

# SATA

## 微型電動缸

一般環境

## Micro Rod Type Actuator

General





# MR – 16 – L2 – 30 – 03

型號  
Model

規格  
Specifications

導程  
Lead

行程  
Stroke

電機線長

Wire Lenth

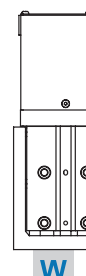
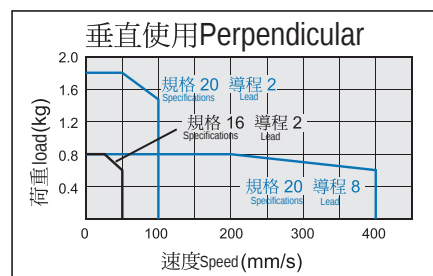
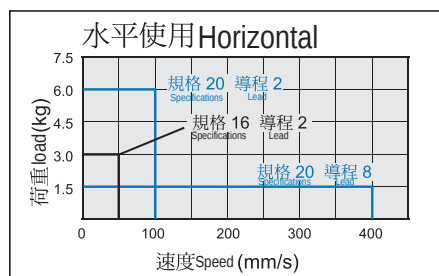
- 01 1.5M
- 03 3.0M
- 05 5.0M

|                                        |             |              |        |       |
|----------------------------------------|-------------|--------------|--------|-------|
| 產品型號<br>Product model                  |             | MR           |        |       |
| 規格<br>Specifications                   |             | 16           | 20     |       |
| 位置重複精度<br>Position repetition accuracy |             | ±0.02mm      |        |       |
| 螺桿導程<br>Screw lead                     |             | 2            | 2      | 8     |
| 最高速度 mm/s<br>Maximum speed             |             | ≤50          | ≤100   | ≤400  |
| 最大載重<br>Maximun<br>payload(kg)         | 水平使用<br>(H) | 3            | 6      | 1.5   |
|                                        | 垂直使用<br>(V) | 0.8          | 1.8    | 0.8   |
| 工作推力 (N)<br>Working thrust (n)         |             | 24~68        | 64~195 | 18~48 |
| 行程<br>Trip                             |             | 30/50        |        |       |
| 馬達尺寸<br>Motor size                     |             | □20          | □28    |       |
| 控制器電壓<br>Controller voltage            |             | DC 24V ± 10% |        |       |

