Singer Pressure Relief Valve

Technical Guide W4.56

The Singer 106 RPS / 206 RPS Pressure Relief Control Valve opens quickly when the inlet pressure meets or exceeds a predetermined setting to relieve damaging overpressure.

Applications	**Product Attributes**	**Approvals/Standards**
Potable water	Easily adjustable pressure setting	AS 5081:2008
Pressure Control	Accurately maintains pressure to set point	Flanges to AS/NZS4087 Fig. B5
Municipal	Quick opening relief	Coating complies with AS/NZS 4158
Mining Applications	Smooth closing	
Irrigation Applications		

W WaterMark

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HYNDS**water**

The Pressure Relief Valve is mounted in a tee off the main pipeline and limits system pressure by relieving excess flow on overpressures above the set-point.

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. The valve opens rapidly to relieve damaging overpressure and closes smoothly at an adjustable speed, when the pressure returns below the set-point. The upstream pressure is limited to the pilot set-point.
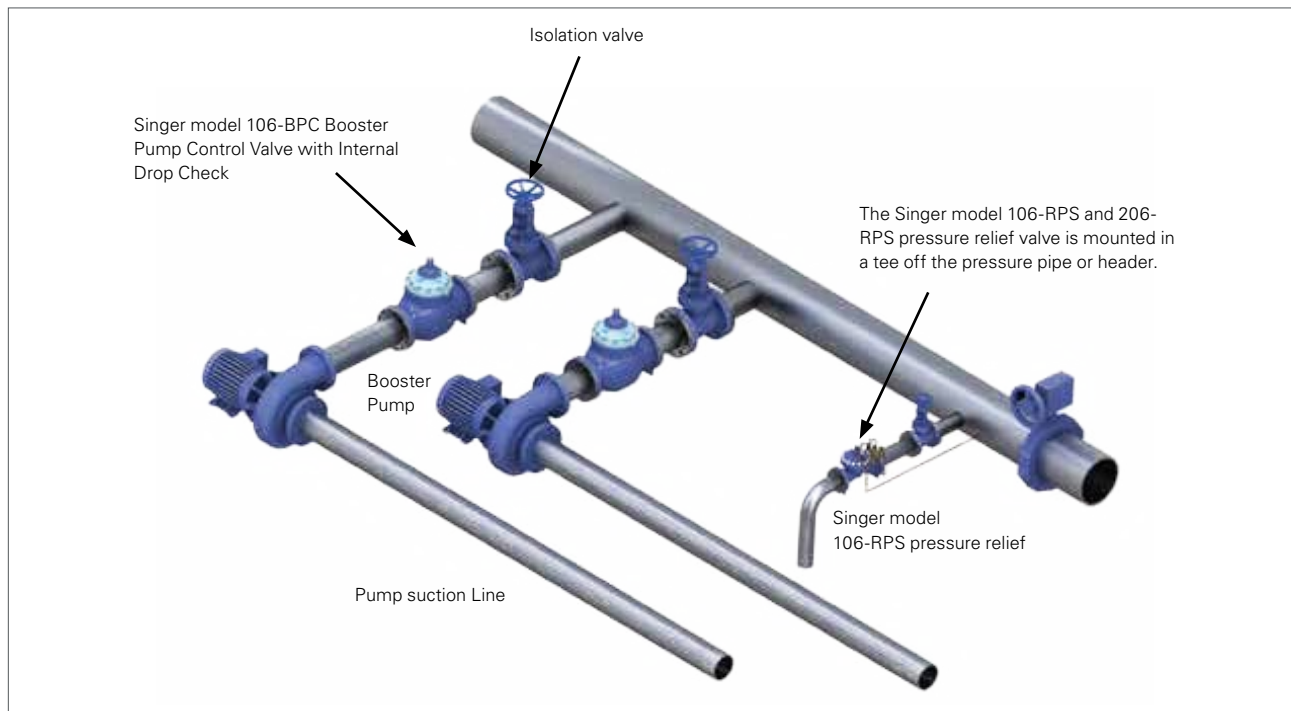

Isolation valve

Singer model 106-BPC Booster Pump Control Valve with Internal Drop Check

The Singer model 106-RPS and 206-RPS pressure relief valve is mounted in a tee off the pressure pipe or header.

Booster Pump

Singer model 106-RPS pressure relief

Pump suction Line

FIG. 1 Typical application

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

ORDERING INSTRUCTIONS

- Refer to the order form and ordering instructions.
- Additionally, include the following information for this product:
  - Single chamber (106), or (206)
  - Relief pressure range
  - Outlet pressure

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.
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.

