

HPM14F 400W 伺服電機

單軸/1-axis

開放式齒輪齒條驅動
Open Gear Rack



此圖僅供參考，出貨規格詳見尺寸圖面
The picture is just for the reference. Please check the the actual dimensions on the drawing.

| | | | | | | | | | |
|-------------------------------|--------|------------------------------|----------|-----------------------------|------|-------------------|------|-----------------------------|------------|
| 最大行程 Maximum Stroke | 2900mm | 最高速度 Maximum Speed | 1665mm/s | 馬達容量 Motor Output | 400W | 齒條 Rack | M1.5 | 直線滑軌 Linear Guide | 15x12.5-2支 |
|-------------------------------|--------|------------------------------|----------|-----------------------------|------|-------------------|------|-----------------------------|------------|

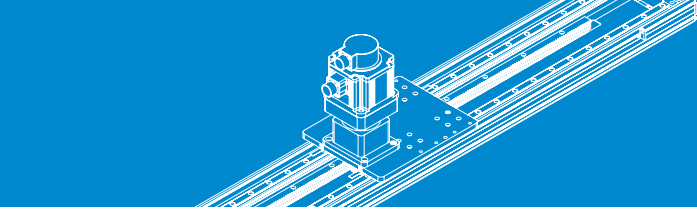
※ 依減速比不同而異。
The maximum speed depends on different gear ratio.

型號表示方式 Ordering Method

HPM14F-L3/33.32-100 - BC-T400W - C 4 -MB-3M

| 本體型號 Model | 減速比與導程 Reduction Ratio With Lead | 行程 Stroke | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|-----------------------------|-----------------------------|--|---|---|-----------|---|---------------|----|----------|---|-------------|--------------------|----------|--|------|------|------|---|-------|---|---|-------------|--|---|-------------|--|--------------------|---|--------------------|--|-------------|--|---|---------|---|---------|--|--------------------|---|--------------------|---|-------|----------------------|-----|--------------------|-----|-----------------------|
| | <table border="1"> <thead> <tr> <th>減速比</th> <th>導程</th> </tr> </thead> <tbody> <tr> <td>3</td> <td>33.32</td> </tr> <tr> <td>5</td> <td>19.99</td> </tr> <tr> <td>7</td> <td>14.28</td> </tr> <tr> <td>10</td> <td>10.00</td> </tr> </tbody> </table> | 減速比 | 導程 | 3 | 33.32 | 5 | 19.99 | 7 | 14.28 | 10 | 10.00 | <table border="1"> <tbody> <tr> <td>1000-2900mm</td> </tr> <tr> <td>100間隔 100 mm Pitch</td> </tr> </tbody> </table> | 1000-2900mm | 100間隔 100 mm Pitch | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 減速比 | 導程 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | 33.32 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | 19.99 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | 14.28 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | 10.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1000-2900mm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 100間隔 100 mm Pitch | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 馬達位置 Motor Position | 電機安裝標準 Motor Installation | 馬達容量 Motor Output | 原點感應器 Home Sensor | 端點極限感應器 Limit Sensor | 馬達廠牌 Motor Brand | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| BC | 馬達直聯 Motor Direct | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BL | 直角減速機 Right Angle Reduction Machine | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T | 通用馬達安裝標準: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 三菱 Mitsubishi | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 台達 Delta | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 安川 Yaskawa | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| P | 松下馬達安裝標準 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 400W | 400W | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 750W | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1000W | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 內置型 In Side | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A | 內置型 In Side | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 無 SENSOR No Sensor | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| E | 無 SENSOR No Sensor | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 內置型 In Side | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 1只 1 Pc | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 2只 2 Pc | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 無 SENSOR No Sensor | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | 無 SENSOR No Sensor | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MB-3M | 含電機，廠家安裝三菱帶剎車電機，線長3米 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ZMB | 不含電機，客戶自己安裝三菱帶剎車電機 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| KMB | 不含電機，客戶提供三菱帶剎車電機，廠家安裝 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

※若無煞車則B不表示。
※If No Brake, No B Description.

