

# Models 106-F-Type 4 Modulating Float Valve

## KEY FEATURES

- Maintains relatively constant level
- Automatic compensation for level draw-down
- Standard integral damping reduces hunting
- Drip-tight at high level shut-off
- Low supply pressure options

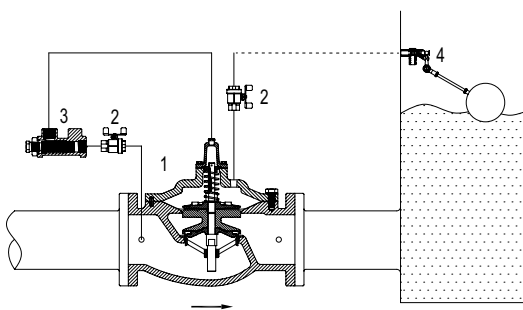


## PRODUCT OVERVIEW

The Singer model 106-F-Type 4 modulating float valves are based on the 106-PG main valve. They are ideal for balancing the inflow and outflow demand into the storage tank and maintaining level at the designated maximum.

The valve closes drip-tight at the maximum level and modulates to maintain the tank level. The float pilot is remotely installed at the high level in the storage tank. Pilot connections to the main valve are connected in the field. As the tank level drops the main valve is opened proportionally to increase the filling rate. Movement of the main stem alters the size of the closing restriction, interrupting the tendency of the valve to hunt.

## SCHEMATIC DRAWING



Schematic A-0608D

1. Main Valve - 106-PG, SPG or GE, Internal Needle Stem Valve (INSV) built into stem  
Available in 1/2 in / 15 mm to 8 in / 200 mm, FNTP 1/2 in / 15 mm to 1 in / 15 mm, Flanged 1 1/2 in / 40 mm to 8 in / 200 mm, Grooved 2 in / 50 mm to 8 in / 200 mm, Globe style only
2. Isolation Valve
3. Strainer - 40 mesh stainless steel screen
4. R400 Float Pilot comes with plastic float

Note: Schematic shown for 2.5 in / 65 mm and larger

## STANDARD MATERIALS

Standard materials for pilot system components are:

- ASTM B-62 bronze or ASTM B-16 brass
- Stainless Steel

Note: The stilling well and the connections between main valve and pilot completed by others.

