

## CMTJ系列

## ✿ 操作條件 Operating condition



| 形式Type<br>項目Item                       | CMTJ(全行程可調增壓缸系列)<br>Adjust Type Of Boosting Cylinder                                       |
|----------------------------------------|--------------------------------------------------------------------------------------------|
| 作動方式<br>Working Motion                 | 雙動<br>Double Motion                                                                        |
| 作動壓力<br>Working Pressure               | 2-7kgf/cm <sup>2</sup> 過濾乾燥壓縮空氣<br>2-7kgf/cm <sup>2</sup> Dry compress Air After Filtering |
| 循環油<br>Cycle Oil                       | ISO VG 68                                                                                  |
| 工作溫度<br>Working Temperture             | -5~+60℃(其餘工作溫度需訂製)<br>(Other Working Tempertures Shall Be On Requested)                    |
| 操作速度<br>Operation Speed                | 50-700mm/s                                                                                 |
| 油缸保證耐壓<br>Oil Cylinder Assure Pressure | 300kgf/cm <sup>2</sup>                                                                     |
| 氣缸保證耐壓<br>Air Cylinder Assure Pressure | 15kgf/cm <sup>2</sup>                                                                      |
| 行程公差<br>Stroke Difference              | +1.0mm<br>0                                                                                |
| 工作頻率<br>Working Frequency              | 10次/min<br>10 Times/min                                                                    |

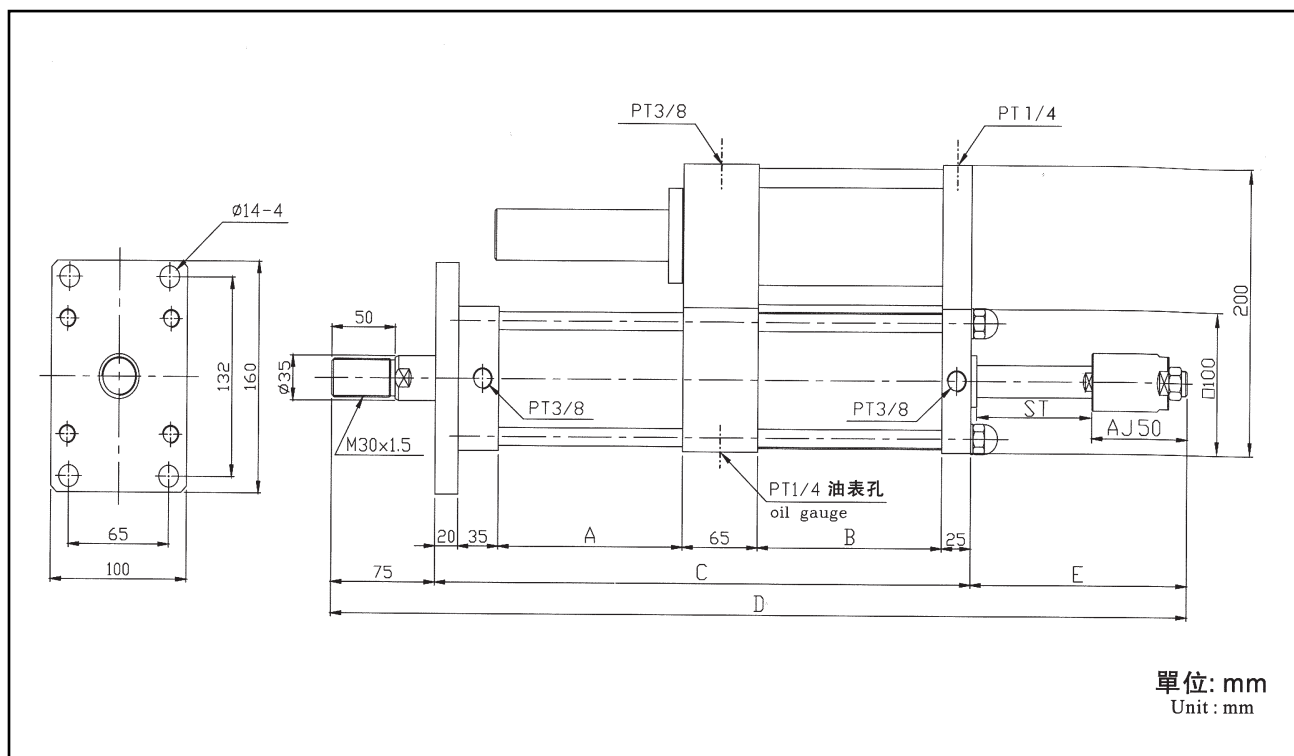
註:5T以下每分鐘工作頻率30次左右

## ✿ 訂購碼

| CMTJ                                          |      | 80                      | 100   | 15                       | 5T   | 50                        |    |
|-----------------------------------------------|------|-------------------------|-------|--------------------------|------|---------------------------|----|
| 可調式增壓缸<br>Adjust Type Of Boosting<br>Cylinder |      |                         |       |                          |      | 可調行程<br>Adjust Stroke     |    |
| 油缸內徑<br>Inner Diameter of Oil Cylinder        |      | 總行程(mm)<br>Total Stroke |       | 力行程(mm)<br>Working Stoke |      | 總出力(噸)<br>Total Output(t) |    |
| 1T                                            | 63mm | 100                     | 100mm | 10                       | 10mm | 1                         | 1T |
| 3T                                            | 63mm | 150                     | 150mm | 15                       | 15mm | 3                         | 3T |
| 5T                                            | 80mm |                         |       |                          |      | 5                         | 5T |
| 8T                                            | 80mm |                         |       |                          |      | 8                         | 8T |

註:可依照客戶需求客製化

## ✿ CMTJ-1T 全行程可調增壓缸外型尺寸圖 Adjust Type Of Boosting Cylinder



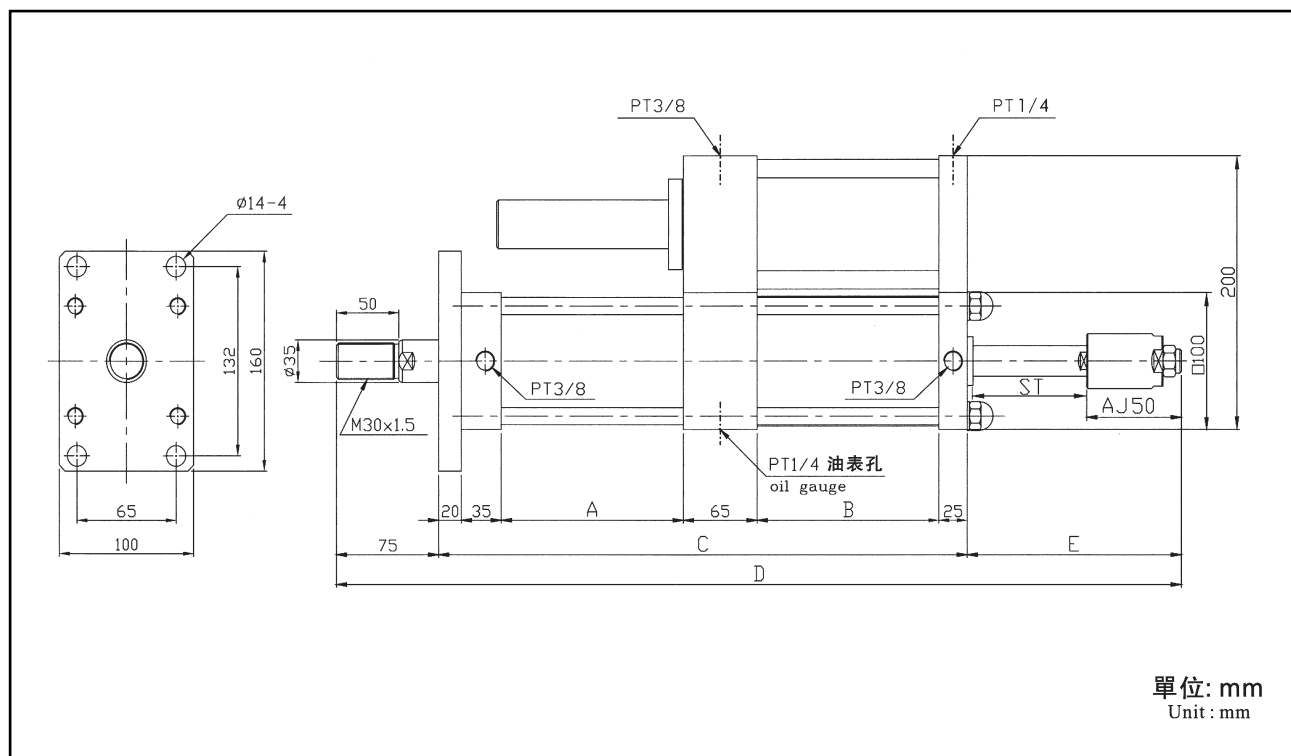
| 總行程<br>Total Stoke | 增壓行程<br>Boosying Stoke | A   | B   | C   | D   | E   |
|--------------------|------------------------|-----|-----|-----|-----|-----|
| 100                | 10                     | 160 | 235 | 540 | 806 | 191 |
| 150                | 10                     | 210 | 300 | 655 | 971 | 241 |

| 總行程<br>Total Stoke | 增壓行程<br>Boosying Stoke | A   | B   | C   | D   | E   |
|--------------------|------------------------|-----|-----|-----|-----|-----|
| 100                | 15                     | 160 | 235 | 555 | 836 | 191 |
| 150                | 15                     | 210 | 300 | 655 | 971 | 241 |

## ✿ 理論出力 Theoretical Output

| Operating Pressure   | 操作壓力 | kg/cm <sup>2</sup> | 1   | 2   | 3   | 4   | 5   | 6    | 7    |
|----------------------|------|--------------------|-----|-----|-----|-----|-----|------|------|
| Approach Stoke Force | 預壓出力 | kg                 | 25  | 50  | 75  | 200 | 125 | 150  | 175  |
| Working Stoke Force  | 增壓出力 | kg                 | 190 | 380 | 570 | 760 | 950 | 1140 | 1330 |
| Return Stoke Force   | 回程拉力 | kg                 | 20  | 40  | 60  | 80  | 100 | 120  | 140  |

 CMTJ-3T全行程可調增壓缸外型尺寸圖  
Adjust Type Of Boosting Cylinder



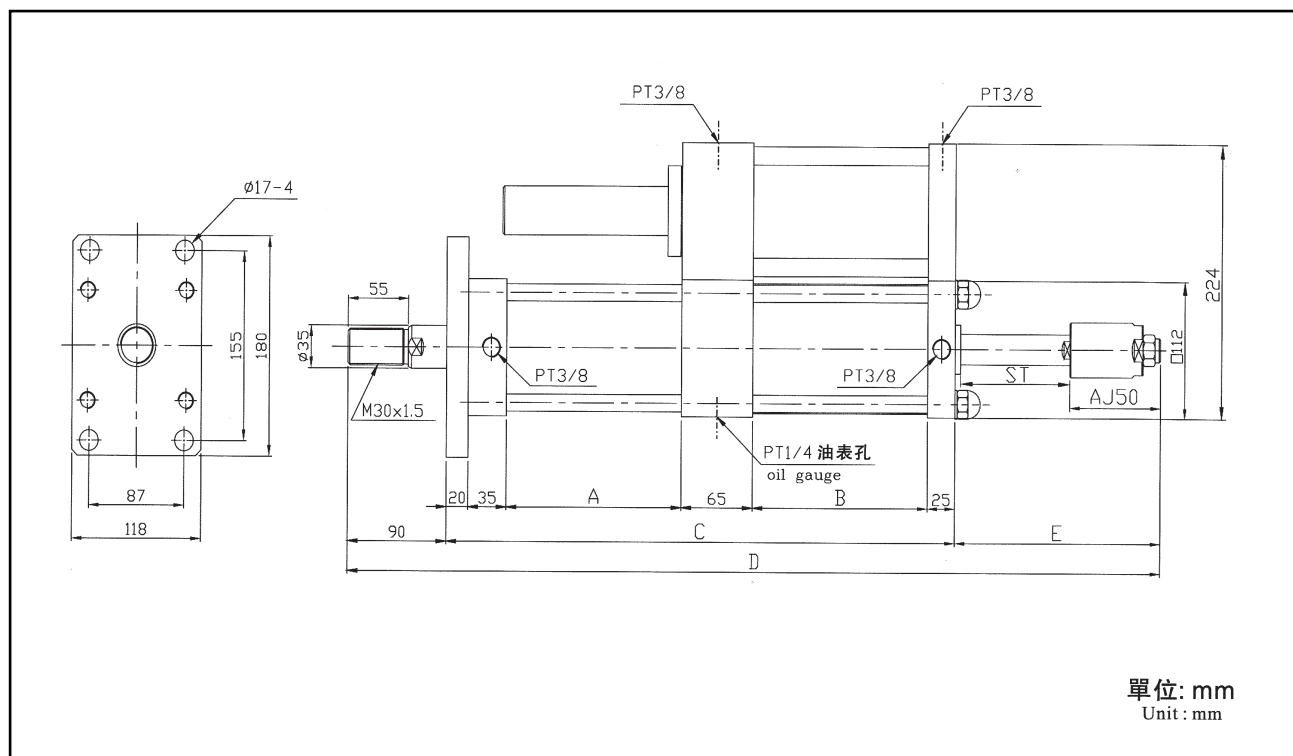
| 總行程<br>Total Stoke | 增壓行程<br>Boossying Stoke | A   | B   | C   | D   | E   |
|--------------------|-------------------------|-----|-----|-----|-----|-----|
| 100                | 10                      | 160 | 235 | 540 | 806 | 191 |
| 150                | 10                      | 210 | 300 | 655 | 971 | 241 |

| 總行程<br>Total Stoke | 增壓行程<br>Boossying Stoke | A   | B   | C   | D   | E   |
|--------------------|-------------------------|-----|-----|-----|-----|-----|
| 100                | 15                      | 160 | 235 | 540 | 806 | 191 |
| 150                | 15                      | 210 | 300 | 655 | 971 | 241 |

 理論出力  
Theoretical Output

|                      |      |                    |     |      |      |      |      |      |      |
|----------------------|------|--------------------|-----|------|------|------|------|------|------|
| Operating Pressure   | 操作壓力 | kg/cm <sup>2</sup> | 1   | 2    | 3    | 4    | 5    | 6    | 7    |
| Approach Stoke Force | 預壓出力 | kg                 | 25  | 50   | 75   | 100  | 125  | 150  | 175  |
| Working Stoke Force  | 增壓出力 | kg                 | 520 | 1040 | 1560 | 2080 | 2600 | 3120 | 3640 |
| Return Stoke Force   | 回程拉力 | kg                 | 20  | 40   | 60   | 80   | 100  | 120  | 140  |

