

特色説明
Features

DM Series

DGTH Series

DGTY Series

CS Series

GGTH Series

CGTY Series

CH Series

控制器規格
Controller

Memo

DGTH

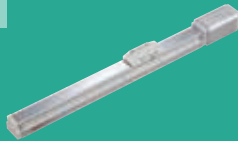
軌道內嵌式電動滑台

Built-in Linear Motion Guide Servo Cylinder-Slider Type

Contents

小型 SMALL

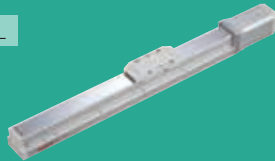
DGTH4



本體寬幅 44mm
Width
最大行程 800mm063
Max. stroke
最大荷重 25kg
Max. payload

小型 SMALL

DGTH5



本體寬幅 54mm
Width
最大行程 800mm067
Max. stroke
最大荷重 30kg
Max. payload

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) | | | | | | | | | | | | | | | | | | | | | | 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



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 |

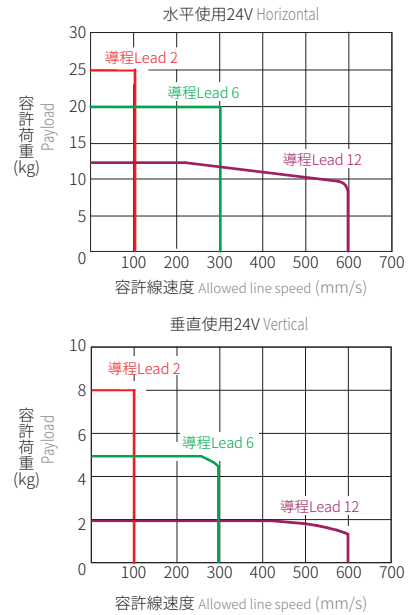
*標配1.5m
Standard:1.5m

基本仕様 Specification

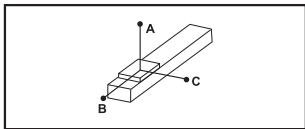
| | | | | | |
|----------------------------|-------------------------------------|----------------------|-------|-------|-------|
| 規格 Spec | 位置重複精度 Repeatability (mm) | ±0.01 | | | |
| | 螺桿導程 Ball Screw Lead (mm) | 2 | 6 | 12 | |
| | 最高速度 Maximum Speed (mm/s)※1※2 | 水平使用 Horizontal | ≤ 100 | ≤ 300 | ≤ 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 Ø 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，會產生螺桿擺動震動，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.

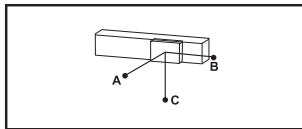
速度-荷重曲線圖 Speed-Payload Curve Diagram



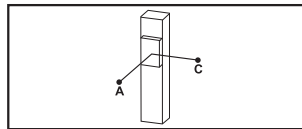
容許負載力距表 Allowable Moment



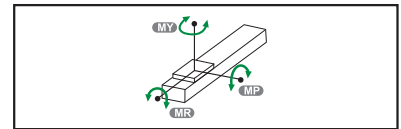
(單位 Unit:mm)



(單位 Unit:mm)



(單位 Unit:mm)



(單位 Unit:N.m)

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

| 壁掛安裝 Wall Installation | | | |
|---------------------------|------|----|------|
| | A | B | C |
| 導程 2 Lead | 12kg | 80 | 1000 |
| | 18kg | 50 | 750 |
| | 25kg | 32 | 500 |
| 導程 6 Lead | 10kg | 72 | 550 |
| | 15kg | 45 | 350 |
| | 20kg | 31 | 250 |
| 導程 12 Lead | 8kg | 75 | 300 |
| | 10kg | 58 | 240 |
| | 12kg | 47 | 190 |

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

| | |
|----|-----|
| 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 Features | 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



