

Model 106-RPS-8700A

UL / FM Pressure Relief Valve



KEY FEATURES

- UL listed to ANSI/UL 1478A FM approved to FM 1361
- Reliable diaphragm actuated
- Hydraulically operated design
- Class 150 and 300 flanges
- Stainless steel fasteners
- Heat fused red epoxy coating
- Available in globe and angle style

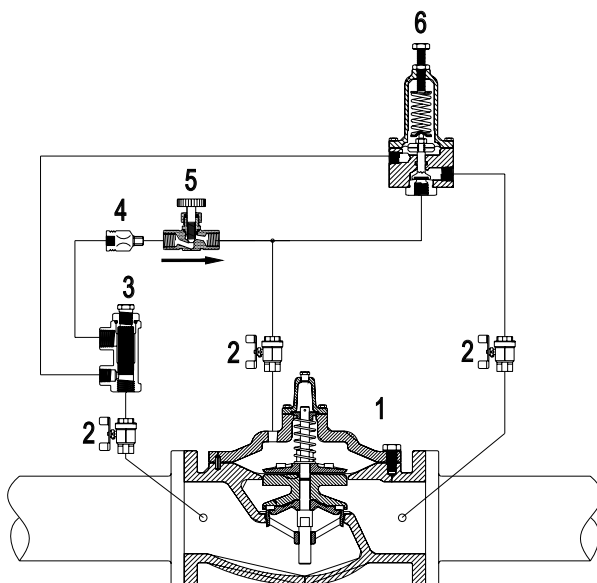


PRODUCT OVERVIEW

The 106-RPS-8700A pressure relief valve, which is UL / FM labelled and listed, automatically relieves excess pressure in the fire protection system to discharge. The RPS series valves will also automatically modulate to relieve excess pump capacity during pump start up and shut down, allowing the pump to operate without causing surges.

These relief valves are based on the 106-PG or A106-PG main valves and come in complete range of sizes from 2 1/2 in / 65 mm to 8 in / 200 mm. In typical pressure relief application, the angle style A106-RPS-8700A is often the preferred selection.

SCHEMATIC DRAWING



Schematic A-8700A

1. Main Valve - 106-PG, or A106-PG, Flanged 2 1/2 in / 65 mm to 8 in / 200 mm
2. Isolation Valve - lockable (Optional)
3. Strainer - standard 4 in / 100 mm and larger
4. Fixed Restriction- 1/8 in / 3.2 mm
5. Model 852-B Closing Speed Control
6. Model 81-RP pilot - 30 to 200 psi / 2.07 to 13.8 bar - optional 100 to 300 psi / 6.9 to 20.7 bar

STANDARD MATERIALS

Standard materials for pilot system components are:

- ASTM B62 bronze or ASTM B16 brass
- AISI 303 / 316 stainless steel trim
- Buna-N / EPDM diaphragm and seals

For dimensions see pages 26-27.

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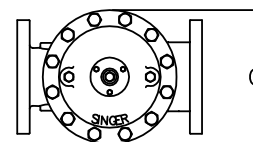
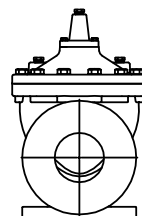
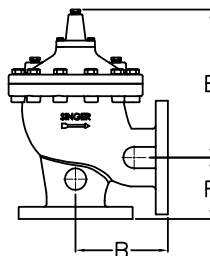
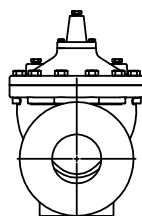
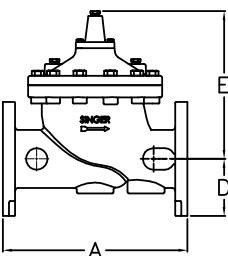
Model 106-PG – UL/FM Relief & ULC Reducing Only

Full Port, Single Chamber, Hydraulically Operated Valve

ANSI Valve Data (US Units)

