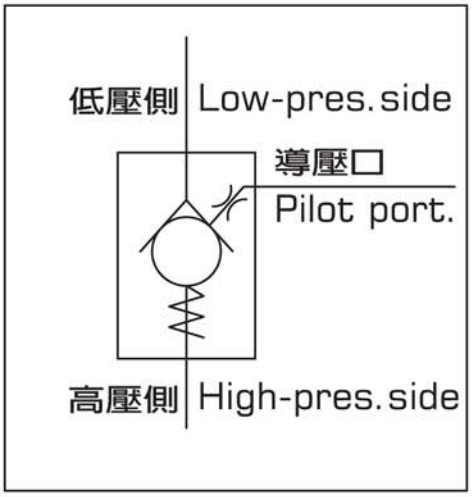
TWOWAY® HYDRAULICS

碟式預充閥

Pre-fill valves

flange-clamped type.

碟式預充閥/Pre-fill valves (flange-clamped type)



配管法蘭/Pipe Flanges

特性

- 體積小，易於拆裝
- 低壓損，流量大
- 構造簡單，耐久性佳
- 鋼質本體，鋼質組件計10種形式供 選用
- 展性鑄鐵本體，鋼質組件計6種形式供選配
- 可直接裝置於油缸蓋側

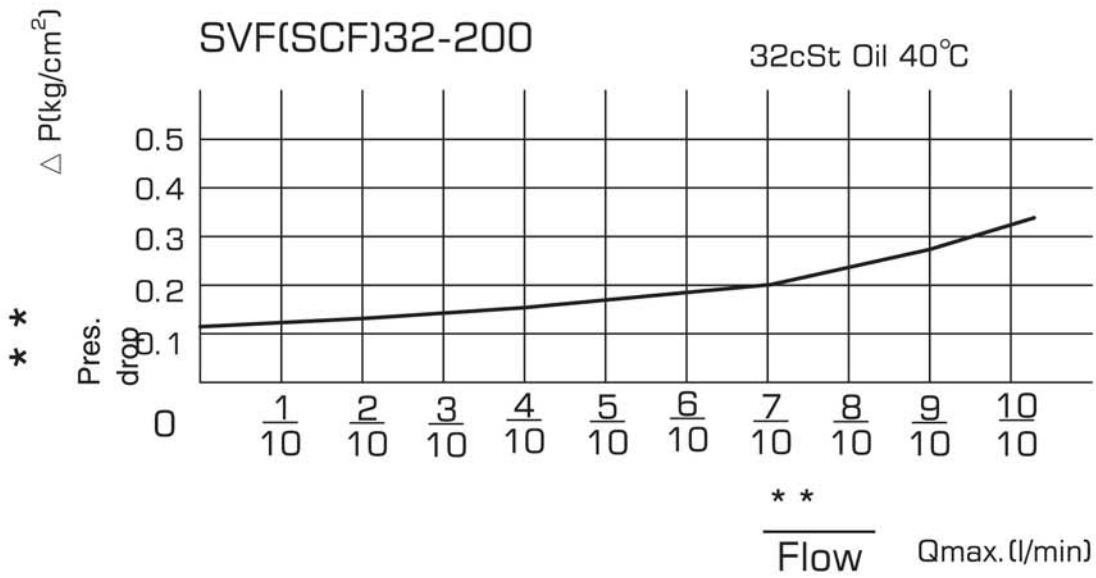
Special Features

- Small size and easy to install.
- Low pressure loss with high flow capacity.
- Compact and robust.
- Steel body with steel components available with 10 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.

