

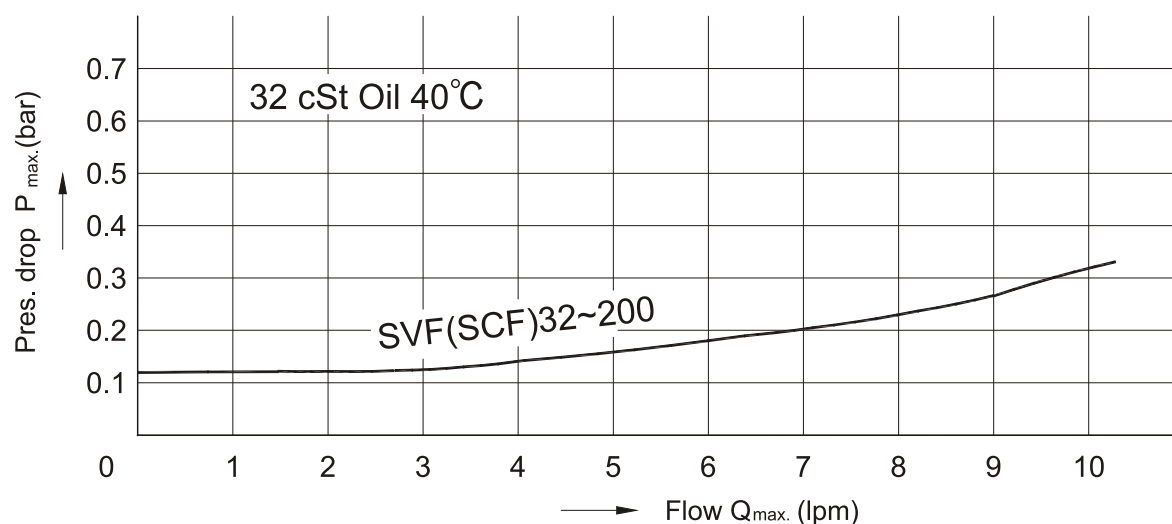


## PRE-FILL VALVES (Flange-clamped type)

## Specifications:

| Model                                                 | Flow Q <sub>max.</sub> | Pres. P <sub>max.</sub> | Pilot Ratio          | Flange bolts |           | Pipe Size | Weight        |
|-------------------------------------------------------|------------------------|-------------------------|----------------------|--------------|-----------|-----------|---------------|
|                                                       | lpm<br>(USgpm)         | bar<br>(PSI)            | P control<br>/P cyl. | Number       | Nor. Dia. |           | kg(lb)        |
| SVF- 32-21C                                           | 160(42.27)             | 400<br>(5,800)          | 3.6                  | 4            | M16       | 2B        | 1.3(2.86)     |
| SVF- 50-21C                                           | 400(105.98)            |                         | 3.8                  | 6            | M16/M24*  | 3B        | 2.9(6.39)     |
| SVF- 63-21C                                           | 630(166.44)            |                         | 4.2                  | 8            | M16/M24*  | 3.5B/4B   | 4.5(9.91)     |
| SVF- 80-21C                                           | 1,000(264.19)          |                         | 4.3                  | 8            | M16/M24*  | 4B        | 6.2(13.66)    |
| SVF-100-21C                                           | 1,600(422.70)          |                         | 4.3                  | 8            | M22/M30*  | 5B        | 12.3(27.09)   |
| SVF-125-21C                                           | 2,500(660.48)          |                         | 4.3                  | 12           | M24/M30*  | 8B        | 23.0(50.66)   |
| SVF-160-21C                                           | 4,000<br>(1,056.76)    | 250<br>(3,600)          | 4.2                  | 16           | M30       | 10B       | 50.0(110.13)  |
| SVF-200-21C                                           | 7,000<br>(1,849.33)    |                         | 4.1                  | 20           | M30       | 12B       | 130.0(286.34) |
| Note: * For working pressure up to 400 bar (5,800PSI) |                        |                         |                      |              |           |           |               |
| SCF- 32-22C                                           | 160(42.27)             | 250<br>(3,600)          | 3.6                  | 4            | M16       | 2B        | 1.3(2.86)     |
| SCF- 50-22C                                           | 400(105.98)            |                         | 3.8                  | 6            | M16       | 3B        | 2.9(6.39)     |
| SCF- 63-22C                                           | 630(166.44)            |                         | 4.2                  | 8            | M16       | 3.5B/4B   | 4.5(9.91)     |
| SCF- 80-22C                                           | 1,000(264.19)          |                         | 4.3                  | 8            | M16       | 4B        | 6.2(13.66)    |
| SCF-100-22C                                           | 1,600(422.70)          |                         | 4.3                  | 8            | M22       | 5B        | 12.3(27.09)   |
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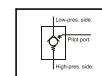
## Flow Curve:



