

# Pre-Fill Valves (Flange-clamped type) 碟式預充閥

Pre-Fill Valves 碟式預充閥

Pipe Flanges 配管法蘭



## Special Features 特性

|   |                                                                          |             |
|---|--------------------------------------------------------------------------|-------------|
| ※ | Small size and easy to install.                                          | 體積小，易於拆裝。   |
| ※ | Low pressure loss with high flow capacity.                               | 低壓損，流量大。    |
| ※ | Compact and robust.                                                      | 構造簡單，耐久性佳。  |
| ※ | Good to directly intergrated onto integrated onto the cylinder cap side. | 可直接裝置於油缸蓋側。 |

## Features Data 特性數據

| Model<br>型式 | Flow Qmx<br>最大流量<br>(L/min) | Oper. Pressure<br>Pmax.<br>使用壓力 (bar) | Pilot ratio<br>導壓比 | Flange bolts 固定法蘭螺絲 |                  | Pipe size<br>配管直徑 | Weight<br>閥重 (kg) |
|-------------|-----------------------------|---------------------------------------|--------------------|---------------------|------------------|-------------------|-------------------|
|             |                             |                                       |                    | Number 支數           | Nor. Diameter 尺寸 |                   |                   |
| SVF-32      | 160                         | 400                                   | 3.6                | 4                   | M16              | 2"                | 1.3               |
| SVF-40      | 250                         |                                       | 3.3                | 4                   | M20              | 2.5"              | 2.2               |
| SVF-50      | 400                         |                                       | 3.8                | 6                   | M16 / M24        | 3"                | 2.9               |
| SVF-63      | 630                         |                                       | 4.2                | 8                   | M16 / M24        | 3.5"              | 4.5               |
| SVF-80      | 1000                        |                                       | 4.3                | 8                   | M16 / M24        | 4"                | 6.2               |
| SVF-100     | 1600                        |                                       | 4.3                | 8                   | M22 / M30        | 5"                | 12.3              |
| SVF-125     | 2500                        |                                       | 4.3                | 12                  | M24 / M30        | 8"                | 23                |
| SVF-160     | 4000                        |                                       | 4.2                | 16                  | M30              | 10"               | 50                |
| SVF-200     | 7000                        |                                       | 4.1                | 20                  | M30              | 12"               | 85                |

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- 目錄規格，尺寸和設計特性如有更改，恕不另行通知。

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## Ordering Code 選購型號

| SVF - 100 - ※※ |                    |                                                      |
|----------------|--------------------|------------------------------------------------------|
| 1              | 2                  | 3                                                    |
| 1              | SERIES 系列號         | SVF: Steel body 鋼體本質 SCM4, SPF: Steel body 鋼體本質 SCM4 |
| 2              | SIZE 規格            | SVF-32 to 200, SPF-50 to 300                         |
| 3              | DESIGN NUMBER 設計編號 |                                                      |