## 性能圖表 & 配件

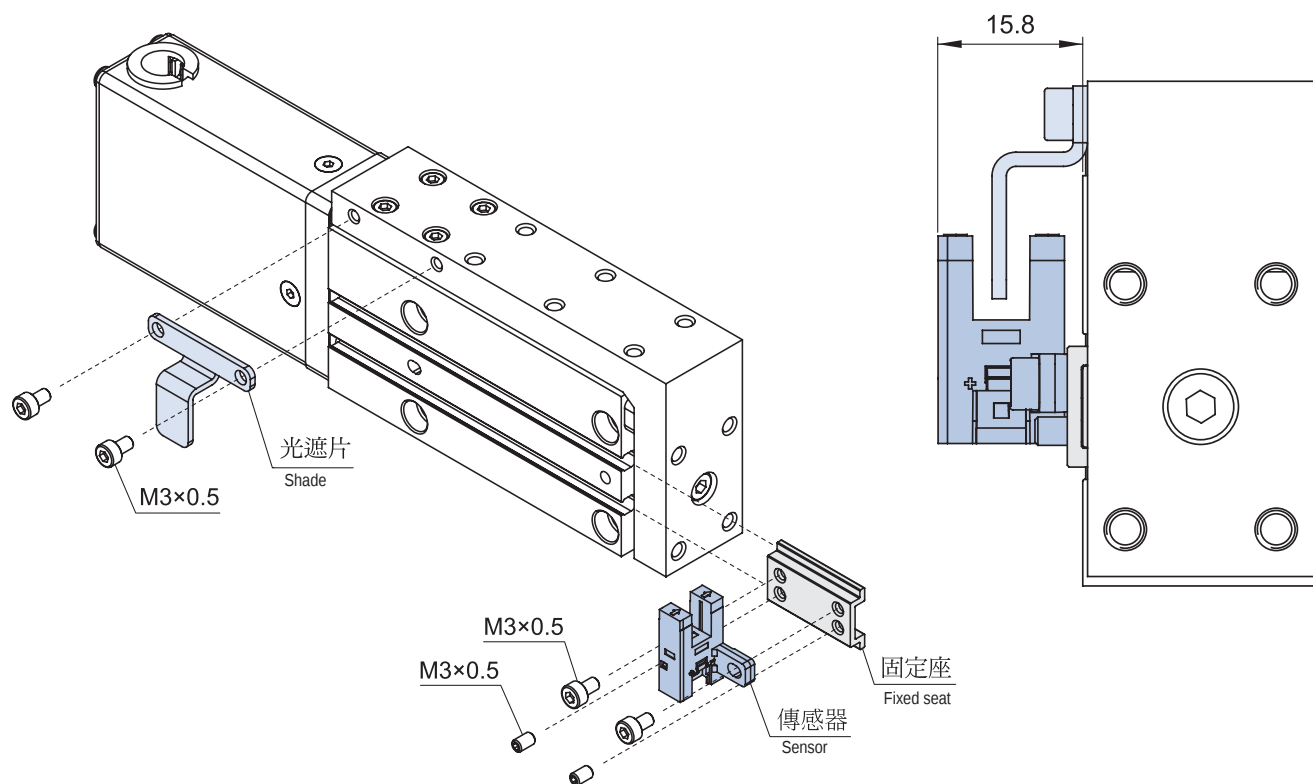
Performance Chart / Accessories

### 速度 – 荷重曲線表 Speed- Diagram



## 槽型光電傳感器組

Channel photoelectric sensor



## 配件包

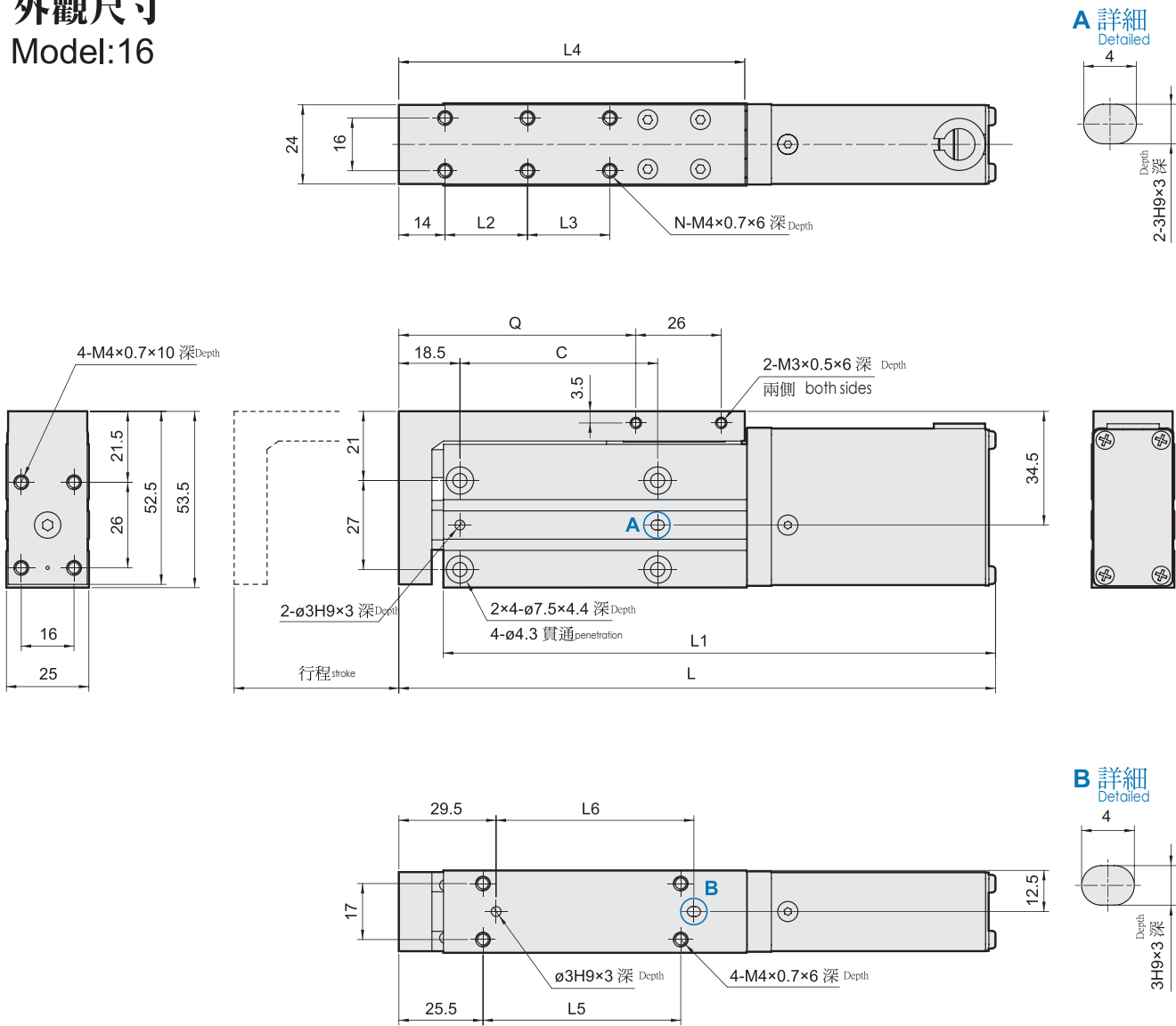
Accessories package

|                        |                   |
|------------------------|-------------------|
|                        |                   |
| 傳感器 (×1)<br>Sensor     | 光遮片 (×1)<br>Shade |
|                        |                   |
| 固定座 (×1)<br>Fixed seat | 螺栓 (×4)<br>Bolt   |
|                        | 螺栓 (×2)<br>Bolt   |

