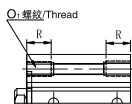
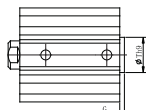


HCQ2A/HCDQ2A 兩端螺孔式  
The occasion of the non rod side with a convex table



| 缸徑Bore (mm) | O1      | R  |
|-------------|---------|----|
| 32          | M6x1.0  | 10 |
| 40          | M6x1.0  | 10 |
| 50          | M8x1.25 | 14 |

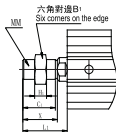
無杆側帶凸臺的場合(mm)  
The occasion of the non rod side with a convex table



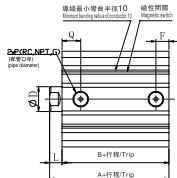
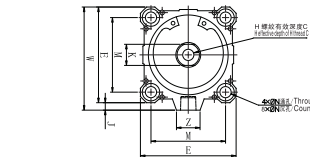
| 缸徑Bore (mm) | G | Th $\theta$             |
|-------------|---|-------------------------|
| 32          | 2 | 23.5° <sub>±0.043</sub> |
| 40          | 2 | 23.5° <sub>±0.050</sub> |
| 50          | 2 | 28.5° <sub>±0.045</sub> |

注1) 杆端凸臺高度可選規格。(僅單桿氣缸用—XC36)  
Note 1) The top-side with the hole is optional specifications. (Not the end of the model plus -XC36)

杆端外螺紋的場合  
The occasion of the screw thread



| 缸徑Bore (mm) | B1 | C1   | H1 | L1   | MM      | X    |
|-------------|----|------|----|------|---------|------|
| 32          | 22 | 2    | 8  | 28.5 | M14x1.5 | 23.5 |
| 40          | 22 | 20.5 | 8  | 28.5 | M14x1.5 | 23.5 |
| 50          | 27 | 26   | 11 | 33.5 | M18x1.5 | 28.5 |



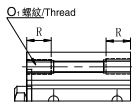
單位 (Unit) : mm

HCQ2B/HCDQ2B標準型 (通孔式)

| 缸徑Bore (mm) | 行程Stroke (mm) |               | 行程Stroke (mm) |               | A    | B    | C  | D  | E   | F    | H       | K  | J   | L  | M  | N  | O         | P   | Q  | W     | Z  |
|-------------|---------------|---------------|---------------|---------------|------|------|----|----|-----|------|---------|----|-----|----|----|----|-----------|-----|----|-------|----|
|             | 行程Stroke (mm) | 行程Stroke (mm) | 行程Stroke (mm) | 行程Stroke (mm) |      |      |    |    |     |      |         |    |     |    |    |    |           |     |    |       |    |
| 63          | 10-50         | 44            | 36            |               | 54   | 46   | 15 | 20 | 77  | 10.5 | M10x1.5 | 17 | 7   | 8  | 60 | 9  | 14深10.5   | 1/4 | 15 | 84    | 19 |
|             | 75-100        | 54            | 46            |               |      |      |    |    |     |      |         |    |     |    |    |    |           |     |    |       |    |
| 80          | 5-50          | 53.5          | 43.5          |               | 63.5 | 53.5 | 21 | 25 | 98  | 12.5 | M16x2.0 | 22 | 6   | 10 | 77 | 11 | 17.5深13.5 | 3/8 | 16 | 104   | 25 |
|             | 75-100        | 63.5          | 53.5          |               |      |      |    |    |     |      |         |    |     |    |    |    |           |     |    |       |    |
| 100         | 10-50         | 65            | 53            |               | 75   | 63   | 27 | 30 | 117 | 13   | M20x2.5 | 27 | 6.5 | 12 | 94 | 11 | 17.5深13.5 | 3/8 | 23 | 123.5 | 25 |
|             | 75-100        | 75            | 63            |               |      |      |    |    |     |      |         |    |     |    |    |    |           |     |    |       |    |

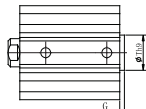
注2) 帶緩衝墊的外形尺寸與上表相同。  
Note 2) with the cushion on the table with the same dimensions.