## Features Data 特性數據

| Model<br>型式 | Flow Qmx<br>最大流量<br>(L/min) | Oper. Pressure<br>Pmax.<br>使用壓力 (bar) | Pilot ratio<br>導壓比 | Flange bolts<br>固定法蘭螺絲 |                 | Mounting bolts<br>安裝螺絲 |                 | Pipe size<br>配管直徑 | Weight<br>閥重<br>(kg) |
|-------------|-----------------------------|---------------------------------------|--------------------|------------------------|-----------------|------------------------|-----------------|-------------------|----------------------|
|             |                             |                                       |                    | Number<br>支數           | Nor. Dia.<br>尺寸 | Number<br>支數           | Nor. Dia.<br>尺寸 |                   |                      |
| SPF-50      | 250                         | 400                                   | 3.4                | 4                      | M10 x 35L       | 4                      | M16 x 45L       | 2"                | 3.4                  |
| SPF-80      | 400                         |                                       | 4.4                | 6                      | M12 x 40L       | 6                      | M16 x 55L       | 3"                | 8.7                  |
| SPF-90      | 630                         |                                       | 4.6                | 6                      | M12 x 40L       | 6                      | M18 x 60L       | 3-1/2"            | 12.1                 |
| SPF-100     | 1000                        |                                       | 4.4                | 6                      | M12 x 40L       | 6                      | M20 x 65L       | 4"                | 16.5                 |
| SPF-125     | 1600                        |                                       | 4.2                | 6                      | M12 x 50L       | 12                     | M20 x 75L       | 5"                | 27.1                 |
| SPF-150     | 2500                        |                                       | 4                  | 8                      | M12 x 50L       | 16                     | M20 x 90L       | 6"                | 39.6                 |
| SPF-200     | 4000                        |                                       | 5.1                | 8                      | M16 x 55L       | 16                     | M30 x 120L      | 8"                | 110                  |
| SPF-300     | 7000                        |                                       | 5.1                | 10                     | M16 x 55L       | 20                     | M30 x 130L      | 12"               | 160                  |

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## Installation For Reference 安裝示意僅供參考

**Pressure Rating**  
壓力額定值 20 kg/cm<sup>2</sup>

**FGT**

**SVF/SCF**

**FGP**

**SPA**

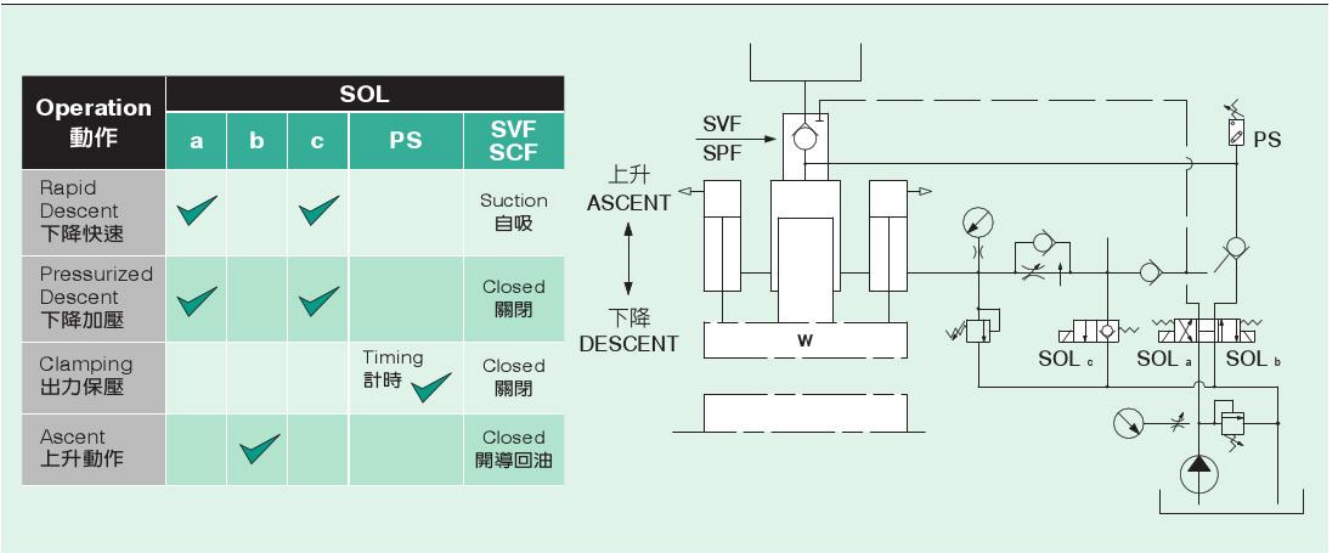
**Pressure Rating**  
壓力額定值 250 and 400 kg/cm<sup>2</sup>

