

Models 106-PR-C / 206-PR-C Pressure Reducing and Check Valve



106-PR-C Globe

KEY FEATURES

- Excellent low flow stability
- Drip-tight closing on return flow
- Easily and precisely set downstream pressure

Product Overview

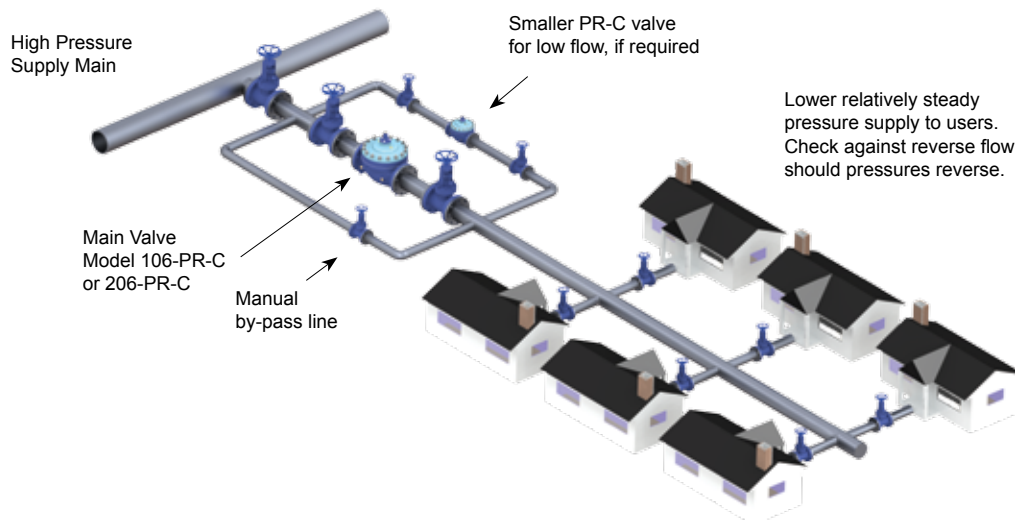
The 106-PR-C and 206-PR-C pressure reducing and check valves are based on the 106-PG or 206-PG main control valve.

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

The pilot check valves direct downstream pressure above the diaphragm to close the valve when the system pressures reverse (when the downstream pressure is higher than the upstream).

In typical pressure reducing applications, the reduced port model 206-PR-C is often the best selection.

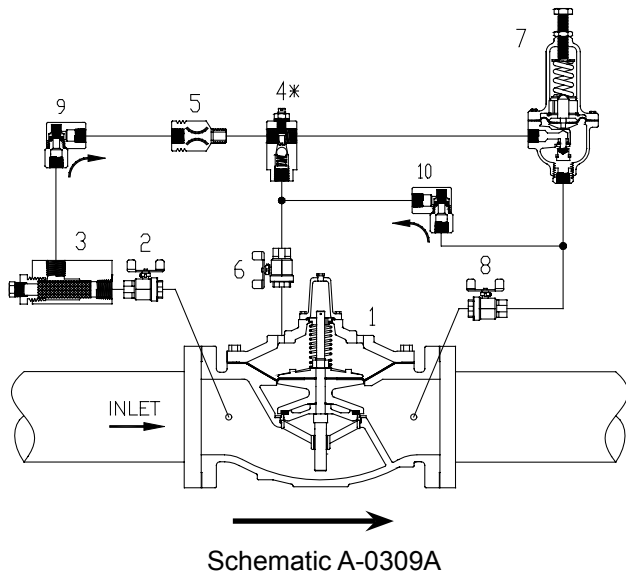
Typical Application



Models 106-PR-C / 206-PR-C

Pressure Reducing and Check Valve

Schematic Drawing



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.* Model 26 Flow Stabilizer / Opening Speed Control
 - Standard on valves 8 in / 200 mm 106, 10" / 250 mm 206
5. Fixed Restriction
6. Isolation Valve - standard 4 in / 100 mm and larger
7. Model 160 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.
8. Isolation Valve - standard all sizes
- 9, 10. Check valves - model 10

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-PR-C / 206-PR-C, 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 160 Pressure Reducing Pilot (Normally Open Pilot) spring range shall be "___ to ___" psi / "___ to ___" bar, with set-point preset at Singer Valve to "___" psi / "___" bar. Assembly shall be according to Schematic A-0309A.
- The valve shall maintain relatively accurate control of the downstream pressure regardless of fluctuation in flow or upstream pressure. The pilot checks shall be arranged so that the main valve closes tight to prevent reverse flow if the downstream pressure exceeds the upstream pressure.
- Refer to Main Valve section, page 11, 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 160 Pressure Reducing Pilot (Normally Open Pilot), Model 26 Flow Stabilizer and Model 10 Pilot Check Valves for detailed information pertaining to materials and specifications.

Models 106-PR-C / 206-PR-C Pressure Reducing and Check Valve

Selection Summary

1. Select the valve series and size with sufficient capacity
2. Check the operating flow against valve minimum.
3. Provide a smaller valve in parallel to facilitate maintenance and low flow capability, if required.
4. If the outlet pressure is less than 35% of the inlet pressure, check for cavitation.
5. Ensure that the flange rating 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. Pilot range

106-PR-C	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-PR-C	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-PR-C	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-PR-C	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