HCQ2A / HCDQ2A兩端螺孔式  
The occasion of the non rod side with a convex table



| 缸徑Bore (mm) | O1       | R  |
|-------------|----------|----|
| 63          | M10x1.5  | 18 |
| 80          | M12x1.75 | 22 |
| 100         | M12x1.75 | 22 |

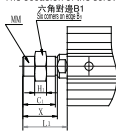
無杆側帶凸臺的場合(mm)  
The occasion of the non rod side with a convex table



| 缸徑Bore (mm) | G | Th $\theta$           |
|-------------|---|-----------------------|
| 63          | 2 | 35° <sub>±0.043</sub> |
| 80          | 2 | 43° <sub>±0.050</sub> |
| 100         | 2 | 59° <sub>±0.045</sub> |

注1) 杆端凸臺高度可選規格。(僅單桿氣缸用—XC36)  
Note 1) The top-side with the hole is optional specifications. (Not the end of the model plus -XC36)

杆端外螺紋的場合  
The occasion of the screw thread



| 缸徑Bore (mm) | B1 | C1   | H1 | L1   | MM      | X    |
|-------------|----|------|----|------|---------|------|
| 63          | 27 | 26   | 11 | 33.5 | M18x1.5 | 28.5 |
| 80          | 32 | 32   | 13 | 43.5 | M22x1.5 | 35.5 |
| 100         | 41 | 32.5 | 16 | 43.5 | M26x1.5 | 35.5 |

產品簡介

- 本產品適用於量產零件之專用機及MC治具,提高生產效率最佳幫手。
- 主要功能為油壓缸作動時,活塞下壓行程中壓板會旋轉到設計的角度,再沿著直線繼續下壓直到壓板夾緊工件。
- 建議使用油壓轉角缸,請加裝流量控制閥,避免速度過快,以及轉角行程中,請勿夾持工件。
- 缸體材質採用機械構造用碳素鋼,內壁特殊加工處理,表面光滑,使用壽命長。
- 壓板增加長度時,請勿大於原長度之1.5倍。

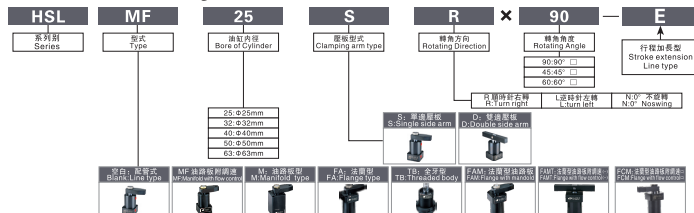
Introduction of product

- ◆ The product is ideal for mass production on a special purpose machine and jig in machining center. It will greatly upgrade production efficiency.
- ◆ When the hydraulic cylinder actuate, and the piston moves downward, the clamping arm will swing to a rated angle. Then it lowers until the workpiece is clamped securely.
- ◆ To avoid too fast motion, a flow control valve is suggested to connect to the hydraulic swing clamp cylinder. Do not clamp workpiece while the clamp is swinging to avoid damaging the cylinder barrel and internal parts.
- ◆ The cylinder body is manufactured from structural carbon steel. Inside surface is specially treated for maximum smoothness and long service life.
- ◆ When increasing length of clamping arm is required, be sure not to exceed 1.5 times of the original length.