- Left side installation / The pre-fill valve is fitted directly on the bottom hydraulic cylinder.
- Right side installation / In line installations.
- 左式安裝/預充閥直接安裝在液壓缸底部。
- 右式安裝/直接管式安裝。

# Pre-Fill Valves (Flange-clamped type)

## 碟式預充閥

Typical application circuit (For reference) 油路運用例 (僅供參考)



## Example For Model Selection 預充閥選型範本

### 1. Given 已知條件

|                                                      |                                                |
|------------------------------------------------------|------------------------------------------------|
| ※ Main cylinder Dia: $\phi 350$ mm                   | 主液壓缸，直徑 $\phi 350$ mm。                         |
| ※ Ascending cylinder: 2-B $\phi 63 \times R \phi 35$ | 上升液壓缸，內徑 $\phi 63 \times$ 桿徑 $\phi 35$ ，計 2 支。 |
| ※ Weight of platen W: 1500 kg                        | 滑板中座重量 W: 1500 kg。                             |
| ※ Pump capacity: 25 L/min                            | 泵浦流量: 25 L/min。                                |

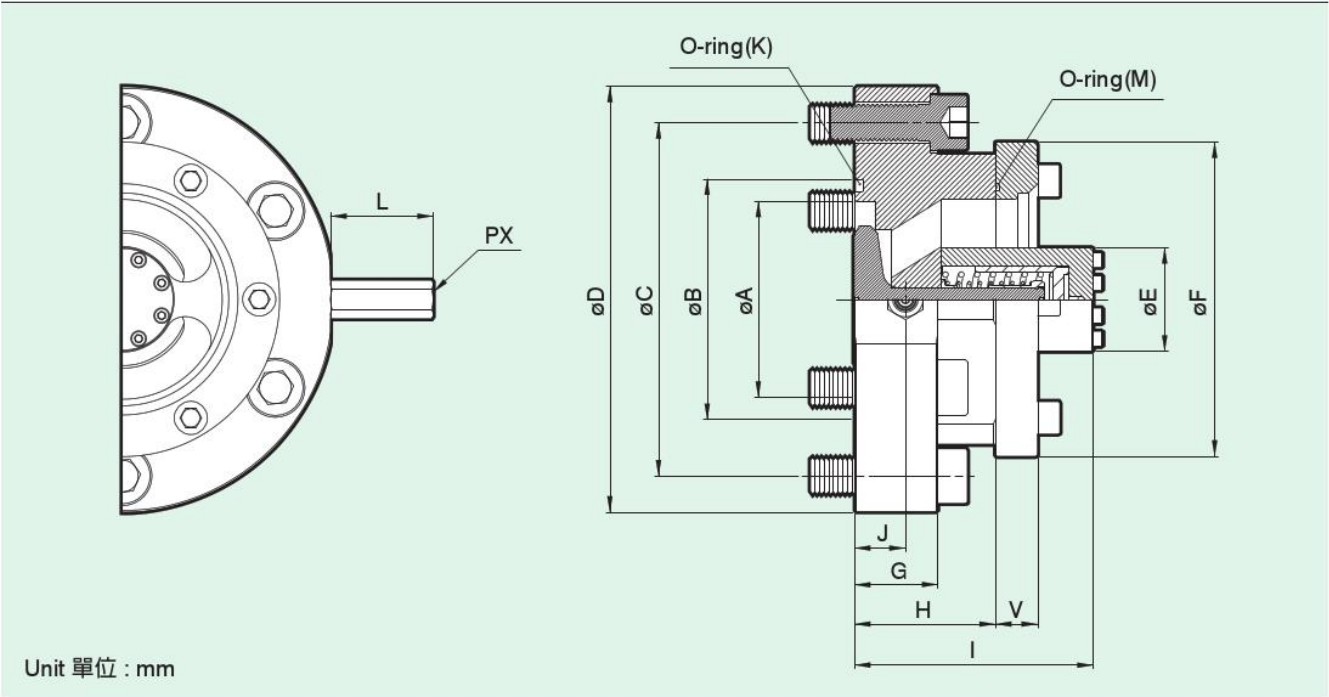
### 2. Analysis Estimated 分析計算

|                                                                                                                                      |                                                                                                          |
|--------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| ※ Area of main cylinder: 961.625 cm <sup>2</sup> .                                                                                   | 主液壓缸面積: 961.625 cm <sup>2</sup> 。                                                                        |
| ※ Tow ascending cylinder area: 43.081 cm <sup>2</sup> .                                                                              | 上升液壓缸側桿面積: 43.081 cm <sup>2</sup> 。(計 2 支)。                                                              |