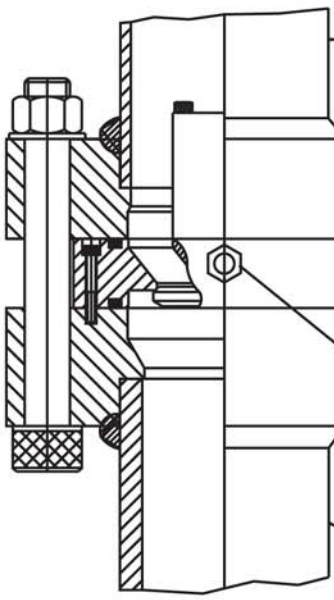
特性數據/Specifications

型式 Model	最大流量 Flow Qmx (L/min)	使用壓力 Oper. pressure Pmax. (bar)	導壓比 Pilot ratio	固定法蘭螺絲 Flange bolts 支數 number	固定法蘭螺絲 Flange bolts 尺寸 Nor. diameter	配管直徑 Pipe size	閥重 Weight (kg)
SVF-32	160	400	3.6	4	M16	2B	1.3
SVF-40	250		3.3	4	M20	2.5B	2.2
SVF-50	400		3.8	6	M16.M24*	3B	2.9
SVF-63	630		4.2	8	M16.M24*	3.5B	4.5
SVF-80	1000		4.3	8	M16.M24*	4B	6.2
SVF-100	1600		4.3	8	M22.M30*	5B	12.3
SVF-125	2500		4.3	12	M24.M30*	8B	23
SVF-160	4000		4.2	16	M30	10B	50
SVF-200	7000		4.1	20	M30	12B	85
SVF-250	15000		4.4	22	M42	18B	156
SCF-32	160	250	3.6	4	M16	2B	1.3
SCF-50	400		3.8	6	M16	3B	2.9
SCF-63	630		4.2	8	M16	3.5B	4.5
SCF-80	1000		4.3	8	M16	4B	6.2
SCF-100	1600		4.3	8	M22	5B	12.3
SCF-125	2500		4.3	12	M24	8B	23

壓降曲線/Flow Curve



碟式預充閥/Pre-fill valves(flange-clamped type)



