SINGER®

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FIRE PROTECTION

The Ideal Solution for Protecting People and Property From the Ravages of Fire.

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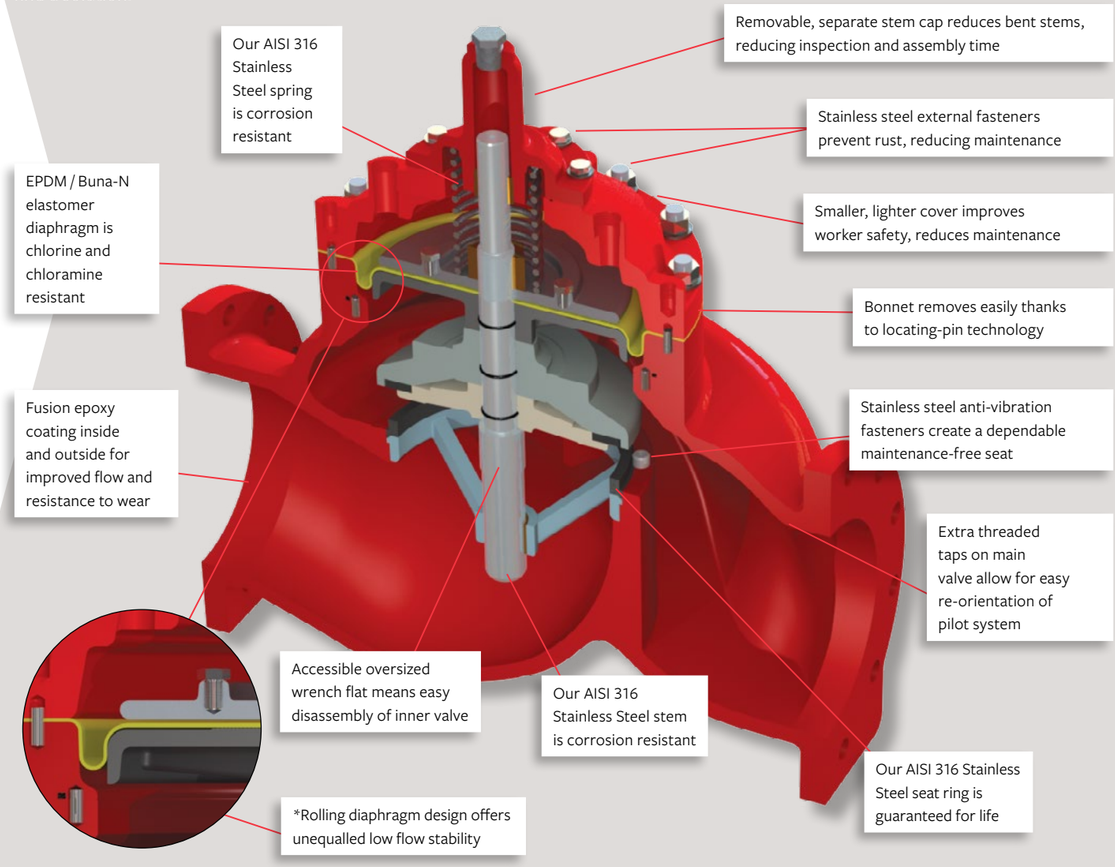
ABOUT US

MAIN FIRE VALVES

THE SINGER® ADVANTAGE

We design and manufacture automatic control valves for the global water industry. Since 1957, our pilot operated diaphragm control valves have been installed on virtually every continent around the world. Whether it is water loss management in Southeast Asia, water conservation concerns in Saudi Arabia, urban distribution demands in the United States or fire valves in Indonesia or South Korea, we provide water management solutions to governments, cities, companies and contractors around the world.

Many of our innovative products are ones that have been born out of our inherent desire to solve an application challenge. Presented with a problem, our team of electronic, instrumentation and control valve specialists are relentless in their research and design until they find a solution.



Valve Sizes: 1/2″ to 40″ / 15 mm to 1000 mm
Flows from: 0.5 to 55,470 USGPM / 0.03 to 3,500 L/s
*Not available in all size / model combinations. Consult with us.

MODEL 106-RPS-8700A

UL / FM Pressure Relief Valve

KEY FEATURES

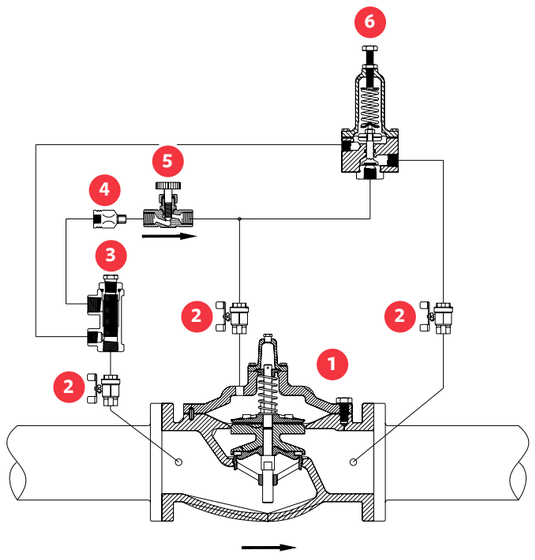
- UL listed to ANSI / UL 1478A FM approved to FM 1361
- Reliable diaphragm actuated
- Hydraulically operated design
- Class 150 and 300 flanges
- Stainless steel fasteners
- Heat fused red epoxy coating
- Available in globe and angle style

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″ / 65 mm to 8″ / 200 mm. In typical pressure relief application, the angle style A106-RPS-8700A is often the preferred selection.

SCHEMATIC DRAWING



SCHEMATIC A-8700A

ID	PART NAME
1	Main Valve - 106-PG, or A106-PG, Flanged 2-1/2″ / 65 mm to 8″ / 200 mm
2	Isolation Valve - Lockable (Optional)
3	Strainer - standard 4″ / 100 mm and Larger
4	Fixed Restriction- 1/8″ / 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.

MODEL 18-FR

Pressure Relief Valve

KEY FEATURES

- Available in globe and angle style
- Available sizes 1/2″ and 3/4″
- Direct acting
- Drip tight closing
- Accurate pressure control
- UL listed to ANSI / UL 1478A FM approved to FM 1359

PRODUCT OVERVIEW

The 18-FR is a remote sensing, high capacity, spring and diaphragm operated, normally closed valve. The inner valve is held closed by the spring. When the sensed pressure increases above the spring setting, the valve opens.

SPECIFICATIONS

The valve shall be Singer® Model 18-FR, with the spring range specified.

- The normally closed valve shall be of stainless steel construction with a spring to adjust the opening pressure.
- The inner valve shall be of stainless steel 316 construction and the inner valve shall have EPDM resilient compound for seating.
- A separate port will sense pressure to open the valve when system pressure exceeds the valve set-point.
- Maximum working temperature: 180° F / 82° C.
- Maximum working pressure: 400 psi / 27.6 bar.

