

# Singer PR-48 Pressure Reducing Valve with Low Flow By-Pass

The 106-PR-48, and 206-PR-48 series Pressure Reducing Valves with low flow by-pass are based on the 106-PG, or 206-PG main valve. A direct acting pressure reducing valve is piped in parallel, using the main valve back port connections.



TECHNICAL GUIDE: **AVH1.26**

## Applications

Potable water  
Municipal  
Mining Applications  
Irrigation Applications

## Product Attributes

Maintains stable flow right down to zero  
Precise and reliable pressure setting  
By-pass piped in parallel to reduce space requirements

## Approvals/Standards

AS 5081:2008  
Flanges to AS/NZS4087 Fig. B5  
Coating complies with AS/NZS 4158



**Licence Number:**  
WMK/SMK26726

The pilot valve senses the downstream pressure through a connection at the main valve outlet. Under flowing conditions, the pilot reacts to small changes in pressure to control the main valve position by modulating the pressure above the diaphragm. The downstream pressure is maintained virtually steady at the pilot set-point.

The by-pass valve is set 0.35 bar higher than the main valve. Under low flow conditions, the main PR valve closes and the by-pass stays open, controlling the pressure at very low flows without seat chatter. In typical pressure reducing applications, the standard port Model 206-PR-48 is often the best selection.

### STANDARD MATERIALS

Standard materials for pilot system components are:

- ASTM B-62 bronze, or ASTM B-16 brass
- AISI 303 / 316 stainless-steel trim

### SELECTION SUMMARY

1. Select the main PR valve series and size with sufficient capacity.

**Note:** Large Singer® valves (150 mm 106, 200 mm 206 & DN200 and up) have extremely precise control, even at low flows, making by-pass valves generally unnecessary for stable control, due to Single Rolling Diaphragm technology. Model PR-48 valves are usually required only for valve sizes with significant minimum flows. (80 mm to 200 mm 106, 100 mm to 250 mm 206).

2. If the outlet pressure is less than 35% of the inlet pressure, check for cavitation.
3. Ensure that the flange rating exceeds the maximum operating pressure.
4. Consider using a manual main by-pass line if necessary for service during maintenance periods.

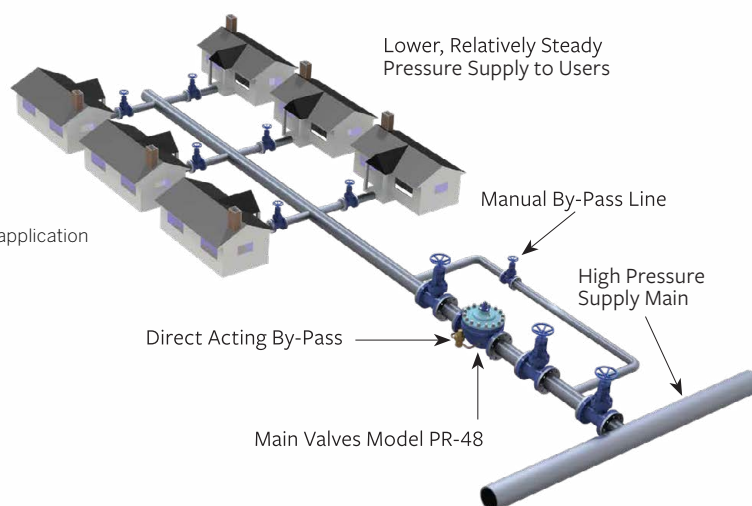
### ORDERING INSTRUCTIONS

Refer to the order form and ordering instructions.

Additionally, include the following information for this product:

1. Single chamber (106) or (206)
2. Outlet pressure range

FIG. 1 Typical application



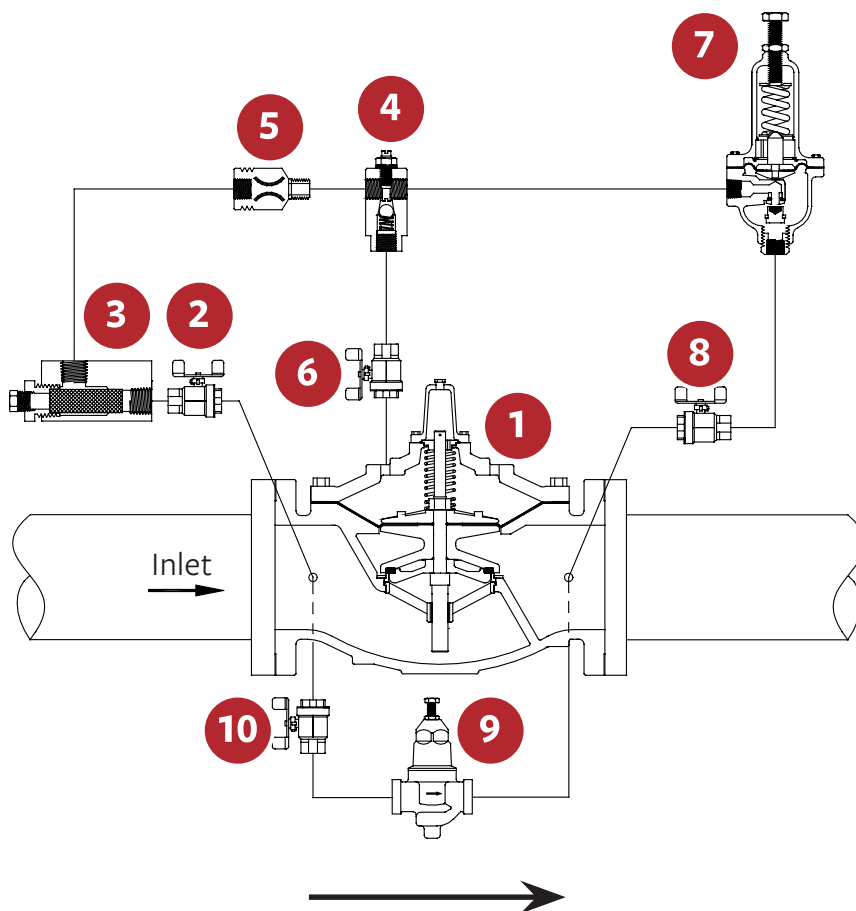


FIG. 2 Schematic A-8063E

### SCHEMATIC DRAWING

1. Main Valve - 106-PG or 206-PG
2. Isolation Valves - Standard 100 mm and Larger
3. Strainer - Standard 100 mm and Larger
4. Model 26 Flow Stabilizer / Opening Speed Control
5. Fixed Restriction
6. Isolation Valves - Standard 100 mm and Larger
7. Model 160 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
8. Isolation Valve - Standard All Sizes
9. Direct Acting By-Pass - Range 2.07 – 10 Bar
10. Isolation Valve - Standard All Sizes

**TABLE 1** 106-PR-48 and 206-PR-48 Flow Capacity  
(See 106-PG and 206-PG main valve section for other valve data)

Size (mm)	Minimum (L/s)		Maximum Continuous (L/s)	
	106-PR-48	206-PR-48	106-PR-48	206-PR-48
80	0	-	29	-
100	0	0	50	37
150	0	0	114	65
200	0	0	196	145
250	-	0	-	259



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