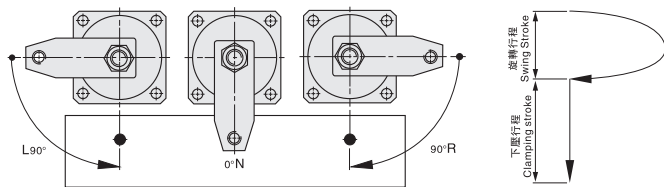
特性資料 Specification

| 油缸內徑 Bore of cylinder (mm)                          | φ25                                                      | φ32      | φ40        | φ50         | φ63         |
|-----------------------------------------------------|----------------------------------------------------------|----------|------------|-------------|-------------|
| 活塞杆徑 Bore of piston (mm)                            | φ18                                                      | φ20      | φ22.4      | φ28         | φ35.5       |
| 轉角行程 Swing stroke(mm)                               | 11.5                                                     | 14.5     | 14.5       | 16          | 16          |
| 壓緊行程標準增加量 Clamping stroke (mm) std/incr             | 13                                                       | 15/30    | 15/30      | 17/34       | 17/34       |
| 受壓面積拉入輸出 Pressure area pull/push (cm <sup>2</sup> ) | 2.37/4.91                                                | 4.9/8.04 | 8.63/12.57 | 13.47/19.63 | 21.28/31.17 |
| 理論夾持力 Theoretical clamping (30kg/cm <sup>2</sup> )  | 71                                                       | 147      | 259        | 404         | 647         |
| 使用液體 Fluid                                          | 已濾清之標準液壓油 Filtered oil                                   |          |            |             |             |
| 最大耐壓力Max pressure (kg/cm <sup>2</sup> )             | 100kg/cm <sup>2</sup>                                    |          |            |             |             |
| 使用壓力範圍Range of pressure(kg/cm <sup>2</sup> )        | 10—70kg/cm <sup>2</sup>                                  |          |            |             |             |
| 轉角方向 Rotating direction                             | 左轉L或右轉R Turn right L or turn left R                      |          |            |             |             |
| 轉角角度 Rotating angle                                 | 標準角度 Standard angle 90° 選擇角度 Optional angle 0° ,45° ,60° |          |            |             |             |
| 作動方式 Acting type                                    | 復動式 Double acting                                        |          |            |             |             |

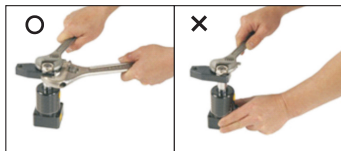
訂購標示法 Ordering Code



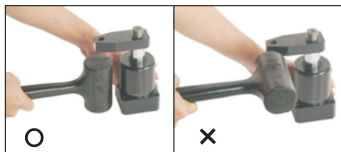
單邊壓板旋轉示意圖



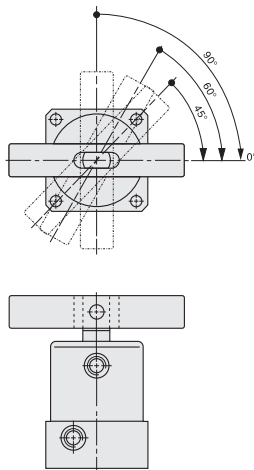
壓板鎖緊操作方式



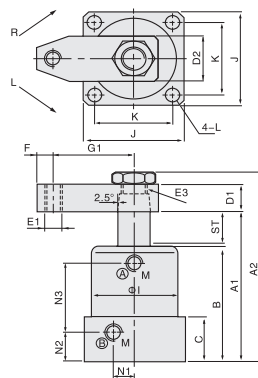
壓板拆卸操作方式



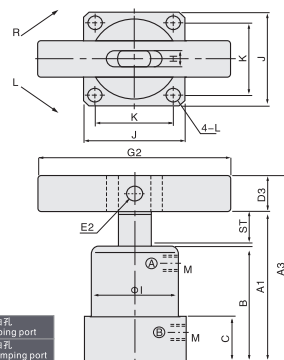
雙邊壓板旋轉示意圖



Single side swing clamp



Double side swing clamp



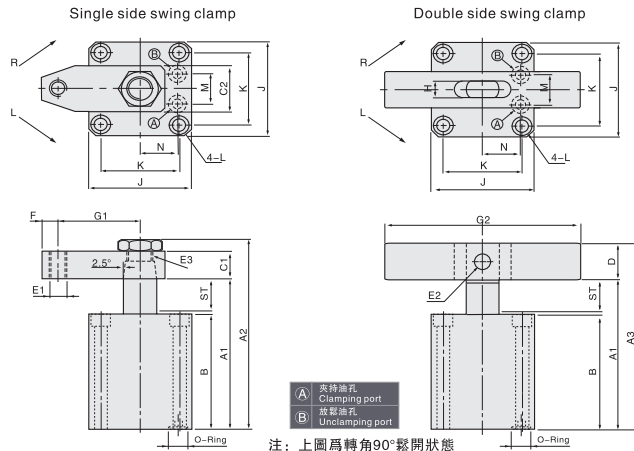
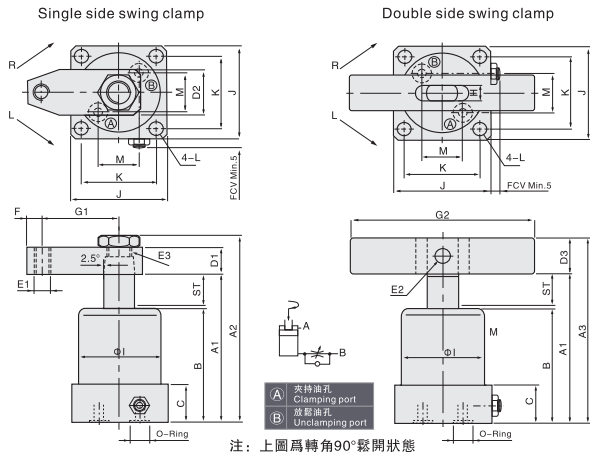
- (A) 夾持油孔  
Clamping port
- (B) 拆卸油孔  
Unclamping port