	SPRING RANGES	APPROXIMATE PSI PER TURN
Standard	20 to 200 psi (1.38 to 13.8 Bar)	22 psi (1.52 Bar) Per Turn
Optional	10 to 75 psi (0.69 to 5.17 bar)	9 psi (0.62 bar) Per Turn
	100 to 300 psi (6.9 to 20.7 bar)	49 psi (3.38 bar) Per Turn

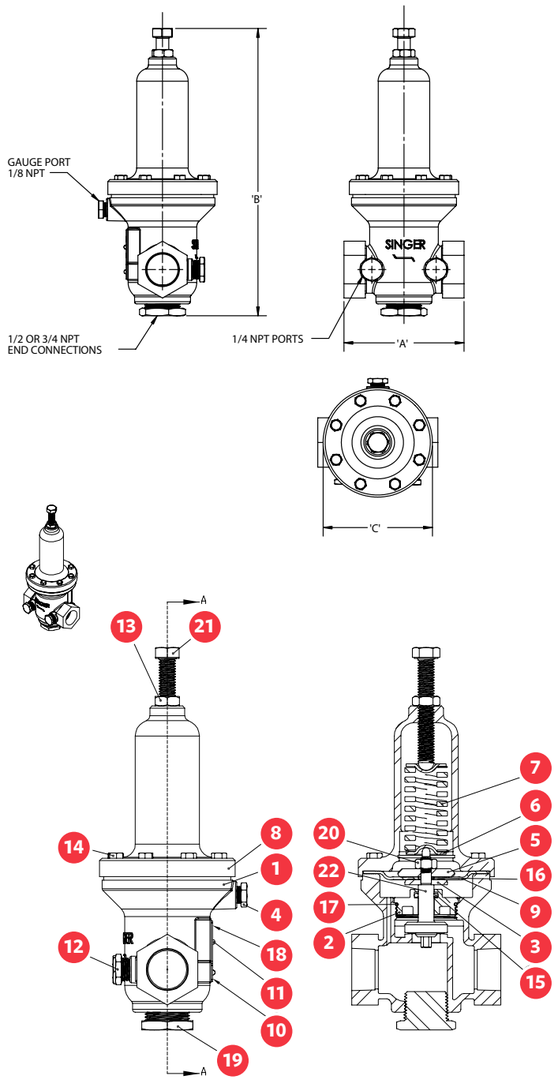
FLOW RATES

SIZE	CV	MAX FLOW (GPM)
1/2″	6.8	70
1/2″ Angle	6.9	76
3/4″	8.3	84
3/4″ Angle	8.4	88

MODEL 18-FR

Pressure Relief Valve

SCHEMATIC DRAWING



	INCHES	MM
A	3.5	90
B	9.06	230
C	3.19	81
Weight	4.05 lbs	1.8 Kg

ID	PART NAME
1	Body
2	Guide Bushing
3	Clamp Plate Lower
4	Plug 1/8 NPT Stainless Steel
5	Clamp Plate
6	Spring Step
7	Spring
8	Spring Casing
9	Diaphragm Pilot EPDM
10	Tag Singer
11	Rivet U Drive
12	Plug 1/4 NPT
13	Nut Hex Jam 3/8-16 UNC
14	Screw Hex Head
15	O-Ring
16	O-Ring
17	O-Ring
18	Tag UL Approval
19	Plug Stainless Steel
20	Nut Hex 1/4-20 UNC
21	Hbolt 3/8-16 x 2.625 = Machined
22	Inner Valve 18-FR

MODELS 106-PR-10159 & 106-PR-8702

Pressure Reducing Valve

KEY FEATURES

- Model 106-PR-10159 cULus Certified
- Model 106-PR-8702 ULC Certified
- 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

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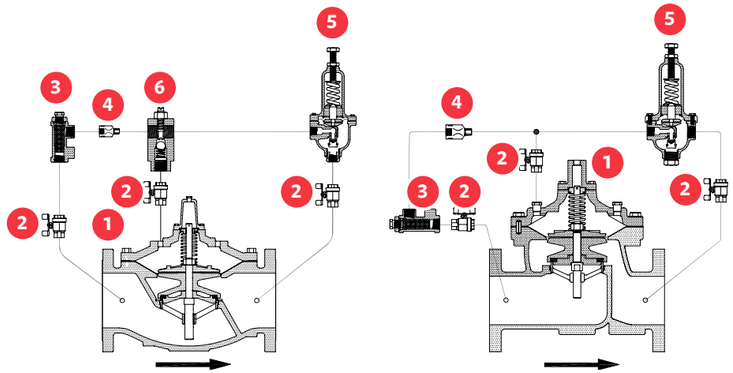
ULC LISTED

PRODUCT OVERVIEW

The cULus Certified Model 106-PR-10159 and the ULC Certified Model 106-PR-8702 pilot operated pressure control valves are ideal for automatically reducing a higher inlet pressure to a steady lower discharge pressure, regardless of fluctuations in flow or inlet pressure. See chart for sizes and end configurations.

The valves are based on the 106-PG-UL, A106-PG-UL, S106-PG-UL and SA106-PG-UL control valves for Model 106-PR-10159 listed product. ULC control valves are based on the 106-PG-ULC and A106-PG- ULC for Model 106-PR-8702. In typical pressure reducing applications, the globe style 106-PR or S106-PR is often the preferred style.

SCHEMATIC DRAWING



ID	PART NAME
1	Main Valve Body – Model 106-PG-UL, A106-PG-UL, S106-PG-UL, SA106-PG-UL & 106-PG-ULC. See Chart for Options.
2	Lockable Isolation Valve J0044A – Optional
3	Strainer J0098A – Standard 4″ / 100 mm and Larger
4	Fixed Restriction
5	Pressure Reducing Pilot Model 161-PR-UL, and 160-PR-ULC
6	Flow Stabilizer – Model 26 (ULC ONLY)

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

MODELS 106-PR-10159 & 106-PR-8702

Pressure Reducing Valve

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

US UNITS

VALVE SIZE	MODEL 106-PR-10159 PRESSURE RATINGS CULUS LISTED		MODEL 106-PR-8702 PRESSURE RATINGS ULC LISTED		OUTLET PRESSURE SETTING RANGE	END CONNECTIONS 106 GLOBE & A106 ANGLE			
	MAX INLET PRESSURE 150 FL	MAX INLET PRESSURE 300 FL	MAX INLET PRESSURE 150 FL	MAX INLET PRESSURE 300 FL		GROOVED	THREADED	150 FL	300 FL
1-1/2″	175 psig	300 psig	175 psig	175 psig	30 - 165 psig	-	-	•	•
2″	175 psig	300 psig	175 psig	175 psig	30 - 165 psig	• Globe Style Only	•	•	•
2-1/2″	175 psig	300 psig	175 psig	175 psig	30 - 165 psig	• Globe Style Only	•	•	•
3″	175 psig	300 psig	175 psig	175 psig	30 - 165 psig	• Globe Style Only	•	•	•
4″	175 psig	300 psig	175 psig	175 psig	30 - 165 psig	• Globe Style Only	-	•	•
6″	175 psig	300 psig	175 psig	175 psig	30 - 165 psig	• Globe Style Only	-	•	•
8″	175 psig	300 psig	175 psig	175 psig	30 - 165 psig	• Globe Style Only	-	•	•

METRIC UNITS

40 mm	12.06 Bar	20.68 Bar	12.06 Bar	12.06 Bar	2.06 - 11.37 Bar	-	-	•	•
50 mm	12.06 Bar	20.68 Bar	12.06 Bar	12.06 Bar	2.06 - 11.37 Bar	• Globe Style Only	•	•	•
65 mm	12.06 Bar	20.68 Bar	12.06 Bar	12.06 Bar	2.06 - 11.37 Bar	• Globe Style Only	•	•	•
75 mm	12.06 Bar	20.68 Bar	12.06 Bar	12.06 Bar	2.06 - 11.37 Bar	• Globe Style Only	•	•	•
100 mm	12.06 Bar	20.68 Bar	12.06 Bar	12.06 Bar	2.06 - 11.37 Bar	• Globe Style Only	-	•	•
150 mm	12.06 Bar	20.68 Bar	12.06 Bar	12.06 Bar	2.06 - 11.37 Bar	• Globe Style Only	-	•	•
200 mm	12.06 Bar	20.68 Bar	12.06 Bar	12.06 Bar	2.06 - 11.37 Bar	• Globe Style Only	-	•	•

MODELS 106-F-TYPE 4

Modulating Float Valve

KEY FEATURES

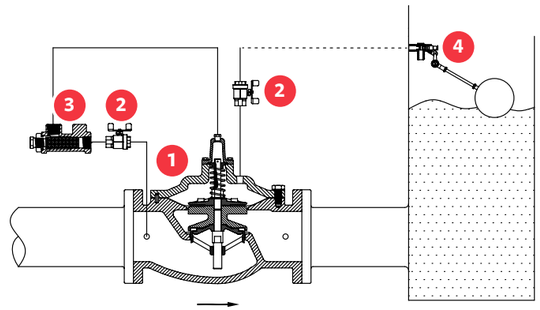
- Maintains relatively constant level
- Automatic compensation for level draw-down
- Standard integral damping reduces hunting
- Drip-tight at high level shut-off
- Low supply pressure options

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

ID	PART NAME
1	Main Valve - 106-PG, SPG or GE, Internal Needle Stem Valve (INSV) Built Into Stem Available in 1/2″ / 15 mm to 8″ / 200 mm, FNTP 1/2″ / 15 mm to 1″ / 15 mm, Flanged 1-1/2″ / 40 mm to 8″ / 200 mm, Grooved 2″ / 50 mm to 8″ / 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″ / 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.