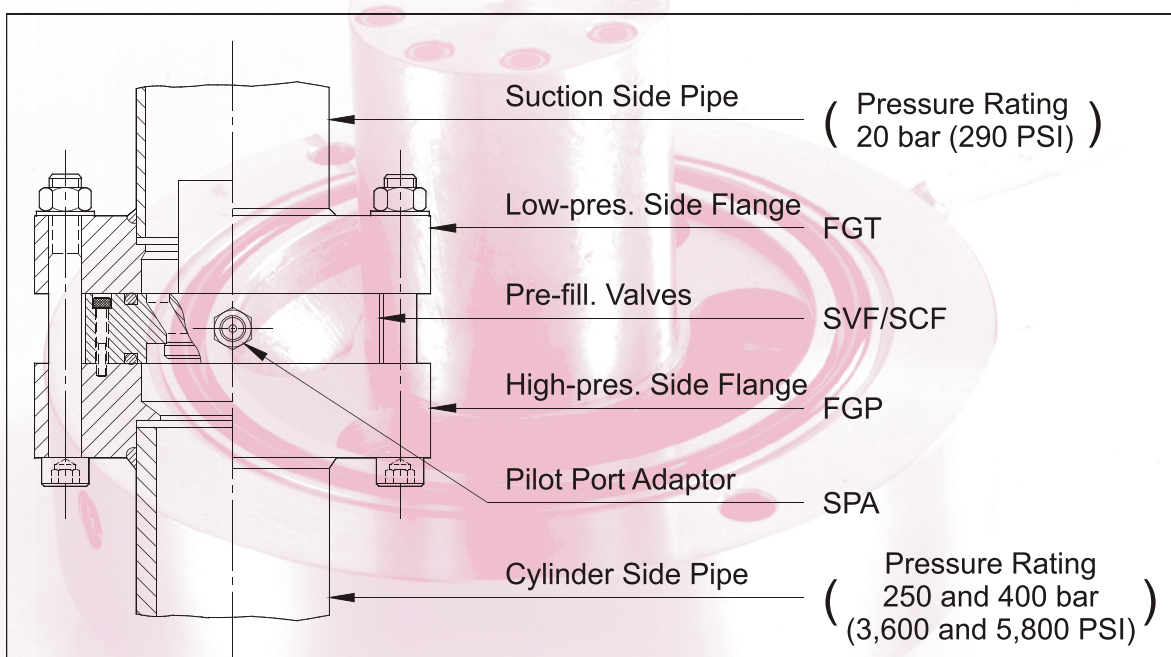
## PRE-FILL VALVES (Flange-clamped type)

### Features:

- Small size , and easy to install.
- Low pressure loss with high flow capacity.
- Compact and robust.
- Steel body with steel components.  
available with 8 models for selection options.
- Ductile iron body with steel Components.  
available with 6 models for selection options.
- Good for directly intergrated onto the cylinder cap side.



SYMBOL



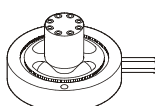
### Pre-fill valve

#### Ordering Code

SVF - 100 - 21C

①      ②      ③

- ① Series  
SVF-Steel body  
SCF-Ductile iron body
- ② Size  
SVF- 32~200  
SCF- 32~125
- ③ Design Number  
SVF- 21C  
SCF- 22C