## ✿ CMTJ-5T 全行程可調增壓缸外型尺寸圖 Adjust Type Of Boosting Cylinder



| 總行程<br>Total Stoke | 增壓行程<br>Boosying Stoke | A   | B   | C   | D   | E   |
|--------------------|------------------------|-----|-----|-----|-----|-----|
| 100                | 10                     | 160 | 250 | 555 | 836 | 196 |
| 150                | 10                     | 210 | 280 | 635 | 966 | 246 |

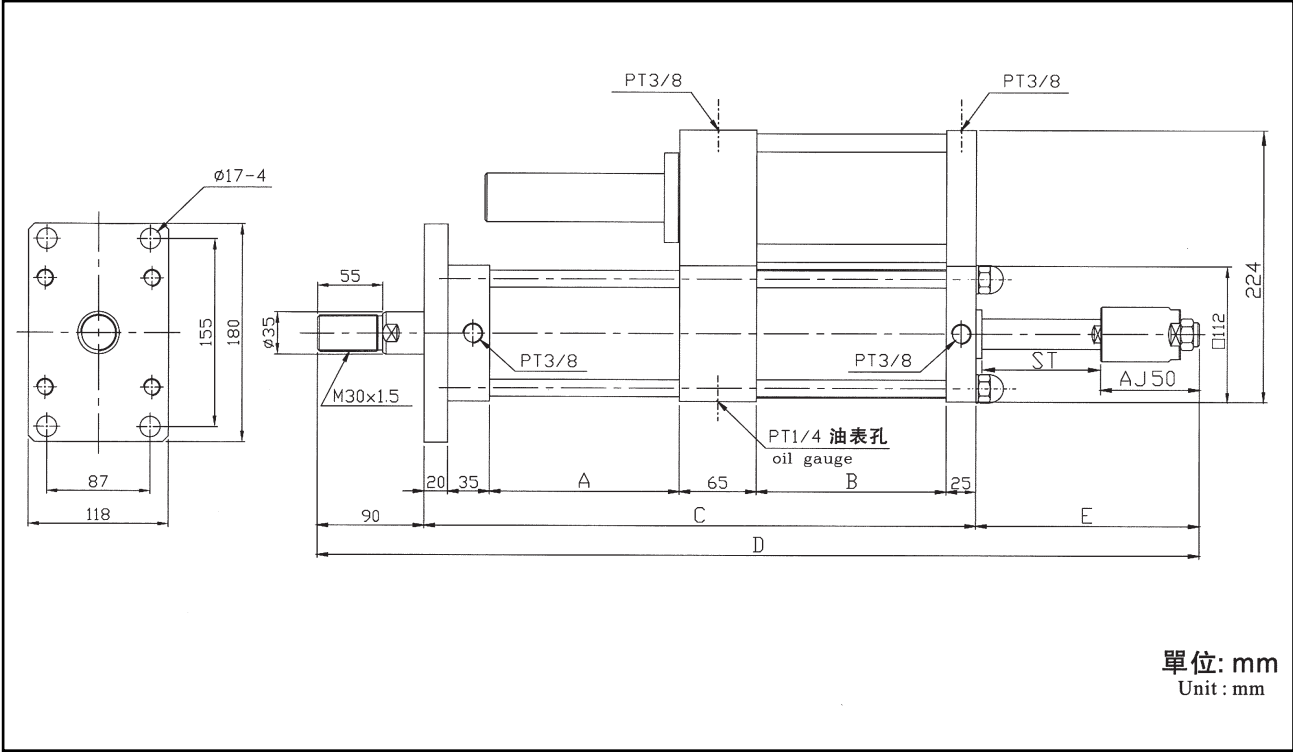
| 總行程<br>Total Stoke | 增壓行程<br>Boosying Stoke | A   | B   | C   | D   | E   |
|--------------------|------------------------|-----|-----|-----|-----|-----|
| 100                | 15                     | 160 | 250 | 555 | 836 | 196 |
| 150                | 15                     | 210 | 280 | 635 | 966 | 246 |

## ✿ 理論出力 Theoretical Output

| Operating Pressure   | 操作壓力 | kg/cm <sup>2</sup> | 1   | 2    | 3    | 4    | 5    | 6    | 7    |
|----------------------|------|--------------------|-----|------|------|------|------|------|------|
| Approach Stoke Force | 預壓出力 | kg                 | 45  | 90   | 135  | 180  | 225  | 270  | 315  |
| Working Stoke Force  | 增壓出力 | kg                 | 900 | 1800 | 2700 | 3600 | 4500 | 5400 | 6300 |
| Return Stoke Force   | 回程拉力 | kg                 | 40  | 80   | 120  | 160  | 200  | 240  | 280  |

# ✿ CMTJ-8T全行程可調增壓缸外型尺寸圖

## Adjust Type Of Boosting Cylinder



單位: mm  
Unit: mm

| 總行程         | 增壓行程            | A   | B   | C   | D   | E   |
|-------------|-----------------|-----|-----|-----|-----|-----|
| Total Stoke | Boossying Stoke |     |     |     |     |     |
| 100         | 10              | 160 | 250 | 555 | 836 | 191 |
| 150         | 10              | 210 | 280 | 635 | 966 | 241 |

| 總行程         | 增壓行程            | A   | B   | C   | D    | E   |
|-------------|-----------------|-----|-----|-----|------|-----|
| Total Stoke | Boossying Stoke |     |     |     |      |     |
| 100         | 15              | 260 | 250 | 655 | 936  | 191 |
| 150         | 15              | 260 | 280 | 685 | 1016 | 241 |

# ✿ 理論出力

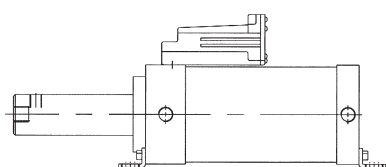
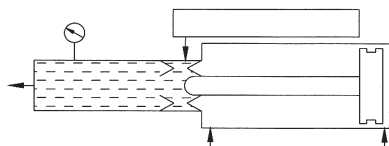
## Theoretical Output

| Operating Pressure   | 操作壓力 | kg/cm <sup>2</sup> | 1    | 2    | 3    | 4    | 5    | 6    | 7    |
|----------------------|------|--------------------|------|------|------|------|------|------|------|
| Approach Stoke Force | 預壓出力 | kg                 | 45   | 90   | 135  | 180  | 225  | 270  | 315  |
| Working Stoke Force  | 增壓出力 | kg                 | 1400 | 2800 | 4200 | 5600 | 7000 | 8400 | 9800 |
| Return Stoke Force   | 回程拉力 | kg                 | 40   | 80   | 120  | 160  | 200  | 240  | 280  |

## CMA

### 直壓式增壓器

Direct-Compressive Booster

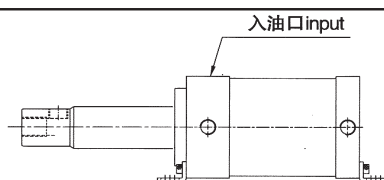
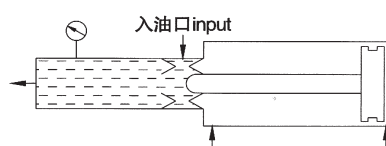


於使用油量較少時，外加小型補油桶  
When it use in small oil capacity  
could add a auxiliary oil-box

## CMD

### 油桶分離型增壓器

Oil-box/Cyl.Separating Type Booster

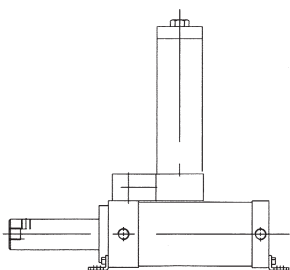
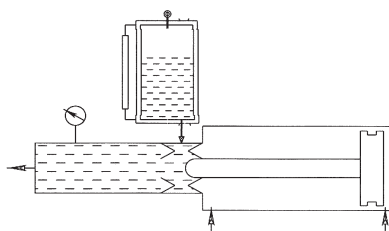


可採用輔助油桶座遠方連接輸油方式  
Auxiliary oil-box.Is supplied hose to feed  
from long distance position.

## CMB

### 預壓式空油轉換器

Pre-Compressive Type Booster

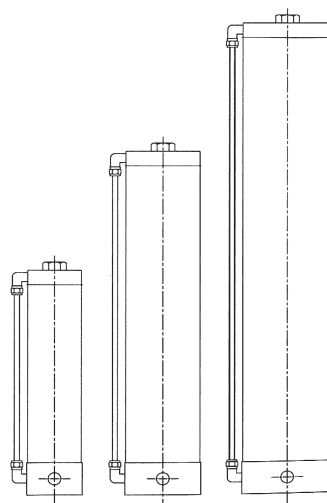


用於油缸較大容量場所，外加依所需  
油量油筒者  
Use for large capacity oil-cyl

## CMC

### 預壓式增壓器

Air-Oil Converter



用於油缸較大容量場所，外加依所需  
油量油筒者  
Use for large capacity oil-cyl

✿ 訂購碼

CMA — 10 — 11 — MS — 70 — S2

CMA

直壓式增壓器  
Direct Compressive Booster

CMB

預壓式增壓器  
Pre-Compressive Booster

CMD

油桶分離型  
Oil Box/Cyl. Separating Type

增壓缸內徑(mm)  
Inner Diameter of Boosting

|    |       |
|----|-------|
| 08 | 80mm  |
| 10 | 100mm |
| 12 | 125mm |
| 16 | 160mm |

增壓比  
Boosting Ratio

|    |     |
|----|-----|
| 7  | 7倍  |
| 11 | 11倍 |
| 17 | 17倍 |
| 28 | 28倍 |

磁石代號

|    |                                 |
|----|---------------------------------|
| MS | 內附磁石感應<br>With Magnet Sensor    |
| 空白 | 內無磁石感應<br>Without Magnet Sensor |

高壓油吐出量  
Output Of high Pressura Oil

|     |       |
|-----|-------|
| 70  | 70CC  |
| 120 | 120CC |

磁簧數量  
Number Of Magnet Spring Switch

|    |    |
|----|----|
| S1 | 1只 |
| S2 | 2只 |

特點:使用一般氣壓為動力源，即可輸出定量的高壓液壓油，提供油缸使用。

✿ 預壓式空油轉換器 Air/Oil Convertor

CMC — 63 — 220 — LB

油缸直徑  
Bore Diameter

|     |       |
|-----|-------|
| 63  | 63mm  |
| 80  | 80mm  |
| 100 | 100mm |

油缸長度  
Tube Length

|     |       |
|-----|-------|
| 220 | 220mm |
| 280 | 280mm |
| 320 | 320mm |
| 360 | 360mm |

固定架  
Plate Mount

特點:使用一般氣壓為動力源，即可輸出定量的高壓液壓油，提供油缸使用。

## 操作條件 Operating condition

| 形式Type<br>規格 Spec<br>項目Item                                      | CM增壓缸系列                                                                                    |      |      |      |
|------------------------------------------------------------------|--------------------------------------------------------------------------------------------|------|------|------|
|                                                                  | 0807                                                                                       | 1011 | 1217 | 1628 |
| 增壓比<br>Boosting Ratio                                            | 7                                                                                          | 11   | 17   | 28   |
| 吐出量cm <sup>3</sup><br>Output                                     | 70,120                                                                                     |      |      |      |
| 於6kg/cm <sup>2</sup> 液體壓力<br>Liquid Pressure 6kg/cm <sup>2</sup> | 42                                                                                         | 66   | 102  | 168  |
| 使用增壓油<br>Boosting Oil                                            | (ISO VG32)                                                                                 |      |      |      |
| 作動壓力<br>Working Pressure                                         | 2-7kgf/cm <sup>2</sup> 過濾乾燥壓縮空氣<br>2-7kgf/cm <sup>2</sup> Dry compress Air After Filtering |      |      |      |
| 耐溫範圍<br>Temperature Resist Range                                 | -5-+60℃                                                                                    |      |      |      |
| 作動方式<br>Working Motion                                           | 雙動<br>Double Motion                                                                        |      |      |      |
| 油缸保證耐壓<br>Oil Cylinder Assure Pressure                           | 300kgf/cm <sup>2</sup>                                                                     |      |      |      |
| 氣缸保證耐壓<br>Air Cylinder Assure Pressure                           | 15kgf/cm <sup>2</sup>                                                                      |      |      |      |
| 行程公差<br>Stroke Difference                                        | +1.0mm<br>0                                                                                |      |      |      |
| 工作頻率<br>Working Frequency                                        | 10次/min<br>10 Times/min                                                                    |      |      |      |

# CMA 直壓式增壓缸外型尺寸圖

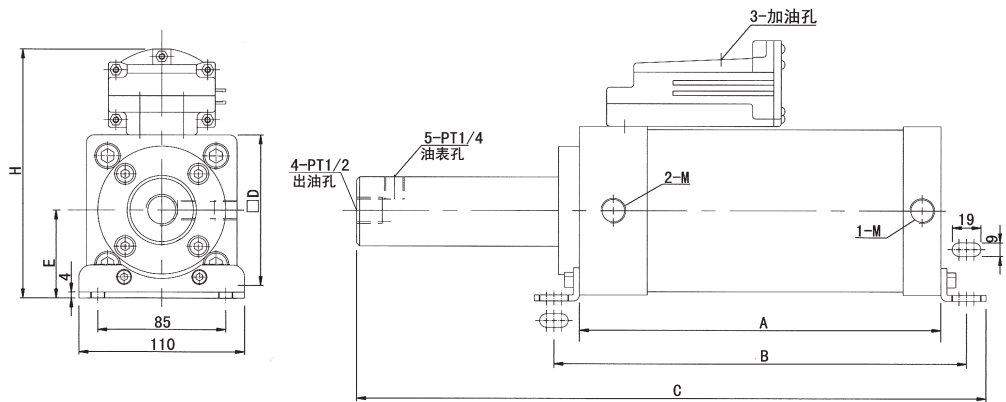
## Direct Compressive Type Boosting

### 特點說明 Characteristic

- 用於總出油量較少的作動油壓缸  
Use For Operating Oil Cylinder With Sil Small Oapacity
- 控制較簡易，只需要一只五口二位閥  
Easy Control,Just Need A Valve Of Hole2 Position
- 可作高頻率動作，不產生油霧  
It Could Be Provided High Frequency Without Oil Fog

### 註：

- 1.加壓進氣口 Compressive Inlet Port
- 2.回程進氣口 Return Stage Inlet Port
- 3.加油口 Oil Inlet Port
- 4.高壓出油口 Oil Outlet Port
- 5.壓力測試口(壓力表口) Pressure Testing Port



| 規格<br>Spec | 吐出量<br>Outlet | A    |       | B    |       | C    |       | D   | E    | H     | M     |
|------------|---------------|------|-------|------|-------|------|-------|-----|------|-------|-------|
|            |               | 70cc | 120cc | 70cc | 120cc | 70cc | 120cc |     |      |       |       |
|            | 0807          | 240  | 310   | 274  | 344   | 418  | 558   | 100 | 58.5 | 165.5 | PT1/4 |
|            | 1011          | 240  | 310   | 274  | 344   | 418  | 558   | 112 | 64.5 | 177.5 | PT3/8 |
|            | 1217          | 248  | 318   | 282  | 352   | 426  | 566   | 140 | 78.5 | 205.5 | PT1/2 |
|            | 1628          | 253  | 323   | 287  | 357   | 431  | 571   | 180 | 98.5 | 245.5 | PT1/2 |

