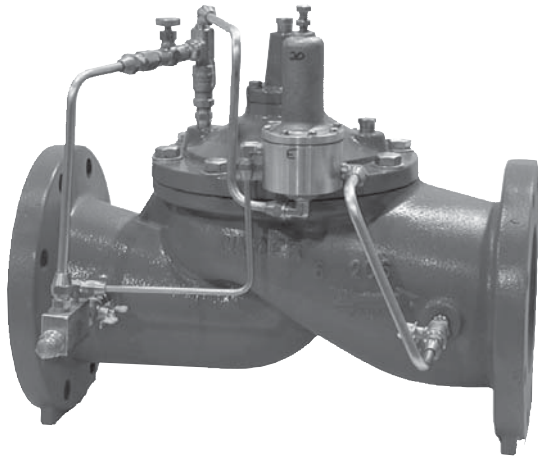


## Pressure Relief Valve



Singer model -RPS pressure relief valve employs the basic Singer model 106-PG or 206-PG main valve. In typical applications, the reduced port model 206-RPS is often the best selection.

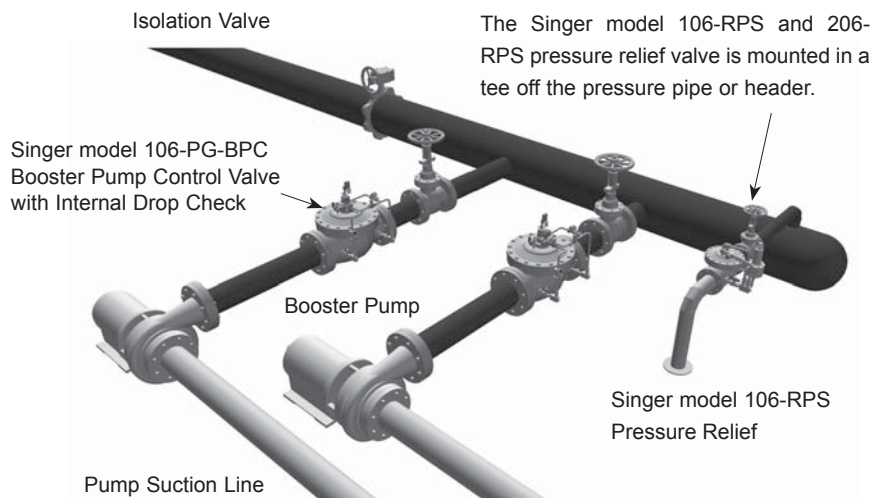
RPS pilot valve (model 81-RP) senses the upstream pressure through a connection to the valve inlet. The valve and pilot remain closed until the inlet pressure exceeds the pilot setting. The valve opens rapidly to relieve damaging overpressure and closes smoothly at an adjustable speed, when the pressure returns below the setpoint (adjustable). The upstream pressure is limited to the pilot setpoint.

- PRECISE LIMITING OF UPSTREAM PRESSURE
- QUICK OPENING RELIEF
- EASILY ADJUSTABLE PRESSURE SETTING

### When Ordering Please Specify:

1. Catalog Model #
2. Full Port (106) or Reduced Port (206) (See Main Valves)
3. Globe or Angle Pattern
4. End Connections
5. Valve Size
6. Pilot Range

### Typical Application:

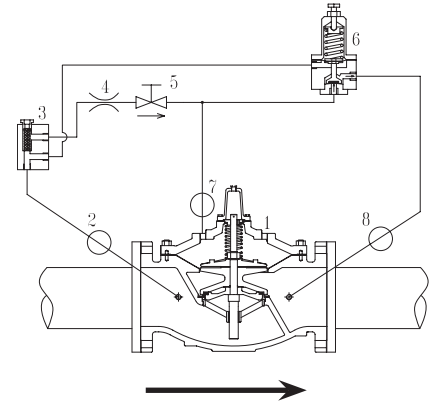


## Pressure Sustaining Valve

1. Main Valve - 106-PG or 206-PG
2. Isolation Valve - standard 4" (100mm) and larger
3. Strainer - standard 4" (100mm) and larger
4. Fixed Restriction- 1/8" (3.5mm)
5. Model 852-B Closing Speed Control
6. Model 81-RP pilot - standard spring 20 to 200 psi (1.38 to 13.8bar)  
 -specify for 5 to 50 psi (.35 to 3.5bar), 10 to 80 psi (.7 to 5.5bar),  
 100 to 300 psi (6.9 to 20.7 bar).
7. Isolation Valve - standard 4" (100mm) and larger
8. Isolation Valve - standard all sizes