\* 附線材 1m

Complimentary wire

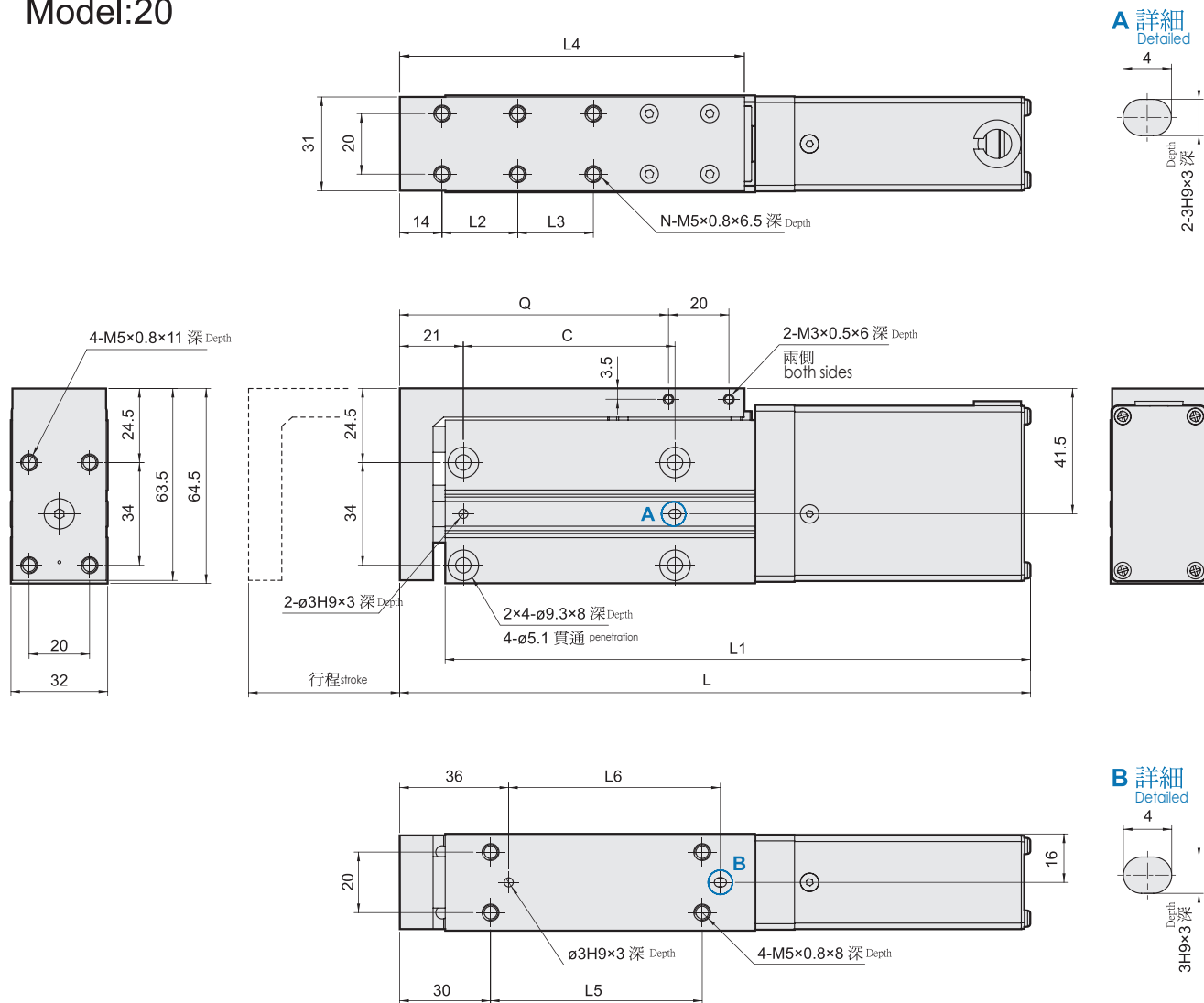
外觀尺寸  
Model:16



單位 : mm

| 行程<br>stroke | C  | L   | L1    | L2 | L3 | L4  | L5 | L6 | N | Q  | 重量 (g)<br>weight |
|--------------|----|-----|-------|----|----|-----|----|----|---|----|------------------|
| 30           | 40 | 161 | 147.5 | 30 | —  | 85  | 40 | 40 | 4 | 52 | 500              |
| 50           | 60 | 181 | 167.5 | 25 | 25 | 105 | 60 | 60 | 6 | 72 | 562              |