MODELS 106-F-TYPE 5

Non-Modulating Float Valve

KEY FEATURES

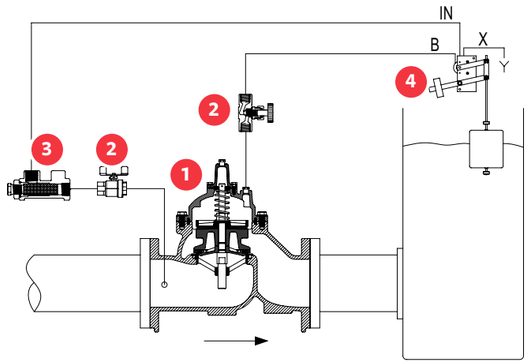
- No overflow, drip-tight close
- Adjustable draw down
- Easily adjustable level settings
- Low supply pressure options

PRODUCT OVERVIEW

The 106-F-Type 5 non-modulating float valves are based on the 106-PG main valve. It is ideal for allowing normal forward flow to fill water tanks to a desired high level and where the pilot and valve of the storage tanks are easily accessible.

The valve functions as a two position valve, either open or closed. The valve remains closed when the tank level drops, until the float reaches the pre-determined adjustable minimum tank level. The F-Type 5 valve then opens to refill the tank and closes tightly when high water level is achieved.

SCHEMATIC DRAWING



SCHEMATIC A-0421C

8″ (200mm) stilling well must be provided around float.

ID	PART NAME
1	Main Valve - 106-PG, SPG or GE Available in 1″ / 25 mm to 8″ / 200 mm, FNTP 1″ / 25 mm to 3″ / 80 mm, Flanged 1-1/2″ / 40 mm to 8″ / 200 mm, Grooved 2″ / 50 mm to 8″ / 200 mm, Globe Style Only
2	Isolation Valve
3	Strainer - 40 Mesh Stainless Steel Screen
4	Model 43 Float Pilot Comes with Stainless Steel Float, 4′ / 1.2 m Stainless Steel Rod - 8″ (200mm) and Larger, - 2′ / 600 mm Stainless Steel Rod – 6″ (150 mm) and Smaller

STANDARD MATERIALS

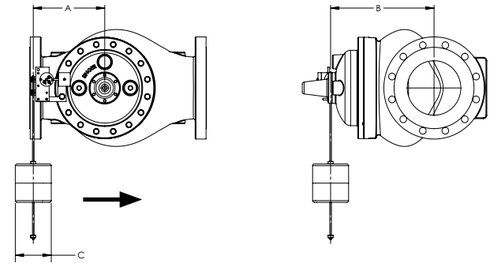
Standard materials for pilot system components are:

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

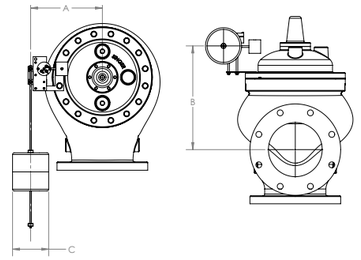
Note: The stilling well and the connections between main valve and pilot completed by others.

MODELS 106-F-TYPE 5

Non-Modulating Float Valve



GLOBE



ANGLE

DIMENSIONS

GLOBE

DESCRIPTION			US UNITS - INCHES			METRIC UNITS - MM		
US UNITS -INCHES	METRIC UNITS -MM	BODY	A	B	C	A	B	C
0.5	15	106	2.50	4.25	5.38	64	108	137
1	25	106	5.50	4.75	5.38	140	121	137
1.5	40	106	6.00	6.75	5.38	152	171	137
2	50	106	6.25	7.00	5.38	159	178	137
2.5	65	106	6.75	7.75	5.38	171	197	137
3	75	106	7.25	8.25	5.38	184	210	137
3	75	206	6.25	7.06	5.38	159	179	137
4	100	106	8.00	9.50	5.38	203	241	137
4	100	106	7.25	7.50	5.38	184	191	137
6	150	S106	10.25	10.50	5.38	260	267	137
6	150	206	8.00	8.75	5.38	203	222	137
8	200	S106	10.23	11.33	5.38	260	288	137
8	200	206	10.25	9.75	5.38	260	248	137

ANGLE

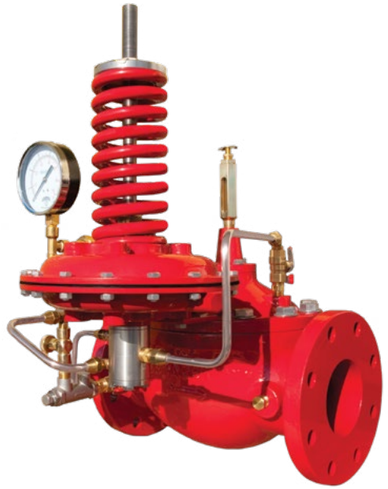
DESCRIPTION			US UNITS			METRIC UNITS		
US UNITS -INCHES	METRIC UNITS -MM	BODY	A	B	C	A	B	C
1.5	40	A106			5.38			137
2	50	A106	6.25	7.00	5.38	159	178	137
2.5	65	A106	6.75	7.75	5.38	171	197	137
3	75	A106	7.25	7.06	5.38	184	179	137
4	100	A106	8.25	9.00	5.38	210	229	137
4	100	A206	7.25	7.50	5.38	184	191	137
6	150	A206	8.25	8.75	5.38	210	222	137
6	150	SA206	10.50	10.00	5.38	267	254	137
8	200	SA106	10.23	11.94	5.38	260	303	137
8	200	A206	10.50	9.75	5.38	267	248	137

MODELS 106-A-TYPE 2

One-Way Flow Altitude Control Valve

KEY FEATURES

- No overflows - high level shut-off maintained to close tolerances
- Superior repeatability
- Positive shut-off
- Easily serviceable at ground level



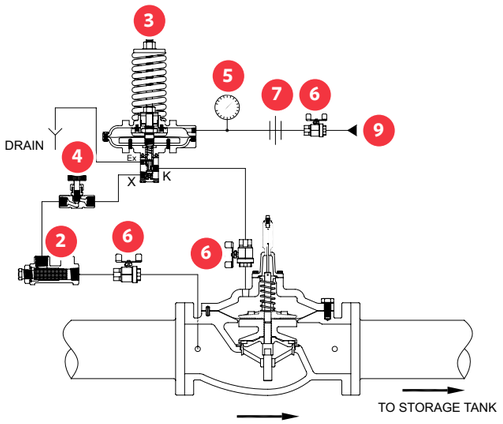
PRODUCT OVERVIEW

The 106-A-Type 2 altitude control valves are based on the 106-PG main valve, and is ideal for maintaining a preset maximum water level.

The valve functions as a two position control valve, either fully open or fully closed. The Type 2 valve allows normal forward flow to fill the storage tank to the maximum level and then closes drip-tight at the set-point. It opens to refill the tank once the level drops a fixed distance below the high water level.

Note: This valve does not operate as a check valve to prevent reverse flow.