| ※ Ascension velocity: 580 cm/min. (96.6 mm/sec)                                                                                      | 上升速度: 580 cm/min (96.6 mm/sec)。                                                                          |
| ※ Flow thru pre-fill valve to tank: 558 L/min.                                                                                       | 上升預充閥排油量: 558 L/min。                                                                                     |
| ※ Selectable model : SVF-63<br>The induced pressure in ascending cylinder is 34.8 kg/cm <sup>2</sup> .                               | 由型錄上的適用型號: SVF-63。依滑板中座重量與上升油液壓缸面積關係，得知感應壓力。                                                             |
| ※ For a free descending operation, the flow capacity SVF-63 for 630 L/min, will allow a descending speed at 650 cm/min (108 mm/sec). | 約 34.8 kg/cm <sup>2</sup> ，可達成滑板中座，自重落下的具備條件。下降的速度以 SVF-63 630 流量 L/min 下降速度最快為 650 cm/min (108 mm/sec)。 |

# Pre-Fill Valves (Flange-clamped type)

## 碟式預充閥

### Installation Dimensions 安裝尺寸



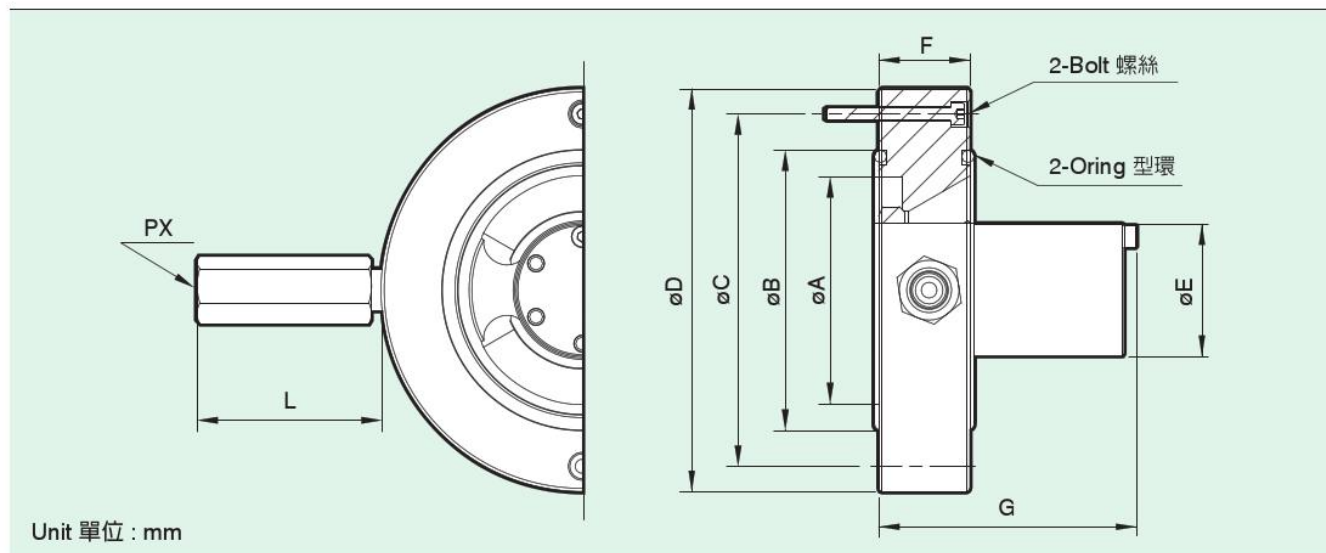
| Model 型式 | øA  | øB  | øC  | øD  | øE    | øF  | G    | H   | I     | J    |
|----------|-----|-----|-----|-----|-------|-----|------|-----|-------|------|
| SPF-50   | 48  | 70  | 103 | 133 | 31    | 118 | 22.5 | 48  | 73.5  | 15   |
| SPF-80   | 71  | 95  | 146 | 180 | 44    | 142 | 30   | 66  | 95.5  | 22.5 |
| SPF-90   | 88  | 110 | 165 | 200 | 50    | 160 | 39   | 74  | 120.5 | 27.5 |
| SPF-100  | 106 | 130 | 191 | 230 | 56    | 170 | 41   | 76  | 134   | 27.5 |
| SPF-125  | 130 | 155 | 230 | 265 | 69    | 200 | 51   | 85  | 164   | 43   |
| SPF-150  | 168 | 200 | 260 | 300 | 95.5  | 225 | 64   | 105 | 201   | 44.5 |
| SPF-200  | 220 | 250 | 367 | 422 | 115   | 310 | 73   | 105 | 240   | 56   |
| SPF-300  | 280 | 310 | 442 | 500 | 134.5 | 394 | 88   | 120 | 263   | 70   |