# 外觀尺寸 Model:20



單位 : mm

| 行程<br>stroke | C  | L     | L1    | L2 | L3 | L4  | L5 | L6 | N | Q  | 重量 (g)<br>weight |
|--------------|----|-------|-------|----|----|-----|----|----|---|----|------------------|
| 30           | 40 | 188.5 | 173.5 | 30 | —  | 97  | 40 | 40 | 4 | 69 | 950              |
| 50           | 70 | 208.5 | 193.5 | 25 | 25 | 114 | 70 | 70 | 6 | 89 | 1049             |

## MRL-08-L5-50-M2-03

型號  
Model規格  
Specifications導程  
Lead行程  
Stroke馬達方向  
Motor direction電機線長  
Wire Length

馬達方向 Motor direction

M2 馬達外置 Motor outside position

M3 馬達外置右側 Motor outside, rightward position

M4 馬達外置左側 Motor outside, leftward position

01 1.5M

03 3.0M

05 5.0M

## ■ 規格表 Specification

| 項目<br>Item                            | 型號<br>Model                              | MRL 08              |     | MRL 12    |     | MRL 16 |     | MRL 20      |     | MRL 25       |      |     |  |
|---------------------------------------|------------------------------------------|---------------------|-----|-----------|-----|--------|-----|-------------|-----|--------------|------|-----|--|
| 行程<br>Stroke                          | mm                                       | 50、75               |     | 50、100    |     | 50、100 |     | 50、100、150  |     | 50、100、150   |      |     |  |
| 導程<br>Lead                            | mm                                       | 5                   | 10  | 5         | 10  | 5      | 10  | 5           | 10  | 5            | 10   | 20  |  |
| 最大推力<br>Max. Thrust                   | N                                        | 80                  | 40  | 80        | 40  | 440    | 220 | 440         | 220 | 800          | 400  | 200 |  |
| 搬運物體重量<br>Load Capacity               | 垂直 kg<br>Vertical                        | 3.5                 | 1.5 | 3.5       | 1.5 | 15     | 7.5 | 15          | 7.5 | 27           | 13.5 | 7   |  |
|                                       | 水平 kg<br>Horizontal                      | 2                   |     | 3         |     | 8      |     | 9           |     | 12           |      |     |  |
| 最高速度<br>Max. Speed                    | mm/s                                     | 200                 | 350 | 200       | 350 | 200    | 350 | 200         | 350 | 200          | 350  | 650 |  |
| 驅動方式<br>Drive Method                  | 滾珠螺桿、同步帶<br>Ball Screw, Synchronous Belt |                     |     |           |     |        |     |             |     |              |      |     |  |
| 使用溫度範圍<br>Operating Temperature Range | ° C                                      | 5~40                |     |           |     |        |     |             |     |              |      |     |  |
| 使用濕度範圍<br>Operating Humidity Range    | %                                        | 35~85               |     |           |     |        |     |             |     |              |      |     |  |
| 馬達尺寸<br>Motor Size                    | □ 28 □ 42 □ 57                           |                     |     |           |     |        |     |             |     |              |      |     |  |
| 重複定位精度<br>Repeatability               | mm                                       | ±0.01               |     |           |     |        |     |             |     |              |      |     |  |
| 空轉行程<br>Idle stroke                   | mm                                       | 0.1 以下<br>Below 0.1 |     |           |     |        |     |             |     |              |      |     |  |
| 重量<br>Weight                          | kg                                       | 0.93/1.03           |     | 1.13/1.45 |     | 2/2.3  |     | 2.2/2.8/3.4 |     | 2.9/3.68/4.3 |      |     |  |
| 馬達單圈解析度<br>Single turn Resolution     | 4000                                     |                     |     |           |     |        |     |             |     |              |      |     |  |
| 通訊協議<br>Communication Protocol        | RS485                                    |                     |     |           |     |        |     |             |     |              |      |     |  |
| 工作電壓<br>Operating Voltage             | V                                        | 24                  |     |           |     |        |     |             |     |              |      |     |  |
| 電流<br>Current                         | A                                        | 1.5                 |     |           |     | 2.5    |     |             |     | 3            |      |     |  |
| 防護等級<br>Protection Rating             | IP40                                     |                     |     |           |     |        |     |             |     |              |      |     |  |

註：1. 空轉行程：為修正往復運動所產生誤差時的參考值。

2. 根據電線的長度、負載重量、安裝條件等，會造成速度與推力的變化，電線長度超過 5m 的場合，速度與推力每 5m 最多下降 10%。

3. 若負載重量超出表格建議值，將會縮短產品使用壽命。

4. 推拉精度 ±20%。

Note:

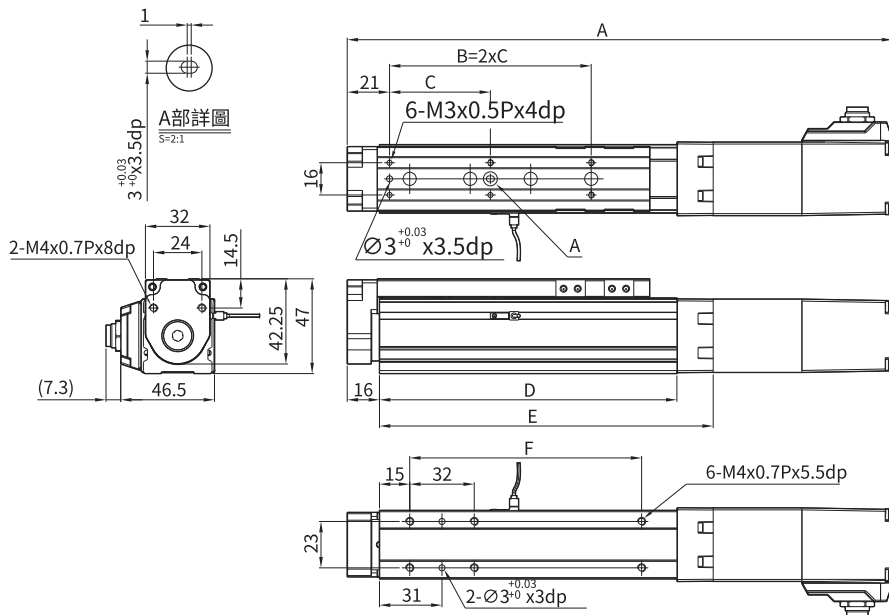
1. Idle stroke: a reference value used to correct errors caused by reciprocating motion.

2. Depending on the length of the wire, the weight of the load, installation conditions, etc., there may be changes in speed and thrust. If the wire length exceeds 5 meters, speed and thrust can decrease by up to 10% for every additional 5 meters.

3. If the load weight exceeds the recommended value in the table, it will shorten the product's service life.

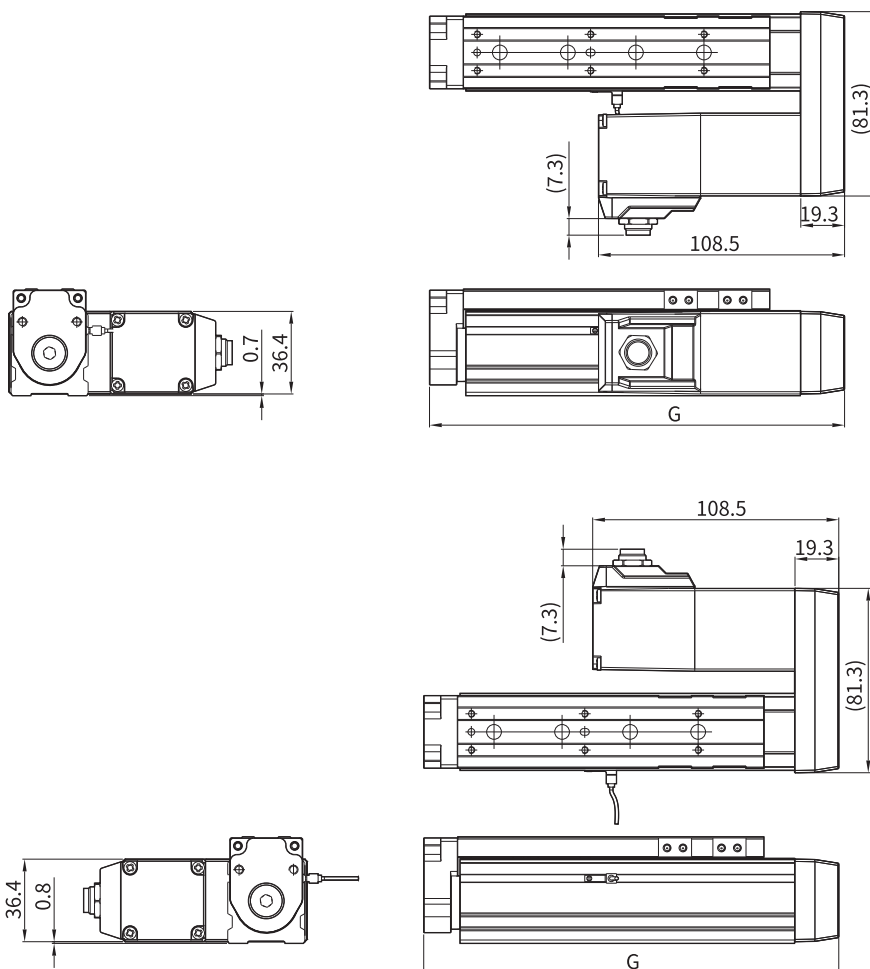
4. Push-pull force accuracy ±20%.