注：上圖為轉角90°鬆開狀態

外形尺寸表 Dimension table

單位 (Unit) : mm

| ITEM              | MODEL | HSL-25       | HSL-32       | HSL-40       | HSL-50       | HSL-63       |
|-------------------|-------|--------------|--------------|--------------|--------------|--------------|
| ST:Swing/Clamping |       | 24.5:11.5/13 | 29.5:14.5/15 | 44.5:14.5/30 | 29.5:14.5/15 | 44.5:14.5/30 |
| A1                |       | 104          | 118          | 148          | 123          | 153          |
| A2                |       | (127)        | (144)        | (175)        | (150)        | (180)        |
| A3                |       | 123          | 140          | 170          | 145          | 175          |
| B                 |       | 76           | 85           | 100          | 90           | 105          |
| C                 |       | 27           | 30           | 30           | 34           | 34           |
| D1                |       | 16           | 18           | 18           | 20           | 23           |
| D2                |       | 27           | 31           | 31           | 37           | 48           |
| D3                |       | □19          | □22          | □22          | □25          | □32          |
| E1                |       | M10          | M10          | M10          | M12          | M16          |
| E2                |       | Φ8           | Φ8           | Φ10          | Φ12          | Φ15          |
| E3                |       | M14×1.5      | M16×1.5      | M18×1.5      | M20×1.5      | M24×2        |
| F                 |       | 10           | 10           | 10           | 12           | 15           |
| G1                |       | 50           | 55           | 60           | 65           | 75           |
| G2                |       | 140          | 160          | 160          | 180          | 200          |
| H                 |       | 9            | 10           | 10           | 12           | 15           |
| ΦI                |       | Φ46          | Φ50          | Φ54          | Φ66          | Φ80          |
| J                 |       | 52           | 56           | 63           | 72           | 88           |
| K                 |       | 40           | 44           | 48           | 57           | 70           |
| L                 |       | Φ6.8         | Φ6.8         | Φ9           | Φ9           | Φ11          |
| M                 |       | PT1/8        | PT1/8        | PT1/8        | PT1/4        | PT1/4        |
| N1                |       | 8            | 10           | 12           | 15           | 17           |
| N2                |       | 17           | 19           | 19           | 21.5         | 22           |
| N3                |       | 46           | 52           | 67           | 57           | 72           |
|                   |       |              |              |              | 63.5         | 80.5         |
|                   |       |              |              |              |              | 68           |
|                   |       |              |              |              |              | 85           |