| Model 型式 | K     | L  | M     | PX      | V  |
|----------|-------|----|-------|---------|----|
| SPF-50   | P-60  | 62 | G-60  | PT 1/4" | 20 |
| SPF-80   | P-85  | 62 | G-85  | PT 1/4" | 23 |
| SPF-90   | P-95  | 62 | G-105 | PT 1/4" | 23 |
| SPF-100  | P-120 | 62 | G-120 | PT 1/4" | 23 |
| SPF-125  | P-145 | 62 | G-145 | PT 1/4" | 32 |
| SPF-150  | P-185 | 70 | G-170 | PT 3/8" | 32 |
| SPF-200  | P-235 | 85 | P-235 | PT 1/2" | 43 |
| SPF-300  | P-295 | 85 | P-295 | PT 1/2" | 48 |

# Pre-Fill Valves (Flange-clamped type) 碟式預充閥

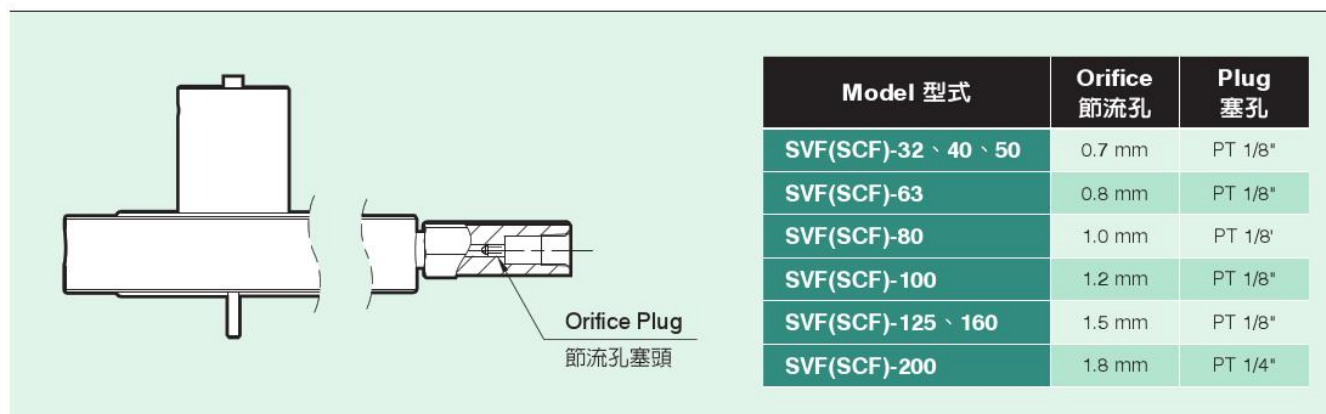


## Installation Dimensions 安裝尺寸



| Model 型式 | øA   | øB  | øC  | øD  | øE  | F    | G     | L  | PX      | Fixing screws<br>固定螺絲 | O-Ring |
|----------|------|-----|-----|-----|-----|------|-------|----|---------|-----------------------|--------|
| SVF-32   | 48   | 70  | —   | 82  | 33  | 28   | 70    | 62 | PT 1/4" | —                     | P-60   |