SCHEMATIC DRAWING



SCHEMATIC A-0413C

ID	PART NAME
1	Main Valve - 106-PG, SPG or GE with X107 Visual Position Indicator. Available in 2″ / 50 mm to 8″ / 200 mm, FNTP 2″ / 50 mm to 3″ / 80 mm, Flanged 2-1/2″ / 63 mm to 8″ / 200 mm, Grooved 2″ / 50 mm to 8″ / 200 mm, Globe Style Only
2	Strainer - 40 Mesh Stainless Steel Screen
3	Model 301-4 Altitude Pilot
4	Closing Speed Control
5	Altitude Gauge - Dual Scale - Feet and Meter
6	Isolation Valve
7	Union
8	Sensing Connection to Storage Tank (Complete in Field by Others)
9	Isolation Valve

STANDARD MATERIALS

Standard materials for pilot system components are:

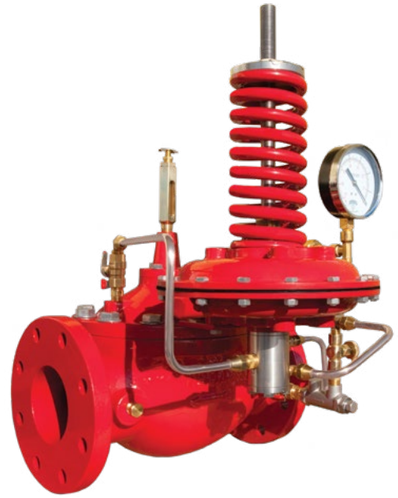
- Ductile iron
- Stainless steel
- Brass
- Copper

MODELS 106-A-TYPE 4

One-Way Flow Altitude Control Valve with Differential Control

KEY FEATURES

- No overflows
- Adjustable draw-down level (differential) set-point
- Superior repeatability
- Positive shut-off
- Adjustable draw-down for improved water cycling



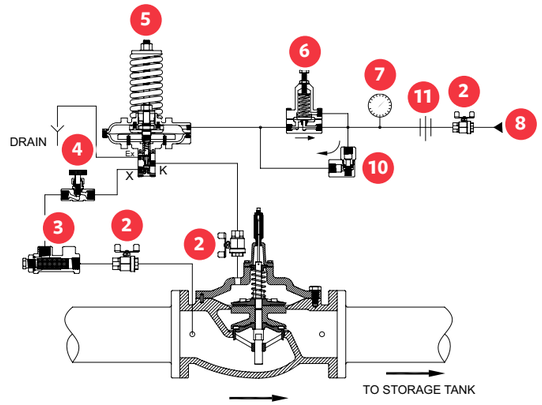
PRODUCT OVERVIEW

The 106-A-Type 4 altitude control valves are based on the 106-PG main valve, and is ideal for maintaining a preset maximum water level. The valve functions as a two position control valve, either fully open or fully closed.

The Type 4 allows normal forward flow to fill the storage tank to the maximum level, then closes drip-tight at the set-point. It opens to refill the tank once the level drops an adjustable amount below the high water level.

NOTE: Distribution from the storage tank is through a separate pipeline. This valve does not operate as a check valve to prevent reverse flow.

SCHEMATIC DRAWING



SCHEMATIC A-0415C

ID	PART NAME
1	Main Valve - 106-PG, SPG or GE with X107 Visual Position Indicator. Available in 2″ / 50 mm to 8″ / 200 mm, FNTP 2″ / 50 mm to 3″ / 80 mm, Flanged 2-1/2″ / 63 mm to 8″ / 200 mm, Grooved 2″ / 50 mm to 8″ / 200 mm, Globe Style Only
2	Isolation Valve
3	Strainer - 40 Mesh Stainless Steel Screen
4	Closing Speed Control
5	Model 301-4 Altitude Pilot
6	Model 106-RD Differential Pilot
7	Altitude Gauge - Dual Scale - Feet and Meter
8	Sensing Connection to Storage Tank (Complete in Field)
9	Model 10 Check Valve
10	Union

STANDARD MATERIALS

Standard materials for pilot system components are:

- Ductile iron
- Stainless steel
- Brass
- Copper

MODEL 106-PG / S106-PG, 106-GE

Full Port, Single Chamber, Hydraulically Operated Valve

KEY FEATURES

- Available in globe and angle style

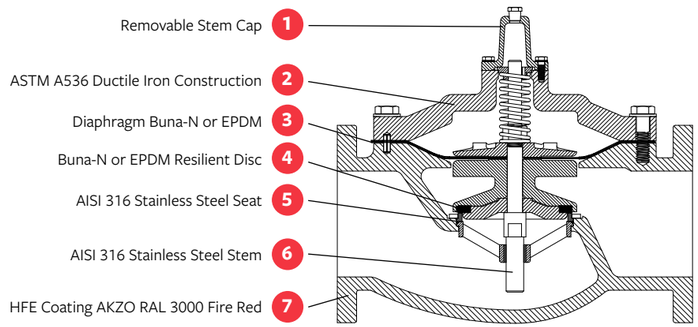
PRODUCT OVERVIEW

The 106-PG series control valve is designed to suit a large variety of applications such as pressure, flow or level control. This hydraulically operated valve introduces or releases water from the control chamber above the diaphragm to effectively maintain accurate water control.

106-PG GLOBE - FLAT

S106-PG

PRODUCT LINE DRAWING



MODEL 106-PG / S106-PG, 106-GE

Full Port, Single Chamber, Hydraulically Operated Valve

ALTERNATIVE MODELS

106-PG ANGLE

106-PG THREADED

106-GE GLOBE

VALVE SIZES & MATERIALS

VALVE STYLES

	DUCTILE			STAINLESS STEEL	
AVAILABLE SIZES	THREADED	FLANGED	GROOVED	THREADED	FLANGED
Globe	1″ to 3″ (25-80 mm)	1-1/2″ to 36″ (40-900 mm)	2″ to 8″ (50-200 mm)	1/2″ to 2″ (15-50 mm)	1-1/2″ to 6″ (40-150 mm)
Angle	1″ to 3″ (25-80 mm)	2″ to 12″, 16″ (50-300 mm, 400 mm)	N/A	N/A	N/A

VALVE COMPONENTS

	DUCTILE	
	STANDARD	OPTIONAL
1. Valve Body, Cover	65-45-12 Ductile Iron	-
2. Seat Ring	316 Stainless Steel	-
3. Disc Retainer	B16 Brass / B62 Bronze / A536 Ductile Iron	Stainless Steel
4. Stem	316 Stainless Steel	-
5. Stem Nut	B16 Brass	316 Stainless Steel
6. Spring	316 Stainless Steel	-
7. Guide Bushings	B16 Brass or SAE 660 Bronze	Stainless Steel
8. Diaphragm	EPDM	Buna-N / Viton (Limited Sizes)
9. Resilient Disc	EPDM	Buna-N / Viton (Limited Sizes)
10. Coating	HFE Coating AKZO RAL 3000 Fire Red	Consult Factory
11. Fasteners	18-8 Stainless Steel	316 Stainless Steel