## MRL-08 (直線型)

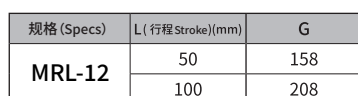
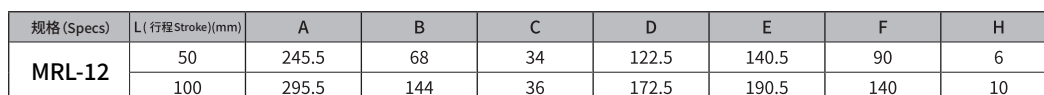


| 规格 (Specs) | L (行程Stroke)(mm) | A     | B   | C  | D     | E     | F   |
|------------|------------------|-------|-----|----|-------|-------|-----|
| MRL-08     | 50               | 245.5 | 92  | 46 | 122.5 | 140.5 | 90  |
|            | 75               | 270.5 | 100 | 50 | 147.5 | 165.5 | 115 |

MRL-08-M3 (右)側折返型  
MRL-08-M4 (左)側折返型

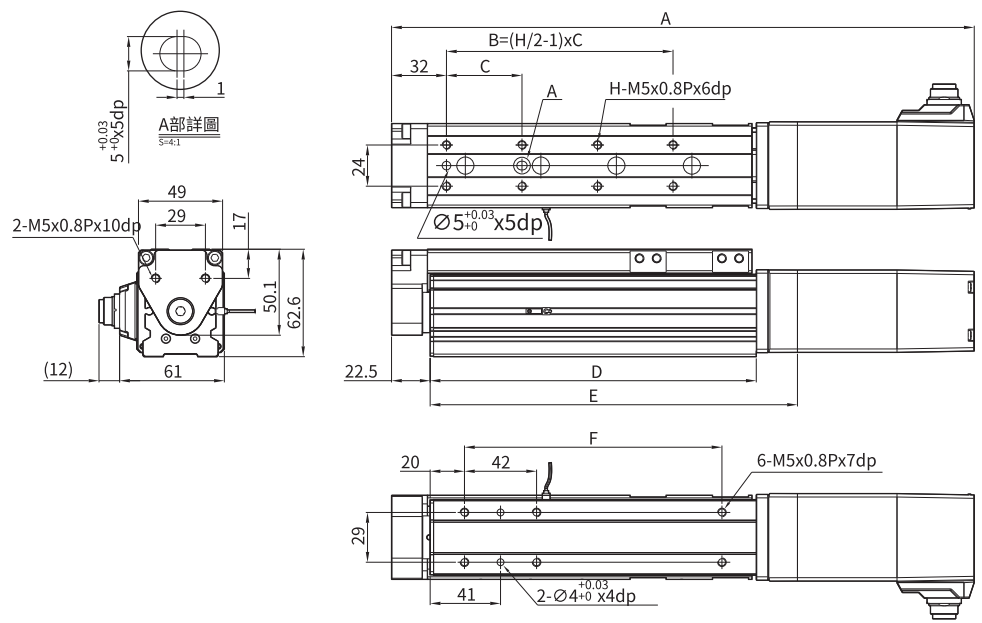


| 规格 (Specs)    | L (行程 Stroke)(mm) | G   |
|---------------|-------------------|-----|
| <b>MRL-08</b> | 50                | 158 |
|               | 75                | 183 |