(單位unit:mm)

# CMB 預壓式增壓缸外型尺寸圖

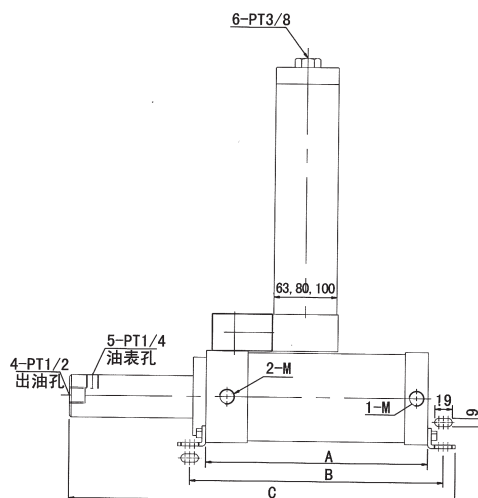
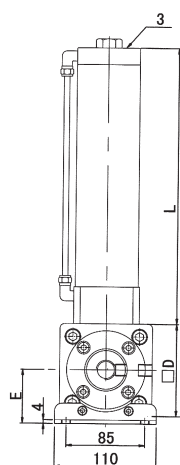
## Pre - Compressive Type Boosting

### 特點說明 Characteristic

- 油容量大,可作為長行程油缸作動  
Oil Capacity Could Provide Driving Of Long Stroke, Big Oil Cyl
- 可作為兩種壓力, 兩段速度控制  
It Could Control Two Kind Pressure And Two Stage Speed
- 每分鐘6次以內使用較佳  
It Is Much Better With Operating In 6 Times/min

### 註:

- 1.加壓進氣口 Compressive Inlet Port
- 2.回程進氣口 Return Stage Inlet Port
- 3.加油口 Oil Inlet Port
- 4.高壓出口 Oil Outlet Port
- 5.壓力測試口(壓力表口) Pressure Testing Port
- 6.第一段快進氣口



| 規格<br>Spec | 吐出量<br>Outlet | A    |       | B    |       | C    |       | D   | E    | M     | L                           |
|------------|---------------|------|-------|------|-------|------|-------|-----|------|-------|-----------------------------|
|            |               | 70cc | 120cc | 70cc | 120cc | 70cc | 120cc |     |      |       |                             |
|            | 0807          | 240  | 310   | 274  | 344   | 418  | 558   | 100 | 58.5 | PT1/4 | 參照CMC<br>遇壓式空<br>油轉換器<br>選用 |
|            | 1011          | 240  | 310   | 274  | 344   | 418  | 558   | 112 | 64.5 | PT3/8 |                             |
|            | 1217          | 248  | 318   | 282  | 352   | 426  | 566   | 140 | 78.5 | PT1/2 |                             |
|            | 1628          | 253  | 323   | 287  | 357   | 431  | 571   | 180 | 98.5 | PT1/2 |                             |

(單位unit:mm)

# CMD 油桶分離型外型尺寸圖

## Pre - Compressive Type Boosting

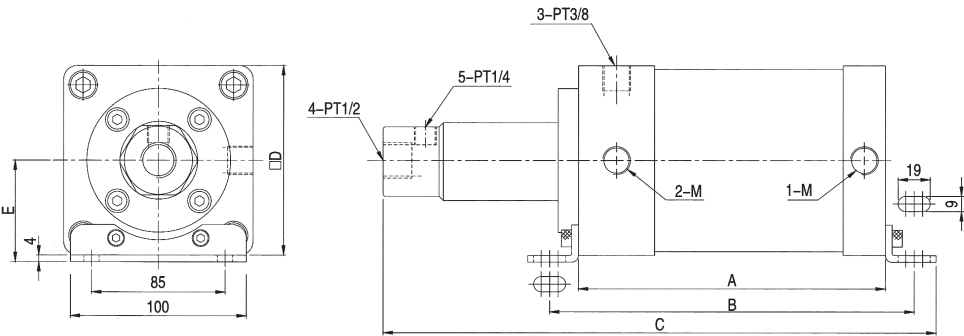
### 特點說明 Characteristic

可將油筒分離安裝,體積小,維護容易  
It Could Be Installed With Separating Oil Box And Cyl.Small Volume  
Easy Maintenance

可作為預壓式及直壓式均可,使用範圍廣  
Outer Dimensions Table Of Oil Box/Cyl.Separating Type

### 註:

- 1.加壓進氣口 Compressive Inlet Port
- 2.回程進氣口 Return Stage Inlet Port
- 3.入油口 Oil Inlet Port
- 4.高壓出油口 Oil Outlet Port
- 5.壓力測試口(壓力表口) Pressure Testing Port



| 規格<br>Spec | 吐出量<br>Outlet | 尺寸<br>Dim |       | A    |       | B    |       | C   |  | D    | E | M     |
|------------|---------------|-----------|-------|------|-------|------|-------|-----|--|------|---|-------|
|            |               | 70cc      | 120cc | 70cc | 120cc | 70cc | 120cc |     |  |      |   |       |
|            | 0807          | 240       | 310   | 274  | 344   | 418  | 558   | 100 |  | 58.5 |   | PT1/4 |
|            | 1011          | 240       | 310   | 274  | 344   | 418  | 558   | 112 |  | 64.5 |   | PT3/8 |
|            | 1217          | 248       | 318   | 282  | 352   | 426  | 566   | 140 |  | 78.5 |   | PT1/2 |
|            | 1628          | 253       | 323   | 287  | 357   | 431  | 571   | 180 |  | 98.5 |   | PT1/2 |

(單位unit:mm)

# CMK系列

## ✿ 操作條件 Operating condition

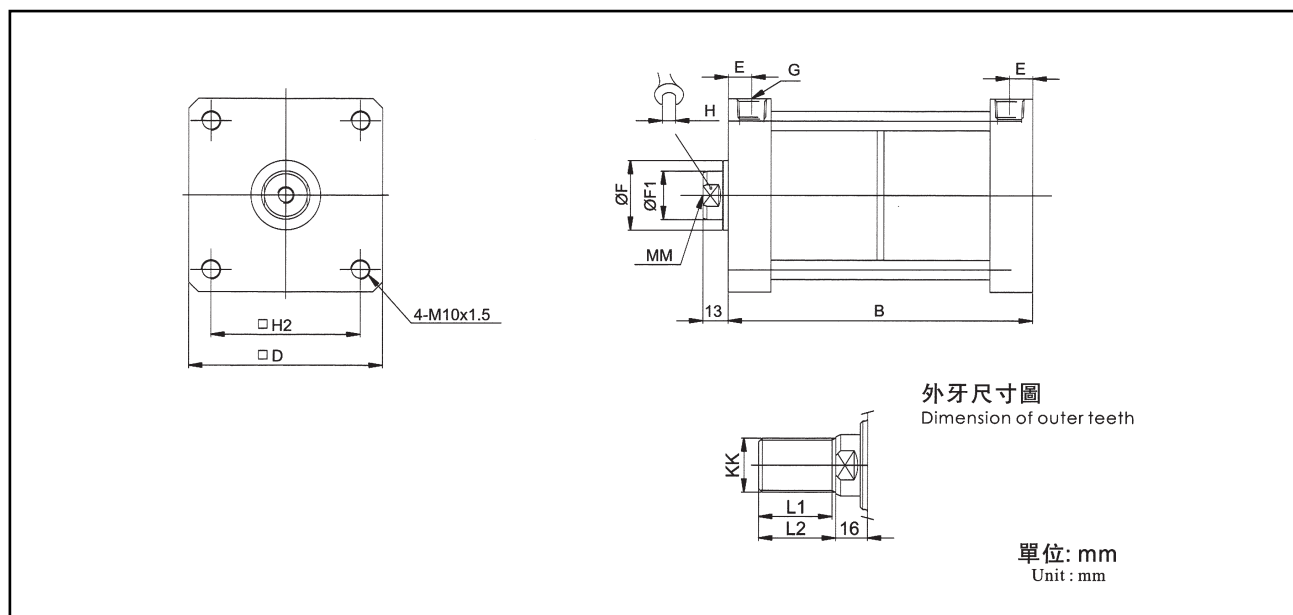
| 形式Type                               | CMK(多倍出力氣壓缸)<br>Multiple output Air Cylinder Series                      |
|--------------------------------------|--------------------------------------------------------------------------|
| 項目Item                               |                                                                          |
| 作動方式<br>Working Motion               | 雙動<br>Double Motion                                                      |
| 作動壓力<br>Working Pressure             | 1.0-9.9kgf/cm <sup>2</sup>                                               |
| 潤滑油<br>Lubrication Oil               | 不用<br>Nil                                                                |
| 工作溫度<br>Working Temperture           | -5~+60°C(其餘工作溫度需訂製)<br>(Other Working Tempertures Shall Be On Requested) |
| 操作速度<br>Operation Speed              | 50-1000mm/s                                                              |
| 保證耐壓<br>Air Cylinder Assure Pressure | 15kgf/cm <sup>2</sup>                                                    |
| 使用流體<br>Using Liquid                 | 過濾壓縮空氣<br>Compress Air After Filtiering                                  |
| 行程公差<br>Stroke Difference            | +1.0mm<br>0                                                              |
| 材質<br>Material                       | 10次/min<br>10 Times/min                                                  |

註:可依照客戶需求客製化

## ✿ 訂購碼

| CMK                                                |  | —                 |  | 100 |  | MS |  | — |  | 10 |  | — |  | B |  | — |  | 3 |  | — |  | S2 |  |
|----------------------------------------------------|--|-------------------|--|-----|--|----|--|---|--|----|--|---|--|---|--|---|--|---|--|---|--|----|--|
| <div>多倍出力氣缸<br/>Multiple Output Cylinder</div>     |  |                   |  |     |  |    |  |   |  |    |  |   |  |   |  |   |  |   |  |   |  |    |  |
| <div>氣缸內徑<br/>Inner Diameter of Ait Cylinder</div> |  |                   |  |     |  |    |  |   |  |    |  |   |  |   |  |   |  |   |  |   |  |    |  |
| 80                                                 |  | Ø80               |  |     |  |    |  |   |  |    |  |   |  |   |  |   |  |   |  |   |  |    |  |
| 100                                                |  | Ø100              |  |     |  |    |  |   |  |    |  |   |  |   |  |   |  |   |  |   |  |    |  |
| 125                                                |  | Ø125              |  |     |  |    |  |   |  |    |  |   |  |   |  |   |  |   |  |   |  |    |  |
| 160                                                |  | Ø160              |  |     |  |    |  |   |  |    |  |   |  |   |  |   |  |   |  |   |  |    |  |
| <div>磁石代號</div>                                    |  |                   |  |     |  |    |  |   |  |    |  |   |  |   |  |   |  |   |  |   |  |    |  |
| MS                                                 |  | 內附磁石              |  |     |  |    |  |   |  |    |  |   |  |   |  |   |  |   |  |   |  |    |  |
| 空白                                                 |  | 內無磁石              |  |     |  |    |  |   |  |    |  |   |  |   |  |   |  |   |  |   |  |    |  |
| <div>總行程(mm)<br/>Total Stroke</div>                |  |                   |  |     |  |    |  |   |  |    |  |   |  |   |  |   |  |   |  |   |  |    |  |
| 5                                                  |  | 5mm               |  |     |  |    |  |   |  |    |  |   |  |   |  |   |  |   |  |   |  |    |  |
| 10                                                 |  | 10mm              |  |     |  |    |  |   |  |    |  |   |  |   |  |   |  |   |  |   |  |    |  |
| 15                                                 |  | 15mm              |  |     |  |    |  |   |  |    |  |   |  |   |  |   |  |   |  |   |  |    |  |
| 20                                                 |  | 20mm              |  |     |  |    |  |   |  |    |  |   |  |   |  |   |  |   |  |   |  |    |  |
| 25                                                 |  | 25mm              |  |     |  |    |  |   |  |    |  |   |  |   |  |   |  |   |  |   |  |    |  |
| 30                                                 |  | 30mm              |  |     |  |    |  |   |  |    |  |   |  |   |  |   |  |   |  |   |  |    |  |
| 35                                                 |  | 35mm              |  |     |  |    |  |   |  |    |  |   |  |   |  |   |  |   |  |   |  |    |  |
| 40                                                 |  | 40mm              |  |     |  |    |  |   |  |    |  |   |  |   |  |   |  |   |  |   |  |    |  |
| 45                                                 |  | 45mm              |  |     |  |    |  |   |  |    |  |   |  |   |  |   |  |   |  |   |  |    |  |
| 50                                                 |  | 50mm              |  |     |  |    |  |   |  |    |  |   |  |   |  |   |  |   |  |   |  |    |  |
| <div>軸牙代號</div>                                    |  |                   |  |     |  |    |  |   |  |    |  |   |  |   |  |   |  |   |  |   |  |    |  |
| 空白                                                 |  | 內牙<br>Inner Teeth |  |     |  |    |  |   |  |    |  |   |  |   |  |   |  |   |  |   |  |    |  |
| B                                                  |  | 外牙<br>Outer Teeth |  |     |  |    |  |   |  |    |  |   |  |   |  |   |  |   |  |   |  |    |  |
| <div>出力倍數1-5<br/>Multiple Output Times 1-5</div>   |  |                   |  |     |  |    |  |   |  |    |  |   |  |   |  |   |  |   |  |   |  |    |  |
| <div>磁簧數量</div>                                    |  |                   |  |     |  |    |  |   |  |    |  |   |  |   |  |   |  |   |  |   |  |    |  |
| S1                                                 |  | 1只                |  |     |  |    |  |   |  |    |  |   |  |   |  |   |  |   |  |   |  |    |  |
| S2                                                 |  | 2只                |  |     |  |    |  |   |  |    |  |   |  |   |  |   |  |   |  |   |  |    |  |