Sizing is ultimately determined by the specific application. Refer to Singer Control Valve Sizing Calculator on our website.
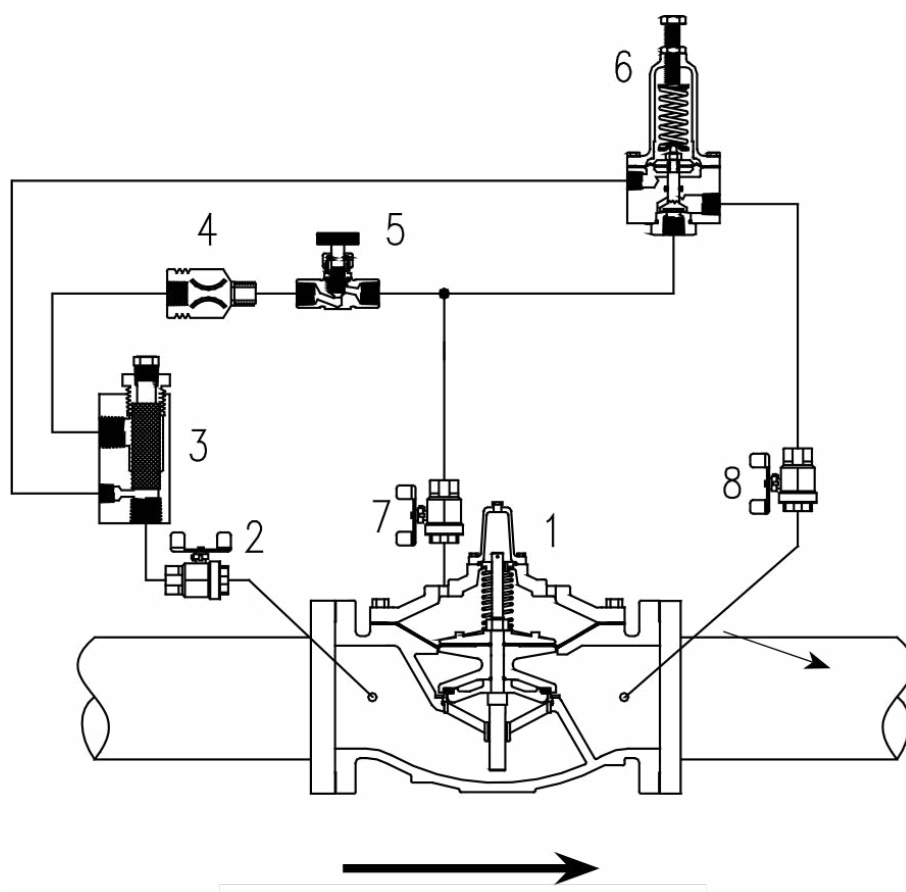
FIG. 2 Schematic A-0423F

SCHEMATIC DRAWING

1. Main Valve - 106-PG or 206-PG

2. Isolation Valve - standard 100 mm and larger

3. Strainer - standard 100 mm and larger

4. Fixed Restriction- 3.2 mm

5. Model 852-B Closing Speed Control

6. Model 81-RP pilot. Specify for:
   - 0.35 to 3.5 bar
   - 0.70 to 5.5 bar
   - 1.38 to 13.8 bar
   - 6.9 to 20.7 bar

7. Isolation Valve - standard 100 mm and larger

8. Isolation Valve - standard all sizes

TABLE 1 106- RPS Flow Capacity at 14 m/s

Code	Size (mm)	Momentary (L/s)
Indent	15	2
Indent	20	3
Indent	25	7
Indent	32	11
Indent	40	16
VC50RPS106S	50	30
Indent	65	42
VC80RPS106S	80	65
VC100RPS106S	100	114
VC150RPS106S	150	252
VC200RPS106S	200	442
VC250RPS106S	250	694
VC300RPS106S	300	1009
VC350RPS106S	350	1199
VC400RPS106S	400	1577
Indent	500	2461
Indent	600	3546
Indent	900	7868

TABLE 2 206- RPS Flow Capacity at 14 m/s

Code	Size (mm)	Momentary (L/s)
VC80RPS206S	80	36
VC100RPS206S	100	78
VC150RPS206S	150	136
VC200RPS106S	200	303
VC250RPS206S	250	530
VC300RPS206S	300	833
VC400RPS206S	400	1211
Indent	450	1893
Indent	500	1896
Indent	600 x 400	1899
Indent	600 x 500	2461
Indent	700	4255
Indent	750	4258
Indent	800	4261
Indent	900	4268
Indent	1000	3912