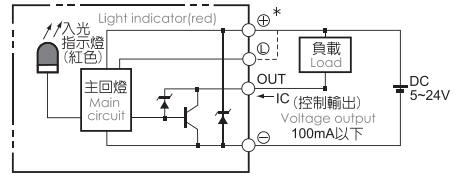


基本仕様 Specification

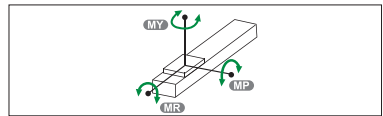
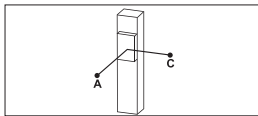
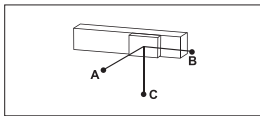
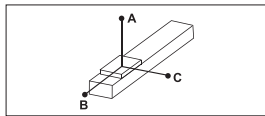
| | | | | | | |
|-------------------|---------------------------|-------------------------------------|-------|-------|-------|----|
| 規格 Spec | 位置重複精度 Repeatability (mm) | ±0.04 | | | | |
| | 驅動功率 Driving Power (W) | 400 | | | | |
| | 行星減速機減速比 Reduction ratio | 3:1 | 5:1 | 7:1 | 10:1 | |
| | 齒輪導程 Gear Lead (mm) | 33.32 | 19.99 | 14.28 | 10.00 | |
| | 最高速度 Maximum Speed (mm/s) | 1665 | 1000 | 715 | 500 | |
| | 最大可搬重量 Maximum Payload | 水平使用 Horizontal (kg) | 30 | 40 | 64 | 88 |
| | | 垂直使用 Vertical (kg) | 8 | 10 | 18 | 22 |
| | 定格推力 Rated Thrust (N) | 218 | 347 | 520 | 694 | |
| | 標準行程 Stroke Pitch (mm) | 1000-2900mm/100mm間隔 100mm Pitch | | | | |
| | 馬達額定轉速 (RPM) | 3000 | | | | |
| 原點感應器 Home Sensor | 內置 Built-In | EE-SX674(NPN) FC-SPX307Z-2M(NPN) | | | | |

※選用非上述規格馬達請依據馬達實際參數推算。
Choose the real motor please according to the motor parameters calculated the above specifications.

感應器接線圖<原點及端點> Sensor Layout



容許負載力距表 Allowable Overhang



靜態容許負載慣量 Static Loading Moment

| (單位 Unit : mm) | | | | (單位 Unit : mm) | | | | (單位 Unit : mm) | | | |
|---------------------------------|------|------|------|---------------------------|------|-----|------|-------------------------------|------|------|------|
| 水平安裝 Horizontal Installation | | | | 壁掛安裝 Wall Installation | | | | 垂直安裝 Vertical Installation | | | |
| | A | B | C | | A | B | C | | A | C | |
| 3:1 | 15kg | 1033 | 545 | 405 | 15kg | 405 | 545 | 1033 | 5kg | 1503 | 1503 |
| | 25kg | 604 | 311 | 233 | 30kg | 188 | 251 | 495 | 8kg | 944 | 944 |
| | 30kg | 495 | 251 | 188 | - | - | - | - | - | - | - |
| 5:1 | 10kg | 2304 | 1222 | 1028 | 12kg | 854 | 1019 | 2552 | 7kg | 1700 | 1700 |
| | 22kg | 1443 | 540 | 451 | 20kg | 500 | 596 | 1588 | 10kg | 1188 | 1188 |
| | 40kg | 860 | 277 | 233 | 40kg | 233 | 277 | 860 | - | - | - |
| 7:1 | 20kg | 1668 | 881 | 729 | 23kg | 608 | 707 | 2460 | 8kg | 1605 | 1605 |
| | 36kg | 1510 | 403 | 346 | 37kg | 359 | 417 | 1516 | 12kg | 1130 | 1130 |
| | 64kg | 857 | 205 | 177 | 64kg | 178 | 205 | 857 | 18kg | 745 | 745 |
| 10:1 | 30kg | 2727 | 470 | 430 | 35kg | 363 | 395 | 2368 | 10kg | 1500 | 1500 |
| | 50kg | 1577 | 266 | 242 | 55kg | 218 | 238 | 1445 | 14kg | 1072 | 1072 |
| | 88kg | 854 | 134 | 122 | 88kg | 123 | 134 | 854 | 22kg | 682 | 682 |

| | (單位 Unit : N.m) |
|----|-----------------|
| MY | 551 |
| MP | 552 |
| MR | 485 |

※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.