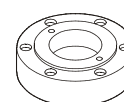
### Pipe Flange

#### Ordering Code

FGP - 100 - 2 - M22 / 5B

①      ②      ③      ④      ⑤

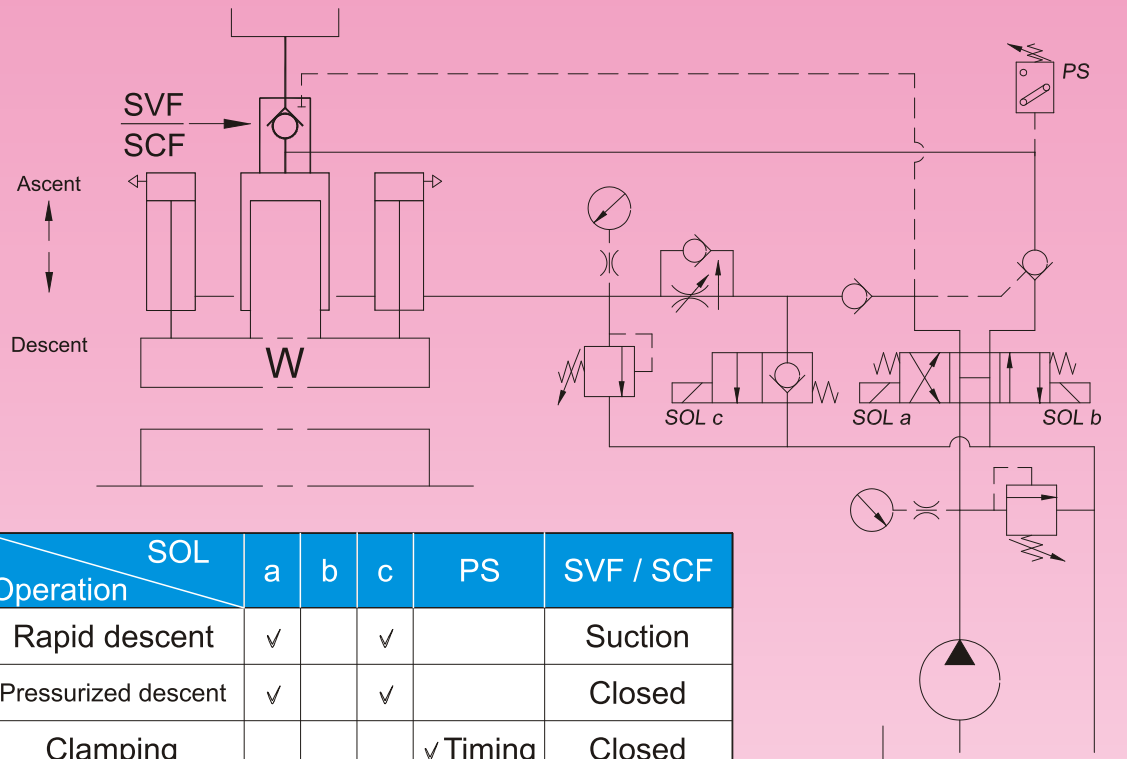
- ① Series  
FGP-High-pres. side flange  
FGT-Low-pres. side flange
- ② Size
- ③ Pressure range  
2: 250 bar (3,600 PSI)  
4: 400 bar (5,800 PSI)
- ④ Normal bolt diameter
- ⑤ Normal pipe diameter





## PRE-FILL VALVES (Flange-clamped type)

For reference:



| SOL / Operation     | a | b | c | PS       | SVF / SCF    |
|---------------------|---|---|---|----------|--------------|
| Rapid descent       | ✓ |   | ✓ |          | Suction      |
| Pressurized descent | ✓ |   | ✓ |          | Closed       |
| Clamping            |   |   |   | ✓ Timing | Closed       |
| Ascent              |   | ✓ |   |          | Piloted open |

## Example for model selection:

Given

- 1.Main cylinder dia.:350mm.
- 2.Ascending cylinder:2-Bø63XR ø35(mm).
- 3.Weight of platen:1500kg.
- 4.Pump capacity:25 lpm(6 USgpm).

## Analysis

Area of main cylinder:961.625cm<sup>2</sup>.

Two ascending cylinder area:43.081cm<sup>2</sup>.

Ascent speed:580cm/min(96.6mm/sec).

Flow thru pre-fill valve to tank :558 lpm(135 USgpm).

Selectable model:SVF-63-21C

or SCF-63-22C

The induced pressure in ascending cylinder is 36 bar(520 PSI).

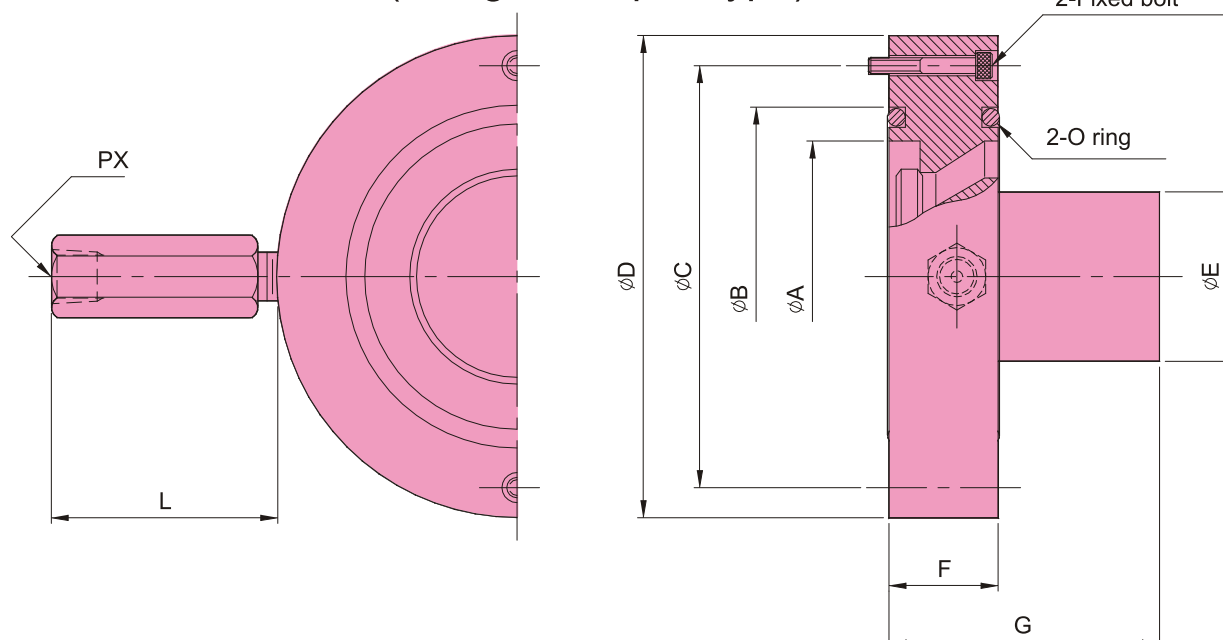
For a free descending operation,the flow capacity.