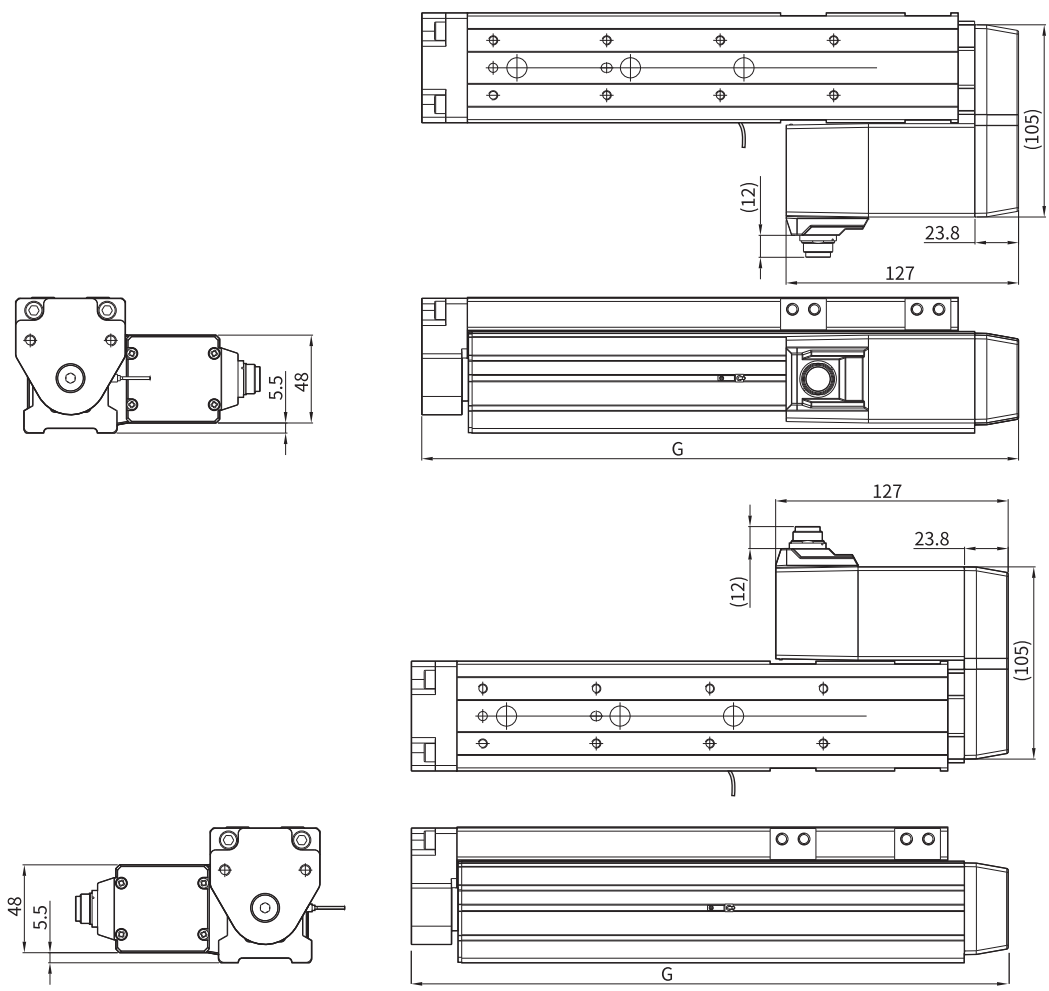
# MRL-16 (直線型)

微型電動缸  
Micro Rod Type Actuator



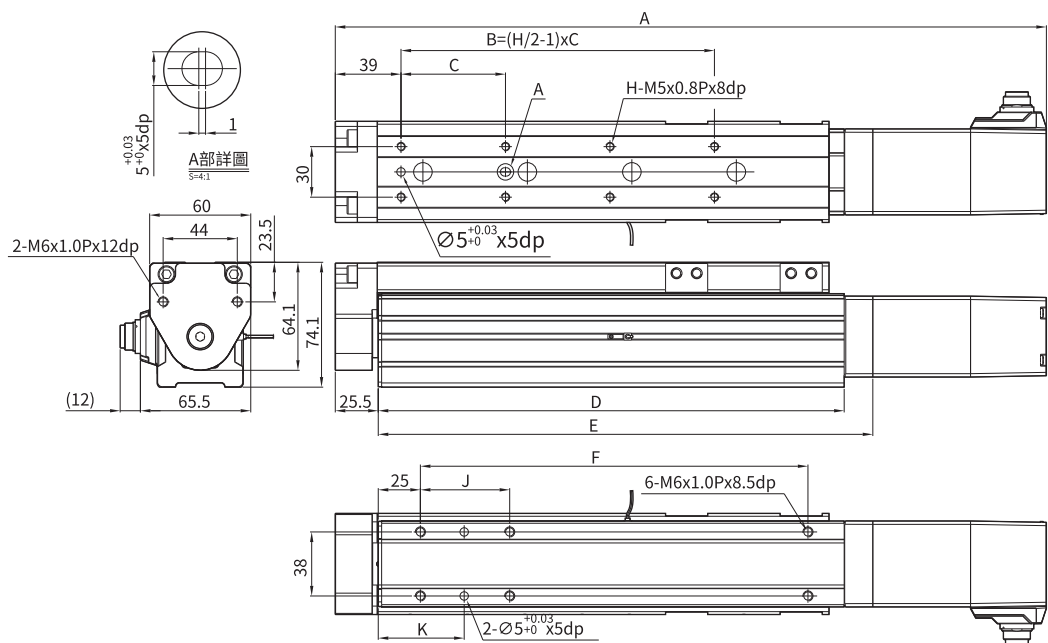
| 规格 (Specs) | L (行程 Stroke)(mm) | A     | B   | C  | D   | E   | F   | H |
|------------|-------------------|-------|-----|----|-----|-----|-----|---|
| MRL-16     | 50                | 289.5 | 80  | 40 | 140 | 164 | 90  | 6 |
|            | 100               | 339.5 | 132 | 44 | 190 | 214 | 150 | 8 |