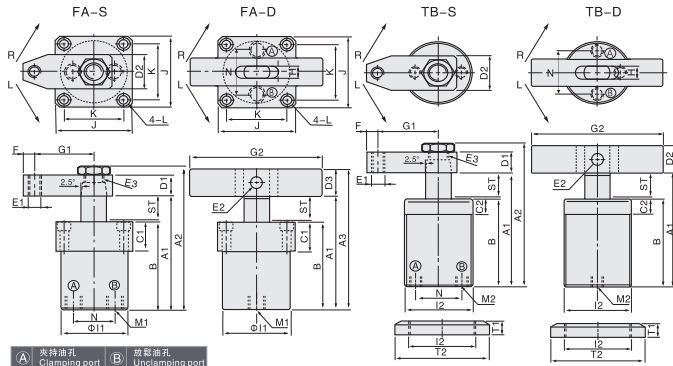


外形尺寸表 Dimension table

| ITEM              | MODEL | HSL-MF25     | HSL-MF32     | HSL-MF40     | HSL-MF50     | HSL-MF63     |
|-------------------|-------|--------------|--------------|--------------|--------------|--------------|
| ST:Swing/Clamping |       | 24.5:11.5/13 | 29.5:14.5/15 | 44.5:14.5/30 | 29.5:14.5/15 | 44.5:14.5/30 |
| A1                |       | 104          | 118          | 148          | 123          | 153          |
| A2                |       | (127)        | (144)        | (175)        | (150)        | (180)        |
| A3                |       | 123          | 140          | 170          | 145          | 175          |
| B                 |       | 76           | 85           | 100          | 90           | 105          |
| C                 |       | 22           | 25           | 25           | 30           | 30           |
| D1                |       | 16           | 18           | 18           | 20           | 23           |
| D2                |       | 27           | 31           | 31           | 37           | 48           |
| D3                |       | □19          | □22          | □22          | □25          | □32          |
| E1                |       | M10          | M10          | M10          | M12          | M16          |
| E2                |       | Φ8           | Φ8           | Φ10          | Φ12          | Φ15          |
| E3                |       | M14×1.5      | M16×1.5      | M18×1.5      | M20×1.5      | M24×1.5      |
| F                 |       | 10           | 10           | 10           | 12           | 15           |
| G1                |       | 50           | 55           | 60           | 65           | 75           |
| G2                |       | 140          | 160          | 160          | 180          | 200          |
| H                 |       | 9            | 10           | 10           | 12           | 15           |
| Φ1                |       | Φ46          | Φ50          | Φ54          | Φ66          | Φ80          |
| J                 |       | 55           | 57           | 63           | 72           | 88           |
| K                 |       | 42           | 44           | 48           | 57           | 70           |
| L                 |       | Φ6.8         | Φ6.8         | Φ9           | Φ9           | Φ11          |
| M                 |       | 19           | 21           | 23           | 28           | 32           |
| O-Ring            |       | P7           | P7           | P9           | P9           | P9           |

外形尺寸表 Dimension table

| ITEM              | MODEL | HSL-M25         | HSL-M32         | HSL-M40      | HSL-M50   | HSL-M63     |
|-------------------|-------|-----------------|-----------------|--------------|-----------|-------------|
| ST:Swing/Clamping |       | 24.5:11.5/13    | 29.5:14.5/15    | 29.5:14.5/15 | 33:16/17  | 33:16/17    |
| A1                |       | 104             | 118             | 123          | 137       | 142         |
| A2                |       | (127)           | (144)           | (150)        | (167)     | 177         |
| A3                |       | 123             | 140             | 145          | 162       | (174)       |
| B                 |       | 76              | 85              | 90           | 100       | 105         |
| C1                |       | 16              | 18              | 18           | 20        | 23          |
| C2                |       | 27              | 31              | 31           | 37        | 48          |
| D                 |       | □19             | □22             | □22          | □25       | □32         |
| E1                |       | M10             | M10             | M10          | M12       | M16         |
| E2                |       | Φ8              | Φ8              | Φ10          | Φ12       | Φ15         |
| E3                |       | M14×1.5         | M16×1.5         | M18×1.5      | M20×1.5   | M24×1.5     |
| F                 |       | 10              | 10              | 10           | 12        | 15          |
| G1                |       | 50              | 55              | 60           | 65        | 75          |
| G2                |       | 140             | 160             | 160          | 180       | 200         |
| H                 |       | 9               | 10              | 10           | 12        | 15          |
| J                 |       | 55              | 57              | 69           | 75        | 96          |
| K                 |       | 42              | 44              | 52           | 58        | 75          |
| L                 |       | Φ6.8-Φ10.5×6.5D | Φ6.8-Φ10.5×6.5D | Φ9-Φ14×9D    | Φ9-Φ14×9D | Φ11-Φ17×11D |
| M                 |       | 18              | 22              | 26           | 32        | 38          |
| N                 |       | 20              | 22              | 26           | 30        | 38          |
| O-Ring            |       | P7              | P7              | P8           | P8        | P9          |