Standard materials for pilot system components are:

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



SCHEMATIC A-0423F

106-RPS	Flow Capacity 45ft/s or 14 m/s (See 106-PG in Main Valve Section for other Valve Data)								
Size (inches)	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"
Size (mm)	15mm	19mm	25mm	32mm	40mm	50mm	65mm	80mm	100mm
Momentary (USGPM)	28	43	110	170	250	470	670	1030	1800
Momentary (L/s)	1.77	2.71	6.94	10.73	15.77	29.65	42.27	65	114

206-RPS	Flow Capacity 45ft/s or 14 m/s (See 206-PG in Main Valve Section for other Valve Data)								
Size (inches)	3"	4"	6"	8"	10"	12"	16"	18"	20"
Size (mm)	80mm	100mm	150mm	200mm	250mm	300mm	400mm	450mm	500mm
Momentary (USGPM)	564	1236	2160	4800	8400	13200	19200	30000	30050
Momentary (L/s)	36	78	136	303	530	833	1211	1893	1896

106-RPS	Flow Capacity 45ft/s or 14 m/s (See 106-PG in Main Valve Section for other Valve Data)								
Size (inches)	6"	8"	10"	12"	14"	16"	20"	24"	36"
Size (mm)	150mm	200mm	250mm	300mm	350mm	400mm	500mm	600mm	900mm
Momentary (USGPM)	4000	7000	11000	16000	19000	25000	50580	56200	124700
Momentary (L/s)	252	442	694	1009	1199	1577	3191	3546	7868

206-RPS	Flow Capacity 45ft/s or 14 m/s (See 206-PG in Main Valve Section for other Valve Data)				
Size (inches)	24"	28"	30"	32"	36"
Size (mm)	600mm	700mm	750mm	800mm	900mm
Momentary (USGPM)	30100	67440	67490	67540	67640
Momentary (L/s)	1899	4255	4258	4261	4268

**Main Valve Dimensions**  
 106-PG Page 20  
 206-PG Page 29  
 Anti-Cav Page 82

### Selection Summary:

1. Select the valve with sufficient capacity using the available pressure drop across the valve.
2. Usually operating in the momentary “m” service range.
3. For extended or continuous relief applications, use model 106-RPS-AC: Pressure Relief with Anti-Cavitation Cages. Refer to bulletin 106-()-AC (see High Performance Section) and consult the factory.
4. Ensure that the maximum working pressure rating for the valve and for the flanges exceeds the maximum operating pressure.
5. Select a standard GLOBE style body or the optional ANGLE style body.

Other supplementary functions are available, consult with the factory.

### Specifications:

The valve shall be a Singer Valve model 106 (206) -RPS, size "\_\_\_\_", ANSI Class 150 (ANSI 300, ANSI flanges drilled to ISO PN 10 / 16/ 25 or 40) pressure rating/ flange standard, globe (angle), style valve. The Model 81-RP Pressure Relief Pilot (Normally Closed Pilot) spring range shall be "\_\_\_ to \_\_\_" Psi (bar), with set point preset at factory to "\_\_\_" Psi (bar). Assembly shall be according to Schematic A-0423F.

- The valve shall remain closed until inlet pressure exceeds a pre-determined set- point at which time the valve opens quickly and modulates to limit the upstream pressure to the pre-determined set point.

Refer to "Main Valve" section, 106-PG (or 206-PG) for detailed information pertaining to valve sizes and materials, selection criteria and specifications.

Refer to "Pilot and Accessories" section, Model 81 Pressure Relief Pilot (Normally Closed Pilot) for detailed information pertaining to materials and specifications.

### Note:

Where ULFM designation is required, specify 106-RPS-8700. Available in 2-1/2" ( 65mm) to 8" (200mm) globe and angle configurations, ANSI 150 and ANSI 300 flanges, and grooved end connections.