## MRL-16-M3 (右) 側折返型 MRL-16-M4 (左) 側折返型



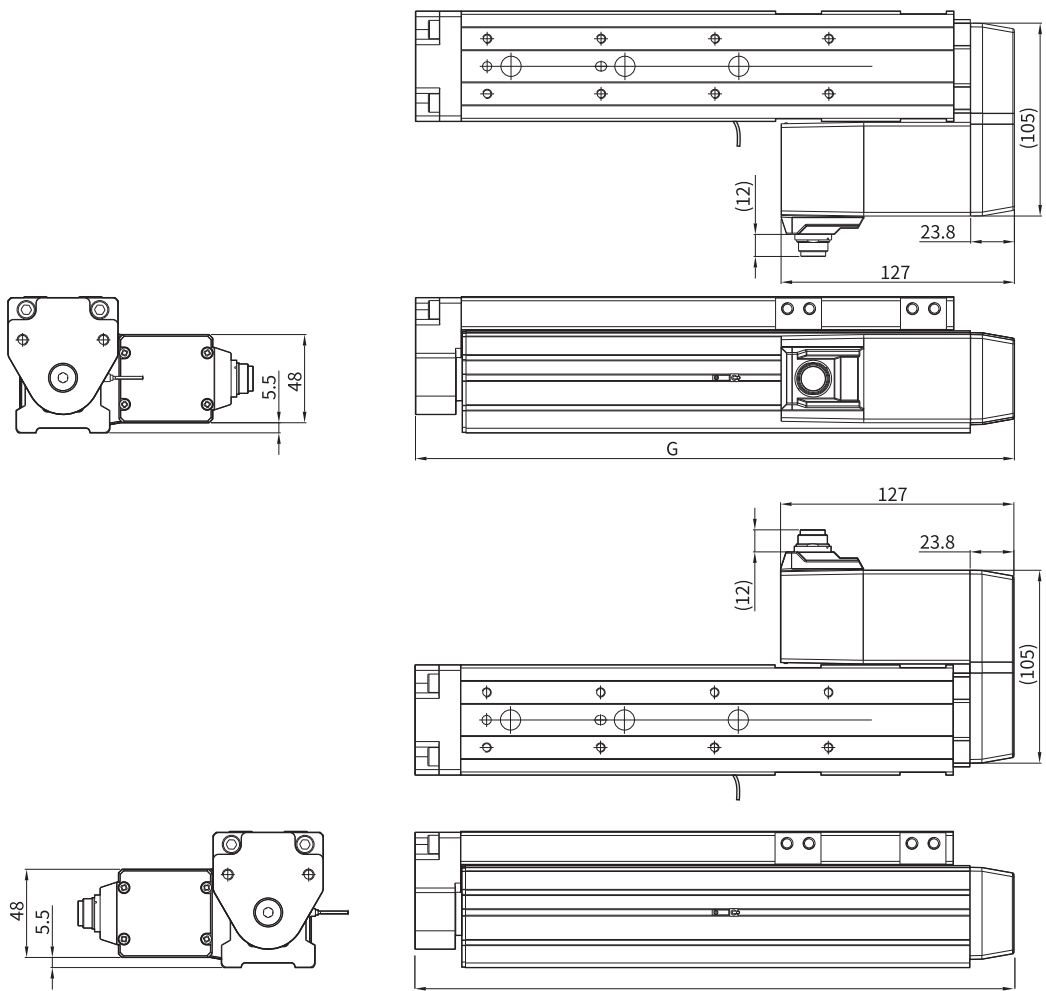
| 规格 (Specs) | L (行程 Stroke)(mm) | G     |
|------------|-------------------|-------|
| MRL-16     | 50                | 186.5 |
|            | 100               | 236.5 |

MRL-20 (直線型)

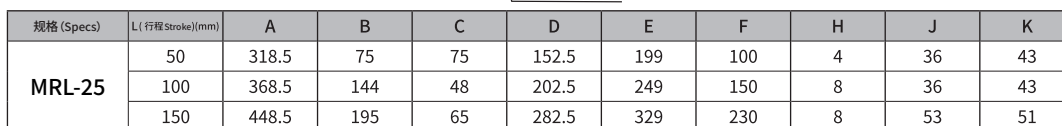


| 規格 (Specs) | L (行程 Stroke)(mm) | A   | B   | C  | D     | E     | F   | H | J  | K  |
|------------|-------------------|-----|-----|----|-------|-------|-----|---|----|----|
| MRL-20     | 50                | 292 | 84  | 42 | 146.5 | 163.5 | 100 | 6 | 36 | 43 |
|            | 100               | 342 | 150 | 50 | 196.5 | 213.5 | 150 | 8 | 36 | 43 |
|            | 150               | 422 | 186 | 62 | 276.5 | 293.5 | 230 | 8 | 53 | 51 |

MRL-20-M3 (右)側折返型  
MRL-20-M4 (左)側折返型



| 規格 (Specs) | L (行程 Stroke)(mm) | G   |
|------------|-------------------|-----|
| MRL-20     | 50                | 196 |
|            | 100               | 246 |
|            | 150               | 326 |



| 规格 (Specs)    | L (行程 Stroke)(mm) | G     |
|---------------|-------------------|-------|
| <b>MRL-25</b> | 50                | 208.5 |
|               | 100               | 258.5 |
|               | 150               | 338.8 |