油箱側低壓配管 Suction Side Pipe — **Pressure Rating 20kg/cm²**

低壓側法蘭 Low-pres. Side Flange — **FGT**

碟式預充閥 Pre-fill. Valves — **SVF/SCF**

高壓側法蘭 High-pres. Side Flange — **FGP**

導壓口接頭 Pilot Port Adaptor — **SPA**

油缸側高壓配管 Cylinder Side Pipe — **Pressure Rating 250 and 400kg/cm²**

碟式預充閥/Pre-Fill valves

選購型號 Ordering Code

SVF-100-21C

① ② ③

① **型式 / Model**

SVF-鋼質本體 SCM4
Steel body
SCF-球墨
FCD50

② **規格 / Size**

SVF-32 to 250
SCF-32 to 125

③ **設計資料 / Design Letter**

配管法蘭/Pipe Flanges

選購型號 Ordering Code

FGP-100-2-M22/5B

① ② ③ ④ ⑤

① **型式 / Model**

FGP-高壓側法蘭
High-pres. Side Flange
FGT-低壓側法蘭
Low-pres. Side Flange

② **規格 / Size**

③ **壓力等級 / Pressure Range**

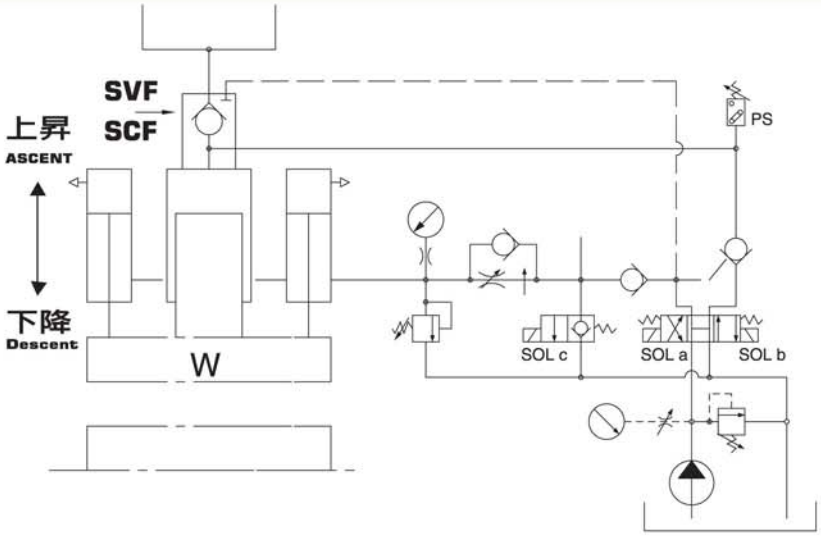
2:250kg/cm²
4:400kg/cm²

④ **螺絲公稱直徑 / Normal Bolt Diameter**

⑤ **配管直徑稱呼 / Normal Pipe Diameter**

碟式預充閥 油路運用例（僅供參考）
Pre-fill valves(flange-clamped type).Typical application circuit(for refernce)

SOL 動作 Operation	a	b	c	PS	SVF SCF
下降快速 Rapid Descent	✓		✓		自吸 Suction
下降加壓 Pressurized Descent	✓		✓		關閉 Closed
出力保壓 Clamping				✓ 計時 Timing	關閉 Closed
上昇動作 Ascent		✓			導開回油 Piloted open



欲充閥選定型號 Example for model selection

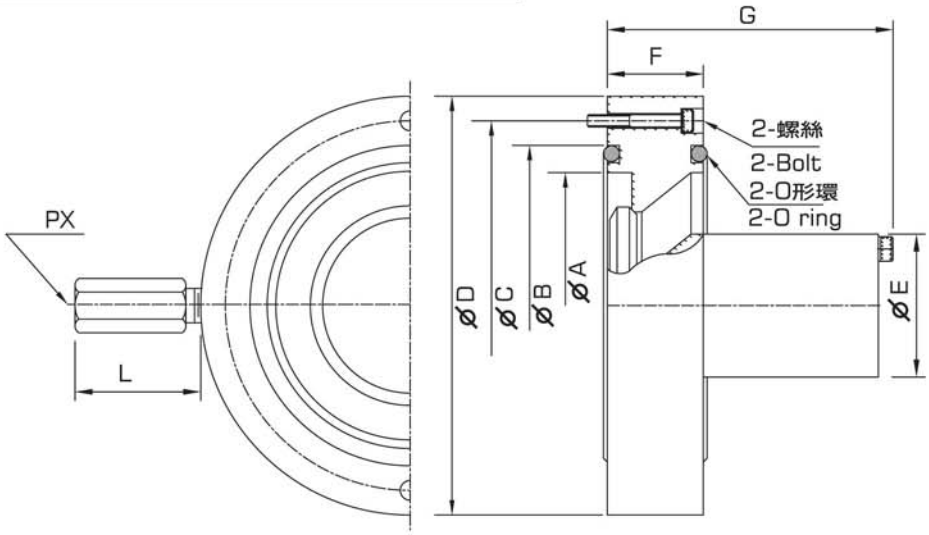
已知條件
- 主壓油缸，直徑⌀350mm。
- 上昇油缸，內徑⌀63X桿徑⌀35，計2支。
- 滑板中座重量W:1500kg。
- 邦浦流量:25 l/min。

理論計算
- 主壓油缸面積:961.625cm^2。
- 上昇油缸桿側面積:43.081cm^2(計2支)。
- 上昇速度:580cm/min(96.6mm/sec)。
- 上昇預充閥排油量558 l/min。
- 由型錄選擇適用型號SVF(SCF)-63。
- 依滑板中座重量與上昇油缸面積關係，得知感應
- 壓力約34.8kg/cm^2，可達成滑板中座，自重落下方式的具備條件。
- 下降速度以SVF(SCF)-63流量630 l/min言下降速度最快為650cm/min(108mm/sec)。

Given
- Main cylinder dia:⌀350mm.
- Ascending cylinder:2-B⌀63XR⌀35.
- Weight of platen:1500kg.
- Pump capacity:25 l/min.

Analysis
- Area of main cylinder:961.625cm^2
- Tow ascending cylinder area:43.081cm^2
- Ascent speed:580cm/min(96.6mm/sec).
- Flow thru pre-fill valve to tank:558 l/min
- Selectable model:SVF(SCF)-63.
- The induced pressure in ascending cylinder is 36.8kg/cm^2.For a free descending operation, the flow capacity.
- 630 l/min for SVF(SCF)-63,will allow a descending speed at 650cm/min(108mm/sec).