## ✿ CMK - Ø80 多倍出力氣壓缸尺寸圖 Multiple output Air Cylinder Series



B尺寸計算方式:  $51 + [\text{倍數} \times (\text{行程} + 28)]$

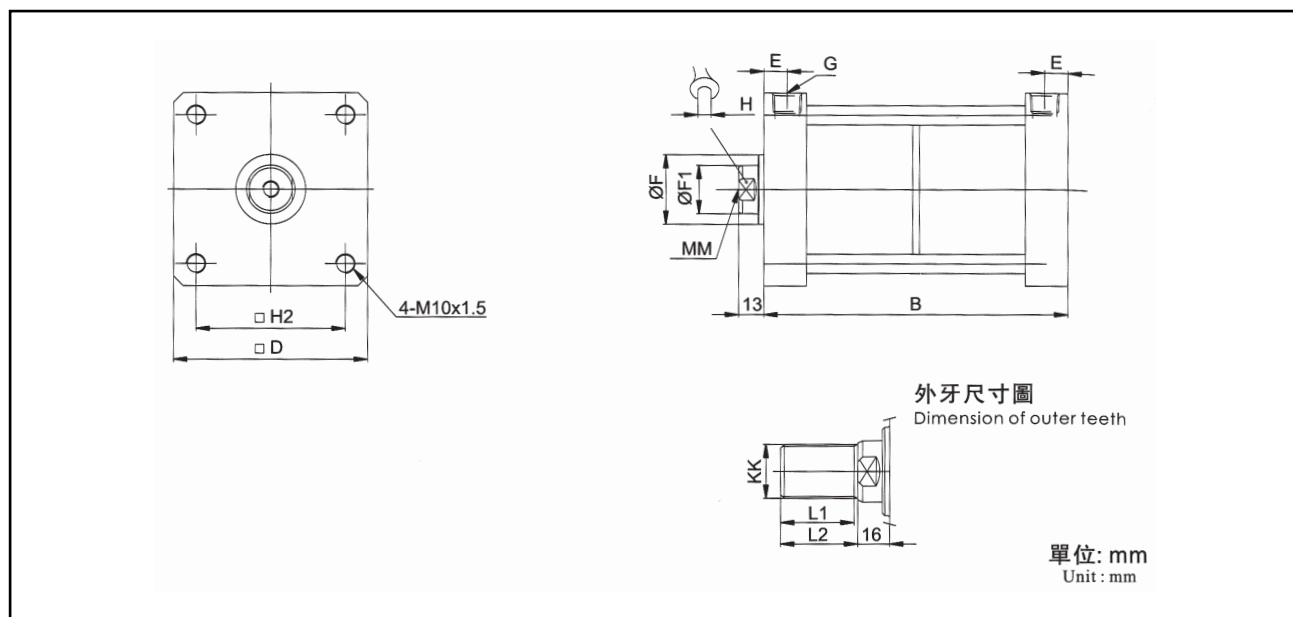
Calculation Of B Dimension:  $51 + [\text{Multiple Times} \times (\text{stroke} + 28)]$

## ✿ 理論出力 Theoretical Output

| 缸徑<br>Cylinder Dim | Ø80         |
|--------------------|-------------|
| D                  | 100         |
| E                  | 12          |
| F                  | 36          |
| F1                 | 25          |
| MM                 | M16X2.0X21L |
| G                  | PT3/8       |
| H                  | 22          |
| H2                 | 77          |
| KK                 | M22X1.5     |
| L1                 | 30          |
| L2                 | 31.5        |

| 出力<br>Output/kg              | 使用壓力<br>Using presste | 4<br>kg/cm <sup>2</sup> | 5<br>kg/cm <sup>2</sup> | 6<br>kg/cm <sup>2</sup> | 7<br>kg/cm <sup>2</sup> |
|------------------------------|-----------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| 倍數<br>Multiple time          |                       |                         |                         |                         |                         |
| 1                            |                       | 201                     | 251                     | 301                     | 351                     |
| 2                            |                       | 382                     | 477                     | 572                     | 667                     |
| 3                            |                       | 563                     | 703                     | 843                     | 983                     |
| 4                            |                       | 744                     | 929                     | 1114                    | 1299                    |
| 5                            |                       | 925                     | 1155                    | 1385                    | 1615                    |
| 回程拉力<br>Retun Stroke Pulling |                       | 181                     | 226                     | 271                     | 316                     |

## ✿ CMK - Ø100 多倍出力氣壓缸尺寸圖 Multiple output Air Cylinder Series



B尺寸計算方式:  $51 + [\text{倍數} \times (\text{行程} + 28)]$

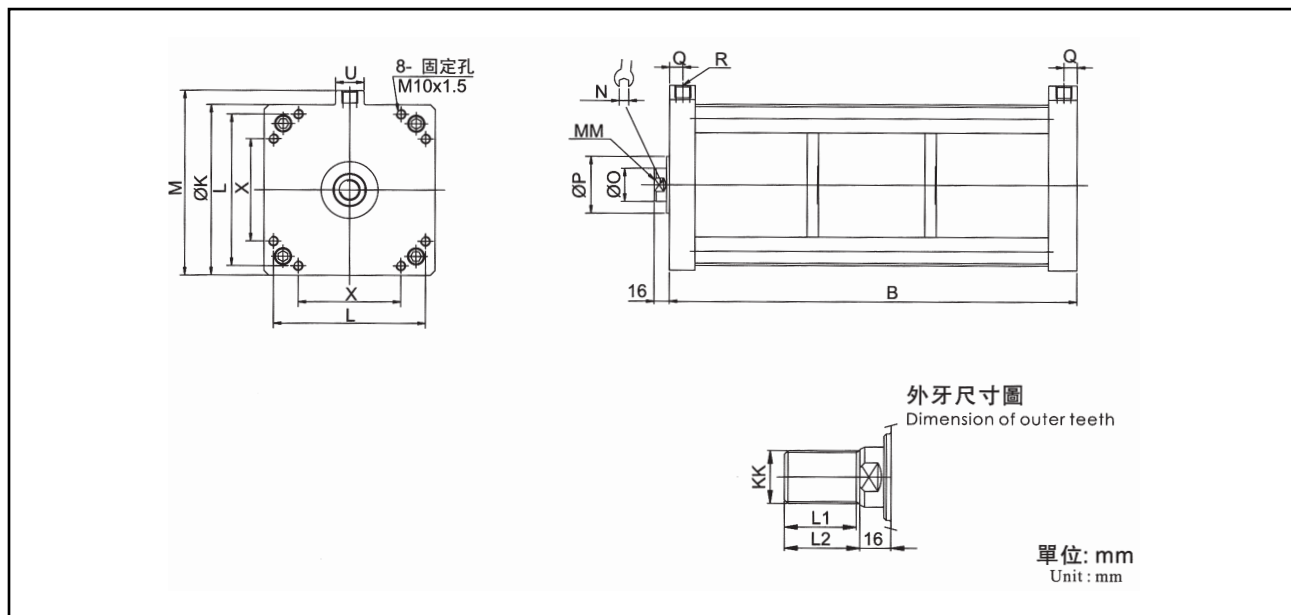
Calculation Of B Dimension:  $51 + [\text{Multiple Times} \times (\text{stroke} + 28)]$

## ✿ 理論出力 Theoretical Output

| 缸徑<br>Cylinder Dim | Ø100        |
|--------------------|-------------|
| D                  | 120         |
| E                  | 12          |
| F                  | 38          |
| F1                 | 25          |
| MM                 | M16X2.0X21L |
| G                  | PT3/8       |
| H                  | 22          |
| H2                 | 94          |
| KK                 | M22X1.5     |
| L1                 | 30          |
| L2                 | 31.5        |

| 出力<br>Output/kg              | 使用壓力<br>Using presste | 4<br>kg/cm <sup>2</sup> | 5<br>kg/cm <sup>2</sup> | 6<br>kg/cm <sup>2</sup> | 7<br>kg/cm <sup>2</sup> |
|------------------------------|-----------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| 倍數<br>Multiple time          |                       |                         |                         |                         |                         |
| 1                            |                       | 314                     | 392                     | 471                     | 549                     |
| 2                            |                       | 608                     | 759                     | 912                     | 1064                    |
| 3                            |                       | 902                     | 1126                    | 1353                    | 1579                    |
| 4                            |                       | 1196                    | 1493                    | 1749                    | 2094                    |
| 5                            |                       | 1490                    | 1860                    | 2235                    | 2609                    |
| 回程拉力<br>Retun Stroke Pulling |                       | 294                     | 367                     | 441                     | 515                     |

# ✿ CMK - Ø125 多倍出力氣壓缸尺寸圖 Multiple output Air Cylinder Series



B尺寸計算方式:  $41.5 + [\text{倍數} \times (\text{行程} + 29)]$

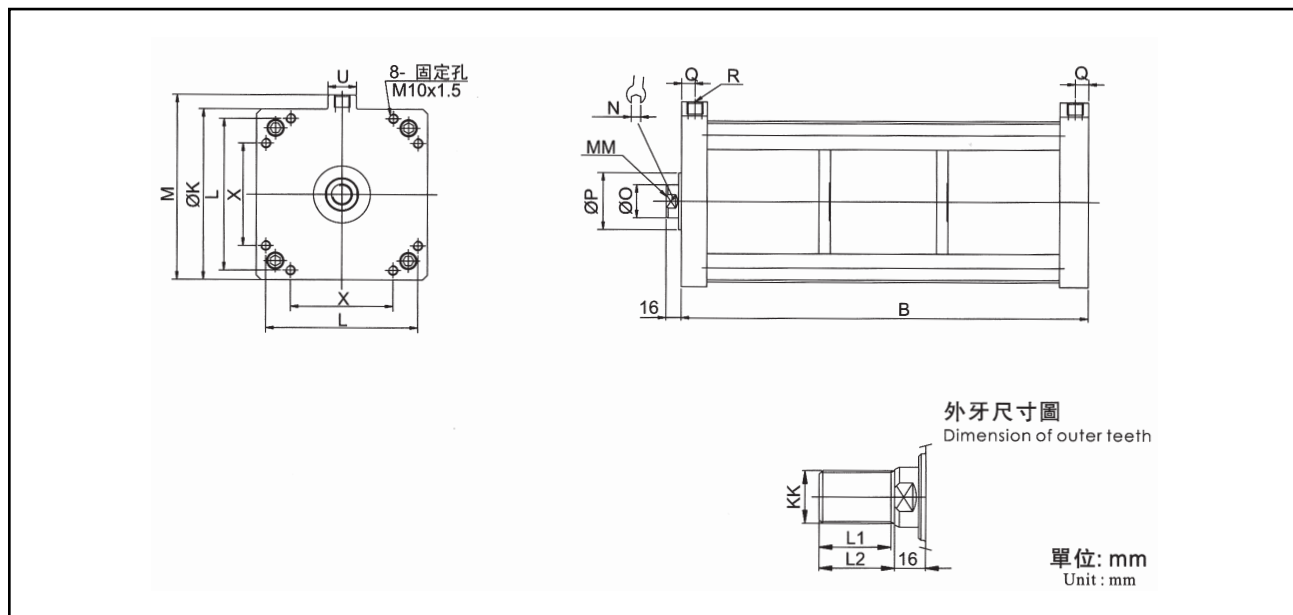
Calculation Of B Dimension:  $41.5 + [\text{Multiple Times} \times (\text{stroke} + 29)]$

## ✿ 理論出力 Theoretical Output

| 缸徑<br>Cylinder Dim | Ø125        |
|--------------------|-------------|
| K                  | 146         |
| L                  | 130.08      |
| M                  | 161         |
| N                  | 32          |
| O                  | 35          |
| P                  | 60          |
| Q                  | 15          |
| R                  | PT3/8       |
| MM                 | M22X2.5X32L |
| U                  | 28          |
| X                  | 82          |
| KK                 | M27X2.0     |
| L1                 | 40          |
| L2                 | 43          |
| Y                  | 18          |

| 出力<br>Output/kg              | 使用壓力<br>Using presste | 4<br>kg/cm <sup>2</sup> | 5<br>kg/cm <sup>2</sup> | 6<br>kg/cm <sup>2</sup> | 7<br>kg/cm <sup>2</sup> |
|------------------------------|-----------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| 倍數<br>Multiple time          |                       |                         |                         |                         |                         |
| 1                            |                       | 490                     | 613                     | 735                     | 858                     |
| 2                            |                       | 941                     | 1177                    | 1412                    | 1648                    |
| 3                            |                       | 1392                    | 1741                    | 2089                    | 2438                    |
| 4                            |                       | 1843                    | 2305                    | 2766                    | 3228                    |
| 5                            |                       | 2294                    | 2869                    | 3443                    | 4018                    |
| 回程拉力<br>Retun Stroke Pulling |                       | 451                     | 564                     | 677                     | 790                     |

## ✿ CMK - Ø160 多倍出力氣壓缸尺寸圖 Multiple output Air Cylinder Series



B尺寸計算方式:  $41.5 + [\text{倍數} \times (\text{行程} + 29)]$

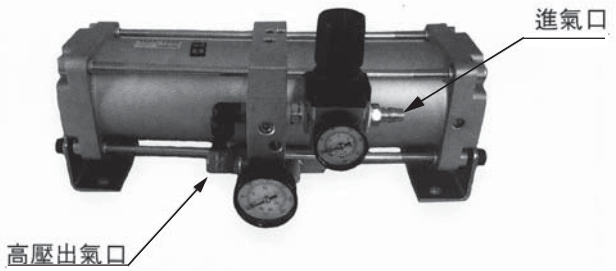
Calculation Of B Dimension:  $41.5 + [\text{Multiple Times} \times (\text{stroke} + 29)]$

## ✿ 理論出力 Theoretical Output

| 缸徑<br>Cylinder Dim | Ø125        |
|--------------------|-------------|
| K                  | 180         |
| L                  | 160         |
| M                  | 195         |
| N                  | 32          |
| O                  | 35          |
| P                  | 60          |
| Q                  | 14          |
| R                  | PT3/8       |
| MM                 | M22X2.5X32L |
| U                  | 30          |
| X                  | 108         |
| KK                 | M27X2.0     |
| L1                 | 40          |
| L2                 | 43          |
| Y                  | 18          |

| 出力<br>Output/kg              | 使用壓力<br>Using presste | 4<br>kg/cm <sup>2</sup> | 5<br>kg/cm <sup>2</sup> | 6<br>kg/cm <sup>2</sup> | 7<br>kg/cm <sup>2</sup> |
|------------------------------|-----------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| 倍數Multiple time              |                       |                         |                         |                         |                         |
| 1                            |                       | 803                     | 1004                    | 1205                    | 1406                    |
| 2                            |                       | 1567                    | 1959                    | 2352                    | 2744                    |
| 3                            |                       | 2331                    | 2914                    | 3499                    | 4082                    |
| 4                            |                       | 3095                    | 3869                    | 4646                    | 5420                    |
| 5                            |                       | 3859                    | 4824                    | 5793                    | 6758                    |
| 回程拉力<br>Retun Stroke Pulling |                       | 764                     | 955                     | 1147                    | 1338                    |

## CBA系列



### 特點說明

- 維持壓降的下限使出力穩定，適用於夾持。
- 可增大出力，以改善設備不足的情況。
- 提高產綫整體的壓力。
- 在維持整體出力的情況下，可更換成缸徑較小的氣缸，以降低成本。

### 可將一般低壓氣體增壓為數倍至數十倍的高壓氣體

- Always keep the pressure higher than the low limit for steadily clamping the objects.
- May transfer the low pressure from power source to a high pressure output.
- Raising the pressure you need on the production-line.
- In traditional application you need a big cylinder. For making cost down you may choose MARTO booster pump. In the same output, you only need a small cylinder.