MODEL 106-PG / S106-PG

Full Port, Single Chamber, Hydraulically Operated Valve

SPECIFICATIONS

- Valve(s) shall be a hydraulically operated globe / angle valve. The inner valve assembly shall be top and bottom guided by means bearing bushings. The inner valve assembly shall be the only moving part and shall be securely mounted on a AISI 316 Stainless Steel stem. Lower grades of Stainless Steel stems will not be acceptable.
- The stainless steel stem shall be provided with wrench flats on all valves 1″ / 25 mm to 16″ / 400 mm, for ease of assembly and maintenance. Wrench flats will be fully accessible when inner valve is assembled.
- All pressure containing components shall be constructed of ASTM A536 grade 65 / 45 / 12 ductile iron. The flanges shall be designed to ANSI Class 150 or Class 300 standards. Main valve body shall be complete with grooved ends. Standard cut groove specifications will be “steel and other IPS pipe” only to ANSI / AWWA C606 unless otherwise specified.
- Valve(s) shall have a protective fusion bonded epoxy coating internally and externally. The protective fusion bonded epoxy coating shall conform to the ANSI / AWWA C116 / A21.16 (current version) specification. No machining of any external parts after final coating will be acceptable to ensure a continuous coating surface throughout the entire valve.
- The valve cover shall have a separate stem cap on valves larger than 2-1/2″ / 65 mm giving access to the stem for alignment check, spring installation and ease of assembly.
- On valve(s) 1″ / 25 mm and larger, bonnets shall be accurately located to bodies utilizing locating pins. Locating pins shall eliminate corrosion resulting from the use of uncoated ductile iron to ductile iron surfaces. Valves with lipped spigot covers shall not be acceptable due to risk of rust and difficulty in assembly.
- Valve(s) 3″ / 80 mm to 8″ / 200 mm shall have the AISI 316 Stainless Steel seat with integral bottom guide, bolted in place, utilizing Spiralock™ thread tapping technology. The AISI 316 Stainless Steel seat ring shall be easily replaceable without special tools. Valves 10″ / 250 mm and larger shall incorporate a two-piece seat and bottom guide design.
- The valve(s) shall form a drip-tight seal between the stationary stainless steel seat ring and the resilient disc, which has a rectangular cross-section and is retained by clamping on three and one half sides. The resilient disc shall be constructed of Buna-N or EPDM for normal service conditions.
- All external fasteners shall be AISI 18-8 Stainless Steel or higher with AISI 18-8 Stainless Steel washers. Mild steel studs or bolts will not be acceptable.
- All repairs and maintenance shall be possible without removing the valve from the line. To facilitate easy removal and replacement of the inner valve assembly and to reduce unnecessary wear on the guide, the stem shall be vertical when the valve is mounted in a horizontal line.
- Each valve shall be air tested prior to shipment. The standard test shall include leakage test, seat leakage test, and stroke test. Refer to IOM 622B for further details (contact us). Where the set-point is provided, We will preset the pilot. Further testing is available upon request at published rates within the capabilities of our manufacturing facilities.
- The valve(s) shall be covered by a minimum three year (3) warranty against defects in materials and workmanship. The stainless steel seat shall be covered by a lifetime replacement warranty.
- The valve shall be a Singer® Valve model ____ (insert model number), refer to respective catalogue sections for further details.
- If using the 6″ / 150 mm & 8″ / 200 mm Flat Diaphragm Valves.

- Valve(s) 8″ / 200 mm and smaller shall provide smooth frictionless motion with actuation being achieved by the use of a flat style EPDM / Buna-N diaphragm. They shall be constructed of nylon fabric bonded with synthetic rubber.
  The diaphragms shall not be used as a seating surface.
- Valve(s) 10″ / 250 mm and larger shall provide smooth frictionless motion and maximum low flow stability with actuation being achieved by the use of the Singer® Rolling Diaphragm technology. The diaphragms shall not be used as a seating surface.
- If using the 6″ / 150 mm & 8″ / 200 mm Rolling Diaphragm Valves.
- Valve(s) 4″ / 100 mm and smaller shall provide smooth frictionless motion with actuation being achieved by the use of a flat style EPDM / Buna-N diaphragm. They shall be constructed of nylon fabric bonded with synthetic rubber.
  The diaphragms shall not be used as a seating surface.
- Valve(s) 6″ / 150 mm and larger shall provide smooth frictionless motion and maximum low flow stability with actuation being achieved by the use of the Singer® Rolling Diaphragm technology. The diaphragms shall not be used as a seating surface.

SELECTION

Automatic control valves operate by introducing or exhausting water from above the diaphragm at controlled rates. A pressure differential is required and is either inlet to outlet or inlet to atmosphere, depending on the application. Valves are sized to provide an appropriate pressure drop for each application. Most valves require a minimum of 10 psi / 0.7 bar pressure drop to operate. This applies mostly to valves that have the bonnet vented to downstream. With minimum of 5 psi / 0.35 bar downstream pressure, many valves can be made to open fully by venting the bonnet to atmosphere.

Singer® control valves are designed for use with clean potable water. Applications for other media are possible. Consult with us.

The 106-PG single chambered valve is the basic valve used in practically every model bearing the 106 description. The pilot systems are designed to meet the functional and performance requirements of specific applications. Sizing is ultimately determined by the specific application.

MODEL 106-GE / 206-GE

Grooved Ends

KEY FEATURES

- Convenient system and equipment access for ease of alignment and installation
- Improved flexibility with expansion, contraction and deflection
- Seismic stress absorption
- Eliminates unions
- Grooved to ANSI / AWWA C606

PRODUCT OVERVIEW

For use with grooved Iron Pipe Size (IPS) Pipe Coupling Products, grooved ends allows you to benefit from the simplicity and convenience of grooved end piping and fittings in an automatic control valve. There are a wide range of applications where grooved ends are relevant, but typical applications include municipal water, waste water, fire protection and plumbing.

Grooved ends come in the following size ranges:

- 2″ / 50 mm – 8″ / 200 mm

Standard cut groove specifications for steel and other IPS pipe will apply, unless otherwise specified

- Main valve body shall be complete with grooved ends.
- Standard cut groove specifications will be “steel and other IPS pipe” only unless otherwise specified.

106-GE GLOBE

MODEL 106-EDV-A-10507A

Electronically Operated Deluge Valve

KEY FEATURES

- UL listed to ANSI / UL 260
- Reliable diaphragm actuated
- Hydraulically operated design
- ANSI class 150, 300 flanges and grooved ends
- Stainless steel fasteners
- Heat fused red epoxy coating
- Available in globe style, 3″ / 80 mm – 8″ / 200 mm

106-EDV-A10507A GLOBE

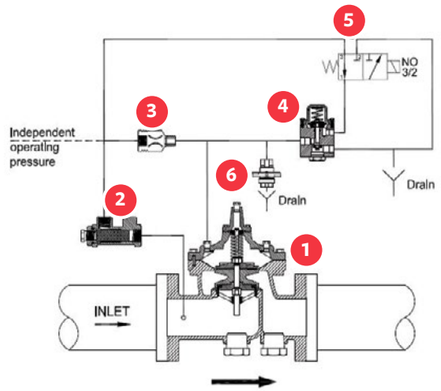
PRODUCT OVERVIEW

Singer® Model 106 EDV-A-10507A Electric Solenoid control valve is based on the Singer® Model 106 PG-UL Deluge main valve.

The solenoid pilot provides on-off position operation. The solenoid either admits inlet pressure into the main valve operating chamber from the inlet of the main valve via a high capacity relay valve or releases pressure from the relay valve and therefore the main valve operating chamber. This either opens or closes the main valve. The pilot system is usually piped to discharge to drain (atmosphere).

The 106 EDV-A-10507A is available with the main valve closed when the solenoid is de-energized (NC-normally closed. This refers to the main valve, not the solenoid).

SCHEMATIC DRAWING



ID	PART NAME
1	Main Valve – Model 106-PG-UL-Deluge
2	Strainer
3	Fixed Restriction
4	82-PR-UL Pilot
5	Solenoid Valve – Normally Open
6	Manual Emergency Override – Normal Position Closed

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

All valves have HFE coating AKZO RAL 3000 Fire Red (not intended for drinking water).

MODEL 106-PDV-A-10508A

Pneumatically Operated Remote Control Deluge Valve

KEY FEATURES

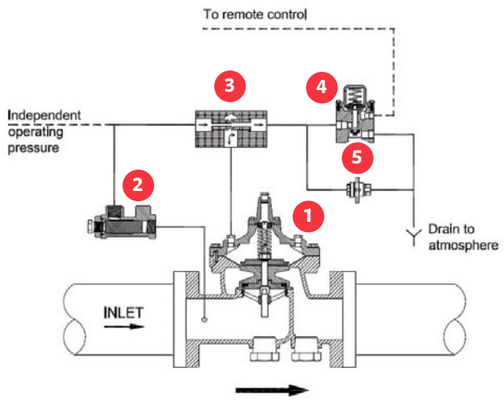
- UL listed to ANSI / UL 260
- Reliable diaphragm actuated
- Hydraulically operated design
- ANSI class 150, 300 flanges and grooved ends
- Stainless steel fasteners
- Heat fused red epoxy coating
- Available in globe style, 3″ / 80 mm – 8″ / 200 mm

PRODUCT OVERVIEW

Singer® Model 106 PDV-A-10508A Pneumatically Operated Control valve is based on the Singer® Model 106 PG-UL Deluge main valve.

The high capacity relay valve provides on-off position operation. The high capacity relay valve, using an independent air supply, either admits inlet pressure into the main valve operating chamber from the inlet of the main valve or releases pressure from the operating chamber. The pilot system is usually piped to discharge to drain (atmosphere).