| SVF-40   | 56.5 | 77  | 91  | 107 | 39  | 28   | 66.5  |    |         | M4 x 30               | P-67   |
| SVF-50   | 72   | 95  | 112 | 128 | 42  | 29   | 83    |    |         | M4 x 30               | P-85   |
| SVF-63   | 87   | 106 | 125 | 143 | 50  | 33.5 | 92    |    |         | M5 x 35               | P95    |
| SVF-80   | 108  | 130 | 150 | 169 | 57  | 38.5 | 108   |    |         | M5 x 40               | P120   |
| SVF-100  | 130  | 155 | 185 | 210 | 70  | 44   | 134   |    |         | M6 x 45               | P145   |
| SVF-125  | 170  | 200 | 226 | 248 | 89  | 51   | 173   |    |         | M6 x 60               | P185   |
| SVF-160  | 218  | 250 | 284 | 310 | 120 | 70   | 204.5 | 70 | PT 3/8" | M8 x 70               | P235   |
| SVF-200  | 272  | 310 | 355 | 390 | 145 | 95   | 300   | 85 | PT 1/2" | M10 x 95              | P295   |

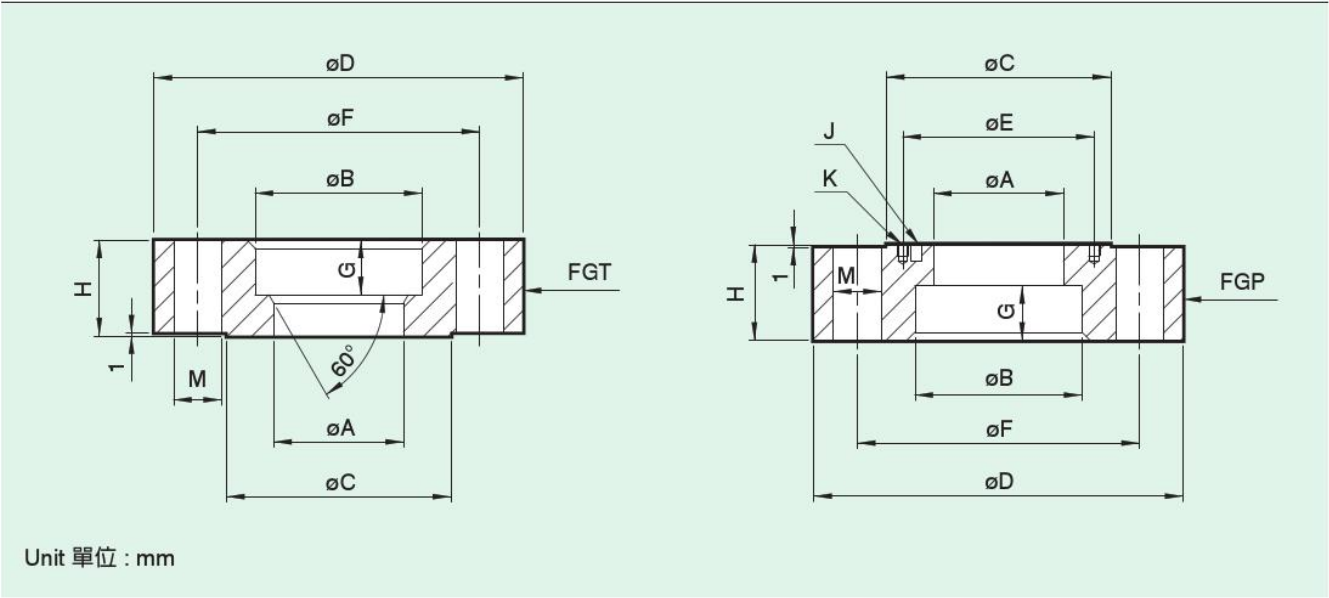
## Pre-fill valves pilot port adaptor 預充閥導壓口接頭