螺桿驅動 Ball Screw Drive

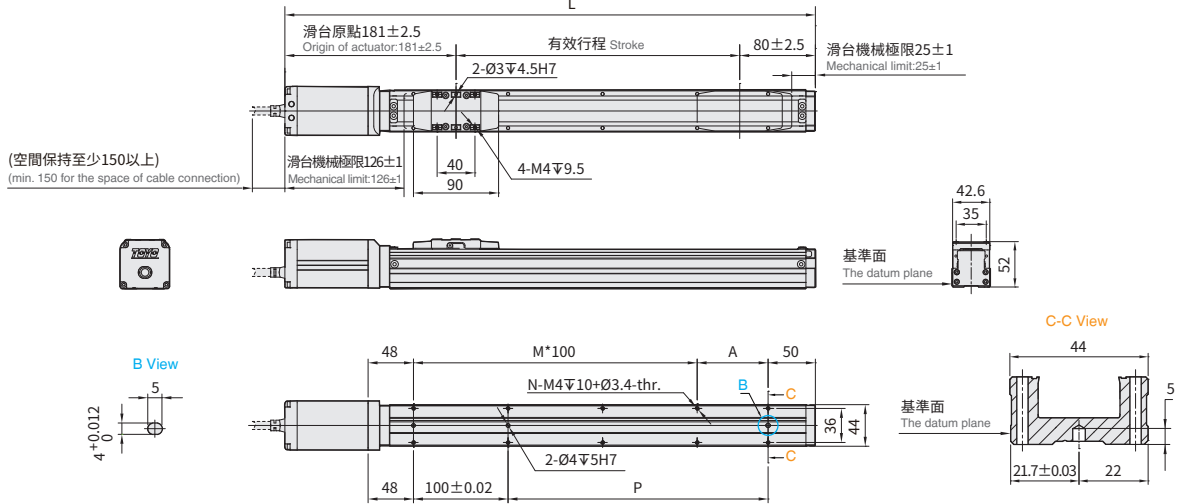
M

馬達直結 Motor Hidden In



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 | 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.
 ※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.

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Toll-Free Number China Taiwan

Memo

DGTH5



螺桿驅動 Ball Screw Drive



最大行程
Maximum Stroke **800mm**

最高速度
Maximum Speed **1000mm/s**

馬達容量
Motor Output **40W**

滾珠螺桿
Ball Screw **Ø12mm**

型號表示方式 Ordering Method

DGTH5 - 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

| |
|------------------|
| 50-800mm |
| 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

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

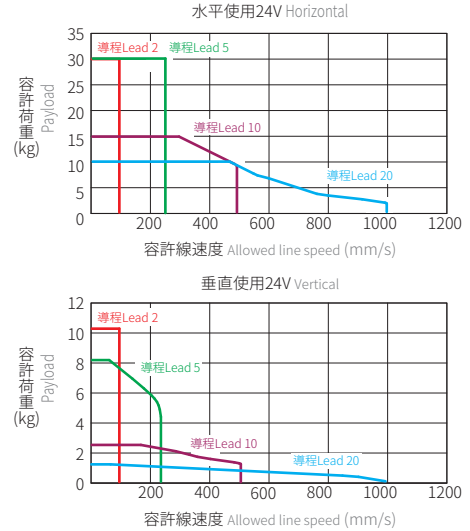
*標配1.5m
Standard:1.5m

基本仕様 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 Ø 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