SCHEMATIC DRAWING



SCHEMATIC A-10508AA

106-PDV-A-10508A GLOBE

ID	PART NAME
1	Main Valve – Model 106-PG-UL-Deluge
2	Strainer
3	Ejector – X141A
4	82-PR-UL Pilot
5	Manual Emergency Override – Normal Position Closed

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

All valves have HFE coating AKZO RAL 3000 Fire Red (not intended for drinking water).

MODEL 106-EPDV-A-10506A

Electric / Pneumatically Operated Deluge Valve

KEY FEATURES

- UL listed for fire extinguishing systems
- Reliable diaphragm actuated
- Hydraulically operated design
- ANSI class 150, 300 flanges and grooved ends
- Stainless steel fasteners
- Heat fused red epoxy coating
- Available in globe style, 3″ / 80 mm – 8″ / 200 mm

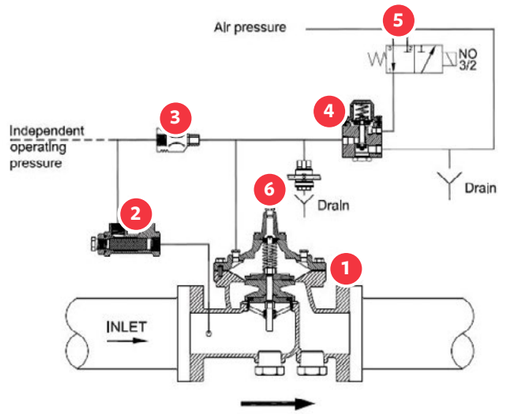
PRODUCT OVERVIEW

Singer® Model 106 EPDV-A-10506A Pneumatic / Electric Solenoid control valve is based on the Singer® Model 106 PG-UL Deluge main valve.

The solenoid pilot provides on-off position operation. The solenoid, using an independent air supply, either admits inlet pressure into the main valve operating chamber from the inlet of the main valve via a high capacity relay valve or releases pressure from the relay valve and therefore the main valve operating chamber. This either opens or closes the main valve. The pilot system is usually piped to discharge to drain (atmosphere).

The 106 EPDV-A-10506A is available with the main valve closed when the solenoid is de-energized (NC-normally closed. This refers to the main valve, not the solenoid).

SCHEMATIC DRAWING



SCHEMATIC A-10506A

106-EPDV A-10506A GLOBE

ID	PART NAME
1	Main Valve – Model 106-PG-UL-Deluge
2	Strainer
3	Fixed Restriction
4	82-PR-UL Pilot
5	Solenoid Valve – Normally Open
6	Manual Emergency Override – Normal Position Closed

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

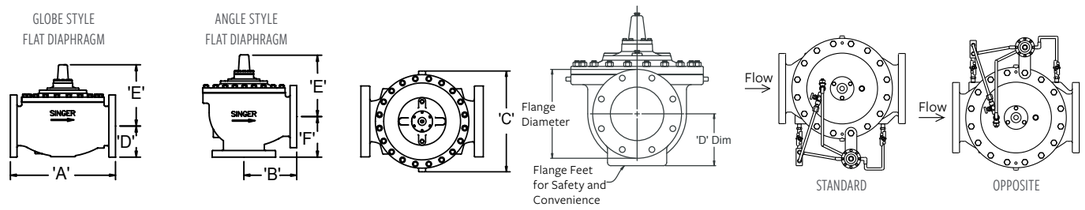
All valves have HFE coating AKZO RAL 3000 Fire Red (not intended for drinking water).

PRODUCT DIMENSIONS

ANSI VALVE DATA (US AND METRIC UNITS)

SIZE	DWG	STANDARD	FLAT DIAPHRAGM SYSTEM										
INCHES	REF	ANSI	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"	6"	8"
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°

[1]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)

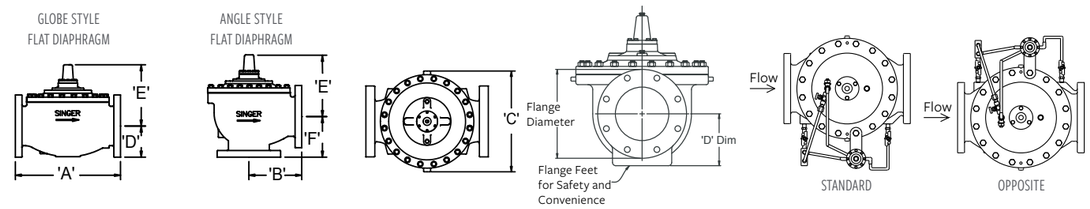
SIZE	DWG	STANDARD	ROLLING DIAPHRAGM SYSTEM			
			US UNITS		METRIC UNITS	
INCHES / MM	REF	ANSI	6"	8"	150 MM	200 MM
GLOBE DIMENSIONS			INCHES		MM	
Lay Length	A		-	-	-	-
Centerline to Bottom	D		-	-	-	-
Lay Length	A		20.00	25.38	508	645
Centerline to Bottom	D		5.60	7.63	142	200
Lay Length	A		21.00	26.38	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		-	-	-	-
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	STND	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													
Celcius			82°	82°	82°	82°	82°	82°	82°	82°	82°	82°	82°



MODEL 106-PG - UL / FM RELIEF & ULC REDUCING ONLY

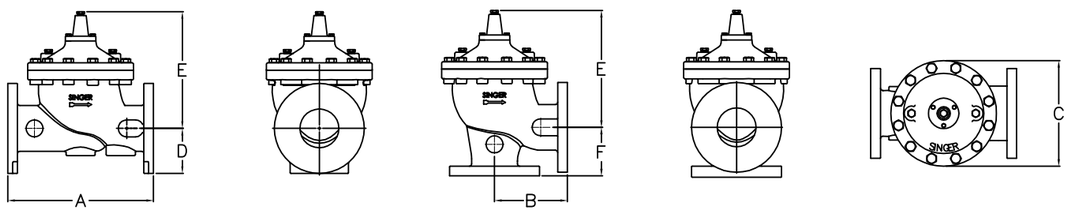
Full Port, Single Chamber, Hydraulically Operated Valve

ANSI VALVE DATA (US UNITS)

SIZE	DWG	STANDARD	FLAT DIAPHRAGM SYSTEM					
INCHES	REF	ANSI	2"	2-1/2"	3"	4"	6"	8"
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°

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

*UL / FM Relief Rated to 300 psi



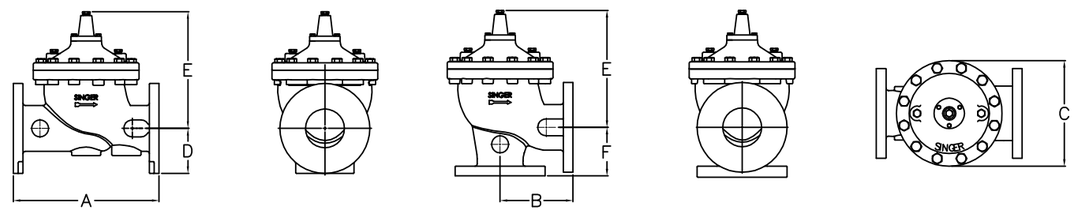
MODEL 106-PG - UL / FM RELIEF & ULC REDUCING ONLY

ANSI VALVE DATA (METRIC UNITS)

SIZE	DWG	STND	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								
K_v - Globe			13	19	26	47	110	190
K_v - 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°

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

*UL / FM Relief Rated to 20.7 bar



MODEL 106-GE / S106-GE

Grooved Ends

VALVE DATA (US UNITS)

