

Models 106-PR-10159 UL / 106-PR-8702A ULC Pressure Reducing Valve



KEY FEATURES

- UL and ULC listed to ANSI/UL 1468, 1739
- Reliable diaphragm actuated
- Hydraulically operated design
- Stainless steel fasteners
- Class 150, 300 flanges, grooved and threaded
- Heat-fused red epoxy coating
- Available in globe and angle style

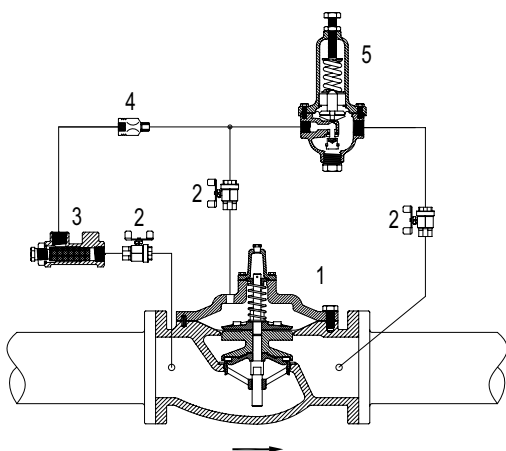


PRODUCT OVERVIEW

The 106-PR, which is UL and ULC labelled and listed, is ideal for automatically reducing a higher inlet pressure to a steady lower discharge pressure, regardless of fluctuations in flow or inlet pressure.

The valves are based on the 106-PG or A106PG control valves and are available in a complete range of sizes from 2 in / 50 mm to 8 in / 200 mm (sizes depend on UL classification). In typical pressure reducing applications, the globe style 106-PR is often the preferred valve style.

SCHEMATIC DRAWING



Schematic A-10159B UL

1. Main Valve - Model 106-PG, SPG or GE, Globe or Angle, 2 in / 50 mm - 8 in / 200 mm UL (2 in / 50 mm, 8 in / 200 mm ULC) Grooved - 2 in / 50 mm to 8 in / 200 mm, Globe style only
2. Lockable Isolation Valve J0044A - optional
3. Strainer J0098A - standard 4 in / 100 mm and larger
4. Fixed Restriction
5. Pressure Reducing Pilot Model 161PR (UL), 160PR (ULC)
 - Range: 30 to 165 psi / 2.06 to 11.37 bar (UL)
 - Range: 20 to 200 psi / 1.38 to 13.8 bar (ULC)
 - Optional 100-300 psi / 3.89 to 20.68 bar (ULC)
 - Note: Maximum outlet setting for both UL and ULC pilots is 165 psi / 11.37 bar

Note: UL listed valves use rolling diaphragm on 6 in / 150 mm and 8 in / 200 mm valves. ULC listed valves use flat diaphragms only. For UL dimensions, ULC dimensions and Grooved dimensions, see page 28.

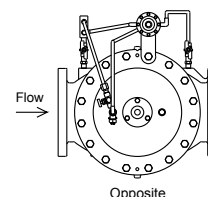
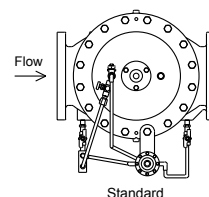
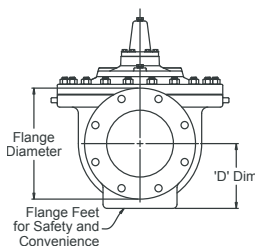
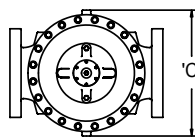
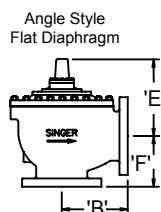
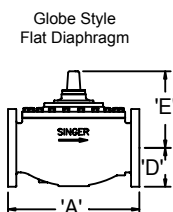
Model 106-PG

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
Globe Dimensions			All figures shown in inches unless otherwise stated										
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
Angle Dimensions													
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
Common Dimensions (Globe & Angle)													
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
Flow Capacities (USGPM) Globe & Angle													
C _v - Globe					28	30	32	55	80	110	200	460	800
C _v - 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
Maximum Pressure Ratings (Ductile Only)													
PSI ¹		FNPT			400	400	400	400	400	400	-	-	-
PSI		150F			-	-	250	250	250	250	250	250	250
PSI ¹		300F			-	-	400	400	400	400	400	400	400
Maximum Temperature													
Fahrenheit					180°	180°	180°	180°	180°	180°	180°	180°	180°