### ✿ 訂購碼

CBA

—

10

—

05

氣體增壓閥  
AutoSwitch Booster  
Regulator

氣缸內徑(mm)  
Inner Diameter of Air  
Cylinder

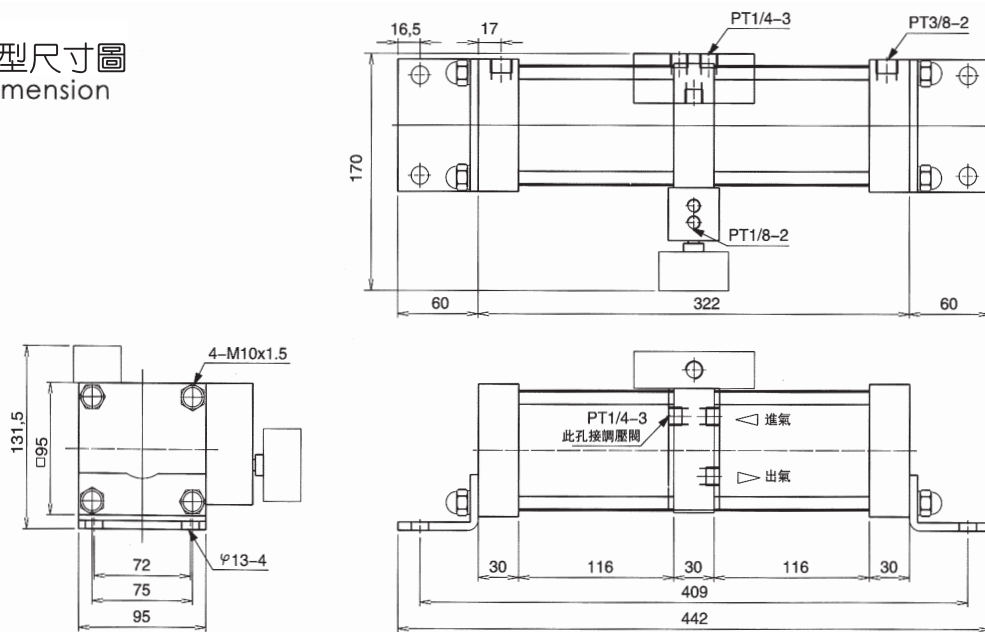
|    |       |
|----|-------|
| 08 | 80mm  |
| 10 | 100mm |
| 12 | 125mm |

增壓倍數  
Booster Multiples

|    |       |
|----|-------|
| 02 | 增壓2倍  |
| 05 | 增壓5倍  |
| 10 | 增壓10倍 |

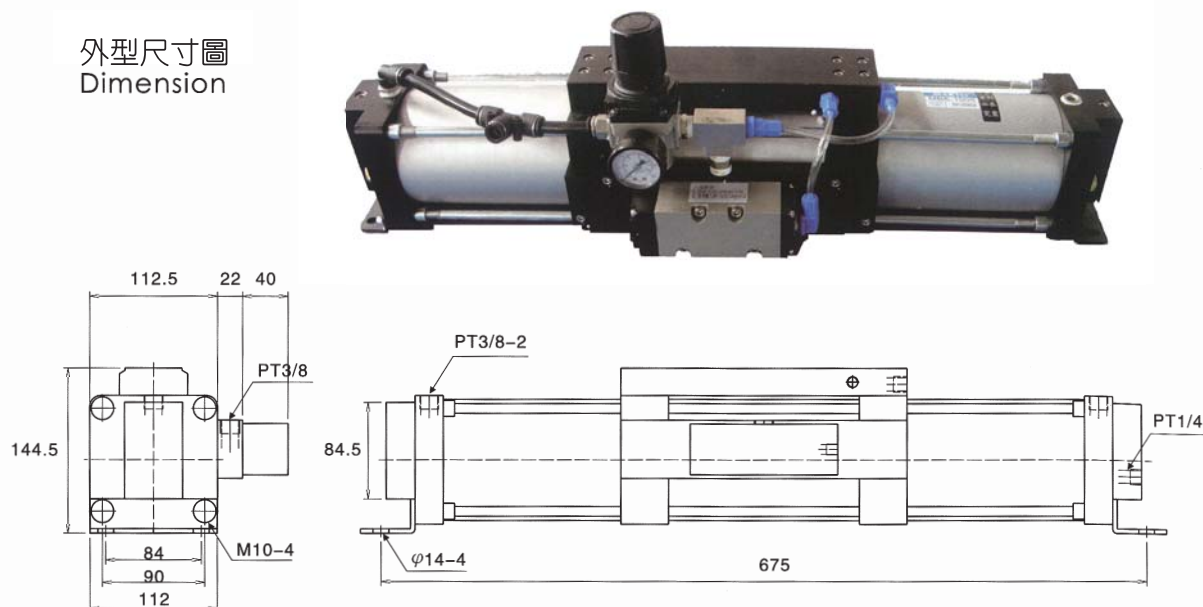
✿ CMA - 0802

外型尺寸圖  
Dimension



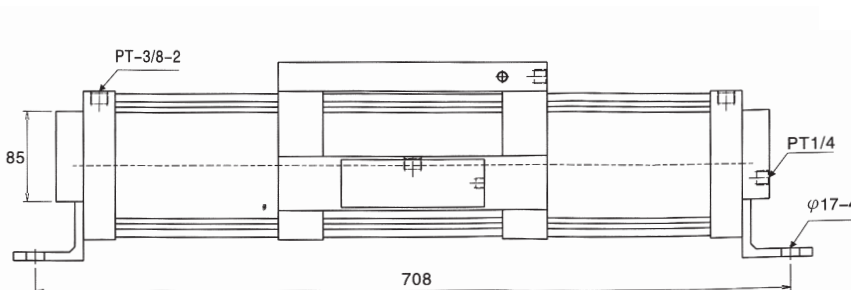
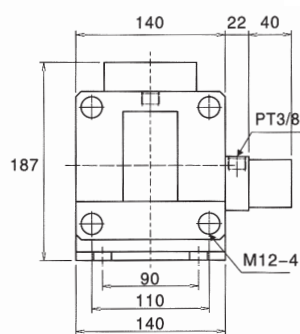
✿ CMA - 1005

外型尺寸圖  
Dimension



✿ CMA - 1210

外型尺寸圖  
Dimension



# CDP700

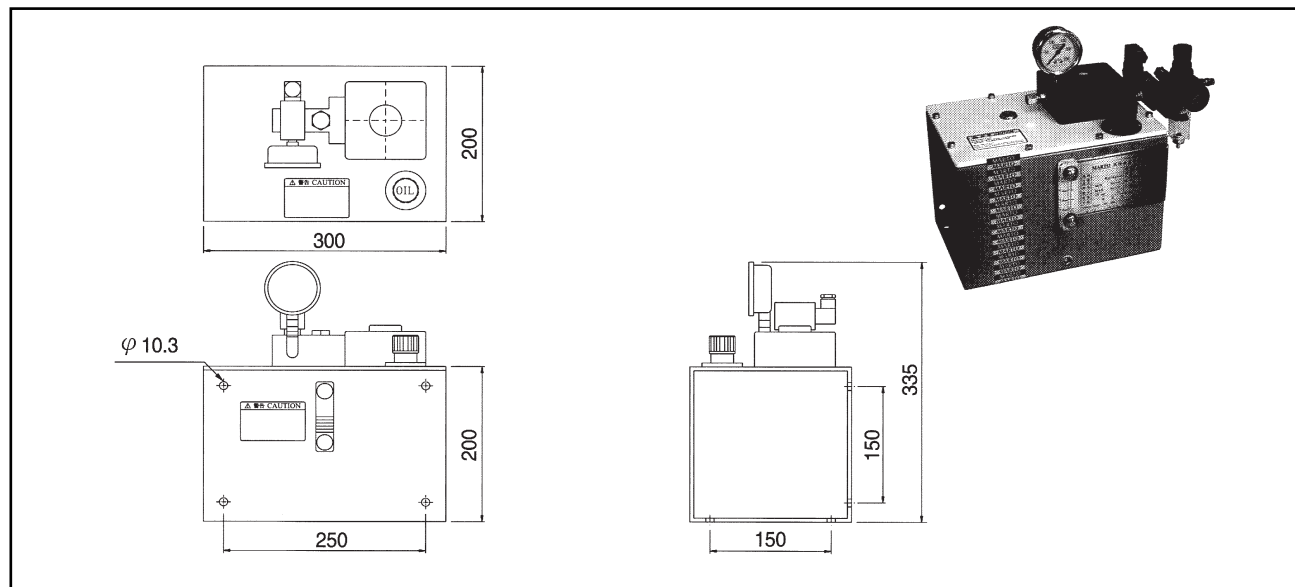
使用一般氣壓源為動力源  
不需要馬達即能源源不絕的提供高壓油

Pressure source is using the general power source  
Does not require motor that is able to provide a continuous supply of high-pressure oil

- 本氣動泵浦為連續式增壓出油，有別於一般增壓器
- 採用氣壓驅動，可隨停隨動，具有防爆、省能源、體積小等優點
- 即使 24 小時不停運作亦不提升油溫，改善馬達油壓泵浦產生高溫的缺點
- 適用於高壓以及長時間夾持的場所，非常適合應用於快速換模系統上
- 採用氣壓作動，當油壓到達設定壓力時即停止，如遇降壓時，泵浦自動補足壓力，為切削及夾持最安全、穩定的選擇

- The pneumatic pump for continuous-type supercharger out of oil, different from booster
- Pneumatic drive can be stopped with the servo, with explosion-proof, energy efficient, small size, etc.
- Even if the 24-hour operation will not raise oil temperature, hydraulic pump motor to improve the shortcomings of heat generated
- Apply clamping pressure, as well as a place a long time, very suitable for Quick Die Change System
- Pneumatic actuation, when the hydraulic pressure reaches the set to stop in case of step-down, the pump automatic topping up the pressure for the cutting machine gripping the most secure and stable selection

## 外型尺寸圖



## 規格型號

| 機台型號<br>Model NO. | 油箱<br>Tank<br>Vol/L<br>容量/L | 吐出量<br>Output<br>Capacity<br>每次/c.c<br>Each<br>Time/c.c | 增壓比<br>Pressure<br>Ratio | Air kg/cm <sup>2</sup><br>Input Air Pressure |                     | 理論增壓出力 kg/cm <sup>2</sup><br>Theoretical Output Pressure |                     |                     |
|-------------------|-----------------------------|---------------------------------------------------------|--------------------------|----------------------------------------------|---------------------|----------------------------------------------------------|---------------------|---------------------|
|                   |                             |                                                         |                          | 3kg/cm <sup>2</sup>                          | 4kg/cm <sup>2</sup> | 5kg/cm <sup>2</sup>                                      | 6kg/cm <sup>2</sup> | 7kg/cm <sup>2</sup> |
| CDP-701           | 8L                          | 24.7                                                    | 5                        | 15                                           | 20                  | 25                                                       | 30                  | 35                  |
| CDP-702           | 8L                          | 10.9                                                    | 11                       | 35                                           | 45                  | 55                                                       | 65                  | 75                  |
| CDP-703           | 8L                          | 6.1                                                     | 20                       | 60                                           | 80                  | 100                                                      | 120                 | 140                 |
| CDP-704           | 8L                          | 4.2                                                     | 30                       | 90                                           | 120                 | 150                                                      | 180                 | 210                 |
| CDP-705           | 8L                          | 2.7                                                     | 45                       | 135                                          | 180                 | 225                                                      | 270                 | 315                 |
| CDP-706           | 8L                          | 1.7                                                     | 70                       | 210                                          | 280                 | 350                                                      | 420                 | 490                 |

## CFS系列

電控邏輯閥組，是將一個電磁閥和一個氣動閥，以及一個邏輯閥組合成一體，只要提供閥組一個電源訊號，即能透過閥組內部的邏輯回路簡單的完成增壓缸一完整的循環動作，並可外加電源計時器來延長增壓時間。

The solenoid logic valve include a solenoid valve, An air operated valve and logical valve. If supplying a simple started electronical power signal, It can be made a complete cycle motion, and add the timer switch to delay the boosting time.

 訂購碼

CFS

— 3525-3

— 2

電控邏輯閥組系列  
Solenoid Logic Valve

產品規格&斷面積  
Spec . & Orifice

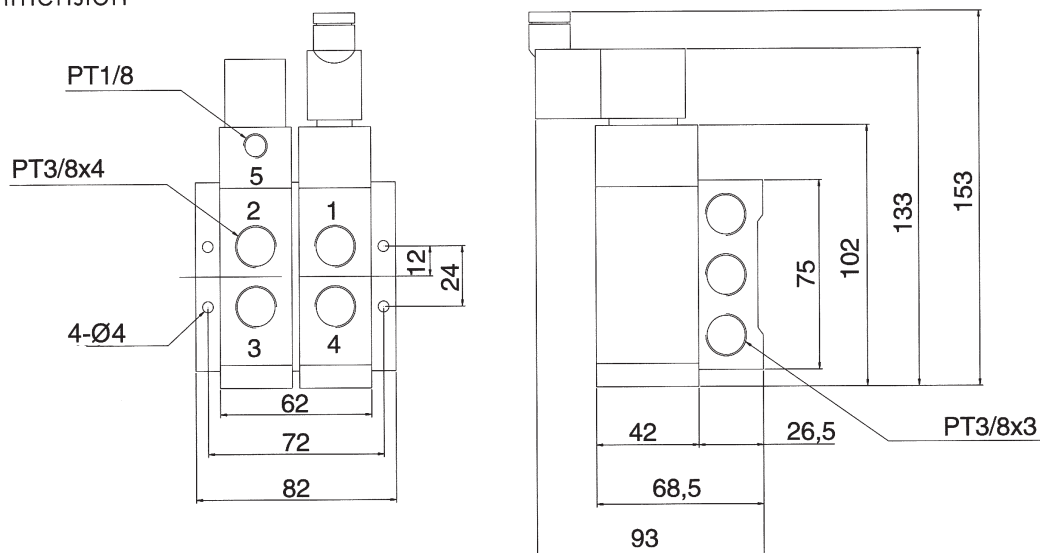
|         |                   |
|---------|-------------------|
| 3525-03 | 60mm <sup>2</sup> |
| 4525-04 | 90mm <sup>2</sup> |

電壓  
Voltage

|   |         |
|---|---------|
| 1 | AC110V  |
| 2 | AC220V  |
| 3 | DC24V   |
| 4 | 其他Other |