# Pre-Fill Valves (Flange-clamped type)

## 碟式預充閥

Flanges Dimensions (mm) 碟式預充閥安裝法蘭參考尺寸

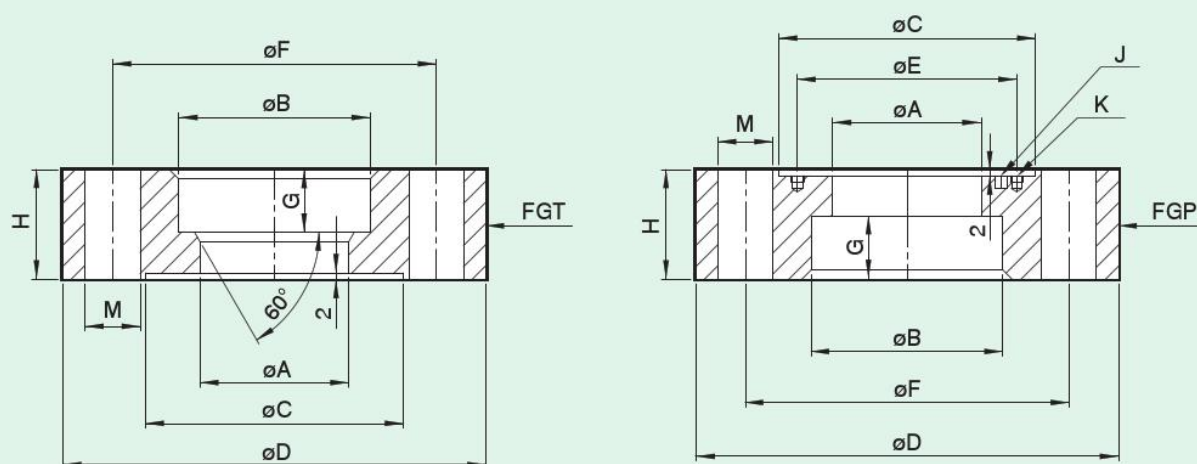


| Model 型式          | $\phi D$ | $\phi F$ | $\phi B$ | $\phi A$ | $\phi E$ | $\phi C$ | H  | G  | J  | K    | M              |
|-------------------|----------|----------|----------|----------|----------|----------|----|----|----|------|----------------|
| FGP-32-2-M16/2B   | 135      | 103.2    | 61.1     | 47.5     | —        | 82       | 35 | 20 | —  | —    | 4- $\phi 17.5$ |
| FGT-32-2-M16/2B   |          |          |          |          |          |          |    |    |    |      |                |
| FGP-40-2-M20/2.5B | 165      | 130.1    | 77.1     | 57       | 91       | 107      | 44 | 22 | 10 | 2-M4 | 4- $\phi 22$   |
| FGT-40-2-M20/2.5B |          |          |          |          |          |          |    |    |    |      |                |
| FGP-50-2-M16/3B   | 180      | 146      | 90       | 73       | 112      | 125      | 40 | 20 | 10 | 2-M4 | 6- $\phi 18$   |
| FGT-50-2-M16/3B   |          |          |          |          |          |          |    |    |    |      |                |
| FGP-50-4-M24/3B   | 198      | 154      | 90       | 73       | 112      | 125      | 50 | 25 | 10 | 2-M4 | 6- $\phi 26$   |
| FGT-50-4-M24/3B   |          |          |          |          |          |          | 45 |    |    |      |                |
| FGP-63-2-M16/3.5B | 198      | 161      | 102.2    | 88       | 125      | 140      | 42 | 20 | 10 | 2-M5 | 8- $\phi 18$   |
| FGT-63-2-M16/3.5B |          |          |          |          |          |          | 35 |    |    |      |                |
| FGP-63-4-M24/3.5B | 214      | 169      | 102.2    | 88       | 125      | 140      | 65 | 27 | 10 | 2-M5 | 8- $\phi 26$   |
| FGT-63-4-M24/3.5B |          |          |          |          |          |          | 50 |    |    |      |                |
| FGP-80-2-M16/4B   | 220      | 187      | 115.2    | 108.5    | 150      | 166      | 45 | 20 | 10 | 2-M5 | 8- $\phi 18$   |