¹Valves 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)

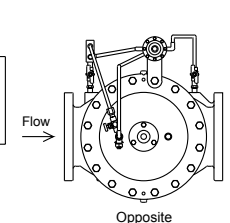
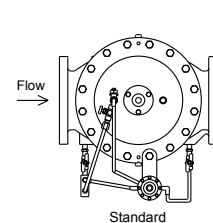
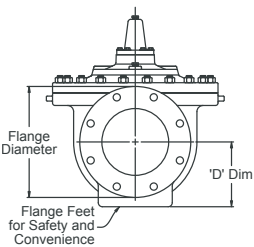
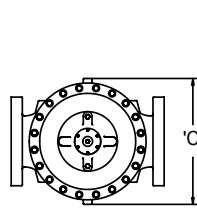
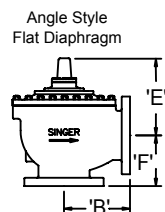
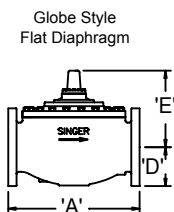
Size	DWG	Standard	Rolling Diaphragm System			
			US Units		Metric Units	
Inches/mm	REF	ANSI	6 in	8 in	150 mm	200 mm
Globe Dimensions			inches		mm	
Lay Length	A		-	-	-	-
Centerline to Bottom	D		-	-	-	-
Lay Length	A		20.00	25.38	508	645
Centerline to Bottom	D		5.60	7.63	142	200
Lay Length	A		21.00	26.38	533	670
Centerline to Bottom	D		6.34	7.88	161	200
Angle Dimensions						
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		-	-	-	-
Common Dimensions (Globe & Angle)			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
Flow Capacities Globe & Angle			USGPM		L/s	
C _v - Globe			460	800	110	190
C _v - Angle			-	-	-	-
Continuous (Globe)			1800	3100	114	196
Intermittent (Globe)			2250	3875	142	244
Momentary (Globe)			4000	7000	252	442
Maximum Pressure Ratings (Ductile Only)			PSI		Bar	
	FNPT		-	-	-	-
	150F		250	250	17	17
	300F		400	400	27.6	27.6
Maximum Temperature			Fahrenheit		Celcius	
			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										
mm	REF	ISO	15 mm	20 mm	25 mm	32 mm	40 mm	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	-	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
Angle Dimensions													
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
Common Dimensions (Globe & Angle)													
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
Flow Capacities (L/s) Globe & Angle													
K _v - Globe			-	-	6.6	7.1	7.6	13	19	26	47	110	190
K _v - 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
Maximum Pressure Ratings (Ductile Only)													
Bar ¹		-	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 ¹		-	-	-	-	-	25	25	25	25	25	25	25
Maximum Temperature													
Celsius			82°	82°	82°	82°	82°	82°	82°	82°	82°	82°	82°



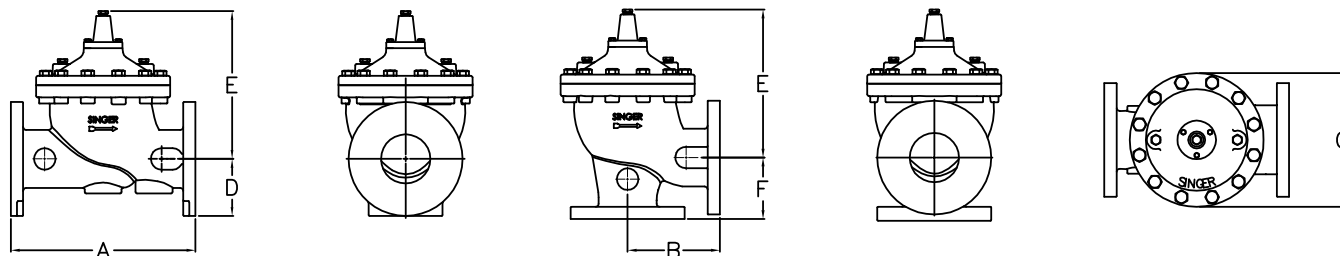
Model 106-PG – UL/FM Relief & ULC Reducing Only

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°

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°

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