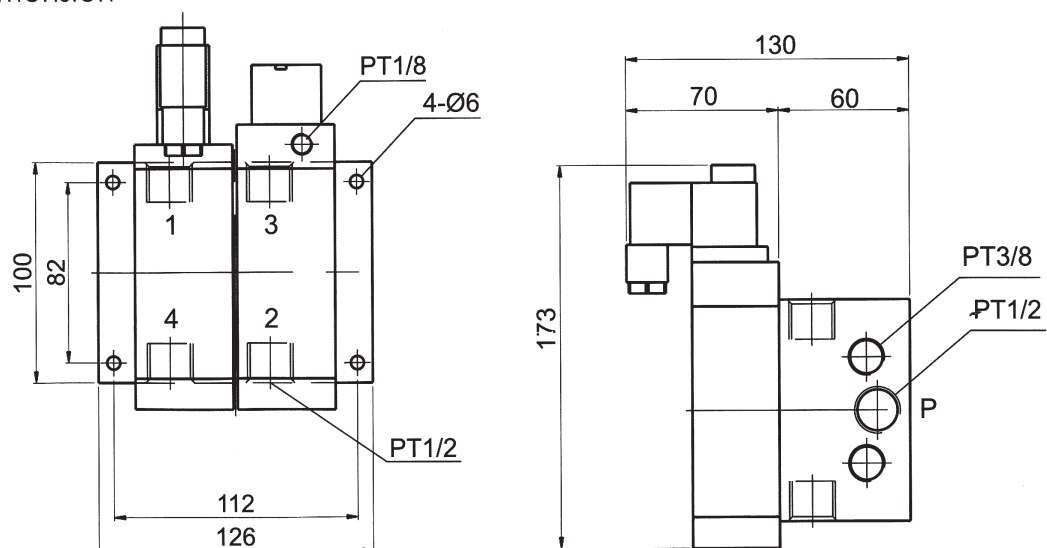
# CFS - 3525

外型尺寸圖  
Dimension



# CFS - 4525

外型尺寸圖  
Dimension



## CFA系列

氣控邏輯閥組，是將一個雙氣動閥和一個單氣動閥，以及兩個邏輯閥組合成一體，只要提供閥組一個啟動的氣壓訊號，即能透過閥組內部的邏輯回路簡單的完成增壓缸一完整的循環動作，並可外加氣壓計時器來延長增壓時間。

The air logic valve include a dable air operated valve, Single valve and two logical valve. If supplying air compressor signal it can be made a whole cycle moition like booster, and add the air timer to delay the boosting time.

### 訂購碼

CFA

—

3525-3

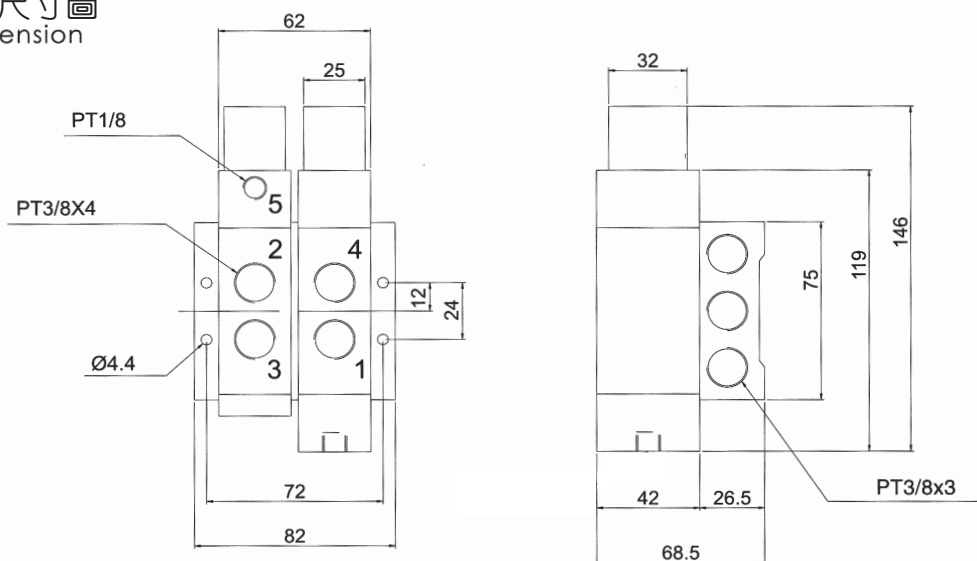
氣控邏輯閥組  
Air Operated Logic Valve

產品規格&斷面積  
Spec. & Orifice

|         |                   |
|---------|-------------------|
| 3525-03 | 60mm <sup>2</sup> |
| 4525-04 | 90mm <sup>2</sup> |

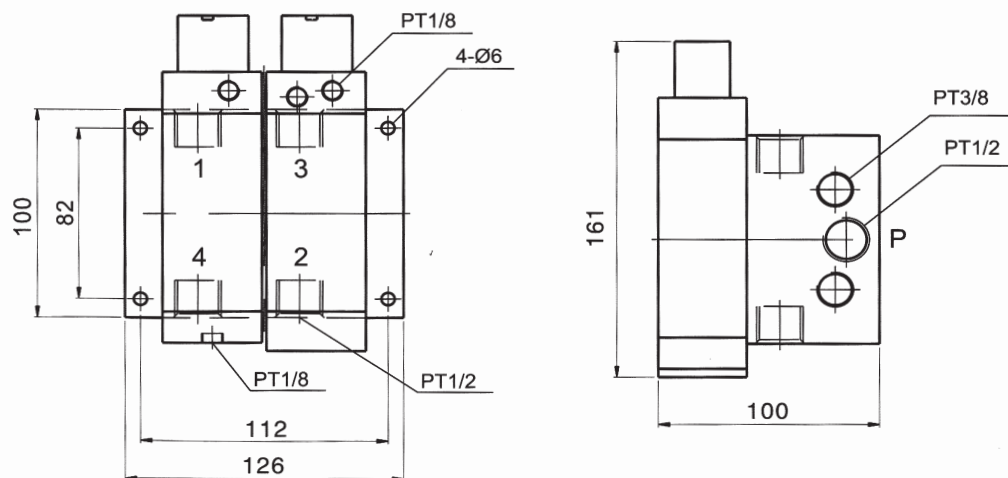
 CFA - 3525

外型尺寸圖  
Dimension



 CFA - 4525

外型尺寸圖  
Dimension

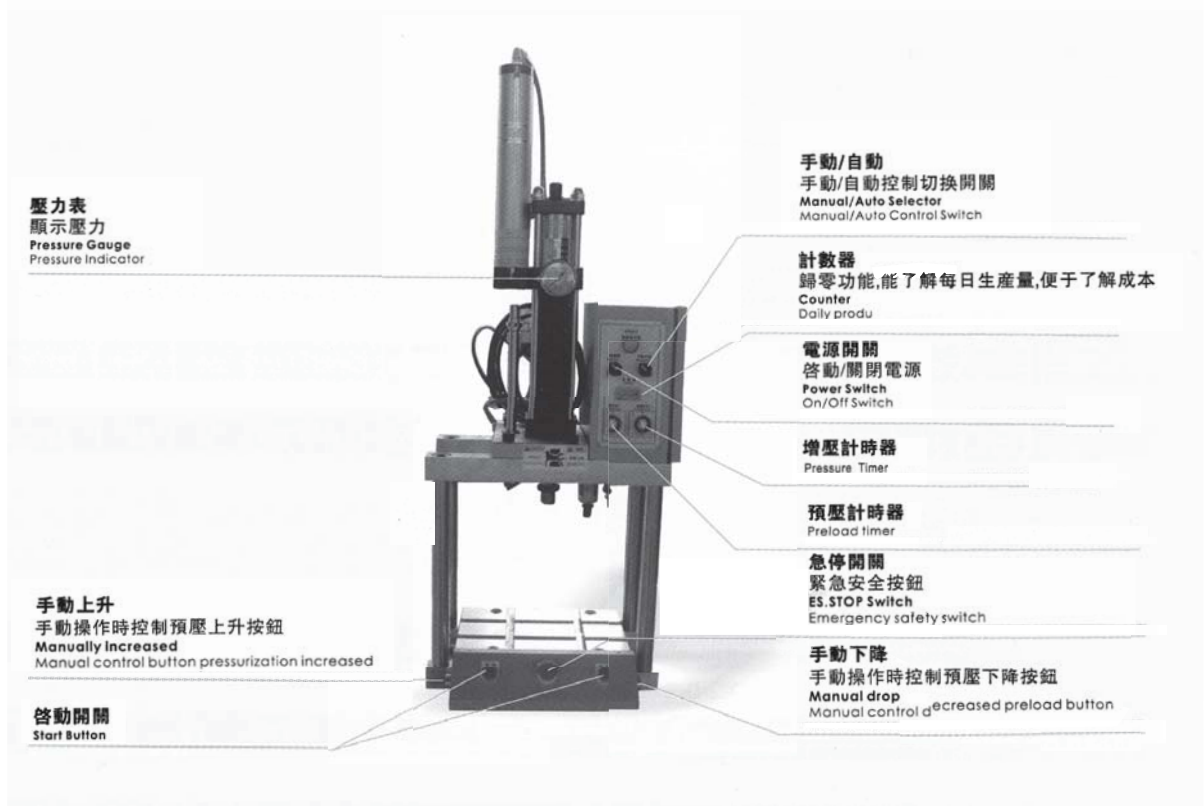


## CMT系列

### CMT 四柱型增壓缸壓床

利用空油轉換,可達到高速、高出力的要求,改善傳統油壓壓床的缺點。

Use the air pressure and hydraulic oil transition to get the high speed and high output requirement , to improve the traditional hydraulic oil press defect.



以壓縮空氣為動力源,操作簡單

沒有油壓系統待機時所產生的噪音,可節省電力消耗降低生產成本

利用空油增壓原理,達到動作速度快,高出力的要求

多功能用途適用於壓入,衝孔,鉚合,裝配,切斷等

出力容易調整,祇要調整氣壓壓力,就能達到需要的壓力,簡單又方便

結構堅固,操作容易,上下料方便,符合工作效率

四柱式門型開放結構設計,特殊規格之要求可接受定做

The source of compressed air as a driving force in simple

There is no standby hydraulic system noise, power consumption can be saved to reduce the cost of production

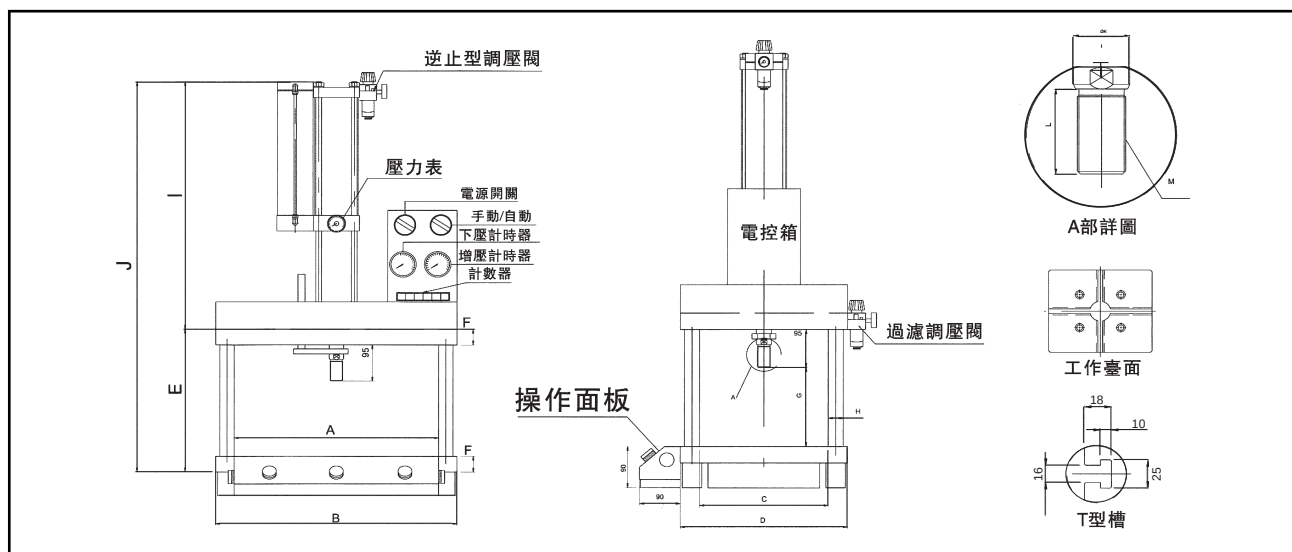
The use of the principle of paying booster to speed, higher power requirements

For multi-purpose press, punching, riveting, assembly, cutting, etc.

Easy adjustment of output, adjust the air pressure as long as the pressure, the pressure will be able to meet the needs of simple and convenient

Solid structure, easy operation, is expected to facilitate up and down in line with the efficiency of

Four-poster-style doors open architecture-based design, the special requirements of an acceptable custom specifications



| T/符號    | A   | B   | C   | D   | E   | F  | G   | H  | I       | J         | K  | L  | M       |
|---------|-----|-----|-----|-----|-----|----|-----|----|---------|-----------|----|----|---------|
| 1T/3T   | 360 | 460 | 250 | 350 | 455 | 40 | 280 | 35 | 519/480 | 974/935   | 35 | 50 | M30X1.5 |
| 5T/8T   | 360 | 460 | 250 | 350 | 485 | 45 | 600 | 35 | 566/626 | 1051/1111 | 35 | 55 | M30X1.5 |
| 10T/13T | 380 | 500 | 260 | 380 | 525 | 55 | 320 | 45 | 584/634 | 1109/1159 | 45 | 55 | M39X2   |
| 15T/20T | 400 | 542 | 300 | 442 | 535 | 60 | 320 | 56 | 606/686 | 1141/1221 | 56 | 55 | M48X2   |

| 項目Item                                              | 規格Type | CMH-01T/3T | CMH-05T/8T | CMH-10T/13T | CMH-15T/20T |
|-----------------------------------------------------|--------|------------|------------|-------------|-------------|
| 最大工作高度/mm<br>Max working height/mm                  |        | 280        | 300        | 320         | 320         |
| 工作台面尺寸/mm<br>Table area/mm                          |        | 360X250    | 360X250    | 380X260     | 400X300     |
| 操作壓力/Mpa<br>Operation pressure/Mpa                  |        | 0.2-0.7    | 0.2-0.7    | 0.2-0.7     | 0.2-0.7     |
| 快速行程/mm<br>Rapid approach stroke/mm                 |        | 135        | 135        | 135         | 135         |
| 增壓行程/mm<br>Power stroke/mm                          |        | 15         | 15         | 15          | 15          |
| 工作頻率/(次/min)<br>Operation frequency/<br>(times/min) |        | 20         | 20         | 15          | 10          |

| 規格Spec               | CMH-01T | CMH-03T | CMH-05T | CMH-08T | CMH-10T | CMH-13T | CMH-15T | CMH-20T |
|----------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| 單位Unit               | KG      |         |         |         |         |         |         |         |
| 壓力kg/cm <sup>2</sup> |         |         |         |         |         |         |         |         |
| 4                    | 1250    | 2000    | 4000    | 5020    | 6240    | 7880    | 10240   | 14000   |
| 5                    | 1550    | 2500    | 5000    | 6280    | 7800    | 9850    | 12800   | 17500   |
| 6                    | 1850    | 3000    | 6000    | 7530    | 9360    | 11820   | 15350   | 21000   |
| 7                    | 2150    | 3500    | 7000    | 8790    | 10920   | 13790   | 17900   | 24500   |

## CMT系列

## C型增壓缸壓床

利用空油轉換,可達到高速、高出力的要求,改善傳統油壓壓床的缺點。

Use the air pressure and hydraulic oil transition to get the high speed and high output requirement, to improve the traditional hydraulic oil press defect.