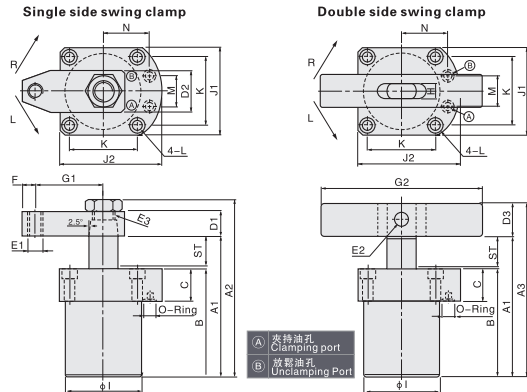


注：上圖為轉角90°鬆開狀態

外形尺寸表 Dimension table

單位 (Unit) : mm

| ITEM              | MODEL | HSL-FA25<br>HSL-TB25 | HSL-FA32<br>HSL-TB32 | HSL-FA40<br>HSL-TB40 | HSL-FA50<br>HSL-TB50 | HSL-FA63     |
|-------------------|-------|----------------------|----------------------|----------------------|----------------------|--------------|
| ST:Swing/Clamping |       | 24.5:11.5/13         | 29.5:14.5/15         | 29.5:14.5/15         | 33:16/17             | 33:16/17     |
| A1                |       | 104                  | 118                  | 123                  | 137                  | 142          |
| A2                |       | (127)                | (144)                | (150)                | (167)                | (177)        |
| A3                |       | 123                  | 140                  | 145                  | 162                  | 174          |
| B                 |       | 76                   | 85                   | 90                   | 100                  | 105          |
| C1                |       | 22                   | 25                   | 25                   | 30                   | 30           |
| C2                |       | 12                   | 12                   | 15                   | 15                   | -            |
| D1                |       | 16                   | 18                   | 18                   | 20                   | 23           |
| D2                |       | 27                   | 31                   | 31                   | 37                   | 48           |
| D3                |       | □19                  | □22                  | □22                  | □25                  | □32          |
| E1                |       | M10                  | M10                  | M12                  | M12                  | M16          |
| E2                |       | Φ8                   | Φ8                   | Φ10                  | Φ12                  | Φ15          |
| E3                |       | M14×1.5              | M16×1.5              | M18×1.5              | M20×1.5              | M24×2        |
| F                 |       | 10                   | 10                   | 10                   | 12                   | 15           |
| G1                |       | 50                   | 55                   | 60                   | 65                   | 75           |
| G2                |       | 140                  | 160                  | 160                  | 180                  | 200          |
| H                 |       | 9                    | 10                   | 10                   | 12                   | 15           |
| Φ11               |       | Φ45                  | Φ50                  | Φ58                  | Φ68                  | Φ81          |
| I2                |       | M45×1.5              | M50×1.5              | M55×1.5              | M65×1.5              | -            |
| J                 |       | 53                   | 57                   | 69                   | 75                   | 90           |
| K                 |       | 40                   | 44                   | 52                   | 58                   | 70           |
| L                 |       | Φ6.8-Φ10.5×6.5D.     | Φ6.8-Φ10.5×6.5D.     | Φ9-Φ14×9D.           | Φ9-Φ14×9D.           | Φ11-Φ17×11D. |
| M1                |       | PT1/4                | PT1/4                | PT1/4                | PT1/4                | PT1/4        |
| M2                |       | PT1/8                | PT1/8                | PT1/8                | PT1/8                | -            |
| N                 |       | 28                   | 32                   | 40                   | 50                   | 63           |
| T1×2PCS           |       | 10                   | 11                   | 11                   | 12                   | -            |
| T2                |       | Φ65                  | Φ70                  | Φ70                  | Φ85                  | -            |