INCHES	DWG REF	STANDARD GROOVED ENDS	FLAT DIAPHRAGM SYSTEM 2″	2-1/2″	3″	4″	SINGLE ROLLING DIAPHRAGM SYSTEM 6″	8″
GLOBE DIMENSIONS			**ALL FIGURES SHOWN IN INCHES UNLESS OTHERWISE STATED**					
Lay Length	A		9.00	11.00	12.50	15.00	20.00	25.37
Centerline to Bottom	D		1.31	1.54	2.25	2.81	4.00	5.00
COMMON DIMENSIONS (GLOBE)								
Width	C		5.87	7.75	9.25	10.88	12.13	17.16
Height (to Stem Cap) Globe	E		6.35	9.32	10.06	11.74	15.01	19.70
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	3/8	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	0.07	0.1	0.2	0.6	1.7
Approximate Shipping Weight (Lbs)			28	49	80	148	350	590
FLOW CAPACITIES (USGPM) GLOBE								
C_v			55	80	110	200	460	800
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		Grooved Ends	400	400	400	400	400	400
MAXIMUM TEMPERATURE								
Fahrenheit			180°	180°	180°	180°	180°	180°

VALVE DATA (METRIC UNITS)

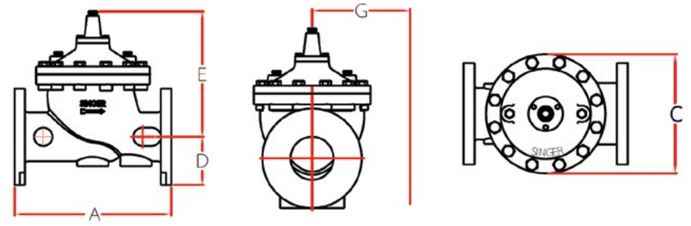
MM	DWG REF	STANDARD GROOVED ENDS	FLAT DIAPHRAGM SYSTEM 50 MM	65 MM	80 MM	100 MM	SINGLE ROLLING DIAPHRAGM SYSTEM 150 MM	200 MM
GLOBE DIMENSIONS			**ALL FIGURES SHOWN IN MILLIMETERS UNLESS OTHERWISE STATED**					
Lay Length	A		229	279	318	381	508	645
Centerline to Bottom	D		33	39	57	71	102	127
COMMON DIMENSIONS (GLOBE)								
Width	C		149	197	235	276	308	436
Height (to Stem Cap) Globe	E		161	237	256	298	381	500
Body Port Tapping	FNPT	Inches	3/8	3/8	3/8	3/8	3/8	1/2
Stem Cap Plug	MNPT	Inches	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	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)			13	22.2	37	67	160	268
FLOW CAPACITIES (L/S) GLOBE								
K_v (Globe)			13	19	26	47	110	190
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		Grooved Ends	27.6	27.6	27.6	27.6	27.6	27.6
MAXIMUM TEMPERATURE								
Celcius			82°	82°	82°	82°	82°	82°

MODEL 106-EDV-A-10507A

Electronically Operated Deluge Valve

ANSI VALVE DATA (US UNITS)

SIZE INCHES	DWG REF	ANSI	US UNITS 3″	4″	6″	8″	METRIC UNITS 80 MM	100 MM	150 MM	200 MM
GLOBE DIMENSIONS	**ALL FIGURES SHOWN IN MM UNLESS OTHERWISE INDICATED**						**ALL FIGURES SHOWN IN MM UNLESS OTHERWISE INDICATED**			
Lay Length	A	150F	12.00	15.00	20.00	25.38	305	381	508	645
Centerline to Bottom	D	150F	3.75	4.60	5.60	7.63	95	117	142	200
Lay Length	A	300F	.25	15.63	21.00	26.38	337	397	533	670
Centerline to Bottom	D	300F	4.13	5.09	6.34	7.88	105	129	161	200
Width	C	-	9.25	10.88	12.75	16.09	235	276	324	409
Height (to Stem Cap)	E	-	8.00	9.15	15.43	20.19	203	232	392	513
Pilot System Clearance	G	-	9.84	10.62	11.81	13.38	250	270	300	340
Body Port Tapping		FNPT	3/8	3/8	3/8	1/2	3/8	3/8	3/8	1/2
Stem Cap Plug		MNPT	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8
Cover Port Tapping		FNPT	3/8	3/8	1/2	1/2	3/8	3/8	1/2	1/2
Valve Stroke			1-1/8	1-7/16	1-11/16	2-7/8	29	37	43	73
Displaced Bonnet Volume (Gallons / Litres)			0.1	0.2	0.50	1.00	0.3	0.8	2	4
FLOW CAPACITIES USGPM							**L/S**			
C_v			110	200	460	800	26	47	110	190
Continuous			460	800	1800	3100	29	50	114	196
Intermittent			575	1000	2250	3875	36	63	142	244
Momentary			1030	1800	4000	7000	65	114	252	442
MAXIMUM TEMPERATURE										
Fahrenheit / Celsius			180°	180°	180°	180°	82°	82°	82°	82°



CLEARANCE FOR PILOT SYSTEM

DELUGE VALVES - UL LISTED	
VALVE SIZE	**MAX PRESSURE**
3″ / 80 mm - 8″ / 200 mm	400 psi / 27.6 bar

WEIGHTS (LBS)	3″	4″	6″	8″
150# Flanged	84	128	183	372
300# Flanged	88	140	224	425

WEIGHTS (KG)	80 MM	100 MM	150 MM	200 MM
150# Flanged	38	58	83	169
300# Flanged	40	63.5	102	193

MODEL 106-EPDV-A-10506A

Electric / Pneumatically Operated Deluge Valve

ANSI VALVE DATA (US UNITS)

SIZE	DWG		US UNITS				METRIC UNITS			
INCHES	REF	ANSI	3"	4"	6"	8"	80 MM	100 MM	150 MM	200 MM
GLOBE DIMENSIONS	ALL FIGURES SHOWN IN MM UNLESS OTHERWISE INDICATED						ALL FIGURES SHOWN IN MM UNLESS OTHERWISE INDICATED			
Lay Length	A	150F	12.00	15.00	20.00	25.38	305	381	508	645
Centerline to Bottom	D	150F	3.75	4.60	5.60	7.63	95	117	142	200
Lay Length	A	300F	.25	15.63	21.00	26.38	337	397	533	670
Centerline to Bottom	D	300F	4.13	5.09	6.34	7.88	105	129	161	200
Width	C	-	9.25	10.88	12.75	16.09	235	276	324	409
Height (to Stem Cap)	E	-	8.00	9.15	15.43	20.19	203	232	392	513
Pilot System Clearance	G	-	9.84	10.62	11.81	13.38	250	270	300	340
Body Port Tapping		FNPT	3/8	3/8	3/8	1/2	3/8	3/8	3/8	1/2
Stem Cap Plug		MNPT	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8
Cover Port Tapping		FNPT	3/8	3/8	1/2	1/2	3/8	3/8	1/2	1/2
Valve Stroke			1-1/8	1-7/16	1-11/16	2-7/8	29	37	43	73
Displaced Bonnet Volume (Gallons / Litres)			0.1	0.2	0.50	1.00	0.3	0.8	2	4
FLOW CAPACITIES USGPM							L/S			
C_v			110	200	460	800	26	47	110	190
Continuous			460	800	1800	3100	29	50	114	196
Intermittent			575	1000	2250	3875	36	63	142	244
Momentary			1030	1800	4000	7000	65	114	252	442
MAXIMUM TEMPERATURE										
Fahrenheit / Celsius			180°	180°	180°	180°	82°	82°	82°	82°

MODEL 106-PDV-A-10508A

Pneumatically Operated Remote Control Deluge Valve

ANSI VALVE DATA (US UNITS)