壓力表  
顯示壓力  
Pressure Gauge  
Pressure Indicator

電源開關  
啓動/關閉電源  
Power Switch  
On/Off Switch

手動/自動  
手動/自動控制切換開關  
Manual/Auto Selector  
Manual/Auto Control Switch

計數器  
歸零功能,能了解每日生產量,便於了解成本  
Counter  
Daily production control

增壓計數  
Booster count

預壓計數  
Preload count

手動下降  
手動操作時控制預壓下降按鈕  
Manual drop  
Manual control decreased preload button

手動上升  
手動操作時控制預壓上升按鈕  
Manually increased  
Manual control button pressurization increased

啟動開關  
Start Button

以壓縮空氣為動力源,操作簡單

沒有油壓系統待機時所產生的噪音,可節省電力消耗降低生產成本

利用空油增壓原理,達到動作速度快,高出力的要求

多功能用途適用於壓入,衝孔,鉚合,裝配,切斷等

出力容易調整,只要調整氣壓壓力,就能達到需要的壓力,簡單又方便

C型機臺結構,操作容易,上下料方便,符合工作效率

安全設計、操作舒適、人性化的考慮,適合長期作業。

The source of compressed air as a driving force is simple

There is no standby hydraulic system noise, power consumption can be saved to reduce the cost of production

Principle of the use of pressurized oil and air to move faster, higher power requirements

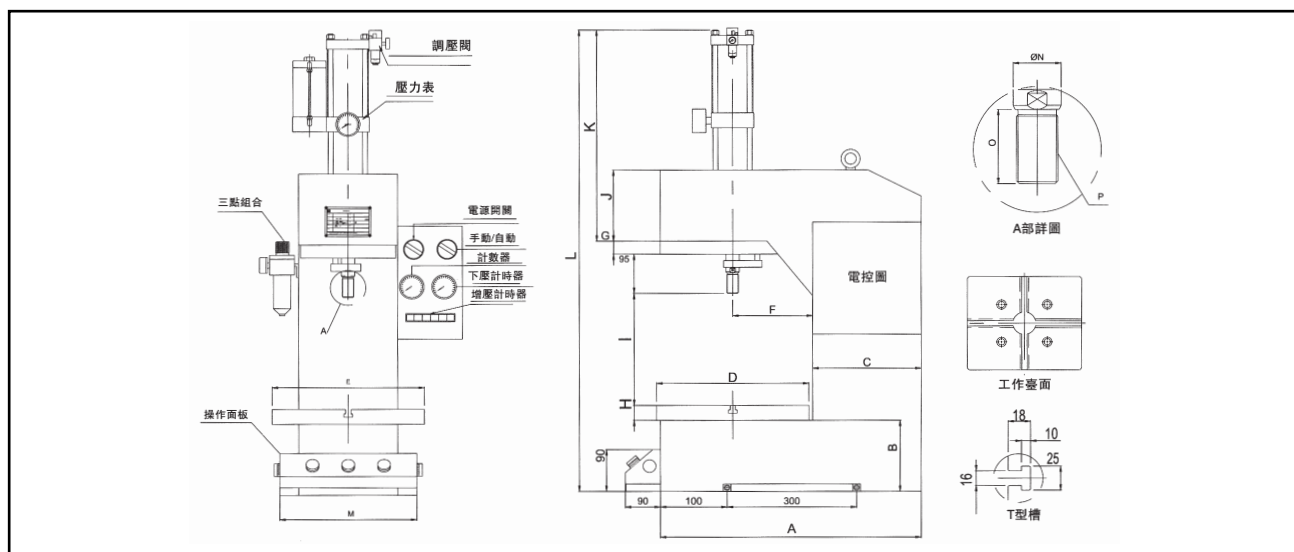
For multi-purpose press, punching, riveting, assembly, cutting, etc.

Easy adjustment of output, adjust the air pressure as long as the pressure,

the pressure will be able to meet the needs of simple and convenient

C-type machine structure, easy operation, is expected to facilitate up and down in line with the efficiency of

Safety design, operating comfort and humane considerations, suitable for long-term operation



| T/符號    | A   | B   | C   | D   | E   | F   | G  | H  | I   | J   | K       | L         | M   | N  | O  | P       |
|---------|-----|-----|-----|-----|-----|-----|----|----|-----|-----|---------|-----------|-----|----|----|---------|
| 1T/3T   | 450 | 180 | 195 | 250 | 360 | 135 | 30 | 40 | 280 | 175 | 519/480 | 1141/1105 | 360 | 35 | 50 | M30X1.5 |
| 5T/8T   | 465 | 195 | 210 | 250 | 360 | 135 | 35 | 45 | 300 | 190 | 566/626 | 1238/1296 | 360 | 35 | 55 | M30X1.5 |
| 10T/13T | 500 | 235 | 235 | 260 | 380 | 140 | 40 | 55 | 320 | 230 | 584/634 | 1329/1379 | 380 | 45 | 55 | M39X2   |
| 15T/20T | 560 | 250 | 255 | 300 | 400 | 160 | 45 | 60 | 320 | 245 | 606/686 | 1376/1456 | 400 | 56 | 55 | M48X2   |

| 項目Item                                              | 規格Type | CMR-01T/3T | CMR-05T/8T | CMR-10T/13T | CMR-15T/20T |
|-----------------------------------------------------|--------|------------|------------|-------------|-------------|
| 最大工作高度/mm<br>Max working height/mm                  |        | 280        | 300        | 320         | 320         |
| 工作台面尺寸/mm<br>Table area/mm                          |        | 360x250    | 360x250    | 380x260     | 400x300     |
| 操作壓力/Mpa<br>Operation pressure/Mpa                  |        | 0.2-0.7    | 0.2-0.7    | 0.2-0.7     | 0.2-0.7     |
| 快速行程/mm<br>Rapid approach stroke/mm                 |        | 135        | 135        | 135         | 135         |
| 增壓行程/mm<br>Power stroke/mm                          |        | 15         | 15         | 15          | 15          |
| 工作頻率/(次/min)<br>Operation frequency/<br>(times/min) |        | 20         | 20         | 15          | 10          |

| 規格Spec               | CMR-01T | CMR-03T | CMR-05T | CMR-08T | CMR-10T | CMR-13T | CMR-15T | CMR-20T |
|----------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| 單位Unit               | KG      |         |         |         |         |         |         |         |
| 壓力kg/cm <sup>2</sup> |         |         |         |         |         |         |         |         |
| 4                    | 1250    | 2000    | 4000    | 5020    | 6240    | 7880    | 10240   | 14000   |
| 5                    | 1550    | 2500    | 5000    | 6280    | 7800    | 9850    | 12800   | 17500   |
| 6                    | 1850    | 3000    | 6000    | 7530    | 9360    | 11820   | 15350   | 21000   |
| 7                    | 2150    | 3500    | 7000    | 8790    | 10920   | 13790   | 17900   | 24500   |

## 調 試



**注意**

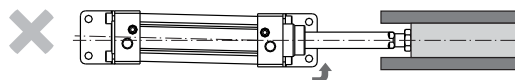
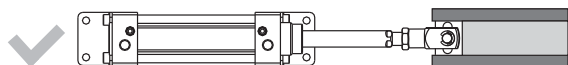
### 1、氣缸兩端應安裝調速閥

- ◆氣缸調試時，其節流閥應從全閉狀態逐漸打開，從低速慢慢地將氣缸的驅動速度調整到所需要的速度。
- ◆節流閥的安裝一般有排氣節流和進氣節流兩種方式。在氣動系統中大多采用排氣節流方式,是因為通過排氣節流可使氣缸在工作中產生或其速度的調節較穩定，而且能避免啓動時活塞杆突然快速推進而背壓而使氣缸的行進速度撞擊缸蓋。

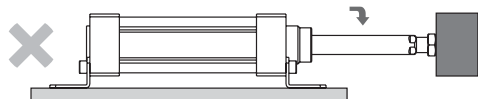
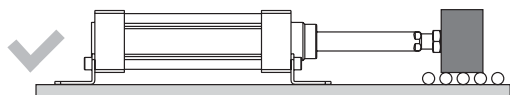
### 2、帶緩衝的氣缸在氣缸調試時，應根據負載與速度的大小對裝在缸蓋上的緩衝閥由小到大重新調整至氣缸不產生反跳現象，注意在調節過程中不能用力調死緩衝，否則會出現緩衝不良或活塞在快速情況下損壞密封件。

## 安裝與使用

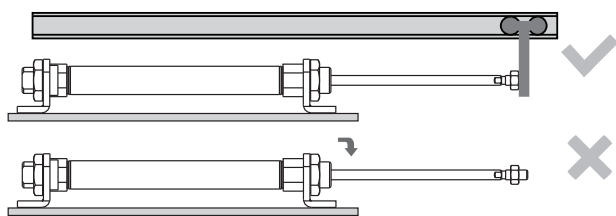
活塞杆軸綫與負載移動方向應保持一致（同軸）。如不一致，活塞杆和缸筒會產生別勁，缸筒內表面、導向套和活塞杆的表面以及密封件容易磨損



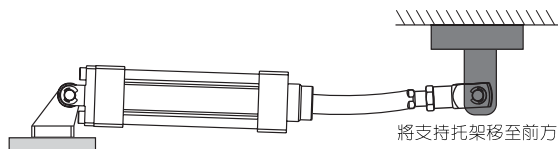
避免活塞杆直接連接受垂直重力：加滾輪支撐道軌活塞杆和缸筒會產生別勁，活塞杆容易彎曲，缸筒內表面、導向套和活塞杆的表面以及密封件容易磨損



長行程氣缸上應設置中間導向支撐，避免活塞杆自然下垂以克服 活塞杆的下垂、缸筒的下彎以及振動和外負載給活塞杆帶來的傷害

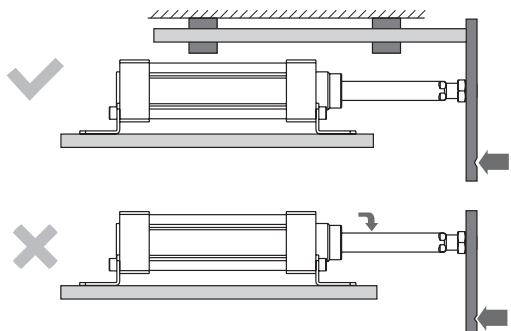


在長行程時易發生撓曲，故可將安裝托架移至前端蓋

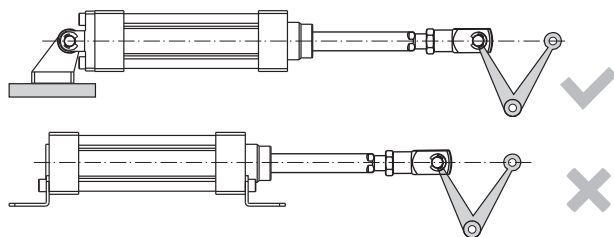
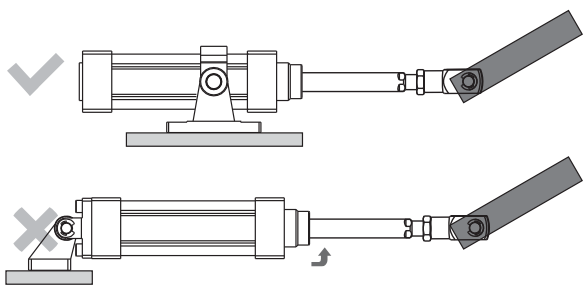


最好不要將固定式氣缸與進行圓周運動的搖臂連接(LB固定)。此時，應與擺動式氣缸連接(CA\CB\TC固定)

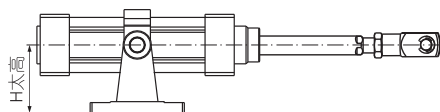
避免活塞杆受扭矩力：應該加導向杆活塞杆和缸筒會產生別勁，缸筒內表面、活塞杆容易彎曲，導向套和活塞杆的表面以及密封件容易磨損



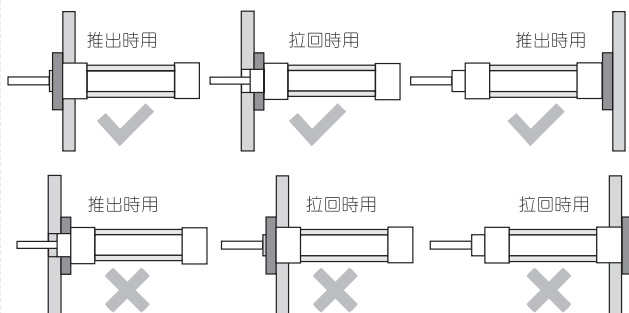
防止後活動鉸接離出力點過長會導致活塞杆受扭矩力改用中間活動支撐縮短支撐點與出力點過長的距離