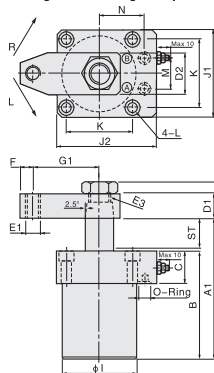
注：上圖為轉角90°鬆開狀態

外形尺寸表 Dimension table

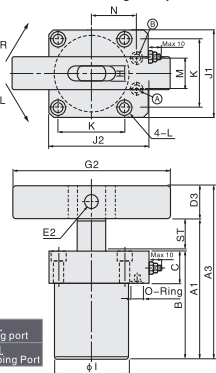
單位 (Unit) : mm

| ITEM              | MODEL | HSL-FAM25        | HSL-FAM32        | HSL-FAM40    | HSL-FAM50  | HSL-FAM63    |
|-------------------|-------|------------------|------------------|--------------|------------|--------------|
| ST:Swing/Clamping |       | 24.5:11.5/13     | 29.5:14.5/15     | 29.5:14.5/15 | 33:16/17   | 33:16/17     |
| A1                |       | 104              | 118              | 123          | 137        | 142          |
| A2                |       | (127)            | (144)            | (150)        | (167)      | (177)        |
| A3                |       | 123              | 140              | 145          | 162        | 174          |
| B                 |       | 76               | 85               | 90           | 100        | 105          |
| C                 |       | 22               | 25               | 25           | 30         | 30           |
| D1                |       | 16               | 18               | 18           | 20         | 23           |
| D2                |       | 27               | 31               | 31           | 37         | 48           |
| D3                |       | □19              | □22              | □22          | □25        | □32          |
| E1                |       | M10×1.5          | M10×1.5          | M10×1.5      | M12        | M16          |
| E2                |       | Φ8               | Φ8               | Φ10          | Φ12        | Φ15          |
| E3                |       | M14×1.5          | M16×1.5          | M18×1.5      | M20×1.5    | M24×2.0      |
| F                 |       | 10               | 10               | 10           | 12         | 15           |
| G1                |       | 50               | 55               | 60           | 65         | 75           |
| G2                |       | 140              | 160              | 160          | 180        | 200          |
| H                 |       | 9                | 10               | 10           | 12         | 15           |
| Φ1                |       | Φ45              | Φ50              | Φ58          | Φ68        | Φ81          |
| J1                |       | 55               | 57               | 69           | 75         | 90           |
| J2                |       | 64               | 65.5             | 79           | 87         | 104.5        |
| K                 |       | 42               | 44               | 52           | 58         | 70           |
| L                 |       | Φ6.8-Φ10.5×6.5D. | Φ6.8-Φ10.5×6.5D. | Φ9-Φ14×9D.   | Φ9-Φ14×9D. | Φ11-Φ17×11D. |
| M                 |       | 20               | 22               | 26           | 30         | 32           |
| N                 |       | 28               | 29               | 34.5         | 39         | 46           |
| O-Ring            |       | P6               | P6               | P9           | P9         | P9           |

Single side swing clamp



Double side swing clamp

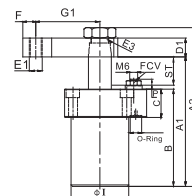
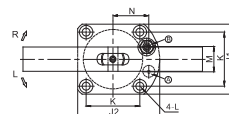
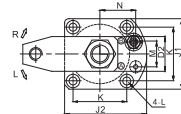