SIZE	DWG		US UNITS				METRIC UNITS			
INCHES	REF	ANSI	3"	4"	6"	8"	80 MM	100 MM	150 MM	200 MM
GLOBE DIMENSIONS	ALL FIGURES SHOWN IN MM UNLESS OTHERWISE INDICATED						ALL FIGURES SHOWN IN MM UNLESS OTHERWISE INDICATED			
Lay Length	A	150F	12.00	15.00	20.00	25.38	305	381	508	645
Centerline to Bottom	D	150F	3.75	4.60	5.60	7.63	95	117	142	200
Lay Length	A	300F	.25	15.63	21.00	26.38	337	397	533	670
Centerline to Bottom	D	300F	4.13	5.09	6.34	7.88	105	129	161	200
Width	C	-	9.25	10.88	12.75	16.09	235	276	324	409
Height (to Stem Cap)	E	-	8.00	9.15	15.43	20.19	203	232	392	513
Pilot System Clearance	G	-	9.84	10.62	11.81	13.38	250	270	300	340
Body Port Tapping		FNPT	3/8	3/8	3/8	1/2	3/8	3/8	3/8	1/2
Stem Cap Plug		MNPT	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8
Cover Port Tapping		FNPT	3/8	3/8	1/2	1/2	3/8	3/8	1/2	1/2
Valve Stroke			1-1/8	1-7/16	1-11/16	2-7/8	29	37	43	73
Displaced Bonnet Volume (Gallons / Litres)			0.1	0.2	0.50	1.00	0.3	0.8	2	4
FLOW CAPACITIES USGPM							L/S			
C_v			110	200	460	800	26	47	110	190
Continuous			460	800	1800	3100	29	50	114	196
Intermittent			575	1000	2250	3875	36	63	142	244
Momentary			1030	1800	4000	7000	65	114	252	442
MAXIMUM TEMPERATURE										
Fahrenheit / Celsius			180°	180°	180°	180°	82°	82°	82°	82°

MODEL 106 PG-GE / 206 PG-GE / S106 PG-GE

Deluge Valve - Grooved Ends

VALVE DATA (US UNITS)

INCHES	DWG REF	STANDARD GROOVED ENDS	SINGLE ROLLING DIAPHRAGM SYSTEM 3"	4"	6"	8"
GLOBE DIMENSIONS			**ALL FIGURES SHOWN IN INCHES UNLESS OTHERWISE STATED**			
Lay Length	A		12.50	15.00	20.00	25.37
Centerline to Bottom	D		2.25	2.81	4.00	5.00
COMMON DIMENSIONS (GLOBE)						
Width	C		9.25	10.88	12.13	17.16
Height (to Stem Cap) Globe	E		10.06	11.74	15.01	19.70
Body Port Tapping		FNPT	3/8	3/8	3/8	1/2
Stem Cap Plug		MNPT	3/8	3/8	3/8	3/8
Cover Port Tapping		FNPT	3/8	3/8	3/8	1/2
Valve Stroke			1-1/8	1-7/16	1-11/16	2-7/8
Displaced Bonnet Volume (Gallons)			0.1	0.2	0.6	1.7
Approximate Shipping Weight (Lbs)			80	148	350	590
FLOW CAPACITIES (USGPM) GLOBE						
C_v			110	200	460	800
Continuous (Globe)			460	800	1800	3100
Intermittent (Globe)			575	1000	2250	3875
Momentary (Globe)			1030	1800	4000	7000
MAXIMUM PRESSURE RATINGS (DUCTILE ONLY)						
PSI		Grooved Ends	400	400	400	400
MAXIMUM TEMPERATURE						
Fahrenheit			180°	180°	180°	180°

VALVE DATA (METRIC UNITS)

MM	DWG REF	STANDARD GROOVED ENDS	SINGLE ROLLING DIAPHRAGM SYSTEM 80 MM	100 MM	150 MM	200 MM
GLOBE DIMENSIONS			**ALL FIGURES SHOWN IN MILLIMETERS UNLESS OTHERWISE STATED**			
Lay Length	A		318	381	508	645
Centerline to Bottom	D		57	71	102	127
COMMON DIMENSIONS (GLOBE)						
Width	C		235	276	308	436
Height (to Stem Cap) Globe	E		256	298	381	500
Body Port Tapping	FNPT	Inches	3/8	3/8	3/8	1/2
Stem Cap Plug	MNPT	Inches	3/8	3/8	3/8	3/8
Cover Port Tapping	FNPT	Inches	3/8	3/8	3/8	1/2
Valve Stroke		mm	29	37	43	73
Displaced Bonnet Volume (Litres)			0.3	0.8	2.1	6.3
Approximate Shipping Weight (Kilograms)			37	67	160	268
FLOW CAPACITIES (L/S) GLOBE						
K_v (Globe)			26	47	110	190
Continuous (Globe)			29	50	114	196
Intermittent (Globe)			36	63	142	244
Momentary (Globe)			65	114	252	442
MAXIMUM PRESSURE RATINGS (DUCTILE ONLY)						
Bar		Grooved Ends	27.6	27.6	27.6	27.6
MAXIMUM TEMPERATURE						
Celcius			82°	82°	82°	82°

SINGER®

Limited Warranty

This limited warranty replaces and supersedes all other warranties previously given. All products (the "Products") manufactured by Singer® Valve Inc. ("Seller") are warranted for THREE YEARS (the "Warranty Period") from date of purchase (as confirmed by invoice) against manufacturing defects in material and workmanship which develop in the service for which the Products are designed, provided the Products were installed and used in accordance with all applicable instructions and limitations issued by Seller. Seller will, at its sole discretion, repair or replace defective material, free of charge, if returned to the Seller factory, transportation charges prepaid, provided that, after the Seller inspection and review, the material is found to have been defective at time of shipment to the Purchaser. Seller is not under any circumstances liable in any respect for any defective Products beyond the Warranty Period.

This warranty is conditional upon the Purchaser giving Seller immediate written notice of discovery of the defect.

Repairs or parts replaced under this warranty are warranted only throughout the remainder of the Warranty Period.

This warranty is in the nature of liquidated damages to which the Purchaser might otherwise be entitled at law or in equity. The Purchaser hereby agrees that, in lieu of any action for fundamental breach of contract or breach of a fundamental term of a contract, it will rely solely on this warranty.

This warranty does not apply to any Product modified or changed in design or function after shipment to the Purchaser, nor to components which are subject to the warranty conditions of another manufacturer. Electronic components used by Seller, manufactured by others, are warranted by their manufacturer for ONE YEAR from date of purchase.

Seller is not under any circumstances, including without limitation, any default, negligence or breach of whatsoever nature by Seller, liable, whether during the Warranty Period or after the Warranty Period, for any claims for labour, installation costs, damages or other special or consequential damages including, but not limited to, loss of revenue or profits, or any other expenses incurred by reason of any Products found to be defective. Seller is not liable for any incidental or consequential loss, damages or expenses (including loss of use) caused by any defects in the Product, by repair of it or arising directly or indirectly from its use. Seller is not liable for any damage or charge for labour or expense in making unauthorized repairs or adjustments to any Product. Seller is not liable for any damage or charges sustained in the adaptation or use of its engineering data and services.

This warranty does not apply if the Product has been altered or repaired by others. Seller will make no allowances or credit for such repairs or alterations unless first authorized in writing by Seller.

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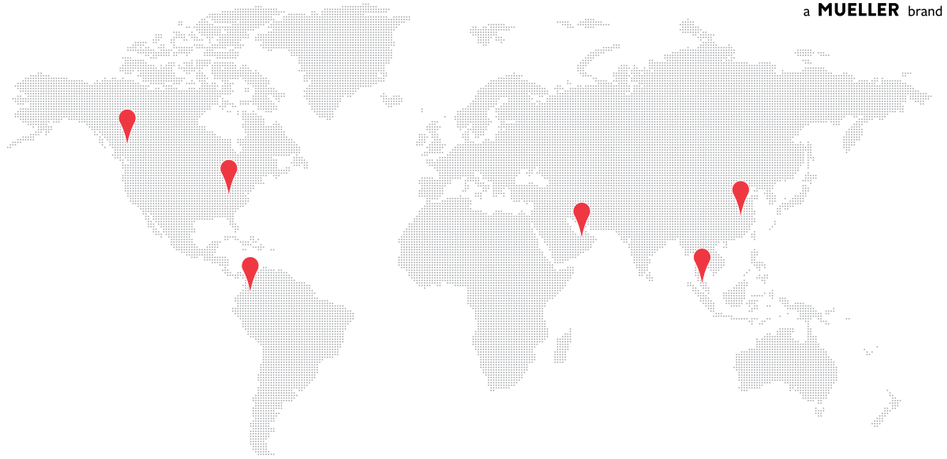

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