軸承托架的安裝面至軸承位置的高度(H)若太高，氣缸在工作過程中，支架的安裝部會產生很大的扭矩力，可能會引起安裝螺栓等的破損



考慮負荷的方向，採取適當的安裝（法蘭型安裝）



## 技術資料



## ✿ 氣壓缸理論出力表

單位：N

| 缸徑 (mm)                        |     | 12  | 16  | 20  | 25  | 32  | 40   | 50   | 63   | 80   | 100  | 125   | 150   | 200   |       |
|--------------------------------|-----|-----|-----|-----|-----|-----|------|------|------|------|------|-------|-------|-------|-------|
| 桿徑 (mm)                        |     | 6   | 6   | 8   | 10  | 12  | 16   | 20   | 20   | 25   | 25   | 35    | 40    | 50    |       |
| 活 塞 受 壓 面 積 (mm <sup>2</sup> ) | A   | 113 | 201 | 314 | 491 | 804 | 1257 | 1963 | 3117 | 5027 | 7854 | 12271 | 17671 | 31400 |       |
|                                | B   | 85  | 173 | 264 | 412 | 691 | 1056 | 1649 | 2803 | 4536 | 7363 | 11309 | 16415 | 29437 |       |
| 操 作 壓 力 (Mpa)                  | 0.1 | A   | 11  | 20  | 31  | 49  | 80   | 126  | 196  | 312  | 502  | 785   | 1227  | 1767  | 3140  |
|                                |     | B   | 8.5 | 17  | 26  | 41  | 69   | 106  | 165  | 280  | 453  | 736   | 1131  | 1642  | 2944  |
|                                | 0.2 | A   | 23  | 40  | 63  | 98  | 161  | 251  | 393  | 623  | 1005 | 1571  | 2454  | 3534  | 6280  |
|                                |     | B   | 17  | 35  | 53  | 82  | 138  | 211  | 330  | 561  | 907  | 1473  | 2262  | 3283  | 5888  |
|                                | 0.3 | A   | 34  | 60  | 94  | 147 | 241  | 377  | 589  | 935  | 1508 | 2356  | 3681  | 5301  | 9420  |
|                                |     | B   | 25  | 52  | 79  | 124 | 207  | 317  | 495  | 841  | 1361 | 2209  | 3393  | 4925  | 8832  |
|                                | 0.4 | A   | 45  | 80  | 126 | 196 | 322  | 503  | 785  | 1247 | 2011 | 3142  | 4908  | 7068  | 12560 |
|                                |     | B   | 34  | 69  | 106 | 165 | 276  | 422  | 660  | 1121 | 1814 | 2945  | 4524  | 6566  | 11776 |
|                                | 0.5 | A   | 57  | 101 | 157 | 245 | 402  | 629  | 982  | 1559 | 2514 | 3927  | 6135  | 8836  | 15700 |
|                                |     | B   | 42  | 87  | 132 | 206 | 346  | 528  | 825  | 1402 | 2268 | 3682  | 5655  | 8208  | 14720 |
|                                | 0.6 | A   | 68  | 121 | 189 | 294 | 482  | 754  | 1178 | 1870 | 3016 | 4712  | 7363  | 10603 | 18840 |
|                                |     | B   | 51  | 104 | 158 | 247 | 415  | 634  | 989  | 1682 | 2722 | 4418  | 6785  | 9849  | 17664 |
|                                | 0.7 | A   | 79  | 141 | 220 | 343 | 563  | 880  | 1374 | 2182 | 3519 | 5498  | 8589  | 12370 | 21980 |
|                                |     | B   | 59  | 121 | 185 | 289 | 484  | 739  | 1154 | 1962 | 3175 | 5154  | 7916  | 11491 | 20608 |
|                                | 0.8 | A   | 90  | 161 | 251 | 393 | 643  | 1006 | 1570 | 2494 | 4022 | 6283  | 9816  | 14137 | 25120 |
|                                |     | B   | 68  | 138 | 211 | 330 | 553  | 845  | 1319 | 2242 | 3629 | 5890  | 9047  | 13132 | 23552 |
|                                | 0.9 | A   | 102 | 181 | 283 | 442 | 724  | 1131 | 1767 | 2805 | 4524 | 7069  | 11043 | 15904 | 28260 |
|                                |     | B   | 76  | 155 | 238 | 371 | 622  | 950  | 1484 | 2523 | 4082 | 6627  | 10178 | 14774 | 26496 |
|                                | 1.0 | A   | 113 | 201 | 314 | 491 | 804  | 1257 | 1963 | 3117 | 5027 | 7854  | 12271 | 17671 | 31400 |
|                                |     | B   | 85  | 173 | 264 | 412 | 691  | 1056 | 1649 | 2803 | 4536 | 7363  | 11309 | 16415 | 29440 |

## 技術資料

### ✿ 氣缸出力計算方式

$$F = P \times A - f$$

F : 氣缸出力 (N)  
 P : 操作壓力 (MPa)  
 A : 活塞受壓面積 (mm<sup>2</sup>)  
 f : 摩擦阻力 (N)

### ✿ 壓力單位互算表

| 單位                  | Pa              | kPa                     | MPa                     | bar                    | mbar                   | kgf/cm <sup>2</sup>    | cmH <sub>2</sub> O    | mmH <sub>2</sub> O      | mmHg                   | p.s.i.                 |
|---------------------|-----------------|-------------------------|-------------------------|------------------------|------------------------|------------------------|-----------------------|-------------------------|------------------------|------------------------|
| Pa                  | 1               | 10 <sup>-3</sup>        | 10 <sup>-6</sup>        | 10 <sup>-5</sup>       | 10 <sup>-2</sup>       | 10.2×10 <sup>-6</sup>  | 10.2×10 <sup>-3</sup> | 101.97×10 <sup>-3</sup> | 7.5×10 <sup>-3</sup>   | 0.15×10 <sup>-3</sup>  |
| kPa                 | 10 <sup>3</sup> | 1                       | 10 <sup>-3</sup>        | 10 <sup>-2</sup>       | 10                     | 10.2×10 <sup>-3</sup>  | 10.2                  | 101.97                  | 7.5                    | 0.15                   |
| MPa                 | 10 <sup>6</sup> | 10 <sup>3</sup>         | 1                       | 10                     | 10 <sup>4</sup>        | 10.2                   | 10.2×10 <sup>3</sup>  | 101.97×10 <sup>3</sup>  | 7.5×10 <sup>3</sup>    | 0.15×10 <sup>3</sup>   |
| bar                 | 10 <sup>5</sup> | 10 <sup>2</sup>         | 10 <sup>-1</sup>        | 1                      | 10 <sup>3</sup>        | 1.02                   | 1.02×10 <sup>3</sup>  | 10.2×10 <sup>3</sup>    | 750.06                 | 14.5                   |
| mbar                | 10 <sup>2</sup> | 10 <sup>-1</sup>        | 10 <sup>-4</sup>        | 10 <sup>-3</sup>       | 1                      | 1.02×10 <sup>-3</sup>  | 1.02                  | 10.2                    | 0.75                   | 14.5×10 <sup>-3</sup>  |
| kgf/cm <sup>2</sup> | 98066.5         | 98.07                   | 98.07×10 <sup>-3</sup>  | 0.98                   | 980.67                 | 1                      | 1000                  | 10000                   | 735.56                 | 14.22                  |
| cmH <sub>2</sub> O  | 98.0665         | 98.07×10 <sup>-3</sup>  | 98.07×10 <sup>-6</sup>  | 0.98×10 <sup>-3</sup>  | 0.98                   | 10 <sup>-3</sup>       | 1                     | 10                      | 0.74                   | 14.22×10 <sup>-3</sup> |
| mmH <sub>2</sub> O  | 9.80665         | 9.807×10 <sup>-3</sup>  | 9.807×10 <sup>-6</sup>  | 9.807×10 <sup>-6</sup> | 9.807×10 <sup>-3</sup> | 10 <sup>-4</sup>       | 0.1                   | 1                       | 73.56×10 <sup>-3</sup> | 1.42×10 <sup>-3</sup>  |
| mmHg                | 133.32          | 133.32×10 <sup>-3</sup> | 133.32×10 <sup>-6</sup> | 1.33×10 <sup>-3</sup>  | 1.33                   | 1.36×10 <sup>-3</sup>  | 1.36                  | 13.6                    | 1                      | 19.34×10 <sup>-3</sup> |
| p.s.i.              | 6894.76         | 6.89                    | 6.89×10 <sup>-3</sup>   | 68.95×10 <sup>-3</sup> | 68.95                  | 70.31×10 <sup>-3</sup> | 70.31                 | 703.07                  | 51.71                  | 1                      |

## 技術資料



## ✿ 空氣消耗量

單位：ℓ/min

| 缸徑 (mm)                   | 12  | 16    | 20    | 25    | 32    | 40    | 50    | 63    | 80    | 100    | 125    | 150    | 200    |
|---------------------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|
| 桿徑 (mm)                   | 6   | 6     | 8     | 10    | 12    | 16    | 20    | 20    | 25    | 25     | 35     | 40     | 50     |
| 活塞受壓面積 (mm <sup>2</sup> ) | A   | 113   | 201   | 314   | 491   | 804   | 1257  | 1963  | 3117  | 5027   | 7854   | 12271  | 31416  |
|                           | B   | 85    | 173   | 264   | 412   | 691   | 1056  | 1649  | 2803  | 4536   | 7363   | 11309  | 29452  |
| 操作壓力 (MPa)                | 0.1 | 0.040 | 0.075 | 0.116 | 0.181 | 0.299 | 0.462 | 0.722 | 1.183 | 1.912  | 3.042  | 4.714  | 12.168 |
|                           | 0.2 | 0.059 | 0.112 | 0.173 | 0.271 | 0.448 | 0.693 | 1.083 | 1.775 | 2.867  | 4.563  | 7.071  | 18.252 |
|                           | 0.3 | 0.079 | 0.150 | 0.231 | 0.361 | 0.598 | 0.924 | 1.444 | 2.367 | 3.823  | 6.084  | 9.428  | 24.336 |
|                           | 0.4 | 0.099 | 0.187 | 0.289 | 0.451 | 0.747 | 1.156 | 1.805 | 2.959 | 4.779  | 7.605  | 11.785 | 30.420 |
|                           | 0.5 | 0.119 | 0.224 | 0.347 | 0.542 | 0.897 | 1.387 | 2.167 | 3.550 | 5.734  | 9.126  | 14.142 | 36.502 |
|                           | 0.6 | 0.138 | 0.262 | 0.405 | 0.632 | 1.046 | 1.618 | 2.528 | 4.142 | 6.690  | 10.647 | 16.499 | 42.586 |
|                           | 0.7 | 0.158 | 0.299 | 0.463 | 0.722 | 1.196 | 1.849 | 2.889 | 4.734 | 7.646  | 12.168 | 18.856 | 48.670 |
|                           | 0.8 | 0.178 | 0.336 | 0.520 | 0.812 | 1.345 | 2.080 | 3.250 | 5.325 | 8.602  | 13.689 | 21.213 | 54.754 |
|                           | 0.9 | 0.198 | 0.374 | 0.578 | 0.903 | 1.495 | 2.311 | 3.611 | 5.917 | 9.557  | 15.209 | 23.570 | 60.838 |
|                           | 1.0 | 0.218 | 0.411 | 0.636 | 0.993 | 1.644 | 2.542 | 3.972 | 6.509 | 10.513 | 16.927 | 25.927 | 66.922 |

●上表所列數值，是指行程 100mm 之氣缸，於一分鐘內往復一次，所需的空氣消耗量。

## ✿ 空氣消耗量計算方式

$$Q_n = (A_a + A_b) \times L \times \frac{P+0.101}{0.101} \times n \times 10^{-6}$$

$Q_n$ ：氣缸出力 (ℓ/min)

$A_a$ ：活塞 A 端面積極 (mm<sup>2</sup>)

$A_b$ ：活塞 B 端面積極 (mm<sup>2</sup>)

$L$ ：氣缸行程 (mm)

$P$ ：操作壓力 (MPa)

$n$ ：每分鐘作動次數 (次/min)

## 技術資料

### ✿ 流量單位互算表

| 單位                          | m <sup>3</sup> /s      | ℓ/s                    | cm <sup>3</sup> /s    | m <sup>3</sup> /h    | m <sup>3</sup> /min    | ℓ/h                   | ℓ/min                  | fr <sup>3</sup> /min (scfm) | gallon min UK           | gallon min USA         |
|-----------------------------|------------------------|------------------------|-----------------------|----------------------|------------------------|-----------------------|------------------------|-----------------------------|-------------------------|------------------------|
| m <sup>3</sup> /s           | 1                      | 10 <sup>3</sup>        | 10 <sup>6</sup>       | 3.6×10 <sup>6</sup>  | 60                     | 3.6×10 <sup>6</sup>   | 60×10 <sup>3</sup>     | 2.12×10 <sup>3</sup>        | 13.2×10 <sup>3</sup>    | 15.85×10 <sup>3</sup>  |
| ℓ/s                         | 10 <sup>-3</sup>       | 1                      | 10 <sup>3</sup>       | 3.6                  | 60×10 <sup>-3</sup>    | 3.6×10 <sup>3</sup>   | 60                     | 1.12                        | 13.2                    | 15.85                  |
| cm <sup>3</sup> /s          | 10 <sup>-6</sup>       | 10 <sup>-3</sup>       | 1                     | 3.6×10 <sup>-3</sup> | 60×10 <sup>-6</sup>    | 3.6                   | 60×10 <sup>-3</sup>    | 2.12×10 <sup>-3</sup>       | 13.2×10 <sup>-3</sup>   | 15.85×10 <sup>-3</sup> |
| m <sup>3</sup> /h           | 0.28×10 <sup>-3</sup>  | 0.28                   | 0.28×10 <sup>3</sup>  | 1                    | 16.67×10 <sup>-3</sup> | 10 <sup>3</sup>       | 16.67                  | 0.59                        | 3.67                    | 4.4                    |
| m <sup>3</sup> /min         | 16.67×10 <sup>-3</sup> | 16.67                  | 16.67×10 <sup>3</sup> | 60                   | 1                      | 60×10 <sup>3</sup>    | 10 <sup>3</sup>        | 35.31                       | 219.97                  | 264.17                 |
| ℓ/h                         | 0.28×10 <sup>-6</sup>  | 0.28×10 <sup>-3</sup>  | 0.28                  | 10 <sup>-3</sup>     | 16.67×10 <sup>-6</sup> | 1                     | 16.67×10 <sup>-3</sup> | 0.59×10 <sup>-3</sup>       | 3.67×10 <sup>-3</sup>   | 4.4×10 <sup>-3</sup>   |
| ℓ/min                       | 16.67×10 <sup>-6</sup> | 16.67×10 <sup>-3</sup> | 16.67                 | 60×10 <sup>-3</sup>  | 10 <sup>-3</sup>       | 60                    | 1                      | 35.31×10 <sup>-3</sup>      | 219.97×10 <sup>-3</sup> | 264×10 <sup>-3</sup>   |
| fr <sup>3</sup> /min (scfm) | 0.47×10 <sup>-3</sup>  | 0.47                   | 0.47×10 <sup>3</sup>  | 1.699                | 23.32×10 <sup>-3</sup> | 1.699×10 <sup>3</sup> | 28.32                  | 1                           | 6.23                    | 7.48                   |
| gallon min UK               | 75.79×10 <sup>-6</sup> | 75.77×10 <sup>-3</sup> | 75.77                 | 0.273                | 4.55×10 <sup>-3</sup>  | 0.273×10 <sup>3</sup> | 4.55                   | 0.16                        | 1                       | 1.2                    |
| gallon min USA              | 63.09×10 <sup>-6</sup> | 63.09×10 <sup>-3</sup> | 63.09                 | 0.227                | 3.79×10 <sup>-3</sup>  | 0.227×10 <sup>3</sup> | 3.79                   | 0.13                        | 0.83                    | 1                      |