(A) 夾持油孔  
Clamping port  
(B) 放鬆油孔  
Unclogging Port

外形尺寸表 Dimension table 注：上圖為轉角90°鬆開狀態

單位 (Unit) :mm

| ITEM              | MODEL | HSL-FAMT25       | HSL-FAMT32       | HSL-FAMT40   | HSL-FAMT50 | HSL-FAMT63   |
|-------------------|-------|------------------|------------------|--------------|------------|--------------|
| ST-Swing/Clamping |       | 24.5:11.5/13     | 29.5:14.5/15     | 29.5:14.5/15 | 33:16/17   | 33:16/17     |
| A1                |       | 104              | 118              | 123          | 137        | 142          |
| A2                |       | (127)            | (144)            | (150)        | (167)      | (177)        |
| A3                |       | 123              | 140              | 145          | 162        | 174          |
| B                 |       | 76               | 85               | 90           | 100        | 105          |
| C                 |       | 22               | 25               | 25           | 30         | 30           |
| D1                |       | 16               | 18               | 18           | 20         | 23           |
| D2                |       | 27               | 31               | 31           | 37         | 48           |
| D3                |       | □19              | □22              | □22          | □25        | □32          |
| E1                |       | M10×1.5          | M10×1.5          | M10×1.5      | M12        | M16          |
| E2                |       | φ8               | φ8               | φ10          | φ12        | φ15          |
| E3                |       | M14×1.5          | M16×1.5          | M18×1.5      | M20×1.5    | M24×2.0      |
| F                 |       | 10               | 10               | 10           | 12         | 15           |
| G1                |       | 50               | 55               | 60           | 65         | 75           |
| G2                |       | 140              | 160              | 160          | 180        | 200          |
| H                 |       | 9                | 10               | 10           | 12         | 15           |
| φI                |       | φ45              | φ50              | φ58          | φ68        | φ81          |
| J1                |       | 55               | 57               | 69           | 75         | 90           |
| J2                |       | 64               | 65.5             | 79           | 87         | 104.5        |
| K                 |       | 42               | 44               | 52           | 58         | 70           |
| L                 |       | φ6.8-φ10.5×6.5D. | φ6.8-φ10.5×6.5D. | φ9-φ14×9D.   | φ9-φ14×9D. | φ11-φ17×11D. |
| M                 |       | 20               | 22               | 26           | 30         | 30           |
| N                 |       | 28               | 29               | 34.5         | 39         | 46           |
| O-Ring            |       | P6               | P6               | P6           | P9         | P9           |



(A) 夾持油孔  
Clamping port  
(B) 放鬆油孔  
Unclogging Port

注：上圖為轉角90°鬆開狀態

外形尺寸表 Dimension table

單位 (Unit) :mm

| ITEM              | MODEL | HSL-FCM25        | HSL-FCM32        | HSL-FCM40    | HSL-FCM50  | HSL-FCM63    |
|-------------------|-------|------------------|------------------|--------------|------------|--------------|
| ST-Swing/Clamping |       | 24.5:11.5/13     | 29.5:14.5/15     | 29.5:14.5/15 | 33:16/17   | 33:16/17     |
| A1                |       | 104              | 118              | 123          | 137        | 142          |
| A2                |       | (127)            | (144)            | (150)        | (167)      | (177)        |
| A3                |       | 123              | 140              | 145          | 162        | 174          |
| B                 |       | 76               | 85               | 90           | 100        | 105          |
| C                 |       | 22               | 25               | 25           | 30         | 30           |
| D1                |       | 15               | 17               | 18           | 20         | 23           |
| D2                |       | 27               | 31               | 31           | 37         | 48           |
| D3                |       | □19              | □22              | □22          | □25        | □32          |
| E1                |       | M10×1.5          | M10×1.5          | M10×1.5      | M12×1.75   | M16×2.0      |
| E2                |       | φ8               | φ8               | φ10          | φ12        | φ15          |
| E3                |       | M14×1.5          | M16×1.5          | M18×1.5      | M20×1.5    | M24×2        |
| F                 |       | 10               | 10               | 10           | 12         | 15           |
| G1                |       | 50               | 55               | 60           | 65         | 75           |
| G2                |       | 140              | 160              | 160          | 180        | 200          |
| H                 |       | 9                | 10               | 10           | 12         | 15           |
| φI                |       | φ45              | φ50              | φ58          | φ68        | φ81          |
| J1                |       | 55               | 57               | 69           | 75         | 90           |
| J2                |       | 64               | 65.5             | 79           | 87         | 104          |
| K                 |       | 42               | 44               | 52           | 58         | 70           |
| L                 |       | φ6.8-φ10.5×6.5D. | φ6.8-φ10.5×6.5D. | φ9-φ14×9D.   | φ9-φ14×9D. | φ11-φ17×11D. |
| M                 |       | 20               | 22               | 26           | 30         | 32           |
| N                 |       | 28               | 29               | 34.5         | 39         | 47           |
| O-Ring            |       | P6               | P6               | P9           | P9         | P9           |
| P Min             |       | 7                | 4.5              | 4.5          | 4          | 4            |
| P Max             |       | 9.9              | 7.8              | 7.8          | 7.3        | 7.3          |