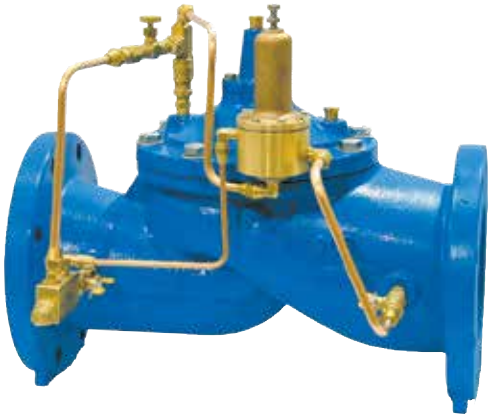
Models 106-RPS / 206-RPS
Pressure Sustaining Valves



206-RPS Globe

KEY FEATURES

- Ensures minimum upstream pressure for critical use
- Easily adjustable pressure setting
- Closes if inlet pressure drops below set-point

Product Overview

The 106-RPS and 206-RPS pressure sustaining valves are based on the model 106-PG or 206-PG main valve.

The 81-RP pilot 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.

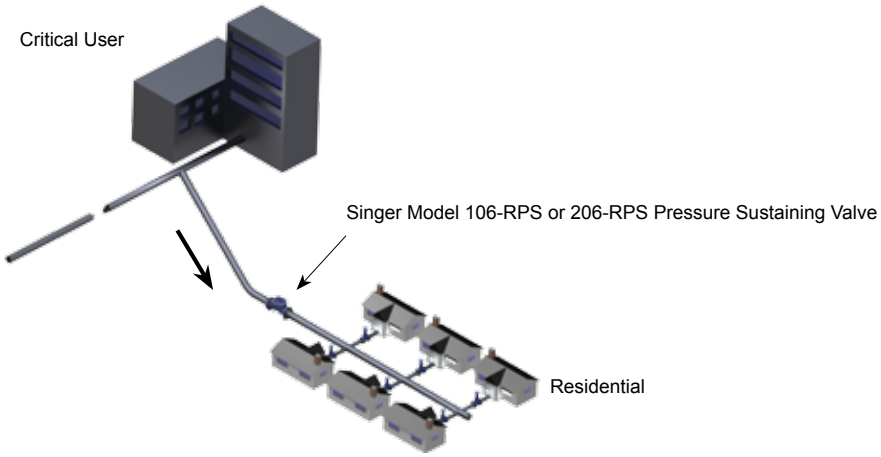
Under flowing conditions, the pilot reacts to small changes in pressure to control the valve position by modulating the pressure above the diaphragm.

Should the upstream pressure fall below the set-point, the valve will close or modulate to ensure that the set-point is maintained.

Typical Application

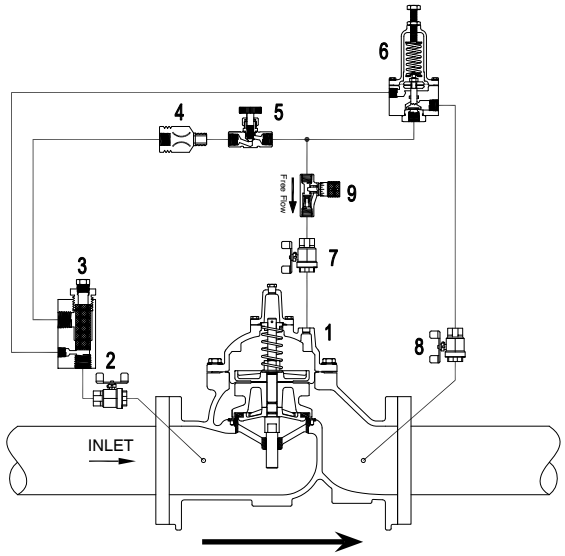
The 106-RPS or 206-RPS valve prevents high demand in the residential area from dropping the pressure available to the critical user.

Valve modulates to assure minimum upstream pressure and if need be, closes tight.



Models 106-RPS / 206-RPS
Pressure Sustaining Valves

Schematic Drawing



Schematic A-0423F

1. Main Valve - 106-PG or 206-PG
2. Isolation Valve - standard 4 in / 100 mm and larger
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
   - Specify for 5 to 50 psi / 0.35 to 3.5 bar,
     10 to 80 psi / 0.70 to 5.5 bar,
     20 to 200 psi / 1.3 to 13.8 bar,
     100 to 300 psi / 6.9 to 20.7 bar.
7. Isolation Valve - standard 4 in / 100 mm and larger
8. Isolation Valve - standard all sizes
9. Opening Speed Control, optional

Note: SRD shown is available for 6" 106-PG and larger.