容許負載力矩表 Allowable Moment

| 水平安裝 Horizontal Installation | | | | 壁掛安裝 Wall Installation | | | | 垂直安裝 Vertical Installation | | | | |
|---------------------------------|------|-----|-----|---------------------------|------|-----|-----|-------------------------------|---------------|-------|-----|-----|
| (單位 Unit:mm) | | | | (單位 Unit:mm) | | | | (單位 Unit:mm) | | | | |
| A B C | | | | A B C | | | | A C | | | | |
| 導程 2 Lead | 10kg | 900 | 100 | 135 | 10kg | 135 | 100 | 900 | 導程 2 Lead | 6kg | 180 | 180 |
| | 20kg | 700 | 45 | 60 | 20kg | 60 | 45 | 700 | | 8kg | 135 | 135 |
| | 30kg | 550 | 25 | 35 | 30kg | 37 | 27 | 550 | | 10kg | 110 | 110 |
| 導程 5 Lead | 10kg | 650 | 75 | 100 | 10kg | 100 | 75 | 650 | 導程 5 Lead | 6kg | 145 | 145 |
| | 20kg | 440 | 32 | 45 | 20kg | 45 | 32 | 420 | | 8.1kg | 120 | 120 |
| | 30kg | 270 | 19 | 25 | 30kg | 25 | 19 | 260 | | - | - | - |
| 導程 10 Lead | 5kg | 600 | 145 | 185 | 5kg | 180 | 145 | 600 | 導程 10 Lead | 1kg | 800 | 800 |
| | 10kg | 370 | 70 | 85 | 10kg | 85 | 68 | 370 | | 2.7kg | 300 | 300 |
| | 15kg | 250 | 42 | 52 | 15kg | 52 | 42 | 250 | | - | - | - |
| 導程 20 Lead | 5kg | 320 | 120 | 130 | 4kg | 130 | 120 | 320 | 導程 20 Lead | 1kg | 600 | 600 |
| | 8kg | 220 | 70 | 80 | 8kg | 75 | 70 | 220 | | 1.4kg | 350 | 350 |
| | 10kg | 175 | 55 | 60 | 10kg | 60 | 55 | 170 | | - | - | - |

靜態容許負載慣量 Static Loading Moment

| (單位 Unit:N.m) | |
|---------------|-----|
| MY | 103 |
| MP | 103 |
| MR | 144 |

- *力矩表所表示的數據，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 Features | 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



螺桿驅動 Ball Screw Drive

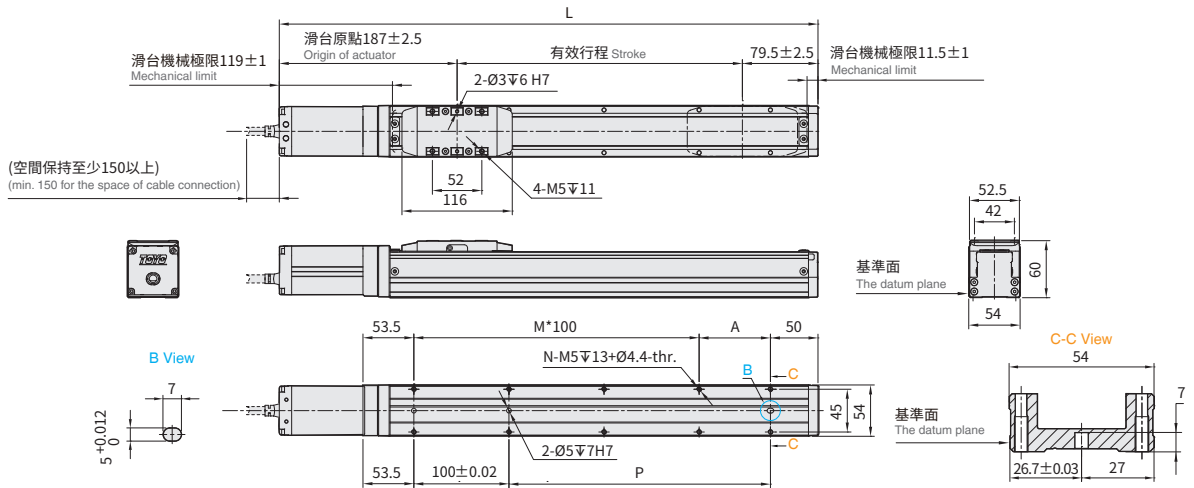


馬達直結 Motor Hidden In



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 | 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.

※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.

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