碟式預充閥/Pre-fill valves(flange-clamped type)

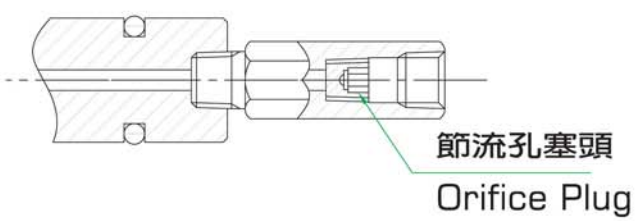


尺寸表/Dimensions(mm)

SVF:合金鋼 SCM4
SCF:球墨鑄鐵 FCD50

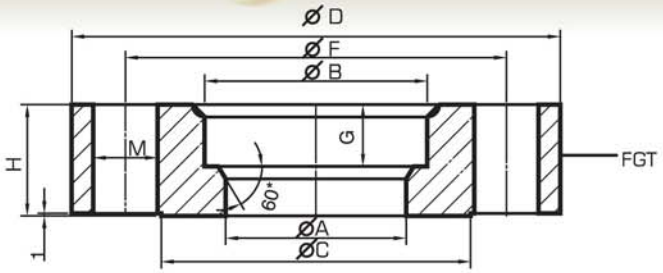
型式 Model	ø A	ø B	ø C	ø D	ø E	F	G	L	PX	固定螺絲 fixed Bolt	O-Ring
SVF-32 SCF-32	48	63	-	82	33	28	70	62	PT1/4"	-	1517-6
SVF-40	56.5	73	91	107	39	28	71.5			M4X30	1517-9
SVF-50 SCF-50	72	90	112	128	42	29	91			M4X30	1517-14
SVF-63 SCF-63	87	105	125	143	50	33.5	106			M5X35	P95
SVF-80 SCF-80	108	130.5	150	169	57	38.5	115			M5X40	P120
SVF-100 SCF-100	130	155	185	210	70	44	150			M6X45	P145
SVF-125 SCF-125	170	200	226	248	89	51	195			M6X60	P185
SVF-160	218	250	284	310	120	70	230	70	PT3/8"	M8X70	P235
SVF-200	272	310	355	390	145	95	300	85	PT1/2"	M10X95	P295
SVF-250	350	398	445	490	176	110	390	85	PT1/2"	M12X115	P375

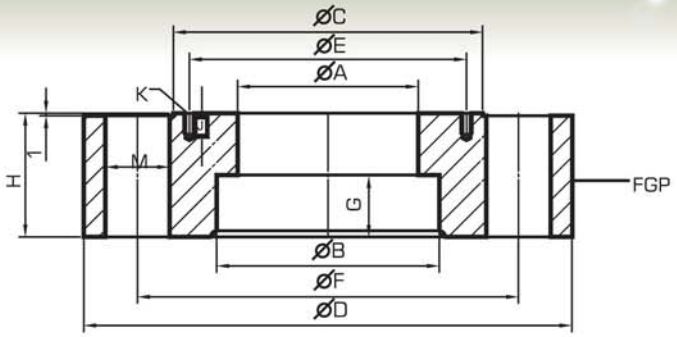
預充閥導壓口接頭/Pre-fill valves pilot port adaptor



型式 Model	節流孔 Orifice	塞孔 Plug
SVF(SCF)-32,40,50	0.7mm	PT1/8"
SVF(SCF)-63	0.8mm	
SVF(SCF)-80	1.0mm	
SVF(SCF)-100	1.2mm	
SVF(SCF)-125,160	1.5mm	
SVF-200	1.8mm	PT1/4"