630 lpm(152 USgpm) for SVF(SCF)-63,will allow a descending speed at 650cm/min(108mm/sec).

## DIMENSIONS

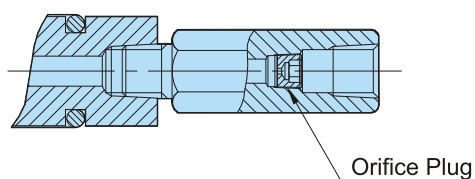
MILLIMETERS(INCHES)

### PRE-FILL VALVES (Flange-clamped type)



| Model           | $\phi A$       | $\phi B$        | $\phi C$       | $\phi D$       | $\phi E$      | $\phi F$       | $\phi G$       | L            | PX     | Fixed Bolt | O-ring |
|-----------------|----------------|-----------------|----------------|----------------|---------------|----------------|----------------|--------------|--------|------------|--------|
| SVF-32,SCF-32   | 48<br>(1.89)   | 63<br>(2.48)    | —              | 82<br>(3.23)   | 32<br>(1.26)  | 28<br>(1.10)   | 55<br>(2.17)   | 62<br>(2.44) | PT1/4" | —          | 1517-6 |
| SVF-50,SCF-50   | 72<br>(2.83)   | 90<br>(3.54)    | 112<br>(4.41)  | 128<br>(5.04)  | 45<br>(1.77)  | 29<br>(1.14)   | 72<br>(2.83)   |              |        | M 4X30     | G 85   |
| SVF-63,SCF-63   | 87<br>(3.43)   | 105<br>(4.13)   | 125<br>(4.92)  | 143<br>(5.63)  | 50<br>(1.97)  | 33.5<br>(1.32) | 84<br>(3.31)   |              |        | M 5X35     | G 95   |
| SVF-80,SCF-80   | 108<br>(4.25)  | 130.5<br>(5.14) | 150<br>(5.91)  | 169<br>(6.65)  | 57<br>(2.24)  | 38.5<br>(1.52) | 100<br>(3.94)  |              |        | M 5X40     | G120   |
| SVF-100,SCF-100 | 130<br>(5.12)  | 155<br>(6.10)   | 185<br>(7.28)  | 212<br>(8.35)  | 70<br>(2.76)  | 44<br>(1.73)   | 122<br>(4.80)  |              |        | M 6X45     | G145   |
| SVF-125,SCF-125 | 170<br>(6.69)  | 200<br>(7.87)   | 226<br>(8.90)  | 248<br>(9.76)  | 89<br>(3.50)  | 51<br>(2.01)   | 155<br>(6.10)  |              |        | M 6X60     | G185   |
| SVF-160,SCF-160 | 218<br>(8.58)  | 250<br>(9.84)   | 284<br>(11.18) | 310<br>(12.20) | 120<br>(4.72) | 70<br>(2.76)   | 233<br>(9.17)  | 70<br>(2.76) | PT3/8" | M 8X70     | G235   |
| SVF-200,SCF-200 | 272<br>(10.71) | 310<br>(12.20)  | 355<br>(13.98) | 390<br>(15.35) | 145<br>(5.71) | 95<br>(3.74)   | 268<br>(10.55) | 85<br>(3.35) | PT1/2" | M10X95     | G295   |

### Pre-fill Valves Pilot Port adaptor



| Model            | Orifice         | Plug   |
|------------------|-----------------|--------|
| SVF(SCF)-32,50   | $\phi 0.7(.03)$ | PT1/8" |
| SVF(SCF)-63      | $\phi 0.8(.03)$ |        |
| SVF(SCF)-80      | $\phi 1.0(.04)$ |        |
| SVF(SCF)-100     | $\phi 1.2(.05)$ |        |
| SVF(SCF)-125,160 | $\phi 1.5(.06)$ |        |
| SVF(SCF)-200     | $\phi 1.8(.07)$ | PT1/8" |