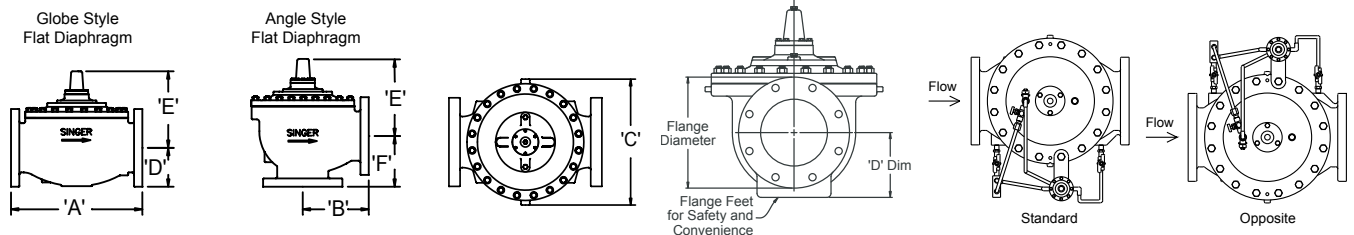
# Model 106-PG

## Full Port, Single Chamber, Hydraulically Operated Valve

### ANSI Valve Data (US Units)

Size	DWG	Standard	Flat Diaphragm System										
Inches	REF	ANSI	1/2 in	3/4 in	1 in	1-1/4 in	1-1/2 in	2 in	2-1/2 in	3 in	4 in	6 in	8 in
<b>Globe Dimensions</b>			<b>All figures shown in inches unless otherwise stated</b>										
Lay Length	A	FNPT	3.50	3.50	6.75	6.75	6.75	9.38	11.00	13.50	-	-	-
Centerline to Bottom	D	FNPT	1.20	1.20	2.50	2.50	2.50	2.75	3.38	3.68	-	-	-
Lay Length	A	150F	-	-	-	-	8.50	9.38	11.00	12.00	15.00	20.00	25.38
Centerline to Bottom	D	150F	-	-	-	-	2.75	3.00	3.50	3.75	4.60	5.60	7.63
Lay Length	A	300F	-	-	-	-	9.00	10.00	11.63	13.25	15.63	21.00	26.38
Centerline to Bottom	D	300F	-	-	-	-	3.25	3.25	3.75	4.13	5.09	6.34	7.88
<b>Angle Dimensions</b>													
Center Inlet to Discharge	B	FNPT	-	-	3.38	3.38	3.38	4.69	5.50	6.63	-	-	-
Center Discharge to Inlet	F	FNPT	-	-	3.00	3.00	3.00	3.25	4.00	4.63	-	-	-
Center Inlet to Discharge	B	150F	-	-	-	-	-	4.75	5.50	6.06	7.50	10.00	12.75
Center Discharge to Inlet	F	150F	-	-	-	-	-	3.25	4.00	4.06	5.00	6.00	8.00
Center Inlet to Discharge	B	300F	-	-	-	-	-	5.00	5.88	6.43	7.88	10.50	13.25
Center Discharge to Inlet	F	300F	-	-	-	-	-	3.50	4.31	4.43	5.31	6.50	8.50
<b>Common Dimensions (Globe &amp; Angle)</b>													
Width	C		3.00	3.00	4.88	4.88	6.13	6.5	8.19	9.25	10.88	16.75	21.63
Height (To Stem Cap) Globe	E		3.06	3.06	4.38	4.38	4.38	6.75	9.5	10.5	12.25	11.75	14.91
Height (To Stem Cap) Angle	E		-	-	4.38	4.38	4.38	4.75	7.71	10.5	12.25	11.75	14.91
Body Port Tapping		FNPT	1/4	1/4	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	1/2
Stem Cap Plug		MNPT	1/4	1/4	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8
Cover Port Tapping		FNPT	-	-	3/8	3/8	3/8	3/8	3/8	3/8	3/8	1/2	1/2
Valve Stroke			1/4	1/4	1/2	1/2	1/2	9/16	15/16	1-1/8	1-7/16	1-11/16	2-7/8
Displaced Bonnet Volume (Gallons)			0.002	0.002	0.007	0.007	0.007	0.02	0.1	0.1	0.2	0.6	1.7
Approximate Shipping Weight (Lbs)			10	10	20	20	20	40	65	100	175	400	650
<b>Flow Capacities (USGPM) Globe &amp; Angle</b>													
C <sub>v</sub> - Globe					28	30	32	55	80	110	200	460	800
C <sub>v</sub> - Angle					24	24	26	63	90	135	230	535	950
Continuous (Globe)					49	93	125	210	300	460	800	1800	3100
Intermittent (Globe)					61	120	160	260	375	575	1000	2250	3875
Momentary (Globe)					110	170	250	470	670	1030	1800	4000	7000
<b>Maximum Pressure Ratings (Ductile Only)</b>													
PSI <sup>1</sup>		FNPT			400	400	400	400	400	400	-	-	-
PSI		150F			-	-	250	250	250	250	250	250	250
PSI <sup>1</sup>		300F			-	-	400	400	400	400	400	400	400
<b>Maximum Temperature</b>													
Fahrenheit					180°	180°	180°	180°	180°	180°	180°	180°	180°

<sup>1</sup>Valves rated and stamped 400 psi as standard. Valves rated and stamped 600 psi on request.



# Model S106-PG

## Full Port, Single Chamber, Hydraulically Operated Valve

### ANSI Valve Data (US and Metric Units)

Size	DWG	Standard	Rolling Diaphragm System			
			US Units		Metric Units	
Inches/mm	REF	ANSI	6 in	8 in	150 mm	200 mm
<b>Globe Dimensions</b>			inches		mm	
Lay Length	A		-	-	-	-
Centerline to Bottom	D		-	-	-	-
Lay Length	A		20.00	25.38	508	645
Centerline to Bottom	D		5.60	7.63	142	200
Lay Length	A		21.00	26.38	533	670
Centerline to Bottom	D		6.34	7.88	161	200
<b>Angle Dimensions</b>			inches		mm	
Center Inlet to Discharge	B		-	-	-	-
Center Discharge to Inlet	F		-	-	-	-
Center Inlet to Discharge	B		-	-	-	-
Center Discharge to Inlet	F		-	-	-	-
Center Inlet to Discharge	B		-	-	-	-
Center Discharge to Inlet	F		-	-	-	-
<b>Common Dimensions (Globe &amp; Angle)</b>			inches		mm	
Width	C		12.75	16.09	324	409
Height (To Stem Cap) Globe	E		15.43	20.19	392	513
Height (To Stem Cap) Angle	E		-	-	-	-
Body Port Tapping	FNPT	inch	3/8	1/2	3/8	1/2
Stem Cap Plug	MNPT	inch	3/8	3/8	3/8	3/8
Cover Port Tapping	FNPT	inch	1/2	1/2	1/2	1/2
Valve Stroke			1-11/16	2-7/8	43	73
Displaced Bonnet Volume			0.50 gal	1.00 gal	2 L	4 L
Approximate Shipping Weight			350 Lbs	650 Lbs	160 Kg	250 Kg
<b>Flow Capacities Globe &amp; Angle</b>			USGPM		L/s	
C <sub>v</sub> - Globe			460	800	110	190
C <sub>v</sub> - Angle			-	-	-	-
Continuous (Globe)			1800	3100	114	196
Intermittent (Globe)			2250	3875	142	244
Momentary (Globe)			4000	7000	252	442
<b>Maximum Pressure Ratings (Ductile Only)</b>			PSI		Bar	
		FNPT	-	-	-	-
		150F	250	250	17	17
		300F	400	400	27.6	27.6
<b>Maximum Temperature</b>			Fahrenheit		Celsius	
			180°	180°	82°	82°