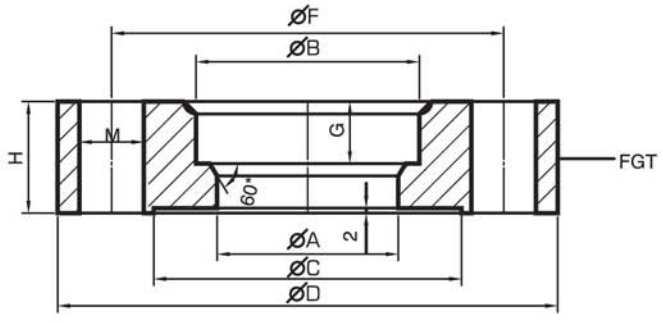
碟式預充閥安裝法蘭參考尺寸 Flanges Dimensions(mm)

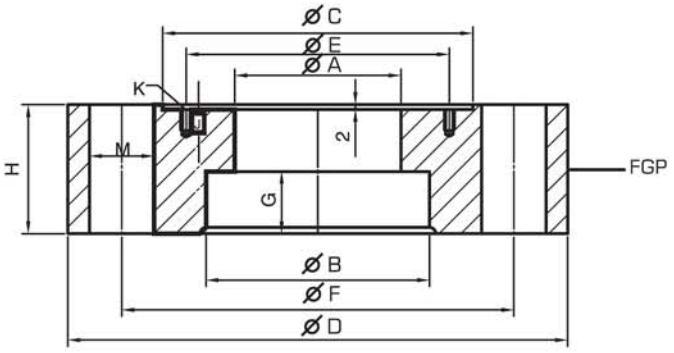




型式 Model	ØD	ØF	ØB	ØA	ØE	ØC	H	G	J	K	M
FGP-32-2-M16/2B FGT-32-2-M16/2B	135	103.2	61.1	47.5	-	82	35	20	-	-	4-Ø17.5
FGP-40-2-M20/2.5B FGT-40-2-M20/2.5B	165	130.1	77.1	57	91	107	44	22	10	2-M4	4-Ø22
FGP-50-2-M16/3B FGT-50-2-M16/3B	180	146	90	73	112	125	40	20	10	2-M4	6-Ø18
FGP-50-4-M24/3B FGT-50-4-M24/3B	198	154	90	73	112	125	50/45	25	10	2-M4	6-Ø26
FGP-63-2-M16/3.5B FGT-63-2-M16/3.5B	198	161	102.2	88	125	140	42/35	20/12	10	2-M5	8-Ø18
FGP-63-4-M24/3.5B FGT-63-4-M24/3.5B	214	169	102.2	88	125	140	65/50	27	10	2-M5	8-Ø26
FGP-80-2-M16/4B FGT-80-2-M16/4B	220	187	115.2	108.5	150	166	45/35	20/15	10	2-M5	8-Ø18
FGP-80-2-M24/4B FGT-80-2-M24/4B	240	195	115.2	108.5	150	166	65/55	27	10	2-M5	8-Ø26
FGP-100-2-M22/5B FGT-100-2-M22/5B	280	236	141	132	185	210	65/55	25/20	10	2-M6	8-Ø23
FGP-100-4-M30/5B FGT-100-4-M30/5B	300	244	141	132	185	210	80/70	30	10	2-M6	8-Ø33

32~100
法蘭參考尺寸





型式 Model	ØD	ØF	ØB	ØA	ØE	ØC	H	G	J	K	M
FGP-125-2-M24/8B FGT-125-2-M24/8B	350	300	219	168	226	249	70/60	35/25	15	2-M6	12-Ø26
FGP-125-4-M30/8B FGT-125-4-M30/8B	354	300	219	168	226	249	90/80	50/30	15	2-M6	12-Ø32
FGP-160-4-M30/10B FGT-160-4-M30/10B	422	367	270	218	284	311	90/80	40/30	15	2-M6	16-Ø32
FGP-200-2-M30/12B FGT-200-2-M30/12B	510	442	321	270	355	391	100/90	40/35	20	2-M10	20-Ø32
FGP-250-2-M30/18B FGP-250-2-M30/18B	632	555	460	348	445	495	110/100	55/40	20	2-M12	24-Ø32

125~250
法蘭參考尺寸

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