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

Specifications

- The valve shall be a Singer Valve model 106-RPS / 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 Singer Valve to "___" psi / bar. Assembly shall be according to Schematic A-0423F.
- The valve shall maintain a minimum pre-determined upstream pressure. When the actual upstream pressure meets the minimum allowable pre-determined upstream pressure setting the valve will either close or modulate in order to maintain the minimum allowable upstream pressure.
- 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.

Models 106-RPS / 206-RPS
Pressure Sustaining Valves

Selection Summary

1. Select the valve with sufficient capacity using the minimum available pressure drop across the valve.
2. Usually operating in the continuous “C” service range up to 20 ft/s / 6 m/s - see below and/or performance curves (see Technical & Sizing Information section, page 284).
3. If the outlet pressure is less than 35% of the inlet pressure and operating for extended periods, check for cavitation.
4. For sustaining applications with high pressure drops, a model 106-RPS-AC: Pressure Sustaining with anti-cavitation cages may be required. Refer to 106-AC section (page 92) and consult Singer Valve.
5. Ensure that the maximum working pressure rating for the valve and for the flanges exceeds the maximum operating pressure.

Ordering Instructions

Refer to page 293 for the order form and ordering instructions.

Additionally, include the following information for this product:

1. Full port (106) or reduced port (206)
2. Outlet pressure
3. Inlet pressure pilot range

Models 106-RPS / 206-RPS
Pressure Sustaining Valves

106-RPS-Sustaining	Flow Capacity (See 106-PG in Main Valve section for other valve data)								
Size (inches)	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
Size (mm)	15 mm	19 mm	25 mm	32 mm	40 mm	50 mm	65 mm	80 mm	100 mm
Minimum (USGPM) Flat Diaphragm	1	1	1	1	1	5	5	5	10
Minimum (L/s) Flat Diaphragm	0.1	0.1	0.1	0.1	0.1	0.3	0.3	0.3	0.6
Maximum Continuous (USGPM)	12	19	49	93	125	210	300	460	800
Maximum Continuous (L/s)	0.8	1	3	6	8	13	19	29	50

106-RPS-Sustaining	Flow Capacity (See 106-PG in Main Valve section for other valve data)								
Size (inches)	6 in	8 in	10 in	12 in	14 in	16 in	20 in	24 in	36 in
Size (mm)	150 mm	200 mm	250 mm	300 mm	350 mm	400 mm	500 mm	600 mm	900 mm
Minimum (USGPM) Flat Diaphragm	20	40	-	-	-	-	-	-	-
Minimum (USGPM) Rolling Diaphragm	1	1	3	3	3	3	10	10	20
Minimum (L/s) Flat Diaphragm	1.3	2.5	-	-	-	-	-	-	-
Minimum (L/s) Rolling Diaphragm	0.1	0.1	0.2	0.2	0.2	0.2	0.6	0.6	1.3
Maximum Continuous (USGPM)	1800	3100	4900	7000	8500	11000	17500	25800	55470
Maximum Continuous (L/s)	114	196	309	442	536	694	1104	1628	3500

206-RPS-Sustaining	Flow Capacity (See 206-PG in Main Valve section for other valve data)								
Size (inches)	3 in	4 in	6 in	8 in	10 in	12 in	16 in	18 in	20 in
Size (mm)	80 mm	100 mm	150 mm	200 mm	250 mm	300 mm	400 mm	450 mm	500 mm
Minimum (USGPM) Flat Diaphragm	5	5	10	20	40	-	-	-	-
Minimum (USGPM) Rolling Diaphragm	-	-	-	-	-	3	3	3	3
Minimum (L/s) Flat Diaphragm	0.3	0.3	0.6	1.3	2.5	-	-	-	-
Minimum (L/s) Rolling Diaphragm	-	-	-	-	-	0.2	0.2	0.2	0.2
Maximum Continuous (USGPM)	300	580	1025	2300	4100	6400	9230	16500	16500
Maximum Continuous (L/s)	19	37	65	145	260	404	582	1040	1040

206-RPS-Sustaining	Flow Capacity (See 206-PG in Main Valve section for other valve data)						
Size (inches)	24 x 16 in	24 x 20 in	28 in	30 in	32 in	36 in	40 in
Size (mm)	600 x 400 mm	600 x 500 mm	700 mm	750 mm	800 mm	900 mm	1000 mm
Minimum (USGPM) Rolling Diaphragm	3	3	10	10	10	10	20
Minimum (L/s) Rolling Diaphragm	0.2	0.2	0.6	0.6	0.6	0.6	1.3
Maximum Continuous (USGPM)	16500	21700	33600	33650	33700	33800	62000
Maximum Continuous (L/s)	1041	1370	2120	2123	2126	2132	3912