# Model 106-PG

## Full Port, Single Chamber, Hydraulically Operated Valve

### ANSI Valve Data (Metric Units)

Size	DWG	Std	Flat Diaphragm System										
			15 mm	20 mm	25 mm	32 mm	40 mm	50 mm	65 mm	80 mm	100 mm	150 mm	200 mm
mm	REF	ISO											
<b>Globe Dimensions</b>			<b>All figures show in mm unless otherwise stated</b>										
Lay Length	A	-	89	89	171	171	171	238	279	343	-	-	-
Centerline to Bottom	D	-	31	31	64	64	64	70	86	93	-	-	-
Lay Length	A	-	-	-	-	-	229	238	279	318	381	508	645
Centerline to Bottom	D	-	-	-	-	-	83	76	89	100	117	142	200
Lay Length	A	-	-	-	-	-	229	238	279	318	397	533	670
Centerline to Bottom	D	-	-	-	-	-	83	76	89	100	129	161	200
<b>Angle Dimensions</b>													
Center Inlet to Discharge	B	-	-	-	86	86	86	119	140	168	-	-	-
Center Discharge to Inlet	F	-	-	-	76	76	76	83	102	118	-	-	-
Center Inlet to Discharge	B	-	-	-	-	-	-	121	140	163	191	254	324
Center Discharge to Inlet	F	-	-	-	-	-	-	83	102	113	127	152	203
Center Inlet to Discharge	B	-	-	-	-	-	-	121	140	163	200	267	337
Center Discharge to Inlet	F	-	-	-	-	-	-	83	102	113	135	165	216
<b>Common Dimensions (Globe &amp; Angle)</b>													
Width	C		76	76	124	124	156	152	208	235	276	425	549
Height (To Stem Cap) Globe	E		78	78	111	111	111	121	191	203	232	298	379
Height (To Stem Cap) Angle	E		-	-	111	111	111	121	191	203	232	298	379
Body Port Tapping	FNPT	Inches	1/4	1/4	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	1/2
Stem Cap Plug	MNPT	Inches	1/4	1/4	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8
Cover Port Tapping	FNPT	Inches	-	-	3/8	3/8	3/8	3/8	3/8	3/8	3/8	1/2	1/2
Valve Stroke		mm	6.4	6.4	13	13	13	14	25	29	37	43	73
Displaced Bonnet Volume (Litres)			0.01	0.01	0.03	0.03	0.03	0.1	0.3	0.3	0.8	2.1	6.3
Approximate Shipping Weight (Kilograms)			5	5	9	9	9	18	29	45	79	181	295
<b>Flow Capacities (L/s) Globe &amp; Angle</b>													
K <sub>v</sub> - Globe			-	-	6.6	7.1	7.6	13	19	26	47	110	190
K <sub>v</sub> - Angle			-	-	5.7	5.7	6.2	15	21	32	55	123	225
Continuous (Globe)			-	-	3	6	8	13	19	29	50	114	196
Intermittent (Globe)			-	-	4	8	10	16	24	36	63	142	244
Momentary (Globe)			-	-	7	11	16	30	42	65	114	252	442
<b>Maximum Pressure Ratings (Ductile Only)</b>													
Bar <sup>1</sup>		-	27.6	27.6	27.6	27.6	27.6	27.6	27.6	27.6	-	-	-
Bar		-	-	-	-	-	16	16	16	16	16	16	16
Bar <sup>1</sup>		-	-	-	-	-	25	25	25	25	25	25	25
<b>Maximum Temperature</b>													
Celcius			82°	82°	82°	82°	82°	82°	82°	82°	82°	82°	82°