搭配伺服馬達一覽表 Suitable Motor Brand

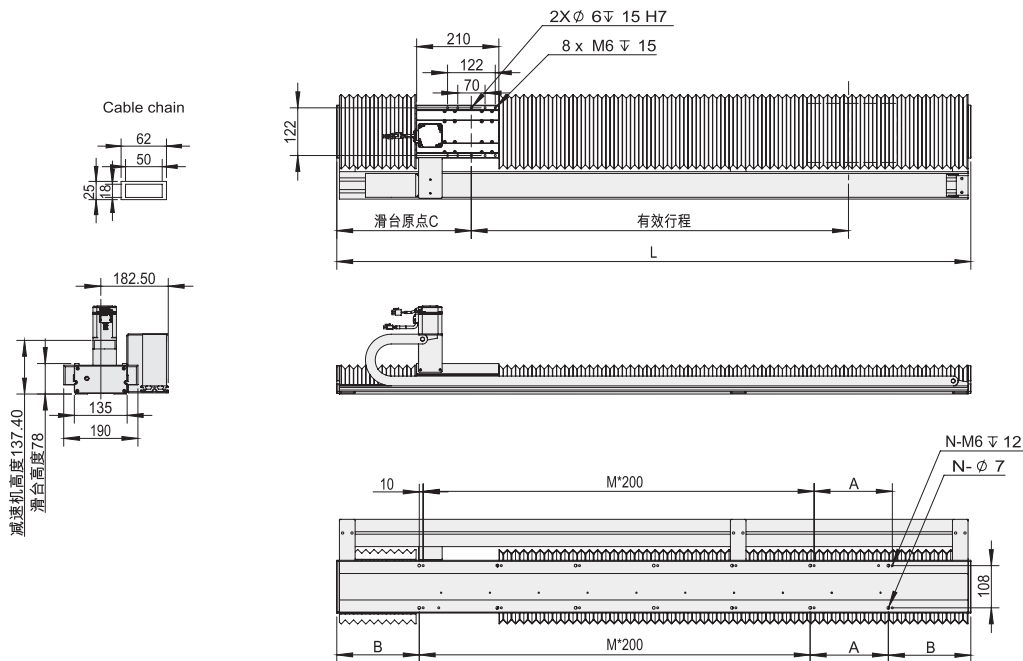
| 廠牌 Brand | 馬達記號 Mark | 煞車有無 Brake | 馬達容量 Watt | 電源電壓 AC-Voltage | 伺服馬達型號 Motor Model | 驅動器型號 Driver Model |
|------------------|--------------|---|--------------|--------------------|-----------------------|-----------------------|
| 三菱 Mitsubishi | M | 無煞車(水平仕様) No Brake (Horizontal Type) | 400 | 220 | HG-KN43J-S100 | MR-JE-40A |
| | | 有煞車(垂直仕様) With Brake (Vertical Type) | 400 | 220 | HG-KN43BJ-S100 | MR-JE-40A |
| 松下 Panasonic | P | 無煞車(水平仕様) No Brake (Horizontal Type) | 400 | 220 | MHMF042L1U2M | MBDLN25SE |
| | | 有煞車(垂直仕様) With Brake (Vertical Type) | 400 | 220 | MHMF042L1V2M | MBDLN25SE |
| 台達 Delta | T | 無煞車(水平仕様) No Brake (Horizontal Type) | 400 | 220 | ECM-B3M-C20604RS1 | ASD-B3-0421-L |
| | | 有煞車(垂直仕様) With Brake (Vertical Type) | 400 | 220 | ECM-B3M-C20604SS1 | ASD-B3-0421-L |

馬達外露

Motor Exposed

BC 馬達外露 Motor Exposed

單位 Unit: mm



| 有效行程 stroke | 1000 | 1100 | 1200 | 1300 | 1400 | 1500 | 1600 | 1700 | 1800 | 1900 | 2000 | 2100 | 2200 | 2300 | 2400 | 2500 | 2600 | 2700 | 2800 | 2900 |
|-------------|-------|-------|-------|-------|------|-------|-------|-------|-------|------|-------|-------|-------|-------|------|-------|-------|-------|-------|------|
| L | 1622 | 1742 | 1862 | 1982 | 2102 | 2222 | 2342 | 2462 | 2582 | 2702 | 2822 | 2942 | 3062 | 3182 | 3302 | 3422 | 3542 | 3662 | 3782 | 3902 |
| A | 200 | 100 | 200 | 100 | 200 | 100 | 200 | 100 | 200 | 100 | 200 | 100 | 200 | 100 | 200 | 100 | 200 | 100 | 200 | 100 |
| M | 5 | 6 | 6 | 7 | 7 | 8 | 8 | 9 | 9 | 10 | 10 | 11 | 11 | 12 | 12 | 13 | 13 | 14 | 14 | 15 |
| N | 14 | 16 | 16 | 18 | 18 | 20 | 20 | 22 | 22 | 24 | 24 | 26 | 26 | 28 | 28 | 30 | 30 | 32 | 32 | 34 |
| B | 211 | 221 | 231 | 241 | 251 | 261 | 271 | 281 | 291 | 301 | 311 | 321 | 331 | 341 | 351 | 361 | 371 | 381 | 391 | 401 |
| C | 346 | 356 | 366 | 376 | 386 | 396 | 406 | 416 | 426 | 436 | 446 | 456 | 466 | 476 | 486 | 496 | 506 | 516 | 526 | 536 |
| KG | 23.56 | 24.92 | 26.28 | 27.64 | 29 | 30.36 | 31.72 | 33.08 | 34.44 | 35.8 | 37.16 | 38.52 | 39.88 | 41.24 | 42.6 | 43.96 | 45.32 | 46.68 | 48.04 | 49.4 |

※ 1:馬達尺寸和出力是以400W為準。搭配其它功率馬達請與本公司技術人員確認。

1: The motor size and the output is 400 w. With other power motor, please confirm with our company technical personnel.

※ 2:本體安裝標準型為上下螺紋孔安裝。

2: The installation of the ontology standard thread hole up and down.

※ 3:馬達僅為直接式安裝。

3: the motor is only directly type installation.

※ 4:重量不含馬達。

4: the weight without motor.

※ 5:當行程超過2900mm時，請向技術人員洽詢。

5: when travel more than 2900 mm, please inquire to technical personnel.