Size	DWG	Standard	Flat Diaphragm System					
Inches	REF	ANSI	2 in	2-1/2 in	3 in	4 in	6 in	8 in
Globe Dimensions			All figures show in inches unless otherwise stated					
Lay Length	A	FNPT	9.38	11.00	13.50	-	-	-
Centerline to Bottom	D	FNPT	2.75	3.38	3.68	-	-	-
Lay Length	A	150F	9.38	11.00	12.00	15.00	20.00	25.38
Centerline to Bottom	D	150F	3.00	3.50	3.75	4.60	5.60	7.63
Lay Length	A	300F	10.00	11.63	13.25	15.63	21.00	26.38
Centerline to Bottom	D	300F	3.25	3.75	4.13	5.09	6.34	7.88
Angle Dimensions								
Center Inlet to Discharge	B	FNPT	4.69	5.50	6.63	-	-	-
Center Discharge to Inlet	F	FNPT	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
Common Dimensions (Globe & Angle)								
Width	C		6.50	8.19	9.25	10.88	16.75	21.63
Height (To Stem Cap) Globe	E		4.75	7.50	8.00	9.15	11.75	14.91
Height (To Stem Cap) Angle	E		4.75	7.50	8.00	9.15	11.75	14.91
Body Port Tapping		FNPT	3/8	3/8	3/8	3/8	3/8	1/2
Stem Cap Plug		MNPT	3/8	3/8	3/8	3/8	3/8	3/8
Cover Port Tapping		FNPT	3/8	3/8	3/8	3/8	1/2	1/2
Valve Stroke			9/16	15/16	1-1/8	1-7/16	1-11/16	2-7/8
Displaced Bonnet Volume (Gallons)			0.02	0.1	0.1	0.2	0.6	1.7
Approximate Shipping Weight (Lbs)			40	65	100	175	400	650
Flow Capacities (USGPM) Globe & Angle								
C _v - Globe			55	80	110	200	460	800
C _v - Angle			63	90	135	230	535	950
Continuous (Globe)			210	300	460	800	1800	3100
Intermittent (Globe)			260	375	575	1000	2250	3875
Momentary (Globe)			470	670	1030	1800	4000	7000
Maximum Pressure Ratings (Ductile Only)								
PSI ¹		FNPT	400	400	400	-	-	-
PSI		150F	250	250	250	250	250	250
PSI ¹		300F	400	400	400	400	400	400
Maximum Temperature								
Fahrenheit			180°	180°	180°	180°	180°	180°

*UL/FM Relief Rated to 300 psi



¹Valves rated and stamped 400 psi as standard. Valves rated and stamped 600 psi on request.

Model 106-PG – UL/FM Relief & ULC Reducing Only Full Port, Single Chamber, Hydraulically Operated Valve

ANSI Valve Data (Metric Units)

Size	DWG	Std	Flat Diaphragm System					
mm	REF	ANSI	50 mm	65 mm	80 mm	100 mm	150 mm	200 mm
Globe Dimensions								
All figures show in mm unless otherwise stated								
Lay Length	A	FNPT	238	279	343	-	-	-
Centerline to Bottom	D	FNPT	70	86	93	-	-	-
Lay Length	A	150F	238	279	305	381	508	645
Centerline to Bottom	D	150F	76	89	95	117	142	200
Lay Length	A	300F	254	295	337	397	533	670
Centerline to Bottom	D	300F	83	95	105	129	161	200
Angle Dimensions								
Center Inlet to Discharge	B	FNPT	119	140	168	-	-	-
Center Discharge to Inlet	F	FNPT	83	102	118	-	-	-
Center Inlet to Discharge	B	150F	121	140	154	191	254	324
Center Discharge to Inlet	F	150F	83	102	103	127	152	203
Center Inlet to Discharge	B	300F	127	149	163	200	267	337
Center Discharge to Inlet	F	300F	89	109	113	135	165	216
Common Dimensions (Globe & Angle)								
Width	C		165	208	235	276	425	549
Height (to stem cap) Globe	E		121	191	203	232	298	379
Height (to stem cap) Angle	E		121	191	203	232	298	379
Body Port Tapping	FNPT	in	3/8	3/8	3/8	3/8	3/8	1/2
Stem Cap Plug	MNPT	in	3/8	3/8	3/8	3/8	3/8	3/8
Cover Port Tapping	FNPT	in	3/8	3/8	3/8	3/8	1/2	1/2
Valve Stroke		mm	14	25	29	37	43	73
Displaced Bonnet Volume (Litres)			0.1	0.3	0.3	0.8	2.1	6.3
Approximate Shipping Weight (Kilograms)			18	29	45	79	181	295
Flow Capacities (L/s) Globe & Angle								
Kv - Globe			13	19	26	47	110	190
Kv - Angle			15	21	32	55	127	225
Continuous (Globe)			13	19	29	50	114	196
Intermittent (Globe)			16	24	36	63	142	244
Momentary (Globe)			30	42	65	114	252	442
Maximum Pressure Ratings (Ductile Only)								
Bar ¹	FNPT		27.6	27.6	27.6	-	-	-
Bar	150F		17	17	17	17	17	17
Bar ¹	300F		27.6	27.6	27.6	27.6	27.6	27.6
Maximum Temperature								
Celcius			82°	82°	82°	82°	82°	82°

*UL/FM Relief Rated to 20.7 bar

¹Valves rated and stamped 27.6 bar as standard. Valves rated and stamped 41 bar on request.

