規格 Specification	動作環境 O/S
OS	Microsoft Windows 2000/XP/Vista/7/8.1/10
CPU	使用的OS所推薦的環境以上 Meet the requirement of the O/S
記憶體 Memory	使用的OS所推薦的環境以上 Meet the requirement of the O/S
硬碟空間 Free HD space	20MB以上可驅動的空間 20MB or above free space
通訊埠 Communication ports	RS-485 、 USB
使用控制器 Compatible controller	TC100、XC100

點位置-主頁 Main Page-Position Points

基本狀態列:
Basic status bar

顯示目前系統基本狀態，由左至右依序為[軟體名稱]、[產品名稱]、[COM]、[SW_ID]、[Firmware版本]、[軟體版本]、[連線狀態]

Display current system status, from left to right, product name, software name, communication port, station ID, firmware version, software version and connection status.

工具列:
Toolbar

本區域提供基本的系統功能；“新增連線“、“新增資料“、“開啓檔案“、“儲存“、“複製“、“貼上“、“點讀取“、“參數讀取“、“點回寫“、“參數回寫“、“全部回寫“、“單位轉換“、“連線中止“、“Language“等。

The toolbar contains: new connection, new data file, open data file, save, copy, paste, read position point list, read parameters, overwrite position point list, overwrite parameter, overwrite all, display unit change and disconnect.

功能頁面選擇:
Function page selection

本區為選擇主要設定區；“點位置“、“監測“、“參數“等。

To select the setting of position points, monitoring and parameters.

輸出監控區:
Output monitoring

主要顯示控制器目前的輸出接點及錯誤狀態。

Display current output from controller and alarm status.

型號及控制器狀態:
Model and controller status.

顯示目前控制器連接電動缸的型號及目前控制器的使用狀態。

Display current robot model and controller status.

目前位置:
Current position

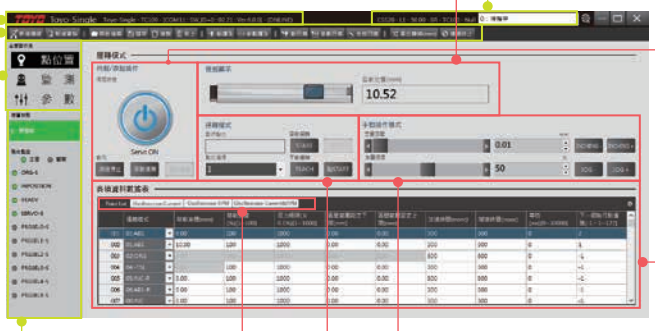
顯示目前滑座的所在位置。

Display the current position.

模擬顯示:
Simulation display

模擬目前連接電動缸的動作。

Simulate the movement of current hardware.



伺服/原點操作:
SERVO/ORG control

控制伺服(ON/OFF)、原點復歸、減速停止及警報重置。

Control servo ON or OFF, returning to the ORG, deceleration, stop and alarm reset.

點位設定表單:
Position point list

設定點位的移動模式、速度、扭力、等待時間、下一步序。

Set position point moving mode, speed, torque, dowel time and next step.

自動運轉:
Automatic operation

執行已選定的點位置作動。

Proceed with the selected position points automatically.

手動運轉:
Manual operation

執行已選定的點位置及速度，適合教點時確認用。

Proceed with the selected position points automatically.(suggest to use when

手動操作模式:
Manual Operation

執行Inching 或 Jog移動

Proceed with JOGGING and INCHING.

執行點位:
Operating point

顯示目前執行的點位置。

Display current position point. confirming the teaching).

可監看馬達轉速：
Motor RPM Monitor

可監看馬達電流值：
Motor Current Monitor

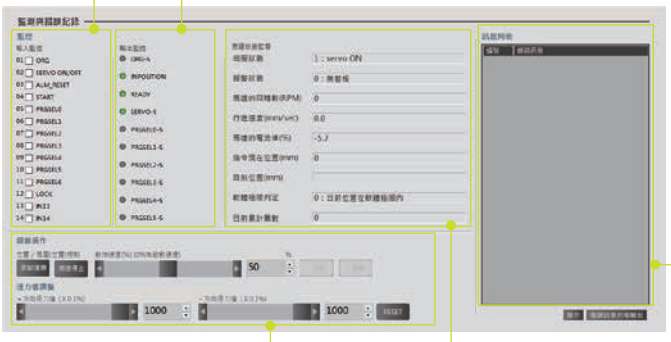
監測頁 Monitoring Page

輸入監控:
Input monitoring

對所有輸入信號做監看及強制輸出。
Monitoring all input signal and all signal is forced to output.

輸出監控:
Output monitoring

對所有輸出信號做監看，但無法強制輸出。
Monitoring all output signal but cannot be forced to output to other device.



錯誤訊息列表:
Alarm log

顯示已發生過的警報訊息最後50筆，最近一筆在最上方。
Display the last 50 alarm, the latest one is on top.

位置/推壓位置控制:
position and pushing position control

扭力極限移動控制。
Torque limit movement control

馬達狀態監看:
Motor status monitoring

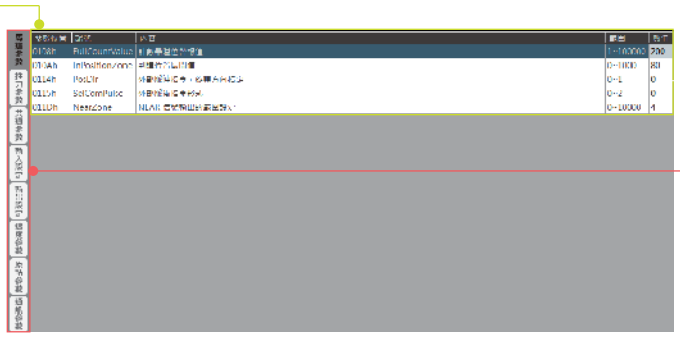
監看馬達目前狀態；如電流、轉速、目前位置、報警狀態...等。
Monitoring the motor status, such as current, rotation speed, current position and alarm status...etc.

參數頁 Parameter Page

主要顯示八大項參數列表:
List of eight main demonstrated parameters

參數內容:
Parameter content

內容包含參數名稱、說明及設定值。
The content is inclduing the name, description and the of parameters, description and setting value of parameters.



- **馬達參數** Parameters of Motor
- **推力參數** Parameters of Thrust
- **共通參數** Common Parameters
- **輸入設定** Setting of Input
- **輸出設定** Setting of Output
- **速度參數** Speed Parameters
- **原點參數** Parameters of homing
- **通訊參數** Parameters of communication setting

Memo

Memo

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