| FGT-80-2-M16/4B   |          |          |          |          |          |          | 35 |    |    |      |                |
| FGP-80-2-M24/4B   | 240      | 195      | 115.2    | 108.5    | 150      | 166      | 65 | 27 | 10 | 2-M5 | 8- $\phi 26$   |
| FGT-80-2-M24/4B   |          |          |          |          |          |          | 55 |    |    |      |                |
| FGP-100-2-M22/5B  | 280      | 236      | 141      | 132      | 185      | 210      | 65 | 25 | 10 | 2-M6 | 8- $\phi 23$   |
| FGT-100-2-M22/5B  |          |          |          |          |          |          | 55 |    |    |      |                |
| FGP-100-4-M30/5B  | 300      | 244      | 141      | 132      | 185      | 210      | 80 | 30 | 10 | 2-M6 | 8- $\phi 33$   |
| FGT-100-4-M30/5B  |          |          |          |          |          |          | 70 |    |    |      |                |

# Pre-Fill Valves (Flange-clamped type) 碟式預充閥



Flanges Dimensions (mm) 碟式預充閥安裝法蘭參考尺寸



Unit 單位 : mm

| Model 型式          | øD  | øF  | øB  | øA  | øE  | øC  | H   | G  | J  | K     | M      |
|-------------------|-----|-----|-----|-----|-----|-----|-----|----|----|-------|--------|
| FGP-125-M24/8B    | 350 | 300 | 219 | 168 | 226 | 249 | 70  | 35 | 15 | 2-M6  | 12-ø26 |
| FGT-125-M24/8B    |     |     |     |     |     |     | 60  | 25 |    |       |        |
| FGP-125-4-M30/8B  | 354 | 300 | 219 | 168 | 226 | 249 | 90  | 50 | 15 | 2-M6  | 12-ø32 |
| FGT-125-4-M30/8B  |     |     |     |     |     |     | 80  | 30 |    |       |        |
| FGP-160-4-M30/10B | 422 | 367 | 270 | 218 | 284 | 311 | 90  | 40 | 15 | 2-M8  | 16-ø32 |
| FGT-160-4-M30/10B |     |     |     |     |     |     | 80  | 30 |    |       |        |
| FGP-200-2-M30/12B | 510 | 442 | 321 | 270 | 355 | 391 | 100 | 40 | 20 | 2-M10 | 20-ø32 |
| FGT-200-2-M30/12B |     |     |     |     |     |     | 90  | 35 |    |       |        |
| FGP-250-2-M30/18B | 632 | 555 | 460 | 348 | 445 | 495 | 110 | 55 | 20 | 2-M10 | 24-ø32 |
| FGT-250-2-M30/18B |     |     |     |     |     |     | 100 | 40 |    |       |        |